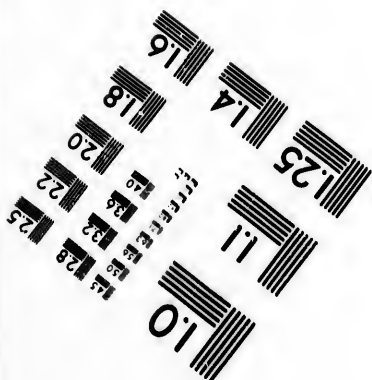
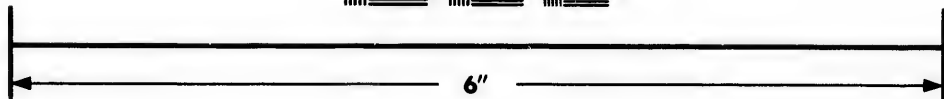
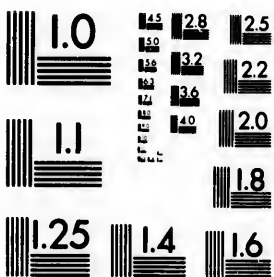


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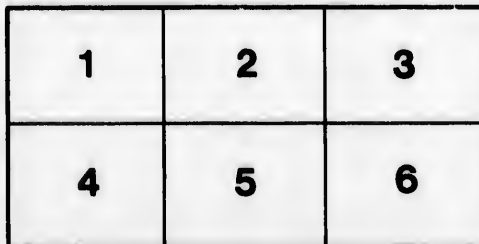
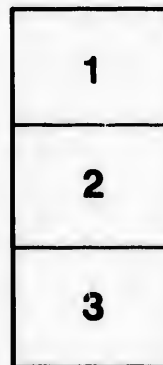
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OBSERVATIONS
OF THE
INTERNATIONAL POLAR EXPEDITIONS,
1882-83.

FORT RAE.

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OF CANADA

LONDON:
PRINTED BY EYRE AND SPOTTISWOODE,
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TRÜBNER & CO., 57 & 59, LUDGATE HILL.

1886.

Price Twenty-one Shillings.

ERRATA.

Page 112. Oct. 2, 3 a.m., for " >1216 ", read " <-108 ".
11 a.m., " " < 000 " " " <-108 ".
.. 110. Nov. 17, 3 a.m., " " >1080 " " " <-1080 ".
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P R E F A C E.

The observations, of which a record is contained in this volume, were made at Fort Rae, on the Great Slave Lake, during the 12 months extending from September 1, 1852 to August 31, 1853.

Fort Rae formed one of the series of circumpolar positions, occupied in accordance with the scheme proposed by the late Lieut. C. Weyprecht, for concerted physical observations, to be carried on for at least a full year, at different stations situated around the Poles.

The units of measure of the observations, the methods of reduction, the scales for graphical representation of the curves, and the form of publication, were fixed by the International Polar Committee at their meeting at Vienna in April 1854.

The expense of the Expedition was defrayed by grants from the British Government, and from the Government of the Dominion of Canada.

The management of the undertaking was vested in the Royal Society, and by the Society was entrusted to a Committee consisting of the following Fellows:—

The President	} ex-officio
The Treasurer	
The Secretaries	
John Rae, M.D.	
Admiral Sir G. H. Richards.	
Robert H. Scott.	

The discussion of the magnetic observations has been carried out by myself, with the assistance of Mr. G. M. Whipple, of Kew Observatory. The meteorological discussions have been entirely carried out by Mr. R. Strachan and Mr. John A. Curtis of the Meteorological Office.

March 1856.

(Signed) H. P. Dawson,
Captain, R.A.



INTRODUCTION.

Fort Rae is one of the posts of the Hudson's Bay Company. It is situated in Lat. $62^{\circ} 38' 52''$ N., and Long. $115^{\circ} 43' 50''$ W. on a bay on the northern shore of the Great Slave Lake, and was selected for occupation as being the most northerly of the Company's posts, from which return would be possible, after the termination of the observations, before the closing of the rivers. Had Fort Simpson been the station selected, the observers might not improbably have been compelled to spend two winters at their post, as the route for return might not have been open till the summer of 1884.

Fort Rae is the nearest of all the Company's stations to the Magnetic Pole, and it presents another advantage of a very practical nature. Provisions at the post are usually plentiful, and this is by no means the case in all parts of the country. To have taken a year's full supplies for the party would have materially increased the cost and difficulty of transport.

It should here be stated that it is mainly owing to the interest taken in the undertaking by the Company's Directors in London, and to the co-operation cordially rendered by their officers in Canada that the Expedition was able to carry its appointed task to completion.

The Expedition also received material assistance, in the way of free transport of baggage, from the following railroad and steamboat companies:—The London and North-western Railway, the Grand Trunk Railway, and the Allan Line of Royal Mail Steamers.

It was not until the 3rd of April 1882 that the sanction of the Government was definitely obtained. It was at once decided that the organization should be military. Captain Henry P. Dawson, of the Royal Artillery, was appointed to command the party; the observers were Serjeant J. English and Serjeant F. Cooksley, both of the Royal Horse Artillery, with Gunner C. Wedenby, of the Royal Artillery, as artificer.

From the time of departure of the Expedition until its return, the conduct and discipline of these men was all that could be desired. They took great interest in the observations, and did their best to carry them out with accuracy and punctuality. They were always contented and cheerful, in spite of the inevitable discomforts of their winter quarters, and the occasional hardships of the journey.

The following was the equipment provided:—

Instruments:

<p>2 mercurial barometers, Kew pattern (marine).</p> <p>2 aneroid barometers.</p> <p>2 cup-and-dial anemometers (small size).</p> <p>1 rain gauge.</p> <p>10 mercurial thermometers.</p> <p>7 spirit ..</p> <p>2 maximum ..</p> <p>2 .. (solar radiation) thermometers.</p>	<p>4 minimum thermometers.</p> <p>2 minimum (terrestrial radiation) thermometers.</p> <p>2 hair hygrometers.</p> <p>2 tubes for earth thermometers.</p> <p>1 zinc thermometer screen (Wild's pattern).</p> <p>1 unifilar magnetometer.</p> <p>2 bifilar ..</p> <p>2 declinometers.</p> <p>1 Lloyd's balance magnetometer.</p> <p>1 dip circle.</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Instruments—*continued.*

1 6-inch transit theodolite	} Lent by Royal Geographical Society.
1 6-inch sextant and artificial horizon	
1 prismatic compass	
1 chronometer watch	
1 spectroscope with camera. Capt. Abney's pattern.	
2 cameras with dry plates, &c.	

Sundries :—

Blank forms for observations, tables,
stationery, &c. :

- 1 chest carpenter's tools.
- 3 copper lanterns.
- 4 windows with spare glass.

Camp equipment :

- 2 tents.
 - 1 waterproof sheet
 - 3 blankets
- } per man.
- Axes, camp kettles, mosquito
netting.
 - Knives, forks, plates, &c.

Small quantities of arrowroot, beef tea, &c. for use in case of sickness; and raisins, curry powder, &c. for occasional use.

The following supplies were received at Fort Rae :—

- 2,300 lbs. fresh meat.
- 780 lbs. dried meat.
- 190 lbs. grease.
- 45 lbs. pemmican, for return journey.

In addition to fish, ducks, geese, &c.

Some of the above provisions were required for Indians in the employ of the Expedition.

A small quantity of beads, needles, pocket knives, handkerchiefs, &c. were taken for barter with Indians, but flour, matches, tea, sugar, and tobacco were found to be quite as acceptable.

Most of the above stores were, by the kindness of the Hudson's Bay officers, supplied at Winnipeg.

Everything was strongly packed in cases, the weight of each package not exceeding 90 lbs. for convenience of handling at portages.

The total weight of baggage instruments and provisions, on leaving Winnipeg, was between three and four tons.

The above supply of provisions was found to be quite sufficient, in fact the 300 lbs. of bacon were kept as a reserve and were never used at all. It would, however, be unwise for a future expedition of similar strength to take less than the quantities above given.

Each man received :

- 2 suits plain clothes.
- 1 capot.
- 1 worsted belt.
- 1 pair mitts.
- 1 rug.
- 1 fur cap.
- 1 leather (deerskin) suit.
- 1 pair snowshoes.
- 2 sets woollen underclothing.
- 2 mosquito nets.
- Moccasins as required.

Stores :—

The chief items were :

- Flour $\frac{3}{4}$ lb. per man per diem.
- Sugar 400 lbs.
- Bacon 300 lbs.
- Tea 1 lb. per man per month.
- Tobacco 1 lb. per man per month.
- Vegetables (Chollet's preserved)
48 lbs.
- Candles 56 lbs.
- Oil 10 gals.

Trusting to the country for supplies is not without risk, as in some years provisions are very scarce, and instances of starvation are not unknown at the Hudson's Bay Company's posts.

The time available for preparation (not quite six weeks) was so short that it was not possible to have any instruments specially made for the Expedition, all that could be done was to select the most suitable of those that were in stock at Kew and at the Meteorological Office.

The Expedition sailed from Liverpool on the 11th May for Quebec, and travelled thence via Winnipeg to Carlton on the Saskatchewan. At Carlton it took leave of civilisation and travelled northwards, for the most part by boat, for two months, reaching Fort Rae on the 30th August.

This latter part of the journey was not so trying to the instruments as might have been supposed, as at the portages (where owing to rapids the boats have to be carried overland) it was possible to see that cases containing fragile instruments were treated with care, but when travelling by rail they could not always be protected from rough usage at the hands of railway employés. Transport in springless bullock carts over exceedingly rough roads also exposed the instruments to many unavoidable concussions.

On the Great Slave Lake, the crossing of which, owing to stormy weather, occupied eight days, the boat was stove in, and sunk in a gale; some of the provisions were damaged and destroyed, and most of the cases of instruments were submerged.



Fig. 1.

Map of part of the Great Slave Lake.

An arm of this lake, at first broad, but afterwards contracting in places to a width of a few miles, extends in a north-westerly direction for about a hundred miles (Fig. 1, p ix.) It is continued by a chain of lakes for a long distance in the direction of Great Bear Lake; in fact, a canoe meets with but few interruptions in passing from one lake to the other. This gulf appears to be the boundary between two different geological formations. To the south-west is a limestone tableland, elevated some 300 feet above the level of the lake, and extending to the Mackenzie River. At a short distance from the lake this tableland ends abruptly, and at the foot of the cliff a former beach of the lake is seen. This beach is now 20 or 30 feet above the present level of the lake, which appears to be gradually falling.

On the north-east side of the gulf a plain only slightly elevated above the lake extends as far as the eye can reach. Granite hills rise here and there like islands from the plain, which evidently, at no very distant date, formed a part of the bottom of the lake.

The surface is generally a fine white sand, sometimes rock (quartz or granite, rounded by the action of ice) and sometimes "muskeg" or swamp. Beyond this, at a distance of



Fig. 2.

30 miles or so to the north and east the "barren lands" begin; a rocky country, destitute of trees, though not of vegetation, extending to the coast of the Arctic ocean. This is the home of the musk ox and the reindeer. It is the great hunting ground of the Indians and the source of the food supply of the district.

Nearer the lake the country is covered with birch, willow, and pine, as a rule small and stunted, though in sheltered places the last-named trees sometimes attain a fair size.

The peninsula of Nu-chië (the mountain island) as the Indians call it, projects from the north-east shore, and is the only locality where limestone appears on that side of the bay. It is almost an island, being only joined to the mainland by a small patch of swamp, and consists of a crescent-shaped hill of the height of about 220 feet, precipitous on the outside and sloping more gently to the lake on the inside (Fig. 2, p. x). At the south-west extremity of this peninsula, at the foot of the hill, is a small extent of level ground. Here is the Hudson's Bay Company's post of Fort Rae, some half dozen log huts, with a large store for provisions, furs, and goods, for trading with the Indians.

The lake at this place is shallow, and there is a constant current from the north-west, caused by two rivers that enter the head of the gulf. The gulf contains numerous islands, especially along the north-east shore.

It was 10 p.m. on the 30th August when Fort Rae was reached. The 31st was occupied in unpacking the instruments and stores. The barometer, an anemometer, and the thermometer screen, with wet and dry bulb thermometers, were at once placed in position so as to enable observations to be commenced at midnight. There was most fortunately at the spot an unfinished and unoccupied building, admitting of conversion into a Magnetic Observatory. It was a log hut, built for a store, and a door and windows having been put in, a floor laid down and a fireplace built, it answered its purpose very well.

The instruments, on the whole, had suffered little from the journey, one of the barometers and two thermometers were broken, a few screws had shaken loose from some of the magnetic instruments, and a mirror required to be re-silvered. These and other similar small repairs were executed whilst the Observatory was being prepared for their reception, and on the 3rd September the declinometer, on the 4th the biliar, and on the 6th the balance magnetometer, were mounted in their places, and observations commenced therewith.

The performance of the magnetic instruments was satisfactory, with the exception of the balance magnetometer, as mentioned hereafter, p. 119. Metallic suspension would have been preferable to silk for the biliar magnet.

These instruments were mounted on wooden pillars, sunk to a depth of more than three feet in the ground. Stone pillars would have been better for the purpose, but the only stone available would have required so much cutting that even had the necessary tools been at hand, so much time would have been consumed in the preparation of the pillars that the observations could not have been commenced until late in September.

The latitude, longitude, and time were all determined with the transit theodolite.

The longitude adopted is deduced from 10 observations of moon-culminating stars, the latitude from the prime vertical transit of α Ursæ Majoris. The observations were timed by a chronometer watch whose going was frequently checked by the transit instrument, and its rate was found to vary but little throughout the year.

The hourly observations were commenced at midnight on the 31st August, the hours were thus divided between the three observers:—A. was on duty from 6h. 30m. a.m. to 6h. 30m. p.m.,

The barometer, which was a Marine Barometer, Kew pattern, was placed in the Observatory, with its cistern 18 ft. above the level of the lake. It was hung in a good light, and screened from the sun, and from the fire. It appeared to be in good order, and its performance was quite satisfactory, as far as could be judged by comparison with the aneroid. The instrument was not brought back to England for re-verification on account of the great probability of damage on the journey home, and had it been found to be out of order on receipt there would have been no possibility of determining whether the injury had been received before or after leaving Fort Rae. It has been already explained that one barometer was broken on the way out.

The dry and wet bulb mercurial and spirit thermometers were placed in a zinc screen, of Professor Wild's pattern, with their bulbs 5 ft. 10 ins. (1.77 m.) above the ground. During the winter this height was reduced by 8 or 9 ins., owing to the accumulation of snow. The maximum and minimum thermometers and a hair hygrometer were placed in the same screen. In February a wooden roof was added to protect the screen from the rays of the sun.

The rim of the rain gauge was kept at a height of 1 ft. (.32 m.) above the surface of the ground or of the snow. The solar radiation thermometer was placed vertically, with the bulb uppermost, and 5 ft. 8 ins. (1.72 m.) above the ground.

The terrestrial radiation thermometer was supported horizontally by two forked sticks, with its bulb 1 inch above the surface of the soil. During the winter it was placed on the surface of the snow, as also was an ordinary spirit thermometer, whose readings have been recorded hourly in clear and calm weather for comparison with the air temperature at the time.

The earth thermometers were fastened to a lath at intervals of 1 ft., and placed in a copper tube, which was sunk vertically in the ground. As the surface had a slope of $\frac{1}{4}$ to the S.W., and, as it was cleared of vegetation, it no doubt received more of the sun's heat than a normal portion of the earth's surface in this latitude. There was but little choice of position owing to the rocky nature of the soil, a circumstance which prevented observations of temperature being made at a greater depth than 4 feet. At first the thermometers were placed in the tube without any packing, but as the weather became colder, they were so rapidly affected by the temperature of the external air on being withdrawn from the tube that there was not time to record their readings before they began to change; they were therefore surrounded with strips of fur (on the 4th November), and thenceforward the readings were much more regular. The fur, however, proved attractive to some beast of prey, probably a carcajou (wolverine), which on the night of the 11th January managed to extract the thermometers from their tube, breaking them all. The observations were continued with other thermometers, which were coated this time with cotton wool, and no further interruption took place.

The position of the Observatory rendered it difficult to find a good position for the anemometer, on account of the hill to the north-east. Winds from this quarter were, however, rare, and the anemometer was well exposed to the prevalent winds, which were north-westerly and south-easterly. The estimated force by Beaufort's scale has been used in the reductions, a comparison having shown a close agreement with the anemometer readings. An anemometer was placed on an island in the lake, but it was so frequently stopped by snow drifting into the works that no use has been made of its readings.

In the winter it was found necessary to surround the meteorological instruments with a fence, to prevent the attention of the observer on duty being distracted by the possible visit of a wolf. These animals, which are here large and formidable, often roamed at night amongst the buildings of the post.

There was but little cloud in winter; what there was was usually thin stratus and cirro-stratus, and it did not appear to be at a high level. The S.W. wind was, however, attended with high cirrus clouds. A smoky haze was frequent in the summer, which was probably due to forest fires to the south of the lake.

Parhelia, paraselena, and haloes were of common occurrence. On two occasions parhelia were observed at sunset, between the observer and the opposite shore of the lake (distant four or five miles).

The prismatic colouring of cirrus and cirro-stratus clouds in the neighbourhood of the Sun was frequently observed in the spring and summer, and was a phenomenon at times of great beauty. The colouring was once noticed to extend to a distance of 30° 40' from the Sun.

Aurora was observed on every clear night throughout the winter, as will be seen from the tables, pp. 98-109. The journal of auroras has been printed *in extenso*, and the readings of the magnetic instruments at the time have been added, either as specimens of the disturbance that accompanies aurora, or where a marked change of reading has coincided with some phase of the phenomenon; but as only one observer was generally available, simultaneous observations could not often be carried out.

The height of the aurora appeared to vary greatly; it was twice noticed between the observer and a mass of cloud.

It was not found possible to obtain photographs either of the aurora or of its spectrum. Captain Abney suggests that this was probably due rather to the effect of the low temperature on the sensibility of the plate than to the faintness of the light of the aurora.

The first snow fell on the 27th September, but it was not until a month later that the lake froze. The residents all agreed that the season was a very exceptional one, the winter being unusually mild, and late in setting in. At the end of November the Mackenzie river was still nearly free from ice, whereas it is usually full of drifting ice in October and frozen over in November. There was also much less snow than usual. A party of Indians who came in on the 16th January reported that the country 50 miles to the N.W. was quite bare of snow, the ground being not even white. The winter was also unusually free from storms, which from all accounts, and from the journal kept at the station, seem to be both frequent and severe in ordinary years.

The snow began to disappear about the middle of April, and on the 3rd June the ice began to break up. By the 16th it had entirely disappeared from the neighbourhood of Fort Rae, though it was visible for some time longer on the horizon in the direction of the main lake.

The trees first showed signs of budding on the 16th May, and on the 1st June they were in full leaf; when the party left the place on the 1st September they were already yellow and beginning to lose their leaves.

The observations being concluded, the return journey was accomplished without difficulty, and England was reached on the 20th November 1883.

F O R T R A E .

METEOROLOGICAL OBSERVATIONS.

Atmospheric Pressure.

September 1882.

700 mm. +

Mean time of place

Correction

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	39.61	39.97	39.99	41.29	41.49	41.46	41.54	44.34	45.63	45.96	46.80	47.38	47.64	47.91
2	47.84	47.79	47.54	47.15	47.10	47.23	47.18	47.25	46.64	46.64	46.57	46.83	47.35	47.71
3	50.23	50.18	50.15	49.79	49.59	49.97	50.99	51.16	51.71	51.86	51.86	51.86	51.93	52.08
4	52.48	52.77	52.82	52.92	53.15	53.10	53.02	52.48	52.74	52.28	51.96	51.65	51.60	51.75
5	50.93	50.81	50.69	49.94	50.11	50.69	50.56	50.56	50.48	50.40	50.35	49.82	49.69	49.89
6	48.98	49.03	49.01	48.81	48.52	48.02	48.17	48.10	47.04	47.54	47.08	46.69	46.52	46.32
7	42.35	41.64	41.13	40.78	40.75	40.27	39.78	39.76	39.56	39.28	38.82	38.80	38.44	38.36
8	38.14	38.56	38.21	38.21	39.16	39.48	39.64	39.89	40.14	40.40	40.78	40.70	40.93	41.10
9	42.76	42.81	42.86	43.09	43.24	43.52	43.49	43.37	43.14	43.44	43.27	43.19	43.27	43.12
10	41.67	41.54	40.90	40.98	40.65	40.95	41.10	41.05	40.78	40.75	40.43	40.09	39.78	39.46
11	35.72	35.19	34.84	34.53	34.18	33.54	33.03	32.65	32.48	32.18	31.98	31.62	31.37	31.27
12	29.02	28.69	28.84	28.38	27.98	27.42	26.58	26.20	25.74	25.54	25.44	25.16	25.41	25.46
13	24.66	25.61	25.44	25.46	25.86	26.15	26.98	27.34	27.49	27.85	28.10	28.26	29.32	29.93
14	31.81	31.55	31.01	31.31	31.57	31.40	31.65	31.01	31.52	31.50	31.87	31.08	30.74	30.77
15	42.20	42.97	43.11	43.98	44.05	44.34	44.86	45.51	45.68	46.21	46.34	46.49	46.75	47.03
16	48.67	48.55	48.25	48.40	48.10	48.03	47.94	47.74	47.61	47.33	46.98	46.67	46.39	45.98
17	43.22	43.02	42.68	42.12	41.80	42.61	42.27	42.27	41.92	41.75	41.72	41.61	41.41	41.10
18	39.94	39.90	41.00	41.26	41.05	40.98	40.75	40.95	40.90	41.05	41.10	41.01	41.21	41.16
19	37.53	37.07	36.48	36.08	35.70	35.42	35.37	34.90	34.75	34.45	34.55	34.48	34.45	34.78
20	37.02	37.28	37.70	37.80	38.16	39.51	39.76	39.81	40.34	40.88	41.61	42.17	42.76	43.30
21	47.05	47.08	48.50	49.16	49.31	49.69	49.54	49.79	50.15	50.08	50.10	50.41	50.30	50.41
22	50.64	50.69	50.33	50.61	50.74	50.71	50.51	50.50	50.50	50.15	50.10	49.92	49.49	49.21
23	46.69	46.59	45.61	45.17	45.05	45.56	45.25	44.76	44.31	43.91	43.91	43.88	43.49	43.14
24	42.31	42.56	42.80	44.15	44.41	44.84	45.00	45.61	45.98	46.31	46.39	46.18	46.11	45.76
25	37.24	35.87	34.28	33.60	33.59	33.11	33.16	33.16	33.16	33.16	33.59	33.50	33.51	33.79
26	36.23	36.72	37.07	37.45	38.14	39.94	40.34	40.75	41.24	41.41	41.95	42.48	42.88	43.44
27	46.52	46.88	47.15	48.40	48.67	48.70	47.99	48.15	48.42	49.97	50.22	50.43	50.64	50.79
28	53.70	53.89	54.16	54.11	54.11	54.19	54.72	55.05	55.26	55.16	55.21	55.18	54.82	54.75
29	54.02	54.52	54.19	53.86	53.73	54.42	54.52	54.47	54.37	54.54	54.11	54.64	54.87	54.87
30	56.94	56.91	58.18	58.31	58.63	58.76	59.19	59.24	59.53	59.63	59.88	59.93	60.08	60.18
Mean -	43.20	43.27	43.31	43.32	43.37	43.62	43.67	43.71	43.85	43.90	43.95	43.95	44.00	44.08

October 1882.

Lat. + 62° 35' 52".

Long. - 1

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	61.10	61.32	62.07	61.81	61.86	62.07	62.19	62.42	62.54	62.52	61.32	61.91	62.51	60.22
2	56.78	56.65	56.22	55.79	55.23	54.70	55.18	55.00	54.90	54.50	54.41	54.04	53.43	53.40
3	51.77	52.21	52.59	53.04	53.02	52.97	52.84	52.79	52.74	52.69	52.61	52.16	51.75	51.37
4	49.89	49.82	49.52	49.23	48.70	48.62	48.55	48.25	47.76	47.25	46.88	46.59	45.66	45.10
5	49.19	49.22	49.61	49.00	48.50	48.27	48.34	48.10	47.39	47.87	48.85	48.02	48.23	47.58
6	48.48	48.65	48.42	48.20	48.14	48.39	48.54	48.29	47.44	48.14	48.97	48.86	48.68	48.48
7	41.24	40.98	41.00	40.91	40.95	40.78	40.75	40.73	40.73	40.80	40.88	40.85	40.73	40.65
8	40.81	40.87	40.37	39.99	40.27	41.26	41.31	41.39	41.49	41.61	41.56	41.70	41.59	41.46
9	39.51	39.41	39.31	38.67	38.62	38.24	37.70	37.29	37.07	36.84	36.23	35.90	35.37	34.62
10	31.81	31.74	31.84	31.89	31.11	31.55	31.13	31.13	31.67	31.99	32.13	31.98	31.51	31.63
11	36.18	36.23	36.43	36.16	36.46	36.50	36.48	36.22	36.72	36.51	36.51	36.53	36.59	36.48
12	35.50	35.21	34.86	34.70	34.15	34.28	34.08	34.10	33.94	33.84	33.82	33.64	33.46	33.41
13	31.98	32.98	33.01	33.01	33.11	33.16	33.11	33.41	33.69	34.08	34.11	34.48	34.53	34.70
14	37.60	37.80	38.21	38.41	38.72	39.07	39.31	39.51	39.81	40.07	40.19	40.45	40.68	40.65
15	40.50	40.45	40.29	40.22	40.27	40.09	39.89	39.41	39.21	39.13	38.90	38.49	38.70	38.50
16	37.83	38.01	38.06	38.11	38.26	38.56	38.97	39.18	39.53	39.76	40.14	40.58	40.90	41.44
17	43.01	43.24	43.47	43.40	43.57	43.57	43.57	43.57	43.73	43.71	43.67	43.17	43.12	43.07
18	38.59	37.99	37.38	37.12	36.84	36.41	35.87	35.85	35.72	35.41	35.14	34.89	34.73	34.70
19	35.29	35.60	35.77	35.90	36.23	36.53	37.04	37.24	37.45	37.68	38.19	38.41	38.70	39.16
20	40.58	40.45	40.45	40.29	40.40	40.32	40.43	40.58	40.53	40.50	40.61	40.65	40.78	40.88
21	39.68	39.41	38.77	38.34	37.61	37.22	37.04	36.44	36.18	35.50	35.11	34.81	34.81	34.65
22	33.28	33.28	33.16	33.16	33.16	33.16	33.51	33.43	33.08	33.31	33.64	33.64	33.69	33.89
23	6.18	36.59	36.69	36.92	37.07	37.32	37.58	37.70	37.94	38.19	38.11	38.62	39.67	38.80
24	40.09	40.29	40.43	40.58	40.75	40.85	40.98	41.29	41.34	41.31	41.59	41.56	41.67	41.67
25	41.71	41.72	41.61	41.59	41.56	41.51	41.36	41.31	41.26	41.01	40.95	40.95	41.01	40.68
26	41.05	40.98	41.21	41.14	41.16	41.46	41.44	41.59	41.54	41.64	41.41	41.41	41.26	41.11
27	41.21	41.34	41.46	41.31	41.64	41.90	42.02	42.10	42.63	42.61	42.76	42.99	43.08	42.53
28	38.72	38.29	37.41	36.78	36.21	35.04	34.33	33.99	33.61	33.43	33.70	34.32	34.19	34.01
29	31.64	31.71	31.61	31.74	31.99	32.14	32.50	32.75	33.01	33.46	34.02	34.65	35.39	35.37
30	40.90	41.26	41.99	42.61	43.97	43.73	44.19	44.79	45.42	45.91	46.52	47.05	47.64	48.12
31	52.11	52.25	52.64	53.94	53.40	53.73	54.40	54.70	54.97	55.00	55.31	55.56	55.64	56.22
Mean -	40.98	41.00	41.00	40.93	40.93	41.03	41.08	41.13	41.19	41.19	41.24	41.19	41.13	41.10

Correction for Gravity +1.17 mm. at 754 mm.

Barometer _____ m. above sea level.

September 1882.

2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
47.91	49.18	49.34	49.06	49.13	48.72	48.81	47.81	47.23	47.66	47.99	45.78	49.34	39.61	9.73
47.71	47.76	47.84	47.86	47.99	48.07	48.70	49.11	49.59	49.77	50.13	47.81	50.13	46.57	3.56
52.08	52.31	52.23	52.21	52.13	52.56	52.41	52.72	52.57	52.06	52.03	51.52	52.72	49.59	3.13
51.75	51.60	51.42	51.11	51.14	51.14	51.16	51.21	51.74	51.19	50.99	51.96	53.15	50.99	2.16
49.89	49.82	49.84	49.84	49.54	49.13	49.18	49.26	48.93	49.08	49.08	49.94	50.91	48.93	1.98
46.32	45.78	45.76	45.27	44.97	44.34	43.75	43.91	43.98	43.07	42.66	46.44	49.03	42.66	6.37
38.56	38.72	38.70	38.67	38.70	38.21	38.21	38.29	38.49	38.44	38.39	38.62	42.35	38.21	4.14
41.10	41.16	41.39	41.64	41.90	41.59	42.17	41.14	42.10	42.71	42.61	40.68	43.14	38.14	5.00
43.12	43.22	42.51	42.35	42.37	42.25	41.51	42.07	41.61	42.07	41.77	42.78	43.52	41.51	2.01
39.46	39.31	38.90	38.70	38.16	38.09	38.04	37.43	37.19	36.43	36.23	39.53	41.67	36.23	5.44
32.77	32.21	31.99	32.11	32.06	31.20	30.97	30.94	30.74	29.83	29.32	32.57	35.72	29.32	6.40
25.46	25.31	25.81	26.10	26.27	25.86	25.44	24.91	24.95	25.81	25.74	26.35	29.02	24.93	4.09
29.93	30.27	30.77	31.28	31.61	31.76	31.96	32.24	32.45	32.21	32.27	29.05	32.45	25.44	7.01
32.05	32.68	32.16	32.72	32.31	32.37	32.42	32.70	32.45	31.70	31.85	36.84	41.85	32.75	9.10
47.01	47.10	47.35	47.56	47.76	47.76	47.40	47.66	47.61	48.67	48.57	46.11	48.67	42.20	6.47
45.98	45.63	45.27	45.00	44.64	44.34	42.15	42.05	43.85	43.59	46.59	48.69	48.69	43.59	5.08
41.10	40.93	40.93	40.80	40.68	39.76	39.66	40.19	39.89	39.43	39.41	41.31	43.22	39.41	3.81
41.26	41.00	40.75	40.78	40.30	39.48	39.33	38.66	37.91	38.29	37.94	40.29	41.26	37.91	3.35
34.78	34.84	34.86	34.94	35.45	35.97	36.18	35.82	36.02	36.33	36.87	35.57	37.53	34.86	3.08
41.39	41.10	40.74	40.42	40.11	40.52	40.60	40.25	40.81	40.95	42.46	42.46	46.95	37.02	9.93
50.43	50.33	50.30	50.13	50.10	49.57	49.57	49.34	49.42	50.56	50.76	49.69	50.76	47.05	3.71
49.21	48.93	48.52	48.60	48.42	47.96	47.99	47.86	47.66	47.23	46.85	49.37	50.74	46.88	3.86
43.14	42.94	42.78	42.56	42.51	42.40	42.35	42.48	42.76	41.90	41.97	43.83	46.69	41.90	4.79
43.76	43.40	43.15	42.91	42.10	43.07	42.37	41.13	40.07	39.28	38.46	43.88	46.32	38.46	7.86
33.79	33.89	34.18	34.58	34.89	35.19	35.47	35.75	36.16	36.05	35.90	34.48	37.24	33.16	4.08
33.79	43.71	44.18	44.49	45.00	45.32	45.56	46.06	46.16	46.67	46.34	42.25	46.67	46.23	10.44
41.44	51.04	51.21	51.65	51.80	51.45	51.57	51.60	51.98	53.15	53.40	50.13	53.40	46.54	6.86
54.75	54.57	54.77	54.95	55.13	55.23	55.31	55.01	55.07	54.72	54.75	54.75	55.26	53.70	1.56
54.87	55.43	55.36	55.94	56.02	56.09	56.45	56.70	57.01	56.78	56.68	55.16	55.01	53.73	3.28
60.18	60.39	60.49	60.41	60.29	60.46	60.66	60.75	61.25	60.80	60.92	59.68	61.25	56.91	4.34
44.08	44.15	44.15	44.26	44.29	44.08	44.10	44.15	44.05	44.08	44.03	41.85	46.22	41.13	5.09

52°. Long.—115° 43' 50" = -7h. 42m. 55s. October, 1882.

2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
60.32	60.71	60.34	59.63	59.34	58.94	58.61	58.26	57.66	57.26	57.01	60.56	62.42	57.01	5.41
53.40	53.99	54.79	54.64	54.31	54.31	54.21	52.67	52.89	52.16	51.93	53.99	59.78	51.93	4.85
51.58	51.29	50.96	50.94	50.43	49.82	49.47	49.08	49.01	50.10	50.05	51.50	53.04	49.01	4.03
45.10	44.41	43.75	43.34	43.22	42.32	41.80	41.51	41.24	40.70	40.27	45.50	49.89	40.27	9.62
40.58	42.83	42.88	42.83	42.83	43.19	43.37	43.49	43.62	43.04	42.46	41.77	43.62	39.07	4.55
42.48	42.17	42.00	41.77	41.67	41.03	40.63	40.55	40.58	41.36	41.26	42.32	43.62	40.55	2.99
40.65	40.71	40.70	40.70	40.17	40.40	40.60	40.60	40.48	40.61	40.68	40.75	41.24	40.27	0.97
41.46	41.46	41.44	41.29	41.00	40.78	40.73	40.70	40.53	39.97	39.97	40.98	41.70	39.97	1.73
34.02	34.15	34.02	33.64	33.26	32.98	32.70	32.35	32.21	32.04	31.80	35.02	39.51	31.80	7.66
34.63	34.75	35.09	35.24	35.50	35.52	35.67	35.97	36.18	36.18	36.18	34.15	36.18	31.74	4.44
36.48	36.53	36.53	36.72	36.87	36.77	36.77	36.77	36.30	36.30	36.05	35.75	36.48	35.75	1.12
33.43	33.28	33.28	33.11	33.11	33.06	32.96	32.88	32.88	32.83	32.83	31.74	32.83	31.74	2.67
34.70	35.04	35.29	35.55	35.50	35.85	35.97	36.36	36.74	37.12	37.18	34.65	37.18	32.98	4.20
40.65	40.78	40.93	40.88	41.03	40.90	41.05	41.05	41.05	40.75	40.70	39.99	41.05	37.60	3.45
37.50	37.65	37.58	37.53	37.48	37.48	37.35	37.48	37.43	37.35	37.68	38.65	40.50	37.35	3.15
41.44	41.77	42.02	42.40	42.53	42.68	42.71	42.58	42.76	42.81	43.02	40.61	43.02	37.83	5.19
43.07	42.66	42.32	41.92	41.61	41.10	40.75	40.34	39.89	39.16	39.02	43.73	43.73	39.02	4.71
34.70	34.84	34.56	34.86	34.81	34.81	34.89	34.89	34.78	34.91	35.00	35.65	35.59	34.70	3.89
39.16	39.41	39.66	39.61	40.12	40.22	40.34	40.27	40.50	40.45	40.58	38.36	40.58	35.29	5.29
40.18	41.01	40.95	41.13	40.95	41.05	40.78	40.58	40.35	40.12	40.09	41.13	41.13	40.09	1.04
34.65	24.50	34.23	33.82	33.77	33.59	33.11	33.16	33.01	33.13	33.13	35.47	39.68	33.01	6.68
33.89	33.89	34.31	34.51	34.81	34.89	35.01	35.26	35.43	35.62	35.90	34.08	35.90	33.08	2.82
38.80	39.05	39.07	38.97	39.13	39.11	39.45	39.61	39.61	39.73	40.02	38.02	40.02	36.18	3.84
41.66	41.80	41.90	41.95	42.00	41.95	41.85	41.80	41.72	41.80	41.67	41.30	42.00	40.99	1.01
40.68	40.61	40.80	40.70	40.83	40.80	40.98	41.03	41.13	41.10	41.10	41.13	41.70	40.60	1.12
41.13	41.26	41.00	41.05	40.80	40.65	40.63	40.65	40.61	40.71	41.08	41.11	41.64	40.63	1.01
40.83	42.71	42.63	42.30	41.85	41.87	41.56	41.05	40.58	39.81	39.16	41.82	41.82	39.36	3.66
31.01	31.89	31.51	31.64	31.66	31.74	31.89	31.99	31.94	31.81	31.59	33.48	38.22	31.61	7.21
36.28	36.28	36.89	37.40	38.01	38.24	38.72	39.02	39.16	39.78	40.20	35.24	39.78	31.61	8.68
38.12	48.65	48.98	49.67	50.02	50.35	50.76	50.94	51.09	51.24	51.57	46.95	51.57	40.90	10.67
60.32	56.12	56.34	56.32	56.55	56.58	56.73	56.60	56.55	56.29	56.32	55.13	56.29	52.11	4.62
41.10	41.13	41.13	41.10	41.08	41.00	40.98	40.93	40.90	40.88	40.83	41.05	43.15	38.85	4.30

Atmospheric Pressure.

4

November 1882.

700 mm. +

Mean time of place

Corrected

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2	3	
1	56.12	55.82	55.56	54.90	54.50	54.01	53.23	52.69	51.88	51.47	51.01	49.97	48.93	48.20		
2	54.33	53.78	53.41	52.55	51.96	51.17	50.84	50.12	50.62	50.49	50.92	51.10	51.21	51.51		
3	41.08	42.02	42.61	42.99	43.83	44.24	44.71	44.79	45.06	45.84	45.68	45.93	45.83	45.61		
4	44.31	44.07	43.67	43.74	43.57	43.47	43.34	43.47	43.39	43.29	43.19	43.19	42.97	42.99		
5	43.42	43.52	43.75	43.64	43.64	43.64	43.49	43.54	43.52	43.78	43.75	43.59	43.57	43.49		
6	45.42	45.56	45.68	45.91	46.11	46.34	46.20	47.05	47.28	47.61	47.76	47.71	47.81	48.15		
7	49.52	49.59	50.08	50.08	50.37	50.53	50.81	50.94	51.24	51.35	51.65	51.65	51.75	51.96		
8	53.65	53.75	53.83	53.78	53.81	53.78	53.65	53.28	52.69	52.33	52.01	51.52	50.51	49.67		
9	47.69	48.12	48.52	48.83	49.21	49.47	49.64	50.23	50.78	50.78	50.08	50.05	49.67	49.30		
10	48.22	47.74	47.61	47.30	47.00	46.62	46.27	45.97	45.83	45.68	44.94	44.81	44.24	44.05		
11	40.40	41.27	40.07	39.97	39.58	39.43	39.10	39.18	38.87	39.00	38.25	38.19	38.31	38.04		
12	34.08	33.92	33.59	32.06	31.85	31.81	31.27	31.89	31.08	30.51	29.91	29.10	28.13	27.11		
13	21.40	21.15	21.35	21.02	21.10	21.17	21.84	21.78	21.07	20.92	21.12	21.12	21.75	21.50		
14	40.77	40.70	40.20	39.97	39.81	39.58	39.36	39.07	39.21	39.48	39.91	39.99	40.20	40.75		
15	44.86	44.97	45.07	45.17	44.74	44.66	44.66	44.66	44.51	44.11	43.88	43.30	42.99	42.24		
16	30.72	29.83	29.15	28.84	27.97	26.54	25.86	26.74	26.53	26.43	26.43	26.43	26.76	27.01		
17	33.15	33.67	34.91	35.75	36.59	37.48	37.58	38.41	38.22	38.27	39.51	39.71	39.54	39.05		
18	34.05	34.05	34.28	33.97	33.92	33.92	33.92	33.84	33.84	33.54	32.11	31.06	30.11	29.91		
19	30.06	29.97	29.88	29.81	29.66	29.61	29.49	29.84	29.80	29.18	28.16	27.19	26.19	25.52		
20	41.70	42.35	42.98	43.75	44.26	44.86	45.27	45.78	46.11	46.39	46.57	46.78	47.25	47.20		
21	48.52	48.12	47.48	47.40	47.35	46.67	46.62	46.72	46.39	46.34	46.19	46.06	46.01	45.78		
22	46.62	46.18	46.07	46.47	46.39	46.32	46.39	46.37	46.37	46.03	45.86	45.63	45.53	45.20		
23	43.67	43.52	43.78	44.01	43.85	43.85	43.20	43.54	43.75	43.90	43.78	44.05	44.24	44.39		
24	44.97	45.20	45.30	45.37	45.22	45.22	45.53	45.53	45.86	45.88	45.48	45.48	45.49	46.52		
25	48.15	48.02	48.12	48.07	48.02	48.15	48.27	48.22	48.17	48.22	48.25	48.25	48.25	48.27		
26	48.10	48.15	47.86	47.81	47.40	47.48	47.48	47.43	47.99	48.35	48.37	48.55	48.75	48.88		
27	53.83	54.24	54.50	54.21	54.60	54.62	54.87	55.13	55.23	55.51	55.51	55.53	55.53	55.72		
28	52.74	52.74	51.65	50.71	49.84	48.81	48.07	46.93	45.56	44.46	43.59	42.51	41.36	40.27		
29	39.56	40.32	41.75	42.25	43.12	43.93	44.34	45.10	45.58	46.47	47.45	48.30	48.91	49.34		
30	55.97	56.45	56.80	57.16	57.97	58.55	58.68	58.88	59.11	59.45	59.50	59.39	59.27	59.45		
Mean	43.14	43.29	43.32	43.29	43.14	43.17	43.17	43.49	43.52	43.59	43.57	43.57	43.52	43.47		

December 1882.

Lat. + 62° 35' 52".

Long -

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2	3	
1	58.83	58.41	58.41	58.31	58.00	57.07	58.10	57.75	57.83	57.82	57.85	57.70	57.70	57.54		
2	58.67	59.07	58.71	58.23	58.00	57.82	57.49	56.93	56.25	55.72	54.29	54.29	53.94	53.02		
3	48.02	47.94	48.12	48.07	48.15	48.25	48.65	48.93	49.19	49.12	49.27	49.47	49.47	49.57		
4	50.89	50.86	50.66	50.30	50.33	50.43	49.99	49.67	49.17	49.06	48.70	48.62	48.40	48.40		
5	55.21	56.32	57.25	58.16	59.22	60.26	61.30	61.91	62.57	63.13	63.66	64.05	64.45	64.71		
6	65.15	64.21	64.20	63.76	63.95	62.24	61.58	60.90	60.05	59.12	58.71	57.97	57.16	56.20		
7	45.67	47.66	47.15	46.34	45.51	44.81	43.88	43.37	42.86	42.48	41.97	41.59	40.95	40.68		
8	37.50	37.22	37.29	37.29	37.35	37.48	37.68	37.94	38.16	38.46	38.95	39.48	39.56	39.81		
9	43.22	43.52	43.62	43.67	44.08	44.18	44.70	45.20	45.25	45.61	45.96	46.89	46.62	47.25		
10	52.11	52.26	52.74	52.79	53.02	53.10	53.23	53.58	53.80	53.61	53.61	53.75	53.70	53.78		
11	55.99	56.45	57.01	57.36	57.70	57.70	58.02	58.43	58.71	58.99	59.07	59.14	59.27	59.55		
12	60.36	61.26	60.05	59.91	59.93	60.00	59.83	59.88	59.83	59.80	59.70	59.55	59.39	59.32		
13	57.56	57.54	57.49	57.21	56.70	56.50	56.02	55.79	55.82	55.56	55.13	54.72	54.57	54.26		
14	53.20	53.15	53.15	52.92	52.64	52.62	52.62	52.41	52.13	51.93	51.67	51.62	51.73	51.57		
15	51.74	50.79	50.48	49.99	49.59	48.43	47.23	45.28	44.97	44.56	43.17	41.51	40.58	40.68		
16	41.51	42.15	42.30	41.80	41.92	41.56	40.93	40.68	40.14	39.58	38.75	38.21	37.50	36.67		
17	28.46	28.03	27.88	27.70	27.27	27.06	26.66	26.21	26.11	26.61	26.81	26.73	26.81	26.61		
18	31.24	30.74	31.33	31.48	31.99	32.52	33.32	34.13	34.63	35.19	35.31	35.83	36.41	36.97		
19	40.37	40.37	40.63	40.67	40.53	40.53	40.78	40.85	40.80	40.32	40.17	39.89	39.92	39.89		
20	38.49	38.49	38.49	38.31	38.26	38.31	38.19	38.11	38.36	38.44	38.39	38.39	38.32	38.21		
21	36.46	36.41	35.87	35.47	35.16	34.92	34.89	34.86	34.55	34.43	34.10	34.10	34.38	34.15		
22	31.94	31.35	30.84	30.06	29.37	29.23	28.03	27.22	26.86	26.27	25.56	25.19	24.72	24.52		
23	25.59	26.17	26.81	27.52	28.70	28.97	29.52	30.52	31.38	32.16	32.96	33.74	34.51	35.21		
24	41.26	40.68	40.68	40.08	40.90	40.75	40.85	40.45	40.63	40.88	41.10	41.08	41.13	41.24		
25	41.49	41.72	42.25	42.22	42.86	43.02	43.67	43.75	44.61	44.94	44.84	44.97	44.86	45.12		
26	41.36	41.10	40.60	40.50	39.63	38.22	38.49	38.16	37.89	37.75	37.22	37.12	36.67	36.74		
27	37.58	37.89	38.04	38.02	38.06	38.12	38.39	38.87	38.87	39.07	39.15	39.15	39.68	40.37		
28	50.33	51.26	52.13	53.10	53.68	54.06	54.82	55.28	55.97	56.32	57.09	57.16	57.56	58.12		
29	62.69	63.29	63.49	63.44	63.41	63.46	63.31	63.18	63.13	63.03	62.99	61.99	61.48	60.95		
30	54.42	54.70	54.70	55.21	55.77	56.20	56.78	57.90	58.83	59.19	59.60	59.70	60.03	60.87		
31	65.52	65.54	65.54	65.22	65.06	64.78	64.32	63.47	63.41	63.76	63.76	63.00	62.69	62.41		
Mean	47.13	47.30	47.38	47.28	47.25	47.20	47.20	47.20	47.23	47.20	47.10	47.00	46.95	46.95		

Place

Correction for Gravity +1.17 mm. at 754 mm.

Barometer m. above sea level.

November 1882.

3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.	
48.30	47.28	45.98	44.54	43.47	41.80	40.50	39.00	37.78	36.23	35.67	47.94	56.12	55.67	20.45
51.51	51.79	52.70	53.06	53.26	53.67	54.73	56.00	56.92	58.59	60.09	53.08	40.09	30.59	9.50
43.99	45.36	45.40	45.17	45.17	44.94	44.71	44.66	44.46	44.44	44.46	44.56	45.93	41.08	4.85
43.49	43.22	43.86	43.20	43.04	43.02	43.06	43.24	43.27	43.64	43.67	43.36	44.31	43.86	1.45
48.15	43.51	43.59	43.80	44.08	44.05	44.15	44.26	44.34	44.64	45.12	43.83	45.12	43.42	1.70
51.96	48.21	48.47	48.65	48.86	48.86	48.96	49.06	49.16	49.21	49.32	47.66	49.52	45.42	3.90
49.76	51.96	51.36	51.48	51.84	51.79	53.02	53.07	53.10	53.38	53.55	51.67	53.55	49.52	4.03
49.39	48.88	48.17	47.66	46.90	46.47	46.64	46.52	46.72	46.72	47.38	50.43	53.83	49.52	4.03
44.05	49.16	49.06	49.29	49.01	49.21	48.88	48.86	48.70	48.50	48.42	49.18	50.38	47.69	2.69
38.04	43.75	43.34	42.97	42.58	42.05	41.67	41.46	41.21	40.68	40.43	44.44	48.22	40.43	7.79
37.11	37.70	37.48	36.87	36.43	35.65	35.71	35.37	34.78	35.26	35.04	37.91	40.40	34.78	5.62
37.10	26.56	25.89	25.21	24.42	23.86	23.25	22.36	21.78	21.50	21.50	26.23	34.08	21.50	12.58
40.75	39.00	39.68	40.58	40.95	41.08	41.00	41.34	41.21	40.93	41.11	41.11	41.34	41.34	10.99
43.23	41.24	41.67	42.12	42.63	42.99	43.70	43.70	44.44	44.59	44.81	41.29	44.81	39.07	5.74
37.47	41.54	40.63	39.66	39.05	37.78	36.21	35.25	33.62	32.45	31.61	41.16	45.17	31.61	13.56
39.05	37.39	37.88	38.30	38.61	38.91	39.57	39.29	39.89	39.59	32.35	28.43	32.35	25.86	6.49
51.93	18.65	18.49	18.04	17.48	16.94	16.59	15.97	15.40	14.84	13.12	37.12	37.12	33.13	6.60
33.52	32.61	32.17	31.30	31.94	31.40	31.18	30.69	30.32	30.34	30.11	32.75	32.75	30.11	4.62
47.10	34.23	34.70	35.70	36.26	37.09	37.94	38.67	39.42	40.12	40.95	33.69	40.95	29.83	11.12
45.78	47.66	47.86	47.94	48.15	48.27	48.07	48.25	48.22	48.37	48.47	46.57	48.27	41.70	6.77
45.10	46.11	46.29	46.24	46.24	46.54	46.62	46.64	46.75	46.67	46.78	46.69	48.32	45.78	2.54
45.10	45.12	45.03	44.84	44.71	44.34	44.00	43.90	43.62	43.70	43.75	45.40	46.78	43.62	3.16
46.39	44.29	44.08	44.21	44.36	44.46	44.41	44.39	44.51	44.76	44.91	44.10	44.91	41.52	3.39
46.52	46.64	46.90	47.08	47.05	47.18	47.18	47.18	47.38	47.69	47.70	46.32	47.70	44.79	2.92
48.88	48.47	48.47	48.30	48.05	47.94	47.86	47.96	48.10	48.24	48.69	48.15	48.27	47.69	0.78
55.72	49.54	49.99	50.64	50.99	51.35	51.72	51.96	52.26	52.02	53.23	49.27	51.23	47.40	5.83
40.27	55.51	55.33	55.65	55.00	54.80	54.70	54.67	54.09	53.68	53.04	52.80	51.72	51.04	2.68
51.91	39.51	38.25	38.31	37.63	37.17	37.14	37.19	37.61	38.11	39.07	43.32	52.74	37.14	15.60
59.45	49.34	49.92	50.69	50.84	51.77	52.42	52.94	53.55	54.25	55.16	47.71	55.16	39.56	15.80
43.47	39.45	39.45	39.39	39.22	39.29	39.24	39.14	39.07	38.92	38.86	58.68	59.50	55.97	3.53
43.47	43.42	43.42	43.32	43.19	43.17	43.14	43.14	43.19	43.32	43.37	46.73	49.69	43.32	7.04

52°.

Long. -115° 43' 50" = -7h. 42m. 55s.

December 1882.

3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.	
57.54	57.46	58.50	58.85	58.00	57.57	57.82	58.33	58.38	58.56	58.48	58.05	58.83	57.46	1.37
53.02	51.95	51.16	50.76	49.92	49.28	48.72	48.27	48.25	48.15	48.05	51.65	59.07	48.05	11.02
48.10	50.10	50.28	50.61	50.53	50.86	50.79	50.94	51.11	50.99	51.01	49.64	51.11	47.94	3.17
64.70	48.40	48.30	48.45	48.85	49.26	50.32	50.94	51.80	52.07	52.07	49.04	52.07	48.24	5.69
36.80	45.13	45.27	45.49	45.57	45.61	45.44	45.18	45.34	45.34	45.19	62.80	65.02	55.22	10.41
40.68	56.24	55.23	54.75	53.83	53.24	52.21	51.45	50.96	50.13	49.37	57.61	65.13	49.37	15.76
39.81	39.92	39.28	39.53	38.92	38.56	37.28	37.60	37.41	37.38	37.55	41.00	48.67	37.38	11.29
39.88	40.17	40.33	40.93	41.39	41.49	41.77	42.05	42.22	42.62	43.19	39.58	43.19	37.22	5.97
47.25	47.50	48.30	48.60	48.93	49.44	49.84	50.31	50.66	51.26	51.75	46.93	51.75	42.12	8.53
33.28	53.89	53.94	53.91	54.14	54.40	54.75	54.90	55.16	55.56	55.67	53.80	55.67	52.11	3.56
39.55	39.85	60.05	60.03	60.18	59.98	60.00	60.05	60.05	60.39	60.26	58.91	60.29	55.99	4.30
59.32	59.32	59.14	59.02	58.71	58.63	58.38	58.12	58.12	57.97	57.75	59.29	60.16	57.75	2.61
54.26	54.37	54.26	54.16	53.96	53.86	53.65	53.50	53.45	53.55	53.43	55.13	55.16	53.43	4.13
51.57	50.91	50.76	51.24	50.74	50.40	50.99	51.42	51.39	51.14	51.29	51.83	53.25	50.40	2.85
40.68	40.19	40.17	40.17	40.50	40.53	40.30	40.60	40.90	41.56	41.97	43.97	51.04	40.17	10.87
16.67	35.57	34.33	33.41	32.43	31.11	31.61	30.94	29.93	29.45	28.76	36.89	42.35	28.76	13.59
26.61	26.71	26.91	27.06	27.62	27.83	27.85	28.21	28.66	29.27	29.75	27.49	29.75	26.71	3.22
36.97	37.50	37.86	38.29	38.65	38.90	39.16	39.39	40.07	40.22	35.82	40.22	30.24	30.24	10.03
39.89	39.61	39.43	39.16	38.92	38.90	38.49	38.41	38.05	38.02	38.56	39.76	40.85	38.41	2.44
38.11	38.24	38.39	38.29	38.11	38.11	38.14	37.75	37.60	37.14	36.99	38.16	38.49	36.99	1.50
34.25	34.65	34.45	34.30	34.15	33.89	33.74	33.57	33.16	32.75	32.40	34.48	36.46	32.40	4.06
26.12	24.27	24.07	24.19	24.22	24.27	24.32	24.37	24.42	24.80	25.19	26.48	31.04	24.07	7.37
36.08	36.94	37.39	38.09	38.54	39.33	39.53	39.97	39.66	40.40	40.80	33.97	40.80	25.59	15.21
41.74	41.26	41.51	41.36	41.31	41.08	41.03	41.32	41.52	41.29	41.41	41.05	41.52	40.45	1.09
45.12	45.56	45.10	45.02	44.97	43.90	43.73	43.27	43.29	43.19	42.32	43.80	45.56	41.49	4.07
40.37	36.74	36.99	37.09	37.02	37.40	37.91	38.14	38.29	38.19	37.71	38.26	38.26	36.67	4.69
58.12	41.31	43.17	43.24	43.98	45.02	46.32	47.25	47.95	48.55	49.39	41.49	49.39	37.58	11.81
60.05	58.66	59.02	59.48	59.85	60.08	60.77	61.05	61.58	61.96	62.22	58.16	62.22	50.33	11.94
60.87	60.56	60.80	60.99	61.11	61.11	60.50	60.89	61.39	61.89	62.40	60.46	62.40	54.60	8.80
61.41	62.17	62.13	62.12	62.76	63.43	65.12	65.32	65.77	65.90	65.85	63.85	60.49	54.22	11.42
46.93	61.99	61.71	61.25	60.90	60.31	59.75	59.22	58.88	58.72	58.33	62.52	65.54	58.33	7.21
47.00	47.03	47.05	47.08	47.03	47.00	47.05	47.05	47.08	47.18	47.20	47.13	50.69	43.58	7.11

Atmospheric Pressure.

6

January 1883.

700 mm. +

Mean time of place.

Correctio

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	58.28	58.26	58.00	57.75	57.82	57.72	57.72	57.41	57.44	57.54	57.61	57.21	57.14	57.39
2	59.07	59.17	59.60	59.75	59.45	59.48	59.88	60.08	60.13	60.00	59.95	60.10	60.30	60.24
3	60.41	60.41	60.41	60.26	60.26	60.65	60.60	59.60	59.53	59.60	59.22	58.94	58.78	58.73
4	57.56	57.49	57.50	57.11	57.01	56.94	56.68	56.73	56.45	56.34	56.22	55.64	55.51	55.46
5	52.53	52.11	52.13	51.98	51.55	51.24	51.37	51.21	51.32	51.42	51.26	50.86	50.66	50.66
6	49.32	49.39	49.44	49.06	48.78	48.45	47.94	47.86	47.56	47.56	47.08	46.54	46.16	45.92
7	44.74	45.12	45.53	45.27	45.40	45.15	45.02	45.15	45.30	45.56	45.56	45.51	45.30	45.05
8	39.31	38.90	38.20	37.51	36.64	36.38	35.70	35.42	35.29	35.09	35.09	34.73	33.94	33.64
9	35.80	36.22	37.25	37.70	39.73	40.53	41.80	42.91	43.83	45.88	46.54	47.30	48.20	48.37
10	50.96	51.35	51.50	51.55	51.47	51.45	51.19	51.09	51.21	51.21	51.14	50.99	51.19	51.40
11	50.20	50.35	49.89	49.77	49.64	49.74	49.79	49.57	49.92	50.35	50.35	50.25	50.76	50.64
12	51.96	52.06	51.75	51.37	51.01	50.79	50.40	50.23	50.20	49.79	49.26	48.86	48.25	47.86
13	47.87	47.71	47.47	47.14	46.22	45.99	45.94	45.97	45.12	45.06	45.19	45.19	44.99	44.17
14	45.30	45.71	45.71	45.58	45.51	45.35	45.48	45.71	45.86	45.61	45.76	45.61	45.45	45.33
15	47.23	47.09	48.35	48.50	48.96	49.77	50.25	51.35	52.56	53.55	54.11	54.00	53.56	56.45
16	60.49	60.77	60.87	61.00	61.05	60.95	60.77	60.72	60.41	60.51	60.54	60.51	60.49	60.36
17	58.48	58.51	58.31	58.00	58.05	58.23	58.10	58.53	58.94	59.12	59.60	59.75	60.07	61.10
18	66.23	66.81	67.00	66.96	66.81	66.74	66.00	65.77	65.13	64.35	63.59	63.13	61.96	60.61
20	53.50	53.58	53.63	53.28	53.80	53.86	54.55	54.72	54.80	54.92	55.10	54.97	54.54	54.77
21	55.56	55.53	55.88	56.04	55.84	55.60	55.21	55.45	55.51	55.72	56.12	55.94	55.99	56.07
22	58.10	58.12	58.28	58.16	58.53	58.41	57.61	57.85	58.26	58.18	58.10	57.55	57.22	57.00
23	52.73	52.94	52.90	52.30	52.87	52.81	52.66	52.95	52.80	52.63	52.04	51.27	51.46	51.30
24	51.31	50.29	50.89	51.05	51.68	51.79	51.45	50.79	49.26	48.25	46.83	45.68	44.54	44.58
25	53.31	53.25	53.15	53.08	53.15	53.23	53.21	53.41	53.81	54.40	54.61	54.99	55.11	55.70
26	58.24	58.56	58.49	58.49	58.65	58.73	59.22	59.53	59.83	60.14	60.50	60.65	60.73	60.88
27	40.48	40.22	40.24	39.73	39.54	39.10	38.92	38.72	38.70	38.39	38.11	38.16	38.21	38.19
28	40.75	41.20	41.02	41.20	41.40	41.61	41.68	41.92	41.32	41.73	41.88	41.80	41.83	41.98
29	46.67	47.13	47.27	47.89	48.10	48.50	49.01	49.72	50.35	50.94	51.45	51.86	52.18	52.72
30	56.73	57.16	57.51	57.87	58.02	58.26	58.43	58.66	58.48	59.14	59.24	59.53	59.83	60.08
31	62.67	62.85	63.39	64.10	64.50	64.66	64.66	64.38	65.42	65.95	66.22	66.50	66.99	67.33
Mean -	51.11	51.21	51.29	51.26	51.19	51.19	51.14	51.24	51.40	51.50	51.57	51.45	51.42	51.45

February 1883.

Lat. + 62° 38' 52".

Long. -

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	50.67	50.60	50.37	50.09	69.69	69.45	69.28	68.77	68.23	67.67	67.01	66.33	65.52	64.72
2	58.81	58.53	58.53	58.58	59.24	59.75	60.31	60.60	61.25	61.63	62.22	62.22	62.37	62.14
3	54.67	54.62	54.03	53.64	53.65	54.26	55.05	55.87	56.88	57.56	58.27	58.22	58.00	57.67
4	49.23	48.15	47.25	45.93	44.54	43.12	41.87	40.85	40.12	39.43	39.26	39.22	39.21	39.51
5	44.15	44.97	45.22	45.96	45.98	46.11	46.37	46.24	46.08	45.61	45.53	45.10	44.69	44.91
6	49.94	50.23	50.23	50.25	50.10	50.05	49.39	48.70	48.12	47.45	46.75	46.04	45.85	45.88
7	35.37	35.85	38.11	39.89	41.61	43.44	44.94	46.21	48.05	48.72	50.08	51.37	52.03	52.74
8	49.92	49.51	48.91	48.12	47.76	47.25	46.67	46.19	46.91	46.72	47.43	47.69	47.69	48.12
9	51.32	51.09	50.59	50.13	49.26	47.76	46.54	45.30	43.85	42.48	41.08	39.00	38.06	38.06
10	47.82	47.82	47.75	47.44	47.70	47.82	48.46	48.11	48.19	48.24	47.78	47.78	47.40	47.22
11	47.82	47.73	47.93	48.06	48.51	48.61	48.13	48.12	48.12	48.67	48.05	47.18	47.43	47.33
12	52.38	50.66	51.32	51.60	52.01	52.51	52.72	52.99	53.18	53.86	54.19	54.55	54.92	55.00
13	54.95	54.82	54.52	54.21	53.80	53.45	52.92	52.62	52.59	52.16	51.88	51.60	51.19	50.45
14	46.16	45.53	45.37	45.10	44.69	44.39	44.15	43.83	43.75	43.52	43.24	43.17	42.81	42.61
15	47.49	47.83	48.00	48.18	48.54	48.91	48.50	48.86	48.27	48.72	49.11	48.59	48.50	48.80
16	52.12	52.02	52.40	52.52	52.70	52.77	52.97	53.02	52.80	52.72	52.28	52.50	52.16	51.98
17	51.37	50.84	50.40	49.97	49.72	49.59	49.31	49.16	49.16	49.03	49.11	49.16	49.27	50.26
18	56.40	56.58	56.63	56.50	56.58	56.53	55.89	55.41	54.95	54.37	54.10	54.47	54.40	54.11
19	53.38	53.91	53.80	53.91	54.16	54.31	54.40	54.57	54.65	54.85	55.10	55.07	55.02	54.85
20	52.11	51.75	51.47	51.06	50.33	49.62	49.23	48.37	47.96	47.89	48.10	47.69	47.15	46.52
21	47.23	47.45	47.04	46.04	45.15	44.28	43.54	42.50	42.32	42.24	42.11	41.72	41.70	41.70
22	38.50	38.82	38.44	38.62	38.67	38.65	39.13	39.58	40.02	40.50	41.00	41.21	41.70	42.07
23	46.47	46.64	46.75	46.93	47.13	47.13	47.40	47.81	48.17	48.25	48.60	48.70	48.52	48.57
24	48.25	48.50	48.50	48.62	48.91	49.16	49.47	49.72	49.97	50.53	51.24	51.52	51.65	51.91
25	54.29	54.09	53.96	54.04	54.14	54.24	54.26	54.50	54.37	54.24	53.96	53.99	53.09	53.89
26	50.48	50.61	50.50	50.33	50.20	50.28	50.10	50.28	50.20	50.50	50.50	51.27	51.26	51.77
27	55.89	56.02	55.53	56.04	55.92	55.48	55.02	54.97	55.21	54.92	54.60	54.14	53.75	53.38
28	51.14	50.99	50.81	50.81	50.91	51.19	51.19	51.24	51.40	51.45	51.83	51.98	52.18	52.51
Mean -	49.99	50.02	50.02	50.08	50.08	49.99	49.89	49.87	49.89	49.87	49.94	49.82	49.74	49.67

3
57.19
60.44
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46.40
43.98
41.40
48.67
52.28
51.53
52.03
53.04
52.67
49.57

place.

Correction for Gravity +1.17 mm. at 754 mm.

Barometer _____ m. above sea level.

January 1883.

2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
57.39	57.19	57.46	56.88	57.14	56.94	57.24	57.51	57.92	58.21	58.66	57.61	58.66	56.88	1.78
60.24	60.44	60.69	60.69	60.50	60.64	60.75	60.61	60.64	60.36	60.36	60.13	60.75	59.07	1.68
58.73	58.71	58.48	58.51	58.18	57.77	57.83	57.85	57.82	57.64	57.51	58.99	60.49	57.51	2.98
55.46	55.36	54.82	54.57	54.06	53.58	53.38	53.15	53.13	52.74	52.46	55.41	57.59	52.46	5.13
50.66	50.53	50.28	50.33	50.23	49.89	49.84	49.92	49.67	49.47	49.32	50.84	52.53	49.32	3.21
45.91	45.81	45.61	45.51	45.32	45.20	45.00	44.97	44.89	44.71	44.64	46.78	49.44	44.64	4.80
45.05	44.97	45.00	44.18	43.67	43.09	42.27	41.46	40.93	40.17	39.51	44.15	45.58	39.51	6.07
38.64	33.48	33.33	32.96	32.91	33.01	33.01	33.48	34.15	34.45	34.86	35.09	39.31	32.91	6.40
48.10	48.37	48.88	49.37	49.54	49.72	50.13	50.10	50.40	50.76	50.94	45.37	50.94	35.80	15.14
51.40	51.14	50.86	50.71	50.53	50.20	49.92	50.08	50.20	50.45	50.33	50.91	51.55	49.92	1.63
50.64	50.89	51.35	51.40	51.57	51.55	51.70	51.86	52.03	52.18	52.06	50.74	52.18	49.64	2.54
47.56	47.25	46.95	46.95	46.47	45.83	45.71	44.94	44.81	44.56	44.13	48.40	52.06	44.13	7.93
43.17	43.42	43.70	43.85	44.21	44.26	44.29	44.41	44.64	44.74	45.22	43.67	45.22	42.94	2.28
45.35	45.45	45.45	45.42	45.58	45.96	45.81	45.73	46.01	46.64	47.03	45.71	47.03	45.30	1.73
50.45	50.39	50.14	50.14	50.78	50.90	60.26	60.44	60.46	60.51	60.41	54.82	60.51	47.23	13.28
60.56	60.64	60.49	60.56	60.39	60.21	59.75	59.42	59.32	59.12	58.86	60.36	61.05	58.86	2.19
61.10	61.83	61.62	61.31	61.84	64.45	65.23	65.88	65.93	66.03	66.27	66.03	61.27	58.05	7.98
60.61	60.36	59.24	58.51	57.80	56.17	55.10	53.70	52.77	51.77	50.81	64.17	67.07	50.81	16.26
49.77	49.87	50.45	51.02	51.45	51.91	52.13	52.31	52.48	52.77	52.36	50.50	52.77	49.08	3.69
55.05	55.16	55.46	55.48	55.18	55.21	55.10	55.41	55.74	55.23	55.58	54.80	55.74	53.50	2.24
56.07	56.14	56.60	56.83	57.06	57.01	57.09	57.36	57.49	57.77	57.64	56.32	57.77	55.41	2.36
57.00	57.77	57.70	57.34	57.41	57.16	57.16	57.49	57.64	57.56	58.07	57.85	58.13	57.46	1.37
62.32	61.96	61.06	61.58	61.02	60.30	59.88	59.58	59.29	58.68	57.02	60.46	62.32	57.02	4.40
44.58	41.49	40.14	39.02	37.80	36.31	35.42	34.55	33.97	33.57	33.46	44.82	57.31	33.46	23.85
35.70	35.70	35.62	35.82	36.18	36.23	36.33	36.48	36.77	37.22	37.40	34.94	37.40	33.08	4.32
40.58	40.90	41.16	41.26	41.19	41.20	41.22	41.26	41.21	40.78	40.63	40.17	41.16	38.29	3.07
38.19	38.09	38.30	38.54	38.44	38.65	38.87	39.23	39.48	39.90	40.27	39.05	40.28	38.09	2.39
45.08	44.05	44.29	44.56	44.49	44.64	44.86	45.20	45.51	45.93	46.42	43.71	46.42	40.78	5.64
51.22	51.23	53.89	54.10	54.57	54.80	55.02	55.48	55.87	56.10	56.23	51.81	56.41	46.67	9.76
60.02	60.26	60.66	60.85	61.07	61.20	61.42	61.76	61.83	62.12	62.32	59.72	62.32	56.73	5.59
67.15	67.88	68.31	68.94	69.38	69.79	69.94	70.26	70.21	70.57	70.65	66.91	70.65	62.67	7.98
51.45	51.50	51.55	51.55	51.52	51.40	51.35	51.35	51.40	51.40	51.37	51.37	52.11	48.32	5.79

52°.

Long.—115° 43' 50" = — 7h. 42m. 55s.

February 1883.

2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
64.71	64.07	63.31	62.57	61.86	61.25	60.95	60.31	59.85	59.14	59.12	65.44	70.67	59.12	11.55
62.14	62.14	61.99	61.32	60.92	59.50	58.23	56.70	55.43	53.99	52.36	59.53	62.57	52.36	10.21
59.61	57.41	56.94	56.40	55.53	55.10	54.20	53.25	52.13	51.26	50.23	54.80	56.23	50.23	6.64
39.51	39.83	40.65	40.90	41.54	41.72	41.51	41.92	42.08	42.34	43.70	42.52	49.23	39.23	10.02
44.91	44.82	44.64	44.84	45.03	45.24	45.79	46.01	46.19	46.27	46.27	46.27	49.80	44.15	5.74
42.83	41.05	39.90	39.58	38.92	38.00	37.02	36.16	35.12	35.06	34.86	41.73	52.25	34.86	15.30
52.74	52.94	53.21	53.25	53.35	53.35	53.02	52.82	52.16	51.15	50.91	48.12	51.35	35.37	15.98
48.12	48.43	48.98	49.44	49.20	49.30	49.64	50.15	50.64	50.96	51.14	48.62	51.14	46.49	4.65
38.06	38.60	38.21	38.87	39.23	39.27	40.53	41.03	41.59	41.90	41.70	43.22	51.32	38.60	13.72
37.27	36.97	37.60	37.94	38.95	39.63	40.47	40.93	41.30	41.72	41.87	39.56	41.87	36.97	4.90
47.13	47.59	48.05	48.17	48.50	48.60	48.91	49.06	49.47	49.72	49.87	49.87	49.87	48.05	8.05
55.00	54.92	55.16	54.87	54.92	54.67	54.83	54.82	55.26	55.31	54.92	53.75	55.31	50.38	4.93
50.45	49.92	49.54	48.81	48.70	48.70	48.42	48.07	47.48	47.07	46.49	51.01	54.99	46.49	8.46
42.61	42.48	42.46	42.73	42.76	42.55	42.73	42.51	42.55	42.73	43.24	43.74	46.10	42.46	5.70
48.86	49.43	50.15	50.61	50.94	51.50	51.52	52.31	52.77	53.35	53.28	48.25	53.28	43.49	10.20
53.78	53.60	53.21	53.02	52.84	52.72	52.48	52.51	52.31	51.98	51.65	53.28	55.02	51.65	3.37
50.12	50.76	51.21	52.16	52.84	53.40	53.60	54.14	54.70	55.06	56.09	51.32	56.09	49.03	7.06
54.21	53.81	53.30	53.12	53.04	52.77	52.46	52.53	52.56	52.56	52.49	54.45	56.61	52.46	4.17
54.85	54.85	54.87	54.57	54.42	54.11	53.55	53.60	53.45	52.56	52.36	54.16	55.10	52.36	2.74
46.52	46.49	46.51	46.37	46.83	46.64	46.72	46.64	46.78	46.98	47.05	48.17	52.11	46.37	5.74
44.51	43.98	43.12	42.55	41.92	41.31	40.95	40.55	39.86	39.16	39.11	44.26	47.60	39.11	8.51
42.07	42.40	43.18	43.74	44.14	44.34	44.56	44.97	45.48	45.56	46.03	41.70	46.03	38.44	7.59
48.57	48.67	48.65	48.70	48.75	48.62	48.42	48.12	48.10	48.30	48.22	47.99	48.22	46.47	2.28
51.91	52.28	52.48	52.77	52.99	53.58	53.45	53.60	53.80	54.11	54.11	51.29	54.11	48.25	5.86
53.30	53.53	53.38	53.04	52.50	52.62	52.03	51.98	52.03	51.37	51.09	51.40	54.50	51.09	3.41
41.77	52.03	52.72	52.90	53.83	54.14	54.37	54.77	54.92	55.18	55.79	52.03	55.79	50.10	5.69
33.38	53.04	52.82	52.72	52.28	51.98	51.83	51.60	51.47	51.45	51.37	53.80	56.04	51.37	4.67
21.51	52.67	52.94	53.30	53.58	54.29	54.34	54.62	54.62	54.75	54.65	52.48	54.75	50.81	3.94
9.67	49.57	49.62	49.59	49.69	49.72	49.59	49.59	49.59	49.52	49.44	49.79	53.24	46.02	7.22

Place

Correction for gravity +1.17 mm, at 754 mm.

Barometer _____ m. above sea level.

March 1883.

2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
51.88	51.01	51.77	51.96	52.06	52.03	52.11	52.13	52.46	53.07	53.86	52.92	54.57	51.77	2.80
63.96	64.20	64.50	64.93	65.11	65.69	65.98	66.40	66.61	66.91	67.04	61.71	60.04	54.57	12.67
68.18	67.77	67.37	67.10	66.89	66.81	66.81	66.56	66.10	65.42	65.06	67.50	68.69	65.06	3.63
58.44	57.80	57.56	57.14	56.78	56.58	56.80	56.61	56.73	57.01	56.78	53.55	64.71	56.58	8.13
58.61	58.51	58.58	58.51	57.92	57.97	57.80	57.46	56.80	56.24	55.82	55.82	58.83	55.82	2.96
44.74	43.52	42.68	42.61	42.10	41.80	41.46	41.05	40.73	40.63	40.43	46.49	55.31	40.43	14.90
17.12	36.23	35.57	34.65	33.97	33.33	32.55	31.55	30.84	30.72	30.79	30.92	46.80	30.72	9.88
42.00	42.66	43.44	44.10	44.64	44.77	45.12	45.25	45.51	45.76	45.78	39.66	45.88	41.08	14.70
49.57	49.84	49.94	50.53	50.79	51.11	51.19	51.16	51.04	51.04	48.98	51.35	51.35	46.13	5.22
46.13	45.42	44.94	44.54	43.52	43.52	43.66	43.46	43.28	43.24	43.24	46.75	51.16	42.46	8.70
49.57	49.79	49.82	49.34	49.03	49.01	48.86	48.66	48.50	47.84	47.91	47.91	49.82	43.57	6.45
37.35	36.89	36.84	36.46	36.13	35.97	36.43	36.23	36.56	36.77	37.09	39.86	42.25	35.97	11.28
45.58	45.88	46.50	48.15	49.52	50.71	51.70	52.53	53.50	54.55	55.18	45.88	51.18	37.68	17.50
50.82	50.99	50.99	50.23	50.21	50.89	51.23	52.62	53.86	55.24	56.10	56.25	51.70	50.10	9.60
50.99	50.99	50.06	50.81	50.15	49.99	49.64	49.21	48.28	48.15	47.64	49.57	51.04	47.64	3.40
45.98	45.98	49.03	49.47	50.25	49.84	50.13	50.13	50.59	51.42	51.37	48.52	51.42	46.83	4.59
55.07	54.82	54.97	54.85	54.47	54.52	54.42	54.06	53.75	53.58	53.28	53.85	51.21	51.66	3.61
49.94	49.52	49.29	48.72	48.22	47.81	47.20	46.75	46.08	45.27	45.07	49.97	53.68	45.07	8.61
44.97	43.97	42.10	42.40	42.25	41.55	42.02	41.90	41.49	41.76	41.76	42.20	44.66	41.76	3.50
47.95	47.55	47.41	47.26	45.00	45.63	46.11	46.49	46.88	47.13	47.05	44.10	44.63	41.61	5.72
46.80	46.42	46.42	45.90	45.64	45.57	45.12	44.79	44.51	44.31	44.10	46.57	47.91	44.10	3.81
45.64	45.08	46.27	46.65	47.66	48.17	48.55	49.44	50.02	50.76	51.35	46.11	51.35	45.78	7.57
53.26	53.61	59.10	59.53	60.03	60.44	61.05	61.40	61.93	62.51	62.83	57.64	62.83	51.77	11.06
53.26	53.26	66.43	66.48	66.45	66.81	66.51	66.50	66.45	66.40	66.43	65.88	66.43	63.31	3.15
63.03	62.11	62.04	61.68	61.53	61.71	61.15	60.82	60.31	60.24	59.80	63.14	66.25	59.80	6.45
53.58	53.07	52.51	51.91	51.65	51.52	51.57	51.72	51.72	51.67	51.77	54.67	59.57	51.52	7.85
53.58	53.38	53.15	53.10	52.79	52.79	52.59	52.53	52.38	52.18	52.13	52.77	53.65	51.67	1.98
53.03	51.96	51.77	51.77	51.62	51.62	51.88	51.86	52.06	52.13	52.33	52.06	51.77	51.62	0.81
52.87	52.79	52.63	52.69	52.59	52.69	52.89	52.99	53.21	53.28	53.35	52.89	53.15	52.51	0.54
55.10	53.13	54.52	54.50	54.75	54.92	55.10	55.10	55.05	55.11	55.21	54.72	55.21	53.61	1.58
54.26	53.94	53.65	53.21	52.87	52.64	52.43	52.18	52.11	52.13	51.88	54.11	55.56	51.88	3.68
51.72	51.55	51.50	51.42	51.32	51.35	51.35	51.24	51.21	51.19	51.19	51.52	54.77	48.10	6.67

Place

Long.—115° 43' 50" = 7h. 42m. 55s.

April 1883.

2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
48.45	47.15	47.99	47.74	47.25	47.10	46.98	46.90	46.78	46.64	46.67	48.88	51.55	46.64	4.91
48.46	48.31	48.13	48.95	48.67	48.70	48.75	48.59	48.42	48.32	48.17	44.74	46.42	43.17	3.25
45.68	45.98	46.16	46.59	46.50	46.20	47.14	47.91	48.15	48.50	48.78	45.71	48.78	43.29	5.49
48.55	48.27	47.86	47.38	46.85	46.57	46.12	46.13	45.86	45.42	45.22	45.17	45.22	45.22	5.03
40.83	40.48	40.39	40.09	39.76	39.74	39.61	39.71	39.80	39.94	40.07	40.07	41.61	41.84	2.23
41.97	41.83	41.51	41.39	41.10	40.75	40.43	40.34	40.17	40.27	40.27	41.08	42.07	40.09	1.98
37.28	37.25	37.11	37.08	36.94	36.14	36.14	36.16	36.05	36.28	36.28	38.62	40.12	37.11	2.59
41.41	41.26	41.16	41.16	40.85	40.48	40.34	40.32	40.07	39.76	39.36	40.85	41.16	39.36	2.41
36.51	36.23	36.51	36.67	36.64	36.74	37.02	37.14	37.17	37.14	37.24	37.04	38.97	36.48	2.49
35.06	34.65	34.53	34.45	34.13	33.82	33.51	33.28	33.11	32.65	32.32	33.21	37.19	32.32	4.87
30.79	30.77	30.99	30.92	31.10	31.28	31.45	31.64	31.99	32.35	32.35	31.18	32.35	30.72	1.63
37.36	38.24	38.61	38.97	39.11	39.61	40.04	40.45	40.99	41.76	41.44	37.24	41.44	33.90	8.54
45.81	45.01	46.19	46.47	46.99	47.28	47.74	48.24	48.81	49.52	49.92	45.53	49.92	41.87	8.07
52.01	51.72	51.47	51.39	51.11	51.06	50.81	50.76	50.74	50.11	50.11	51.15	52.18	50.11	2.25
46.88	46.34	46.34	46.18	46.21	46.08	45.86	45.81	45.63	45.88	45.81	47.54	50.08	45.63	4.45
46.18	46.01	45.96	45.81	45.66	45.68	45.83	45.96	45.93	46.31	46.57	46.24	46.83	45.66	1.17
46.95	47.04	47.03	46.85	46.95	47.08	47.11	47.11	47.45	47.38	47.43	47.00	47.43	46.62	0.81
47.69	47.46	47.35	47.08	46.67	46.19	46.73	46.83	45.86	45.75	45.76	47.55	48.25	45.75	2.95
40.80	40.20	40.22	39.71	39.41	39.27	39.10	38.90	38.97	38.72	38.67	41.51	45.10	38.67	6.43
35.77	35.47	35.21	35.11	35.01	34.73	34.68	34.33	34.05	33.54	33.28	30.23	32.56	33.28	5.28
31.03	31.03	31.93	32.83	32.93	33.31	33.48	33.62	33.69	34.08	34.40	33.13	34.40	32.65	1.75
48.67	48.67	50.05	51.06	52.11	52.87	53.61	54.31	55.36	56.37	57.04	45.86	57.04	41.81	22.23
62.10	62.22	61.81	61.61	61.37	61.40	61.51	61.55	60.85	60.54	60.10	61.20	62.85	57.22	5.63
51.11	51.11	50.53	49.54	48.86	48.30	47.59	47.03	46.37	45.81	45.53	52.69	59.53	45.53	14.00
51.96	40.45	39.53	38.97	38.92	38.40	38.11	37.99	37.86	38.06	38.11	41.41	45.72	37.86	7.20
46.80	47.38	47.74	47.96	48.30	48.81	49.44	49.74	50.28	50.53	51.06	45.07	51.06	38.19	12.87
54.65	54.60	54.52	54.26	54.11	53.96	53.75	53.81	53.83	53.78	53.80	53.83	54.82	51.50	3.32
58.21	52.62	52.72	52.11	52.08	52.03	51.70	51.98	52.51	52.72	52.84	52.92	53.81	51.70	2.11
58.21	55.41	48.36	55.18	55.43	55.53	55.53	55.82	56.17	56.58	56.60	54.85	56.60	53.07	3.53
58.21	56.12	55.82	55.56	55.33	55.07	54.60	54.40	54.34	54.24	53.96	56.09	57.16	53.96	3.20
45.12	45.02	44.94	44.81	44.76	44.74	44.74	44.79	44.81	44.86	44.91	45.00	47.56	42.18	5.38

Atmospheric Pressure.

10

May 1883.

700 mm+

Mean time of place.

Correction

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	53.60	53.65	52.89	52.28	52.06	51.93	51.42	50.66	50.23	49.84	49.30	48.44	48.15	47.69
2	42.12	41.97	42.05	42.17	42.86	43.54	44.31	44.18	44.06	44.89	45.27	45.73	46.11	46.52
3	52.48	52.79	53.50	53.98	54.09	54.40	54.67	54.80	54.92	55.02	55.11	55.26	55.51	55.69
4	56.50	56.58	56.53	56.48	56.55	56.53	56.50	56.17	55.84	55.41	54.87	54.42	54.06	53.68
5	49.99	49.59	49.13	48.78	48.81	48.65	48.52	48.37	48.05	47.82	47.40	47.94	47.84	47.71
6	48.32	48.40	4.62	49.01	49.32	49.44	49.87	49.92	50.05	49.97	49.74	49.74	49.64	49.79
7	49.04	48.86	48.91	48.78	48.61	48.57	48.02	47.89	48.15	47.96	47.66	47.35	47.28	47.43
8	49.49	49.64	49.82	50.30	50.50	50.66	50.94	51.21	51.42	51.67	52.06	52.36	52.41	52.62
9	52.87	52.13	55.60	55.92	56.07	56.24	56.17	56.24	56.43	56.48	56.32	56.17	56.14	55.79
10	52.67	52.65	52.72	52.75	55.18	55.10	55.18	55.24	55.61	55.48	55.64	55.64	55.67	55.41
11	55.22	55.22	55.23	55.24	55.48	55.41	55.43	55.55	55.56	55.53	55.22	55.05	54.82	54.60
12	52.99	52.55	52.59	52.56	52.46	52.46	52.64	52.48	52.56	52.53	52.51	52.51	52.33	52.13
13	51.06	51.14	51.29	51.50	51.75	51.96	52.01	52.21	52.15	52.18	52.23	52.13	52.10	52.06
14	51.75	51.67	51.42	51.77	51.75	51.29	51.04	51.06	51.21	50.99	50.69	50.43	50.13	49.82
15	45.71	45.72	44.79	44.79	44.78	43.78	43.52	43.22	42.88	42.40	41.70	41.39	40.73	40.27
16	37.46	37.83	37.96	38.11	38.04	38.14	38.06	38.11	38.09	37.94	37.68	37.60	37.27	37.17
17	37.22	37.27	37.42	37.32	37.40	37.29	37.21	37.26	37.04	37.19	37.06	37.06	37.72	38.95
18	41.61	41.60	42.05	42.37	42.68	43.02	43.19	43.27	43.52	43.75	43.88	43.67	43.78	43.77
19	41.29	41.26	41.34	41.44	41.49	41.76	41.44	41.70	41.85	41.85	41.85	41.97	41.97	41.97
20	42.41	42.51	42.27	42.30	42.30	42.35	42.30	42.20	42.05	41.82	41.61	41.44	41.34	41.14
21	41.57	40.88	40.63	40.60	40.55	40.55	40.65	40.50	40.37	40.22	40.14	40.03	40.04	39.84
22	39.81	39.81	39.78	39.81	39.76	39.61	39.68	39.73	39.51	39.43	39.48	39.66	39.56	39.26
23	41.59	42.10	42.05	42.10	42.40	42.61	42.81	43.14	43.34	43.30	43.49	43.49	43.44	43.36
24	42.86	45.05	45.54	45.68	45.83	46.13	46.27	46.57	46.52	46.64	46.64	46.64	46.64	46.44
25	46.00	46.09	46.18	46.28	46.56	46.48	46.25	46.28	46.28	46.35	46.35	46.35	46.35	46.39
26	46.47	46.52	46.59	46.74	46.85	46.85	46.85	46.88	46.90	46.90	46.90	46.82	46.49	46.29
27	46.37	46.46	46.83	47.08	47.45	47.45	47.96	48.89	47.84	47.89	47.89	47.90	48.17	48.52
28	47.22	47.96	52.64	51.23	51.60	51.04	51.49	51.62	51.99	51.92	55.12	55.12	55.10	55.07
29	52.36	52.45	54.67	51.24	50.64	49.94	49.29	48.52	47.84	46.68	46.05	45.15	44.13	43.14
30	35.49	34.60	34.25	33.94	33.74	33.13	33.48	33.48	33.72	33.72	33.72	33.72	33.72	33.72
31	44.72	45.02	45.25	45.66	45.81	46.08	46.34	46.48	46.48	46.48	46.91	45.66	45.43	45.20
Mean	47.05	47.05	47.10	47.18	47.28	47.30	47.33	47.33	47.35	47.33	47.28	47.10	47.10	47.03

June 1883

Lat. + 62° 38' 52".

Long.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	41.55	41.72	41.43	41.75	40.40	39.94	39.51	39.21	39.05	38.65	38.36	37.94	37.65	37.55
2	36.13	35.90	35.82	35.70	35.60	35.67	35.50	35.44	35.45	35.45	35.32	35.13	35.14	35.07
3	37.50	37.58	37.82	37.85	37.89	37.96	38.06	38.02	37.99	38.06	38.11	37.96	37.83	37.65
4	36.97	36.92	36.74	36.89	36.84	36.87	36.89	36.99	36.94	36.94	36.94	36.94	36.99	37.38
5	30.02	30.45	31.63	31.54	31.92	32.05	32.37	32.63	32.88	32.88	32.77	32.37	32.49	32.59
6	47.54	48.02	48.60	48.86	49.21	49.67	49.87	49.87	50.23	50.23	50.19	50.19	50.19	50.47
7	52.26	52.05	52.05	52.05	52.05	52.28	52.28	52.36	52.43	52.43	52.43	52.43	52.43	52.47
8	47.74	46.67	45.71	45.71	44.91	43.70	42.86	42.46	41.99	41.99	41.46	41.46	41.46	41.36
9	41.14	41.09	41.19	41.27	41.42	41.64	42.91	42.81	42.68	42.46	42.15	42.10	41.90	41.59
10	41.13	41.25	41.37	41.34	41.70	41.88	42.30	42.71	43.27	43.65	44.49	44.97	45.40	45.94
11	49.06	49.11	49.27	49.26	49.26	49.16	48.98	48.60	48.15	47.66	47.18	46.49	45.93	45.41
12	42.22	42.17	42.07	42.05	42.35	42.75	42.73	42.23	41.82	41.72	41.74	41.56	41.54	41.41
13	41.21	41.05	40.86	41.01	41.08	41.93	42.78	40.37	40.50	41.32	40.47	40.13	40.19	40.07
14	38.82	38.80	39.06	39.40	39.40	39.10	39.13	39.26	39.26	39.13	38.82	38.77	38.82	38.87
15	37.71	37.58	37.45	37.58	37.55	37.65	37.58	37.44	37.63	37.68	37.75	37.86	37.70	37.66
16	42.19	42.68	42.75	42.14	41.44	41.77	42.07	42.77	42.77	42.77	42.77	42.77	42.77	42.35
17	42.55	42.37	42.02	41.70	41.66	41.11	40.81	40.70	40.70	40.70	40.70	40.70	40.70	40.70
18	41.54	41.71	41.41	41.34	41.54	41.72	42.20	42.61	42.76	42.66	42.30	42.18	42.18	42.40
19	43.71	43.97	44.19	44.08	44.08	44.21	44.44	44.51	44.39	44.45	44.18	44.18	44.13	44.08
20	45.81	45.81	46.18	46.44	46.64	46.83	47.03	47.08	47.03	47.15	47.15	47.15	47.18	47.41
21	46.57	46.50	46.42	46.24	45.83	45.71	45.51	45.45	45.37	45.37	45.37	45.37	45.37	45.37
22	41.97	41.72	41.44	41.24	41.24	41.24	41.05	41.18	40.93	40.80	40.80	40.80	40.80	40.80
23	39.11	39.02	38.97	38.99	38.85	38.92	38.85	38.85	38.77	38.51	38.29	38.14	37.80	37.89
24	36.34	36.69	36.46	36.46	36.31	36.31	36.23	36.31	36.26	36.11	36.00	35.80	35.47	35.11
25	35.85	36.08	36.09	36.08	36.18	36.26	36.36	36.51	36.18	36.41	36.11	36.31	36.16	36.16
26	36.41	36.53	36.69	36.46	36.46	36.21	36.16	36.23	36.11	35.75	35.60	35.62	35.42	35.50
27	40.45	40.83	41.49	41.82	42.27	42.71	43.19	43.23	42.29	42.36	42.10	42.10	42.10	42.10
28	50.02	50.18	50.41	50.61	50.95	51.19	51.50	51.47	51.35	51.23	51.19	51.06	50.79	50.66
29	48.32	47.96	47.85	47.43	46.69	46.44	46.03	45.01	45.66	45.23	44.94	44.66	44.51	44.03
30	41.00	41.85	41.64	41.26	41.19	41.46	41.31	41.31	41.01	40.83	40.55	40.34	39.97	39.76
Mean	41.32	41.32	41.32	41.30	41.30	41.35	41.35	42.27	42.21	42.15	42.07	42.05	41.97	41.92

of place.

Correction for Gravity +1.17 mm. at 754 mm.

Barometer _____ m. above sea level.

May 1883.

	2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
47.69	47.00	46.53	45.96	45.48	44.86	44.44	44.21	41.73	41.14	42.56	48.32	53.60	42.56	11.04	
47.43	47.00	47.56	48.10	48.83	49.44	50.05	50.59	50.91	51.40	52.13	46.34	52.13	41.97	10.16	
55.60	55.74	55.87	55.94	56.04	56.09	56.09	56.09	56.22	56.27	56.43	57.10	56.43	52.48	3.95	
53.68	53.18	52.46	52.18	51.77	51.60	51.42	51.04	50.86	50.61	50.31	51.99	50.58	50.13	6.25	
47.71	47.71	47.79	47.64	47.61	47.71	47.61	47.66	47.76	47.76	48.15	48.22	49.99	47.61	2.38	
49.70	49.67	49.29	49.16	49.06	48.88	48.72	18.93	49.08	48.93	48.96	49.26	50.05	48.72	1.73	
47.43	47.25	47.22	47.23	47.15	47.21	47.15	47.29	48.17	48.17	49.26	47.99	49.26	47.15	2.11	
55.62	52.62	51.62	52.87	52.87	52.89	52.89	53.07	53.40	53.91	54.04	54.67	52.01	54.67	49.49	5.18
55.70	55.67	55.43	55.41	54.67	54.29	54.29	54.16	54.11	54.41	54.42	55.42	55.43	56.48	54.11	2.37
55.41	55.31	55.18	55.02	54.85	54.77	54.75	54.75	54.75	54.77	55.07	55.10	55.67	54.65	1.02	
54.60	54.31	53.80	53.60	53.45	53.10	52.92	52.82	52.77	52.69	52.74	55.42	55.56	52.69	2.87	
53.11	51.67	51.37	51.16	50.91	50.69	50.50	50.53	50.50	50.71	51.04	51.86	52.29	50.50	2.29	
51.06	51.5	51.62	51.42	51.40	51.45	51.16	51.32	51.35	51.50	51.70	51.70	52.13	51.06	1.17	
49.81	49.35	48.96	48.47	47.94	47.54	47.40	46.93	46.59	46.45	46.03	49.59	51.25	46.03	5.25	
40.17	39.71	39.18	38.85	38.67	38.34	38.21	38.14	38.09	38.14	38.06	41.24	43.21	38.06	7.67	
37.04	36.79	36.51	36.48	36.41	36.41	36.51	36.63	36.67	36.91	37.07	37.38	38.14	36.41	1.73	
38.95	39.16	39.58	39.76	39.89	40.34	40.34	40.78	40.93	41.00	41.16	38.99	41.16	37.12	4.04	
41.73	41.67	41.44	41.09	41.88	42.10	42.32	42.10	41.85	41.70	41.34	42.81	43.88	41.34	2.54	
41.97	41.12	42.22	42.12	42.02	41.95	42.07	42.12	42.25	42.63	42.61	41.87	42.61	41.26	1.37	
41.34	41.41	41.08	41.54	41.34	41.05	41.26	41.51	41.08	40.80	40.95	41.70	42.71	40.80	1.93	
39.81	39.04	39.89	39.99	39.99	39.97	39.81	39.22	39.76	39.81	39.02	42.22	41.02	39.76	1.22	
39.16	39.89	40.09	40.22	40.37	40.55	40.34	40.95	41.05	41.44	41.34	40.07	41.44	39.43	2.01	
43.39	43.44	43.47	43.54	43.70	43.95	44.18	44.16	44.46	44.49	44.64	43.12	44.64	41.59	3.05	
46.44	46.47	46.14	46.14	46.14	46.14	46.14	46.14	46.14	46.83	46.83	46.24	46.83	44.86	1.97	
46.39	46.34	46.24	46.21	46.08	46.01	45.83	45.91	45.88	45.96	46.29	46.69	47.56	45.83	1.73	
46.19	46.11	45.88	45.91	45.96	46.08	46.11	46.11	46.03	46.21	46.24	46.92	45.88	45.88	1.02	
48.51	48.67	48.70	48.70	48.93	48.81	49.06	49.59	49.92	50.40	50.94	48.15	50.94	46.17	4.57	
55.07	55.05	54.90	54.52	54.29	54.09	51.75	51.45	51.35	51.99	52.89	51.96	55.14	51.21	3.97	
43.34	42.68	41.77	40.81	40.02	39.05	38.21	37.12	36.48	35.85	35.37	41.46	52.56	35.37	17.19	
39.21	39.81	40.48	41.24	41.77	41.20	41.26	41.99	41.39	43.90	44.19	38.14	44.29	33.23	11.06	
45.10	44.79	44.21	43.80	43.52	43.22	42.88	42.76	42.57	42.22	42.20	42.66	40.12	42.20	4.14	
47.01	46.91	46.78	46.67	46.59	46.49	46.44	46.49	46.19	46.52	46.62	46.95	47.01	44.83	2.18	

38° 52'

Long. -115° 45' 50" = -7h. 42m. 55s.

June 1883.

	2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
17.15	16.99	16.72	16.51	16.31	16.11	16.21	16.28	16.46	16.18	16.08	18.22	18.22	16.08	5.87	
15.66	16.00	16.11	16.59	16.59	16.67	16.82	17.12	17.24	17.21	17.24	16.11	17.24	16.11	2.11	
17.81	17.68	17.27	16.99	16.99	16.99	16.88	16.84	16.84	16.90	16.90	16.90	16.90	16.72	1.29	
17.33	17.24	17.50	17.75	18.13	18.16	18.49	18.85	19.19	19.11	19.11	17.55	19.11	16.72	2.49	
43.39	43.64	43.99	44.01	44.26	44.91	45.32	45.56	45.55	46.66	47.20	43.49	47.20	40.02	7.18	
51.47	51.70	51.91	52.01	52.26	52.41	52.65	52.92	53.21	53.55	53.99	50.96	53.99	47.84	6.05	
54.45	54.43	54.58	54.31	54.77	54.92	50.21	50.25	49.64	48.81	48.15	53.25	55.43	48.15	7.28	
41.34	41.52	41.00	41.15	42.43	42.51	42.51	42.78	41.02	42.97	43.07	43.04	43.04	41.41	6.23	
41.59	41.54	41.34	40.95	40.75	41.01	40.58	40.81	40.7	41.08	40.91	41.95	41.27	40.58	2.69	
46.39	46.39	46.72	47.00	47.39	47.56	47.72	48.10	48.40	48.62	49.03	44.94	49.03	41.41	7.90	
45.91	45.53	44.86	44.24	43.64	42.99	42.56	42.15	42.10	42.10	42.22	40.72	42.22	40.72	1.12	
41.44	41.21	41.10	41.03	40.85	40.91	40.93	40.83	40.95	42.88	40.95	41.54	42.12	40.85	1.49	
40.07	39.97	39.61	39.18	39.11	39.11	39.21	39.11	39.11	39.16	38.85	40.04	41.24	38.85	2.36	
18.85	18.67	18.19	18.11	18.11	18.96	17.25	17.58	17.60	17.65	17.65	18.51	19.26	17.58	1.68	
17.11	17.96	18.11	18.11	18.21	18.34	18.49	18.72	18.95	19.41	19.78	18.66	19.78	17.55	2.21	
42.35	42.49	42.27	42.39	42.11	42.12	42.12	42.12	42.61	42.68	42.68	42.02	42.68	40.72	2.49	
41.40	41.29	41.11	41.34	41.26	41.21	41.26	41.41	41.11	41.11	41.41	41.16	42.58	40.72	1.98	
42.40	42.25	42.12	42.43	42.46	42.56	42.61	42.85	41.11	41.12	41.12	42.17	42.17	41.12	2.22	
40.07	40.08	41.08	40.68	40.44	41.06	41.91	42.20	42.17	42.40	42.40	41.40	42.40	41.40	1.11	
47.01	47.11	47.18	47.15	47.25	47.20	47.05	46.55	46.72	46.64	46.41	47.51	47.51	45.61	1.90	
41.95	41.49	41.12	40.94	40.81	41.38	42.15	42.17	42.47	42.20	42.12	42.26	40.57	42.07	4.51	
39.81	39.61	39.51	39.11	39.16	39.13	39.11	39.41	39.41	39.28	39.21	40.27	41.97	39.21	2.77	
37.89	37.78	37.18	37.12	37.09	36.94	36.99	36.99	37.02	36.99	36.84	38.01	39.13	36.84	2.21	
35.11	34.86	34.86	34.70	34.68	34.68	34.75	34.91	34.91	35.29	35.25	35.85	36.84	34.68	2.16	
16.16	16.05	16.05	15.83	15.85	16.02	16.15	16.26	16.16	16.11	16.11	16.18	16.51	15.83	0.66	
15.10	15.75	16.00	16.19	16.94	17.19	17.63	18.21	18.90	19.51	19.97	16.72	19.97	15.42	4.55	
16.16	16.39	16.52	16.85	17.11	17.28	17.56	18.02	18.47	19.01	19.47	16.20	19.47	16.20	3.02	
50.79	50.66	50.38	50.15	49.74	49.49	49.44	49.12	49.01	48.81	48.55	51.50	48.55	48.55	2.95	
44.05	43.64	43.17	42.81	42.53	42.27	42.30	42.30	42.32	42.25	42.22	42.02	42.01	42.02	6.30	
39.50	39.53	39.26	38.97	38.85	38.67	38.77	38.77	38.57	38.97	39.16	40.12	40.12	38.67	1.41	
41.92	41.85	41.72	41.67	41.64	41.64	41.67	41.70	41.70	41.97	42.02	42.00	41.93	40.21	1.77	

Corrections for Gravity +1.17 mm. at 754 mm.

Barometer _____ m. above sea level.

July 1883.

of place.

2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
44.51	44.49	44.46	44.56	44.56	44.61	44.79	44.89	44.89	44.91	45.05	43.47	45.05	40.14	4.91
44.70	44.44	44.49	40.65	40.45	40.45	41.10	41.13	41.00	41.61	40.65	42.51	45.12	40.45	4.67
39.63	39.66	39.56	39.58	39.54	39.48	39.48	39.41	39.48	39.71	40.32	39.97	40.85	38.87	1.98
45.07	45.20	45.20	45.48	45.63	45.81	45.93	46.06	46.44	46.62	46.62	46.62	46.62	40.73	5.89
48.60	48.55	48.45	48.40	48.17	48.45	48.42	48.52	48.53	48.97	49.06	49.23	48.25	49.23	2.28
45.20	44.66	44.15	43.80	43.57	43.64	43.71	43.74	43.99	44.03	43.22	46.68	49.21	43.99	6.22
42.58	42.56	42.71	42.20	42.07	41.77	41.59	41.80	41.92	41.82	42.07	42.58	43.19	41.59	1.60
43.39	43.52	43.52	43.54	43.47	43.54	43.59	43.80	43.78	43.85	43.85	43.19	43.85	42.17	1.48
43.17	42.88	42.68	42.72	42.00	41.87	41.77	41.77	41.90	41.97	42.00	43.14	43.26	41.77	2.49
41.46	41.26	41.05	41.05	40.93	40.85	41.05	41.24	41.61	41.67	41.95	41.51	42.17	40.85	1.32
41.39	41.39	41.26	41.16	41.13	40.71	40.65	40.48	40.19	39.99	39.89	41.71	42.07	39.89	2.18
37.65	37.60	37.48	37.18	37.18	37.15	37.38	37.38	37.53	37.70	37.89	38.11	39.58	37.35	2.23
39.56	39.48	39.58	39.68	39.71	39.71	39.78	39.86	39.92	39.99	40.14	39.13	40.14	37.91	2.23
41.61	41.54	41.49	41.44	41.49	41.49	41.59	41.72	41.87	42.05	42.51	41.74	42.51	40.19	2.32
44.79	44.74	44.74	44.66	44.66	44.64	44.66	44.76	44.74	44.97	45.17	44.74	45.17	42.73	2.44
44.71	44.59	44.46	44.46	44.39	44.36	44.24	44.36	44.54	44.54	44.66	44.91	45.45	44.24	1.21
44.76	44.66	44.44	44.39	44.24	44.08	43.93	43.93	44.10	44.00	44.08	44.34	44.76	43.93	0.83
43.78	43.58	43.22	43.12	43.00	43.82	43.61	43.67	43.54	43.51	43.54	42.86	44.15	43.51	2.64
40.55	40.49	40.24	40.14	40.04	39.97	40.14	40.19	40.12	40.09	40.04	40.58	41.29	39.97	1.32
40.19	39.86	39.58	39.21	38.97	38.92	38.92	38.72	38.72	38.79	38.87	38.62	39.68	38.56	1.81
37.27	37.12	37.19	36.99	36.92	36.92	36.92	36.92	36.92	36.92	36.92	36.92	36.92	36.92	1.77
36.16	36.02	35.84	35.84	35.92	36.05	35.97	36.00	36.11	36.05	36.05	36.31	36.99	35.84	0.92
35.67	35.82	36.28	36.50	36.44	36.24	36.24	36.24	36.24	36.24	36.24	36.24	36.24	36.24	1.10
40.90	41.00	41.16	41.20	41.59	41.67	41.80	42.02	42.35	42.53	42.49	42.70	43.53	38.41	4.12
47.64	48.10	48.40	48.55	48.62	48.88	49.06	49.37	49.44	49.57	49.69	46.49	49.66	42.48	7.20
49.64	49.51	49.44	49.21	49.18	49.21	49.34	49.34	49.34	49.16	48.96	49.94	50.96	48.96	2.00
46.83	46.65	46.64	46.57	46.16	45.85	45.84	45.12	44.84	45.00	44.81	45.07	45.07	44.71	4.22
41.61	41.43	42.37	42.22	42.20	42.22	42.53	42.53	42.58	42.71	42.76	43.04	43.14	42.20	2.24
43.95	43.83	43.67	43.54	43.57	43.59	43.49	43.54	43.70	43.70	43.93	43.80	44.29	43.12	1.17
45.81	45.45	45.37	45.40	45.49	45.45	45.53	45.53	45.66	46.12	46.29	45.30	46.12	43.10	2.22
48.62	48.52	48.45	48.30	48.22	48.05	48.02	48.10	48.25	48.20	48.15	48.05	48.22	40.57	2.15
41.88	42.68	43.61	43.58	42.56	42.58	43.61	43.71	43.78	42.83	42.78	44.02	43.74	41.88	2.68

38.52.

Long. -- 115° 43' 50" -- 7h. 42m. 55s.

August 1883.

2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
41.10	40.84	40.67	40.57	40.44	40.29	40.18	40.11	45.98	45.81	45.78	47.23	48.30	45.78	2.52
41.10	44.05	43.93	43.98	43.78	43.11	43.09	43.29	43.94	43.71	43.35	44.71	45.80	42.35	3.45
39.51	39.28	39.41	39.77	39.18	39.10	38.85	38.85	38.65	38.64	38.65	39.94	42.25	38.54	3.71
41.85	43.90	43.45	43.43	43.93	43.84	43.95	44.13	44.29	44.36	44.46	42.88	44.46	39.13	5.33
41.90	43.54	43.34	42.97	42.56	42.10	41.81	41.61	41.74	41.80	40.81	41.71	45.66	42.81	2.87
37.99	37.96	38.11	38.54	38.85	39.16	39.16	39.16	39.99	40.14	40.43	41.71	42.51	38.68	2.85
47.08	46.30	46.56	46.08	46.37	46.21	46.21	46.21	46.21	46.21	46.21	46.21	46.21	46.21	0.00
52.53	52.43	52.41	52.43	52.59	52.77	52.87	52.87	52.97	53.15	53.15	52.01	53.15	50.06	2.39
46.17	50.94	50.74	50.51	50.15	50.48	49.97	49.84	49.84	49.84	49.79	51.67	53.25	49.79	3.46
46.13	49.27	49.01	48.92	48.66	48.61	48.48	48.48	48.57	48.90	48.97	49.52	49.52	44.89	4.63
41.53	43.70	43.44	43.84	42.66	42.43	42.25	41.95	41.87	41.97	41.64	42.52	43.00	41.64	3.36
39.33	39.21	38.91	38.67	38.41	38.12	37.96	37.96	37.96	37.96	37.96	38.14	38.14	36.94	4.24
37.58	37.43	37.40	37.08	37.02	37.17	37.19	37.19	37.19	37.19	37.19	37.19	37.19	37.19	0.00
43.19	37.96	38.29	38.56	38.85	38.95	39.23	39.23	39.56	39.71	40.02	40.19	37.27	34.60	5.59
40.14	42.51	42.55	42.30	42.33	41.31	41.41	41.56	41.53	41.43	41.23	41.23	42.56	40.17	2.19
39.13	38.67	38.59	38.61	38.41	38.40	38.19	38.19	38.83	38.75	38.58	39.00	42.00	38.58	4.24
37.04	38.04	37.91	37.86	37.80	37.94	37.99	38.14	38.26	38.11	38.11	37.91	38.14	37.88	0.23
36.64	36.43	36.13	35.95	35.65	35.34	34.91	34.63	34.08	33.64	33.21	33.59	38.24	33.23	5.04
42.60	41.91	41.36	41.59	41.04	41.28	41.48	41.58	41.84	41.84	41.06	41.36	42.67	41.36	4.39
40.27	41.70	41.03	41.39	41.80	42.07	42.43	42.68	42.66	42.76	42.66	42.66	42.66	41.36	2.19
40.17	40.14	40.21	40.28	40.17	40.14	40.04	40.09	40.09	40.11	40.14	40.95	41.58	40.04	3.56
41.05	41.05	41.19	41.16	41.16	41.16	41.24	41.34	41.51	41.41	41.41	40.85	41.41	40.19	1.21
42.27	42.27	42.40	42.51	42.66	42.94	43.04	43.04	43.08	43.56	44.80	42.48	44.80	41.41	3.39
46.01	46.01	45.35	45.12	44.84	44.91	45.00	44.94	44.94	44.44	44.05	45.71	46.90	44.05	2.85
42.53	42.61	42.91	43.04	43.12	43.19	44.08	44.08	43.55	43.96	40.39	43.42	46.79	42.42	3.33
40.05	40.02	40.09	40.21	40.02	40.00	40.00	40.00	40.84	40.84	40.84	40.84	40.84	40.84	0.00
41.74	42.54	42.15	42.15	42.85	42.69	42.88	42.88	43.01	42.01	42.01	42.55	42.55	40.84	4.69
47.34	47.81	47.79	47.45	47.74	47.61	47.41	47.09	47.04	47.96	48.10	47.66	48.30	46.59	1.71
46.67	46.67	46.41	45.76	45.51	45.00	44.70	44.59	44.34	44.29	44.30	40.67	45.37	44.10	4.27
42.30	42.87	42.30	42.32	42.46	42.61	42.91	43.01	43.27	43.12	43.12	42.68	43.85	42.07	1.78
40.98	41.00	41.05	41.10	41.10	41.18	41.54	41.64	41.64	41.71	41.69	40.34	41.71	41.34	4.37
43.99	43.91	43.86	43.81	43.81	42.78	42.81	42.91	43.94	43.94	43.91	42.97	44.71	41.00	3.71

Air Temperature.

September 1882.

Height of the Thermometers

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	12.2	11.7	10.0	8.4	6.9	5.7	6.2	7.1	8.4	9.7	9.8	11.2	13.5	14.9
2	8.3	7.8	8.3	8.1	7.9	8.2	8.2	8.6	8.6	8.9	6.6	5.8	5.9	4.9
3	2.6	3.0	2.0	2.7	3.0	3.4	5.0	4.0	6.8	7.7	5.6	10.5	7.9	9.0
4	3.8	3.6	2.1	1.3	0.8	1.9	3.0	4.9	6.1	6.8	7.6	9.2	7.9	8.9
5	4.1	4.1	3.6	3.6	3.1	3.4	3.1	4.6	5.7	6.0	6.4	7.9	10.1	9.3
6	4.7	4.7	5.2	6.0	6.4	6.7	6.1	6.2	7.2	7.4	6.8	7.8	8.4	7.9
7	5.4	5.2	5.5	5.5	5.3	5.8	7.3	7.3	7.9	8.7	10.7	10.2	9.7	9.1
8	6.1	6.1	5.9	5.2	4.1	4.6	8.2	9.0	11.8	13.5	12.9	14.1	14.7	15.2
9	5.1	4.9	4.9	3.6	4.3	6.4	9.0	10.1	11.4	12.3	13.2	13.9	14.3	13.0
10	8.5	9.6	9.1	9.0	8.1	9.5	10.9	11.5	11.6	12.1	12.2	12.7	13.1	12.8
11	10.1	10.2	10.3	10.6	10.1	10.2	10.0	10.9	11.2	11.5	11.8	12.1	12.2	12.5
12	11.9	11.8	11.7	11.5	11.7	11.3	11.5	11.1	10.9	11.2	11.3	11.4	11.8	11.7
13	7.1	7.2	7.1	6.7	6.1	6.2	6.4	6.8	7.1	7.8	8.1	8.5	8.7	8.8
14	3.4	3.0	2.7	2.2	1.9	2.1	3.0	4.8	6.2	9.4	10.1	10.3	11.3	11.8
15	4.7	4.1	3.6	3.0	3.0	2.8	3.6	7.3	8.2	9.3	10.2	11.8	12.2	14.3
16	5.2	5.2	5.2	5.2	5.6	5.1	5.5	6.2	6.2	6.7	7.6	9.8	12.9	11.2
17	3.0	3.4	2.7	2.4	2.2	2.3	2.7	6.1	7.8	8.4	8.1	8.6	10.1	10.4
18	7.2	7.4	7.4	7.2	7.4	8.0	8.7	8.9	9.1	9.6	9.6	11.2	12.1	11.9
19	9.4	9.0	9.0	9.0	9.0	8.9	10.1	11.1	11.9	14.3	15.7	17.2	18.2	19.1
20	8.7	8.4	7.9	7.1	6.8	6.6	8.8	8.7	9.9	9.1	7.9	7.3	7.8	8.4
21	4.6	5.2	5.2	4.6	4.1	3.8	4.9	5.3	6.6	7.6	8.6	9.4	10.6	9.3
22	1.1	0.6	1.3	1.2	0.3	1.5	4.4	5.7	6.1	7.8	8.3	9.2	10.3	10.7
23	5.7	6.0	5.4	5.6	6.1	5.2	5.8	6.7	7.5	9.2	9.6	10.0	10.1	10.2
24	5.7	5.7	5.4	5.7	5.4	5.6	6.2	6.4	7.0	8.9	9.6	9.4	9.8	10.7
25	9.0	9.6	10.7	9.4	10.8	8.6	10.0	11.8	13.8	13.5	14.3	16.0	15.2	14.5
26	7.4	6.7	6.8	6.3	6.1	4.6	4.6	4.3	6.5	5.8	5.4	5.2	6.3	6.7
27	0.5	1.1	0.4	0.5	0.3	-0.3	-0.3	0.1	1.2	2.4	2.4	2.9	2.3	3.3
28	-2.4	-3.2	-2.9	-2.5	-2.3	-2.9	-2.7	-2.4	2.3	3.6	4.1	5.3	6.4	3.1
29	-1.3	-1.3	-1.3	-2.2	-2.2	-2.2	-2.3	-1.8	0.2	0.1	-0.2	0.7	1.9	3.0
30	-2.2	-2.4	-1.8	-0.8	-0.7	-0.6	-0.3	-0.4	1.3	2.4	2.6	2.9	3.1	3.0
Mean	5.13	5.13	5.17	4.89	4.78	4.78	5.81	6.39	7.56	8.39	8.56	9.39	9.94	10.00

October 1882.

$\phi = + 62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	-1.1	-1.2	-1.3	-1.6	-0.6	-2.4	-2.4	-0.4	1.1	3.1	3.8	4.9	6.0	5.7
2	-0.5	-0.7	-0.8	-1.1	-1.3	-1.3	-0.6	0.2	2.6	4.7	6.1	6.6	8.6	8.8
3	0.4	0.1	-0.6	-0.8	-1.2	-1.3	1.2	3.7	4.9	7.2	8.6	10.1	10.6	10.9
4	1.3	1.7	1.4	1.9	1.9	0.9	0.8	3.0	4.8	7.7	9.8	10.7	11.3	11.4
5	5.2	4.5	2.0	1.9	1.4	1.9	2.7	3.0	4.0	4.6	2.5	2.6	3.6	3.8
6	1.9	1.4	2.0	1.4	1.3	1.2	0.8	1.2	1.4	2.0	1.8	1.0	1.7	4.1
7	3.6	3.6	3.7	3.6	3.4	3.6	3.7	3.5	3.7	4.4	4.5	5.2	6.9	6.9
8	3.7	2.4	2.6	2.6	1.9	1.8	1.9	1.9	3.7	3.5	3.7	3.2	6.6	6.6
9	1.4	1.6	1.3	2.4	2.4	2.0	2.8	4.3	5.2	7.9	10.1	10.3	10.2	10.2
10	2.4	2.5	1.8	0.8	1.1	1.1	0.7	1.4	0.8	1.4	3.5	5.8	5.2	6.8
11	0.1	0.1	0.4	0.6	0.3	0.6	0.3	0.6	1.2	2.1	2.7	3.1	3.4	3.4
12	1.1	1.4	1.5	1.9	1.9	2.1	2.6	2.9	3.8	4.6	5.1	5.4	5.3	5.2
13	2.1	2.1	3.6	3.1	3.8	3.4	3.5	3.6	4.0	3.6	3.9	4.1	4.2	3.8
14	1.3	1.3	0.9	0.8	0.6	0.3	0.3	0.1	0.3	-0.3	-0.4	0.0	-0.2	1.1
15	1.6	1.3	0.8	0.8	0.8	0.3	0.1	1.1	1.3	1.3	1.6	1.4	1.9	2.3
16	-0.8	-0.5	-0.8	-0.9	-1.1	-0.8	-2.2	-0.8	1.1	2.7	1.6	1.6	0.7	-0.6
17	-4.3	-4.7	-4.3	-4.9	-5.5	-5.6	-5.0	-4.5	-3.5	-2.1	-1.1	1.0	-2.0	-1.8
18	-1.2	-1.4	-1.7	-1.1	-1.6	-0.1	-0.1	0.6	0.8	0.9	1.2	1.3	1.3	1.6
19	6	0.5	0.3	0.7	0.3	1.3	-1.1	-1.0	-0.7	0.4	-0.4	-0.4	-0.2	-0.2
20	-2.4	-2.4	-2.4	-2.3	-2.4	-2.4	-2.2	2.1	-2.0	-1.3	-1.1	-1.1	-1.5	-1.5
21	-2.9	-2.3	-2.3	-1.9	-1.5	-1.4	-1.2	-1.3	-1.1	-0.6	1.1	1.7	1.1	1.3
22	0.1	-0.2	-0.3	-0.3	-0.3	-0.6	-0.4	-0.2	0.2	0.9	1.1	1.2	1.2	1.7
23	-0.7	-0.8	-0.6	-0.8	-0.9	-1.1	-1.1	-1.2	-0.6	0.3	4	0.3	0.3	-0.6
24	-2.2	-2.4	-2.4	-2.6	-2.9	-3.3	-3.5	-3.4	-2.9	-1.8	-1.9	-1.1	-1.1	-1.3
25	-2.9	-3.8	-4.7	-4.4	-4.4	-4.4	-4.6	-4.3	-4.0	-3.4	-2.7	-1.8	-1.6	-2.2
26	-1.9	-2.1	-1.9	-1.9	-1.8	-1.3	-1.4	-1.3	-1.9	-1.3	-1.1	-0.8	-0.6	-0.6
27	1.1	-1.6	-1.3	-1.3	-1.3	-1.3	-1.4	-1.9	-1.8	-1.6	-1.6	-1.4	-1.6	-1.4
28	0.5	0.5	0.6	0.4	0.4	0.8	0.9	0.8	1.1	1.3	1.6	1.7	1.4	1.1
29	-1	-0.1	-0.1	-0.0	-0.1	-0.1	-0.2	-0.1	0.3	0.3	-1.8	-4.1	-4.7	-5.0
30	-8.1	-7.8	-7.8	-7.2	-7.2	-7.1	-6.9	-6.7	-6.3	-6.0	-5.8	-5.7	-5.9	-6.2
31	-5.6	-5.7	-6.1	-6.1	-6.9	-7.1	-7.1	-7.1	-7.7	-7.7	-7.8	-7.7	-8.3	-8.8
Mean	-0.22	-0.39	-0.56	-0.50	-0.61	-0.72	-0.61	-0.48	-0.50	-1.06	-1.67	-1.94	-2.22	-2.22

above the ground 178 m.

September 1882.

	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.	
5	13.5	14.6	14.2	10.7	8.0	9.0	8.4	9.1	8.9	8.3	10.00	15.9	5.7	10.2	
9	6.6	6.7	6.4	6.1	4.5	3.9	3.6	3.0	3.2	3.2	6.39	9.5	3.0	6.5	
9	7.9	7.4	6.3	7.4	4.9	4.8	4.4	3.8	4.3	4.3	5.50	13.1	2.2	10.9	
9	8.7	7.6	7.1	6.2	5.4	4.7	4.6	4.9	4.9	4.6	5.28	10.3	0.8	9.5	
4	9.0	7.9	6.8	6.9	5.7	5.3	5.2	4.9	5.1	4.8	5.72	10.3	2.9	7.4	
7	7.9	7.8	7.6	7.0	7.3	6.4	6.3	5.7	5.7	5.7	6.61	10.9	4.1	6.8	
7	8.1	8.2	9.0	8.3	7.4	7.4	7.4	6.3	6.3	6.3	7.39	10.7	4.4	6.3	
1	14.3	13.5	14.2	11.2	8.4	7.4	6.6	6.9	5.8	6.3	9.44	15.6	3.7	11.9	
1	12.4	11.7	13.3	11.2	10.7	10.0	9.6	9.3	9.6	9.4	9.72	15.6	1.3	12.3	
1	12.6	12.5	12.4	11.2	10.7	9.8	9.8	10.0	10.0	9.9	10.83	14.5	8.3	6.2	
1	12.5	12.1	11.7	11.8	10.7	10.7	11.2	12.1	11.5	11.5	11.28	13.5	9.7	3.6	
1	13.2	11.9	11.5	10.7	10.4	9.8	10.1	8.2	7.4	7.7	10.89	13.8	7.4	6.4	
7	9.3	8.6	6.9	7.1	6.6	6.0	5.3	4.8	4.1	3.4	6.89	10.1	3.4	6.7	
1	11.7	10.9	11.5	9.0	6.9	6.2	5.7	5.2	4.9	4.6	6.56	12.2	1.9	10.3	
1	11.2	9.7	9.0	7.9	6.2	5.4	6.6	5.7	5.7	5.4	7.22	15.6	2.4	13.2	
1	10.4	10.6	12.5	9.0	7.5	6.8	6.6	5.8	5.7	4.1	7.59	14.5	4.1	10.4	
1	9.6	9.8	8.2	8.2	7.9	7.9	7.6	7.4	7.4	7.7	6.28	12.6	2.2	10.4	
1	11.9	11.2	11.2	9.6	9.3	9.0	9.1	9.0	9.1	9.1	9.33	11.1	7.2	5.9	
1	19.1	18.4	17.2	14.9	10.8	9.6	11.1	10.7	9.6	9.4	12.58	20.4	5.2	11.8	
1	8.4	10.1	9.6	8.8	8.1	7.9	6.8	6.9	6.3	6.0	7.39	12.7	5.2	5.5	
1	9.3	9.6	8.4	9.0	6.4	4.9	3.3	3.0	1.9	2.2	5.83	12.1	1.6	10.5	
1	10.7	8.9	8.4	7.7	6.3	6.3	5.3	5.7	5.9	6.0	5.61	12.3	0.2	12.1	
1	10.1	9.6	9.2	7.9	7.7	7.9	7.4	7.4	6.4	6.3	7.50	11.1	4.9	6.2	
1	14.5	13.6	11.4	9.8	7.4	7.3	7.9	7.9	8.5	8.4	7.78	10.7	5.2	5.5	
1	6.7	6.7	5.4	5.9	8.3	8.0	7.5	7.4	7.9	7.8	10.28	12.3	7.2	11.1	
1	3.1	2.9	1.9	1.3	0.3	0.0	0.2	0.1	1.3	0.4	0.55	3.6	0.4	8.2	
1	3.1	2.4	0.6	0.7	0.8	0.8	0.4	0.8	1.1	1.2	0.66	1.1	3.7	11.8	
1	3.6	0.3	0.7	0.6	0.7	0.7	1.3	0.9	2.0	2.2	0.78	2.8	2.8	8.3	
1	3.0	2.4	1.4	1.2	1.4	1.1	0.8	0.8	0.6	0.8	0.61	2.0	2.6	6.6	
1	10.00	9.50	8.94	8.67	7.39	6.44	6.00	5.94	5.50	5.39	5.11	6.89	11.91	3.50	8.61

38° 52'

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$

October 1882.

	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
5.7	5.1	4.1	3.7	2.4	1.3	0.3	0.1	0.1	0.1	0.1	1.18	7.0	3.7	10.7
8.8	7.4	6.8	5.7	3.9	2.4	2.8	1.1	1.3	1.3	0.6	2.07	9.7	1.4	11.4
10.9	9.4	7.4	5.8	4.1	3.6	1.9	1.1	0.3	1.1	1.1	3.72	12.7	1.7	14.4
11.4	10.9	9.6	7.1	4.8	4.6	5.2	5.7	5.2	5.3	5.3	5.58	12.0	0.1	12.7
3.8	3.6	3.7	3.0	2.4	2.4	2.5	1.9	1.9	0.2	0.8	2.07	5.2	0.3	5.5
4.1	3.9	3.8	3.8	4.0	4.1	4.1	3.8	3.7	1.6	1.6	2.78	3.6	0.8	3.8
6.9	4.4	4.9	3.4	3.0	2.4	2.5	2.4	2.4	1.0	1.1	3.67	8.2	2.4	5.8
6.6	6.8	6.8	4.2	4.1	2.8	1.0	1.1	1.0	2.2	2.2	3.72	7.6	1.1	6.3
10.1	8.1	6.1	5.7	5.7	5.2	5.2	4.7	4.3	3.6	3.1	5.22	12.1	0.8	11.5
6.8	6.0	3.7	2.8	2.1	2.0	1.8	1.1	1.2	0.8	0.2	2.39	7.8	0.2	7.6
3.4	3.4	3.0	2.4	1.8	1.1	0.8	0.8	0.8	0.8	1.3	1.44	4.1	0.3	4.7
5.2	4.7	5.1	5.2	5.1	4.8	4.5	4.2	4.6	4.7	4.1	3.83	5.8	0.8	5.0
3.8	3.3	3.1	2.1	2.5	2.4	2.4	2.4	2.1	1.9	1.4	3.22	4.6	1.4	3.2
1.1	1.1	1.2	1.2	0.9	0.9	0.9	0.6	0.7	0.8	0.8	0.61	2.3	0.4	2.6
0.2	1.1	0.1	0.2	0.8	0.1	0.1	0.1	0.1	0.4	0.6	0.78	5.4	0.8	6.7
2.0	1.1	1.6	1.9	1.9	2.0	2.4	2.5	2.9	3.2	3.9	0.94	4.5	1.9	8.4
2.0	1.8	1.7	1.3	1.3	1.0	1.0	1.5	2.8	2.5	2.9	3.39	2.6	5.6	8.2
1.6	1.8	1.4	0.3	0.9	1.4	1.1	0.7	0.4	0.3	0.6	0.28	1.8	1.4	6.9
0.2	0.0	1.1	1.8	1.4	1.8	1.3	1.6	1.8	1.8	2.1	0.81	5.9	2.1	3.2
1.5	2.0	2.6	1.4	3.5	1.8	2.5	1.1	1.5	1.4	1.5	2.34	4.4	1.0	4.1
1.3	1.1	1.1	0.1	0.4	0.1	0.1	0.2	0.1	0.1	0.1	0.28	1.7	1.9	4.6
1.7	1.4	0.1	0.1	0.3	0.1	0.2	0.2	0.1	0.1	0.5	0.22	2.1	0.6	2.8
0.3	0.6	0.5	0.1	0.0	1.1	1.1	1.1	1.1	1.7	1.9	0.81	0.9	1.9	2.8
1.3	1.1	1.4	1.6	1.6	1.7	2.1	1.7	1.7	1.7	1.0	2.28	0.8	3.9	3.1
1.8	1.5	1.1	1.9	1.9	1.2	2.7	3.7	4.4	3.4	2.4	3.00	0.8	4.8	4.0
0.8	0.7	1.2	1.3	0.8	0.8	0.8	0.9	1.1	1.1	1.3	1.21	0.7	2.1	2.8
1.6	1.4	1.2	0.8	0.6	0.3	0.1	0.1	0.2	0.1	0.3	1.00	1.4	2.0	3.4
1.1	1.4	1.4	1.8	1.7	1.1	0.9	0.3	0.1	0.5	0.5	0.94	2.1	0.1	2.4
5.0	5.1	5.8	6.6	6.7	6.9	6.8	7.1	7.6	7.9	8.1	3.50	0.5	7.9	8.4
6.2	6.7	7.1	7.2	7.1	6.9	6.3	6.7	5.9	5.1	5.1	6.66	5.0	2.1	3.1
8.8	8.7	9.7	9.9	10.1	10.4	11.3	12.1	11.6	11.2	11.6	8.61	5.6	12.1	6.5
2.22	1.78	1.11	0.61	0.28	0.06	0.06	0.11	0.44	0.44	0.56	0.21	3.81	2.19	6.00

Air Temperature.

November 1882.

Height of the Thermometers

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	-12.0	-12.9	-14.0	-15.6	-15.4	-15.6	-15.7	-14.2	-15.1	-12.3	-10.9	-10.3	-8.8	-8.2
2	-4.6	-4.2	-4.0	-4.6	-4.6	-4.4	-5.1	-5.4	-5.5	-5.6	-4.8	-4.6	-4.6	-4.5
3	-7.2	-7.8	-7.0	-9.4	-11.0	-12.1	-13.1	-13.0	-13.0	-12.6	-11.4	-11.4	-10.7	-10.5
4	-6.4	-5.9	-5.4	-4.9	-4.9	-4.8	-4.6	-4.6	-4.3	-4.3	-6.1	-6.3	-6.6	-6.9
5	-11.7	-12.1	-12.6	-12.6	-12.7	-12.6	-12.3	-12.2	-12.2	-12.0	-12.1	-12.1	-12.1	-12.2
6	-16.0	-16.1	-15.8	-16.3	-16.8	-16.7	-16.3	-16.3	-16.0	-14.4	-13.3	-13.0	-13.3	-12.9
7	-16.2	-16.9	-17.4	-19.8	-20.7	-21.0	-21.7	-21.0	-21.4	-21.7	-20.7	-19.3	-19.0	-19.1
8	-23.7	-22.0	-21.2	-25.7	-25.7	-26.2	-27.1	-26.8	-22.9	-22.4	-20.9	-20.3	-23.4	-21.0
9	-15.1	-15.6	-16.1	-16.9	-17.6	-17.4	-18.4	-18.9	-16.3	-16.9	-16.1	-14.8	-14.3	-14.0
10	-11.7	-11.6	-11.3	-11.1	-11.0	-11.6	-10.4	-10.0	-9.4	-8.8	-7.1	-8.9	-8.3	-7.7
11	-5.1	-5.1	-5.6	-5.6	-6.4	-6.6	-5.6	-5.8	-5.1	-6.7	-4.3	-8.2	-6.3	-7.8
12	-13.1	-13.3	-14.1	-15.0	-15.3	-15.0	-14.7	-15.1	-13.7	-12.5	-9.0	-9.9	-8.1	-7.7
13	-1.1	-0.6	0.5	-0.1	-0.8	-1.6	-0.9	-1.1	-5.3	-9.4	-11.4	-11.6	-12.5	-13.4
14	-15.7	-15.9	-14.7	-14.0	-13.4	-12.7	-12.1	-11.1	-10.4	-9.4	-9.2	-9.2	-9.5	-9.9
15	-9.8	-8.0	-8.2	-8.8	-7.4	-6.7	-5.3	-5.8	-6.2	-6.2	-6.2	-6.3	-6.5	-6.7
16	-2.9	-2.4	-1.9	-2.4	-2.4	-1.9	-1.9	-1.9	-1.8	-0.8	-0.3	0.0	0.5	0.6
17	-12.1	-12.6	-13.1	-13.7	-15.0	-15.3	-13.7	-13.0	-12.3	-11.9	-11.1	-11.5	-12.2	-11.4
18	-9.9	-8.8	-7.8	-7.1	-7.8	-8.1	-8.1	-7.2	-7.2	-7.1	-6.1	-5.3	-5.9	-6.0
19	-7.1	-6.1	-6.7	-6.4	-6.1	-5.7	-5.4	-5.1	-5.1	-5.1	-5.1	-6.4	-6.2	-7.4
20	-12.1	-12.1	-12.0	-11.7	-12.1	-12.6	-13.0	-13.0	-12.7	-12.5	-11.7	-10.4	-11.0	-9.8
21	-16.9	-16.8	-15.8	-15.2	-16.3	-16.1	-15.0	-15.8	-13.9	-13.1	-11.5	-9.7	-9.7	-10.0
22	-21.3	-21.4	-21.3	-21.7	-20.6	-19.6	-17.9	-16.3	-15.8	-14.4	-12.1	-11.6	-10.4	-8.4
23	-10.4	-10.4	-10.2	-9.9	-9.7	-9.4	-9.3	-8.9	-8.5	-8.3	-8.1	-8.1	-8.1	-8.1
24	-8.3	-8.3	-8.4	-8.5	-8.1	-8.4	-8.6	-8.6	-8.6	-9.4	-9.4	-9.1	-8.6	-8.6
25	-8.1	-8.4	-8.4	-7.8	-7.6	-7.8	-7.9	-8.3	-8.6	-8.4	-8.6	-8.4	-8.8	-8.8
26	-11.0	-11.0	-11.0	-11.1	-11.0	-10.9	-10.8	-10.4	-10.4	-10.1	-10.1	-10.0	-10.4	-10.9
27	-18.5	-18.5	-21.2	-21.3	-22.2	-21.6	-21.4	-21.8	-22.3	-22.3	-21.7	-23.4	-22.2	-23.3
28	-25.9	-24.7	-23.8	-25.0	-23.2	-21.2	-20.2	-17.9	-16.4	-16.1	-15.8	-15.2	-14.2	-14.2
29	-18.5	-19.2	-20.1	-20.3	-20.3	-18.5	-18.4	-18.4	-19.2	-20.1	-19.7	-19.2	-19.4	-20.3
30	-25.9	-26.4	-27.1	-28.1	-28.7	-29.3	-29.7	-30.8	-31.1	-31.0	-30.1	-29.7	-31.8	-32.2
Mean	-12.56	-12.56	-12.67	-12.94	-13.17	-13.11	-13.11	-13.26	-12.56	-12.22	-11.81	-11.44	-11.33	-11.79

December 1882.

± = + 62° 38' 32"

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	-34.3	-34.2	-33.7	-32.9	-32.5	-32.1	-31.9	-31.1	-30.0	-29.0	-27.8	-27.5	-27.0	-26.8
2	-26.5	-26.1	-25.1	-25.4	-25.9	-27.9	-28.4	-28.1	-27.9	-27.5	-27.1	-27.1	-24.4	-24.8
3	-20.9	-21.8	-22.9	-23.8	-24.3	-23.1	-23.0	-23.0	-23.1	-23.1	-23.5	-23.5	-21.2	-21.8
4	-18.6	-17.7	-17.9	-17.7	-19.9	-19.6	-19.2	-20.8	-22.6	-21.1	-20.4	-20.4	-15.3	-15.4
5	-17.0	-17.1	-17.5	-14.0	-14.1	-14.0	-14.1	-14.1	-14.0	-13.5	-12.7	-12.7	-11.1	-11.4
6	-15.5	-15.5	-15.7	-14.9	-14.4	-14.1	-14.1	-14.1	-13.7	-13.9	-13.6	-13.6	-13.8	-16.5
7	-27.5	-27.9	-27.7	-26.4	-26.5	-27.1	-27.9	-28.2	-29.2	-29.2	-28.7	-28.6	-27.9	-27.7
8	-23.0	-22.9	-21.5	-21.8	-21.8	-21.9	-21.2	-21.9	-23.4	-23.6	-23.4	-23.4	-20.1	-5.2
9	-25.4	-25.4	-25.6	-26.1	-26.5	-27.0	-26.8	-26.7	-26.4	-26.0	-26.2	-25.4	-24.7	-25.4
10	-29.7	-30.1	-30.3	-30.9	-31.4	-31.6	-31.6	-31.3	-31.9	-31.9	-31.8	-31.8	-31.8	-31.9
11	-32.4	-32.4	-31.9	-31.9	-31.9	-31.2	-32.1	-31.9	-31.8	-31.2	-31.1	-30.8	-30.9	-31.1
12	-30.8	-30.8	-31.0	-31.4	-31.6	-31.4	-31.6	-31.6	-31.6	-31.6	-30.8	-30.4	-30.4	-30.6
13	-33.2	-33.5	-33.7	-32.4	-32.6	-33.2	-33.8	-33.8	-33.7	-33.2	-34.1	-34.6	-34.4	-33.3
14	-39.1	-39.1	-37.7	-38.8	-38.1	-37.9	-37.9	-37.9	-37.5	-35.6	-33.6	-32.9	-31.4	-28.7
15	-31.2	-31.7	-31.2	-31.1	-31.1	-29.7	-28.8	-28.7	-27.9	-27.9	-27.6	-27.8	-28.1	-28.2
16	-28.1	-27.8	-29.9	-29.7	-28.1	-28.4	-29.3	-28.7	-27.5	-27.6	-26.4	-25.6	-24.7	-24.7
17	-21.4	-21.7	-21.7	-21.7	-21.7	-21.0	-21.1	-21.3	-20.8	-22.4	-22.4	-22.3	-21.6	-21.2
18	-25.5	-25.5	-25.0	-26.2	-26.8	-27.0	-27.1	-28.1	-29.7	-29.7	-28.1	-28.1	-28.7	-29.7
19	-36.0	-34.9	-35.1	-36.2	-37.1	-37.1	-36.1	-36.7	-36.8	-35.9	-35.7	-35.1	-35.1	-35.0
20	-35.9	-35.6	-34.3	-34.6	-32.4	-31.6	-32.1	-31.5	-29.7	-27.6	-27.0	-27.4	-26.5	-27.1
21	-28.0	-25.4	-24.7	-24.9	-23.8	-23.3	-23.4	-23.7	-24.1	-24.1	-24.0	-23.2	-21.4	-21.9
22	-22.3	-21.3	-21.5	-21.3	-19.8	-18.3	-16.9	-16.4	-15.1	-15.4	-15.1	-14.2	-13.1	-13.6
23	-11.6	-11.6	-11.6	-11.6	-12.0	-11.7	-11.7	-11.4	-11.4	-11.4	-11.9	-11.8	-11.5	-11.9
24	-21.5	-26.5	-27.6	-27.6	-27.1	-27.1	-28.7	-28.7	-29.1	-28.4	-26.5	-27.1	-26.4	-25.6
25	-23.5	-14.2	-13.5	-13.2	-13.2	-14.2	-16.8	-18.3	-20.1	-20.4	-17.9	-20.0	-18.6	-18.0
26	-13.6	-13.9	-16.1	-18.1	-12.6	-12.1	-11.6	-11.0	-10.4	-9.9	-8.3	-9.7	-8.9	-9.0
27	-9.9	-10.7	-11.6	-11.6	-8.6	-8.1	-8.1	-9.4	-10.4	-8.9	-8.1	-6.1	-6.1	-7.1
28	-16.2	-17.5	-18.6	-19.5	-20.2	-21.1	-21.1	-21.7	-22.3	-21.9	-21.2	-22.3	-22.3	-21.7
29	-28.8	-29.7	-29.7	-29.7	-29.7	-29.7	-29.8	-29.5	-29.8	-29.5	-28.1	-27.9	-28.7	-28.7
30	-23.8	-23.1	-23.9	-24.1	-24.1	-24.1	-24.2	-24.2	-24.7	-24.8	-24.5	-24.7	-24.1	-24.1
31	-31.4	-31.7	-31.5	-32.8	-33.5	-33.5	-34.6	-34.1	-34.6	-34.6	-33.1	-32.2	-31.3	-32.5
Mean	-26.74	-26.58	-26.89	-27.11	-26.88	-26.92	-26.72	-26.67	-26.56	-26.17	-25.50	-25.28	-25.00	-25.44

above the

3
-9.4
-4.7
-10.5
-7.7
-12.6
-13.6
-7.1
-9.9
-6.2
-14.5
-10.1
-7.3
-0.7
-9.7
-6.9
-8.5
-12.4
-14.8
-9.4
-7.8
-8.2
-9.3
-11.1
-15.2
-14.6
-22.8
-33.1
-13.00
-26.3
-23.8
-27.9
-25.3
-32.4
-27.6
-27.9
-26.0
-27.1
-31.4
-31.0
-30.7
-36.1
-28.1
-28.1
-34.3
-25.8
-32.5
-31.7
-29.9
-12.1
-20.8
-23.0
-23.4
-19.8
-23.0
-19.8
-10.0
-25.5
-28.2
-32.4
-25.8

November 1882.

above the ground 1.78 m.

	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
-8.1	-9.4	-9.6	-8.6	-8.1	-7.2	-6.7	-5.4	-6.2	-5.9	-5.3	-10.56	-5.3	-16.1	10.8
-4.5	-4.7	-4.7	-4.1	-3.9	-4.5	-4.3	-4.0	-4.2	-5.6	-6.7	-4.72	-3.9	-6.7	2.8
-10.5	-10.5	-10.4	-10.0	-9.8	-9.4	-8.8	-8.1	-7.8	-7.2	-6.7	-10.00	-6.7	-13.4	6.7
-6.9	-7.2	-8.7	-9.7	-10.4	-10.9	-11.0	-11.6	-12.1	-11.6	-11.6	-7.56	-3.9	-12.1	8.2
-12.2	-11.6	-13.1	-13.7	-14.0	-14.3	-14.6	-15.4	-15.8	-15.8	-15.8	-13.17	-11.7	-15.8	4.1
-12.9	-13.6	-13.8	-13.8	-14.7	-15.2	-15.7	-15.3	-15.5	-15.7	-16.1	-15.06	-12.3	-17.3	5.0
-19.1	-20.1	-19.6	-19.8	-18.5	-20.7	-21.2	-20.7	-21.7	-22.5	-22.0	-20.17	-16.2	-22.5	6.3
-21.0	-18.8	-18.1	-19.0	-18.2	-17.2	-16.3	-15.9	-15.8	-15.8	-15.6	-20.94	-14.8	-27.3	12.5
-14.0	-13.6	-15.5	-14.5	-13.9	-13.1	-13.4	-12.9	-13.6	-12.1	-11.9	-15.06	-11.9	-18.9	7.0
-7.7	-7.3	-6.3	-6.6	-6.7	-6.7	-6.2	-5.6	-5.6	-5.3	-5.3	-8.39	-4.8	-11.7	6.9
-7.8	-9.9	-10.8	-11.4	-11.9	-10.9	-11.3	-11.0	-13.2	-13.4	-13.6	-8.83	-1.8	-13.6	11.8
-11.4	-6.1	-4.6	-4.9	-4.9	-3.5	-1.3	-1.8	-0.3	-0.1	0.8	-8.50	0.8	-15.6	16.4
-6.0	-14.5	-15.7	-16.3	-17.1	-17.9	-19.3	-19.5	-19.8	-17.8	-16.9	-10.83	1.1	-19.8	20.9
-9.9	-10.1	-10.1	-11.1	-11.4	-11.8	-11.6	-11.3	-11.2	-10.7	-10.7	-11.56	-9.2	-15.9	6.7
-6.7	-7.1	-7.0	-7.1	-7.8	-8.1	-8.4	-7.2	-5.7	-3.8	-3.5	-6.83	-3.5	-9.8	6.3
0.6	-0.3	-1.2	-1.9	-3.0	-5.6	-8.7	-9.4	-10.7	-11.6	-12.8	-3.61	1.4	-12.8	14.2
-11.4	-9.7	-10.7	-11.6	-9.9	-13.1	-10.7	-9.7	-9.7	-10.4	-11.81	-11.81	-9.7	-15.5	5.8
-6.0	-6.9	-6.7	-5.5	-6.7	-6.7	-7.2	-6.2	-6.2	-6.2	-7.2	-7.06	-4.9	-9.9	5.0
-7.4	-8.5	-8.7	-8.8	-9.4	-9.8	-10.4	-10.4	-10.4	-11.1	-11.8	-9.67	-4.9	-11.8	6.9
-9.8	-12.4	-14.2	-15.1	-15.6	-14.7	-15.9	-17.4	-16.8	-17.1	-16.8	-13.44	-9.7	-17.8	8.1
-10.0	-14.8	-16.6	-17.4	-18.1	-19.0	-19.6	-20.1	-20.7	-20.9	-21.1	-16.00	-7.2	-21.1	13.9
-8.4	-9.4	-9.4	-9.3	-9.4	-9.4	-9.9	-10.4	-10.6	-10.4	-10.3	-13.83	-8.0	-22.2	14.2
-7.7	-7.2	-7.8	-7.3	-7.3	-7.3	-6.9	-7.0	-7.2	-7.5	-7.8	-8.33	-6.7	-10.4	3.7
-8.8	-8.2	-8.3	-8.4	-8.4	-8.3	-8.3	-8.3	-8.2	-7.8	-7.8	-8.50	-7.2	-9.7	2.5
-10.9	-9.3	-9.4	-9.9	-9.9	-10.1	-10.4	-10.4	-11.3	-11.2	-10.9	-9.41	-6.6	-11.5	3.9
-11.3	-11.1	-11.6	-12.3	-13.6	-14.5	-15.7	-15.8	-16.5	-17.6	-18.5	-12.33	-10.0	-18.5	8.5
-13.3	-15.1	-16.0	-16.4	-17.1	-18.1	-18.8	-18.6	-17.7	-17.1	-16.1	-13.83	-11.5	-18.7	10.2
-14.3	-14.6	-14.3	-13.7	-13.8	-14.6	-15.0	-15.5	-16.3	-17.2	-17.8	-17.67	-13.6	-23.9	12.3
-10.5	-21.8	-21.7	-21.1	-21.1	-24.4	-23.8	-23.8	-24.0	-25.7	-25.7	-21.11	-18.3	-25.7	7.4
-12.1	-33.1	-33.4	-33.5	-34.1	-34.9	-34.8	-34.2	-35.2	-35.4	-35.7	-31.56	-25.9	-35.7	9.8
-11.3	-12.00	-12.28	-12.44	-12.72	-13.06	-13.17	-13.11	-13.33	-13.31	-13.39	-12.61	-8.50	-17.12	8.62

 $\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$

December 1882.

	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
-26.8	-26.3	-25.7	-24.9	-24.4	-24.8	-24.4	-25.1	-24.9	-24.9	-25.5	-28.19	-23.9	-35.2	11.3
-24.8	-23.8	-23.2	-23.2	-23.1	-23.3	-23.7	-23.6	-23.6	-23.7	-23.4	-24.67	-20.4	-30.0	9.6
-25.4	-27.9	-28.4	-29.1	-29.4	-30.0	-30.3	-30.3	-30.3	-30.3	-30.4	-28.00	-20.9	-35.4	9.5
-26.5	-25.3	-26.0	-26.8	-27.2	-29.5	-30.8	-31.3	-31.7	-31.9	-31.9	-29.00	-25.2	-32.1	6.9
-27.7	-32.4	-32.7	-33.6	-34.1	-33.6	-34.1	-34.3	-33.9	-34.2	-34.6	-31.39	-29.7	-34.6	4.9
-27.7	-27.6	-27.7	-26.6	-26.7	-27.6	-27.7	-27.7	-27.4	-27.0	-27.3	-29.50	-24.4	-33.7	11.3
-27.7	-27.9	-27.7	-27.3	-26.1	-25.6	-24.7	-23.9	-23.5	-23.3	-23.2	-26.78	-22.6	-29.6	7.0
-26.0	-26.0	-26.3	-26.4	-27.1	-27.1	-26.3	-26.0	-25.2	-25.3	-25.9	-25.06	-21.5	-27.1	4.6
-27.1	-27.1	-27.6	-28.2	-28.7	-29.0	-28.8	-29.3	-29.3	-30.1	-30.1	-27.17	-24.6	-30.1	5.5
-31.4	-31.4	-30.6	-30.8	-31.7	-32.4	-32.9	-33.2	-33.4	-33.1	-32.7	-31.72	-29.7	-33.4	3.7
-31.1	-31.0	-31.2	-31.5	-31.4	-31.2	-31.2	-30.9	-31.1	-30.8	-30.8	-31.44	-30.7	-32.4	1.7
-30.7	-30.7	-30.5	-30.5	-30.9	-31.0	-31.3	-31.5	-31.9	-31.5	-31.5	-31.17	-30.3	-32.5	2.2
-28.7	-36.1	-36.5	-36.8	-36.7	-36.9	-37.0	-37.0	-37.2	-37.6	-38.7	-35.67	-31.2	-38.7	5.5
-28.2	-28.1	-27.6	-28.5	-28.7	-30.0	-31.2	-31.4	-31.4	-31.7	-31.7	-31.61	-27.2	-39.1	11.9
-24.7	-28.2	-27.8	-27.6	-27.6	-27.6	-27.6	-27.3	-27.3	-27.8	-28.1	-28.67	-27.0	-31.7	4.7
-24.3	-24.3	-24.1	-23.8	-23.5	-23.1	-22.8	-22.5	-21.6	-21.4	-21.3	-25.67	-20.9	-29.9	9.0
-25.2	-25.8	-27.3	-27.4	-26.6	-26.3	-24.4	-21.8	-21.8	-21.3	-21.7	-23.22	-19.3	-27.4	7.6
-29.7	-32.3	-32.9	-33.6	-33.8	-33.3	-34.1	-34.1	-34.9	-35.2	-34.7	-30.22	-25.5	-35.2	9.7
-35.0	-31.7	-30.8	-30.8	-31.4	-32.4	-33.4	-33.5	-34.1	-33.0	-33.3	-32.50	-29.2	-39.7	10.3
-27.1	-27.8	-28.1	-27.1	-28.9	-29.1	-28.6	-29.1	-29.1	-28.3	-28.6	-26.89	-26.5	-36.4	9.4
-31.9	-22.9	-23.1	-22.3	-22.3	-22.7	-21.7	-21.8	-21.2	-21.8	-21.4	-22.78	-21.1	-28.0	6.9
-12.6	-12.1	-11.7	-11.4	-11.3	-11.4	-11.2	-11.1	-11.1	-11.6	-11.4	-13.00	-11.1	-14.8	13.7
-19.9	-20.8	-21.1	-21.9	-21.9	-22.9	-23.9	-25.1	-25.6	-25.9	-23.5	-18.50	-11.6	-33.9	14.3
-23.6	-23.0	-21.4	-20.3	-18.6	-17.3	-16.3	-15.3	-14.3	-13.8	-13.7	-13.17	-13.3	-30.1	16.8
-18.0	-19.8	-19.6	-20.1	-20.7	-19.0	-17.1	-15.8	-15.3	-14.6	-13.5	-12.00	-13.2	-20.7	7.5
-10.1	-10.4	-10.4	-10.1	-11.1	-10.2	-12.0	-11.7	-11.3	-10.4	-9.9	-11.39	-7.8	-18.1	10.3
-7.0	-10.0	-11.8	-13.2	-10.0	-11.7	-12.2	-12.2	-12.7	-12.7	-12.4	-10.50	-4.7	-15.1	10.4
-23.7	-15.5	-16.5	-16.4	-16.7	-17.6	-17.5	-17.3	-17.9	-18.0	-18.5	-23.39	-16.3	-28.5	12.3
-18.3	-28.2	-27.1	-27.1	-26.5	-25.3	-24.3	-23.2	-23.2	-23.3	-23.5	-27.61	-13.2	-30.2	7.0
-20.3	-22.4	-24.4	-26.4	-27.6	-28.2	-28.8	-30.3	-31.2	-31.4	-32.2	-24.39	-17.6	-32.2	14.6
-32.5	-34.8	-35.3	-36.2	-35.7	-36.3	-36.4	-35.4	-35.7	-35.9	-34.11	-30.9	-36.7	-36.7	5.8
-23.44	-25.89	-26.00	-26.06	-26.22	-26.33	-26.33	-26.17	-26.22	-26.28	-26.22	-26.22	-22.10	-30.69	8.59

A 17420.

C

Air Temperature.

January 1883.

Height of the Thermometers

Days.											Above the				
	1	2	3	4	5	6	7	8	9	10	11	Noon	1	2	3
1	-36.0	-36.9	-37.2	-36.3	-36.6	-37.8	-37.7	-37.7	-37.4	-37.1	-36.5	-35.7	-35.1	-36.0	-37.0
2	-41.1	-42.9	-42.9	-42.7	-42.7	-42.7	-42.4	-42.4	-42.8	-42.6	-41.6	-41.1	-38.7	-38.7	-39.5
3	-41.4	-41.7	-42.1	-42.1	-42.1	-42.4	-42.9	-42.8	-42.8	-42.8	-41.6	-41.1	-38.7	-40.1	-41.7
4	-43.4	-44.0	-43.7	-43.4	-43.4	-42.8	-42.6	-42.9	-42.9	-42.8	-40.3	-39.6	-38.7	-38.5	-40.7
5	-39.5	-39.3	-39.2	-39.1	-39.1	-39.5	-39.4	-39.4	-39.4	-39.5	-38.8	-37.2	-36.4	-36.5	-37.2
6	-38.8	-38.8	-39.3	-39.3	-38.8	-38.9	-38.8	-38.4	-38.5	-38.7	-36.4	-35.6	-34.7	-34.9	-35.0
7	-35.7	-36.0	-35.6	-35.2	-34.8	-35.3	-34.7	-35.0	-35.2	-34.1	-33.2	-32.2	-32.1	-31.8	-32.3
8	-30.6	-29.9	-29.0	-28.8	-28.7	-29.4	-29.8	-31.5	-31.9	-28.7	-28.2	-27.3	-27.1	-27.0	-27.1
9	-27.2	-27.1	-27.5	-27.5	-27.3	-27.2	-27.6	-28.2	-28.9	-28.8	-28.1	-27.1	-25.7	-26.6	-27.1
10	-25.9	-25.8	-26.8	-27.5	-27.6	-26.7	-26.8	-26.8	-27.1	-26.9	-25.6	-24.9	-24.4	-25.4	-25.8
11	-29.8	-30.3	-29.7	-28.8	-28.7	-27.0	-26.4	-25.8	-25.8	-25.2	-24.6	-23.6	-23.6	-23.5	-23.3
12	-27.1	-27.6	-28.8	-28.7	-28.3	-28.6	-28.5	-27.6	-28.2	-27.0	-26.0	-26.8	-26.0	-26.8	-27.6
13	-25.9	-25.8	-25.8	-25.8	-26.1	-25.9	-26.9	-26.8	-27.3	-26.9	-26.1	-26.1	-25.9	-26.1	-26.0
14	-31.7	-31.7	-30.7	-32.1	-32.4	-32.1	-31.5	-31.6	-32.1	-32.2	-30.3	-29.3	-28.1	-28.4	-28.7
15	-28.9	-28.8	-28.9	-28.6	-28.5	-28.5	-28.9	-27.1	-28.5	-29.7	-30.6	-31.8	-32.6	-33.5	-34.2
16	-35.5	-35.9	-34.9	-32.1	-31.2	-32.2	-32.5	-33.1	-33.5	-32.2	-30.7	-29.8	-28.9	-28.9	-33.2
17	-32.6	-32.6	-32.9	-32.9	-33.6	-33.6	-33.6	-33.6	-33.6	-33.6	-32.6	-31.2	-30.6	-30.6	-30.1
18	-42.9	-43.3	-43.4	-44.6	-44.7	-44.3	-43.8	-43.7	-43.5	-43.4	-42.5	-41.4	-40.2	-40.1	-41.7
19	-31.1	-31.6	-30.6	-30.8	-30.6	-30.5	-30.5	-30.5	-30.4	-31.3	-30.1	-28.1	-26.9	-26.2	-26.8
20	-30.6	-31.2	-31.6	-31.6	-31.7	-32.5	-31.7	-31.7	-31.2	-31.6	-32.2	-31.3	-29.8	-29.7	-29.9
21	-31.6	-31.5	-31.3	-31.6	-31.4	-31.2	-31.2	-31.4	-31.2	-31.2	-31.2	-30.7	-29.8	-29.7	-31.4
22	-41.2	-41.0	-41.8	-41.6	-41.6	-42.2	-41.8	-42.4	-42.3	-42.3	-40.1	-39.2	-37.7	-36.8	-37.1
23	-32.8	-32.8	-32.8	-32.4	-32.5	-32.1	-32.1	-32.1	-32.0	-32.0	-30.9	-29.9	-28.6	-28.4	-29.9
24	-39.3	-39.3	-39.1	-39.3	-38.8	-38.7	-37.4	-37.6	-37.0	-35.2	-33.4	-31.4	-31.4	-31.4	-31.5
25	-32.6	-31.0	-31.1	-31.5	-31.6	-33.6	-33.5	-33.3	-32.5	-31.1	-29.2	-27.9	-26.8	-26.7	-26.1
26	-20.7	-21.2	-21.1	-21.1	-20.2	-19.6	-19.0	-19.0	-19.0	-18.6	-17.9	-17.3	-16.7	-16.9	-16.7
27	-23.8	-23.2	-22.7	-22.3	-21.7	-21.8	-20.7	-20.4	-20.2	-19.6	-18.7	-18.5	-17.4	-17.0	-17.9
28	-18.5	-18.9	-19.5	-19.6	-20.0	-20.1	-20.4	-20.1	-21.1	-20.5	-20.7	-20.1	-20.8	-20.8	-20.8
29	-26.7	-27.1	-28.7	-29.5	-30.8	-31.1	-33.6	-34.1	-34.9	-34.1	-33.5	-32.8	-32.1	-31.8	-32.7
30	-36.4	-36.9	-37.2	-37.2	-38.2	-38.3	-38.3	-38.3	-36.7	-36.6	-36.9	-36.0	-35.2	-34.9	-34.9
31	-32.6	-32.1	-32.9	-33.5	-33.7	-32.1	-31.9	-32.4	-32.1	-31.5	-31.3	-30.7	-30.1	-30.3	-31.2
Mean	-33.11	-33.28	-33.39	-33.39	-33.28	-33.39	-33.44	-33.56	-33.67	-32.72	-31.67	-30.89	-30.33	-30.44	-31.61

February 1883.

$\lambda = +62^{\circ} 38' 52''$.

Days.											Above the				
	1	2	3	4	5	6	7	8	9	10	11	Noon	1	2	3
1	-37.4	-37.6	-37.6	-37.6	-38.5	-39.9	-39.9	-39.6	-38.7	-36.4	-36.1	-34.7	-32.1	-32.9	-33.6
2	-31.2	-31.1	-31.1	-31.1	-31.1	-31.7	-31.6	-31.6	-31.6	-31.1	-31.1	-31.2	-31.2	-30.4	-31.9
3	-19.4	-17.7	-16.0	-15.9	-15.9	-15.8	-15.6	-15.6	-15.6	-14.3	-12.2	-11.2	-11.9	-12.9	-14.6
4	-23.5	-23.3	-23.4	-23.7	-22.7	-22.3	-22.3	-22.1	-21.1	-19.4	-18.8	-17.6	-16.1	-17.2	-18.1
5	-12.1	-11.6	-11.5	-11.5	-11.1	-11.9	-11.8	-11.7	-11.3	-11.2	-11.1	-11.2	-11.4	-12.1	-12.7
6	-26.5	-27.1	-25.4	-26.0	-25.1	-25.1	-25.9	-25.7	-27.1	-24.6	-23.4	-22.8	-21.3	-21.3	-20.7
7	-18.3	-17.4	-17.6	-17.1	-15.2	-15.1	-14.4	-14.6	-14.3	-13.6	-12.6	-12.2	-11.2	-10.7	-11.2
8	-22.7	-22.4	-22.1	-22.1	-22.5	-22.6	-23.8	-23.8	-23.9	-23.8	-22.2	-21.7	-21.1	-21.2	-21.3
9	-27.9	-29.0	-29.5	-29.5	-29.2	-29.7	-29.0	-28.5	-28.5	-27.9	-27.4	-26.6	-25.7	-25.7	-25.1
10	-34.1	-35.9	-34.1	-33.1	-32.2	-31.2	-30.4	-30.7	-31.9	-31.0	-31.0	-31.3	-31.2	-29.7	-28.8
11	-21.1	-22.7	-24.4	-25.1	-25.4	-26.1	-26.5	-27.1	-27.0	-25.5	-24.4	-23.2	-21.2	-21.3	-21.3
12	-29.7	-29.7	-29.7	-29.7	-29.7	-29.8	-29.8	-29.8	-29.8	-29.8	-29.1	-28.6	-27.9	-27.9	-26.6
13	-33.9	-32.2	-31.2	-31.2	-31.4	-31.6	-31.6	-31.6	-31.6	-31.4	-31.1	-31.3	-29.1	-28.6	-26.1
14	-35.1	-35.8	-35.5	-35.6	-37.0	-36.7	-36.8	-35.8	-34.6	-32.4	-33.0	-30.3	-29.8	-28.7	-28.7
15	-36.5	-35.9	-34.4	-33.5	-33.9	-33.9	-33.6	-34.1	-29.1	-26.6	-25.9	-24.8	-23.2	-24.1	-24.5
16	-32.7	-31.1	-31.0	-31.2	-31.0	-32.9	-31.5	-29.7	-28.7	-27.1	-26.1	-24.6	-21.9	-21.6	-20.0
17	-19.9	-19.5	-18.9	-19.0	-18.9	-18.9	-17.9	-17.1	-17.2	-16.9	-16.6	-15.6	-15.3	-15.3	-16.1
18	-26.7	-25.9	-27.1	-28.1	-27.0	-26.6	-27.4	-28.5	-28.5	-23.8	-19.8	-18.2	-18.7	-18.6	-19.0
19	-22.2	-22.9	-23.1	-22.7	-22.9	-21.4	-20.8	-20.6	-19.6	-18.1	-16.7	-14.8	-14.3	-14.6	-15.2
20	-15.9	-15.3	-14.2	-15.2	-15.7	-15.5	-16.7	-15.1	-15.5	-14.9	-14.6	-13.9	-13.0	-12.4	-11.1
21	-27.0	-24.5	-19.6	-19.6	-21.2	-22.8	-22.8	-21.8	-21.4	-21.4	-20.4	-19.6	-18.1	-17.4	-17.4
22	-17.4	-19.0	-18.6	-21.7	-21.7	-19.9	-18.0	-16.9	-16.7	-17.8	-17.3	-17.3	-15.7	-15.3	-15.3
23	-22.3	-22.8	-20.7	-20.7	-20.1	-20.4	-21.7	-22.3	-22.3	-22.3	-22.1	-21.9	-20.7	-20.3	-20.6
24	-30.8	-29.7	-30.8	-30.8	-33.1	-33.5	-32.9	-31.7	-29.1	-28.1	-26.3	-24.8	-24.4	-22.9	-23.1
25	-22.2	-22.3	-22.7	-22.9	-23.9	-22.9	-22.6	-22.2	-21.4	-20.7	-20.1	-18.8	-17.0	-16.4	-17.1
26	-23.2	-22.9	-22.7	-22.9	-23.9	-22.9	-22.6	-22.2	-21.4	-20.7	-20.1	-18.8	-17.0	-16.6	-17.2
27	-23.6	-23.7	-23.8	-23.9	-24.3	-24.4	-24.5	-24.7	-24.9	-24.9	-23.4	-21.9	-20.7	-20.3	-20.6
28	-21.2	-21.7	-22.0	-22.7	-23.2	-23.4	-23.9	-23.8	-23.3	-22.9	-21.7	-20.7	-20.3	-20.1	-21.1
Mean	-24.39	-24.56	-24.50	-25.11	-25.44	-25.72	-25.89	-25.78	-24.67	-23.50	-22.56	-21.44	-20.50	-20.28	-20.94

above the ground 178 m.

January 1883

anometers

	2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
1	-16.0	-17.9	-17.9	-17.9	-19.8	-40.2	-40.6	-41.6	-41.1	-41.3	-42.1	-38.17	-35.0	-43.5	8.5
2	-18.3	-19.5	-40.2	-40.7	-40.5	-40.5	-40.8	-41.1	-40.8	-40.8	-40.8	-40.17	-37.6	-41.1	3.5
3	-18.5	-41.7	-41.3	-41.7	-42.3	-42.3	-42.6	-43.7	-43.3	-42.8	-43.7	-41.94	-40.8	-43.7	5.0
4	-16.5	-39.1	-39.3	-39.7	-39.9	-39.7	-39.8	-39.6	-39.5	-39.4	-39.4	-40.8	-38.5	-42.0	5.5
5	-14.9	-37.2	-37.3	-38.1	-38.7	-38.8	-38.8	-38.6	-39.1	-38.5	-38.2	-38.56	-34.9	-39.5	4.6
6	-26.8	-35.0	-34.5	-34.7	-35.8	-35.9	-35.7	-35.6	-35.4	-35.3	-35.7	-36.8	-31.6	-39.3	5.7
7	-27.0	-32.3	-32.1	-32.3	-32.4	-32.6	-31.1	-31.3	-32.9	-32.3	-31.4	-31.56	-31.4	-36.0	4.6
8	-26.6	-27.1	-27.1	-27.3	-27.2	-28.7	-29.1	-28.8	-28.2	-27.5	-27.2	-28.67	-26.6	-32.9	6.3
9	-25.4	-28.7	-28.2	-29.6	-28.3	-28.8	-29.2	-29.3	-28.8	-27.9	-26.6	-27.89	-24.0	-29.6	5.6
10	-23.5	-27.8	-27.8	-28.0	-29.4	-29.4	-29.4	-29.3	-28.2	-28.3	-29.2	-27.31	-21.9	-29.4	7.5
11	-26.8	-23.3	-23.5	-23.6	-23.2	-23.6	-24.1	-24.1	-23.5	-25.8	-26.8	-25.61	-23.2	-30.4	7.2
12	-26.1	-27.6	-27.6	-27.7	-27.9	-27.9	-27.6	-26.8	-26.4	-26.3	-26.3	-27.50	-25.4	-28.8	3.4
13	-28.4	-26.0	-26.4	-26.3	-26.4	-27.0	-27.1	-26.7	-26.6	-26.9	-27.4	-26.89	-25.0	-31.4	6.4
14	-31.5	-31.3	-31.5	-31.8	-31.3	-31.4	-31.4	-31.4	-31.4	-30.7	-29.7	-31.50	-27.1	-34.1	7.0
15	-28.9	-32.2	-33.1	-33.7	-33.9	-36.1	-36.4	-36.4	-35.8	-35.8	-31.58	-31.58	-24.4	-36.4	12.0
16	-17.5	-33.2	-33.7	-33.3	-33.0	-31.7	-31.7	-32.2	-32.9	-32.4	-32.5	-32.33	-27.4	-35.9	8.5
17	-14.1	-39.3	-41.1	-41.7	-42.3	-42.5	-43.4	-43.3	-43.9	-43.4	-43.4	-38.88	-32.6	-43.4	10.8
18	-26.8	-34.9	-34.7	-34.8	-35.7	-34.4	-33.4	-32.3	-31.7	-31.9	-31.3	-32.22	-31.3	-44.6	13.3
19	-29.5	-27.9	-28.2	-28.8	-29.7	-30.6	-30.0	-30.3	-30.7	-31.2	-30.6	-29.67	-26.4	-31.3	5.2
20	-35.1	-31.4	-33.5	-33.5	-33.5	-35.0	-34.7	-36.0	-36.0	-36.7	-36.7	-32.83	-29.3	-37.6	8.3
21	-37.3	-33.4	-36.0	-37.3	-38.9	-38.6	-38.4	-39.2	-39.3	-39.3	-39.9	-37.67	-34.1	-39.9	5.8
22	-35.2	-40.9	-41.4	-42.0	-42.8	-41.7	-41.8	-42.4	-41.4	-43.4	-42.8	-41.47	-35.7	-43.4	7.7
23	-33.1	-37.3	-39.9	-39.7	-40.7	-40.1	-39.6	-40.3	-40.2	-39.9	-39.3	-40.22	-33.6	-42.8	9.2
24	-33.4	-33.5	-33.9	-33.5	-33.2	-32.8	-32.8	-29.5	-28.2	-27.9	-32.4	-34.72	-27.2	-39.5	12.3
25	-16.7	-26.3	-25.6	-24.9	-24.0	-21.3	-22.8	-23.1	-21.5	-21.2	-21.1	-22.11	-21.1	-34.9	13.8
26	-16.9	-16.7	-17.3	-19.6	-20.5	-21.7	-22.3	-22.9	-23.5	-23.7	-23.1	-23.66	-15.6	-34.9	9.3
27	-19.9	-17.9	-17.4	-17.4	-17.5	-17.8	-17.9	-18.1	-18.5	-18.2	-18.3	-19.44	-17.4	-23.8	6.4
28	-20.3	-20.7	-21.1	-21.6	-21.8	-21.7	-22.3	-22.7	-22.5	-25.4	-27.4	-21.28	-18.5	-27.4	8.9
29	-19.0	-32.7	-35.3	-34.6	-35.8	-36.1	-35.1	-34.5	-33.6	-32.2	-35.7	-31.94	-26.7	-36.1	9.4
30	-30.3	-31.9	-31.6	-31.9	-32.4	-32.4	-33.4	-33.0	-33.8	-33.5	-33.9	-34.39	-28.2	-38.3	10.1
31	-30.3	-31.1	-31.9	-31.4	-31.4	-31.7	-35.0	-35.1	-35.9	-36.4	-36.5	-32.94	-29.7	-36.5	6.8
33	-30.44	-31.61	-32.22	-32.39	-32.72	-32.83	-32.89	-32.94	-33.00	-33.00	-32.28	-32.67	-28.45	-36.14	7.69

38' 52"

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$

February 1883

	2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
1	-12.9	-31.6	-31.7	-31.5	-31.5	-33.0	-32.9	-32.3	-31.3	-31.9	-31.7	-35.33	-30.8	-39.9	9.1
2	-30.4	-31.9	-32.1	-33.6	-32.9	-31.1	-31.2	-31.2	-27.3	-24.7	-21.9	-32.11	-21.9	-36.6	14.7
3	-31.4	-24.6	-27.3	-28.1	-27.6	-24.6	-26.9	-27.1	-27.2	-25.3	-24.7	-27.56	-15.9	-28.6	12.7
4	-7.3	-7.1	-5.7	-8.1	-10.0	-9.4	-8.8	-9.3	-9.9	-11.0	-11.3	-12.83	-5.3	-21.5	18.2
5	-12.1	-12.7	-15.3	-14.9	-19.2	-20.8	-22.4	-23.3	-24.4	-22.4	-25.2	-16.22	-11.4	-25.2	13.8
6	-21.3	-20.7	-19.8	-20.8	-20.9	-19.1	-19.8	-9.3	-7.0	-6.7	-7.3	-21.22	-6.6	-23.6	22.0
7	-21.1	-21.3	-21.2	-21.2	-20.6	-19.4	-18.5	-18.8	-17.0	-16.9	-17.4	-21.52	-15.9	-23.9	8.0
8	-12.3	-13.1	-14.1	-13.9	-19.7	-23.4	-25.2	-27.1	-28.7	-30.2	-31.1	-19.17	-6.5	-34.1	27.6
9	-29.7	-28.8	-28.6	-28.1	-27.9	-27.7	-27.6	-26.5	-25.2	-23.9	-22.8	-30.94	-22.8	-39.4	16.6
10	-25.3	-26.1	-25.9	-26.7	-27.8	-28.7	-27.9	-28.6	-29.4	-29.1	-30.2	-26.33	-21.1	-29.4	8.3
11	-28.6	-26.6	-28.0	-27.6	-27.5	-27.8	-28.1	-29.3	-30.9	-32.6	-33.2	-28.94	-25.7	-33.2	7.5
12	-28.9	-29.7	-31.0	-31.9	-32.6	-31.5	-33.9	-33.3	-34.6	-34.6	-35.8	-33.44	-27.8	-36.6	8.8
13	-28.1	-28.7	-30.3	-33.2	-33.6	-33.0	-31.3	-34.1	-34.5	-36.0	-35.6	-31.83	-26.6	-38.8	12.2
14	-24.3	-22.5	-26.4	-28.7	-30.1	-30.6	-31.4	-30.7	-33.0	-32.4	-32.4	-31.50	-22.1	-36.5	14.4
15	-19.6	-20.0	-19.8	-20.6	-20.5	-20.2	-19.5	-18.6	-19.6	-20.0	-20.2	-24.94	-18.6	-33.4	14.8
16	-15.3	-16.3	-16.6	-18.5	-20.8	-21.8	-21.2	-24.8	-27.7	-29.2	-28.6	-19.78	-15.1	-29.2	14.1
17	-18.6	-19.0	-19.1	-20.5	-22.1	-22.6	-22.6	-22.1	-21.5	-21.2	-22.3	-23.06	-17.1	-28.8	11.7
18	-14.6	-15.2	-17.1	-18.5	-19.6	-19.8	-17.4	-16.3	-16.3	-15.7	-15.9	-18.61	-12.6	-24.3	11.7
19	-3.6	-7.1	-10.5	-12.7	-13.7	-15.3	-14.9	-16.4	-19.4	-17.9	-20.2	-13.67	-3.5	-20.2	16.7
20	-16.9	-17.4	-16.1	-15.5	-14.6	-13.4	-13.2	-13.4	-15.7	-16.8	-17.2	-18.00	-13.2	-22.8	9.6
21	-15.5	-15.3	-15.4	-15.9	-15.7	-15.3	-15.3	-16.3	-17.3	-18.3	-20.1	-17.44	-15.3	-23.5	8.2
22	-20.3	-20.6	-21.7	-22.3	-23.1	-25.4	-27.7	-26.4	-27.6	-28.6	-30.3	-23.28	-21.1	-30.7	10.2
23	-22.9	-23.1	-24.9	-25.7	-25.3	-25.0	-25.1	-25.1	-24.9	-23.8	-22.7	-27.28	-21.6	-33.5	11.9
24	-16.4	-17.3	-18.4	-18.5	-18.7	-18.1	-17.7	-17.8	-17.9	-18.1	-18.1	-19.83	-16.4	-22.9	6.5
25	-16.6	-17.2	-18.4	-18.8	-20.0	-21.2	-21.6	-22.3	-22.6	-23.1	-23.6	-18.94	-16.6	-23.6	7.0
26	-20.3	-20.6	-20.7	-21.3	-21.4	-21.4	-21.3	-21.2	-21.5	-21.7	-22.2	-22.44	-20.3	-22.8	4.5
27	-23.1	-23.3	-23.2	-24.2	-26.0	-27.7	-29.7	-29.7	-30.3	-29.8	-29.7	-24.56	-21.2	-30.3	9.1
30	-20.28	-20.94	-21.83	-22.72	-23.28	-23.44	-23.72	-23.56	-23.94	-23.83	-24.11	-23.56	-17.12	-29.66	12.54

Air Temperature.

March 1883.

Height of the Thermometers

Days.	Height of the Thermometers											Noon.		1		2	
	1	2	3	4	5	6	7	8	9	10	11	1	2	1	2	3	4
1	-30.3	-31.9	-31.7	-33.2	-32.8	-32.7	-33.5	-32.4	-31.9	-29.8	-29.7	-26.4	-27.7	-24.9	-25.2	-26	-26
2	-25.0	-25.7	-26.1	-28.1	-28.2	-27.8	-27.7	-25.2	-23.8	-22.8	-22.7	-23.3	-23.4	-22.8	-24.1	-25	-25
3	-30.2	-29.7	-30.3	-31.0	-31.6	-31.0	-33.3	-30.6	-29.5	-27.1	-26.3	-25.1	-24.6	-24.8	-23.0	-23	-23
4	-34.6	-33.4	-35.1	-34.1	-34.7	-35.1	-35.1	-34.5	-31.5	-31.9	-30.3	-28.6	-27.7	-26.5	-25.3	-27	-27
5	-34.9	-34.1	-34.2	-34.1	-34.6	-35.2	-35.6	-32.1	-31.7	-28.9	-24.9	-23.2	-22.8	-22.3	-22.0	-23	-23
6	-31.4	-31.0	-31.7	-31.9	-32.2	-31.9	-30.9	-29.3	-27.4	-26.2	-25.0	-23.2	-21.6	-21.1	-20.8	-20	-20
7	-22.8	-23.8	-24.4	-25.9	-23.8	-23.8	-22.9	-21.2	-19.1	-18.4	-18.0	-17.9	-17.4	-17.5	-17.9	-18	-18
8	-23.7	-23.5	-23.0	-23.9	-24.2	-24.0	-23.5	-21.4	-16.7	-15.8	-14.8	-14.2	-13.1	-12.5	-12.4	-12	-12
9	-21.3	-24.5	-24.4	-25.9	-24.7	-24.4	-25.0	-22.8	-22.0	-19.6	-17.1	-15.7	-14.4	-14.7	-15.1	-15	-15
10	-20.2	-20.7	-20.2	-20.0	-20.1	-19.6	-19.8	-19.1	-19.0	-17.9	-16.8	-15.7	-14.7	-14.1	-13.8	-14	-14
11	-22.1	-23.6	-23.8	-26.9	-25.2	-25.3	-24.7	-24.2	-23.1	-21.7	-20.4	-19.3	-18.5	-18.7	-19.1	-19	-19
12	-19.1	-17.9	-17.9	-18.7	-19.0	-18.7	-18.2	-17.0	-16.9	-16.1	-15.2	-13.7	-13.3	-13.3	-14.1	-13	-13
13	-14.1	-12.7	-13.1	-14.2	-14.4	-16.3	-17.0	-15.4	-14.6	-13.1	-11.9	-10.2	-10.1	-10.1	-10.1	-10	-10
14	-23.5	-26.5	-27.1	-27.6	-28.3	-29.1	-27.5	-23.5	-20.7	-21.7	-22.2	-21.9	-20.3	-20.6	-20.2	-20	-20
15	-23.7	-24.9	-28.1	-28.1	-28.6	-28.1	-26.0	-24.8	-23.0	-21.7	-20.2	-19.0	-17.3	-17.0	-15.8	-16	-16
16	-38.0	-37.9	-37.9	-38.2	-38.8	-39.0	-39.5	-37.2	-30.8	-30.7	-30.9	-30.6	-31.2	-31.1	-32.8	-33	-33
17	-36.0	-37.0	-38.4	-39.1	-39.5	-39.9	-38.1	-36.2	-34.9	-33.5	-30.1	-29.1	-27.7	-25.7	-25.3	-25	-25
18	-28.0	-30.0	-30.1	-30.5	-31.9	-31.4	-28.4	-25.4	-24.8	-23.1	-22.3	-21.1	-19.8	-18.5	-18.1	-18	-18
19	-30.1	-29.3	-30.4	-28.1	-27.2	-26.8	-24.6	-22.9	-21.7	-19.6	-18.8	-17.4	-16.4	-15.8	-16.3	-16	-16
20	-19.4	-19.4	-17.5	-18.5	-18.0	-18.1	-16.0	-15.5	-14.4	-13.6	-12.2	-11.0	-10.4	-10.4	-11.0	-11	-11
21	-23.5	-23.4	-24.4	-25.7	-26.3	-26.5	-24.4	-21.9	-20.8	-19.0	-18.3	-17.1	-14.3	-13.1	-15.3	-15	-15
22	-19.7	-20.0	-22.8	-23.4	-23.0	-22.7	-19.6	-19.1	-17.8	-17.6	-16.4	-15.2	-14.6	-14.1	-14.7	-14	-14
23	-20.1	-20.7	-20.3	-20.7	-20.8	-21.4	-21.2	-20.9	-19.1	-18.4	-17.7	-17.4	-16.4	-16.0	-16.6	-16	-16
24	-14.0	-14.4	-14.9	-12.2	-11.5	-11.7	-10.7	-10.1	-10.7	-10.4	-10.4	-10.9	-10.8	-10.4	-10.6	-10	-10
25	-25.7	-29.7	-30.4	-31.6	-30.8	-31.8	-30.2	-29.3	-27.1	-25.3	-23.8	-22.0	-19.6	-18.9	-19.6	-19	-19
26	-26.3	-27.1	-27.6	-26.6	-28.6	-29.7	-27.4	-26.4	-23.4	-23.4	-21.0	-19.7	-18.0	-17.0	-18.9	-19	-19
27	-27.3	-27.8	-24.4	-24.4	-24.4	-24.4	-22.8	-22.1	-20.2	-18.4	-17.4	-16.1	-14.0	-13.0	-13.6	-13	-13
28	-22.8	-22.8	-23.8	-25.9	-24.9	-24.0	-22.7	-21.7	-19.6	-17.8	-15.7	-13.3	-11.1	-10.3	-9.1	-9	-9
29	-27.7	-27.1	-21.2	-21.8	-22.7	-23.1	-19.0	-17.9	-15.8	-14.6	-13.5	-12.9	-11.6	-10.6	-10.3	-10	-10
30	-21.2	-23.9	-24.8	-26.0	-24.5	-27.3	-25.0	-19.4	-17.3	-17.4	-16.1	-14.4	-13.1	-12.6	-13.1	-13	-13
31	-24.9	-26.1	-26.5	-26.3	-27.4	-24.8	-24.3	-22.7	-18.3	-15.8	-13.4	-11.6	-10.4	-10.4	-10.1	-10	-10
Mean	-24.81	-25.25	-25.83	-26.22	-26.56	-26.61	-25.44	-23.58	-21.22	-18.17	-19.94	-18.61	-17.61	-17.06	-17.22	-17	-17

April 1883.

$\phi = + 62^{\circ} 38' 52''$

Days	Height of the Thermometers											Noon.		1		2	
	1	2	3	4	5	6	7	8	9	10	11	1	2	1	2	3	4
1	-20.7	-17.9	-16.1	-17.4	-16.6	-15.8	-15.1	-16.4	-14.5	-14.2	-13.1	-10.8	-9.1	-8.4	-9.6	-10	-10
2	-17.2	-19.0	-19.3	-18.3	-18.5	-19.1	-16.9	-15.7	-13.2	-11.8	-10.7	-9.5	-8.3	-8.3	-9.0	-9	-9
3	-12.1	-11.1	-12.1	-13.9	-13.7	-14.4	-14.2	-14.2	-13.7	-12.9	-11.9	-11.1	-11.0	-10.5	-10.4	-10	-10
4	-22.4	-21.8	-21.7	-23.8	-22.7	-23.4	-19.1	-17.2	-14.2	-12.4	-14.2	-10.9	-10.4	-10.1	-9.2	-9	-9
5	-20.1	-2.7	-21.7	-23.9	-22.8	-23.0	-22.0	-22.1	-19.7	-17.0	-15.3	-13.4	-12.8	-11.6	-11.4	-11	-11
6	-16.9	-17.1	-17.7	-16.9	-16.4	-15.8	-14.1	-11.6	-11.6	-12.4	-10.0	-9.4	-7.8	-8.1	-8.8	-8	-8
7	-19.1	-20.1	-20.7	-21.1	-22.3	-20.1	-17.8	-16.1	-14.1	-11.2	-9.2	-8.4	-7.5	-6.2	-4.6	-4	-4
8	-15.8	-17.4	-18.7	-18.9	-19.7	-18.1	-16.8	-16.4	-15.1	-14.2	-13.6	-12.6	-11.7	-10.5	-10.3	-10	-10
9	-16.3	-15.8	-15.6	-15.6	-15.1	-14.3	-13.6	-12.6	-11.3	-8.9	-7.1	-6.9	-5.6	-6.6	-5.4	-5	-5
10	-11.0	-12.1	-13.6	-14.7	-15.6	-14.8	-14.3	-13.2	-12.1	-10.9	-9.2	-7.8	-7.8	-7.3	-7.3	-7	-7
11	-13.6	-13.1	-13.1	-12.0	-11.9	-11.2	-10.3	-9.4	-8.1	-6.9	-6.1	-5.1	-3.5	-3.2	-3.4	-3	-3
12	-13.7	-14.1	-12.1	-13.2	-12.5	-11.6	-9.9	-7.5	-6.2	-6.2	-5.5	-4.9	-2.1	-2.1	-2.1	-2	-2
13	-9.9	-11.5	-11.1	-11.3	-11.6	-11.1	-9.9	-8.9	-7.8	-6.3	-5.5	-4.6	-2.9	-3.1	-3.1	-3	-3
14	-14.2	-14.8	-15.8	-17.1	-16.4	-16.9	-16.6	-14.9	-13.2	-11.3	-9.9	-8.7	-7.2	-5.9	-5.9	-5	-5
15	-11.7	-10.4	-11.4	-11.8	-11.2	-11.0	-10.0	-9.1	-7.2	-6.1	-5.1	-3.3	-2.0	-0.2	-0.1	-0	-0
16	-12.9	-14.5	-14.7	-15.8	-16.5	-17.2	-14.2	-11.6	-9.4	-8.2	-6.5	-4.2	-3.2	-1.2	-1.2	-1	-1
17	-11.7	-14.2	-13.1	-14.9	-15.4	-14.2	-12.1	-9.8	-8.4	-7.1	-5.2	-1.0	-1.9	-0.7	-0.7	-0	-0
18	-9.6	-12.9	-11.4	-12.1	-13.1	-10.8	-9.9	-9.5	-8.1	-5.7	-4.4	-1.9	-3.5	-0.1	-0.1	-0	-0
19	-10.0	-10.6	-11.7	-12.0	-11.2	-10.4	-8.3	-7.8	-6.8	-4.5	-3.6	-2.3	-0.4	-0.1	-0.1	-0	-0
20	-8.1	-7.5	-9.3	-10.9	-9.8	-7.8	-6.8	-4.4	-1.6	-1.1	1.2	2.4	2.8	2.7	2.9	2	2
21	0.3	0.3	0.3	0.3	0.3	0.2	0.6	0.8	0.8	0.9	1.1	0.8	0.8	0.8	1.1	1	1
22	0.7	0.6	0.6	0.4	0.1	0.3	1.1	1.9	2.1	2.2	2.1	1.8	0.8	1.1	0.8	0	0
23	-0.7	-6.5	-7.2	-7.8	-7.9	-7.6	-6.9	-6.1	-5.3	-4.5	-3.9	-2.9	-2.3	-2.5	-2.2	-2	-2
24	-2.4	-3.7	-4.1	-4.2	-4.7	-6.5	-5.0	-3.5	-1.3	-0.6	1.1	1.8	1.9	2.4	2.4	2	2
25	-1.3	-2.7	-2.9	-3.6	-4.6	-4.6	-3.9	-3.9	-3.2	1.8	3.0	3.1	3.2	3.6	3.4	3	3
26	-1.9	-2.4	-2.9	-3.0	-2.3	-1.2	2.1	3.0	3.8	4.4	5.1	5.2	4.7	5.1	5.7	5	5
27	0.1	-1.2	-2.2	-2.9	-1.9	-1.3	-0.7	0.8	1.3	3.6	3.6	3.6	3.7	4.4	4.3	4	4
28	-0.2	-0.1	-0.1	-0.1	0.1	0.4	0.8	1.4	1.9	1.2	1.2	2.0	3.0	3.4	3.4	3	3
29	1.4	1.3	0.7	1.7	-0.6	1.0	0.7	0.1	0.1	1.8	2.1	2.5	2.7	3.1	3.1	3	3
30	-3.6	-3.5	-4.0	-4.6	-4.5	-5.2	-4.6	-4.0	-3.9	-2.7	-1.8	-0.7	-0.3	-0.2	-0.1	-0	-0
Mean	-10.66	-10.39	-10.88	-11.28	-11.39	-10.67	-9.67	-8.56	-7.28	-6.11	-5.06	-4.11	-3.28	-2.72	-2.39	-2	-2

above the ground 178 m.

March 1883.

ometers

2	3	4	5	8	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
-24.9	-25.2	-26.3	-24.9	-24.3	-24.8	-23.9	-22.8	-24.1	-24.4	-25.2	-25.06	-22.4	-33.5	11.1
-22.8	-24.1	-25.4	-26.9	-27.1	-27.9	-28.2	-28.2	-28.6	-28.7	-29.1	-26.33	-22.7	-29.1	6.4
-26.5	-23.0	-23.8	-27.3	-28.4	-29.7	-30.9	-31.8	-32.1	-33.3	-31.4	-20.00	-22.8	-33.3	10.5
-21.3	-25.3	-27.1	-27.9	-28.1	-29.1	-29.8	-29.7	-30.3	-31.1	-30.9	31.00	-25.3	-36.1	10.8
-21.1	-22.0	-23.9	-25.6	-28.2	-29.5	-29.8	-29.7	-30.3	-32.4	-33.0	-29.61	-21.6	-35.6	14.0
-11.5	-20.8	-20.8	-21.6	-20.4	-20.7	-19.3	-19.0	-20.1	-20.8	-22.6	-25.06	-18.9	-33.2	14.3
-12.5	-17.9	-18.0	-17.5	-17.0	-17.2	-18.1	-18.4	-19.0	-20.5	-21.8	-20.00	-16.0	-24.4	8.4
-14.7	-12.4	-12.6	-13.2	-17.2	-18.3	-19.0	-20.2	-20.8	-20.1	-21.7	-17.28	-12.4	-23.7	11.3
-14.3	-15.1	-15.4	-17.3	-18.4	-20.7	-20.2	-20.1	-19.6	-20.1	-20.6	-14.74	-25.3	-30.9	10.0
-12.7	-13.8	-14.1	-13.4	-12.6	-12.1	-11.4	-11.0	-12.1	-13.1	-11.1	-15.94	-11.0	-22.5	11.5
-15.5	-15.1	-13.3	-14.3	-16.3	-17.0	-17.8	-19.4	-17.4	-18.5	-19.6	-15.22	-12.1	-19.6	7.5
-10.3	-14.3	-13.3	-13.8	-14.2	-14.2	-14.2	-15.2	-15.6	-15.3	-15.2	-15.89	-12.7	-20.1	7.4
-10.6	-11.1	-11.8	-16.3	-16.4	-21.3	-22.4	-23.7	-24.5	-24.8	-25.1	-16.28	-10.2	-25.1	14.9
-17.0	-20.2	-20.7	-21.2	-22.8	-23.8	-24.6	-25.3	-25.2	-25.6	-26.5	-24.11	-19.7	-29.1	9.4
-11.1	-15.8	-16.3	-16.1	-16.3	-16.3	-16.3	-17.0	-16.9	-17.5	-17.9	-20.78	-15.5	-28.9	13.4
-15.7	-21.8	-23.4	-25.1	-27.6	-29.2	-30.8	-31.9	-33.1	-34.2	-35.4	-23.83	-17.9	-35.4	17.5
-18.5	-25.3	-24.6	-24.4	-27.1	-30.0	-30.8	-30.8	-30.2	-29.2	-29.2	-32.06	-24.4	-39.0	15.5
-15.8	-18.1	-19.4	-19.0	-12.2	-13.8	-14.9	-26.9	-28.7	-29.7	-30.6	-25.28	-17.2	-31.9	14.7
-10.4	-16.3	-14.8	-15.7	-17.2	-17.2	-16.3	-16.0	-16.1	-16.7	-16.5	-20.50	-12.8	-30.6	17.8
-11.1	-11.0	-12.2	-13.1	-15.5	-17.0	-19.6	-20.1	-19.5	-19.7	-20.1	-15.67	-10.4	-20.1	9.7
-10.4	-15.3	-15.7	-15.8	-17.9	-19.6	-20.1	-22.0	-20.1	-21.7	-21.2	-20.22	-12.1	-26.8	14.7
-10.0	-14.7	-15.3	-16.2	-18.8	-20.6	-21.8	-23.1	-26.3	-27.6	-28.5	-20.00	-14.1	-28.5	14.4
-19.0	-19.6	-19.2	-19.4	-21.6	-24.4	-25.1	-25.2	-26.9	-30.8	-31.0	-25.89	-19.2	-32.3	13.1
-14.0	-21.6	-21.7	-21.4	-21.7	-26.1	-26.4	-26.5	-27.6	-27.6	-27.6	-26.83	-21.2	-33.9	12.7
-13.2	-18.9	-18.6	-19.1	-19.1	-21.8	-24.1	-25.5	-25.9	-25.9	-25.9	-25.06	-13.6	-32.1	13.5
-10.5	-18.9	-19.2	-17.3	-19.6	-21.4	-22.1	-23.5	-23.8	-22.8	-23.2	-23.17	-16.2	-29.7	13.5
-12.6	-13.6	-14.2	-13.8	-16.3	-17.9	-20.6	-20.6	-20.8	-20.6	-21.6	-19.56	-15.0	-25.3	12.3
-10.4	-9.1	-8.3	-8.1	-11.6	-13.1	-16.3	-18.3	-17.4	-18.0	-21.3	-17.44	-8.3	-25.9	17.6
-10.4	-10.3	-11.4	-11.4	-14.1	-15.1	-15.8	-16.3	-18.6	-19.6	-21.7	-16.78	-10.3	-23.3	13.0
-10.4	-11.1	-13.4	-13.7	-14.3	-15.2	-15.3	-20.7	-18.4	-18.5	-21.7	-18.68	-12.1	-27.9	15.6
-17.06	-10.1	-8.8	-9.2	-11.6	-13.2	-15.4	-15.7	-16.4	-21.0	-19.8	-17.78	-8.6	-27.4	18.8
-17.06	-17.22	-18.56	-18.06	-19.50	-20.44	-21.67	-22.39	-22.72	-23.56	-24.06	-22.06	-15.95	-28.73	12.78

38' 52"

$\lambda = -115^\circ 43' 50'' = -7h. 42m. 55s.$

April 1883.

2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
-8.4	-9.6	-9.4	-10.3	-11.4	-12.6	-13.9	-14.8	-15.9	-17.3	-16.9	-14.11	-8.4	-21.2	12.8
-10.3	-9.0	-10.0	-10.7	-11.0	-10.5	-11.3	-10.9	-10.9	-9.9	-11.4	-13.00	-8.3	-21.5	13.2
-10.5	-10.4	-11.4	-11.7	-13.0	-15.9	-17.4	-18.1	-19.6	-20.6	-20.2	-15.89	-10.2	-25.6	15.4
-11.6	-9.2	-10.1	-10.4	-12.6	-16.8	-16.7	-17.9	-18.3	-19.5	-21.2	-16.44	-9.2	-23.7	14.5
-8.1	-11.4	-12.0	-11.9	-13.1	-13.4	-13.1	-13.9	-16.1	-16.2	-16.3	-16.67	-11.1	-23.4	12.3
-6.8	-8.8	-8.9	-10.9	-11.6	-12.1	-13.0	-13.8	-14.7	-15.1	-17.9	-13.06	-6.8	-17.9	11.1
-10.5	-4.6	-4.7	-7.2	-8.2	-9.1	-9.9	-10.6	-12.0	-13.1	-14.4	-12.83	-4.2	-12.8	18.6
-9.6	-10.1	-10.2	-11.0	-12.3	-13.8	-14.7	-15.6	-16.8	-16.8	-18.8	-14.83	-9.7	-19.9	10.2
-7.3	-2.4	-3.5	-4.1	-4.6	-6.7	-9.4	-8.1	-9.4	-9.1	-9.3	-9.61	-2.1	-17.0	14.8
-5.2	-2.3	-7.3	-7.7	-8.5	-10.1	-11.9	-13.1	-13.4	-13.4	-13.4	-11.22	-7.1	-16.6	9.5
-1.1	-2.4	-2.9	-3.7	-3.9	-4.6	-5.6	-8.3	-8.1	-9.4	-12.5	-7.89	-2.1	-14.8	12.7
-1.1	-1.9	-0.9	-1.4	-2.4	-5.0	-6.9	-8.7	-8.1	-7.8	-8.9	-6.89	-0.9	-13.4	12.5
-5.9	-2.9	-3.1	-3.9	-4.5	-6.2	-8.1	-9.7	-11.0	-11.2	-13.7	-8.00	-2.9	-14.2	11.3
-0.3	-4.5	-5.3	-5.4	-7.8	-9.5	-10.8	-11.9	-12.6	-11.4	-12.2	-11.44	-4.3	-17.5	13.2
-1.2	0.1	0.8	1.4	-1.9	-2.9	-4.6	-5.7	-6.8	-11.0	-10.5	-6.59	0.1	-11.3	11.4
-1.3	1.0	0.7	0.1	-0.3	-2.0	-2.9	-4.3	-5.7	-7.2	-8.9	-7.19	1.3	-17.2	18.5
-2.3	1.3	0.9	0.7	0.2	-2.5	-3.4	-5.4	-5.0	-8.3	-8.4	-6.67	2.1	-15.6	17.7
0.1	-1.1	-1.2	-2.4	-4.1	-5.4	-7.8	-6.7	-5.6	-6.7	-8.4	-6.89	-0.9	-15.7	14.8
1.7	0.7	0.6	-0.7	-1.7	-3.7	-5.2	-6.1	-7.1	-8.7	-8.3	-5.83	0.7	-12.3	13.0
0.8	2.9	2.1	0.6	0.2	0.3	0.3	0.3	0.3	0.3	0.3	-2.06	3.0	-10.3	13.3
-1.1	4.1	1.0	0.8	0.8	1.2	0.7	0.7	0.3	0.6	0.5	0.67	1.4	-1.7	3.1
-1.1	-0.8	-0.8	-1.4	-2.4	-3.6	-3.6	-4.1	-4.5	-4.6	-4.6	-1.72	-0.7	-4.6	5.7
-2.5	-1.4	-2.2	-2.4	-2.9	-4.1	-5.0	-6.2	-7.2	-8.1	-8.1	-5.28	-1.1	-3.2	6.9
3.4	-1.6	-1.1	-1.1	0.8	-0.1	-0.2	-0.6	-0.8	-0.8	-1.1	-1.83	2.9	-8.3	11.2
1.6	2.4	2.7	3.6	1.6	0.4	-0.2	-0.3	-2.2	-0.9	-0.9	0.17	4.4	-4.8	9.2
5.1	5.7	7.4	6.4	6.3	3.6	1.0	1.0	-1.1	-1.1	-1.1	2.06	7.4	-3.9	11.3
4.4	4.3	3.3	2.1	1.6	0.3	-0.7	-0.3	-0.3	0.2	0.1	0.94	4.7	-3.4	8.1
3.4	3.4	2.9	2.2	2.4	2.4	2.1	1.3	0.1	0.9	1.4	1.44	3.6	-0.8	4.3
3.1	3.3	3.1	2.4	1.1	0.5	1.0	1.7	2.1	2.1	2.8	0.67	3.5	-2.8	6.3
0.2	-0.1	-0.1	-0.2	-0.8	-2.1	-4.2	-5.3	-5.1	-6.1	-6.3	-3.06	0.5	-6.1	6.8
-2.72	-2.39	-2.61	-3.28	-4.17	-5.50	-6.56	-7.28	-7.94	-8.56	-9.11	-7.06	-1.78	-13.06	11.28

Air Temperature.

May 1883.

Height of the Thermometers

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	-5.4	-5.0	-5.7	-6.1	-5.9	-4.6	-4.5	-2.8	-0.4	-0.2	-0.9	2.3	4.0	3.6
2	-1.3	-0.3	0.7	0.4	2.0	-4.4	-3.6	-3.5	-2.9	-2.4	-0.9	-1.2	-1.3	-0.8
3	-10.3	-11.0	-12.9	-13.6	-13.1	-12.0	-12.4	-11.6	-10.6	-10.3	-9.4	-9.8	-8.8	-8.7
4	-16.8	-17.4	-17.5	-17.4	-15.8	-14.8	-13.9	-12.9	-12.0	-11.2	-9.9	-8.7	-8.5	-8.4
5	-13.2	-12.8	-12.8	-13.4	-11.7	-10.2	-8.8	-7.3	-4.3	-3.7	-1.1	0.3	0.9	1.1
6	-6.4	-6.8	-8.1	-9.9	-9.7	-7.2	-6.7	-5.6	-4.6	-3.4	-1.4	-1.1	-0.8	0.1
7	-10.4	-11.1	-11.6	-11.4	-10.4	-8.9	-7.9	-6.3	-5.0	-3.5	-2.6	-2.1	-1.0	-1.2
8	-8.2	-8.8	-8.9	-8.7	-8.3	-7.3	-6.2	-5.1	-4.1	-2.6	-1.5	-0.7	-0.3	1.1
9	-7.2	-7.9	-8.8	-8.8	-7.8	-6.2	-4.6	-3.6	-2.9	-2.7	-1.2	-0.3	0.3	0.8
10	-0.3	-0.6	-1.1	-1.1	-1.1	-0.8	0.6	0.9	2.3	3.7	4.5	4.7	5.2	5.1
11	-2.2	-2.3	-3.6	-2.4	-0.9	0.4	1.3	1.9	2.9	3.6	4.3	4.7	5.2	5.6
12	-4.5	-2.9	-2.4	-1.1	-1.1	1.2	2.4	3.6	4.1	5.1	5.2	6.2	6.7	5.3
13	-2.4	1.2	0.2	-0.8	-0.4	0.6	1.9	2.8	3.7	4.9	5.3	7.4	6.8	6.1
14	-0.2	-1.3	-2.2	-1.6	1.1	2.9	3.6	4.0	4.6	5.7	7.4	7.9	8.3	6.9
15	0.3	-1.3	-0.4	-0.9	-0.5	0.7	1.4	2.9	3.1	5.1	4.1	4.9	7.5	8.0
16	-0.1	-0.4	0.3	0.8	0.9	2.4	3.9	5.7	6.7	6.9	7.9	9.1	11.0	9.1
17	6.5	4.7	2.7	1.3	3.1	4.6	6.8	7.9	8.4	8.7	7.9	10.1	12.1	11.8
18	4.7	3.8	1.9	2.8	4.7	4.2	5.1	4.7	4.3	4.6	4.6	7.4	6.3	5.7
19	2.5	2.0	1.8	1.9	1.8	1.6	2.4	3.6	4.2	5.9	8.6	13.1	14.6	11.9
20	6.8	6.1	6.8	6.4	6.4	8.9	10.1	11.4	12.3	14.9	12.1	13.1	12.8	11.2
21	3.8	4.6	5.2	1.9	5.8	8.8	8.1	12.4	11.8	14.7	16.8	15.1	16.3	12.4
22	4.9	2.4	2.4	1.9	3.5	4.1	3.8	4.6	6.1	6.0	6.0	7.5	6.8	4.1
23	1.1	-0.3	-0.4	-1.1	0.8	1.6	2.9	3.6	6.7	7.7	9.1	10.9	11.9	12.4
24	1.9	0.7	0.2	-1.1	1.3	4.6	5.7	6.8	8.4	9.7	11.2	12.4	11.9	12.8
25	2.1	1.9	1.9	1.9	1.9	1.9	3.0	1.1	2.7	3.8	4.1	7.6	8.0	5.8
26	2.4	2.1	2.5	2.8	5.1	5.8	6.1	7.4	8.6	9.6	10.7	12.1	12.9	13.1
27	1.1	1.5	1.8	3.2	3.6	4.4	5.8	7.6	12.3	12.3	12.3	11.3	12.1	14.1
28	6.8	4.3	3.0	2.7	3.6	4.6	6.2	6.4	6.9	8.6	10.2	10.7	10.7	11.9
29	2.4	1.3	1.1	2.1	4.8	7.3	9.0	12.8	13.1	14.6	16.4	17.1	18.1	18.5
30	4.6	5.2	6.3	6.9	6.2	5.7	7.3	4.9	4.2	1.8	1.6	1.9	1.8	1.8
31	-0.3	-0.8	-0.3	-0.3	0.3	1.3	1.7	3.0	4.3	5.7	6.3	4.7	4.3	4.3
Mean	-1.11	-1.56	-1.89	-2.11	-1.06	-0.06	1.00	2.00	3.00	3.94	4.81	5.81	6.28	6.44

June 1883.

± = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	-1.9	-1.9	-2.0	-1.9	-1.3	-0.1	1.3	3.3	3.8	5.1	5.7	7.4	9.6	11.8
2	6.6	5.2	5.9	4.4	6.8	-1.2	10.7	11.7	13.5	14.1	12.8	15.9	11.9	14.6
3	8.4	8.0	6.7	6.7	7.4	11.2	11.9	14.2	13.9	15.8	14.7	18.9	16.1	17.1
4	7.5	2.9	3.9	5.7	6.2	6.6	8.0	12.6	11.5	12.4	13.9	12.1	14.1	19.4
5	3.8	5.8	3.6	3.6	5.2	5.4	6.1	4.0	4.5	9.3	8.4	9.7	9.6	9.4
6	4.7	4.1	3.6	3.9	3.5	3.5	3.7	5.6	6.2	7.4	7.1	7.4	7.6	7.1
7	5.8	5.7	5.6	5.7	5.7	5.8	5.5	7.2	7.8	7.7	8.3	9.0	8.6	8.6
8	1.9	2.4	2.5	3.1	3.6	4.1	4.7	4.6	4.9	4.8	6.9	6.8	6.9	6.5
9	4.6	4.7	4.5	5.5	7.1	8.0	9.3	11.8	11.7	16.5	17.4	18.3	19.4	19.5
10	7.3	6.8	6.4	7.9	11.0	11.1	10.1	14.3	14.1	14.0	16.0	16.1	16.1	16.1
11	6.1	5.6	4.1	4.2	5.2	6.1	7.1	7.9	9.2	10.2	11.8	12.8	13.6	14.1
12	5.7	4.1	3.5	4.1	5.5	6.8	7.5	8.9	9.4	11.3	11.1	11.5	11.8	12.2
13	5.2	4.6	4.5	5.1	6.2	8.2	7.9	8.9	12.0	11.1	12.9	14.5	11.5	11.2
14	7.9	6.8	6.1	5.9	6.2	6.3	7.4	7.9	8.9	10.7	11.2	11.2	10.7	10.8
15	7.9	6.8	7.0	8.4	8.4	10.4	11.6	11.3	11.8	12.9	13.0	12.6	14.1	15.0
16	8.4	8.3	8.2	8.0	7.9	8.6	9.4	10.6	11.9	12.9	12.9	13.5	13.7	13.6
17	8.5	8.0	7.4	7.9	9.1	9.6	10.8	11.7	8.5	8.0	7.9	10.1	11.3	12.5
18	4.0	4.2	6.9	7.9	7.9	7.7	3.8	6.1	6.5	3.2	9.9	10.7	11.9	13.2
19	4.0	6.8	6.6	6.8	8.2	9.9	11.1	11.8	12.4	12.8	13.5	13.5	14.1	14.6
20	5.6	5.9	6.1	6.2	6.9	7.7	9.0	9.5	9.0	9.5	9.6	9.6	9.6	9.3
21	8.2	8.2	8.4	8.2	8.2	7.9	7.9	8.7	9.4	10.1	11.0	11.2	10.7	11.1
22	12.3	11.9	11.6	11.1	10.7	10.9	11.5	11.9	11.8	13.7	15.3	16.5	17.0	17.5
23	11.3	10.4	9.2	9.9	10.7	10.7	11.8	13.2	14.0	14.0	14.1	15.4	13.6	15.7
24	11.3	11.9	11.8	12.3	12.3	13.4	14.4	15.5	15.3	16.8	16.3	16.4	16.2	16.9
25	15.2	14.6	14.4	12.7	12.7	13.2	14.3	14.6	16.1	16.3	17.1	18.5	18.5	18.0
26	13.6	12.9	11.6	14.6	16.0	19.1	19.6	21.7	21.8	22.0	23.5	22.4	23.8	22.9
27	12.8	12.3	11.7	11.2	10.6	10.1	9.4	9.1	9.0	8.6	9.6	10.9	11.4	11.3
28	6.8	5.7	5.2	6.4	8.2	9.6	10.6	11.6	12.3	12.5	13.2	14.1	14.7	14.9
29	9.4	10.1	10.2	11.0	11.7	11.2	11.8	11.8	11.2	11.3	11.3	10.8	10.8	11.2
30	8.5	8.4	8.7	10.1	11.8	12.7	12.6	13.2	14.2	15.5	16.3	16.9	17.8	19.1
Mean	7.50	7.17	6.89	7.28	8.00	8.28	9.50	10.61	11.11	11.78	12.44	13.17	13.22	13.94

Thermometers

above the ground 1.78 m.

May 1883.

	2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
1.0	1.6	3.0	1.9	2.5	1.8	0.8	0.1	-0.1	-0.9	-1.3	-1.4	-1.00	4.0	-6.5	10.5
1.1	0.8	1.2	-2.2	-2.8	-5.6	-6.7	-7.7	-8.1	-8.3	-10.0	-10.0	-3.56	0.7	-10.0	10.7
1.2	8.7	8.4	-9.5	-9.5	-9.9	-10.6	-11.8	-13.3	-14.3	-15.6	-16.3	-11.50	-8.3	-16.3	8.0
1.3	8.4	8.3	-7.3	-8.4	-8.4	-9.4	-11.3	-12.0	-12.7	-13.2	-12.7	-12.06	-7.3	-17.9	10.6
1.4	8.1	1.4	1.1	0.2	-1.4	-1.4	-2.6	-3.6	-3.9	-4.4	-6.2	-4.72	1.7	-13.8	15.5
1.5	0.2	0.3	-0.8	-1.3	-2.4	-4.0	-6.6	-8.2	-9.0	-9.9	-9.8	-5.11	0.2	-10.1	10.3
1.6	1.2	1.2	-1.9	-1.4	-3.0	-4.0	-3.9	-4.6	-5.7	-6.7	-6.7	-5.28	-0.6	-11.6	11.0
1.7	1.1	0.9	1.3	0.3	0.0	-1.4	-3.7	-4.6	-5.1	-6.1	-6.1	-3.92	1.9	-9.6	11.5
1.8	0.8	0.4	0.8	1.1	1.2	1.0	0.6	0.4	0.3	0.3	0.3	-2.22	2.4	-9.1	11.5
1.9	5.3	5.1	5.3	4.5	3.1	2.4	0.1	0.3	0.1	-1.4	1.94	5.8	-4.1	9.9	9.9
2.0	5.6	5.4	5.1	5.2	3.8	2.9	2.1	0.3	-0.7	-2.8	-4.0	1.50	-1.1	-4.0	11.3
2.1	5.1	6.4	5.5	5.8	5.2	4.2	3.1	1.7	1.6	1.6	0.8	2.78	7.6	-4.5	12.1
2.2	6.1	8.7	7.9	7.3	6.8	5.2	3.1	3.1	3.1	-0.8	4.00	10.1	-0.9	11.0	11.0
2.3	6.9	6.8	6.9	7.9	7.3	5.7	4.1	3.4	4.8	0.8	0.3	3.83	9.0	-2.2	11.2
2.4	8.0	7.4	6.8	6.9	5.9	4.6	4.4	3.1	0.9	1.1	0.2	3.22	8.7	-1.1	9.4
2.5	9.1	9.3	9.1	9.0	9.0	9.6	7.5	5.9	7.4	7.4	-7.2	6.17	11.7	-0.2	11.9
2.6	11.8	7.5	8.0	10.1	14.2	10.2	7.4	6.3	6.2	4.2	4.2	4.2	12.9	4.3	11.6
2.7	5.7	4.6	6.3	6.7	5.1	5.8	5.7	5.7	5.7	4.2	2.8	4.89	8.2	1.1	7.1
2.8	13.0	11.8	8.4	8.1	6.9	7.7	7.7	4.7	7.9	6.8	7.9	6.00	15.5	1.6	13.9
2.9	13.5	14.6	18.1	13.5	14.1	12.5	11.2	9.6	7.9	6.7	6.1	10.72	18.4	3.3	15.1
3.0	17.4	12.1	10.7	9.8	10.7	9.1	7.9	6.6	4.1	3.7	4.9	9.17	17.7	1.9	15.2
3.1	4.1	4.1	3.2	2.4	2.1	2.2	1.8	1.8	1.4	1.1	0.8	3.56	9.6	0.8	8.8
3.2	12.3	12.3	12.3	12.7	9.8	10.1	9.6	6.8	2.9	3.6	2.7	6.11	12.8	-0.8	13.6
3.3	13.8	14.3	13.2	13.4	13.5	13.1	9.7	6.9	5.4	4.1	2.4	7.67	14.4	-1.1	15.5
3.4	8.1	9.1	7.3	8.4	7.9	8.1	8.7	5.7	4.7	3.6	3.4	5.00	9.4	1.8	7.6
3.5	13.5	13.9	13.0	12.1	12.8	12.0	10.1	8.1	2.0	1.0	1.2	7.83	13.7	1.0	12.7
3.6	14.1	11.7	13.1	13.1	11.6	10.6	9.0	7.9	7.7	7.0	7.8	8.11	14.5	0.3	14.2
3.7	11.9	12.3	13.5	13.1	11.8	11.1	9.5	6.8	4.6	4.2	2.0	7.88	13.8	2.0	11.8
3.8	15.5	15.8	16.9	17.4	13.6	11.8	11.8	11.7	8.4	8.4	6.3	10.89	18.5	1.2	17.3
3.9	1.8	1.9	1.9	1.8	1.4	1.2	0.8	0.6	0.8	-1.1	-0.3	2.94	7.3	-0.3	7.6
4.0	4.1	5.7	4.3	3.8	2.4	2.2	0.3	-0.7	-0.1	-0.3	-1.2	1.89	6.5	-1.2	7.7
4.1	6.44	6.00	5.39	5.50	4.83	4.22	3.06	1.72	0.94	0.17	-0.44	2.39	-0.99	-3.52	11.51

2° 35' 52".

 $\lambda = -115^{\circ} 43' 50'' = 7h. 43m. 55s.$

June 1883.

	2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
1.0	12.3	15.0	14.7	14.1	12.4	11.8	10.8	11.4	7.9	7.5	6.67	16.8	-2.3	19.1	
1.1	14.6	16.8	15.4	16.8	18.1	18.5	15.7	12.9	9.9	10.2	12.39	19.8	3.7	16.1	
1.2	17.1	16.3	19.1	16.2	14.0	8.4	5.8	3.3	4.2	11.61	19.6	3.8	15.8		
1.3	19.4	16.3	15.7	16.8	14.6	14.0	11.4	9.5	6.8	5.2	10.79	19.4	2.4	17.0	
1.4	9.4	9.0	10.2	11.9	11.8	7.4	7.7	7.4	6.7	6.4	5.8	7.39	12.4	3.3	9.1
1.5	7.1	7.6	8.1	7.9	8.2	7.9	7.4	7.1	6.7	6.3	6.1	6.22	8.5	7.0	5.5
1.6	3.6	8.1	8.6	-1.1	5.9	5.1	5.1	4.6	5.4	4.1	2.6	6.24	9.4	2.6	6.8
1.7	6.8	6.8	6.8	6.9	6.1	5.9	6.8	7.4	4.6	4.7	3.6	5.17	7.4	1.9	5.5
1.8	19.5	17.4	18.8	16.1	16.7	16.6	12.1	9.6	9.5	9.6	7.9	12.33	19.8	3.6	16.2
1.9	16.1	15.7	15.4	14.9	14.6	13.5	12.7	9.6	7.9	6.8	12.06	16.7	6.1	10.6	
2.0	14.1	15.2	15.2	15.3	15.2	14.2	13.1	11.4	9.4	8.0	10.11	15.8	7.0	11.9	
2.1	12.1	12.7	13.5	13.3	13.5	11.5	10.1	8.9	7.9	7.4	6.8	9.11	13.7	3.1	10.4
2.2	11.2	12.1	12.7	10.9	9.7	9.6	9.6	9.5	8.6	7.9	9.28	15.4	4.5	10.6	
2.3	10.8	12.3	13.1	11.8	11.4	11.2	10.4	9.4	8.6	8.4	8.6	9.11	13.3	5.9	7.4
2.4	13.7	15.2	15.6	14.5	14.1	13.7	11.4	11.1	10.5	9.6	11.78	15.0	7.1	8.4	
2.5	13.6	13.5	14.2	11.3	12.3	14.1	13.5	11.7	13.2	9.3	9.7	11.22	14.5	-2.8	6.7
2.6	13.7	11.7	12.8	14.1	12.5	13.5	13.0	11.2	9.6	8.9	7.9	10.28	11.4	7.4	7.0
2.7	13.3	13.9	14.6	14.1	13.7	13.6	12.6	10.8	9.4	8.4	7.9	9.39	14.8	5.9	8.9
2.8	14.6	14.7	14.4	14.3	12.9	12.3	11.3	9.7	8.2	7.4	6.6	10.79	14.8	6.2	8.6
2.9	9.3	8.9	8.4	6.9	7.1	7.5	7.5	7.7	7.6	7.9	7.94	10.4	5.6	4.8	
3.0	11.3	15.6	16.4	14.8	12.9	12.6	11.4	12.6	12.5	13.4	12.9	11.06	16.7	7.9	8.8
3.1	15.5	16.2	15.2	13.6	14.6	13.5	13.4	12.8	12.7	11.3	13.39	17.9	8.7	9.2	
3.2	16.9	18.1	17.8	17.1	16.2	14.6	13.9	13.8	12.1	12.1	11.8	13.74	20.4	9.2	11.2
3.3	18.0	15.5	15.4	15.7	14.7	14.2	14.6	13.8	14.5	15.2	14.52	14.56	17.5	11.3	6.2
3.4	23.7	23.5	20.1	18.6	18.4	18.4	16.8	14.6	14.7	14.1	13.9	15.91	22.7	12.1	10.0
3.5	23.9	23.7	22.0	20.2	19.1	17.5	16.6	16.5	14.1	13.9	12.9	18.44	24.7	12.8	11.9
3.6	14.8	12.8	13.2	14.1	14.2	14.0	13.9	11.1	9.6	8.1	7.4	11.11	14.6	7.4	7.2
3.7	14.3	14.8	14.7	14.6	14.0	13.0	11.9	11.2	9.0	9.6	8.9	11.17	15.2	5.2	10.0
3.8	14.9	10.7	10.2	10.7	10.7	11.1	10.5	10.0	9.6	9.1	8.5	10.61	11.5	8.5	3.1
3.9	19.1	18.7	18.9	19.1	18.8	17.6	17.3	17.1	16.3	15.1	14.4	14.94	19.4	8.4	11.0
4.0	13.94	14.11	14.33	13.89	13.44	12.78	12.00	10.83	9.89	9.22	8.56	10.83	13.76	5.92	9.84

Air Temperature.

July 1883.

Height of the Thermometers

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	14.1	12.3	12.3	13.1	14.6	15.7	16.1	18.2	18.6	19.2	19.6	19.6	20.2	20.8
2	13.8	13.8	13.1	14.2	15.6	16.8	19.6	21.3	21.8	21.6	21.8	21.0	21.8	20.6
3	15.7	15.3	15.4	15.2	15.2	16.1	17.2	18.7	20.0	20.2	20.6	20.7	19.7	15.6
4	10.1	9.7	9.1	9.1	9.7	10.4	9.7	10.9	11.2	12.3	13.0	14.1	14.6	15.0
5	10.5	10.1	10.1	10.8	10.7	11.2	11.4	11.7	12.4	11.7	14.1	14.1	14.1	14.6
6	11.7	10.6	11.2	11.3	12.3	14.1	15.1	16.7	18.8	20.1	21.6	20.7	21.3	20.5
7	15.2	14.1	13.8	14.6	15.8	17.0	17.4	19.6	20.0	20.8	21.2	21.7	22.3	22.8
8	14.1	13.3	13.1	14.6	15.2	16.3	16.8	17.6	18.6	20.7	20.7	21.8	21.8	21.3
9	16.3	15.1	15.7	16.7	16.9	16.8	17.4	18.9	21.1	21.1	22.6	21.6	24.1	24.1
10	15.1	14.1	14.1	14.1	14.1	14.4	15.3	16.1	16.2	16.4	16.4	16.7	17.5	16.9
11	10.7	9.3	9.6	9.1	9.0	9.4	9.6	9.6	10.0	10.1	10.1	10.7	10.6	10.8
12	10.6	9.6	8.9	9.0	10.7	13.3	14.1	15.6	17.3	18.1	19.4	19.7	20.0	20.4
13	11.8	11.3	11.1	11.6	13.9	14.1	16.1	17.7	18.0	18.1	18.9	17.9	22.7	19.9
14	11.8	12.0	11.6	11.9	12.4	14.6	14.2	15.7	16.2	17.0	18.0	17.9	19.6	19.6
15	11.8	10.7	10.4	11.2	14.6	16.0	15.2	16.3	16.4	18.6	18.5	19.1	19.6	20.1
16	11.8	11.3	10.8	11.5	14.2	15.3	16.3	17.1	18.6	19.6	19.6	19.6	19.7	20.4
17	12.8	12.8	12.9	13.6	14.3	15.1	16.2	17.4	17.4	17.9	19.0	19.4	19.1	19.6
18	11.9	14.1	14.5	12.3	14.0	15.9	16.9	17.4	17.5	18.9	18.5	18.9	20.0	20.1
19	17.4	14.6	13.5	14.1	15.8	15.9	17.1	18.8	17.8	18.6	18.8	20.3	23.4	22.7
20	14.9	14.6	14.5	14.6	16.2	16.8	17.9	18.1	19.6	19.5	19.7	22.0	22.1	22.5
21	16.4	15.7	15.9	15.7	16.3	16.4	18.1	20.2	21.1	21.3	21.8	21.1	22.2	21.8
22	15.7	16.0	15.4	14.3	15.1	15.7	16.1	15.8	17.2	17.9	18.1	18.1	19.2	19.7
23	14.7	14.6	14.1	14.0	13.8	13.6	15.2	16.9	18.0	18.6	20.7	18.1	21.5	22.3
24	12.1	10.9	11.8	11.7	11.8	12.3	13.9	13.6	14.2	15.2	14.9	15.3	15.2	17.6
25	12.2	11.8	11.8	12.2	12.3	11.3	10.3	10.1	10.7	11.1	11.5	11.5	11.1	11.8
26	10.7	10.7	10.1	10.1	11.3	12.9	13.9	13.5	14.1	14.8	16.5	16.5	17.4	17.4
27	10.3	10.6	10.3	11.2	10.2	10.8	11.2	12.2	13.1	13.1	13.5	13.8	14.7	13.9
28	10.3	9.7	9.6	8.9	9.6	10.9	11.9	12.9	13.1	13.2	13.2	13.6	17.9	15.4
29	11.1	10.2	10.2	10.4	12.3	13.9	15.3	17.3	17.8	18.5	19.6	20.7	21.1	21.6
30	15.2	14.9	15.1	15.1	15.3	16.3	16.9	17.3	18.1	19.1	19.6	20.5	21.1	21.4
31	16.8	16.1	16.4	16.1	15.7	15.6	15.7	16.6	15.7	15.2	16.3	16.4	18.8	19.1
Mean -	13.17	12.61	12.44	12.87	13.50	14.33	15.06	16.11	16.83	17.50	18.11	18.56	19.06	19.11

August 1883.

± + 62° 35' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	15.1	15.2	14.5	14.9	14.9	15.3	16.1	16.8	17.4	18.1	18.7	19.6	20.4	20.4
2	17.7	17.2	16.8	16.1	15.8	15.2	15.1	15.8	15.4	17.4	17.7	18.5	19.1	20.2
3	16.8	17.6	17.3	16.7	16.9	16.7	17.1	17.4	19.2	20.4	24.2	24.8	24.4	21.8
4	13.5	13.5	13.6	13.1	13.4	14.1	14.6	14.8	15.2	15.8	16.0	18.1	19.6	20.9
5	13.1	13.5	11.3	10.7	11.9	13.4	14.5	13.6	17.4	18.4	19.1	20.7	21.1	21.3
6	16.2	15.8	15.4	15.2	15.2	14.7	15.4	17.1	17.9	16.7	17.5	18.5	18.2	18.1
7	14.6	14.7	14.8	14.3	13.5	14.6	13.6	12.9	12.8	13.1	13.5	14.6	15.2	16.7
8	10.9	11.2	11.2	11.7	11.8	11.3	11.7	11.8	12.9	14.2	14.4	15.7	13.6	15.1
9	11.1	11.4	11.3	11.2	12.1	12.1	13.6	14.0	15.7	17.6	17.4	16.7	16.8	17.2
10	12.1	12.1	12.1	12.3	12.4	13.6	13.2	16.3	16.9	16.9	17.1	17.4	18.4	16.3
11	15.1	15.1	14.7	14.6	14.7	15.2	15.8	16.3	16.8	17.5	18.6	18.5	18.7	19.1
12	13.7	15.7	15.2	15.2	15.0	14.9	16.8	17.0	16.3	16.9	17.4	18.5	19.4	19.4
13	16.7	15.8	16.1	15.8	15.7	15.7	15.3	15.4	16.1	15.8	16.2	16.2	17.2	19.2
14	15.2	14.6	14.1	13.7	13.8	14.1	14.7	15.4	15.1	15.1	14.8	14.4	13.1	13.6
15	12.1	11.3	11.7	11.8	11.8	12.3	13.1	14.1	15.1	15.4	16.4	16.4	17.3	17.4
16	9.9	7.9	8.1	8.2	8.6	9.0	10.2	11.2	11.8	12.5	13.9	12.6	12.6	13.4
17	10.7	10.7	10.7	10.7	10.7	11.1	11.3	12.1	13.1	14.2	15.1	16.3	16.6	17.0
18	10.2	9.9	9.6	9.3	10.1	11.5	12.1	14.6	16.1	17.6	17.5	17.4	17.6	17.7
19	12.7	12.4	11.8	11.5	11.5	12.2	11.8	12.4	12.9	12.4	13.3	12.8	12.8	11.9
20	9.9	7.9	8.6	8.4	8.4	7.5	7.9	8.2	8.8	9.8	9.4	10.5	11.0	10.9
21	8.2	8.1	8.1	8.2	8.6	8.4	6.7	8.7	9.8	10.4	11.3	12.3	12.3	12.6
22	8.8	7.7	7.9	7.7	7.9	8.5	8.7	9.7	11.7	13.4	14.3	15.1	15.9	16.9
23	8.2	8.4	7.8	6.9	7.4	9.1	9.6	11.6	12.9	14.5	15.4	16.0	16.1	16.9
24	7.9	6.8	6.2	5.7	6.4	7.4	7.8	9.6	11.1	12.6	13.5	12.7	14.2	14.2
25	11.2	11.2	10.3	9.6	8.9	10.2	10.7	12.8	13.4	15.2	16.1	14.7	16.2	15.3
26	8.6	8.1	6.9	5.9	6.8	8.4	9.7	10.6	11.2	12.4	12.3	12.7	14.6	14.6
27	9.6	8.9	8.2	8.0	7.9	8.6	9.8	11.6	13.4	14.7	16.1	15.7	16.2	14.8
28	9.1	9.4	8.7	9.8	8.1	10.1	11.8	12.4	14.0	16.2	16.8	17.5	17.9	17.4
29	9.9	6.3	5.2	4.7	5.0	6.7	8.3	10.2	10.7	11.0	12.9	14.1	13.5	15.1
30	11.9	7.0	7.4	6.8	5.9	6.2	6.8	7.9	9.0	10.1	10.1	10.5	10.7	9.3
31	7.0	6.8	5.4	4.8	4.7	5.3	6.8	8.4	10.1	11.8	11.8	11.8	11.6	14.1
Mean -	11.50	11.28	10.83	10.66	10.61	11.28	12.06	12.94	13.89	14.78	15.56	15.94	16.28	16.50

anometers

above the ground 178 m.

July 1883.

	2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
1	20.8	21.7	21.9	21.0	21.8	21.3	19.1	17.4	15.7	15.1	14.0	17.67	22.8	12.3	10.5
2	20.6	21.7	22.1	22.6	21.4	20.1	17.4	16.8	16.3	15.9	15.9	18.67	23.5	13.1	10.4
3	15.6	17.5	17.4	17.8	17.4	17.4	16.8	15.8	15.2	14.1	14.2	16.94	21.2	11.2	10.0
4	15.0	15.4	15.8	15.9	15.4	15.1	14.1	12.0	10.2	9.7	10.7	12.22	16.6	8.9	7.7
5	14.6	15.1	15.3	15.7	14.7	14.0	14.1	11.8	11.3	12.9	11.8	12.04	15.7	9.7	6.0
6	10.5	22.5	22.8	22.6	20.7	16.1	15.6	15.7	15.4	16.0	15.4	17.09	24.7	10.6	14.1
7	22.8	23.0	23.4	23.3	21.4	22.4	20.1	18.5	17.3	15.6	15.6	19.00	23.9	13.6	10.3
8	21.3	22.7	22.8	20.1	20.7	19.4	18.5	17.7	16.8	16.0	15.9	18.17	23.2	12.7	10.5
9	14.1	24.0	23.3	22.8	22.6	11.1	20.7	19.0	18.5	17.4	15.7	19.72	24.6	15.1	9.5
10	16.9	16.4	16.3	16.3	15.7	15.8	15.8	14.9	14.6	13.5	14.1	15.31	17.8	11.3	6.5
11	10.3	11.7	12.1	12.1	12.3	12.3	12.2	11.8	11.7	11.2	11.2	10.78	12.3	8.9	3.4
12	20.4	20.7	20.7	20.4	19.8	19.6	19.1	16.7	14.8	14.3	12.9	16.06	21.2	8.7	12.5
13	19.0	19.8	20.2	20.6	19.2	18.6	16.7	15.1	14.2	13.6	12.8	16.00	21.2	11.0	10.2
14	19.6	19.1	18.8	18.9	20.0	19.3	17.1	15.4	13.9	13.6	13.0	15.94	20.4	11.6	8.8
15	20.1	20.1	20.0	19.7	19.3	18.6	17.7	16.3	14.9	13.1	12.9	16.33	20.6	10.3	10.3
16	19.7	20.1	19.6	19.6	19.2	18.3	17.4	16.8	15.4	13.7	13.6	16.67	21.1	10.2	10.9
17	19.3	19.7	19.2	18.6	18.0	17.4	16.8	15.8	15.6	15.2	13.8	16.36	19.7	12.7	7.0
18	20.3	21.2	20.8	20.6	19.9	19.1	18.7	17.3	17.0	16.8	15.3	17.44	21.3	11.9	9.4
19	17.4	22.5	21.8	21.1	19.6	19.1	18.5	18.0	18.0	17.5	16.3	18.39	23.9	13.3	10.6
20	22.3	21.1	21.3	21.3	20.1	20.0	18.6	17.9	17.3	16.8	16.7	18.50	22.8	14.3	8.5
21	21.8	20.7	20.7	20.6	19.4	19.9	19.1	18.3	17.4	16.4	16.4	19.00	23.3	15.4	7.9
22	19.7	11.4	20.7	20.6	19.4	19.1	18.7	17.0	16.6	14.8	14.2	17.22	21.8	11.8	10.2
23	22.5	20.2	16.8	17.9	16.8	15.8	15.6	14.9	14.5	14.1	13.3	16.61	21.6	13.3	9.3
24	17.6	16.3	17.4	16.7	13.3	14.1	13.5	12.1	11.4	12.1	12.4	13.72	17.8	10.9	6.9
25	11.8	11.6	13.1	13.4	14.1	14.1	13.6	12.9	12.7	12.3	12.4	12.22	14.3	9.9	4.4
26	11.4	16.8	16.3	17.8	16.2	14.6	12.9	11.8	11.7	10.7	10.4	13.61	19.2	10.4	9.1
27	12.9	20.8	11.6	11.8	11.8	11.6	11.0	10.6	10.3	10.8	10.7	11.89	17.2	10.1	7.1
28	15.4	18.5	18.6	18.5	17.4	16.3	14.6	13.4	12.7	12.4	12.7	14.28	19.5	8.8	10.7
29	21.6	11.9	21.3	20.7	19.7	18.6	17.4	16.3	15.3	15.2	15.3	16.72	22.4	10.2	12.2
30	21.4	11.1	20.7	20.6	19.7	19.1	18.5	16.9	16.5	17.3	16.9	18.06	21.9	14.8	7.1
31	19.1	19.7	19.6	19.1	18.5	17.9	17.4	16.8	17.2	16.3	15.8	17.06	19.9	15.2	4.7
July 31	19.11	19.22	19.11	19.00	18.33	17.67	16.72	15.67	14.89	14.31	13.78	16.17	20.59	11.75	8.84

62° 38' 52".

 $\lambda = -115^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

August 1883.

1	2	3	4	5	6	7	8	9	10	11	12	Means.	Maximum.	Minimum.	Difference.
1	20.4	20.7	20.8	20.1	19.1	18.6	18.4	18.6	18.6	18.8	18.6	17.75	20.9	14.8	6.1
2	20.2	21.1	20.3	18.1	18.1	18.5	19.6	18.1	17.9	17.7	17.2	17.72	21.5	15.0	6.5
3	21.8	21.6	21.7	21.1	21.9	20.1	20.1	18.1	18.9	16.4	15.8	19.89	25.6	15.2	10.4
4	20.9	20.5	20.4	20.7	20.6	19.8	18.9	18.9	18.7	14.6	14.1	16.61	21.3	13.1	8.2
5	21.3	21.7	18.1	22.8	19.1	18.5	18.4	16.5	16.7	14.1	14.1	12.00	23.2	10.7	12.5
6	18.1	17.4	18.5	18.8	17.9	18.1	16.9	15.1	14.1	12.7	16.50	18.99	14.1	4.8	9.3
7	15.6	17.5	17.4	17.4	16.8	15.1	13.5	12.7	9.8	9.6	10.1	11.92	17.8	9.5	8.3
8	17.2	17.5	18.4	17.1	15.7	13.9	13.0	13.9	12.3	11.6	11.4	13.36	18.5	10.9	7.6
9	17.2	18.5	17.0	16.7	15.8	15.4	15.1	14.3	13.7	13.9	12.3	14.50	18.9	11.0	7.9
10	18.4	16.4	17.3	16.8	17.2	16.3	15.7	15.2	15.1	15.3	15.4	15.44	18.9	12.2	6.7
11	19.1	19.1	19.2	18.9	18.1	16.8	15.9	15.6	15.1	15.8	15.7	16.72	19.6	14.0	5.6
12	19.4	20.7	20.7	20.2	19.6	18.5	17.7	16.8	16.1	16.8	16.8	17.44	21.2	14.9	6.3
13	19.2	19.6	19.8	18.8	19.6	19.7	18.8	18.8	16.2	15.7	15.7	17.22	22.1	15.3	7.0
14	13.1	13.5	13.8	14.2	13.3	14.1	15.8	13.5	13.2	13.9	12.4	14.00	15.4	12.4	3.0
15	17.1	17.3	17.7	16.8	15.7	13.9	11.8	10.2	9.1	9.0	8.1	13.61	17.7	8.1	9.6
16	12.6	13.2	13.2	12.8	12.1	10.7	10.6	10.7	10.4	10.6	10.7	10.89	14.1	7.8	6.3
17	16.6	16.1	16.1	16.1	16.0	14.9	14.2	12.9	11.7	11.2	10.3	13.39	17.5	10.2	7.1
18	17.6	17.5	17.4	16.1	15.8	16.3	16.2	15.8	15.5	14.7	13.5	14.67	18.6	9.1	9.5
19	12.8	11.8	11.7	11.6	10.7	10.0	9.6	9.3	8.9	7.9	8.1	11.28	13.8	7.9	5.9
20	11.0	10.1	10.6	10.2	9.0	8.0	6.8	6.5	6.1	5.8	5.1	8.33	11.3	5.1	6.2
21	12.1	12.7	13.7	12.3	11.7	11.1	10.2	9.6	7.9	7.4	7.4	8.39	13.1	3.3	9.8
22	15.7	16.9	16.9	16.7	15.1	13.9	12.1	10.7	10.4	9.0	8.2	11.88	18.8	7.2	10.6
23	16.1	16.7	16.0	15.7	14.5	12.9	11.2	10.3	10.1	9.3	7.9	11.89	17.3	6.9	10.4
24	14.3	11.9	11.0	11.4	12.2	11.8	12.0	11.8	11.3	11.2	11.3	13.61	14.3	5.6	8.9
25	16.2	16.8	16.3	15.8	16.8	13.8	13.6	13.4	11.3	10.4	9.5	13.00	17.5	8.8	8.7
26	14.6	14.6	15.4	15.3	10.7	9.5	9.1	10.1	10.2	10.2	10.7	11.00	15.6	5.8	9.8
27	16.1	14.8	14.8	14.6	14.4	13.2	12.5	11.8	10.7	9.0	8.0	12.11	16.4	7.7	8.7
28	17.9	17.4	17.4	16.2	14.1	12.4	10.8	10.2	9.6	8.1	7.7	12.67	17.9	7.7	10.2
29	13.5	14.6	14.7	13.6	12.3	11.4	10.7	9.8	8.9	8.4	8.3	10.22	15.8	4.7	11.1
30	10.7	9.6	10.0	10.2	10.1	9.6	9.0	8.4	7.9	7.1	6.1	8.61	11.0	5.8	5.2
31	13.6	14.1	14.9	14.6	14.1	13.5	12.3	9.6	9.6	9.3	8.5	9.89	14.9	4.7	10.2
August 31	16.50	16.56	16.81	16.19	15.36	14.50	13.72	12.83	12.31	11.94	11.56	13.61	17.66	9.66	8.00

Thermometers

above the ground 1.78 m.

January 1883.

11	No. m.	1	2	3	4	5	6	7	8	9	10	11	12	Means.
m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.
1 100	0 2 100	0 1 61	0 1 50	0 1 100	0 1 100	0 1 100	0 1 100	0 1 100	0 1 52	0 1 84	0 1 60	0 1 68	0 1 63	0 15 89.1
1 60	0 1 74	0 1 44	0 1 58	0 1 51	0 1 67	0 1 56	0 1 40	0 1 44	0 1 44	0 1 68	0 1 52	0 1 100	0 1 100	0 10 67.0
1 100	0 3 100	0 1 58	0 1 41	0 1 77	0 1 100	0 1 55	0 1 100	0 1 72	0 1 65	0 1 65	0 1 65	0 1 55	0 1 80	0 10 8 69.0
1 92	0 1 72	0 1 50	0 1 69	0 1 70	0 1 45	0 1 64	0 1 54	0 1 37	0 1 45	0 1 35	0 1 42	0 1 46	0 1 41	0 10 8 63.5
1 67	0 1 100	0 1 40	0 1 35	0 1 37	0 1 39	0 1 78	0 1 100	0 1 70	0 1 47	0 1 80	0 1 90	0 1 69	0 1 60	0 10 60.5
1 100	0 2 100	0 2 100	0 1 49	0 1 36	0 2 61	0 1 62	0 2 75	0 1 75	0 2 75	0 1 37	0 1 36	0 1 31	0 2 87	0 13 61.2
2 29	0 3 100	0 1 100	0 2 61	0 3 80	0 2 71	0 2 50	0 3 50	0 3 90	0 2 68	0 1 45	0 3 90	0 3 80	0 3 50	0 18 71.2
3 65	0 1 74	0 3 69	0 4 81	0 4 81	0 4 75	0 3 68	0 3 56	0 4 86	0 2 41	0 3 71	0 3 73	0 4 80	0 3 50	0 28 67.3
3 66	0 4 75	0 2 36	0 4 76	0 3 64	0 3 73	0 4 92	0 0 4	0 3 64	0 3 85	0 3 71	0 3 74	0 3 67	0 4 70	0 30 67.9
5 95	0 4 64	0 3 45	0 3 45	0 3 61	0 3 74	0 3 53	0 3 35	0 3 78	0 3 78	0 3 85	0 2 45	0 3 72	0 3 63	0 35 75.7
5 70	0 6 91	0 5 71	0 5 68	0 4 59	0 3 49	0 4 61	0 6 82	0 5 71	0 5 70	0 5 95	0 5 72	0 5 89	0 3 52	0 40 72.2
5 100	0 5 100	0 5 100	0 5 100	0 3 74	0 3 61	0 3 68	0 2 48	0 4 57	0 3 62	0 3 59	0 4 76	0 3 47	0 3 59	0 45 65.5
5 100	0 5 100	0 5 89	0 4 81	0 4 78	0 3 64	0 3 59	0 4 70	0 4 81	0 4 81	0 5 94	0 3 92	0 4 100	0 1 16	0 58 74.8
4 100	0 4 80	0 2 44	0 3 65	0 3 81	0 3 100	0 3 90	0 2 71	0 2 48	0 2 80	0 2 71	0 2 63	0 2 40	0 2 54	0 23 71.4
3 81	0 1 91	0 3 90	0 3 66	0 1 53	0 2 87	0 2 100	0 2 100	0 1 63	0 2 100	0 3 100	0 2 100	0 2 100	0 1 33	0 23 57.7
3 51	0 1 61	0 2 17	0 1 16	0 1 43	0 3 100	0 3 100	0 2 77	0 1 41	0 2 62	0 2 71	0 2 79	0 3 100	0 3 90	0 20 66.9
3 40	0 1 29	0 2 16	0 1 27	0 1 42	0 1 52	0 1 59	0 1 68	0 1 71	0 1 65	0 1 68	0 1 65	0 1 65	0 1 65	0 10 57.6
4 80	0 1 100	0 2 49	0 1 16	0 1 21	0 1 23	0 1 30	0 2 100	0 1 38	0 1 33	0 2 60	0 2 71	0 2 62	0 1 75	0 10 60.4
4 80	0 1 50	0 3 43	0 3 46	0 5 51	0 3 38	0 1 24	0 2 47	0 3 84	0 5 84	0 4 100	0 1 27	0 3 82	0 3 75	0 15 63.5
2 55	0 2 43	0 2 47	0 1 21	0 1 42	0 2 66	0 3 100	0 3 100	0 1 36	0 1 25	0 1 50	0 2 70	0 1 22	0 1 38	0 18 59.9
2 100	0 2 45	0 2 88	0 1 87	0 1 49	0 1 65	0 1 21	0 1 60	0 1 69	0 1 49	0 1 70	0 1 50	0 1 37	0 1 46	0 13 67.5
1 80	0 1 34	0 1 37	0 1 34	0 1 100	0 1 60	0 1 80	0 1 70	0 1 55	0 1 72	0 1 73	0 1 48	0 1 70	0 1 65	0 08 66.6
1 47	0 1 44	0 1 33	0 1 23	0 1 27	0 1 50	0 1 91	0 1 35	0 1 59	0 1 54	0 1 66	0 1 67	0 1 65	0 1 52	0 08 58.4
1 100	0 5 100	0 2 28	0 5 100	0 3 89	0 2 65	0 2 66	0 3 100	0 2 58	0 3 80	0 3 77	0 3 75	0 2 47	0 2 70	0 18 77.3
3 61	0 3 60	0 2 39	0 2 29	0 5 94	0 5 84	0 6 100	0 6 95	0 6 87	0 6 78	0 6 81	0 7 80	0 7 80	0 7 80	0 40 85.9
0 94	1 0 89	1 1 90	1 0 81	0 8 65	1 2 100	0 9 93	0 8 93	0 7 84	0 8 100	0 6 100	0 7 100	0 7 100	0 7 100	0 84 90.8
0 78	1 0 84	0 8 71	0 9 79	0 9 83	0 8 74	0 8 68	0 8 74	1 0 88	1 0 88	1 0 82	1 0 97	0 8 75	0 9 85	0 79 82.8
0 85	0 6 71	0 6 16	0 7 77	0 7 81	0 7 84	0 7 92	0 7 92	0 7 83	0 7 87	0 6 87	0 6 100	0 6 100	0 5 100	0 68 85.2
3 100	0 1 100	0 3 83	0 3 100	0 1 58	0 1 100	0 2 100	0 2 100	0 2 100	0 2 100	0 2 100	0 2 100	0 2 100	0 2 100	0 28 97.5
3 44	0 1 76	0 1 83	0 1 10	0 1 41	0 1 100	0 3 100	0 3 100	0 3 100	0 3 100	0 3 100	0 3 100	0 3 100	0 3 100	0 20 87.2
3 84	0 3 51	0 2 46	0 2 59	0 1 74	0 2 63	0 1 80	0 2 89	0 3 58	0 1 32	0 1 48	0 2 100	0 2 100	0 1 64	0 25 71.1
0 90	0 30	0 25 60.5	0 25 57.0	0 25 61.6	0 25 70.5	0 25 71.0	0 25 75.1	0 25 73.2	0 25 67.8	0 25 71.5	0 25 71.8	0 25 70.4	0 23 69.7	0 25 71.9

-62° 38' 50"

λ = -115° 43' 50" = -7h. 42m. 55s.

February 1883.

11	12	1	2	3	4	5	6	7	8	9	10	11	12	Means.
m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.	m. p. c.
1 100	0 1 85	0 1 70	0 1 100	0 1 49	0 1 40	0 1 86	0 2 39	0 2 74	0 3 90	0 3 80	0 5 100	0 2 62	0 2 72	0 18 72.1
1 66	0 1 71	0 1 81	0 1 58	0 1 38	0 1 100	0 3 50	0 3 50	0 2 71	0 3 71	0 3 82	0 5 100	0 6 95	0 6 75	0 21 71.3
5 70	0 5 88	0 5 69	0 3 35	0 1 54	0 3 62	0 3 71	0 3 62	0 4 64	0 5 100	0 3 63	0 4 75	0 4 75	0 5 79	0 50 72.5
3 93	1 0 67	1 1 50	1 6 61	1 4 51	1 7 74	1 8 72	1 6 75	1 7 79	1 6 68	1 6 74	1 7 79	1 5 77	1 4 76	1 16 76.9
0 56	1 1 61	1 1 73	0 9 50	1 0 89	0 8 56	0 6 45	0 6 66	0 3 96	0 7 96	0 7 100	0 6 100	0 6 96	0 6 95	0 91 72.1
5 68	0 5 74	0 5 65	0 6 72	0 7 85	0 7 80	0 8 92	0 5 96	0 7 73	0 7 80	1 7 75	1 9 75	1 9 71	1 1 41	0 73 82.9
6 74	0 6 69	0 7 87	0 5 55	0 5 62	0 5 82	0 6 100	0 5 95	0 5 100	0 4 93	0 4 100	0 5 100	0 7 100	0 7 96	0 76 81.5
6 83	0 4 48	0 7 87	0 7 87	0 7 87	0 6 87	0 7 100	0 9 100	0 9 97	1 0 100	0 8 84	0 8 68	0 8 70	0 9 78	0 68 84.8
3 72	1 0 18	1 4 70	1 4 79	1 4 87	1 1 75	0 9 81	0 8 90	0 6 81	0 6 100	0 4 85	0 4 100	0 4 100	0 3 100	0 84 82.5
1 100	0 1 100	0 4 100	0 4 100	0 4 86	0 4 100	0 3 73	0 4 93	0 4 87	0 5 100	0 4 75	0 6 100	0 6 91	0 7 100	0 33 93.2
5 94	0 1 95	0 5 70	0 6 100	0 4 81	0 4 83	0 5 88	0 4 94	0 4 100	0 5 100	0 4 100	0 3 85	0 4 100	0 3 85	0 48 89.5
3 69	0 4 70	0 4 66	0 4 66	0 4 70	0 4 93	0 5 100	0 5 100	0 4 80	0 4 93	0 4 100	0 4 100	0 3 100	0 3 100	0 38 80.4
3 100	0 1 100	0 4 100	0 4 100	0 3 100	0 3 100	0 3 100	0 3 100	0 3 100	0 1 100	0 3 100	0 2 100	0 2 100	0 2 100	0 28 100.0
3 100	0 4 100	0 5 100	0 2 100	0 2 50	0 2 46	0 1 100	0 5 100	0 3 100	0 1 100	0 3 100	0 3 100	0 1 50	0 2 100	0 23 92.1
3 60	0 4 59	0 3 47	0 5 75	0 3 53	0 5 100	0 4 100	0 4 100	0 4 100	0 3 100	0 4 100	0 3 100	0 3 100	0 3 100	0 33 90.1
5 68	0 4 48	0 4 44	0 5 52	0 5 54	0 5 55	0 5 61	0 5 61	0 5 61	0 2 86	0 2 86	0 0 50	0 7 79	0 9 72	0 45 76.5
5 64	0 5 74	0 7 50	0 8 1	0 8 61	0 7 38	0 8 77	0 6 66	0 7 87	0 6 81	0 6 100	0 5 100	0 4 100	0 4 100	0 65 73.0
5 58	0 5 47	0 5 49	0 7 64	0 6 63	0 6 64	0 7 82	0 3 100	0 6 79	0 6 79	0 6 79	0 6 72	0 6 72	0 5 66	0 55 80.5
7 59	0 7 51	0 7 49	0 6 39	0 6 47	0 7 63	0 7 68	0 7 69	0 7 80	0 8 68	0 8 62	0 8 64	0 8 65	0 8 61	0 70 69.7
5 55	0 1 15	0 4 16	0 5 15	0 5 17	0 5 17	0 7 44	0 7 47	0 7 54	0 8 55	0 8 56	0 8 80	0 7 63	0 5 61	0 70 50.1
5 47	0 1 91	0 7 77	0 8 68	1 0 81	0 8 61	1 0 76	1 0 74	1 0 67	1 0 76	1 1 77	1 1 81	1 1 90	1 0 81	0 89 85.9
6 68	0 9 73	1 0 76	1 0 71	1 0 73	0 9 71	0 9 70	0 9 70	1 0 72	1 0 74	0 9 70	0 8 71	0 9 85	0 9 97	0 89 78.0
6 75	0 5 50	0 5 55	0 4 45	0 5 53	0 6 80	0 5 85	0 6 100	0 5 100	0 5 100	0 5 100	0 5 100	0 4 100	0 4 100	0 55 82.0
5 94	0 5 79	0 5 75	0 3 38	0 3 37	0 5 79	0 5 89	0 6 100	0 5 84	0 5 84	0 5 84	0 5 90	0 5 76	0 6 79	0 43 87.0
0 93	0 9 94	0 7 57	0 8 63	0 8 71	0 8 81	8 74	0 8 78	0 8 75	0 9 81	0 9 85	0 9 82	0 9 81	0 9 85	0 76 81.1
3 80	0 9 78	1 0 86	1 0 80	1 0 81	0 9 91	0 8 81	0 8 90	0 7 80	0 6 83	0 7 96	0 7 96	0 6 81	0 6 91	0 84 85.1
3 81	0 6 87	0 7 81	0 7 75	0 7 78	0 7 81	0 7 80	0 7 80	0 7 84	0 7 80	0 6 72	0 7 80	0 7 88	0 7 82	0 80 81.1
3 86	0 6 82	0 6 81	0 6 87	0 6 83	0 6 82	0 6 82	0 6 90	0 5 100						

Vapour Tension and Relative Humidity.

March 1883.

Height of the Thermometers

Day.	1	2	3	4	5	6	7	8	9	10	11	Noon.
1	m.m. p.c. 0.3 92	m.m. p.c. 0.3 100	m.m. p.c. 0.3 100	m.m. p.c. 0.3 100	m.m. p.c. 0.3 100	m.m. p.c. 0.3 100	m.m. p.c. 0.3 100	m.m. p.c. 0.3 100	m.m. p.c. 0.3 100	m.m. p.c. 0.4 100	m.m. p.c. 0.4 100	m.m. p.c. 0.5 100
2	0.5 90	0.5 95	0.4 85	0.5 100	0.5 100	0.4 86	0.4 94	0.5 100	0.6 100	0.5 81	0.7 100	0.6 83
3	0.4 100	0.4 100	0.4 100	0.3 100	0.3 100	0.3 100	0.3 100	0.4 100	0.4 100	0.5 94	0.4 70	0.3 5-
4	0.1 34	0.1 100	0.2 100	0.3 100	0.2 100	0.2 100	0.2 100	0.2 100	0.3 100	0.3 100	0.4 100	0.2 41
5	0.5 100	0.3 100	0.3 100	0.3 100	0.2 100	0.2 100	0.2 100	0.3 100	0.3 100	0.4 100	0.3 47	0.1 15
6	0.3 100	0.3 100	0.3 100	0.3 100	0.3 100	0.3 100	0.4 100	0.4 100	0.2 43	0.5 88	0.5 84	0.5 73
7	0.6 85	0.5 76	0.5 85	0.5 76	0.5 76	0.5 76	0.5 78	0.7 80	0.6 64	0.7 65	0.7 66	1.0 88
8	0.7 100	0.5 93	1.0 91	1.0 94	0.6 54	0.6 81	0.9 79	0.9 79	1.0 80	0.8 59	0.8 58	0.9 64
9	0.8 100	0.5 44	0.6 90	0.6 86	0.5 80	0.5 88	0.5 84	0.7 100	0.8 100	0.7 80	0.5 67	0.4 64
10	0.9 97	0.7 75	0.6 68	0.8 81	0.8 86	0.8 83	0.7 80	0.8 83	1.0 100	1.0 93	1.1 90	1.0 76
11	0.9 54	1.1 87	0.9 70	1.1 87	1.1 83	1.2 87	1.1 75	1.1 78	1.2 75	1.1 71	1.1 69	1.1 71
12	0.7 70	0.7 69	1.0 91	0.9 58	0.9 94	0.8 81	0.9 51	1.0 88	0.9 79	1.0 83	1.1 85	1.2 75
13	1.2 80	1.4 81	1.2 73	1.1 84	1.0 77	1.0 77	0.9 73	0.9 80	1.1 84	1.2 84	1.3 75	0.9 54
14	0.4 78	0.4 91	0.4 81	0.5 100	0.4 80	0.4 100	0.5 100	0.6 91	0.6 91	0.7 100	0.8 100	0.9 100
15	0.5 95	0.5 79	0.5 100	0.5 100	0.4 100	0.4 93	0.5 89	0.5 84	0.5 74	0.6 73	0.5 77	0.6 57
16	0.5 72	0.5 73	0.7 66	0.7 69	0.7 70	0.8 86	0.7 81	0.6 76	0.6 66	0.6 61	0.6 73	0.7 81
17	0.1 100	0.1 100	0.1 100	0.2 100	0.1 100	0.2 100	0.2 100	0.2 100	0.2 100	0.3 100	0.2 87	0.4 86
18	0.1 64	0.4 100	0.3 75	0.4 100	0.3 100	0.3 100	0.4 100	0.6 100	0.6 100	0.4 51	0.5 63	0.3 71
19	0.1 34	0.3 85	0.4 92	0.7 66	0.4 81	0.4 81	0.4 69	0.5 69	0.6 79	0.6 54	0.6 64	0.5 68
20	0.9 74	0.9 74	0.8 74	0.8 74	0.7 71	0.9 81	1.0 80	0.9 70	1.0 61	1.0 64	0.9 54	0.8 43
21	0.6 81	0.7 92	0.5 85	0.6 100	0.5 100	0.5 100	0.6 100	0.8 100	0.6 72	0.6 61	0.6 51	0.6 51
22	0.6 61	0.8 86	0.6 83	0.6 82	0.5 90	0.7 92	0.7 73	0.7 70	0.6 72	0.6 58	0.6 46	0.6 47
23	0.4 100	0.4 100	0.4 100	0.4 100	0.4 100	0.3 100	0.3 100	0.5 100	0.3 41	0.4 3	0.4 62	0.4 51
24	0.3 100	0.3 100	0.3 100	0.3 100	0.3 100	0.3 100	0.4 100	0.5 100	0.3 59	0.3 59	0.3 59	0.3 47
25	0.4 100	0.4 100	0.4 100	0.3 100	0.4 100	0.3 100	0.4 100	0.4 100	0.5 100	0.6 100	0.6 83	0.5 89
26	0.5 88	0.5 94	0.5 100	0.4 70	0.4 100	0.4 100	0.5 100	0.5 100	0.7 100	0.6 87	0.7 89	0.8 81
27	0.6 81	0.5 81	0.6 90	0.6 90	0.6 90	0.6 95	0.7 100	0.8 100	0.8 93	0.6 64	0.8 68	0.8 65
28	0.6 81	0.5 81	0.5 81	0.4 100	0.6 100	0.6 90	0.8 100	0.8 100	0.9 93	0.7 61	0.7 57	0.6 36
29	0.7 88	0.7 92	0.7 89	0.7 83	0.7 92	0.7 100	1.0 100	1.0 97	0.9 65	0.8 55	0.6 42	0.9 36
30	0.7 84	0.6 86	0.6 100	0.4 83	0.6 90	0.5 100	0.6 100	0.8 86	0.7 59	0.9 42	0.8 67	0.8 57
31	0.4 69	0.5 100	0.5 100	0.5 100	0.5 100	0.6 100	0.6 100	0.5 67	0.5 64	0.4 31	1.0 72	1.1 72
Mean	0.55 84.2	0.55 88.0	0.53 89.3	0.53 91.0	0.50 90.9	0.50 92.0	0.55 91.8	0.61 90.4	0.65 83.2	0.60 79.1	0.65 69.0	0.68 54.0

April 1883.

$\phi = + 62^{\circ} 38' 52''$

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.
1	0.8 89	0.7 66	0.8 67	1.1 56	0.9 76	0.9 71	1.4 100	1.1 97	1.2 83	1.0 70	1.1 70	1.3 66
2	1.1 98	0.9 94	0.8 80	0.8 84	0.9 90	0.8 90	0.9 80	1.0 78	1.1 66	1.1 60	1.2 61	1.4 63
3	1.4 76	1.0 82	1.3 74	1.2 73	1.2 73	1.1 77	1.1 72	1.1 75	1.1 73	0.9 64	0.9 53	1.1 58
4	0.7 96	0.8 96	0.6 91	0.6 87	0.5 75	0.7 88	0.8 86	0.8 65	0.8 51	0.8 51	1.0 69	0.5 37
5	0.9 100	0.8 93	0.7 100	0.7 100	0.7 100	0.3 100	0.7 100	0.8 93	0.9 100	0.9 77	1.0 77	1.1 73
6	1.0 81	1.0 89	0.9 83	0.9 74	0.7 54	0.9 71	0.9 60	0.7 18	0.6 36	0.9 51	0.8 35	0.8 34
7	0.7 67	0.6 72	0.8 89	0.7 88	0.7 92	0.7 100	1.1 97	0.5 42	1.1 72	0.9 51	0.8 36	0.8 35
8	0.9 68	0.8 74	0.9 85	1.0 90	0.7 73	0.9 88	1.1 94	1.0 79	0.9 53	0.7 47	0.7 41	0.6 33
9	1.1 92	1.1 86	1.1 83	1.1 81	1.1 80	1.1 74	1.1 71	1.1 76	1.4 74	0.6 27	0.8 31	0.9 53
10	1.4 70	1.3 74	1.5 97	1.0 72	1.1 86	1.3 94	1.1 72	1.5 97	1.0 39	1.5 80	1.5 69	1.8 71
11	1.1 70	1.1 70	1.2 75	1.2 65	1.2 66	1.4 76	1.2 58	1.2 53	1.3 54	1.2 44	1.4 30	1.3 41
12	1.7 92	1.6 81	1.4 77	1.2 78	1.6 92	1.4 77	1.5 61	1.3 50	1.4 51	1.4 51	1.7 49	1.7 46
13	1.2 55	1.2 57	1.2 62	1.2 63	1.4 73	1.1 58	1.2 55	1.7 71	1.7 68	1.0 59	1.8 59	2.1 65
14	1.1 78	1.0 75	1.1 90	1.1 97	1.2 100	1.2 100	1.2 96	1.2 84	1.0 61	1.0 57	1.1 51	1.1 49
15	1.3 69	1.2 60	1.1 57	1.3 66	1.5 78	1.6 86	1.4 66	1.7 77	1.5 58	1.8 63	2.0 64	2.3 63
16	1.6 97	1.4 91	1.2 84	1.2 97	1.2 97	1.4 100	1.5 100	1.2 68	1.1 46	1.1 47	1.2 43	1.4 43
17	1.6 83	1.5 100	1.2 75	1.2 87	1.4 100	1.5 100	1.5 86	1.2 57	1.2 52	1.1 47	1.1 42	1.4 43
18	1.5 71	1.7 86	1.4 67	1.8 100	1.2 73	1.7 90	1.5 61	1.3 57	1.3 56	1.4 45	1.5 41	1.8 52
19	1.3 59	1.1 57	1.1 69	1.3 74	1.2 66	1.4 70	1.3 54	1.5 58	1.5 56	1.5 47	1.6 41	2.7 70
20	1.7 70	1.7 67	1.6 74	1.6 78	1.4 65	1.4 65	1.8 71	1.6 60	2.0 62	2.1 57	2.6 72	3.5 63
21	4.5 97	4.6 97	4.7 99	4.6 98	4.6 98	4.6 99	4.7 98	4.8 99	4.8 99	4.8 98	4.8 95	4.8 99
22	4.7 97	4.7 99	4.7 99	4.7 99	4.8 98	4.8 99	4.8 99	4.8 99	4.8 99	4.8 98	4.8 95	4.8 99
23	1.9 63	1.7 61	1.7 66	1.7 66	1.7 70	1.7 70	1.7 70	1.7 60	1.7 60	1.7 54	1.7 61	1.8 52
24	2.1 83	1.9 74	2.0 78	2.1 83	2.1 83	2.1 83	2.1 78	2.0 73	2.1 81	1.7 81	1.7 81	2.5 85
25	1.2 84	1.1 84	1.1 89	1.1 89	1.1 89	1.1 89	1.1 89	1.1 89	1.1 89	1.1 89	1.1 89	1.1 89
26	3.4 86	3.9 77	3.7 82	2.8 81	3.2 82	3.6 85	3.6 77	4.2 84	4.2 77	4.7 74	4.9 75	4.9 75
27	3.3 74	3.1 73	2.9 75	2.8 75	3.2 82	3.6 85	3.5 77	4.3 85	4.2 78	4.5 76	4.5 78	4.5 76
28	3.0 86	4.0 87	4.1 92	4.1 92	4.1 92	4.1 89	4.1 89	4.1 89	4.1 89	4.1 89	4.1 89	4.1 89
29	4.1 80	4.1 80	4.0 80	4.0 80	4.0 80	4.0 80	4.0 80	4.0 80	4.0 80	4.0 80	4.0 80	4.0 80
30	2.5 81	3.1 88	3.1 92	3.5 100	3.9 90	4.0 65	4.0 65	4.0 65	4.0 65	4.0 65	4.0 65	4.0 65
Mean	1.92 80.3	1.77 79.8	1.85 80.9	1.87 84.1	1.82 82.7	1.87 83.6	1.87 77.6	1.95 74.8	2.00 68.0	2.03 61.0	2.18 61.1	2.33 60.3

Vapour Tension and Relative Humidity.

May 1883.

Height of the Thermometers

above the

Days.	1		2		3		4		5		6		7		8		9		10		11		Noon.		
	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	
1	1.9	6.1	1.4	4.4	1.9	6.6	1.9	6.8	2.1	8	2.2	6.8	2.1	7.0	2.5	6.8	3.2	7.3	3.4	7.5	4.8	9.7	4.4	5.0	
2	3.4	8.1	3.4	7.5	4.4	9.0	4.2	8.9	3.2	8.2	2.9	8.9	2.4	6.8	2.3	6.7	2.1	5.6	2.1	5.5	2.6	6.0	2.5	6.0	
3	1.0	4.8	1.2	6.6	1.0	6.4	1.1	7.0	1.2	7.1	1.1	7.0	1.1	6.4	0.9	5.3	1.0	4.8	1.0	4.8	1.0	4.5	1.1	5.0	
4	0.8	6	0.8	7.0	0.8	7.1	0.8	7.4	1.1	8.1	1.1	7.8	1.0	6.7	1.0	6.4	1.1	6.1	1.1	6.1	1.1	5.1	1.0	4.4	
5	1.1	7.1	1.4	8.4	1.2	7.4	1.2	7.2	1.2	6.4	1.2	6.1	1.3	5.8	1.5	5.7	1.6	5.0	1.9	5.0	2.5	6.0	3.1	6.7	
6	2.0	7.1	1.5	5.6	1.6	6.9	1.6	7.1	1.8	7.5	1.5	5.6	1.1	4.2	1.5	4.4	1.2	3.7	1.8	5.2	1.6	3.7	1.8	4.3	
7	1.4	6	1.3	7.0	1.4	7.7	1.3	7.2	1.4	7.0	1.2	5.1	1.3	5.1	1.4	4.9	1.5	4.4	1.6	4.6	1.8	4.9	1.6	4.0	
8	2.3	5.5	1.2	5.4	1.3	5.9	1.1	5.0	1.2	4.8	1.1	4.2	1.3	4.5	1.4	4.4	1.5	4.4	1.9	5.0	2.4	5.9	2.1	4.6	
9	1.8	6.8	1.5	6.1	1.8	7.7	1.7	7.4	1.9	7.4	1.9	6.8	1.7	5.4	2.0	5.7	2.1	5.8	3.0	6.2	3.2	7.6	2.8	6.1	
10	3.1	7.3	3.1	7.4	3.3	7.9	3.7	6.5	2.9	6.8	2.9	6.5	4.2	8.8	3.8	7.6	4.5	8.3	3.6	6.0	3.7	5.8	3.9	6.1	
11	2.9	7.5	2.9	7.6	2.9	7.6	2.9	7.7	3.1	7.6	3.1	7.6	3.1	7.6	3.1	7.6	4.2	7.4	4.4	7.4	4.5	7.2	4.4	7.0	
12	3.8	6.9	3.7	7.3	3.7	7.1	3.6	7.1	3.2	6.5	3.1	6.2	3.2	7.1	4.4	7.5	4.4	7.3	4.4	7.0	4.4	6.7	4.7	6.6	
13	3.8	6.9	3.7	7.3	3.7	7.1	3.6	7.1	3.2	6.5	3.1	6.2	3.2	7.1	4.4	7.5	4.4	7.3	4.4	7.0	4.4	6.7	4.7	6.6	
14	3.2	7.1	3.2	7.6	3.0	7.9	2.8	6.8	3.7	7.4	3.7	7.4	3.7	7.4	4.0	6.9	4.2	7.0	4.7	6.8	4.8	6.1	5.0	6.2	
15	2.9	6.2	2.8	6.4	2.9	6.4	2.8	6.8	3.2	7.2	3.6	7.6	3.6	7.0	4.1	7.6	4.5	7.9	4.5	6.9	4.7	7.8	4.4	7.4	
16	1.7	8.1	1.7	7.7	1.7	7.7	1.8	8.1	4.1	8.1	4.1	8.1	4.1	8.1	4.1	8.1	5.1	6.9	5.1	7.1	5.1	7.1	5.1	6.1	
17	5.7	8.0	5.5	8.6	5.2	9.4	4.9	9.6	4.9	8.6	5.1	8.0	5.3	7.2	5.8	7.1	6.1	7.4	6.4	7.7	6.7	8.6	6.9	7.5	
18	6.1	9.0	5.8	9.7	5.2	9.9	5.0	8.9	5.4	8.4	5.4	8.6	5.8	8.6	5.8	9.1	5.5	8.9	5.5	8.7	5.9	9.3	6.0	7.8	
19	5.0	9.1	4.9	9.1	4.8	9.2	4.8	9.1	4.8	9.2	4.9	9.0	4.8	8.8	5.4	9.2	5.1	8.3	5.7	8.2	6.0	7.1	5.8	5.0	
20	5.4	9.1	5.1	7.4	5.1	7.2	5.2	7.3	5.3	7.4	5.5	6.5	6.0	6.4	6.2	6.2	6.1	5.6	6.3	5.0	6.1	5.9	6.1	5.5	
21	5.1	8.8	5.5	8.7	5.6	8.6	5.0	9.5	5.4	7.9	5.9	7.0	5.8	7.1	6.1	6.6	6.2	6.0	7.0	5.5	7.2	5.0	6.5	5.0	
22	5.1	8.8	5.5	10.0	5.0	9.1	5.0	9.4	5.0	8.6	5.4	8.8	5.1	8.9	5.7	9.0	6.2	8.6	5.8	8.3	5.6	8.0	6.2	8.6	
23	4.5	9.6	4.1	9.5	3.9	8.8	3.8	8.5	4.1	8.4	4.4	8.5	4.6	8.1	4.7	7.9	4.9	7.2	5.1	6.5	5.1	6.1	5.7	5.8	
24	4.4	8.7	4.1	8.6	3.8	8.2	3.7	8.1	4.1	8.1	4.9	7.7	5.4	7.9	5.5	7.4	5.8	7.1	5.7	6.9	6.0	6.1	5.6	5.9	
25	4.7	8.9	4.8	9.1	4.8	9.1	4.8	9.1	4.8	9.1	4.8	9.1	4.8	8.1	5.2	9.1	5.2	9.1	5.4	9.0	5.6	9.2	6.0	7.7	
26	4.7	8.6	4.6	8.5	4.7	8.6	4.8	8.6	5.1	7.9	5.7	8.3	5.4	7.7	5.4	7.0	4.9	6.9	5.0	5.6	5.2	5.4	5.1	4.9	
27	4.0	8.5	4.1	7.9	4.1	8.5	4.6	8.5	4.8	8.2	5.0	8.0	5.2	7.6	5.6	6.3	5.6	5.2	6.1	5.7	6.1	5.7	5.5	5.5	
28	5.9	7.9	5.9	9.6	5.2	9.1	4.9	9.2	5.0	8.5	5.4	8.5	5.5	7.8	5.4	7.6	5.3	7.0	6.1	6.7	5.9	6.2	6.0	5.8	
29	4.9	9.0	4.5	8.9	4.5	8.9	4.5	8.9	4.5	8.9	4.5	8.9	4.5	8.9	4.5	8.9	4.5	8.9	4.5	8.9	4.5	8.9	4.5	8.9	
30	5.6	9.0	5.6	8.4	5.5	7.6	5.3	7.1	5.3	7.5	5.3	7.8	5.3	7.1	6.9	5.4	8.1	5.1	8.1	4.8	9.2	4.5	8.9	4.3	8.1
31	5.5	5.7	5.6	5.9	5.6	6.1	5.5	5.7	5.8	6.1	5.8	6.1	5.8	6.1	5.8	6.1	5.8	6.1	5.8	6.1	5.8	6.1	5.8	6.1	
Mean	3.00	6.8	3.50	7.5	3.45	7.8	3.38	8.1	3.58	7.7	3.73	7.4	3.86	7.0	4.04	6.9	4.14	6.6	4.31	6.5	4.51	6.5	4.51	6.0	

June 1883.

φ = + 62° 38' 52".

λ = -

Days.	1		2		3		4		5		6		7		8		9		10		11		Noon.	
	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.	m.	p.
1	3.1	7.9	3.2	8.1	2.8	7.0	3.1	7.9	3.2	7.8	3.7	8.0	4.1	8.1	4.5	8.8	4.3	8.0	5.1	7.4	4.9	7.2	5.3	6.8
2	5.4	7.4	5.5	8.8	5.2	8.5	5.0	8.2	5.0	7.9	5.7	8.6	6.1	8.6	6.8	8.0	6.1	5.3	6.2	5.5	6.1	5.6	6.1	4.6
3	4.4	7.9	6.4	7.4	6.1	9.0	5.4	8.7	6.4	8.4	6.9	7.0	7.1	6.9	7.7	6.2	6.1	7.5	8.0	6.4	7.6	6.4	4.9	6.8
4	4.9	8.4	4.9	8.7	5.3	8.7	5.8	8.6	5.6	7.9	5.6	7.6	5.9	7.5	7.1	6.7	7.0	6.6	7.2	6.7	7.1	6.1	6.0	7.1
5	5.1	9.6	5.8	9.7	5.5	9.3	5.2	8.9	5.5	8.4	5.5	8.1	5.6	8.8	5.6	8.5	5.8	8.6	6.0	8.0	5.7	7.0	6.0	6.9
6	5.2	8.2	4.9	7.8	4.5	7.5	4.5	7.9	4.5	7.4	4.5	7.7	4.1	7.3	4.6	6.8	4.7	6.5	4.8	6.1	4.9	6.2	5.1	6.9
7	5.1	7.8	5.2	7.7	5.2	7.7	5.2	7.7	4.4	7.9	5.4	7.9	5.2	7.4	5.2	7.5	4.4	6.8	5.4	6.0	5.4	6.0	5.4	6.1
8	4.9	6.2	4.6	8.4	4.7	8.5	4.8	8.1	4.9	8.2	5.1	8.4	5.1	8.4	5.1	8.4	5.1	8.4	5.1	8.4	5.1	8.4	5.1	8.4
9	5.9	9.4	6.0	9.5	5.9	9.4	6.1	9.4	6.0	8.7	6.0	8.7	6.0	8.7	6.0	8.7	6.0	8.7	6.0	8.7	6.0	8.7	6.0	8.7
10	6.0	8.0	5.8	8.5	5.8	8.0	6.2	8.8	6.0	8.2	6.0	8.1	6.0	8.1	6.0	8.1	6.0	8.1	6.0	8.1	6.0	8.1	6.0	8.1
11	4.4	6.1	4.5	6.6	4.7	7.5	4.7	7.1	4.7	7.2	4.7	7.1	4.7	6.4	4.7	6.4	4.9	5.6	5.0	5.4	4.9	4.8	5.5	5.0
12	4.6	6.7	4.5	5.1	4.5	7.7	4.3	7.1	4.4	6.5	4.5	6.0	4.6	5.9	4.7	5.6	4.8	5.5	4.7	4.7	4.9	5.0	4.6	4.6
13	4.7	7.2	4.8	7.6	4.6	7.2	4.7	7.0	4.5	6.3	4.6	5.7	4.6	5.8	4.9	5.9	5.0	5.4	5.8	5.9	5.9	5.1	5.9	5.1
14	4.4	8.4	4.5	7.8	5.6	8.8	5.5	8.0	5.5	7.6	5.5	7.6	5.5	7.6	5.5	7.6	5.5	7.6	5.5	7.6	5.5	7.6	5.5	7.6
15	5.9	7.1	5.6	7.1	5.8	7.3	5.6	6.9	5.6	6.9	5.6	6.9	5.6	6.9	5.6	6.9	5.6	6.9	5.6	6.9	5.6	6.9	5.6	6.9
16	7.2	8.8	5.7	8.1	4.9	6.1	4.9	6.1	4.9	6.1	4.9	6.1	4.9	6.1	4.9	6.1	4.9	6.1	4.9	6.1	4.9	6.1	4.9	6.1
17	7.4	9.0	7.4	9.1	7.2	9.3	7.0	8.9	7.3	8.4	7.1	8.2	7.8	8.1	8.0	8.4	7.3	8.8	7.5	9.4	7.1	9.0	7.4	8.0
18	7.2	9.1	7.1	9.1	7.1	9.1	7.1	9.1	7.1	9.1	7.1	9.1	7.1	9.1	7.1	9.1	7.1	9.1	7.1	9.1	7.1	9.1	7.1	9.1
19	5.5	7.1	5.1	7.2	5.1	7.1	5.1	7.1	5.1	7.1	5.1	7.1	5.1	7.1	5.1	7.1	5.1	7.1	5.1	7.1	5.1	7.1	5.1	7.1
20	4.9	7.2	5.1	7.4	5.2	7.3	5.1	7.3	5.4	7.2	5.3	6.8	5.1	6.3	5.5	6.2	5.4	6.4	5.6	6.1	6.0	6.7	5.9	6.6
21	6.1	7.5	5.7	7.2	5.6	6.9	5.5	6.5	5.4	6.8	5.5	7.3	5.4	6.7	5.4	6.7	5.4	6.7	5.4	6.7	5.4	6.7	5.4	6.7
22	6.4	6.0	6.2	6.6	6.2	6.2	6.4	6.6	6.5	6.6	6.5	6.7	6.5	6.7	6.5	6.7	6.5	6.7	6.5	6.7	6.5	6.7	6.5	6.7
23	9.2	9.2	8.5	9.3	8.3	9.5	8.2	9.1	8.6	8.9	8.5	9.1	8.4	8.1	9.0	7.9	9.0	9.0	9.1	9.1	9.1	9.6	9.1	9.6
24	8.7	8.8	8.9	8.5	8.9	8.6	9.1	8.6	8.9	8.4	9.4	8.2	9.9	8.1	9.9	7.6	9.4	9.3	10.0	9.4				

May 1883.

thermometers

above the ground 178 m.

11		Noon.		1		2		3		4		5		6		7		8		9		10		11		12		Means.																							
m.	p.c.	m.	p.c.	m.	p.c.	m.	p.c.	m.	p.c.	m.	p.c.	m.	p.c.	m.	p.c.	m.	p.c.	m.	p.c.	m.	p.c.	m.	p.c.	m.	p.c.	m.	p.c.	m.	p.c.																						
4.4	71	4.5	77	4.6	83	4.6	86	4.4	81	4.3	82	4.1	85	4.1	87	3.9	86	4.3	100	4.4	81	4.3	86	4.4	81	4.3	86	4.4	81	4.3	86	4.4	81	4.3	86																
2.7	65	2.8	66	2.7	66	2.4	61	2.4	61	2.4	61	2.1	57	1.6	59	1.7	69	1.2	52	1.3	54	1.4	61	1.4	61	1.2	55	1.2	55	2.4	67	2.4	67	2.4	67																
0.8	38	1.1	48	0.9	40	0.9	40	0.9	40	0.9	40	0.8	38	0.8	38	0.8	38	0.8	38	0.8	38	0.8	38	0.8	38	0.8	38	0.8	38	0.8	38	0.8	38	0.8	38	0.8	38														
1.0	41	1.1	45	1.2	50	1.3	50	1.2	47	1.2	47	1.3	60	1.3	71	1.4	77	1.3	78	1.2	76	1.2	76	1.2	76	1.2	76	1.2	76	1.2	76	1.2	76	1.2	76	1.2	76														
1.7	75	2.9	58	3.1	61	2.9	59	3.1	63	3.1	63	2.8	61	1.9	45	1.6	44	1.5	43	1.6	46	1.5	46	1.5	46	1.5	46	1.5	46	1.5	46	1.5	46	1.5	46	1.5	46	1.5	46												
2.3	52	2.7	59	2.1	47	2.5	58	2.7	65	2.7	65	2.5	66	1.4	42	1.7	59	1.6	69	1.4	61	1.7	67	1.7	67	1.5	68	1.7	77	1.5	68	1.7	77	1.5	68	1.7	77	1.5	68												
2.1	50	2.4	57	1.9	46	2.1	50	1.8	46	2.0	48	1.8	48	1.5	45	1.5	45	1.5	45	1.5	45	1.5	45	1.5	45	1.5	45	1.5	45	1.5	45	1.5	45	1.5	45	1.5	45	1.5	45	1.5	45										
2.0	45	2.6	51	2.8	58	3.0	59	3.2	68	2.7	60	2.4	58	2.1	61	1.6	51	2.1	67	2.1	67	2.1	67	2.1	67	2.1	67	2.1	67	2.1	67	2.1	67	2.1	67	2.1	67	2.1	67	2.1	67										
3.3	70	3.0	62	3.1	69	3.1	64	3.4	69	3.6	71	3.7	73	3.8	76	3.7	78	3.8	81	3.7	78	3.8	81	3.7	78	3.8	81	3.7	78	3.8	81	3.7	78	3.8	81	3.7	78	3.8	81	3.7	78	3.8	81								
4.2	64	4.5	68	4.4	66	4.7	71	4.7	71	4.7	71	4.6	72	4.5	80	4.3	78	4.1	88	4.1	88	4.1	88	4.1	88	4.1	88	4.1	88	4.1	88	4.1	88	4.1	88	4.1	88	4.1	88	4.1	88	4.1	88								
4.6	70	4.5	67	4.5	68	4.6	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71	4.7	71								
4.9	67	4.9	68	4.9	68	4.8	66	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70	4.7	70								
4.7	64	4.6	64	4.5	64	4.5	64	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61	4.7	61								
4.9	61	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65	4.9	65								
4.9	64	5.1	64	5.0	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66	4.9	66								
5.4	61	5.5	64	5.6	66	5.7	66	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63	5.4	63								
6.0	67	6.2	70	6.8	88	6.5	83	6.8	75	7.4	74	7.4	80	7.0	92	6.6	92	6.6	92	6.6	92	6.6	92	6.6	92	6.6	92	6.6	92	6.6	92	6.6	92	6.6	92	6.6	92	6.6	92	6.6	92	6.6	92	6.6	92						
6.6	79	6.8	85	6.7	90	6.5	80	6.9	79	6.5	91	6.9	88	6.9	87	6.7	84	6.6	82	6.6	82	6.6	82	6.6	82	6.6	82	6.6	82	6.6	82	6.6	82	6.6	82	6.6	82	6.6	82	6.6	82	6.6	82	6.6	82						
5.6	46	5.6	48	5.8	56	5.6	68	5.3	68	5.7	76	5.5	70	5.4	68	5.3	83	5.4	68	5.3	72	5.4	68	5.3	72	5.4	68	5.3	72	5.4	68	5.3	72	5.4	68	5.3	72	5.4	68	5.3	72	5.4	68	5.3	72	5.4	68				
5.8	51	6.1	53	6.1	49	6.3	43	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55	6.3	55						
5.3	38	6.6	44	7.4	70	6.6	60	6.7	74	6.1	64	6.4	75	6.2	79	6.2	86	6.2	92	6.2	92	6.2	92	6.2	92	6.2	92	6.2	92	6.2	92	6.2	92	6.2	92	6.2	92	6.2	92	6.2	92	6.2	92	6.2	92	6.2	92	6.2	92		
5.7	55	5.2	35	5.6	52	5.6	52	5.4	56	5.4	59	5.4	64	4.9	93	4.8	92	4.9	95	4.6	92	4.5	78	4.6	92	4.5	78	4.6	92	4.5	78	4.6	92	4.5	78	4.6	92	4.5	78	4.6	92	4.5	78	4.6	92	4.5	78	4.6	92		
6.3	60	6.2	52	6.4	52	6.1	54	6.2	54	6.5	56	6.8	60	6.2	69	5.7	76	5.2	62	5.1	62	5.1	62	5.1	62	5.1	62	5.1	62	5.1	62	5.1	62	5.1	62	5.1	62	5.1	62	5.1	62	5.1	62	5.1	62	5.1	62	5.1	62	5.1	62
5.8	73	6.1	75	6.0	70	5.6	74	6.2	76	6.2	76	6.1	75	6.2	76	6.1	75	6.2	76	6.1	75	6.2	76	6.1	75	6.2	76	6.1	75	6.2	76	6.1	75	6.2	76	6.1	75	6.2	76	6.1	75	6.2	76	6.1	75	6.2	76	6.1	75	6.2	76
5.4	48	5.5	47	5.3	48	5.4	48	5.1	51	5.6	51	5.9	57	5.6	62	5.1	66	4.7	88	4.0	80	4.0	80	4.0	80	4.0	80	4.0	80	4.0	80	4.0	80	4.0	80	4.0	80	4.0	80	4.0	80	4.0	80	4.0	80	4.0	80	4.0	80		
5.8	61	6.3	52	6.3	61	6.2	55	5.8	60	5.7	60	6.0	64	5.9	69	6.0	76	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81	6.1	81
5.6	58	5.8	55	6.2	57	6.3	55	6.6	56	6.7	65	6.8	68	6.8	77	6.8	78	6.8	77	6.8	78	6.8	77	6.8	78	6.8	77	6.8	78	6.8	77	6.8	78	6.8	77	6.8	78	6.8	77	6.8	78	6.8	77	6.8	78	6.8	77	6.8	78		
6.6	42	6.2	39	6.1	45	6.4	45	6.1	48	6.4	53	6.1	60	6.2	60	5.8	57	6.1	74	6.0	73	6.0	73	6.0	73	6.0	73	6.0	73	6.0	73	6.0	73	6.0	73	6.0	73	6.0	73	6.0	73	6.0	73	6.0	73	6.0	73	6.0	73	6.0	73
3.5	66	3.3	61	3.5	66	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64	3.4	64
4.3	65	4.3	69	4.1	66	4.4	71	4.5	75	4.4	75	4.4	75	4.5	84	4.3	91	3.8	87	3.4	74	3.5	85	3.4	74	3.5	85	3.4	74	3.5	85	3.4	74	3.5	85	3.4	74	3.5	85	3.4	74	3.5	85	3.4	74	3.5	85	3.4	74	3.5	85
4.51	59.8	4.60	60.5	4.60	61.9	4.57	62.2	4.82	61.9	4.54	65.9	4.51	66.5	4.39	70.5	4.21	73.7	4.01	74.4	3.84	75.4	3.70	74.8	4.11	69.6																										

λ = - 115° 43' 50" = - 7h. 42m. 55s.

June 1883.

62° 38' 52"

11		Noon.		1		2		3		4		5		6		7		8		9		10		11		12	
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July 1883.

Height of the Thermometers

Table with 13 columns (Days 1-12, Noon) and 13 rows (Days 1-31). Each cell contains multiple numerical values representing temperature and humidity data.

August 1883. ; = +62° 38' 52".

Table with 13 columns (Days 1-12, Noon) and 13 rows (Days 1-31). Each cell contains multiple numerical values representing temperature and humidity data.

W. & A. GILFILLAN
VIN & SPIRIT MERCHANTS
ADAM & CO

July 1883.

Above the ground 1-78 m.

Thermometers

1			2			3			4			5			6			7			8			9			10			11			12			Means.											
m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.						
47	7.8	46	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51			
47	7.8	46	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51
47	7.8	46	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51	47	8.5	51

λ = -115° 43' 50" = -7h. 42m. 55s.

August 1883.

1			2			3			4			5			6			7			8			9			10			11			12			Means.											
m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.	m.	m.	p.c.						
11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61			
11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61
11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61	11	11.4	61

September 1882.

Direction and Velocity

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.
1	D. V. 8	D. V. 12	D. V. 12	D. V. 12	D. V. 12	D. V. 12	D. V. 12	D. V. 12	D. V. 12	D. V. 12	D. V. 12	D. V. 12
2	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1
3	NW 4	NW 4	NW 3	NW 3	NW 3	NW 3	NW 3	NW 3	NW 3	NW 3	NW 3	NW 3
4	NNW 2	NNW 2	NNW 2	NNW 2	NNW 2	NNW 2	NNW 2	NNW 2	NNW 2	NNW 2	NNW 2	NNW 2
5	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1
6	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1
7	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2
8	W 2	W 2	W 2	W 2	W 2	W 2	W 2	W 2	W 2	W 2	W 2	W 2
9	S 2	S 2	S 2	S 2	S 2	S 2	S 2	S 2	S 2	S 2	S 2	S 2
10	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2
11	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1
12	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1
13	S 4	S 4	S 4	S 4	S 4	S 4	S 4	S 4	S 4	S 4	S 4	S 4
14	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1	SW 1
15	W 1	W 1	W 1	W 1	W 1	W 1	W 1	W 1	W 1	W 1	W 1	W 1
16	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1
17	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1
18	SSE 5	SSE 5	SSE 5	SSE 5	SSE 5	SSE 5	SSE 5	SSE 5	SSE 5	SSE 5	SSE 5	SSE 5
19	ESE 5	ESE 5	ESE 5	ESE 5	ESE 5	ESE 5	ESE 5	ESE 5	ESE 5	ESE 5	ESE 5	ESE 5
20	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1
21	C 4	C 4	C 4	C 4	C 4	C 4	C 4	C 4	C 4	C 4	C 4	C 4
22	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0
23	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4
24	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4
25	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1
26	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1
27	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2
28	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1
29	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2	NNE 2
30	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1
Mean	1.5	2.6	1.9	2.7	1.2	1.1	1.2	1.2	1.1	1.1	1.4	1.1

October 1882.

☉ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.
1	D. V. 5	D. V. 4	D. V. 4	D. V. 4	D. V. 4	D. V. 4	D. V. 4	D. V. 4	D. V. 4	D. V. 4	D. V. 4	D. V. 4
2	SWW 5	SWW 4	SWW 4	SWW 4	SWW 4	SWW 4	SWW 4	SWW 4	SWW 4	SWW 4	SWW 4	SWW 4
3	" 2	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1
4	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1
5	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1
6	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1
7	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2	ESE 2
8	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1
9	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1
10	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2
11	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4
12	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1
13	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1
14	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2
15	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1
16	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1
17	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1
18	E 2	E 2	E 2	E 2	E 2	E 2	E 2	E 2	E 2	E 2	E 2	E 2
19	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1
20	" 0	" 0	" 0	" 0	" 0	" 0	" 0	" 0	" 0	" 0	" 0	" 0
21	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1
22	" 0	" 0	" 0	" 0	" 0	" 0	" 0	" 0	" 0	" 0	" 0	" 0
23	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1
24	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1
25	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4
26	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4
27	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4
28	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1
29	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1
30	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1
31	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1
Mean	1.5	2.5	2.1	2.5	1.4	1.7	2.8	1.9	1.1	1.0	1.1	1.1

November 1882.

Direction and Velocity

Days.	1		2		3		4		5		6		7		8		9		10		11		Noon.	
1	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	
2	SSW	7	SSW	9	SSW	4	SSW	6	S	1	SSW	4	SSW	5	SSW	3	SSW	5	SSW	5	SSW	5	SSW	1
3	SSW	5	SSW	6	SSW	5	SSW	5	SSW	5	SSW	3	SSW	3	SSW	3	SSW	3	SSW	3	SSW	3	SSW	3
4	SSW	6	SSW	6	SSW	7	SSW	6	SSW	5	SSW	5	SSW	5	SSW	5	SSW	5	SSW	5	SSW	5	SSW	5
5	N	3	N	3	N	2	N	3	N	3	N	2	N	2	N	2	N	2	N	2	N	2	N	2
6	SSW	4	SSW	3	SSW	2	SSW	3	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
7	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
8	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
9	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
10	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
11	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
12	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
13	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
14	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
15	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
16	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
17	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
18	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
19	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
20	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
21	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
22	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
23	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
24	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
25	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
26	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
27	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
28	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
29	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
30	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
31	SSW	4	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2
Mean	2.6	2.7	2.4	2.6	2.7	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	

December 1882.

* One hemispherical cup found broken off.

φ = + 62° 38' 52".

Days	1		2		3		4		5		6		7		8		9		10		11		Noon.
1	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.	D. V.
2	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
3	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE
4	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
5	SSW	5	SSW	5	SSW	5	SSW	5	SSW	5	SSW	5	SSW	5	SSW	5	SSW	5	SSW	5	SSW	5	SSW
6	SSW	1	SSW	2	SSW	1	SSW	2	SSW	1	SSW	2	SSW	1	SSW	2	SSW	1	SSW	2	SSW	1	SSW
7	ESE	2	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE
8	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
9	SSW	2	SSW	1	SSW	1	SSW	1	SSW	1	SSW	1	SSW	1	SSW	1	SSW	1	SSW	1	SSW	1	SSW
10	SSW	4	SSW	3	SSW	3	SSW	3	SSW	3	SSW	3	SSW	3	SSW	3	SSW	3	SSW	3	SSW	3	SSW
11	N	2	N	2	N	2	N	2	N	2	N	2	N	2	N	2	N	2	N	2	N	2	N
12	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
13	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
14	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
15	E	1	E	1	E	1	E	1	E	1	E	1	E	1	E	1	E	1	E	1	E	1	E
16	SSW	1	SSW	2	SSW	1	SSW	2	SSW	1	SSW	2	SSW	1	SSW	2	SSW	1	SSW	2	SSW	1	SSW
17	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
18	SSW	2	SSW	1	SSW	1	SSW	1	SSW	1	SSW	1	SSW	1	SSW	1	SSW	1	SSW	1	SSW	1	SSW
19	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
20	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
21	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE
22	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
23	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
24	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
25	ESE	6	ESE	3	ESE	4	ESE	3	ESE	4	ESE	3	ESE	4	ESE	3	ESE	4	ESE	3	ESE	4	ESE
26	SSW	1	SSW	1	SSW	2	SSW	1	SSW	2	SSW	1	SSW	2	SSW	1	SSW	2	SSW	1	SSW	2	SSW
27	SSW	7	SSW	3	SSW	7	SSW	7	SSW	6	SSW	6	SSW	4	SSW	4	SSW	4	SSW	4	SSW	4	SSW
28	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
29	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C
30	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW
31	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW	2	SSW
Mean	1.5	1.1	1.1	1.4	1.5	1.1	1.1	1.6															

January 1883.

Direction and Velocity

in metres

Days.	1		2		3		4		5		6		7		8		9		10		11		Mean.		
	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.
1	NNW	1	NNW	1	C	0	NNW	1	NNW	2	NNW	1	C	0	NNW	1	NNW	2	NNW	2	NNW	2	NNW	1	
2	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
3	ESE	1	ESE	1	ESE	2	ESE	2	ESE	1	ESE	2	ESE	1	ESE	2	ESE	2	ESE	1	ESE	1	ESE	1	
4	ESE	1	ESE	1	ESE	2	ESE	3	ESE	1	ESE	2	ESE	2	ESE	2	ESE	2	ESE	2	ESE	1	ESE	1	
5	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
6	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
7	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
8	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
9	NNW	2	NNW	4	NNW	4	NNW	4	NNW	4	NNW	4	NNW	4	NNW	3	NNW	2	NNW	2	NNW	2	NNW	1	
10	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
11	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	
12	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
13	ESE	1	ESE	1	ESE	1	ESE	2	ESE	2	ESE	3	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	
14	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
15	C	0	NNW	1	NW	2	NW	1	N	3	NNW	9	NNW	9	NNW	9	NNW	11	NNW	11	NNW	10	NNW	10	
16	NNW	1	NNW	2	NNW	2	NNW	2	NNW	3	NNW	2	N	1	N	1	N	1	N	1	N	1	N	1	
17	NNW	2	NNW	2	NNW	2	NNW	2	NNW	1	NNW	1	N	1	N	1	N	1	N	1	N	1	N	1	
18	C	0	C	0	C	0	C	0	C	0	C	0	NNW	1	SE	1	SE	1	SE	1	SE	1	SE	1	
19	SSE	1	SSE	1	SSE	1	SSE	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	2	NNW	1	NNW	1	NNW	1	
20	NW	2	NW	3	NNW	3	NNW	4	NNW	4	NNW	4	NNW	3	NNW	3	NNW	3	NNW	3	NNW	3	NNW	3	
21	C	0	C	0	C	0	C	0	C	0	C	0	NNW	1	C	0	C	0	C	0	C	0	C	0	
22	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
23	C	0	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	2	NNW	2	NNW	2	NNW	2	NNW	1	NNW	1	
24	C	0	ESE	1	ESE	1	ESE	1	SSE	3	ESE	1	SE	1	SE	1	SE	1	SE	1	SE	1	SE	1	
25	N	1	N	1	N	1	N	1	N	1	N	1	N	1	N	1	N	1	N	1	N	1	N	1	
26	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
27	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	
28	NNW	4	NNW	4	NNW	4	NNW	4	NNW	3	NNW	3	NNW	3	NNW	3	NNW	3	NNW	3	NNW	3	NNW	3	
29	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
30	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
31	NNW	2	NNW	3	NNW	3	NNW	3	NNW	2	NNW	2	NNW	2	NNW	2	NNW	2	NNW	2	NNW	2	NNW	2	
Mean	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	

February 1883.

λ = + 02° 38' 52".

Days.	1		2		3		4		5		6		7		8		9		10		11		Mean.		
	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.	V.	D.
1	NNW	1	NNW	2	NNW	4	NNW	4	ESE	1	ESE	1	NNW	6	NNW	6	NNW	4	NNW	4	NNW	4	NNW	4	
2	SE	1	ESE	1	ESE	1	ESE	1	NNW	6	NNW	6	NNW	6	NNW	6	NNW	6	NNW	6	NNW	6	NNW	6	
3	SW	1	SSE	2	C	0	C	0	SSE	1	SSE	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	
4	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
5	NNW	11	NNW	14	NNW	15	NNW	1	NNW	1	NNW	8	NNW	10	NNW	9	NNW	9	NNW	9	NNW	6	NNW	6	
6	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
7	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
8	NW	1	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
9	NNW	6	NNW	8	NNW	5	NNW	3	WNW	3	WSW	2	WNW	3	WNW	3	WNW	3	WNW	3	WNW	3	WNW	3	
10	N	1	C	0	C	0	C	0	C	0	C	0	ESE	1	C	0	C	0	C	0	ESE	1	ESE	1	
11	NNW	5	NNW	1	NNW	9	NNW	3	NNW	6	NNW	5	NNW	2	NNW	3	NNW	3	NNW	3	NNW	3	NNW	3	
12	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
13	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
14	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	
15	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
16	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
17	NNW	5	NNW	5	NNW	3	NNW	3	NNW	4	NNW	4	NNW	5	NNW	5	NNW	5	NNW	5	NNW	6	NNW	6	
18	NNW	2	NNW	4	NNW	1	NNW	1	C	0	SSE	1	SSE	1	C	0	C	0	C	0	C	0	C	0	
19	NNW	3	NNW	1	NNW	1	NNW	1	NNW	2	NNW	3	NNW	1	NNW	3	NNW	3	NNW	3	NNW	3	NNW	3	
20	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
21	C	0	NE	1	ENE	2	ENE	3	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	
22	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	
23	NW	3	NW	2	NW	2	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	NNW	1	
24	NNW	1	NNW	1	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
25	NE	1	NE	1	ENE	1	ENE	2	ENE	1	ENE	1	ENE	1	ENE	1	ENE	1	ENE	1	ENE	1	ENE	1	
26	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	ESE	1	
27	NNW	1	NNW	1	NNW	1	N	1	N	1	N	1	N	1	N	1	N	1	N	1	N	1	N	1	
28	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	C	0	
Mean	2.6	2.5	2.4	2.4	2.0	1.9	2.0	2.0	1.9	2.0	1.9	1.8	1.9	1.9	1.8	1.9	1.9	1.8	1.9	1.8	1.9	1.8	1.9	1.8	

Velocity

in metres per second.

March 1883.

Noon.		1	2	3	4	5	6	7	8	9	10	11	Midnight.	Mean Velocity.
D. 1	E. 1	D. 1	E. 1	D. 1	E. 1	D. 1	E. 1	D. 1	E. 1	D. 1	E. 1	D. 1	E. 1	1.5
ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	1.7
NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	0.7
ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	ESE 4	1.8
C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	0.2
SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	4.1
ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	1.7
NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	2.1
ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	2.3
SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	SE 2	5.4
NNW 6	NNW 6	NNW 6	NNW 6	NNW 6	NNW 6	NNW 6	NNW 6	NNW 6	NNW 6	NNW 6	NNW 6	NNW 6	NNW 6	3.4
SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	SE 4	2.7
NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	NNW 5	3.0
SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	SE 1	1.9
NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	1.5
N 6	N 6	N 6	N 6	N 6	N 6	N 6	N 6	N 6	N 6	N 6	N 6	N 6	N 6	2.6
NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	1.7
C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	1.0
SSE 6	SSE 6	SSE 6	SSE 6	SSE 6	SSE 6	SSE 6	SSE 6	SSE 6	SSE 6	SSE 6	SSE 6	SSE 6	SSE 6	4.1
NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	2.3
" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	0.9
" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	1.8
" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	1.8
" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	0.4
" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	2.7
" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	1.1
" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	0.7
" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	0.7
" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	0.2
3.1	3.0	2.8	2.9	2.6	2.1	1.8	1.5	1.5	1.5	1.5	1.5	1.5	1.3	2.1

λ = -115° 43' 50" = -7h. 42m. 55s.

April 1883.

Noon.		1	2	3	4	5	6	7	8	9	10	11	Midnight.	Mean Velocity.
D. 1	E. 1	D. 1	E. 1	D. 1	E. 1	D. 1	E. 1	D. 1	E. 1	D. 1	E. 1	D. 1	E. 1	1.5
ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	2.0
NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	NNW 3	4.5
N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	N 1	0.5
E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	1.6
NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	1.0
ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	1.0
E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	1.2
NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	NW 1	1.2
ESE 6	ESE 6	ESE 6	ESE 6	ESE 6	ESE 6	ESE 6	ESE 6	ESE 6	ESE 6	ESE 6	ESE 6	ESE 6	ESE 6	3.5
SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	SE 5	2.7
NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	NNW 4	2.5
ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	ENE 1	1.7
SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	SSE 1	1.4
E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	E 1	1.3
NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	1.8
" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	1.0
" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	1.8
" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	3.8
" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	" 2	3.4
" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	2.7
" 7	" 7	" 7	" 7	" 7	" 7	" 7	" 7	" 7	" 7	" 7	" 7	" 7	" 7	4.7
" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	2.9
" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	7.9
" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	" 1	2.1
NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	NNW 1	2.2
ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	ESE 1	1.7
SE 6	SE 6	SE 6	SE 6	SE 6	SE 6	SE 6	SE 6	SE 6	SE 6	SE 6	SE 6	SE 6	SE 6	3.5
" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	" 5	1.1
" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	" 4	3.5
1.1	1.0	1.1	1.1	2.7	2.6	2.4	2.1	2.0	2.0	2.0	1.9	1.8	1.6	2.3

and Velocity

in metres per second.

May 1883.

Noon.		1	2	3	4	5	6	7	8	9	10	11	Midnight.	Mean Velocity.
5	D. 5													
6	ESE 5													3.6
7	NNW 5													6.0
8	ESE 5													4.2
9	SE 5													2.0
10	SSE 5													4.2
11	ESE 5													1.9
12	ESE 5													2.0
13	SSE 5													2.0
14	SE 5													2.0
15	SSE 5													3.8
16	SE 5													2.5
17	ESE 5													2.5
18	SE 5													2.2
19	ESE 5													2.7
20	ESE 5													3.3
21	SE 5													1.6
22	ESE 5													1.2
23	ESE 5													1.6
24	SE 5													3.7
25	ESE 5													1.7
26	SWW 5													1.4
27	ESE 5													3.1
28	SWW 5													2.3
29	NNW 5													1.3
30	ESE 5													1.5
31	SSE 5													1.2
32	NNW 5													1.5
33	W 5													0.8
34	NNW 5													0.9
35	N 5													4.3
36	SSE 5													2.6
37	ESE 5													2.5

λ = -115° 43' 50" = -7h. 42m. 55s.

June 1883.

Noon.		1	2	3	4	5	6	7	8	9	10	11	Midnight.	Mean Velocity.
1	D. 1													
2	ESE 1													3.2
3	ESE 1													1.8
4	ESE 1													1.9
5	W 1													1.7
6	NNW 1													4.0
7	N 1													4.2
8	ESE 1													2.9
9	NNW 1													2.5
10	NNW 1													1.9
11	N 1													3.1
12	NNW 1													1.9
13	SSE 1													2.2
14	ESE 1													1.9
15	SE 1													2.4
16	SSE 1													1.3
17	ESE 1													2.7
18	NNW 1													1.5
19	NNW 1													1.0
20	NNW 1													2.7
21	E 1													1.5
22	ESE 1													5.2
23	S 1													5.1
24	ESE 1													3.0
25	ESE 1													2.9
26	ESE 1													2.0
27	NNW 1													1.4
28	NNE 1													3.0
29	SSE 1													2.8
30	ESE 1													2.8
31	NNW 1													2.0
32	NNW 1													2.5

Wind.

July 1888.

Direction and Velocity

in metres

Table with columns for Days (1-11, Noon) and rows for wind directions and velocities (D, V) for each day. Includes a Mean row at the bottom.

August 1888.

̑ = +62° 38' 52".

Table with columns for Days (1-11, Noon) and rows for wind directions and velocities (D, V) for each day. Includes a Mean row at the bottom.

in metres per second.

July 1883.

and Velocity

Noon.		
V.	D.	V.
1	SSE	3
2	ESE	3
3	WNW	5
4	WNW	5
5	WNW	5
6	WNW	5
7	ESE	4
8	SSE	4
9	NNW	3
10	NNW	3
11	NNW	3
12	NNW	3
13	NNW	3
14	NNW	3
15	NNW	3
16	NNW	3
17	NNW	3
18	NNW	3
19	NNW	3
20	NNW	3
21	NNW	3
22	NNW	3
23	NNW	3
24	NNW	3
25	NNW	3
26	NNW	3
27	NNW	3
28	NNW	3
29	NNW	3
30	NNW	3
31	NNW	3
32	NNW	3
33	NNW	3
34	NNW	3
35	NNW	3
36	NNW	3
37	NNW	3
38	NNW	3
39	NNW	3
40	NNW	3
41	NNW	3
42	NNW	3
43	NNW	3
44	NNW	3
45	NNW	3
46	NNW	3
47	NNW	3
48	NNW	3
49	NNW	3
50	NNW	3
51	NNW	3
52	NNW	3
53	NNW	3
54	NNW	3
55	NNW	3
56	NNW	3
57	NNW	3
58	NNW	3
59	NNW	3
60	NNW	3
61	NNW	3
62	NNW	3
63	NNW	3
64	NNW	3
65	NNW	3
66	NNW	3
67	NNW	3
68	NNW	3
69	NNW	3
70	NNW	3
71	NNW	3
72	NNW	3
73	NNW	3
74	NNW	3
75	NNW	3
76	NNW	3
77	NNW	3
78	NNW	3
79	NNW	3
80	NNW	3
81	NNW	3
82	NNW	3
83	NNW	3
84	NNW	3
85	NNW	3
86	NNW	3
87	NNW	3
88	NNW	3
89	NNW	3
90	NNW	3
91	NNW	3
92	NNW	3
93	NNW	3
94	NNW	3
95	NNW	3
96	NNW	3
97	NNW	3
98	NNW	3
99	NNW	3
100	NNW	3

1	2	3	4	5	6	7	8	9	10	11	Midnight.	Mean Velocity.	
D. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	2.2
ESE	E	E	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	2.0
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	4.5
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	4.8
SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	3.0
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	3.7
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	1.8
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	1.5
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	5.5
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	4.4
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	2.6
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	1.5
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	5.5
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	4.4
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	2.6
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	1.5
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	1.8
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	1.2
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	2.3
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	3.2
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	2.8
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	1.8
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	3.7
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	4.0
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	4.0
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	2.9
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	3.0
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	3.5
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	1.1
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	1.3
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	0.3
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	2.0
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	2.7
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	3.0
1.1	1.4	1.1	1.2	1.1	1.9	2.6	2.5	2.0	1.5	2.1	2.5	2.7	

α = -115 43' 50" = -7h. 42m. 55s.

August 1883.

Noon.		
V.	D.	V.
1	ESE	5
2	E	5
3	E	5
4	NNW	1
5	NNW	1
6	NNW	1
7	NNW	1
8	NNW	1
9	NNW	1
10	NNW	1
11	NNW	1
12	NNW	1
13	NNW	1
14	NNW	1
15	NNW	1
16	NNW	1
17	NNW	1
18	NNW	1
19	NNW	1
20	NNW	1
21	NNW	1
22	NNW	1
23	NNW	1
24	NNW	1
25	NNW	1
26	NNW	1
27	NNW	1
28	NNW	1
29	NNW	1
30	NNW	1
31	NNW	1
32	NNW	1
33	NNW	1
34	NNW	1
35	NNW	1
36	NNW	1
37	NNW	1
38	NNW	1
39	NNW	1
40	NNW	1
41	NNW	1
42	NNW	1
43	NNW	1
44	NNW	1
45	NNW	1
46	NNW	1
47	NNW	1
48	NNW	1
49	NNW	1
50	NNW	1
51	NNW	1
52	NNW	1
53	NNW	1
54	NNW	1
55	NNW	1
56	NNW	1
57	NNW	1
58	NNW	1
59	NNW	1
60	NNW	1
61	NNW	1
62	NNW	1
63	NNW	1
64	NNW	1
65	NNW	1
66	NNW	1
67	NNW	1
68	NNW	1
69	NNW	1
70	NNW	1
71	NNW	1
72	NNW	1
73	NNW	1
74	NNW	1
75	NNW	1
76	NNW	1
77	NNW	1
78	NNW	1
79	NNW	1
80	NNW	1
81	NNW	1
82	NNW	1
83	NNW	1
84	NNW	1
85	NNW	1
86	NNW	1
87	NNW	1
88	NNW	1
89	NNW	1
90	NNW	1
91	NNW	1
92	NNW	1
93	NNW	1
94	NNW	1
95	NNW	1
96	NNW	1
97	NNW	1
98	NNW	1
99	NNW	1
100	NNW	1

1	2	3	4	5	6	7	8	9	10	11	Midnight.	Mean Velocity.	
D. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	V. WSW	3.5
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	2.4
E	E	E	E	E	E	E	E	E	E	E	E	E	2.4
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	1.7
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	3.2
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	1.4
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	2.1
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	3.4
C	C	C	C	C	C	C	C	C	C	C	C	C	0.9
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	3.5
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	4.0
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	4.3
E	E	E	E	E	E	E	E	E	E	E	E	E	4.0
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	2.8
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	4.8
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	3.0
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	1.5
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	1.6
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	3.2
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	5.5
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	3.5
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	2.1
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	1.2
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	1.7
E	E	E	E	E	E	E	E	E	E	E	E	E	2.2
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	2.2
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	1.2
E	E	E	E	E	E	E	E	E	E	E	E	E	1.3
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	1.5
ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	2.2
E	E	E	E	E	E	E	E	E	E	E	E	E	1.6
NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	1.3
1.1	1.1	1.0	2.8	2.6	2.5	2.3	2.2	2.2	2.2	2.3	2.1	2.6	

A 17420.

G

Amount, Form, and Direction of Clouds, &c.

September 1882.

Day.	1		2		3		4		5		6	
1	8 Cum	NW	8 Cum	NW	5 Cum	NW	8 Cum	NW ●	7 Cum-s	NW	7 Cum	NW
2	8 Cum-s	--	10 Nim	-- ●	9 Cum-s	--	9 Cum-s	--	9 Cum-s	--	9 Cum-s	--
3	10 Cum	--	10 Str	--	10 Str	--	10 Str	--	9 Str	--	Cir-e 4 Cum-s	NW
4	9 Str	--	7 Cum	--	2 Cir-e	NE	1 Cum-s	--	1 Cir-e 1 Cum-s	NNE	3 Cum-s	--
5	7 Cum	--	Cir-s 8 Cum-s	NNW	9 Str	--	8 Cum-s	--	10 Cum-s	--	10 Cum-s	--
6	10 Str	--	10 Str	--	9 Str	--	9 Str	--	8 Str	--	10 Cum, Cum-s	E
7	Cir-e 7 Str	SE	6 Str	--	6 Str	--	7 Cum-s	--	8 Cum-s	--	8 Cum-s	--
8	9 Str	--	7 Str	--	7 Str	--	6 Cum-s	--	5 Cum-s	--	Cir-e 4 Str	E
9	2 Str	--	0	--	0	--	0	--	1 Cir-s	SE	1 Str	--
10	--	--	0	--	0	--	1 Str	--	2 Str	--	Cir-s	SE
11	1 Str	--	4 Str	--	1 Str	--	8 Str	--	8 Cir-s	SE	10 Nim	●
12	10 Nim	-- ●	10 Nim	-- ●	10 Nim	-- ●	10 Nim	-- ●	10 Nim	-- ●	10 Nim	-- ●
13	8 Cum	--	9 Cum	--	9 Str	--	10 Str 10 Str	-- ●	10 Nim	-- ●	10 Nim	-- ●
14	2 Str	--	4 Str	--	1 Cum-s	--	1 Str	--	1 Cir-s	SW	1 Str	W
15	0	--	0	--	0	--	1 Str	--	1 Cir-s	--	1 Cum-s	--
16	8 Cum-s	--	8 Cum-s	--	6 Str	--	8 Str	--	4 Str	--	Cir-e 1 Str	SW
17	4 Str	--	2 Str	--	--	--	1 Cum-s	--	1 Cum-s	--	1 Cum-s	--
18	5 Str	--	7 Str	--	6 Cum-s	--	6 Cum-s	--	9 Cum-s	--	9 Cum-s	--
19	6 Str	--	4 Str	--	1 Str	--	6 --	W	6 Cir-s	W	7 Cir-s	SW
20	2 Str	--	2 Str	--	0	--	0	--	1 Str	--	1 Str	--
21	--	--	1 Str	--	6 Cum-s	--	4 Cum-s	--	4 Cum-s	--	1 Cum-s	--
22	0	--	--	--	--	--	0	--	1 Cum-s	--	1 Cum-s	--
23	2 Str	--	2 Str	--	1 Str	--	1 Cum	--	Cir-s 1 Str	E	Cir-e 1 Cum	SE
24	1 Str	--	1 Str	--	1 Str	--	4 Str	--	5 Str	--	6 Str	--
25	5 Nim	●	8 Nim	--	7 Str	--	4 Str	--	Cir-e 6 Str	W	1 Cum-s	--
26	Cir-s	N	Cir-s	NW	10 Str	--	10 Str	--	10 Str	--	1 Cum-s	--
27	10 Str	--	9 Str	--	9 Str	--	8 Str	--	9 Cum-s	--	10 Cum-s	--
28	Cir-s 7 Str	NW	4 Str	--	1 Str	--	8 Str	--	9 Str	--	8 Cum-s	--
29	1 Str	--	10 Str	--	1 Str	--	Cir-e 7 Str	NW	9 Str	SE	9 Str	--
30	9 Cum-s	--	10 Str	--	10 Cum-s	--	10 Cum-s	--	10 Cum-s	--	10 Cum-s	--
Mean	5.4		5.5		5.1		5.6		6.1		5.9	

Day.	7
1	8 Cum
2	9 Nim
3	Cum-s 1 Str
4	7 Cum
5	10 Cum-s
6	Cir-e 9 Cum, Cum
7	9 Cum-s
8	Cir-s 1 Cum-s
9	1 Cir-s
10	1 Cir-s
11	10 Cum-s
12	10 Nim
13	10 Nim
14	Cir-e 1 Str
15	Cir-e 1 Str
16	Cir-e 1 Str
17	4 Cum
18	Cir-s 9 --
19	4 Cir-e
20	Cir-e 1 Str
21	1 Cum-s
22	1 Str
23	1 Cum-s
24	1 Str
25	4 Cum-s
26	8 Cum-s
27	6 Cum-s
28	9 Str
29	8 Cum-s
30	5.7

Amount, Form, and Direction of Clouds, &c.

September 1882—continued.

Day	1	2	3	4	5	6	7			
1	2 Cum	2 Cum	1 Cir 2 Cum-s	1 Cir 2 Cum, Str	W	1 Cir 2 Cum-s, Str	W	1 Cir 4 Cir-e, Str	W	1 Cir, Cir-e 6 Str
2	1 Nim	1 Nim	1 Cum-s	1 Cum-s		1 Cir-e 4 Cum-s	NW	1 Cir-e 3 Cum-s	NW	1 Cir-e 9 Cum-s
3	1 Cum	1 Cum	1 Cum	6 Cum		1 Cir 4 Cum	NNW	1 Cum 3 Cum-s		1 Cir-e 5 Cum, Cum-s
4	1 Cum-s	1 Cum-s	1 Cum-s	ESE 10 Cum-s		10 Cum-s		10 Cum-s		10 Cum-s
5	1 Cum	1 Cum	1 Cum	1 Cum		10 Cum-s		10 Cum-s		10 Cum-s
6	1 Cum-s	1 Cum	1 Cum-s	1 Cum-s		1 Cum-s		1 Cum-s		1 Cum-s
7	1 Cum	1 Nim	1 Nim	1 Nim		1 Cum 9 Cum-s		1 Cum 9 Cum-s		1 Nim 10 Str
8	1 Cir-s 2 Cum	1 Cir-s 2 Cum	1 Cir-s	SW 1 Cir-s		1 Cir-s 1 Cum		1 Cir-s 1 Str	SW	1 Str
9	1 Cir-s	S 1 Cir-s	S 1 Cir-s	S 1 Cir-s		1 Cir-s		1 Cir-s		1 Cir-s
10	1 Cir-s	S 2 Cir-s	W 2 Cir-s	SW 1 Cir-s	SW	1 Cir-s	SW	1 Cir-s	SW	1 Cir-s
11	1 Str	∞ 8 Str	SW 8 Str	W 1 Str	SE 1 Str	1 Str 1 Cum	ESE ∞	10 Nim		1 Str 1 Cum 9 Cum-s
12	1 Nim	1 Cum-s	1 Cum-s	SE 1 Nim		1 Nim		1 Cum-s		1 Cum-s
13	1 Cum-s	1 Nim	1 Cum-s	1 Cir-s 6 Cum-s, Nim	SW	1 Cir-s 7 Cum-s, Nim	W	1 Cir-s 6 Cum-s	SW	10 Str
14	1 Cir-e 6 Cum-s	W 1 Cir-e 5 Cum-s	W 1 Cir-e 5 Cum-s	SW 1 Cir-e 4 Cum-s	SW	1 Cir-e 6 Cum-s	SW	1 Cir-e 4 Cum-s	SW	1 Cir-s
15	1 Cir-s 14 Cum	N 1 Cir-s 14 Cum	N 1 Cir-s 6 Cum	N 1 Cir-s 3 Str		1 Cum 9 Str		1 Cir-s 3 Str	N	1 Cum-s
16	1 Cir-s 6 Cum-s	S 1 Cir-s 6 Cum	N 1 Cir-s 6 Cum	N 1 Cir-s 5 Cum		1 Cir-s 4 Cum-s	NE	1 Cir-s 3 Cum-s	NW	1 Cum
17	1 Cum	1 Cum	1 Cum	1 Cir-e 9 Cum-s	SW	1 Cum 9 Cum-s	SW	1 Cum 9 Cum-s		9 Str
18	1 Cir-e	SW 1 Cir-s	SW 1 Cir-s	SW 1 Cir-s	SW	1 Cir-s	SW	1 Cir-s	SW	1 Cir-s
19	1 Cir-s	S 1 Cir-s	SSE 1 Cir-s	S 1 Cir-s	S	1 Cum-s	S	1 Cir-s	E	1 Str
20	1 Nim	1 Cum-s	1 Cir-s	SW 1 Cir-s	NW	1 Cir-s 4 Cum-s	SW	1 Cir-s 5 Cum-s	NW	1 Cir-e 1 Cum-s
21	1 Cir 5 Cum	SE 1 Cir 4 Cum	NW 1 Cir 6 Cum	NW 1 Cir 4 Cum	NW	1 Cir 11 Cum	SW	1 Cir 3 Str	NW	1 Cir-e 1 Cum
22	1 Cir-s	S 1 Cir-s	S 1 Cir-s	SW 1 Cir-s	SW	1 Cir-s	SW	1 Cir-s	W	1 Cir-e
23	1 Cir-s 5 Cum-s	— 1 Cir-s 5 Str	SW 1 Cir-s 5 Str	SW 1 Cir-s 6 Cir-e	E	5 Cum-s 1 Str	SW	1 Cir-s 7 Str	SW	5 Str 1 Str
24	1 Cir-e 1 Cum-s	W 1 Cum-s 9 Str	1 Cum-s 10 Nim	10 Nim		10 Nim 9 Str		1 Cum-s 6 Str		6 Cum-s
25	1 Cir 8 Cum-s	NNW 1 Cum 8 Cum-s	1 Cum 5 Cum-s	NNW 1 Cum 5 Cum-s		1 Cum 5 Cum-s	SE	1 Cum 9 Cum-s		7 Str
26	1 Cum-s	1 Cum-s	1 Cum-s	1 Cum-s		1 Cum-s		1 Cum-s		9 Cum-s
27	1 Cum	1 Cum	1 Cum-s	1 Cum-s		1 Cum-s		1 Cum-s		9 Str
28	1 Cum-s	1 Cum-s	1 Cum-s	1 Cum-s		1 Cum-s		1 Cum-s		9 Str
29	1 Cum-s	1 Cum-s	1 Cum-s	1 Cum-s		1 Cum-s		1 Cum-s		9 Str
30	1 Cum-s	1 Cum-s	1 Cum-s	1 Cum-s		1 Cum-s		1 Cum-s		9 Str
Mean	6.3	6.1	6.2	6.0		5.9		6.4		6.1

Sums of Hygrometers 45 ●, 4 ✕, 5 —, 1 △, 1 ∞, 1 Δ

September 1882—continued.

	7	8	9	10	11	Midnight.	Mean Daily Amount of Cloud.
W	Cir, Cir-c	Cum	Cum				
—	6 Str	8 Str	7 Cum-a	8 Cum-a	9 Cum-a	8 Cum-a	5.6
NW	Cir-c	3 Cum-a	3 Cum-a	Cir	NNW	Cir-c, Cir-s	8.1
	9 Cum-a			3 Cum		3 Cum, Str	
	Cir-a	NNW	9 Cum	10 Cum-a	10 Str	10 Cum-a	7.4
	5 Cum, Cum-a		9 Cum				
	10 Cum-a		5 Cum-a	9 Cum	9 Cum	8 Cum	6.7
	Cir-c	NE	9 Str	9 Str	9 Str	10 Str	8.7
	10 Cum-a		7 Str				
	8 Cum-a		Cum-a	4 Str	1 Str	Cum	8.0
	Nim	●	7 Str	4 Cum-a	5 Cum-a	4 Str	8.1
	10 Str	●	9 Cum-a			9 Cum-a	
SW	1 Str	1 Str	1 Str	1 Str	0	0	2.5
	1 Cir-a	S	1 Cum-a	1 Str	0	0	1.0
SW	1 Cir-a	SW	Cir-a	ESE	0	1 Str	1.2
●	Cum-a		1 Str			2 Str	
	9 Str	8	10 Str	10 Str	10 Str	10 Str	8.5
	Cum						
	9 Cum-a		9 Cum-a	8 Cum	1 Str	7 Cum-a	8.9
SW	10 Str	10 Str	9 Str	8 Str	2 Str	2 Str	8.6
SW	1 Cir-a	1 Str	1 Str	0	1 Cir-c	SW	3.0
N	8 Cum-a	3 Cir-a	1 Str	0	7 Cum-a	8 Cum-a	3.4
NW	8 Cum	9 Cum-a	8 Cum-a	8 Cum-a	9 Str	2 Str	7.2
	9 Str	9 Str	6 Str	5 Str	2 Str	0	5.5
SW	1 Cir-a	SW	1 Str	0	6 Str	6 Str	5.2
E	1 Str	1 Str	0	0	0	0	2.6
NW	Cir-c	NW	Cir-c	NW	0	0	4.7
	8 Cum-a	4 Cum-a	0	6 Str			
XW	Cir-c	NW	1 Str	0	0	0	3.1
W	4 Cir-c	SW	1 Cir-c	SW	0	1 Str	1.7
SW	5 Str	5 Str	5 Str	3 Str	4 Str	4 Str	2.5
	3 Str	1 Str	9 Str	10 Str	10 Str	10 Str	6.7
	6 Cum-a	6 Cum-a	5 Cum-a	7 Cum-a	Cir-c	1 Cir-c	5.4
	7 Str	8 Str	Cir-c	8 Str	9 Str	7 Str	6.7
	9 Cum-a	10 Str	7 Str	10 Str	8 Str	4 Str	9.2
	9 Str	9 Str	9 Str	9 Str	9 Str	10 Str	7.0
	9 Str	9 Str	Cum-a	8 Cum-a	9 Str	9 Cum-a	8.1
	9 Str	9 Str	9 Str	1 Str	1 Str	1 Str	8.0
	6.1	5.8	4.8	4.7	5.1	4.9	6.8

Amount, Form, and Direction of Clouds, &c. 34

October 1882.

Day.	1	2	3	4	5	6
1	1 Str	1 Str	1 Str	Cum ^{us} 1 Str	1 Str	1 Str
2	0	0	0	0	0	0
3	0	0	0	0	0	1 Str
4	0	0	0	0	0	1 Str
5	9 Nim	6 Nim	1 Str	1 Str	1 Str	1 Str
6	10 Str	10 Str	10 Nim	10 Nim	10 Cum ^{us}	10 Cum ^{us}
7	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str
8	6 Str	9 Str	9 Str	7 Str	5 Str	5 Str
9	0	0	0	0	0	0
10	0	0	1 Str	0	1 Str	1 Str
11	9 Str	8 Str	8 Str	9 Str	6 Str	9 Str
12	10 Nim	10 Nim	10 Nim	10 Nim	10 Nim	10 Nim
13	0	0	0	0	0	0
14	1 Str	10 Str	10 Str	10 Str	10 Str	10 Str
15	10 Nim	10 Str	9 Str	10 Str	9 Str	10 Str
16	9 Str	9 Str	9 Str	9 Str	9 Str	Cum ^{us} 9 Str
17	1 Str	9 Str	8 Str	9 Str	9 Str	10 Str
18	10 Nim	9 Str	9 Str	8 Str	8 Str	9 Str
19	9 Str	10 Str	10 Str	10 Str	9 Str	Cum ^{us} 1 Str
20	10 Nim	10 Nim	10 Nim	10 Nim	10 Nim	10 Nim
21	8 Str	10 Str	10 Str	10 Str	10 Str	10 Str
22	10 Nim	10 Nim	10 Str	10 Str	10 Str	10 Str
23	1 Str	1 Str	1 Str	1 Str	1 Str	10 Str
24	1 Str	1 Str	1 Str	10 Nim	10 Nim	10 Str
25	8 Str	8 Str	9 Str	10 Str	9 Str	1 Str
26	9 Str	Cum ^{us} 10 Cum ^{us}	Cum ^{us} 9 Str	10 Str	10 Str	10 Nim
27	10 Nim	9 Str	10 Str	10 Cum ^{us}	10 Cum ^{us}	9 Cum ^{us}
28	6 Cir ^e	6 Cir ^e	9 Str	10 Str	1 Str	Cir ^e 7 Str
29	10 Nim	10 Nim	10 Nim	10 Nim	10 Nim	10 Nim
30	10 Nim	10 Nim	6 Str	4 Str	0	0
31	10 Nim	10 Nim	10 Str	8 Str	6 Str	4 Str
Mean	4.5	7.5	5.1	5.1	6.4	6.9

October 1882—continued.

	7	8	9	10	11	Noon.	Mean Daily Amount of Cloud.
1 Str	—	1 Str	—	—	—	—	1.1
0 —	—	—	—	—	—	—	0.2
1 Cir-a	—	—	—	—	—	—	0.5
4 Str	—	4 Str	—	7 Cum-s	—	5 Str	2.6
9 Str	—	10 Str	—	9 Str	—	10 Str	6.5
10 Str	—	10 Str	—	10 Str	—	10 Str	9.9
4 Str	—	5 Str	—	5 Str	—	7 Str	8.0
1 Str	—	—	—	—	—	—	3.7
9 Str	—	6 Str	—	—	—	—	2.2
6 Str	—	3 Str	—	5 Str	—	3 Str	4.5
10 Nim	—	10 Nim	—	10 Nim	—	10 Str	9.4
10 Nim	—	10 Nim	—	10 Str	—	10 Str	12.0
10 Nim	—	10 Nim	—	10 Str	—	10 Str	9.8
10 Str	—	10 Nim	—	10 Nim	—	10 Str	9.9
9 Str	—	10 Str	—	9 Str	—	8 Str	9.3
10 Str	—	9 Str	—	10 Str	—	9 Str	8.1
1 Str	—	9 Str	—	10 Str	—	10 Str	8.2
9 Str	—	10 Nim	—	5 Str	—	10 Str	9.3
10 Str	—	10 Nim	—	10 Nim	—	10 Nim	8.4
10 Nim	—	10 Nim	—	10 Nim	—	10 Str	10.0
10 Nim	—	10 Nim	—	10 Nim	—	10 Nim	9.8
9 Str	—	9 Str	—	10 Str	—	10 Str	9.6
10 Str	—	10 Str	—	10 Str	—	10 Nim	10.0
10 Str	—	10 Str	—	9 Str	—	8 Str	9.9
Cum-s	—	8 Cum-s	—	10 Cum-s	—	9 Str	8.0
10 Str	—	10 Nim	—	10 Nim	—	10 Str	9.7
10 Str	—	10 Str	—	10 Str	—	10 Str	9.2
10 Nim	—	10 Nim	—	10 Nim	—	10 Nim	9.4
10 Nim	—	10 Nim	—	10 Nim	—	10 Nim	10.0
10 Nim	—	10 Nim	—	10 Str	—	10 Nim	8.5
1 Str	—	1 Str	—	10 Str	—	10 Nim	8.4
7.5	7.6	7.5	8.6	8.6	8.8		8.6

Amount, Form, and Direction of Clouds, &c.

November 1882.

Day.	1	2	3	4	5	6
1	10 Nim	— ☼ 4 Str	— ☉ 3 Str	— ☉	—	—
2	10 Str	— — 10 Str	— — 1 Str	— — 1 Str	— — 1 Str	— — 10 Str
3	10 Str	— — 10 Str	— — 10 Str	— — 1 Str	— — 1 Str	— — 10 Str
4	10 Nim	— ☼ 10 Nim	— ☼ 1 Nim	— ☼ 1 Nim	— ☼ 1 Nim	— ☼ 10 Nim
5	10 Str	— ☽ 10 Str	— ☽ 1 Str	— ☽ 1 Str	— ☽ 1 Str	— ☽ 10 Str
6	0 —	— ☽ —	— ☽ —	— ☽ —	— ☽ 1 Str	— ☽ 1 Str
7	10 Nim	— ☼ 3 Str	— — ☽ —	— — ☽ 1 Str	— — ☽ —	— — ☽ 1 Str
8	1 Str	— ☽ 0 —	— — ☽ —	— — ☽ —	— — ☽ —	— — ☽ —
9	10 Nim	— ☼ 8 Str	— — 1 Nim	— — ☽ 1 Str	— — ☽ 1 Nim	— — ☽ 10 Str
10	5 Nim	— ☼ 10 Nim	— — 1 Str	— — 1 Str	— — 10 Str	— — ☽ 9 Str
11	10 Str	— — 1 Str	— — 1 Str	— — 1 Str	— — 9 Str	— — ☽ 8 Str
12	1 Str	— ☽ 0 —	— — ☽ —	— — ☽ —	— — ☽ —	— — ☽ —
13	10 Str	— ☽ 1 Str	— — ☽ 6 Str	— — ☽ 4 Str	— — ☽ 1 Str	— — ☽ 1 Str
14	10 Str	— — 10 Str	— — 10 Str	— — 10 Str	— — 10 Str	— — 10 Nim
15	10 Nim	— ☼ 10 Nim	— — 1 Nim	— — 1 Str	— — 1 Str	— — 10 Str
16	10 Str	— — 10 Str	— — 3 Str	— — 4 Str	— ☽ 4 Str	— ☽ 6 Str
17	3 Str	— ☽ 3 Str	— — ☽ 1 Str	— — ☽ 1 Str	— — ☽ —	— — ☽ —
18	5 Str	— ☽ 9 Str	— — ☽ 8 Str	— — ☽ 8 Str	— — ☽ 1 Str	— — ☽ 4 Str
19	9 Str	— — 9 Str	— — 9 Str	— — 9 Str	— — 1 Str	— — 10 Str
20	5 Str	— — 5 Str	— — ☽ 1 Str	— — ☽ 1 Str	— — 5 Str	— — 5 Str
21	3 Str	— ☉ Cir-c 1 Str	— ☉ 3 Str	— — 4 Str	— — 1 Str	— ☽ 1 Str
22	10 Cir-c	NW ☉ 1 Str	— ☉ 1 Str	— —	— ☽ —	— — 0 —
23	10 Str	— — 10 Str	— — 1 Str	— — 1 Str	— — 1 Str	— — 10 Str
24	10 Str	— — 10 Str	— — 1 Str	— — 1 Str	— — 1 Str	— — 10 Str
25	10 Str	— — 10 Str	— — 10 Str	— — 1 Str	— — 10 Str	— — 10 Str
26	1 Str	— — 10 Str	— — 10 Str	— — 1 Str	— — 10 Str	— — 10 Str
27	7 Str	— ☉ 5 Str	— ☉ 1 Str	— — ☽ 6 Str	— — ☽ 6 Str	— — 9 Str
28	10 Nim	— ☼ 10 Str	— — 1 Str	— — 10 Nim	— — ☼ 10 Nim	— — ☼ 10 Nim
29	10 —	— + 10 —	— + 10 Str	NNW ☉ 10 Str	— — ☽ 10 Str	NNW + ☉ 10 Str
30	0 —	— ☽ —	— ☽ —	— ☽ —	— —	— — 0 —
Mean	5.5	7.1	6.3	5.6	5.5	6.2

November 1882—continued.

6	7	8	9	10	11	Midnight	Mean Daily Amount of Cloud.
	10 Str	10 Str	7 Str	10 Str	10 Str	10 Str	1.6
	10 Str	10 Nim	10 Nim	10 Nim	10 Str	10 Str	10.0
	10 Nim	10 Nim	10 Nim	10 Nim	10 Nim	10 Nim	9.0
	8 Str	1 Str	1 Str	1 Str	6 Str	5 Str	8.6
	0	1 Str	0	0	0	0	7.6
	0 Str	10 Str	10 Nim	10 Nim	10 Nim	10 Nim	7.7
	1 Str	1 Str	1 Str	0 Str	1 Str	1 Str	1.6
	10 Str	10 Str	10 Str	10 Str	10 Str	1 Str	5.3
	10 Str	10 Str	10 Str	10 Str	1	1 Nim	8.1
	10 Str	10 Str	10 Str	10 Str	1	1 Str	9.0
	0	1 Str	1 Str	1 Str	1 Str	1	1.5
	4 Str	7 Str	7 Str	0 Str	0 Str	5 Str	1.1
	0	0	0	1 Str	10 Str	1 Str	7.4
	10 Str	10 Str	10 Str	10 Str	10 Str	1 Str	10.0
	6 Str	1 Str	1 Str	0 Str	10 Str	1 Str	7.0
	0	0	0	0	0	0	5.2
	5 Str	4 Str	1 Str	1 Str	4 Str	5 Str	6.1
	10 Str	10 Str	10 Str	10 Str	10 Str	5 Str	8.5
	6 Str	5 Str	4 Str	5 Str	4 Str	1 Str	8.1
	1 Str	0	0	1 Cir-c	1 Cir-c	1 Str	4.9
	0	0	0	0	0	1 Cir-c	1.1
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	7.5
	10 Str	10 Str	1 Str	1 Str	10 Str	10 Str	10.0
	10 Str	10 Str	1 Str	10 Str	10 Str	10 Str	10.0
	10 Nim	10 Nim	1 Nim	10 Nim	10 Str	10 Str	10.0
	10 Nim	10 Str	10 Str	0 Str	7 Str	7 Str	9.7
	1 Str	1 Cir-c	1 Str	1 Str	1 Str	6 Str	4.7
	10 Nim	10 Nim	10 Nim	10 Str	0 Str	1 Str	10.0
	1 Str	3 Str	0	0	0	0	4.0
	1 Str	1 Str	1 Str	4 Str	4 Str	4 Str	1.2
	6.1	6.2	6.1	6.5	6.8	6.7	6.9

Amount, Form, and Direction of Clouds, &c.

December 1882.

Day	1	2	3	4	5	6
1	9 Str	—	10 Str	—	10 Str	—
2	0	—	10 Str	—	10 Str	—
3	7 Str	—	10 Str	—	10 Str	—
4	0	—	1 Str	—	1 Str	—
5	0	—	—	—	—	—
6	0	—	—	—	—	—
7	0	—	—	—	—	—
8	10 Str	—	10 Str	—	10 Str	—
9	7 Str	—	10 Str	—	10 Str	—
10	0	—	—	—	—	—
11	—	—	—	—	—	—
12	3 Str	—	4 Str	—	4 Str	—
13	2 Str	—	2 Nim	—	2 Nim	—
14	0	—	—	—	—	—
15	0	—	—	—	—	—
16	6 Str	—	3 Str	—	3 Str	—
17	7 Str	—	—	—	—	—
18	5 Str	—	—	—	—	—
19	0	—	—	—	—	—
20	1 Str	—	—	—	—	—
21	5 Str	—	—	—	—	—
22	—	—	—	—	—	—
23	10 Nim	—	10 Nim	—	10 Cum-s	—
24	6 Cum-s Cum	—	1 Str	—	7 Str	—
25	9 Str Cir-s	—	10 Str	—	9 Cum-s	—
26	6 Str	SW	4 Str	—	9 Cum-s	—
27	1 Str	—	1 Str	—	1 Str	—
28	1 Str	—	10 Str	—	10 Str	—
29	—	—	—	—	—	—
30	7 Str	—	7 Str	—	5 Str	—
31	1 Str	—	—	—	9 Str	—
Mean	3.6	4.1	3.6	3.9	4.0	4.9

Day	7
1	10 Str
2	10 Str
3	10 Str
4	6 Str
5	1 Str
6	0
7	0
8	10 Str
9	7 Str
10	1 Str
11	10 Str
12	4 Str
13	4 Str
14	1 Str
15	7 Str
16	4 Str
17	10 Str
18	3 Str
19	4 Str
20	5 Str
21	5 Str
22	5 Str
23	10 Nim
24	1 Str
25	4 Str
26	10 Str
27	1 Str
28	4 Str
29	7 Str
30	9 Str
31	0
Mean	5.1

December 1882.

6	7	8	9	10	11	Noon.	Daily Amount of Downfall.
	10 Str	10 Str	10 Str	10 Nim	10 Str	10 Str	m.m.
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	0.6
	10 Str	10 Str	10 Nim	10 Str	10 Str	10 Str	0.1
	6 Str	6 Str	10 Str	10 Str	10 Str	10 Str	
	1 Str	1 Str	1 Str	1 Str	1 Str	1 Str	
	0	0	1 Cir-s	0	0	0	
	0	+	1 Cir-s	NE +	1 Cir-s	1 Cir-s	
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	
	1 Str	1 Str	1 Str	1 Str	1 Str	1 Str	0.5
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	
	4 Str	10 Str	10 Str	10 Str	10 Str	10 Str	1.3
	4 Str	4 Str	5 Str	5 Str	4 Cum-s	10 Str	0.9
	1 Str	1 Str	1 Cir-s	10 Str	10 Str	10 Str	0.1
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	0.2
	4 Str	6 Str	9 Str	9 Cum-s	10 Cum-s	10 Str	2.3
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	
	1 Str	10 Str	10 Str	10 Str	10 Str	10 Str	3.7
	4 Str	4 Str	10 Str	10 Str	10 Str	10 Str	0.1
	5 Str	10 Str	10 Str	10 Str	10 Str	10 Str	
	5 Str	10 Str	10 Str	10 Str	10 Str	10 Str	
	5 Str	10 Str	10 Str	10 Str	10 Str	10 Str	
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	
	1 Str	1 Str	1 Str	1 Str	1 Str	1 Str	
	4 Str	4 Str	1 Str	1 Str	1 Str	1 Str	0.6
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	
	1 Str	1 Str	1 Str	1 Str	1 Str	1 Str	
	4 Str	4 Str	5 Str	6 Str	5 Str	5 Str	0.2
	7 Str	7 Str	3 Str	10 Str	10 Str	10 Str	
	1 Str	1 Str	10 Str	10 Str	10 Str	10 Str	
	0	0	0	0	0	0	
	5.2	6.3	6.3	6.3	6.4	6.2	14.4

Amount, Form, and Direction of Clouds, &c. 64

December 1882—continued.

Day.	1		2		3		4		5		6	
1	Cir-c 3 Cir-c	NW	12 Nim	—	12 Nim	—	12 Nim	—	12 Nim	—	12 Nim	—
2	Cir-c 9 Str	—	12 Str	—	12 Str	—	12 Str	—	12 Str	—	12 Str	—
3	Cir-c 5 Cir-c	NW	Cir, Cir-c	NW	Cir-c, Cir-c	NW	2 Str	—	4 Str	—	4 Str	—
4	12 Nim	—	9 Nim	—	10 Str	—	9 Str	—	7 Str	—	4 Str	—
5	0	—	2	—	1 Str	—	1 Str	—	0	—	0	—
6	—	—	0	—	1 Str	—	—	—	0	—	0	—
7	4 Cir-c 3 Str	NE	Cir-c	NE	4 Str	NE	4 Str	—	6 Str	—	9 Str	—
8	4 Str	NW	6 Cir-c	—	1 Str	—	3 Str	—	6 Str	—	1 Str	—
9	Cir-c, Cir-c 2 Str	—	6 Str, Cir-c	NW	1 Str	NW	1 Str	NW	1 Str	—	0	—
10	2 Str	—	8 Str	—	8 Str	—	8 Str	—	3 Str	—	2 Str	—
11	8 Nim	—	12 Nim	—	12 Nim	—	12 Nim	—	7 Nim	—	6 Nim	—
12	4 Cir-c 9 Nim	—	12 Nim	—	12 Nim	—	12 Nim	—	6 Nim	—	3 Nim	—
13	4 Cir-c 5 Str	NE	1 Cir-c	—	1 Str	—	1 Str	—	1 Str	—	0	—
14	12 Str	—	12 Str	—	12 Str	—	12 Nim	—	6 Nim	—	6 Nim	—
15	12 Nim	—	12 Nim	—	12 Nim	—	12 Str	—	0 Str	—	12 Nim	—
16	12 Str	—	12 Str	—	12 Nim	—	12 Nim	+	12 Nim	—	12 Nim	—
17	6 Cir-c	—	4 Cir-c	NW	4 Cir-c	NW	5 Str	—	1 Str	—	12 Str	—
18	4 Cir-c	NW	5 Cir-c	NW	3 Cir-c	NW	1 Str	—	4 Str	—	0	—
19	4 Cir-c 2 Str	—	7 Str	—	8 Str	—	7 Str	—	6 Str	—	3 Str	—
20	4 Cir-c	—	2 Cir-c	—	1 Cir-c	—	2 Str	—	1 Str	—	3 Str	—
21	4 Cir-c 7 Str	—	4 Str	SE	4 Cir-c	—	4 Str	—	4 Str	—	4 Str	—
22	3 Cum-c	—	12 Cum-c	—	12 Cum-c	—	12 Cum-c	—	12 Cum-c	—	12 Nim	—
23	3 Nim	—	4 Cir-c	—	4 Str	—	4 Str	—	4 Str	—	4 Str	—
24	6 Cum-c 9 Str	—	12 Str	—	12 Str	—	12 Str	—	12 Str	—	12 Str	—
25	6 Str	—	5 Str	—	5 Str	—	9 Str	—	5 Str	—	9 Str	—
26	4 Cir-c 3 Cum-c	—	12 Cir-c	SW	4 Cir-c	—	5 Str	—	4 Str	—	1 Str	—
27	Cir, Cir-c 4 Str	SW	Cir, Cir-c	WNW	4 Str	—	4 Str	NW	4 Str	—	12 Str	—
28	1 Str	—	1 Str	—	1 Str	—	0	—	—	—	0	—
29	4 Cir-c	NW	12 Cir-c	NW	3 Str	—	3 Str	—	4 Str	—	2 Str	—
30	4 Str	—	1 Str	—	12 Cum-c	—	4 Str	—	2 Str	—	0	—
31	—	—	—	—	—	—	0	—	—	—	0	—
Mean	6.2		6.1		6		5.5		4.3		4.3	

Sums of Hydrometers 61 1/2, 1, 5, 2, 4, 17 1/2

7
3 Nim
12 Str
1 Str
0
0
0
10 Str
1 Str
0
0 Nim
0
0
1 Str
10 Str
10 Nim
9 Str
0
1 Str
3 Str
4 Cum-c
12 Nim
1 Str
12 Str
9 Str
1 Str
10 Str
3.6

December 1882—continued.

	7	8	9	10	11	Midnight.	Mean Daily Amount of Cloud.
	3 Nim	3 Nim	4 Nim	4 Nim	6 Nim	5 Nim	3.4
	10 Str	10 Nim	10 Nim	10 Nim	9 Str	9 Str	3.5
	1 Str	0	1 Str	1 Str	0	0	4.2
	0	1 Str	1 Str	1 Str	0	0	4.7
	0	0	0	0	0	0	0.4
	0	0	0	0	0	0	0.1
	10 Str	10 Str	10 Str	10 Str	13 Str	10 Str	3.9
	3 Str	0	0	4 Str	6 Str	6 Str	6.7
	0	0	0	0	0	0	4.7
	0	0	0	0	0	0	2.2
	6 Nim	5 Nim	6 Nim	4 Nim	6 Str	5 Str	7.0
	0	0	1 Str	1 Str	2 Str	3 Str	5.5
	1 Str	1 Str	0	0	0	0	2.1
	1 Str	1 Str	0	0	0	0	3.7
	10 Str	10 Str	10 Str	10 Str	9 Str	8 Str	3.2
	10 Nim	10 Nim	9 Nim	10 Nim	6 Nim	7 Str	4.8
	9 Str	9 Str	Cir ^s 8 Str	Cir ^c 6 Str	NW 5 Str	5 Str	6.9
	0	0	0	0	0	0	2.7
	3 Str	2 Str	0	0	1 Str	1 Str	3.6
	1 Str	Cir ^s 9 Str	1 Str	1 Str	5 Str	6 Str	3.0
	4 Cum ^s	1 Str	1 Str	0	0	0	4.8
	10 Nim	10 Nim	10 Nim	10 Nim	10 Str	10 Nim	7.2
	1 Str	1 Str	1 Str	Cum ^s 9 Str	9 Cum ^s	10 Cum ^s	7.2
	10 Str	10 Str	10 Str	10 Nim	10 Str	10 Nim	6.8
	9 Str	9 Str	10 Str	10 Str	9 Str	9 Str	6.7
	1 Str	Cir ^s 6 Str	1 Str	Cir ^s 1 Str	ENE 1 Str	1 Str	5.6
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	4.7
	1 Str	1 Str	1 Str	1 Str	0	0	3.8
	0	0	0	1 Str	6 Str	6 Str	3.1
	0	0	0	0	0	0	5.6
	1 Str	1 Str	1 Str	1 Str	0	0	2.1
	3.6	4.0	1.6	3.8	3.8	3.9	4.9

Amount, Form, and Direction of Clouds, &c.

January 1883

Day.	1	2	3	4	5	6
1	—	—	—	—	—	—
2	—	—	—	—	—	—
3	—	—	—	—	—	—
4	—	—	—	—	—	—
5	0	—	—	—	—	—
6	0	—	—	—	—	—
7	—	—	—	—	—	—
8	6 Str	—	—	—	—	—
9	8 Str	—	—	—	—	—
10	1 Str	—	—	—	—	—
11	8 Str	—	—	—	—	—
12	2 Str	—	—	—	—	—
13	3 Str	—	—	—	—	—
14	3 Str	—	—	—	—	—
15	1 Nim	—	—	—	—	—
16	1 Str	—	—	—	—	—
17	—	—	—	—	—	—
18	—	—	—	—	—	—
19	6 Str	—	—	—	—	—
20	1 Str	—	—	—	—	—
21	0	—	—	—	—	—
22	—	—	—	—	—	—
23	—	—	—	—	—	—
24	—	—	—	—	—	—
25	1 Str	—	—	—	—	—
26	9 Str	—	—	—	—	—
27	5 Str	—	—	—	—	—
28	10 Str	—	—	—	—	—
29	1 Str	—	—	—	—	—
30	1 Str	—	—	—	—	—
31	—	—	—	—	—	—
Mean	3.1	3.2	3.1	3.0	3.0	3.1

Day.	7
1	0
2	0
3	0
4	0
5	0
6	0
7	1 Str
8	1 Str
9	4 Str
10	4 Str
11	10 Nim
12	1 Str
13	1 Str
14	1 Str
15	10 Nim
16	1 Str
17	1 Str
18	—
19	10 Str
20	1 Str
21	1 Str
22	1 Str
23	—
24	1 Str
25	4 Str
26	10 Str
27	9 Str
28	10 Str
29	1 Str
30	0
31	1 Str
Mean	3.9

Amount, Form, and Direction of Clouds, &c.

January 1883 continued.

Day.	1	2	3	4	5	6	7
1	1 Cir-s	1 Cir-s	2 Str	4 Str	3 Str	1 Str	0
2	1 Cir-s	0	1 Cir-s	1 Cir-s	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	1 Cir-s 1 Str	0	0	0	0
6	0	0	1 Cir-s	1 Cir-s	0	0	0
7	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Str	1 Str	0
8	10 Str	10 Str	10 Str	10 Str	10 Str	7 Str	7 Str
9	1 Cir-s	1 Cir-s	1 Cir-s	1 Str	1 Str	1 Str	1 Str
10	1 Cir-s	1 Cir-s	1 Cir-s	1 Str	6 Str	1 Str	1 Str
11	1 Nim	10 Nim	10 Str	10 Str	10 Str	10 Str	9 Str
12	0	1 Str	1 Cir-s	1 Str	1 Str	1 Str	1 Str
13	1 Cir	1 Cir	1 Cir-s	1 Cir-s	1 Str	1 Str	1 Str
14	1 Cir-s	1 Str	1 Str	1 Str	1 Str	1 Str	1 Str
15	10 Str	8 Cum-s	8 Str	1 Str	1 Str	1 Str	1 Str
16	1 Cir-s	1 Cir-s	1 Cir-s	1 Str	1 Str	1 Str	1 Str
17	0	0	0	0	0	0	0
18	1 Str	1 Str	1 Str	6 Str	1 Str	1 Cum-s	1 Cum
19	1 Cir-s	1 Cir-s	1 Str	1 Str	1 Str	0	1 Str
20	1 Str	1 Str	1 Str	1 Str	1 Str	1 Nim	0
21	0	0	0	0	0	0	0
22	1 Cir-s	1 Cir-s	1 Cir-s	1 Str	1 Str	1 Str	10 Cum-s
23	0	0	0	0	0	0	0
24	1 Cir-s	1 Cir-s	1 Cir-s	1 Str	1 Str	1 Str	1 Str
25	1 Cum-s	9 Cum-s	9 Str	10 Nim	10 Nim	10 Str	6 Str
26	1 Nim	9 Nim	9 Cum-s	10 Str	9 Str	5 Nim	1 Str
27	1 Str	10 Str	1 Nim	10 Nim	10 Nim	10 Nim	10 Nim
28	9 Str	9 Nim	8 Nim	10 Str	1 Str	9 Str	10 Str
29	1 Cir-s	1 Cir, Cir-s	1 Str	1 Str	1 Str	1 Str	1 Str
30	1 Cum-s	1 Cum-s	1 Str	1 Str	1 Str	1 Str	0
31	1 Cir-s	1 Cir-s	1 Cum-s	1 Str	1 Str	1 Str	0
Mean	1.5	1.4	1.5	4.0	3.1	4.3	3.0

Sums of Hydrometer: 41 ✖, 6 —, 43 +.

February 1883.

Day	1	2	3	4	5	6
1	0 -	- -	- -	- -	- -	- -
2	4 Str	- -	4 Str	- -	3 Str	- -
3	8 Str	- -	10 Nim	- -	4 Str	- -
4	7 Str	- -	3 Str	- -	2 Str	- -
5	1 Str	- -	- -	- -	8 Str	- -
6	0 -	- -	- -	- -	- -	- -
7	6 Cum ^s	- -	10 Nim	- -	10 Nim	- -
8	10 Str	- -	10 Nim	- -	5 Nim	- -
9	6 Str	- -	2 Str	- -	1 Str	- -
10	0 -	- -	- -	- -	- -	- -
11	7 Str	- -	5 Str	- -	5 Str	- -
12	0 -	- -	- -	- -	- -	- -
13	0 -	- -	- -	- -	- -	- -
14	0 -	- -	- -	- -	- -	- -
15	1 Str	- -	3 Str	- -	2 Str	- -
16	4 Str	- -	1 Str	- -	0 -	- -
17	1 Str	- -	1 Str	- -	3 Str	- -
18	10 Str	- -	5 Str	- -	9 Str	- -
19	1 Str	- -	1 Str	- -	2 Str	- -
20	- -	- -	- -	- -	- -	- -
21	2 Str	- -	1 Str	- -	4 Str	- -
22	3 Str	- -	3 Str	- -	1 Str	- -
23	Cum ^s	- -	10 Str	- -	10 Str	- -
24	1 Str	- -	1 Str	- -	1 Str	- -
25	10 Nim	- -	7 Nim	- -	10 Nim	- -
26	1 Nim	- -	10 Nim	- -	10 Nim	- -
27	1 Str	- -	10 Str	- -	10 Nim	- -
28	1 Nim	- -	10 Nim	- -	10 Nim	- -
Me. m. -	4.2	4.2	4.0	4.3	4.5	4.7

Day	7
1	0 -
2	1 Str
3	2 Str
4	6 Str
5	10 Str
6	2 Str
7	1 Str
8	6 Str
9	5 Str
10	1 Str
11	10 Str
12	2 Str
13	0 -
14	1 Str
15	1 Str
16	1 Str
17	6 Str
18	6 Str
19	10 Str
20	1 Str
21	3 Str
22	10 Str
23	10 Str
24	4 Str
25	10 Nim
26	10 Nim
27	10 Nim
28	10 Nim
Me. m. -	5.5

February 1883.

6	7	8	9	10	11	Noon.	Daily Amount of Downfall
	0 --	0 --	0 --	1 Cir-s	ESE --	1 Cir-s	0.0
	1 Str	1 Str	1 Str	0 --	0 --	0 --	--
	1 Str	1 Str	1 Str	0 --	1 Cir-s	N --	0.5
	6 Str	10 Str	10 Nim	* 10 Nim	* 10 Nim	* 10 Nim	0.4
	10 Str	10 Str	10 Str	7 Cum-s	9 Cum-s	9 Cum-s	3.6
	1 Str	1 Cir-s	6 Cir-s	9 Cir-s	NW --	10 Str	0.6
	1 Str	7 Str	1 Cir-s 1 Str	NW -- 1 Cir-s	NW -- 1 Cir-s	NW -- 1 Cir-s	1.5
	6 Str	7 Str	9 Str	10 Str	10 Cum-s	10 Nim	--
	5 Str	10 Nim	* 8 Nim	* 9 Nim	* 10 Nim	* 9 Nim	1.3
	1 Str	4 Str	1 Cir-s 5 Str	SE -- 9 Str	10 Str	9 Str	1.8
	10 Str	9 Str	10 Str	10 Str	5 Str	4 Cum-s	1.5
	1 Str	1 Str	1 Cir-s 5 Cir-s	NW -- 5 Cir-s	NW -- 8 Cir-s	NW -- 5 Cir-s	--
	0 --	0 --	0 --	-- Mirage	0 --	0 --	--
	1 Str	1 Str	1 Str	1 Str	7 Str	1 Str	--
	1 Str	1 Str	1 Str	--	1 Cir-s	N --	0.4
	1 Str	1 Str	1 Cir-s	N --	1 Cir-s	SE --	--
	0 Str	7 Str	1 Str	6 Str	9 Cum-s	10 Cum-s	--
	6 Str	1 Cir-s	1 Cir-s	E --	1 Cir-s	E --	--
	10 Str	10 Str	1 Str	1 Str	1 Str	1 Str	--
	1 Str	1 Str	1 Str	0 --	0 --	0 --	--
	4 Str	4 Str	1 Cir-s 6 Cir-s	N --	1 Cir-s 10 Cir-s	2 Cir-s 10 Cir-s	--
	10 Str	10 Str	10 Str	6 Str	5 Str	5 Str	--
	10 Str	10 Str	10 Str	8 Cum-s	1 Str	4 Str	--
	4 Str	5 Cir-s	4 Cir-s	4 Cir-s	N --	1 Cir-s	N --
	10 Nim	* 10 Nim	* 10 Nim	* 10 Nim	* 10 Nim	* 10 Nim	0.6
	10 Nim	* 10 Nim	* 10 Nim	* 10 Nim	* 10 Nim	* 10 Nim	2
	10 Nim	* 10 Nim	* 10 Nim	* 10 Nim	* 10 Nim	* 9 Nim	1.3
	10 Nim	* 10 Nim	* 10 Nim	* 9 Nim	* 9 Str	10 Str	4.1
	0.5	6.0	0.3	5.4	0.1	5.0	10.4

Amount, Form, and Direction of Clouds, &c. 72

February 1883—continued.

Day.	1		2		3		4		5		6	
1	2 Cir.s	—	2 Cir.s	—	2 Cir.s	—	9 Str	—	10 Str	—	1 Str	—
2	0	—	1 Str	—	6 Str	—	6 Str	—	3 Str	—	7 Str	—
3	1 Cir.s	N	3 Cir.s	N	2 Cir.s	N	1 Cir.s	N	3 Str	—	2 Str	—
4	5 Cum.s	NW +	10 Str	—	10 Str	—	3 Cum.s 3 Str	—	9 Str	—	8 Str	—
5	10 Nim	—	4 Cum.s	—	3 Cum.s	—	4 Cum.s	—	10 Nim	—	4 Cum.s	—
6	10 Str	—	10 Nim	—	10 Nim	—	10 Nim	NW	5 Str	NW	1 Nim	—
7	2 Cir.s	NW	4 Cir.s	NW	4 Cir.s	NW	1 Cir.s	NW	1 Str	—	1 Str	—
8	10 Nim	—	10 Nim	—	10 Nim	—	9 Cum.s	—	3 Str	—	10 Str	—
9	10 Nim	—	10 Nim	—	6 Nim	—	9 Nim	—	7 Str	—	4 Str	—
10	10 Str	—	10 Str	—	10 Str	—	10 Nim	—	10 Nim	—	10 Nim	—
11	4 Cum.s	—	7 Cum.s	—	7 Cum.s	—	9 Cum.s	—	3 Cum.s	—	3 Cum.s	—
12	3 Cir.s	NW	2 Cir.s	—	1 Cir.s	—	6 Cir.s	N	4 Str	—	9 Str	—
13	0	—	—	—	—	—	1 Cir.s	SE, N	1 Str	—	1 Str	—
14	7 Cir.s 7 Str	—	1 Cir.s 1 Str	—	1 Cir.s 1 Str	—	1 Cir.s 1 Str	—	1 Str	—	1 Str	—
15	2 Cir.s	SW	3 Cir.s	SW	1 Cir.s	SW	1 Cir.s	SW	1 Str	—	1 Str	—
16	4 Str	SW	3 Cir.s	SW	7 Str	—	2 Str 1 Cir.s 4 Str	—	1 Str	—	4 Str	—
17	3 Str	—	8 Cum.s	—	7 Cum.s	—	9 Cum.s	—	6 Cum.s	—	7 Cum.s	—
18	9 Cum.s 9 Str	—	9 Str	—	9 Cum.s	—	9 Cum.s	—	6 Str	—	3 Str	—
19	0	—	4 Cir.s	NW	4 Str	—	1 Cir.s 1 Cir.s	NW	1 Str	NW	2 Str	—
20	0	—	0	—	0	—	0	—	1 Str	—	5 Str	—
21	2 Cir.s	—	1 Cir.s	—	7 Cum.s	—	9 Cum.s	—	10 Str	—	10 Str	—
22	10 Str	—	10 Str	—	10 Str	—	9 Str	—	10 Str	—	10 Str	—
23	1 Str	—	1 Str	—	1 Str	—	1 Str	—	1 Str	—	1 Str	—
24	3 Cir.s	N	1 Cir.s	N	1 Cir.s	N	3 Cir.s	N	10 Str	—	9 Str	—
25	10 Nim	—	10 Str	—	10 Str	—	10 Nim	—	10 Nim	—	9 Nim	—
26	10 Cum.s	—	10 Cum.s	—	10 Cum.s	—	10 Nim	—	10 Nim	—	10 Nim	—
27	9 Nim	—	9 Nim	—	10 Nim	—	10 Nim	—	10 Nim	—	10 Nim	—
28	1 Cir.s 9 Str	NW	10 Cum.s 9 Str	—	10 Cum.s	—	10 Cum.s 9 Str	—	3 Cum.s	—	3 Cum.s	—
Mean	5.4		5.4		5.3		6.1		6.2		5.6	

Sums of Hygrometers 119 ✕, 1 —, 67 +.

March 1883.

6	7	8	9	10	11	Noon.	Daily Amount of Downfall.
	3 Str	4 Str	3 Str	3 Cir-s	3 Cir-s	3 Cir-s	m.m.
	7 Str	4 Cir-s	4 Cir-s	N	2 Cir-s	N	6 Cir-s
	3 Str	4 Str	3 Cir-s	NW	2 Cir-s	NW	2 Cir-s
	2 Str	4 Cir-s	4 Cir-s	0	0	0	0
	0	0	0	0	0	0	0
	0	+ 2 Cir-s	NE ○ 4 Cir-s, Cir-s 4 Str	NE + 10 Str	+ 4 Str	- ○ + 4 Cir-s 5 Str	E +
	10 Str	9 Str	7 Cum-s	5 Str	4 Cir-s	SSE	2 Str
	6 Cum-s	2 Cir-s	N	2 Cum-s	2 Cum-s	0	1 Cum
	4 Str	3 Cir-s	E	3 Cir-s	ESE	4 Cir-s	6 Cir-s
	7 Str	9 Str	9 Str	+ 10 Str	+ 10 Str	+ 4 Cir-s	10 Str
	7 Cum-s	8 Nim	+ * 5 Cum 5 Nim	* 9 Cum-s	10 Str	9 Str	0.1
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Cum-s	0
	2 Str	1 Str	1 Str	1 Str	1 Str	0	+ 0.5
	0	1 Str	1 Cir-s	SW	1 Cir-s	2 Cir-s	0
	9 Cum-s	10 Str	10 Str	○ 5 Cir-s	NW ○ 6 Str	4 Cir-s, Cir-s 6 Str	4 Cir-s, Cir-s 8 Str
	9 Str	9 Str	8 Str	8 Cum-s	7 Cum-s	7 Cum-s	W
	0	0	0	0	0	0	0
	0	0	1 Cir-s	WNW	6 Cir-s	NW	3 Cir-s
	4 Str	7 Str	7 Str	5 Cum-s	4 Cir-s	4 Cir-s	5 Cir-s
	10 Nim	* 10 Nim	* 8 Cum-s	4 Cum-s	1 Cum-s	1 Cum-s	NW
	4 Str	5 Str	1 Cir-s	0	0	0	0
	7 Cum-s	7 Cum-s	5 Cum-s	3 Str	4 Str	4 Str	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	6 Cir-s	SE 6 Cir-s	NW 6 Cir-s	NW 6 Cir-s	NW 3 Cir-s	3 Cir-s	3 Cir-s
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	4 Str	1 Str	1 Cir-s	1 Cir-s	2 Cir-s	2 Cir-s	0
	1 Str	0	1 Cir-s	ESE	1 Str	0	0
	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	0
	1.6	1.6	1.4	1.2	2.5	1.0	0.9

March 1883—continued.

Day.	1		2		3		4		5		6	
1	3 Cir-s	—	6 Cir-s	SE Midge	6 Cir-s	—	6 Cir-s	N	6 Str	—	5 Str	—
2	1 Cir-s	N	4 Cum	N	5 Cir-s	N	3 Cir-s	N	9 Cir-s	—	1 Str	—
3	3 Cir-s	NW	2 Cir-s	NW	2 Cir-s	NW	1 Cir-s	NW	3 Str	NW	3 Str	—
4	0	—	0	—	—	—	—	—	—	—	0	—
5	0	—	0	—	—	—	—	—	—	—	1 Str	—
6	4 Cir-s	E +	10 Str	+	1 Cum-s	+	4 Str	E	1 Cum-s	8 Str	—	10 Str
7	1 Cir-s	WSW	4 Cir-s	WSW	3 Cum-s	—	9 Cum-s	—	9 Str	—	7 Str	—
8	1 Cum	—	1 Cir-s	NW	1 Cir-s	NW	1 Cir-s	NW	1 Cir-s	NW	2 Str	—
9	3 Cir-s	—	6 Cir-s	—	6 Cir-s	SW	6 Cir-s	SW	1 Cir-s	SE	3 Str	—
10	1 Cir	WNW	1 Cir, Cir-s	WNW	1 Cir	WNW	1 Cir	WNW	1 Cir	WNW	1 Cir-s, Cir-s WNW	—
11	9 Str	+	8 Str	+	8 Cum-s	+	9 Cum-s, Str	+	9 Str	+	9 Str	—
12	9 Cum-s	—	3 Cum-s	—	1 Cum-s	—	1 Str	—	3 Cum-s	—	4 Str	—
13	10 Str	—	10 Cum-s	—	1 Cir-s	SE	9 Cum-s	—	9 Cum-s	—	1 Cum-s	—
14	1 Cum	—	1 Cum	—	3 Cum-s	+	9 Cum-s	+	8 Cum-s	+	9 Str	+
15	2 Cum-s	—	3 Cir-s	NW	5 Cir-s	NW	2 Cir-s	NW	1 Cir-s	—	1 Cir-s	—
16	9 Cum-s	—	1 Cir-s	—	1 Cum	—	10 Str	—	10 Cum-s	—	10 Str	—
17	1 Cir-s	W	1 Cir	WNW	1 Cir	WNW	1 Cir-s	WNW	1 Cir-s	WNW	1 Str	—
18	1 Str	—	3 Str	—	3 Str	—	4 Str	—	4 Str	—	—	—
19	—	—	—	—	—	—	—	—	—	—	—	—
20	6 Cir-s	NNW	1 Cir-s	N	4 Cir-s	NNW	1 Cir	N	1 Cir-s	NE	1 Cir-s	8
21	1 Cir-s	—	1 Cir-s	—	1 Cir	—	10 Str	—	1 Str	—	10 Str	—
22	8 Cum-s	—	1 Cum-s	—	8 Str	—	—	—	1 Str	—	10 Str	—
23	1 Cir-s	—	1 Cir-s	NW	1 Cir-s	+	1 Str	—	2 Str	—	1 Str	—
24	—	—	—	—	1 Cir-s	—	1 Cir-s	—	1 Cir-s	—	1 Str	—
25	—	—	—	—	—	—	—	—	—	—	—	—
26	1 Str	—	1 Str	—	5 Cum-s	—	1 Cum-s	—	1 Str	—	1 Str	—
27	—	—	—	—	—	—	—	—	—	—	—	—
28	—	—	—	—	—	—	—	—	—	—	—	—
29	—	—	—	—	—	—	—	—	1 Str	—	1 Str	—
30	2 Cir-s	—	1 Cir-s	—	1 Cir-s	—	10 Str	—	10 Str	—	1 Cir-s	—
31	—	—	—	—	—	—	—	—	—	—	—	—
Mean	3.1		3.4		3.5		3.7		3.7		3.7	

Sum of Hydrometeors: 1 ☼, 1 ☾, 33 +

7
3 Str
4 Str
3 Str
0
1 Str
7 Str
8 Str
1 Str
3 Str
4 Str
8 Str
1 Cum-s
3 Str
—
1 Str
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1 Str
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1 Str
3 Str
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3 Str
3.4

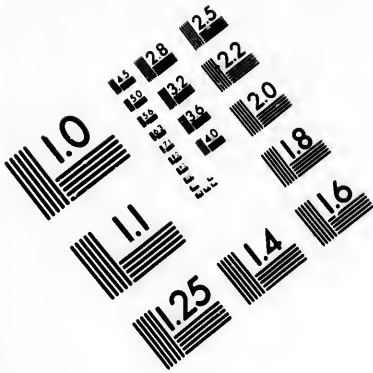
March 1883—continued.

6	7	8	9	10	11	Midnight.	Mean Daily Amount of Cloud.
	1 Str	1 DE	4 Str	1 DE	1 Str	1 Str	2.8
	4 Str	1 DE	3 Str	1 DE	1 Str	1 DE	4.0
	3 Str	1 DE	3 Str	1 DE	1 Str	1 DE	1.7
	0	1 DE	0	1 DE	0	1 DE	0.2
	1 Str	1	1 DE	1 DE	1 DE	1 DE	2.1
	2 Str	1	8 Str	1 DE	1 Str	1 DE	4.7
	7 Str	1 DE	4 Cum-s	1 DE	1 DE	1 DE	5.0
	1 Str	1 DE	1 Str	1 Str	1 Str	1 Str	3.7
	1 Str	1 DE	3 Str	1 Str	1 Str	1 DE	3.7
	8 Str	1 Str	1 Str	1 Str	1 Str	1 DE	6.7
	1 Cum-s	1 Cum-s		1 Str	1 Str	1 DE	3.2
	9 Str	9 Str	1 DE	1 DE	1 Str	1 Str	3.2
	10 Str	10 Str	1 DE	1 DE	1 Str	1 DE	4.6
	1 Str	1 Str	1 DE	1 Str	1 Str	1 DE	1.3
	8 Str	10 Str	10 Str	1 Str	10 Str	10 Str	7.5
	1 Str	1 Str	1 DE	1 Str	1 Str	1 DE	6.6
	1 Str	0	1 DE	1 DE	0	1 DE	1.2
	1 Str	1 Str	1 DE	1 DE	1 Str	1 DE	1.6
	10 Str	10 Str	10 Str	9 Str	1 Str	1 DE	7.3
	1 Str	9 Cum-s	10 Str	1 Str	9 Cum-s	9 Cum-s	9.1
	1 Str	0	1 DE	1 DE	0	1 DE	1.1
	1 Str	1 Str	1 DE	1 DE	1 DE	1 DE	2.7
	0	0	1 DE	1 DE	1 DE	1 DE	0.0
	0	0	1 DE	1 DE	1 DE	1 DE	0.0
	1 Str	1 Str	1 DE	1 DE	1 DE	1 DE	0.1
	1 Str	1 Str	1 DE	1 DE	1 DE	1 DE	2.7
	0	0	0	0	0	0	0.1
	1 Str	1 Str	1 DE	1 DE	1 DE	1 DE	0.3
	1 Str	1 Str	0	0	0	0	1.2
	0	0	0	0	0	0	0.1
	2 Str	1 Str	1 Str	0	1 Str	1 DE	1.0
	3.4	2.9	2.1	1.0	1.9	2.4	3.0

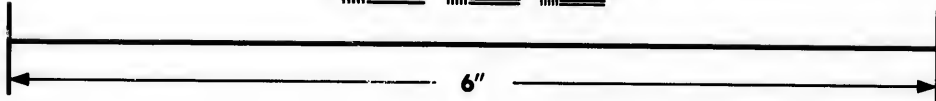
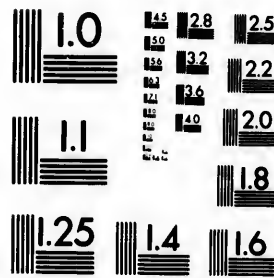
12 WNW

12





**IMAGE EVALUATION
TEST TARGET (MT-3)**



**Photographic
Sciences
Corporation**

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

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Amount, Form, and Direction of Clouds, &c.

April 1883.

Days.	1	2	3	4	5	6
1	9 Str	— ☼ 10 Str	— ☼ 10 Str	— — 10 Str	— — 9 Str	— — 8 Cum-s
2	5 Str	— ☼ 5 Str	— ☼ 3 Str	— ☼ 8 Str	— — 10 Str	— — 10 Str
3	9 Str	— — 10 Str	— ☼ 10 Str	— — 10 Str	— — 10 Str	— — Cum-s
4	0 —	— ☼ 0 —	— ☼ 0 —	— ☼ 0 —	— — 0 —	— — 1 Str
5	0 —	— ☼ 0 —	— ☼ 0 —	— ☼ 1 Str	— — 1 Str	— — 1 Str
6	3 Nim.	— * 5 Nim	— * 10 Nim	— * 10 Str	— — 10 Str	— — 10 Cum-s
7	0 —	— ☼ 1 Str	— ☼ 6 Str	— — 4 Str	— — 4 Str	— — Cir-s
8	3 Str	— ☼ 5 Str	— ☼ 8 Str	— ☼ 8 Str	— — 7 Str	— — 8 Cum-s
9	6 Str	— ☼ 7 Nim	— * 10 Nim	— * 10 Nim	— * 10 Str	— — 10 Str
10	1 Str	— — 1 Str	— — 2 Str	— — 3 Str	— — Cir, Cir-s NNW	— — Cir-s NNW
11	0 —	— ☼ 0 —	— ☼ 1 Str	— ☼ 1 Str	— — 1 Str	— — 1 Str
12	2 Str	— ☼ 2 Str	— ☼ 4 Str	— — 10 Str	— — 7 Str	— — Cum
13	10 Str	— — 10 Str	— — 10 Cum-s	— — 9 Cum-s	— — 9 Str	— — 9 Cum-s
14	4 Str	— ☼ 4 Str	— — 3 Str	— — 5 Str	— — 5 Str	— — 6 Str
15	10 Str	— — 10 Str	— — 10 Str	— — 10 Str	— — 10 Str	— — 10 Nim
16	0 —	— — 1 Str	— ☼ 2 Str	— ☼ 3 Str	— ☼ 3 Str	— — 3 Str
17	2 Str	— ☼ 3 Str	— ☼ 3 Str	— — 3 Str	— — 10 Str	— — 7 Str
18	0 —	— — 0 —	— ☼ 0 —	— — 0 —	— — 0 —	— — 0 —
19	1 Str	— ☼ 2 Str	— — 1 Str	— — 1 Cir	— — 3 Cir	— — 2 Cir
20	2 Str	— ☼ 1 Str	— ☼ 1 Str	— — 1 Str	— — 1 Str	— — 1 Str
21	10 Str	— — 10 Str	— — 10 Str	— — 10 Str	— — 10 Str	— — 10 Str
22	10 Nim	— ● * 10 Nim	— ● * 10 Nim	— ● * 10 Nim	— ● * 10 Nim	— * 10 Cum-s
23	10 Str	— — 10 Str	— — 10 Str	— — 10 Str	— — 10 Str	— — 10 Nim
24	9 Cum-s	— — 9 Cum-s	— — 9 Cum-s	— — 4 Cum-s	— — 1 Cum-s	— — 1 Cum-s
25	3 Str	— ☼ 1 Str	— ☼ 1 Str	— — 2 Str	— — 1 Str	— — 2 Str
26	1 Str	— ☼ 1 Str	— — 1 Str	— — 1 Str	— — 1 Str	— — 1 Str
27	8 Str	— ☼ 8 Cum-s	— — 10 Cum-s	— — 9 Cum-s	— — 8 Cum-s	— — 4 Cum-s
28	7 Str	— — 10 Str	— — 10 Cum-s	— — 10 Cum-s	— — 10 Cum-s	— — 9 Cum-s
29	8 Cum-s	— — 7 Cum-s	— — 8 Str	— — 7 Str	— — 7 Cum-s	— — 6 Cum-s
30	10 Cum-s	— — 10 Str	— — 10 Str	— — Cum-s	— — 7 Cum-s	— — 7 Cum-s
Mean	4.7	5.1	5.5	5.9	6.0	5.8

7
Cir-s
7 Cum-s
10 Str
10 Nim
0 —
3 Str
9 Cum-s
7 Cum-s
10 Nim
10 Str
4 Cir-s
1 Str
Cum
8 Cum-s
9 Str
9 Cum-s
10 Cum-s
4 Str
10 Str
0 —
Cir-s
2 Str
1 Str
10 Str
10 Nim
10 Str
1 Cum-s
6 Str
1 Str
6 Cum-s
9 Cum-s
6 Cum-s
9 Cum-s
6.4

April 1883.

6	7	8	9	10	11	Noon.	Daily Amount of Downfall.			
	Cir-c	ESE	Cir-s	ESE	Cir	ESE	8 Cum-s	8 Cum-s	10 Cum-s	m.m.
	7 Cum-s		8 Cum-s		5 Cum-s					
	10 Str		10 Cum-s		0 Cum-s		9 Cum-s	8 Cum-s	4 Cum-s	
	10 Nim	*	Cir, cir-c	NW	Cir, Cir-c	NW	Cir-s	Cir-s	Cir-s	NNW
	0		9 Cum-s		9 Str		6 Str	5 Cum-s	6 Cum-s	
	3 Str		1 Cir-s	N	1 Cir-s		1 Cir-s	6 Cum-s	Cum	
			10 Str	○	4 Str	○	4 Str	Cir-s	3 Cum-s	
								6 Str	Cir-s	
	9 Cum-s		9 Cum-s		7 Cum-s		6 Cum-s	6 Cum-s	6 Cum-s	
	7 Cum-s		8 Cum-s		8 Cum-s		8 Cum-s	Cum-s	3 Str	
	10 Nim	*	6 Cum-s		10 Cum-s		10 Cum-s	10 Cum-s	10 Cum-s	
	10 Str		9 Str		9 Cum-s		9 Cum-s	9 Cum-s	5 Cum-s	NW
NNW	4 Cir-s		4 Cir-s	SE	1 Cir-s		1 Cir-s	1 Cir-s	1 Cir-s	
	1 Str		Cir-s		Cir	SE	2 Cir-s	1 Cir-s	1 Cir-s	
	Cum		2 Cum-s		2 Cir-s		Cir, Cir-c	Cir-c	Cir	NNW
	3 Cum-s		6 Cum-s		5 Cum-s		5 Cum-s	7 Cum-s	8 Cum-s	
	9 Str		10 Str		10 Str		10 Str	10 Str	9 Str	
	9 Cum-s		10 Cum-s		10 Cum-s		10 Cum-s	10 Cum-s	9 Cum-s	
	10 Cum-s		10 Cum-s		10 Cum-s		9 Cum-s	10 Cum-s	9 Cum-s	
	4 Str		Cir-s		1 Cir-s		1 Cir-s	1 Cir-s	1 Cir-s	
	10 Str		1 Str		1 Str		9 Str	8 Str	8 Str	○
	0		0		0		0	0	0	
	Cir-s		1 Cir-s		1 Cir-s		1 Cir-s	1 Cir-s	Cir	NNW
	2 Str		1 Str		1 Str		7 Cum-s	9 Cum-s	10 Cum-s	
	1 Str		1 Str		1 Str					
∞	10 Str		10 Str		10 Str	∞	10 Str	10 Str	10 Str	∞
*	10 Nim	*	10 Str		8 Cum-s		9 Cum-s	8 Cum-s	8 Cum-s	1.1
	10 Str		10 Str		10 Str		10 Str	10 Str	7 Cum-s	
	2 Cum-s		4 Cum-s		Cir-s		Cir-s	6 Str	9 Str	○
	6 Str		5 Cir-s		4 Cum-s		4 Str	1 Cir-s	1 Cir-s	
					4 Cir-s					
	1 Str		1 Str		1 Cir-s		1 Str	1 Cir-s	4 Cir-s	W
	6 Cum-s		6 Cum-s		6 Cum-s		6 Cum-s	7 Cum-s	9 Cum-s	
	9 Cum-s		9 Cum-s		9 Cum-s		9 Cum-s	9 Str	9 Cum-s	
	6 Cum-s		Cum-s		Cum-s		Cir-c	Cir-c	Cir-s, Cir-c	E
	9 Cum-s		6 Str		7 Str		4 Cum-s, Str	4 Cum-s, Str	5 Cum-s	
			9 Cum-s		7 Cum-s		1 Str	2 Str	3 Str	
	6.4	6.5	6.0	6.9	6.0	6.0	6.0	6.0	5.9	

April 1883—continued.

Day.	1	2	3	4	5	6
1	9 Cum-s Cir-s 3 Str	9 Cum-s Cir 7 Cum-s	9 Cum-s 8 Cum-s	7 Cum-s 8 Cum-s	7 Cum-s 10 Cum-s	8 Cum-s 10 Cum-s
2	Cir 6 Cum-s 1 Cum-s	Cir 1 Cum-s	8 Cum-s	8 Cum-s	9 Cum-s	Cir, Cir-s 5 Cum-s
3	1 Cum-s	1 Cum-s	1 Cum-s	0	0	0
4	10 Str	8 Str	9 Str	Cir-s, Cir 9 Str	Cir 9 Str	7 Str
5	Cir-s 7 Cum-s Cir-s 4 Str	8 Cum-s Cir-s 5 Str	8 Cum-s Cir-s 5 Str	9 Cum-s Cir-s 5 Str	9 Cum-s Cir-s 8 Str	9 Cum-s Cir-s 9 Str
6	10 Cum-s	6 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s	6 Str
7	5 Cum-s Cir-s 2 Cum-s	4 Cum-s Cir-s 3 Cir-s	6 Cum-s Cir-s 3 Cum-s	6 Cum-s Cir-s 1 Cir-s	7 Cum-s Cir-s	9 Cum-s 1 Cir-s
8	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s
9	8 Cum-s	9 Cum-s	8 Cum-s	9 Cum-s	5 Cum-s	8 Cum-s
10	9 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s	8 Cum-s	8 Cum-s
11	8 Cum-s	7 Cum-s	4 Cum-s 4 Str	Cir-s 4 Cum-s	1 Cum-s 4 Str	8 Cum-s Cir-s, Cir-s 4 Str
12	9 Cum-s	8 Cum-s	8 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s
13	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s
14	8 Str	Cir-s 7 Str	5 Cir-s	2 Cir-s	Cir-s 2 Str	Cir-s 2 Str
15	0	0	0	0	1 Str	1 Str
16	Cir 2 Cir-s	Cir 2 Cir-s	Cir 2 Cir-s	Cir 2 Cir-s	Cir 2 Cir-s	1 Cir-s
17	10 Cum-s	10 Str	10 Str	10 Str	10 Str	10 Nim
18	10 Str	10 Str	10 Str	10 Cum-s	10 Cum-s	10 Nim
19	0 Cum-s	10 Str	6 Cum-s	6 Cum-s	8 Cum-s	8 Cum-s
20	1 Cir-s	1 Cir-s	2 Cir-s	2 Cir-s	1 Cir-s	1 Cir-s
21	1 Cir-s 4 Str	10 Cum-s	10 Cum-s	10 Cum-s	9 Cum-s	9 Cum-s
22	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s
23	1 Cir-s 4 Str	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s
24	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s
25	1 Cir-s 4 Cum-s	6 Cir-s	3 Str	4 Str	6 Cum-s	6 Cum-s
26	9 Cum-s	9 Cum-s	9 Cum-s	8 Cum-s	9 Cum-s	9 Cum-s
27	9 Cum-s	8 Cum-s	9 Cum-s	9 Str	9 Cum-s	9 Cum-s
28	9 Cum-s	9 Cum-s	9 Cum-s	9 Str	9 Cum-s	9 Cum-s
29	Cir-s 6 Cum-s Cir-s 2 Str	Cir-s, Cir-s 6 Cum-s Cir-s	Cir-s, Str 5 Cum-s	Cir-s 6 Cum-s 3 Str	Cir-s 5 Cum-s Cir-s 3 Str	Cir-s 4 Str, Cum-s Cir-s 3 Cum-s
Mean	5.5	5.8	5.5	5.5	5.6	5.6

Sums of Hydrometers: 24 ✖, 8 ●, 10 ○, 10 ∞

8 Cum-s
10 Cum-s
Cir-s
6 Cum-s
0
10 Str
9 Str
10 Str
Cir
9 Cum-s
9 Str
1 Str
Cir-s
6 Str
7 Cum-s
8 Cum-s
Cir-s
4 Str
9 Cum-s
1 Cir-s
2 Str
1 Str
1 Cir-s
10 Nim
10 Nim
9 Cum-s
Cir
4 Str
7 Str
1 Cir-s
Cir
5 Cum-s
8 Cum-s
9 Cum-s
5 Cum-s
4 Cum-s
6.1

April 1883—continued.

6	7	8	9	10	11	Midnight.	Mean Daily Amount of Cloud.
	8 Cum-s	7 Cum-s	6 Cum-s	5 Cum-s	4 Str	5 Str	7.7
	10 Cum-s	10 Cum-s	10 Cum-s	10 Cum-s	10 Cum-s	10 Cum-s	8.1
	Cir-s	4 Cum-s	3 Cum-s	0	1 Str	1 Str	6.7
	6 Cum-s	1 Str	0	0	0	0	0.7
	0	1 Str	0	0	0	0	0.7
	10 Str	10 Str	9 Str	8 Str	5 Str	3 Str	5.7
	9 Str	10 Str	9 Str	1 Str	0	0	7.1
	10 Str	10 Str	5 Str	4 Str	4 Str	4 Str	5.5
	1 Str	9 Cum-s	9 Str	8 Str	3 Str	4 Str	7.8
	9 Str	7 Str	9 Str	8 Str	5 Str	4 Str	7.7
	1 Str	0	1 Str	0	0	0	1.6
	Cir-s	5 Str	5 Str	4 Str	1 Str	1 Str	2.0
	6 Str	4 Str	3 Str	5 Str	9 Cum-s	10 Str	6.4
	7 Cum-s	4 Cum-s	4 Str	Cum-s 2 Str	5 Str	4 Str	8.1
	8 Cum-s	4 Cum-s	4 Str	6 Cum-s	10 Str	10 Str	6.2
	Cir-s	1 Str	1 Str	1 Str	1 Str	1 Str	7.7
	4 Str	1 Str	1 Str	1 Str	1 Str	1 Str	1.6
	9 Cum-s	1 Str	1 Str	1 Str	1 Str	1 Str	4.6
	1 Str	1 Str	1 Str	1 Str	1 Str	1 Str	0.3
	1 Str	1 Str	1 Str	1 Str	0	0	1.4
	10 Nim	10 Nim	10 Nim	10 Str	10 Str	10 Str	6.3
	10 Nim	10 Str	10 Nim	10 Nim	10 Nim	10 Nim	10.0
	9 Cum-s	10 Str	10 Str	10 Str	10 Str	10 Str	9.0
	Cir	5 Str	6 Str	5 Str	5 Str	5 Str	9.5
	4 Str	10 Str	10 Str	9 Str	4 Str	1 Str	6.8
	7 Str	10 Str	10 Str	9 Str	4 Str	1 Str	6.8
	1 Str	1 Str	1 Str	1 Str	0	0	1.6
	1 Str	1 Str	1 Str	1 Str	0	0	1.6
	4 Str	4 Str	3 Str	3 Str	1 Str	Cum-s 4 Str	2.7
	5 Cum-s	10 Str	10 Str	10 Str	10 Str	10 Str	8.2
	8 Cum-s	10 Str	10 Str	10 Str	10 Str	10 Str	8.2
	9 Cum-s	Cum-s 9 Str	7 Cum-s	Cum-s 7 Str	9 Cum-s	9 Cum-s	8.9
	5 Cum-s	6 Str	7 Cum-s	6 Str	6 Str	Cum-s 7 Str	6.0
	4 Cum-s	Cum-s 4 Str	Cum-s 4 Str	1 Str	Cum-s 3 Str	3 Str	4.9
	6.1	5.6	5.3	4.6	4.3	4.4	5.2

Amount, Form, and Direction of Clouds, &c.

May 1883,

Day.	1	2	3	4	5	6
1	5 Str	3 Str	5 Str	6 Str	8 Str	7 Cum-s
2	9 Cum-s	9 Cum-s	9 Str	9 Cum-s	10 Str	10 Nim
3	9 Str	7 Str	9 Str	5 Cum-s	10 Str	10 Str
4	1 Str	1 Str	2 Str	2 Str	1 Str	1 Str
5	6 Str	7 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s
6	10 Str	9 Cum-s	7 Cum-s	5 Cum-s	7 Cum-s, Str	5 Str
7	1 Str	1 Str	2 Str	2 Str	4 Str	5 Str
8	7 Str	7 Str	8 Str	8 Cum-s	7 Cum-s	7 Cum-s
9	2 Cum-s	2 Cum-s	1 Str	1 Str	1 Str	1 Str
10	9 Str	9 Str	7 Str	7 Cum-s	7 Cum-s	7 Cum-s
11	1 Str	1 Str	1 Str	1 Str	1 Str	2 Str
12	0	0	0	0	0	1 Str
13	8 Cum-s	5 Cum-s	7 Cum-s	2 Cum-s	1 Cum-s	0
14	0	0	0	0	0	0
15	2 Str	2 Str	2 Str	1 Str	1 Str	0
16	1 Str	0	1 Str	2 Str	2 Str	3 Str
17	2 Str	4 Cum-s	8 Cum-s	7 Cum-s	3 Cum-s	8 Cum-s
18	1 Str	8 Str	5 Str	6 Cum-s	10 Str	10 Str
19	10 Cum-s	10 Nim	10 Nim	10 Cum-s	10 Cum-s	10 Str
20	5 Cum-s	5 Cum-s	8 Str	8 Str	6 Cum-s	6 Cum-s
21	1 Cum-s	2 Cum-s	1 Str	1 Str	4 Str	3 Cum-s
22	1 Cum-s	9 Cum-s	9 Cum-s	9 Str	9 Nim	9 Nim
23	4 Cum-s	1 Str	6 Str	5 Str	4 Str	2 Str
24	1 Cum-s	1 Str	2 Cum-s	2 Str	1 Str	2 Str
25	9 Cum-s	10 Str	9 Cum-s	9 Str	9 Nim	9 Nim
26	1 Cum-s	7 Str	8 Cum-s	6 Cum-s	3 Cum-s	3 Cum-s
27	1 Str	6 Str	4 Str	8 Str	9 Cum-s	9 Cum-s
28	4 Str	1 Str	6 Str	8 Str	8 Cum-s	7 Str
29	1 Str	5 Str	5 Str	2 Str	1 Str	1 Str
30	8 Nim	7 Str	6 Cum-s, Str	6 Cum-s	8 Cum-s	8 Cum-s, Str
31	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str
Mean	4.9	5.1	5.1	5.0	5.2	5.3

1	Cum-s
2	5 Cum-s
3	4 Cum-s
4	7 Str
5	5 Cum-s
6	1 Str
7	9 Cum-s
8	1 Str
9	5 Str
10	7 Str
11	8 Cum-s
12	2 Str
13	5 Cum-s
14	0
15	0
16	1 Str
17	1 Cum-s
18	8 Cum-s
19	10 Str
20	10 Str
21	10 Str
22	6 Cum-s
23	1 Cum-s
24	1 Cum-s
25	9 Str
26	9 Str
27	10 Str
28	10 Str
29	10 Str
30	10 Str
31	10 Str
Mean	4.3

May 1883.

6	7	8	9	10	11	Noon.	Daily Amount of Downfall.
	Cum	Cir-s	Cir-s, Cir-e	Cir-e	Cir-e	Cir-e	m.m.
	5 Cum-s	6 Str	7 Cum	5 Cir-s	4 Cir-s	4 Cir-s	
	Cum-s	10 Str	10 Str	9 Str	10 Str	10 Str	2.3
	7 Str	+	+	+			
	4 Cum-s	Cum	5 Rollo'd Cum	Cum	7 Cum-s	9 Cum-s	
	1 Cir-s	5 Cum-s		6 Cum-s			
		1 Cir-s	2 Cir-s	6 Cir-s	NW	5 Cir-s	NW
				6 Cir-s		5 Cir-s	
	9 Cum-s	7 Cum-s	8 Cum-s	9 Cum-s		9 Cum-s	
	Cir-s	Cir-s	Cir-s	Cir-s	1 Cir-s	1 Cir-s	
	5 Str	4 Str	3 Str	1 Str			
	7 Cir-s	NW	8 Cir-s	NW	8 Cir-s	8 Cir-s	NW
	8 Cum-s	9 Cum-s	8 Cum-s	7 Cum-s	7 Str	5 Cum-s	Cir-s, Cir-e
						4 Str	NW
	2 Str	2 Str	2 Str	3 Str	4 Str	4 Str	WSW
	5 Cum-s	4 Cum-s	3 Cum	6 Cum	3 Cum-s	1 Cir-s	
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	1 Str	1 Str	1 Cum	1 Cum	1 Str	0
	1 Cir-s	0	0	0	0	1 Str	0
	Cum						
	6 Cum-s	10 Cum-s	10 Str	10 Str	10 Str	10 Str	0
	10 Str	10 Str	10 Cum-s	10 Cum-s	10 Cum-s	9 Cum-s	
	10 Str	Cir-e	Cir-s, Cir-s	4 Cir-s	SW	1 Cir-s	0.2
	Cir-e	SE	5 Cum-s	6 Cum-s		3 Cum-s	
	4 Cum-s		1 Cum-s	1 Cum-s	1 Cum	4 Cum-s	
					2 Cum-s		
	2 Cum-s	1 Cum-s	2 Cum-s	Cir-s, Cum	4 Cum	Cum, Nim	
	Cum-s			3 Cum-s		5 Cum-s	
	9 Str	10 Nim	9 Nim	Cum	Cum	Nim	SW
				9 Cum-s	9 Cum-s	9 Cum-s	0.1
	1 Cir-s	5 Cir-s	3 Cir, Cir-s	3 Cir-s, Cum	Cum	3 Cum-s	0.8
		NNW	NNW	2 Cum-s	2 Cum-s	4 Cum	
	Cir-s	Cum	Cum	4 Cum	1 Cum	4 Cum	
	3 Str	2 Str	2 Str	1 Str	1 Str	1 Str	
	9 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s	8 Cum-s	SW
						6 Cum-s	0.8
	Cir-s	Cir-s	Cir-s	Cir-s	Cir-s	4 Cir-s	SW
	2 Str	3 Str	3 Cum-s	4 Cum-s	5 Cum-s, Cum-s	2 Cum, Cum-s	0.2
	14 Cum-s	7 Cum-s	7 Cum-s	6 Cum-s	6 Cum-s	7 Cum-s	WNW Mirage
						7 Cum-s	
	9 Cum-s	9 Cum-s	4 Cum-s	6 Cum-s	5 Cum-s	6 Cum-s	NW
						6 Cum-s	0
	1 Cir-s	1 Cir-s	1 Cum	1 Cum	1 Cum	1 Cum	
	Cum-s	Cum-s	Cum-s	1 Cum	1 Cum	1 Cum	
	9 Nim	9 Nim	10 Str	10 Str	10 Str	10 Nim	0.8
	10 Str	Cum-s	Cum	Cum	Cir-s, Cir-s	8 Cum	SW
		10 Str	9 Cum-s	7 Cum-s	8 Cum		0.5
	4.8	4.9	4.6	4.7	4.8	4.7	6.0

Amount, Form, and Direction of Clouds, &c. 84

May 1883—continued.

Day.	1	2	3	4	5	6	7
1	Cir-s 5 Str	Cir-a 6 Str	9 Cum-s	9 Str	Cir-s 9 Str	Cir-s 9 Str	10 Str
2	10 Str	10 Str	10 Str	Cum-s 9 Str	6 Cum-s	10 Nim	9 Cum-s
3	7 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s	8 Cum-s	9 Cum-s	6 Str
4	Cir 5 Cir-s Cum, Cir-e	Cir 7 Cir-s Cir-s	7 Cir-s Cir-e	Cir 6 Cir-s Cum	Cir 7 Cir-e Cir-e	Cir, Cir-e Cir-e	Cir, Cir-e 7 Cir-s, Str
5	6 Cum-s	3 Cum-s	3 Cum-s	7 Cum-s	4 Cum-s, Str	5 Cum-s, Str	5 Cum-s
6	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	Cir-s 1 Str	1 Str	1 Cir-s
7	Cum 8 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s	9 Str	9 Cum-s	Cir, Cir-s 6 Str
8	Cir-e 8 Cum-s, Str	Cir-e 6 Cum-s, Str	9 Cum-s	Cir-e 7 Cum-s	Cir-e 9 Cum-s	9 Cum-s	Cir-e 5 Cum-s
9	6 Cum-s	7 Cum-s	8 Cum-s	9 Cum-s	8 Cum-s	9 Cum-s	10 Str
10	1 Cir-s	1 Cir-s	1 Cir-s	0	0	0	0
11	0	0	0	0	0	0	0
12	Cir 5 Cir-s	4 Cir-s	4 Cir-s	Cir 4 Cir-s	2 Cir-s	1 Cir	1 Cir-s
13	0	0	0	0	0	1 Cir-s	0
14	1 Cum	1 Cum	1 Cum	1 Cum	1 Cum	1 Cir-s	1 Cum-s
15	Cum 1 Str	Cum 1 Str	Cum 1 Str	1 Cir-s	1 Cir-s	1 Cir-s	Cir 1 Cir-s
16	1 Cum	1 Cum	1 Cum	1 Cum	1 Cum	1 Cum-s	Cum 1 Cum-s
17	Cum 5 Cum-s	Cum 4 Cum-s	10 Str	10 Str	10 Str	8 Cum-s	Cir-e 8 Cum-s
18	10 Cum-s	10 Cum-s	10 Cum-s	10 Cum-s	8 Cum-s	9 Cum-s	9 Cum-s
19	5 Cum	7 Cum-s	5 Cum-s	3 Cum-s	4 Cum-s	4 Cum-s	4 Cum
20	Cum 6 Cum-s	Cum 8 Nim	9 Cum-s	Cum-s 6 Nim	6 Cum-s	Cir-s 4 Cum-s	5 Cum-s
21	Cum, Cum-s 6 Nim	Cum-s 7 Nim	Cum-s 8 Nim	Cum-s 9 Nim	9 Cum-s	Cir-s 9 Cum-s, Str	Cum-s 9 Str
22	Cum 8 Cum-s	9 Nim	9 Cum-s	9 Cum-s	10 Nim	9 Nim	10 Nim
23	Cum 2 Cum-s	Cum 2 Cum-s	1 Cum-s	Cum 1 Cum-s	Cum 1 Cum-s	Cir-s 1 Cum-s	Cir-s 1 Cum-s
24	3 Cum	1 Cum	4 Cum	4 Cum	3 Cum-s	Cir-s, Cum 4 Cum-s	Cir, Cir-s 4 Cum-s
25	Cir-s 4 Cum-s	Cir-s 8 Cum-s	Cir-s 7 Cum-s	Cir-s 9 Cum-s	Cir-s 9 Cum-s	9 Cum-s	9 Cum-s 9 Str
26	Cir-s 2 Cum, Cum-s	Cir-s 2 Cum, Cum-s	Cum 3 Cum-s	Cum 2 Cum-s	Cum 2 Cum-s	Cum 2 Cum-s	Cum 1 Cum-s
27	Cum 8 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s
28	Cir-s 5 Cum-s	Cir-s 5 Cum-s	Cir-s 3 Cum-s	Cir 3 Cum-s	Cir 3 Cum-s	Cir-s 3 Cum-s	Cir-s 3 Str
29	Cir-s 2 Cum	Cir-s 5 Cum	Cir, Cir-s 7 Cum, Cum-s	Cum, Cir-s 8 Cum-s	Cum, Cir-s 9 Cum-s	Cum, Cir-s 9 Cum-s	Cum, Cir-s 10 Cum-s
30	10 Cum-s	10 Cum-s	10 Str	10 Str	10 Str	10 Str	10 Str
31	Cir 6 Cir-s	Cir 7 Cir-s	Cir 5 Cir-s	Cir 5 Cir-s	Cir 3 Cir-s	Cir 2 Cir-s	Cir 1 Cir-s
Mean	4.6	5.2	5.6	5.5	5.2	5.3	5.1

Sums of Hydrometers: 25 ●, 3 △, 4 ✕, 4 †, 3 —, 2 ∞, 58 ∞.

May 1883—continued.

6	7	8	9	10	11	Midnight.	Mean Daily Amount of Cloud.
10 Str	9 Str	8 Str	4 Str	5 Str	6 Str	6 Str	6.3
9 Cum-s	9 Cum-s	10 Cum-s	10 Cum-s	10 Str	10 Str	10 Str	9.4
6 Str	2 Str	1 Str	1 Str	1 Str	1 Str	1 Str	6.1
Cir, Cir-e	Cir, Cir-e	1 Str	1 Str	1 Str	1 Str	1 Str	6.1
7 Cir-s, Str	7 Cir-s, Str	2 Str	2 Str	3 Str	3 Str	3 Str	3.8
5 Cum-s	5 Cum-s	4 Cum-s	4 Cum-s	3 Cum-s	9 Cum-s	9 Cum-s	6.6
1 Cir-s	Cir, Cir-s	1 Str	1 Str	1 Str	1 Str	1 Str	3.1
Cir, Cir-s	4 Str	8 Cum-s	8 Cum-s	9 Cum-s	8 Str	8 Str	6.7
6 Str	7 Cum-s, Str	1 Str	1 Str	1 Str	1 Str	1 Str	6.5
Cir-e	Cir, Cir-e	1 Str	1 Str	1 Str	1 Str	1 Str	6.5
5 Cum-s	1 Str	10 Str	10 Str	10 Str	9 Str	9 Str	5.5
10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	5.5
0	1 Str	1 Str	1 Str	1 Str	1 Str	1 Str	3.2
0	0	0	0	0	0	0	0.3
1 Cir-s	1 Cir-s	1 Cir-s	1 Str	1 Str	1 Str	1 Str	1.3
0	1 Cum-s	1 Str	1 Str	0	0	0	1.0
1 Cum-s	2 Cum-s	Cir-e	1 Str	1 Str	1 Str	1 Str	0.7
1 Cir-s	1 Cir-s	1 Str	1 Str	1 Str	1 Str	1 Str	1.3
1 Cum	1 Cum-s	1 Str	1 Str	1 Str	1 Str	1 Str	1.0
1 Cum-s	Cir-e	7 Cum-s	7 Cum-s	4 Cum-s	1 Cum-s	2 Str	6.7
3 Cum-s	7 Cum-s	7 Cum-s	8 Cum-s	5 Cum-s	1 Cum-s	6 Str	8.0
9 Cum-s	Cir-e	NW	1 Str	1 Str	1 Str	4 Cum-s	3.7
4 Cum	7 Cum-s	SE	1 Str	1 Str	1 Cum	6 Cum-s	5.0
5 Cum-s	2 Str	5 Cum-s	5 Cum-s	5 Cum-s	1 Cum-s	6 Cum-s	5.0
1 Cum-s	1 Cum-s	1 Str	1 Str	1 Str	1 Str	1 Str	1.0
9 Str	8 Str	9 Cum-s, Str	9 Str	9 Str	8 Str	9 Cum-s	5.5
10 Nim	Cum-s	9 Str	9 Str	9 Nim	9 Str	9 Cum-s	8.9
Cir-s	9 Nim	Cir-s	Cir-s	Cir-s	6 Cum-s	6 Str	2.7
1 Cum-s	1 Cum-s	1 Str	1 Str	1 Str	6 Cum-s	6 Str	2.7
Cir, Cir-s	Cir-s	Cir-s, Cir	Cir-s, Cir	9 Cum-s	9 Str	8 Cum-s	3.9
4 Cum-s	4 Cum-s	6 Cum-s	6 Cum-s	Cum-s	Cum-s	Cum-s	8.2
Cum-s	Cir-s	Cir-e	6 Cum-s, Str	8 Str	7 Str	7 Str	8.2
9 Str	7 Cum-s	6 Cum-s	6 Cum-s	8 Str	7 Str	7 Str	8.2
Cum	4 Cum-s	Cum-s	4 Str	4 Cum-s	4 Cum-s	3 Cum-s	3.8
1 Cum-s	4 Str	4 Str	4 Str	7 Str	7 Str	7 Str	3.8
9 Cum-s	10 Cum-s	9 Cum-s	9 Cum-s	6 Str	5 Str	9 Cum-s	5.5
Cir-s	Cir-s, Cir	Cir-s	Cir-s	5 Str	5 Str	5 Str	5.2
1 Str	4 Str	5 Str	5 Str	5 Str	5 Str	4 Str	5.2
Cum	Cum-s	Cum-s	Cir-s, Cir	9 Cum-s	9 Nim	8 Nim	4.9
10 Cum-s	9 Str	9 Cum-s	9 Cum-s, Str	Cum-s	Cum-s	8 Nim	4.9
Cum-s	Cum-s	Cum-s	Cum-s	Cum-s	Cum-s	Cum-s	9.2
10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	9.2
Cir	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Str	6.1
1 Cir-s	NW	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Str	6.1
5.1	4.8	4.7	4.5	4.4	4.9	5.0	5.0

Amount, Form, and Direction of Clouds, &c.

June 1883.

Day.	1	2	3	4	5	6
1	1 Str Cum-s	1 Str Cum-s	1 Str Cum-s	0 Cir-s	0 Cir, Cir-s WSW	0 Cir-s
2	1 Str 8 Cum-s	2 Str 6 Cum-s	2 Str 6 Cum-s	2 Cum-s 6 Cum-s	1 Cum-s, Str 5 Cir-s	2 Cum-s 5 Cum-s
3	2 Cum-s	4 Str	3 Str	3 Str	3 Str	4 Cum-s
4	4 Str 10 Nim	4 Str 10 Str	2 Str 9 Str	3 Cum-s 8 Str	8 Cum-s 9 Str	6 Cum-s 10 Str
5	10 Cum-s	10 Cum-s	10 Cum-s	10 Cum-s	10 Cum-s	10 Cum-s
6	10 Nim	10 Nim	9 Str	10 Str	10 Str	9 Str
7	3 Str	1 Str	1 Str	2 Str	1 Str	1 Str
8	8 Cum-s 4 Str 3 Str	7 Cum-s 3 Str	Cir-s 6 Cum-s 1 Str	NW NW	Cir-s 6 Cum-s 1 Str	NW NW
9	1 Str	Cir-s	4 Cir-s	4 Cir-s	3 Cir-s	3 Cir-s
10	1 Str Cir-s 6 Str	2 Str Cir-s 6 Str	4 Cir-s 3 Cum-s, Str Cum-s	4 Cir-s 8 Cum-s, Str Cum-s	3 Cir-s 8 Cum-s Cum-s	3 Cir-s 8 Cum-s NW
11	10 Nim	10 Nim	3 Str	9 Str	8 Str	10 Str
12	9 Cum-s	10 Cum-s	Cum-s 9 Str	9 Cum-s	8 Cum-s	8 Cum-s
13	9 Cum-s N	10 Cum-s 8 Str	9 Str Cum-s	9 Cum-s N	9 Cum-s N	8 Cum-s N
14	6 Str Cum-s 2 Str	6 Str 4 Cum-s 3 Str	7 Cum-s, Str Cum-s	6 Cum-s 8 Cum-s	9 Cum-s NW	10 Str NW
15	Cir-s 9 Str	Cir-s 9 Str	Cir-s 9 Str	7 Cir-s WVW	4 Cir-s WVW	14 Cir-s WVW
16	9 Cum-s NW	9 Cum-s NW	1 Str	10 Str	10 Str	10 Str
17	10 Cum-s NW	10 Cum-s NW	10 Cum-s WVW	10 Cum-s WVW	10 Cum-s WVW	10 Cum-s
18	8 Str	8 Str	9 Str	9 Str	8 Str	9 Str
19	Cum-s 6 Str	Cir-s 5 Cum-s, Str	Cir-s 3 Cum-s, Str	Cir-s 1 Cum-s	Cir-s 1 Cum-s	1 Cum-s
20	4 Cum-s	6 Cum-s	7 Cum-s	9 Cum-s	9 Cum-s	8 Cum-s
21	9 Cum-s	9 Cum-s	8 Cum-s	Cir-s 5 Cum-s	2 Cum-s 5 Cum-s	2 Cum-s
22	Cum-s 9 Str	Cum-s 9 Str	Cir-s Cum-s, Str	Cir-s 4 Cum-s, Str	Cir-s 3 Cum-s	Cir-s 3 Cum-s
23	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str
24	0	0	0	0	0	1 Cir-s
25	Cum 8 Str	8 Str	Cum-s 8 Str	Cum-s 8 Str	Cum-s 8 Str	10 Str
26	1 Str	1 Str	3 Cum-s	3 Cum-s	3 Cum	4 Cum
Mean	6.1	6.1	6.1	6.0	5.8	6.2

June 1883.

6	7	8	9	10	11	Noon.	Daily Amount of Downfall.
	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	m.m.
	3 Cum-s	1 Cir, Cir-e	1 Cir-s	3 Cum-s	3 Cum-s	1 Cir-s	
	1 Cir-s	3 Cum-s, Cum	1 Cir-s	3 Cum-s	3 Cum-s	1 Cir-s	
	5 Cum-s	7 Cum-s	8 Cum-s	7 Cum-s	8 Cum-s	4 Cum-s	
	1 Cum	4 Cir, Cir-s	7 Cir, Cir-s	6 Cum, Cum-s	5 Cum, Cum-s	3 Cum, Cum-s	
	3 Cum-s	6 Cum, Cum-s	7 Cum-s	6 Cum, Cum-s	5 Cum, Cum-s	3 Cum, Cum-s	
	4 Str	4 Cum-s	4 Cum-s	6 Cum-s	5 Cum-s	7 Cum-s	
	7 Cum-s	8 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s	10 Cum-s	
	9 Cum-s	9 Cum-s	9 Cum-s	4 Cum-s	5 Cum-s	6 Cum-s	
	10 Str	9 Str	10 Str	10 Nim	10 Cum-s	10 Cum-s	0.2
	1 Cum-s	2 Cum-s	4 Cum-s	6 Cum-s	5 Cum-s	5 Cum-s	
	7 Cum-s	10 Nim	7 Cum-s	5 Cum-s	4 Cum-s	4 Cum-s	
	1 Cir-s	1 Cum	1 Cum	2 Cum	2 Cum	3 Cum	
	2 Cir-s	4 Cir-s	2 Cir-s	3 Cir-s	3 Cir-s	2 Cir-s	
	10 Str	10 Nim	10 Str	9 Str	9 Str	9 Str	
	9 Str	9 Str	10 Str	9 Str	9 Str	9 Str	0.5
	8 Cum-s	8 Cum-s	8 Cum-s	8 Cum-s	9 Cum-s	9 Cum-s	0.1
	7 Cum-s	3 Cum-s, Str	2 Cum-s, Str	3 Cum-s, Str	6 Cum-s	7 Cum, Cum-s	
	10 Nim	10 Nim	10 Nim	10 Nim	9 Nim	9 Cum-s	0.3
	10 Nim	10 Nim	9 Nim	9 Cum-s	8 Cum-s	8 Cum-s	9.0
	2 Cir-s	2 Cum-s	3 Cum-s	2 Cum-s	2 Cum-s	3 Cum-s	0.1
	10 Cum-s	9 Cum-s	9 Nim	10 Cum-s	10 Nim	10 Nim	
	10 Cum-s	10 Cum-s	9 Cum-s	9 Str	8 Cum-s	7 Cum-s	0.4
	9 Cum-s	10 Str	9 Str	9 Str	9 Str	9 Str	0.4
	1 Str	1 Str	1 Cum-s	2 Cum-s	3 Cum	4 Cum-s	
	6 Cum-s	5 Cum, Cum-s	5 Cum-s	3 Cum-s	3 Cum-s	5 Cum-s	
	1 Cir-e	1 Cir-s	1 Cum-s	1 Cum	2 Cum	3 Cum-s	
	7 Cum-s	7 Cum-s	8 Cum-s	8 Cum-s	8 Cum-s	9 Nim	
	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str	
	1 Cum-s	1 Cum	1 Cum	1 Cum	1 Cum-s	1 Cum-s	
	9 Str	9 Str	9 Str	10 Nim	10 Cum-s	10 Nim	
	3 Cum-s	3 Cum-s	4 Cum-s	3 Cum-s	2 Cum	4 Cum	2.8
	5.9	6.1	6.1	5.9	5.9	6.4	14.5

Amount, Form, and Direction of Clouds, &c.

June 1883—continued.

Day.	1	2	3	4	5	6				
1	Cir-s 1 Cum-s Cum	Cir-s 2 Cum-s Cum-s	Cir-s 2 Cum-s Cum	NW ∞	Cir-s 2 Cum-s Cum	NW ∞	Cir-s 2 Cum-s Cum	NW ∞	Cir-s 2 Cum-s Cum	NW ∞
2	Cir-s 4 Cum-s	Nim 5 Cum-s	Cum 7 Cum-s	T ●	Nim 5 Cum-s		Cum 7 Cum-s		Cir-s 5 Cum-s	Mirage
3	7 Cum-s Cir, Cir-s	8 Cum-s Cum, Cir-s	7 Cum-s		9 Cum-s	WNW	9 Cum-s	WNW	8 Cum-s	WNW
4	6 Cum, Cum-s	WNW	8 Cum-s	WNW	9 Cum-s	WNW	9 Cum-s	WNW	8 Cum-s	WNW
5	8 Cum-s	Cum-s 8 Str	Cum-s 8 Str		8 Cum-s		8 Cum-s		Cum-s 9 Str	
6	10 Cum-s	10 Cum-s	10 Cum-s		10 Nim	●	9 Nim	●	9 Cum-s	●
7	Cir-s 4 Cum-s	SSW	Cir-s 3 Cum-s	SSW	Cir-s 2 Cum-s	SSW	Cir-s, Cir-e 7 Cum-s	SSW	7 Cum-s	SSW
8	10 Cum-s	10 Cum-s	10 Cum-s		10 Cum-s	●	9 Cum-s		9 Cum-s	
9	Cum 5 Cum-s	Cum 7 Cum-s	Cum 7 Cum-s		6 Cum-s	NW	5 Cum-s	NW	5 Cum-s	NW
10	Cir, Cir-s 3 Cum, Cum-s	NW	Cum, Cir-s 3 Cum-s	NW	Cum, Cir-s 2 Cum-s	NW	Cum 2 Cum-s	NW	Cum 2 Cum-s	NW
11	3 Cum	3 Cum	3 Cum		2 Cum		2 Cum		1 Cum	
12	1 Cir-s	1 Cir-s	1 Cum		1 Cum		1 Cum-s		1 Cum-s	
13	Cum-s 9 Str	NW	10 Nim 9 Str	●	Cum-s 9 Str	NW	10 Str	NW	10 Str	
14	Cum-s 9 Str	●	10 Nim	●	9 Nim		9 Cum-s		5 Cum-s	
15	Cir-s 9 Cum-s, Str	W	Cir-s 9 Cum-s	W	Cir-s 9 Cum-s	W	Cir-s 9 Cum-s	W	Cir-s 9 Cum-s	W
16	9 Cum-s	NW	9 Cum-s	NW	9 Cum-s	NW	9 Cum-s	NW	10 Cum-s	
17	9 Cum-s	7 Cum-s	Cum-s 9 Nim	●	6 Cum-s		5 Cum-s		5 Cum-s	
18	Cir-e 7 Cum-s	W	Cir-e 5 Cum-s	W	Cir 6 Cum-s	W	Cum, Cir 5 Cum-s	W	Cir-s, Cir 6 Cum-s	W
19	3 Cum, Cum-s	W	3 Cum-s	W	3 Cum-s	W	3 Cum-s	W	3 Cum-s	W
20	10 Cum-s	W	10 Nim	W	10 Cum-s	W	10 Nim	W	9 Nim	W
21	Cum-s 9 Nim	●	Cum-s 9 Nim	●	Cum 7 Cum-s		Cum 6 Cum-s		Cum 6 Cum-s	
22	Cum-s 8 Str	●	Cir-e 6 Cum-s	SE	Cum 6 Cum-s		Cum 6 Cum-s		Cum 6 Cum-s	
23	Cum-s 7 Nim	●	Cum-s 8 Nim	●	Cum-s 8 Nim	●	8 Cum-s		8 Cum-s	
24	Cir-s 8 Cum-s	∞	Cir-s 8 Cum-s	∞	Cir-s 9 Cum-s	∞	Cir-s 9 Cum-s	∞	Cir-s 9 Cum-s	∞
25	Cum 3 Cum-s	W	Cum 3 Cum-s	W	Cum, Cir-e 4 Cum-s	W	Cir-s, Cir-s 5 Cum, Cum-s	W	Cum, Cir-e 7 Cum-s	W
26	Cum 9 Cum-s	T	Cum 9 Cum-s	NE	Cum 9 Nim	E	Cum 9 Nim		Cum 9 Cum-s	
27	10 Str		10 Str		9 Cum-s		9 Cum-s		6 Cum-s	
28	Cir-s 1 Cum-s		Cir-s 1 Cum-s		Cir-s 1 Cum-s		Cir-s 1 Cum-s		Cir-s 1 Cum-s	
29	10 Nim	●	10 Nim	●	10 Nim	●	10 Cum-s		10 Cum-s	
30	Cir-s, Cir 8 Cum	○	Cir-s, Cir 8 Cum	○	Cir-s, Cir 7 Cum		Cir-s, Cir 8 Cum	○	Cir-s, Cir 8 Cum-s	
Mean	6.7	6.8	6.7	6.5	6.4	6.8				

Sums of Hydrometers: 16 ●, 3 ◐, 2 ◑, 13 ∞.

June 1883—continued.

6		7		8		9		10		11		Midnight.	Mean Daily Amount of Cloud.
Cir-s	NW	Cir-e		5 Cum-s		4 Cum-s		Cir-e		Cum-s		Cum-s	1.7
2 Cum-s		4 Cum-s				5 Cum-s, Str		3 Str		3 Str	NW	2 Str	NW
7 Cum-s		Cir-e	NW	4 Cum-s		4 Cum-s		8 Cum-s	NW	Cum-s		9 Cum-s	NW
Cir-e		6 Cum-s		Cir-e	WNW	Cir-s		7 Str		7 Str	NW	9 Cum-s	NW
5 Cum-s	Mirage	5 Cum-s		6 Cum-s		4 Cum-s	Mirage	5 Cum-s		4 Cum-s		3 Cum-s	
8 Cum-s	WNW	8 Cum-s		8 Cum-s		7 Str		4 Str		4 Str		4 Str	
Cum-s		9 Cum-s		10 Str		10 Str		10 Str		Cum-s		10 Str	
9 Str		Cum-s		Cum-s		Cum-s		10 Cum-s		10 Str		10 Cum-s	
Nim		9 Str		9 Str		9 Str		10 Cum-s		10 Cum-s		10 Cum-s	
9 Cum-s		Cum-s		Cum-s		Cum-s		Cir-e		Cum-s		10 Str	
9 Str	SSW	9 Str	SSW	9 Str	SSW	9 Str	SSW	10 Cum-s, Str		10 Str		10 Str	
9 Cum-s		Cum-s		Cir-e	NW	Cum-s		Cum-s		Cum-s		3 Str	
Cum		9 Str		9 Cum-s, Str		9 Nim	NW	9 Str		9 Str		9 Str	
5 Cum-s	NW	4 Cum-s	NW	4 Cum-s	NW	6 Cum-s, Str	NW	6 Str	NW	9 Nim	NW	9 Cum-s	NW
Cum		Cum		3 Cum-s		Cum-s		Cum-s		Cum-s		Cum-s	
2 Cum-s	NW	3 Cum-s		1 Str		1 Str		7 Str		6 Str		3 Str	
1 Cum		Cir-s		1 Cum		1 Cum-s		Cum-s		1 Str		1 Str	
1 Cum-s		1 Cum		1 Cum		1 Cum-s		2 Str		Cir-s		Cir-s	
0 Str		Cir-s		Cir-s		Cir, Cir-s	NW	Cir-s	NW	5 Str		6 Str	
Nim		10 Cum-s		10 Cum-s		10 Cum-s		10 Str		10 Str		10 Str	
Nim		10 Str		10 Str		10 Str		10 Str		10 Str		10 Str	
Cir-s	WNW	Cir-s	NW	8 Cum-s		7 Cum-s		8 Cum-s		9 Cum-s	N	9 Cum-s	N
0 Cum-s		7 Cum-s		Cir-s		Cir-s		8 Cum-s, Str	NW	8 Cum-s, Str	NW	9 Str	NW
Cir-s		8 Cum-s	NW	6 Cum-s	NW	8 Cum-s	NW	Cum		Cum-s		9 Str	NW
Cum-s		Cum		3 Cum-s		Cir-s	NW	Cum-s		Cum-s		2 Str	
Cir-s, Cir	WNW	5 Cum-s	WNW	Cir, Cir-s	WNW	1 Cum-s	WNW	5 Cum-s	NW	3 Str	WNW	Cir-s	WNW
Cum, Cir-s	SW	7 Cum-s		8 Cum-s		8 Cum-s		6 Str		8 Str		9 Str	
Cum-s		5 Cum-s		4 Cum-s		4 Str		4 Str	NW	6 Cum-s, Str	NW	7 Str	NW
Nim	W	9 Cum-s	NW	10 Cum-s	NW	9 Cum-s	NW	10 Cum-s	NW	10 Cum-s	NW	10 Cum-s	NW
Cum-s		Cum-s		9 Cum-s		9 Cum-s		8 Cum-s		Cum-s		10 Str	
Str		10 Str		Cum-s		Cum-s		9 Str		9 Str		10 Str	
Cum-s		8 Nim		9 Nim		9 Cum-s	SW	9 Nim	SW	9 Str	SSW	7 Str	SSW
Nim		Cir-e	WNW	Cum		Cum-s		10 Str		Cum-s		8 Cum-s	
Cum-s		8 Cum-s, Str		9 Cum-s, Str		9 Str		10 Str		10 Str		9 Str	
Cir-s, Cir-e	SSE	9 Cum-s		10 Nim		10 Str		10 Str		10 Str		9 Cum-s	SW
Cum-s		9 Cum-s		10 Str		10 Str		10 Str		10 Str		9 Cum-s	
Cir-s, Cir-e		Cir-s, Cir-e		Cir-s, Cir-e		Cir-s		9 Cum-s		Cum-s		Cum-s	
Cum, Cum-s	WNW	8 Cum-s	SW	8 Cum-s	SW	9 Cum-s	SW	9 Cum-s		9 Str		9 Str	
Cum-s		Cir-s		Cum-s		Cum-s		Cum-s		Cum-s		10 Str	
Cum		9 Cum-s		9 Str		9 Str		9 Str		10 Str		1 Str	
Cum		Cum		Cum-s		Cum-s		1 Str		1 Cum		1 Str	
3 Cum-s		1 Str		1 Str		1 Str		2 Str		3 Str		6 Str	
Cir-s		Cir-s		2 Str		2 Str		2 Str		3 Str		6 Str	
2 Cum-s		2 Cum-s		Cum-s		Cum-s		5 Str		2 Str		2 Str	
9 Cum-s	NW	9 Cum-s	NW	8 Str	NW	8 Str	NW	5 Str		9 Cum-s		9 Str	
Cir-s, Cir		Cum-s		9 Cum-s		Cum-s		9 Cum-s		9 Cum-s		Cum-s	
Cum-s		10 Str		9 Nim		9 Str		9 Str		9 Str		9 Str	
6.8		6.8		6.8		7.0		7.1		6.9		6.4	

July 1883.

Days.	1	2	3	4	5	6
1	Cum-s 8 Str	Cum-s 8 Str	Cum 8 Str	Cum 8 Str	Cir-s 8 Cum-s	Cir-s, Cir 8 Cum-s
2	2 Str	3 Str	1 Str	1 Str	1 Str	1 Str
3	Cum-s 9 Str	10 Str	Cum-s 8 Str	Cir-s 8 Str	Cir-s 8 Str	Cir-s 8 Cum-s
4	4 Str	Cum-s 6 Str	Cir Cum-s	Cir 8 Cum-s	N	8 Cum-s
5	Cum 9 Str	Cum 9 Str	8 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s
6	1 Str	2 Str	Cir-e 5 Str	5 Cum-s	Cum, Cir-e 5 Cum-s	10 Str
7	5 Cum-s	4 Str	3 Str	Cir-s 1 Str	Cir-s 1 Str	4 Cum-s
8	Cum-s 6 Str	Cum-s 6 Str	Cir-e Cum-s, Str	Cir-e 6 Cum-s, Str	Cir-e 6 Cum-s, Str	9 Cum-s
9	Cum-s 8 Str	Cum-s 5 Str	Cum-s 8 Str	9 Str	9 Cum-s	9 Cum-s
10	5 Cum-s	3 Cum-s	2 Cum-s	Cum-s 3 Str	Cum-s 6 Str	Cum-s 5 Str
11	10 Nim	10 Nim	10 Nim	10 Nim	10 Nim	10 Nim
12	Cum-s 8 Str	Cum-s 7 Str	4 Str	4 Str	4 Str	4 Str
13	9 Cum-s	4 Cum-s	2 Cum-s	2 Cum-s	3 Cum-s	3 Cum-s
14	Cum-s 9 Str	9 Cum-s	Cum-s, Str 6 Cum-s	Cum 6 Cum-s	Cum, Cir-s 5 Cum-s	Cum 6 Cum-s
15	Cum-s 4 Str	Cum-s 4 Str	4 Str	Cir-s 4 Str	ENE 4 Cum-s	ENE 4 Cum-s
16	1 Str	1 Str	1 Str	2 Str	1 Cir-s	1 Cir-s
17	Cum-s 4 Str	Cum-s 4 Str	Cum 1 Str	Cum 1 Str	Cum-s 1 Str	1 Cum-s
18	0	0	0	0	0	0
19	Cir-e 5 Cum-s	Cir-s 5 Cum-s	Cir-e 7 Cum-s	Cir-e 7 Cum-s	Cir-e 8 Cum-s	Cir-s 8 Cum-s
20	10 Str	8 Str	4 Str	2 Str	1 Str	10 Str
21	10 Str	10 Str	10 Str	10 Str	9 Str	Cir, Cir-e 9 Cum-s, Str
22	7 Cum-s	7 Cum-s	9 Cum-s	Cir-e 9 Str	Cum-s 9 Str	Cum-s 9 Str
23	Cum-s 10 Str	Cum-s 10 Str	Cum-s 10 Str	Cum-s 9 Str	Cum 9 Cum-s	Cum 6 Cum-s
24	Cum-s 7 Str	Cum-s 7 Str	5 Cum-s	9 Cum-s	9 Cum-s	9 Cum-s
25	9 Cum-s	9 Cum-s	Cum-s 9 Str	Cum-s 9 Str	10 Nim	10 Nim
26	Cum-s 6 Str	Cum 5 Str	Cum-s 3 Str	Cum-s 1 Str	Cir-s 1 Str	Cum-s 3 Str
27	9 Str	10 Str	9 Cum-s	9 Cum-s	9 Nim	9 Nim
28	4 Cum-s	4 Cum-s	Cum-s 6 Str	9 Str	Cum-s 3 Str	Cum-s 3 Str
29	1 Str	1 Str	1 Str	1 Str	1 Str	1 Cir-s
30	1 Str	2 Str	Cir-s 5 Str	Cir-s 6 Str	Cir, Cir-s 6 Str	Cir, Cir-s 4 Str
31	7 Str	8 Str	9 Str	9 Str	9 Str	9 Str
Mean	5.6	5.8	5.6	5.7	6.7	6.0

July 1883.

6	7	8	9	10	11	Num.	Daily Amount of Downfall.
Cir-s, Cir Cum-s Str	Cir-s NW 7 Str	Cir-s NW 8 Str	Cir-s NW 7 Str	Cir, Cir-s NW 7 Str	Cir, Cir-s NW 6 Str	Cir, Cir-s NW 6 Str	m.m.
Str	0	0	1 Cum	2 Cum W	3 Cir-s W	4 Cum W	
Cir-s Cum Cum-s	Cir-s 8 Cum 9 Cum-s	Cir-s 7 Cum 6 Cum-s	Cir-s, Cir-c NW 9 Cum 2 Cum-s	Cum 9 Cum-s 4 Cum	Cum 9 Cum-s 4 Cum	Cir, Cir-s NW 4 Cum	
Cum-s Str	Cum-s 9 Str	Cum-s 9 Str	Cum-s 9 Str	9 Str	Cir-c 8 Cum-s, Str WNW	Cum-s 9 Str	
Cum-s Str	Cir-s NW 2 Cum	Cir-s NW 2 Cum	Cir-s NW 5 Cir-s	Cir NW & S 3 Cum	Cir S & WNW 8 Cum	Cir S 8 Cum	
Cir-c Cum-s	Cir-s NW 4 Str	Cir-s NW 3 Cum-s	Cir-s, Cir-c NW 4 Cum-s	Cir-c NW 6 Cum-s	Cum, Cir-c NW 6 Cum-s	Cir, Cir-c NW 6 Cum-s	3.8
Cum-s	8 Cum-s	9 Cum-s	9 Cum-s	Cir, Cir-c NW 8 Cum, Cum-s	Cir, Cir-c NW 8 Cum, Cum-s	Cir, Cir-c NW 8 Cum, Cum-s	
Cum-s	9 Cum-s	8 Cum-s	3 Cum-s	Cum 4 Cum-s	Cum 3 Cum-s	6 Cum-s	
Cum-s Str	Cir-s W 4 Cum-s	Cir-s W 5 Cum-s	Cir-s W 8 Cum-s, Str	Cum-s 9 Str	Cum-s 9 Str	Cum-s 10 Str	
Cum-s Str	10 Nim	10 Nim	10 Nim	10 Nim	10 Nim	10 Nim	7.9
Cum-s Str	Cum 5 Cum-s	Cum 5 Cum-s	Cum 3 Cum-s	Cum 2 Cum-s	Cum 2 Cum-s	Cum 2 Cum-s	1.1
Cum-s Str	4 Cum-s	4 Cum-s	6 Cum-s ESE	9 Cum-s ESE	8 Cum-s ESE	8 Cum-s ESE	
Cum-s	Cum Cum	Cir-s ESE 7 Cum	Cir-s ESE 8 Cum	8 Cum NE	8 Cum NE	8 Cum NE	
Cir-s Cum-s	8 Cum	8 Cum-s NE	8 Cum NE	8 Cum NE	Cir-c 7 Cum ENK	Cir-c 8 Cum	
Cir-s	1 Cir-s	1 Cum	2 Cum	2 Cum	3 Cum	3 Cum	
Cum-s	1 Cum-s	1 Cum-s	2 Cum	3 Cum	4 Cum	4 Cum	
Str	1 Cir-s	1 Cir-s	1 Cum-s	2 Cum	3 Cum	3 Cum	
Cum-s	Cum-s	Cum-s	Cum-s	Cum-s	Cum-s	Cum-s	
Cum-s	9 Str	9 Str	10 Str	10 Str	10 Str	9 Str	
Str	4 Str	4 Str	3 Str	4 Str	Cir-s 3 Str	Cir-s 5 Str	
Cir-c Cum-s, Str	Cir-c 9 Str	Cir-c 9 Cum-s	Cir-s 9 Cum-s	Cir-c SW 9 Cum-s	Cir-s, Cir-c SW 9 Cum-s	Cir-c SW 9 Cum-s	
Cum-s	10 Str	Cum 9 Cum-s	Cum 8 Cum-s	Cir-c, Cir-s SSW 7 Cum, Cum-s	Cum-s 10 Str	Cum-s 9 Str	
Cum-s	Cir-c SW 6 Cum-s	Cir-c SW 6 Str	Cir-c SW 5 Str	Cir-s SW 6 Cum, Str	Cir-s SW 5 Cum-s	Cir-s SW 6 Cum	
Cum-s	9 Cum-s	9 Cum-s	9 Cum-s	8 Cum-s	8 Cum-s	8 Cum-s	0.4
Cum-s	10 Nim	10 Nim	10 Str	10 Str	10 Str	10 Str	0.8
Cum-s	Cum-s	Cum-s	Cum-s	9 Cum-s	9 Cum	8 Cum	
Cum-s	8 Str	9 Str	9 Str	Cir-c WNW 7 Cum	Cir-c WNW 8 Cum	Cir-c WNW 7 Cum	0.9
Cum-s	9 Nim	6 Cum-s	7 Cum-s	7 Cum	3 Cum	3 Cum	3.9
Cum-s	1 Cum	2 Cum	2 Cum	2 Cum	1 Cum	1 Cum	
Cum-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	1 Cir-s	
Cir-s	Cir	Cir-s	Cir-s	Cir	Cir	Cir	
Cum-s	2 Cir-s	2 Cum	2 Cum-s	2 Cir-s	2 Cir-s	2 Cir-s	
Cum-s	Cum-s	Cum-s	Cum-s	Cum-s	Cum-s	Cum-s	
Str	9 Str	9 Str	10 Str	10 Str	9 Str	8 Cum	
5.8	5.8	5.9	6.3	6.3	6.5	18.8	

July 1883—continued.

Day.	1	2	3	4	5	6
1	Cir 7 Cir-s	Cir 7 Cir-s	Cir 7 Cir-s	Cir 6 Cir-s	Cir 4 Cir-s	Cir 3 Cir-s
2	Cir 5 Cum	Cir-s 6 Cum	Cir-s 6 Cum	Cir-s 7 Cum-s	Cir-s, Cum 7 Cum-s	Cir-s 8 Cum-s
3	10 Nim	10 Nim	9 Cum-s	9 Cum-s	9 Cum-s	8 Cum-s
4	4 Cum	4 Cum	4 Cum	3 Cum	3 Cum	3 Cum-s
5	Cum-s 8 Str	Cum-s 9 Cum-s	Cum-s 8 Cum-s	Cum-s 8 Cum-s	Cum-s 8 Cum-s	Cum-s 7 Cum-s
6	Cir-s 9 Cum	Cir-s 9 Cum-s	Cir-s 9 Cum	Cir-s 9 Cum-s	Cir-s 9 Cum-s	Cum-s 9 Str
7	Cir, Cir-e 5 Cum, Cum-s	Cir, Cir-e 6 Cum, Cum-s	Cir, Cir-e 6 Cum, Cum-s	Cir, Cir-e 7 Cum-s	Cir, Cir-e 4 Cum-s	Cir-e 6 Cum-s
8	Cum-s 7 Cum-s, Cum ESE	Cum-s 7 Cum-s	Cum-s 8 Cum-s	Cum-s 8 Cum-s	Cum-s 8 Cum-s	Cum-s 7 Cum-s
9	Cum 7 Cum-s	Cum 6 Cum-s	Cum 5 Cum-s	Cum 4 Cum-s	Cum 3 Cum	Cum 3 Cum
10	10 Str	10 Str	10 Str	10 Str	10 Nim	10 Nim
11	10 Nim	10 Nim	10 Cum-s	10 Cum-s	10 Cum-s	10 Cum-s
12	Cum 1 Cum-s	Cum 1 Cum-s	Cum 1 Cum-s	Cum 1 Cum-s	Cum 2 Cum	Cum 5 Cum
13	Cum 8 Cum-s	Cum 8 Cum-s	Cum 7 Cum-s	Cum 7 Cum-s	Cum 7 Cum-s	Cum 8 Cum-s
14	Cir-e 8 Cum	Cir-e 8 Cum	Cir-e 8 Cum	Cir-e 8 Cum	Cir-e 7 Cum	Cir, Cir-s 7 Cum
15	4 Cum	7 Cum	6 Cum	6 Cum	4 Cum	3 Cum
16	3 Cum	3 Cum	3 Cum	2 Cum	2 Cum	2 Cum
17	4 Cum	3 Cum	3 Cum	2 Cum	2 Cum	2 Cum
18	Cir-s 3 Cum	Cir-s 3 Cum	Cir-s 4 Cum	Cir-s, Cir 6 Cum	Cir-s, Cir 9 Cum	Cir-s, Cir 9 Cum
19	Cir-e 5 Cum, Cum-s	Cir-e 4 Cum, Cum-s	Cir-e 5 Cum, Cum-s	Cir-e 8 Cum-s	Cir-e 6 Cum, Cum-s	Cum-s 6 Str
20	Cir-s 5 Str	Cir-s 5 Str	Cir-s 6 Str	Cir-s 6 Str	Cir-s 7 Str	Cir-s 8 Str
21	Cir-s 9 Cum-s	Cir-s 9 Cum-s	Cir-s 9 Cum-s	Cir-s 9 Cum-s	Cir-s 9 Cum-s	Cir-s 9 Cum-s, Str
22	Cum-s 10 Str	Cum-s, Cir-e 8 Cum, Cum-s	Cum-s 5 Cum	Cum-s 4 Cum	Cum-s 5 Cum	Cum-s 6 Cum
23	Cum 8 Cum	Cum 8 Cum-s	Cum 9 Cum-s	Cum 9 Nim	Cum 9 Nim	Cum 9 Nim
24	Cum 8 Cum-s	Cum 7 Cum	Cum 6 Cum	Cum 7 Cum	Cum 6 Cum	Cum 7 Nim
25	10 Str	10 Str	10 Str	10 Str	10 Str	10 Str
26	8 Cum	Cir-s 8 Cum	Cir-s 8 Cum	Cir-s 9 Cum	Cir-s 9 Cum-s	Cir-s, Cir-e 8 Cum-s
27	Cum 9 Cum-s	Nim 9 Cum-s	Nim 10 Str	Cum-s 10 Nim	Cum-s 10 Nim	Cum-s 9 Nim
28	3 Cum	1 Cum	2 Cum	2 Cum	2 Cum	1 Cum
29	1 Cir-s	Cir 1 Cir-s	Cir 2 Cir-s	Cir 1 Cir-s	Cir 3 Cir-s	Cir 3 Cir-s
30	Cir-s 2 Cum-s	Cir-s 2 Cum-s	Cir-s 2 Cum-s	Cir-s 2 Cum-s	Cir-s 3 Cum-s	Cir, Cir-s 6 Cum-s
1	Cir-e 1 Cum, Cum-s	Cir-e 4 Cum-s	Cir-e 4 Cum-s	Cir-e 4 Cum-s	Cir-e 1 Str	Cir-s 7 Cum-s
Mean	6.4	6.1	6.4	6.3	6.1	6.4

Sums of Hydrometers. 40 ●, 10 ☉, 1 ☽, 96 ∞, 1 ☼.

July 1883--continued.

6	7	8	9	10	11	Midnight.	Mean Daily Amount of Cloud.
SW	Cir 3 Cir-s Cum-s 9 Nim Cir-s, Cir-e 6 Cum, Cum-s 2 Cum	WSW WSW NW NW Cum	Cir 3 Cir-s Cum-s 9 Nim Cir-s 7 Cum, Cum-s 2 Cum	WSW WSW NW NW Cum	Cir 3 Cir-s Cum-s 9 Nim Cum 4 Cum-s 1 Str	W W NW NW Cum	6.0
W	Cir 3 Cir-s Cum-s 9 Nim Cir-s, Cir-e 6 Cum, Cum-s 2 Cum	WSW WSW NW NW Cum	Cir 3 Cir-s Cum-s 9 Nim Cir-s 7 Cum, Cum-s 2 Cum	WSW WSW NW NW Cum	Cir 3 Cir-s Cum-s 9 Nim Cum 4 Cum-s 1 Str	W W NW NW Cum	6.0
WNW	Cir-e 8 Cum-s 10 Cum Cir-s 7 Cum-s 8 Cum-s Cum 5 Cum-s	WNW WNW NW NW Cum NW	8 Cum-s Cum-s 9 Str Cir-s, Cir-e 6 Cum-s Cum 9 Cum-s Cir-s 3 Cum, Cum-s	NW NW NW NW Cum NW	4 Cum-s Cir-e 4 Cum-s, Str 8 Str Cum 9 Cum-s 4 Cum-s	WNW NW NW NW Cum WNW	7.0
NW	Cir-e 8 Cum-s 10 Cum Cir-s 7 Cum-s 8 Cum-s Cum 5 Cum-s	WNW WNW NW NW Cum NW	8 Cum-s Cum-s 9 Str Cir-s, Cir-e 6 Cum-s Cum 9 Cum-s Cir-s 3 Cum, Cum-s	NW NW NW NW Cum NW	4 Cum-s Cir-e 4 Cum-s, Str 8 Str Cum 9 Cum-s 4 Cum-s	WNW NW NW NW Cum WNW	6.5
E	Cum-s 10 Str 10 Cum 6 Cum 7 Cum-s Cir, Cir-s 6 Cum	NE NE NE NE NW	10 Nim Cum-s 9 Str Cum 6 Cum-s 7 Cum-s Cir-s 6 Cum-s	NE NE NE NE NNE	Cum-s 10 Nim 10 Str 10 Str Cum 8 Cum-s 8 Cum-s 6 Str	NE NE NE NE NE NE	7.0
Cir	Cum 1 Cum-s 1 Cum-s Cir, Cir-s 7 Cum Cir-s 9 Cum-s	WSW WSW WSW	Cum-s 1 Str 3 Cum-s 2 Cum-s Cir, Cir-s 8 Cum-s 9 Cum-s	WSW WSW WSW	Cum-s 1 Str 3 Cum-s 2 Cum-s Cir, Cir-s 8 Cum-s 9 Cum-s	WSW WSW WSW	4.5
SSW	Cir-s 9 Str Cum-s 8 Str Cir-s 7 Cum Cum 8 Cum-s Cum, Cir-e 6 Cum-s	SSW SSW SSW NW	Cir-s 7 Str Cir-e, Cir-s Cir 5 Cum-s Cum 9 Cum-s Cir-e 5 Cum-s, Str	SSW SSW SSW NW	Cum 8 Str Cir-e 5 Cum-s, Str 5 Cum-s Cir-e 9 Cum-s Cir-s 4 Str	SSW SSW SSW NW	7.5
Cir-e	9 Str Cir-e 8 Cum-s Cir-s, Cir-e 8 Cum-s, Str 1 Cum Cir 3 Cir-s	NW NW NW NW	9 Str Cir-e 8 Cum-s Cum-s 9 Str 1 Cum Cir 3 Cir-s	NW NW NW NW	8 Str Cum-s 9 Str Cum-s 9 Str 1 Cum 5 Str	NW NW NW NW	9.2
SW	Cir-s, Cir-e 7 Cum-s 8 Str	SW SW	Cir-s 8 Str 9 Str	SW SW	1 Str Cir-s 7 Str	SW SW	3.7
	6.5	6.4	6.3	6.3	6.0	6.4	6.4

Amount, Form, and Direction of Clouds, &c. 94

August 1883.

Day.	1	2	3	4	5	6
1	8 Str Cum-s	8 Str Cum-s	8 Str Cum-s	8 Str Cum-s	8 Str Cum-s	8 Str Cum-s
2	9 Str	8 Str	8 Str	8 Str	8 Str	8 Str
3	10 Nim	10 Nim	10 Str	10 Str	10 Str	10 Str
4	Cum 7 Cum-s	Cum 7 Cum-s	Cum 5 Cum-s	Cum 4 Str	Cum 1 Str	Cum 4 Cum
5	0	4 Str	6 Str	8 Str	8 Str	7 Str
6	10 Cum-s	10 Cum-s	10 Str	10 Str	10 Str	10 Nim
7	8 Cum-s, Str	9 Str	10 Str	9 Str	7 Cum-s, Str	7 Cum, Cum-s
8	10 Str	10 Str	10 Nim	10 Nim	10 Nim	9 Nim
9	8 Cum-s	8 Cum-s	9 Cum-s	8 Cum-s	7 Cum-s	6 Cum-s
10	3 Str	5 Str	1 Str	3 Str	1 Str	2 Cum
11	9 Str	9 Str	9 Str	9 Cum-s	8 Str	8 Str
12	7 Str	9 Str	8 Str	9 Str	8 Str	8 Cum-s
13	2 Str	4 Str	5 Cum-s	9 Cum-s	10 Str	10 Str
14	4 Str	5 Str	6 Str	9 Cum-s	9 Cum-s	9 Str
15	9 Str	9 Str	8 Str	9 Str	10 Str	8 Cum-s
16	3 Str	5 Str	6 Str	9 Str	10 Str	10 Str
17	10 Nim	10 Nim	10 Str	10 Nim	10 Nim	9 Str
18	1 Str	1 Str	1 Str	2 Str	3 Str	3 Str
19	Cir-e 3 Str	Cir-s 3 Str	4 Str	Cir-s 8 Cum-s, Str	Cir-e 9 Cum-s, Str	10 Nim
20	10 Str	Cir-e 8 Cum-s, Str	9 Str	Cum-s 9 Str	Cir-s 9 Str, Cum	8 Cum, Str
21	2 Str	1 Str	1 Str	1 Str	2 Str	2 Str
22	10 Str	10 Str	10 Str	10 Str	10 Str	9 Str
23	1 Str	1 Str	2 Str	Cir-s 4 Str	Cir-s 4 Cum-s	2 Cum
24	2 Str	Cir-s 4 Str	6 Str	Cir-s 6 Str	Cum-s 9 Str	Nim 9 Str
25	10 Str	9 Str	10 Str	7 Str	8 Cum-s, Str	8 Cum-s
26	0	0	1 Str	4 Str	4 Str	5 Str
27	2 Str	5 Cum-s	7 Cum-s	8 Cum-s	8 Cum-s	8 Cum-s
28	1 Str	1 Str	1 Str	Cum 1 Str	Cum 1 Str	Cum 1 Str
29	Cum 4 Str	2 Str	2 Str	1 Str	2 Str	2 Str
30	9 Cum-s	9 Cum-s	9 Str	9 Str	7 Cum-s	9 Cum-s
31	1 Str	4 Str	3 Str	2 Str	1 Str	1 Str
Mean	5.6	6.0	6.4	6.8	6.8	6.8

3 Cir-s
Cum-s
10 Str
Cum-s
8 Str
4 Cum
Cir
7 Cir-s
10 Str
Cir-s
7 Str
9 Nim
Cum
9 Cum-s
Cir-s
2 Cum
Cum
8 Cum-s
Cum
3 Cum-s
10 Nim
Cum-s
9 Str
2 Str
9 Nim
Cir-s
7 Cum
Cir-s
2 Cum
9 Str
Cum-s
9 Str
Cir-s
2 Cum
Cum-s
9 Str
9 Cum-s
6 Cum-s
9 Cum-s
Cir-s
2 Cum-s
Cir-e
4 Cum
10 Str
1 Str
6.7

August 1883—continued.

Day.	1		2		3		4		5		6	
1	5 Cir-s	SW ∞	4 Cir-s	SW ∞	4 Cir-s	SW ∞	4 Cir-s	SW ∞	3 Cum	SW ∞	3 Cum	SW ∞
2	1 Cir	—	4 Cir-s	SW ∞	7 Cir-s	SW ∞	7 Cir-s	SW ∞	10 Cum-s	—	10 Str	—
3	5 Cum	SW ∞	8 Cum	SW ∞	8 Cum-s	SW ∞	4 Cum	SW ∞	4 Cum	SW ∞	4 Cum	SW ∞
4	6 Cum	—	6 Cum	—	6 Cum	—	5 Cum	—	4 Cum	—	3 Cum	—
5	8 Cir-s, Cir-e	SW	8 Cir-s, Cir-e	SW	8 Cum	WSW	8 Cum	WSW	7 Cum-s	WSW	7 Cum-s	WSW
6	4 Cum-s	SSE ∞	7 Cum-s	SSE ∞	9 Cum-s	—	9 Cum-s	—	5 Cum-s	—	5 Cum-s	—
7	4 Cum	NW	4 Cum	NW	3 Cum	NW	4 Cum	NW	3 Cum	NW	3 Cum	NW
8	5 Cum-s	NW	4 Cum-s	—	6 Cum-s	—	6 Cum-s	—	6 Cum-s	—	6 Cum-s	—
9	9 Cum, Cum-s	—	8 Cum, Cum-s	—	9 Cum, Cum-s	—	10 Cum-s	—	10 Cum-s	—	10 Str	—
10	8 Str	NW ∞	8 Str	—	8 Str	WSW	8 Cum-s	WSW	7 Cum-s	WSW	7 Cum-s	WSW
11	4 Cir-s	SW ∞	7 Cum	—	1 Cum	—	1 Cir-s	—	1 Cir-s	—	1 Cir-s	—
12	3 Cum-s	—	3 Cum-s	—	2 Cir-s	—	3 Cir-s, Cir	—	6 Cum-s	—	6 Cum-s	—
13	10 Nim	SW ∞	7 Str	SW ∞	7 Cum-s	SW ∞	6 Cum-s	SW ∞	6 Cum	SSW ∞	7 Cum	SW ∞
14	10 Nim	—	10 Nim	—	10 Nim	—	10 Nim	—	10 Nim	—	10 Nim	—
15	3 Cum	—	4 Cum	—	4 Cum	—	5 Cum	—	5 Cum	—	5 Cum	—
16	10 Cum-s	—	10 Cum-s	—	10 Nim	—	10 Str	—	10 Str	—	10 Str	—
17	8 Str	WSW ∞	9 Str	WSW ∞	8 Str	WSW ∞	8 Str	WSW ∞	8 Str	WSW ∞	8 Str	WSW ∞
18	7 Cum	SW ∞	4 Cum	SW ∞	1 Cum	—	1 Cum	—	3 Cum	—	4 Cum-s	—
19	10 Cum-s	—	10 Nim	—	10 Cum-s	—	10 Cum-s	—	10 Str	—	10 Str	—
20	1 Cir	SE	7 Cum	SE	7 Cum	—	7 Cum	—	7 Cum	—	7 Cum	—
21	2 Cum	NW	2 Cum	NW	1 Cum	NW	2 Cum	NW	2 Cum	NW	5 Cum	—
22	9 Cum, Str	—	9 Str	—	9 Cum	NW	8 Cum	NW	7 Cum	WSW	7 Cum	WSW
23	4 Cum	WSW ∞	4 Cum	WSW ∞	4 Cum	—	3 Cum	—	6 Cum	—	4 Cum	—
24	9 Cum, Cum-s	—	9 Cum, Cum-s	—	10 Nim	WSW	9 Str	WSW	9 Cum, Cum-s	WSW	6 Cum-s	WSW
25	8 Cum	SW	7 Cum	SW	6 Cum	SW	6 Cum	SW	6 Cum-s	SW	7 Cum-s	SW
26	6 Cum	SW	4 Cum	SW	3 Cum-s	SW	3 Cum-s	SW	3 Cum-s	SW	9 Str	—
27	8 Cum-s	W	8 Cum-s	W	9 Cum-s, Str	W	9 Str	W	9 Str	W	9 Str	W
28	1 Cum	—	1 Cum	—	1 Cum-s	—	2 Cum-s	—	3 Cum-s	—	4 Str	—
29	7 Cum-s	WSW	7 Cum-s	WSW	8 Cum-s	WSW	7 Cum-s	WSW	7 Cum-s	WSW	8 Cum-s	WSW
30	10 Nim	—	10 Nim	—	10 Nim	—	10 Str	—	10 Str	—	10 Nim	—
31	2 Str	N	2 Str	—	1 Str	—	1 Str	—	1 Str	—	1 Str	—
Mean	6.4		6.3		6.3		6.2		6.2		6.5	

Sum of Hydrometers: 59 ●, 11 ☉, 1 ☽, 153 ∞.

August 1883—continued.

6	7	8	9	10	11	Midnight.	Mean Daily Amount of Cloud.
	Cir-s, Cir SW 8	Cir-s, Cir-e NW 8	Cir-s NW 8	Cir-s 9 Str 8	8 Str 8	Cum-s 8 Str 8	5.1
	10 Nim SW 8	10 Str SW 8	10 Nim SW 8	10 Str SW 8	10 Nim 8	10 Cum-s 8	8.8
	5 Cum-s SW 8	5 Cum-s SW 8	6 Cum-s SW 8	8 Cum-s SW 8	9 Nim 8	6 Cum-s 8	7.1
	1 Cum 8	1 Cum 8	1 Cum 8	1 Cum 8	1 Str 8	0 8	4.3
	8 Cum-s, Str SW 8	8 Cum-s, Str SW 8	10 Nim 8	10 Nim 8	10 Cum-s 8	10 Cum-s 8	7.1
	7 Cum, Cum-s SW 8	6 Cum-s NW 8	7 Cum-s NW 8	8 Cum-s NW 8	7 Cum-s 8	9 Str 8	7.9
	1 Cir-e SW 8	1 Str, Cir-e SW 8	2 Str, Cir-e SW 8	2 Str 8	2 Str 8	6 Str 8	5.2
	4 Cum, Cum-s SW 8	3 Cum-s, Str SW 8	4 Cum-s, Str SW 8	7 Str NW 8	7 Cum-s NW 8	8 Cum-s NW 8	7.5
	9 Str NW 8	9 Cum-s SW 8	8 Str NW 8	7 Str NW 8	3 Str 8	Cir-s 8 Str 8	7.7
	7 Cum-s NW 8	8 Cum-s, Cir NW 8	2 Cum-s, Str NW 8	9 Str NW 8	5 Str 8	5 Str 8	5.5
	8 Str NW 8	7 Str, Cir-e SW 8	7 Str 8	Cum-s 8	8 Str 8	Cum-s 8 Str 8	6.0
	8 Cum-s, Cir-e SW 8	7 Str, Cir-e SW 8	6 Str 8	6 Str 8	1 Str 8	1 Str 8	5.6
	7 Cum-s SW 8	4 Cum-s SW 8	7 Cum-s WSW 8	3 Str 8	4 Str 8	Cum-s 8 Str 8	7.5
	9 Str WSW 8	9 Str 8	9 Str 8	10 Str 8	9 Str 8	Cum-s 7 Str 8	8.8
	3 Cum WSW 8	3 Str 8	3 Str 8	3 Str 8	4 Str 8	3 Str 8	5.1
	10 N WSW 8	10 Nim 8	10 Nim 8	10 Nim 8	10 Nim 8	10 Str 8	9.2
	9 Cum, Cum-s WSW 8	9 Cum-s SW 8	Cum-s 2 Str 8	1 Str 8	1 Str 8	1 Str 8	7.4
	6 Cum-s SW 8	6 Str 8	6 Str 8	6 Str 8	6 Str 8	Cir-e 4 Str 8	3.2
	10 Str 8	10 Str 8	10 Str 8	9 Str 8	Cum-s 6 Str 8	9 Str 8	8.7
	9 Cum-s SW 8	6 Str 8	5 Str 8	1 Str 8	2 Cum 8	2 Str 8	6.5
	5 Str WSW 8	8 Str WSW 8	6 Str WSW 8	6 Str WSW 8	7 Str WSW 8	10 Str 8	3.0
	7 Str, Cir-e WSW 8	8 Str WSW 8	8 Str WSW 8	3 Str WSW 8	2 Str WSW 8	2 Str WSW 8	7.7
	3 Cum WSW 8	4 Str WSW 8	8 Str WSW 8	4 Str WSW 8	4 Str WSW 8	3 Str WSW 8	3.5
	10 Cum WNW 8	10 Cum-s WSW 8	10 Cum-s WSW 8	10 Nim WSW 8	10 Str WSW 8	10 Nim WSW 8	8.4
	8 Cum-s WNW 8	6 Str WNW 8	7 Cum-s WNW 8	4 Str WNW 8	2 Str WNW 8	1 Str WNW 8	7.0
	5 Str WNW 8	8 Str WNW 8	4 Str WNW 8	2 Str WNW 8	3 Str WNW 8	2 Str WNW 8	3.7
	9 Str WNW 8	8 Str WNW 8	8 Str WNW 8	7 Str WNW 8	1 Str WNW 8	1 Str WNW 8	7.1
	3 Str WNW 8	5 Str WNW 8	6 Str WNW 8	4 Str WNW 8	3 Str WNW 8	2 Str WNW 8	2.2
	7 Cum-s, Str WNW 8	7 Cum-s, Str WNW 8	5 Str WNW 8	5 Str WNW 8	8 Cum-s WNW 8	9 Cum-s WNW 8	5.6
	9 Str WNW 8	9 Nim WNW 8	8 Str WNW 8	8 Str WNW 8	1 Str WNW 8	1 Str WNW 8	8.6
	5 Cum-s, Str WNW 8	8 Str WNW 8	9 Str WNW 8	9 Str WNW 8	9 Str WNW 8	10 Str WNW 8	3.7
	6.8	6.8	6.5	6.1	5.3	5.5	6.3

Observations of Aurora.

98

September 1882.

A.M.

Days.	1	2	3	4	
1	o	o	c	o	
2	o	o	o	o	
3	o	o	o	o	
4	o	c	o	b	
5	c	o	o	o	
6	o	o	c	o	
7	e	o	c	o	
8	V.	2	V.	2	
9	L.	2	b	2	
10	L.	2	V.	1	
11	L.	1	c		
12	o	o	b	o	
13	A	A	o	o	
14	I.	1	V.	1	
15	V.	1	L.	1	
16	o	o	e	b	
17	I. II.	2	c	o	
18	e	V.	h	o	
19	e	H. V.	1	c	
20	II. V.	4	V.	2	2
21	II.	3	II.	4	
22	I. II.	1	L.	2	
23	e	L.	I.	1	
24	c	c	V.	c	
25	A	o	c	o	
26	V.	1	o	o	
27	o	o	o	o	
28	o	o	c	o	
29	o	o	o	V.	2
30	o	o	o	o	
Sums	-	13	10	9	2

October 1882.

A.M.

Days.	1	2	3	4	5
1	L.	1	V.	1	c
2	L.	2	V.	2	b
3	L.	3	b	b	b
4	L.	2	L.	2	e
5	o	V.	V.	1	b
6	o	o	o	L.	o
7	o	A	A	o	o
8	L.	b	b	e	c
9	L.	1		I.	b
10	L.	1	I. V.	V.	2
11	A	I.*	3		2
12	o	A	o	o	o
13	o	o	o	o	o
14	o	o	o	o	o
15	A	A	A	A	A
16	o	o	A	o	o
17	A	A	V.	1	o
18	o	A	o	o	o
19	o	o	o	o	o
20	o	o	o	o	o
21	c	o	o	o	o
22	o	o	o	A	A
23	o	A	o	o	o
24	A	o	o	o	o
25	o	o	o	o	o
26	o	c	o	o	o
27	o	o	o	o	o
28	c	c	o	o	o
29	o	o	o	o	o
30	o	o	c	o	b
31	o	o	o	c	o
Sums	-	11	12	9	3

* 1.15.

Observations of Aurora.

100

November 1882.

A.M.

Days.	1	2	3	4	5	6	7
1							
2	o	I.	V.	b	b	b	b
3	o	o	o	o	o	o	o
4	o	o	o	o	I.	V.	o
5	A	A	o	o	o	o	o
6		b	b				o
7	II.			V.	I.		o
8	o	I.	V.	c	II.	o	o
9	II.	I.	II.	I.	I.	V.	o
10	o	o	o	V.	V.	o	o
11	o	o	o	o	o	A	o
12	I.	V.	V.	I.	I.	II.	o
13	V.	A	V.	II.	V.	II.	o
14	o	A	o	I.	II.	o	o
15	A	A	o	o	o	o	o
16	o	A	o	V.	o	o	o
17	I.	V.	II.	V.	II.	V.	o
18	I.	A	A	V.	V.	V.	o
19	o	A	A	A	II.	o	o
20	c	A	V.	o	c	IV.	o
21	c	c	c	c	c	c	o
22	c	b	c	V.	b	c	o
23	c	o	o	o	o	t	o
24	o	o	o	o	o	o	o
25	o	o	o	o	o	o	o
26	o	o	o	o	o	o	o
27	c	o	V.	o	c	o	o
28	o	o	A	o	o	o	o
29	o	o	b	b	o	o	o
30	V.	I.	I.	V.	b	o	II.
31			II.				
Sums	9	12	11	10	11	8	1

December 1882.

A.M.

Days.	1	2	3	4	5	6	7
1							
2	o	o	o	o	o	o	o
3	b	o	o	c	I.	o	o
4	I.	I.	I.	V.	c	o	o
5	V.	b	I.	I.	II.	V.	o
6	I.	V.	V.	II.	I.	I.	o
7	I.	II.	I.	V.	b	b	I.
8	o	o	o	o	o	o	o
9	c	o	o	o	o	o	V.
10	II.	V.	I.	I.	V.	V.	o
11	I.	I.	A	V.	A	V.	o
12	c	V.	I.	V.	o	c	o
13	I.	c	c	c	b	V.	o
14	I.	I.	b	I.	I.	V.	V.
15	b	I.	V.	c	II.	o	c
16	V.	I.	I.	I.	V.	I.	II.
17	c	V.	II.	V.	o	II.	o
18	A	o	c	b	b	o	o
19	II.	I.	I.	I.	V.	I.	o
20	V.	V.	V.	II.	V.	V.	I.
21	c	V.	c	b	c	o	II.
22	II.	II.	b	c	b	o	I.
23	o	o	o	o	o	o	o
24	I.	II.	o	o	o	o	o
25	o	o	o	o	o	o	o
26	A	o	o	o	o	o	o
27	I.	I.	I.	I.	o	o	o
28	V.	II.	II.	o	o	b	b
29	o	V.	I.	o	V.	c	o
30	c	c	c	II.	o	o	V.
31	II.	I.	b	I.	I.	I.	c
Sums	18	16	12	14	11	9	7

January 1883.

A.M.

Days.	1	2	3	4	5	6	7
1	I.	I. V.	I. V.	V.	V.	H. V.	V.
2	I.	I.	V.	V.	V.	c	b
3	I. III.	I. II.	b	b	I. V.	I. V.	b b
4	I.	I.	I.	I. V.	V.	II. V.	b b
5	I.	I.	I. III.	I. V.	b	b	b
6	I. II.	I.	I. V.	I. V.	I. V.	I. V.	H. II. V.
7	I.	I. II.	II. V.	I. V.	I.	I. V.	V.
8		I.	A	II.	A		c
9	A	A	o	II.	o	o	c
10	A	A	o	o	o	o	c
11	e	e	o	o	o	o	c
12	I. II.	V.	V.	V.	b		c
13	I.	I.	A	I. II.	o	I.	II.
14	I.	I.	I. II.	I. II.	o	I. II.	b
15	I.	o	A	o	o	o	o
16	V.	II.	I.	I. V.	I. V.	V.	o
17	I.	V.	I.	I. II. V.	I.	I. II. V.	V.
18	I.	I.	I.	I. II.	I. V.	I.	b
19	e	o	o	o	o	o	o
20	V.	I.	II.	V.	V.	I. II.	I. II. V.
21	I. II.	V.	I.	V.	II. V.	V.	b
22	VIII. b	b	b	V.	V.	b	b
23	I.	I. II.	II.	b	b	b	b
24	I.	b	b	b	b	b	b
25	I.	II.	II.	V.	II.	V.	II.
26	o	o	o	o	o	o	o
27	I.	o	o	o	o	o	o
28	o	A	o	o	o	o	o
29	I.	o	o	o	I. II.	o	o
30	I. V.	o	o	o	b	I.	o
31	I. III. V.	I.	I.	V.	b	o	c
Sums	24	23	20	19	17	14	8

February 1883.

A.M.

Days.	1	2	3	4	5	6
1	I. II. V.	I. V.	I. II. V.	I.	I. V.	I. II.
2	A	I. V.	V.	A	I. II.	I. II. V.
3		o	o	V.	I. II. V.	I. V.
4	V.	I.	I. II.	I. II.	o	II.
5	I. II.	I.	I. V.	e	V.	o
6	I.	I.	I.	I.	V.	V.
7	o	A	o	o	o	I.
8		o	o	o	c	I.
9	A	I.	I.	I.	I.	o
10	I.	V.	I. V.	I.	I. II. III. V.	I. II.
11	I.	I. V.	V.	II.	e	c
12	I.	I.	b	II. V.	I.	b
13	I.	I.	b	I.	I. II. V.	I.
14	I.	I. II.	I. II.	I.	I. II. V.	II. V.
15	I. II.	b	I.	I.	I. II. V.	b
16	c	V.	I.	I. III.	I.	c
17	o	I.	b	o	I.	b
18	o	o	e	o	o	e
19	h	b	c	e	I.	o
20	I.	I.	II.	II.	o	II.
21	I.	V.	e	e	o	c
22	I.	I.	o	I.	I.	o
23	e	A	o	o	o	o
24	o	I.	o	o	c	I.
25	o	o	o	o	c	o
26	o	o	o	o	o	o
27	o	o	o	o	o	o
28	o	o	o	o	o	o
Sums	48	17	14	16	13	12

March 1883.

A.M.

Days.	1	2	3	4	5
1	I. V.	V.	V.	I. III.	V.
2	V.	V.	I. III.	H. V.	I.
3	I. II.	I. V.	V.	H. V.	H. V.
4	I. II. V.	I. II.	I.	I. II.	I.
5	I.	V.	I.	H. V.	I.
6	I.	I.	I.	I.	I.
7	I. II.	I. V.	I. II.	I. V.	I.
8	V.	A	o	o	A
9	I.	I.	I. II.	I. V.	o
10	V.	V.	V.	o	o
11	H. V.	I. II.	I.	I.	o
12	o	o	o	o	o
13	o	o	o	H. V.	o
14	I. II.	I. V.	I.	V.	II.
15	V.	I.	I.	H.	h
16	o	o	o	o	o
17	V.	I. II.	I. II.	o	o
18	h	b	o	I. II.	o
19	I.	II. V.	o	H. V.	o
20	o	o	c	V.	o
21	c	o	c	o	o
22	V.	I.	I.	I. II.	h
23	I.	V.	I.	H. V.	h
24	I.	b	o	h	h
25	I.	V.	V.	h	h
26	I. II. V.	I.	V.	h	h
27	I. V.	V.	V.	I. V.	h
28	I. V.	I.	H. V.	I.	h
29	I. V.	II. V.	H.	o	e
30	I.	V.	I. II.	o	h
31	V.	I. III.	V.	h	h
Sums	25	25	24	19	8

April 1883.

A.M.

Days	1	2	3
1	A	A	o
2	IV. V.	H. V.	H. V.
3	A	o	o
4	I. V.	I. V.	I. V.
5	I.	V.	I.
6	I.	V.	o
7	I.	V.	o
8	V.	V.	A
9	V.	c	o
10	b	h	o
11	V.	I.	I. V.
12	H. V.	I.	o
13	o	o	o
14	o	o	o
15	o	o	o
16	h	o	o
17	I.	II.	I.
18	I. II.	H. III. V.	h
19	II.	I. II.	h
20	I.	II.	h
21	o	o	o
22	o	o	o
23	o	o	o
24	o	o	o
25	V.	V.	h
26	II. V.	h	h
27	A	o	o
28	c	o	o
29	o	o	o
30	o	o	o
Sums	18	14	6

I.
I.
I.
I. V.

I. II. I.
I.

March 1883.

P.M.

7	8	9	10	11	Midnight.	Sums.
I. 2	I. 2	I. II. 1	I. II. 2	I. II. 3	H. V. 2	11
I. 1	I. 1	I. 1	I. 2	V. 2	V. 2	11
I. 1	I. 2	I. 3	V. 2	I. V. 1	I. 2	11
I. V. 1	I. V. 2	I. II. 2	I. II. 2	II. III. 3	I. II. 2	11
b 1	I. 1	I. 2	I. 2	I. 2	I. 2	10
c 1	o 1	A 2	A 2	I. V. 1	H. V. 2	9
e 1	I. II. 2	I. II. 2	I. V. 2	I. 2	I. II. V. 3	10
I. II. III. 2	I. II. III. 2	I. II. III. V. 3	I. V. 2	I. 2	I. II. V. 2	8
I. 2	I. II. 2	I. 2	I. 2	I. V. 1	I. V. 2	10
o 1	e 1	e 1	II. 1	V. 1	A 1	6
o 1	o 1	b 3	IV. 3	II. 1	I. 1	6
o 1	o 1	b 3	I. 3	I. II. 2	I. II. III. V. 2	5
o 1	I. 1	I. 2	I. II. 2	I. 3	I. 2	9
o 1	I. V. 2	b 1	o 1	o 1	o 1	4
e 1	b 2	I. 1	e 1	o 1	H. V. b 1	5
b 1	h 1	b 1	V. 2	o 1	I. 1	5
o 1	o 1	o 1	I. 2	I. III. 2	o 1	5
b 1	V. 2	V. 2	o 1	o 1	o 1	3
b 1	I. 2	I. 2	V. 2	I. II. 3	I. V. 3	8
b 1	I. 1	I. 2	V. 1	V. 1	V. 1	9
b 1	I. 2	I. V. 2	I. 3	II. 3	I. 2	8
b 1	I. V. 3	I. II. 2	I. 3	V. 2	H. V. 1	8
b 1	I. 2	I. II. 2	I. III. V. 2	I. V. 2	I. II. V. 3	9
b 1	I. III. 2	H. V. 2	V. 2	I. II. III. V. 2	H. V. 1	9
b 1	I. 2	I. II. 2	H. V. 1	I. 2	I. 2	8
b 1	I. 2	I. 2	I. b 1	I. II. 1	H. V. 1	7
c 1	e 2	I. V. 2	I. 1	I. II. V. 2	H. V. 2	7
6	20	23	25	25	26	226

* 11 20 P.M.

April 1883.

P.M.

8	9	10	11	Midnight.	Sums.
e 1	I. 2	I. 4	I. V. 1	I. A 2	6
I. III. 2	I. 2	I. V. 2	I. A 2	I. II. 3	6
h 1	I. 1	I. II. 2	I. 2	I. 1	7
o 1	A 1	A 2	V. 3	V. 1	7
o 1	o 1	b 1	I. II. 1	I. II. 2	4
o 1	o 1	o 1	I. V. 1	I. V. 2	5
e 1	o 1	o 1	V. 2	I. 1	5
h 1	b 1	I. 1	I. V. 1	e 2	3
e 1	e 1	e 2	I. II. III. 2	I. V. 2	6
e 1	I. 1	e 1	I. 2	I. II. 1	3
e 1	b 1	e 1	o 1	A 1	0
b 1	b 1	II. 1	h 1	o 1	2
b 1	b 1	II. 1	I. 1	III. V. 1	1
b 1	b 1	b 2	II. 2	b 1	5
o 1	I. 2	I. III. 2	I. II. IV. 3	I. II. 1	5
o 1	o 2	V. 1	V. 2	I. 2	6
o 1	o 1	o 1	o 1	o 1	2
o 1	o 1	o 1	o 1	o 1	0
o 1	o 1	o 1	o 1	o 1	0
o 1	o 1	o 1	o 1	o 1	0
b 1	I. II. 2	A 1	V. 1	I. II. 2	3
e 1	e 2	b 2	I. II. V. 2	I. 2	5
o 1	o 2	I. 2	I. II. V. 2	I. III. 2	4
o 1	e 1	o 1	o 1	o 1	1
o 1	e 1	o 1	A 1	A 1	2
e 1	e 1	e 1	I. 1	I. 1	2
e 1	e 1	I. II. 2	I. 1	e 1	2
1	7	14	22	21	103

Observations of Aurora.

106

May 1883.

A.M.

Days.	1	2
1	L.	
2		c
3	o	o
4	b	II. 3
5	c	I. 2
6	o	c
7	b	o
8	e	b
9	c	c
10	o	o
11	b	b
12	b	b
13	o	c
14	b	b
15	e	e
16	L.	b
17	c	c
18	b	o
19	o	o
20	c	c
21	c	c
22	c	o
23	e	e
24	c	c
25	o	o
26	c	c
27	c	c
28	c	e
29	c	e
30	o	c
31	o	o
Sums	2	2

July 1883.

A.M.

Days.	1	2
1	o	
2	c	
3	o	
4	c	
5	o	
6	b	
7	e	
8	c	
9	o	
10	e	
11	o	
12	o	
13	e	
14	o	
15	e	
16	b	
17	c	
18	b	
19	c	
20	o	
21	o	
22	e	
23	o	
24	e	
25	o	
26	e	
27	o	
28	e	
29	I.	2
30	L.	1
31	e	
Sums	2	

P.M.

May 1883.

	11	Midnight.	Sums.
I.	1	e	1
	o	o	0
	b	b	1
I.	1	I.	1
	o	o	0
II.	1	b	1
	o	o	0
	b	I. II.	3
	o	o	0
	b	I. V.	2
I.	2	I. II.	2
II.	2	II.	2
	b	b	2
	e	I.	2
	b	b	1
	e	o	0
	b	e	0
	e	e	0
	c	e	0
	c	e	0
	o	V.	3
	a	o	0
	e	e	0
	e	e	0
	c	e	0
	o	e	0
	o	e	0
	o	e	0
	o	e	0
	o	e	0
	o	b	0
	b	b	0
	5	7	16

P.M.

July 1883.

	11	Midnight.	Sums.
	e	e	0
	o	o	0
	e	e	0
	b	b	0
	o	e	0
	o	e	0
	e	o	0
	e	o	0
	o	o	0
	o	o	0
	c	o	0
	o	II.*	4
	e	II.	1
	e	b	0
	b	e	0
II.	2	e	1
	o	o	0
	e	o	0
	e	o	0
	A	o	1
II.	4	o	1
	o	I.	2
	o	o	0
	o	o	0
V.	2	V.	2
II.	3	II.	2
	e	I.	2
	e	e	0
	5	6	13

* 12.11 A.M.

August 1883.

A.M.

Days.	1		2		3	
1		o		o		c
2		o		o		o
3		o		o		o
4		c		c		o
5	II.	3	II.	2		c
6		o		o		o
7		o		o		o
8		o		o		o
9		o		o		b
10		c		c		b
11		o		o		o
12	I.	1		o		o
13	II.	1	II.	1		o
14		c	V.	1		e
15		o		o		o
16	II.	1		c		c
17		o		o		o
18	VI, IV, V.	3	I.	2		b
19		c		c		c
20		o		o		o
21	I.	2		b		b
22		o		o		o
23	I.	1		b		c
24	V.	2	V.	1		c
25				o		o
26	I.	2	I.	2	II.	1
27	I. II.	3		c		c
28	I. II. V.	2	II.	2		b
29	I. III. V.	2		c		c
30		o		o		o
31	I.	2	II.	1		o
Sums	-	14	-	8	-	1

The preceding tables are compiled from the journal of hourly auroral observations.

The form of the aurora is expressed by Roman figures, according to Weyprecht's scale, viz:—

- | | |
|----------------|---------------------------------|
| I. Arch. | V. Patches, or undefined light. |
| II. Streamers. | VI. Dark segment. |
| III. Striae. | VII. Polar light. |
| IV. Corona. | VIII. Sheaves. |

The brilliancy is shown by Arabic numerals on the scale 1—4, 1 being very faint, and 4 very bright, aurora.

The letter A denotes that aurora was observed, but that it was more or less concealed by clouds.

At hours when no aurora was recorded the state of the sky is shown by the letters b, c, o.

The dotted lines mark the beginning and end of twilight.

August 1883.

P.M.

	9	10	11	Midnight.	Sums.
	o	o	o	o	o
	o	o	o	o	o
	b	o	V.	I.	1
	o	b	o	b	1
	c	o	o	o	2
	c	I. II. III. V.	II. V.	o	2
	c	3	I.	V.	3
	c	3	V.	o	1
	o	c	c	c	o
	c	II. V.	I. IV.	II.	3
	c	3	A	o	1
	c	c	b	V.	2
	c	I.	L	o	4
	c	1	o	c	1
	c	o	II.	o	2
	c	o	o	o	1
	c	o	L	I.	2
	c	I.	V.	II.	5
	c	o	II.	A	2
	c	I.	L	I.	3
	c	1	o	o	1
	c	c	I. II. V.	V.	3
	c	I. II. III.	1	I.	5
	c	3	I.	o	3
	c	I. III.	A	o	5
	o	o	I.	II. IV.	3
	c	c	7.	I. V.	4
	c	I.	o	I. V.	2
	c	c	I. II.	I. III.	1
	c	II.	A	o	5
	I.	I. III. V.	V.	I.	4
	o	o	A	o	2
	A	A	A	o	5
	3	12	22	16	76

Corrected Readings of a MAXIMUM BLACK-BULB THERMOMETER *in vacuo* exposed to Sunshine at FORT RAE, 1882-3.

Days.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	August.
1	—	34.1	19.1	-20.6	-17.3	-5.4	15.1	34.1	36.7	45.1	52.7	50.5
2	—	35.2	3.2	-21.6	-18.4	-4.1	12.3	15.9	38.9	49.3	54.1	52.2
3	—	36.5	-2.6	-19.1	-22.7	5.4	17.4	16.3	38.1	53.1	57.8	57.6
4	—	37.3	0.3	-11.3	-20.0	6.1	13.9	31.9	29.2	52.7	48.2	55.1
5	23.7	28.9	-9.5	-11.4	-17.2	11.7	14.7	31.8	39.9	43.8	51.7	54.1
6	41.3	12.8	-4.5	-6.4	-16.1	-12.2	21.1	15.3	33.6	44.7	56.4	51.1
7	37.7	24.7	0.1	-7.0	-13.3	9.3	22.5	39.1	42.9	43.7	54.8	48.1
8	43.7	34.8	6.7	-13.9	-24.2	-11.4	24.1	33.9	42.6	27.9	58.5	51.8
9	42.3	36.6	0.6	-11.3	-8.2	22.6	23.5	41.1	47.0	50.9	56.8	52.3
10	42.4	31.7	23.1	-23.6	-6.9	-9.1	25.5	37.8	44.9	47.3	48.6	50.8
11	27.2	9.6	17.4	-26.4	-10.2	-5.9	24.6	36.6	38.8	44.0	34.3	46.8
12	30.4	8.4	13.8	-27.1	-5.1	3.8	29.2	44.1	40.7	41.8	49.2	48.0
13	28.9	10.4	13.9	-30.0	-6.4	3.9	28.9	29.4	40.1	48.4	57.2	47.8
14	46.8	8.6	-2.0	-28.2	-7.7	4.9	21.4	38.7	40.6	47.1	56.9	29.3
15	40.0	34.3	4.3	-26.1	-24.7	9.7	27.9	41.2	40.1	49.5	56.2	49.8
16	47.3	31.9	17.4	-23.1	-11.7	11.1	24.3	36.1	43.6	47.2	50.1	31.4
17	36.2	24.3	-0.2	-27.3	-14.9	5.4	16.8	36.1	46.2	48.0	48.9	51.1
18	41.6	4.9	2.9	-10.8	-12.3	11.4	21.1	34.7	45.3	45.3	45.0	47.4
19	47.7	20.9	-0.8	-24.9	-3.7	16.4	25.9	36.7	49.3	43.9	55.9	40.4
20	34.8	5.8	-2.8	-10.2	-7.1	21.2	30.4	36.5	53.3	35.7	52.9	46.8
21	45.6	5.2	8.5	-11.4	-20.5	15.6	25.6	23.4	51.3	49.3	56.4	45.4
22	38.4	8.7	-6.4	-10.9	-12.9	16.6	26.6	41.9	42.3	34.5	53.9	51.0
23	38.6	4.0	-4.6	-0.3	-12.2	11.8	21.8	37.1	42.6	60.2	56.8	45.6
24	36.2	3.7	-6.0	-19.4	-7.2	5.4	20.9	37.0	42.6	53.1	51.2	43.9
25	45.3	5.9	-5.9	-13.0	-6.0	-2.6	23.4	23.4	50.6	50.6	51.1	49.7
26	38.2	26.7	-6.7	6.7	-6.0	-0.1	27.4	37.8	43.2	57.8	53.2	45.6
27	20.7	5.9	-4.6	10.3	-13.3	9.5	28.2	40.5	49.2	43.3	56.4	45.6
28	39.7	8.3	-12.2	-4.9	-12.4	14.2	29.6	39.6	42.0	44.9	47.5	46.7
29	38.0	6.0	0.2	-10.4	-5.9	—	30.9	44.4	48.6	32.1	50.5	48.7
30	17.4	1.0	-8.5	-11.7	-0.8	—	27.0	33.1	26.9	48.8	50.4	28.9
31	—	5.4	—	-13.7	-2.0	—	29.7	—	41.8	—	50.9	43.3

Solar Radiation, or the excess of a MAXIMUM BLACK-BULB THERMOMETER *in vacuo* exposed to Sunshine above the Maximum Temperature in the shade at FORT RAE, 1882-3.

Days.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	August.
1	—	27.1	27.3	5.7	17.7	16.9	40.1	42.5	32.7	28.3	29.9	29.6
2	—	26.2	7.2	2.8	19.2	26.1	34.9	44.2	39.8	29.4	30.6	30.7
3	—	23.8	11.3	1.4	14.0	28.3	40.2	46.7	46.7	33.8	35.6	28.1
4	—	24.7	4.2	14.1	18.5	11.4	39.2	44.1	36.6	35.3	31.7	31.8
5	12.3	23.9	0.0	14.1	17.7	13.1	36.3	42.9	38.2	31.3	36.0	31.9
6	30.4	8.1	7.8	17.9	17.4	-7.6	41.5	42.1	31.4	35.8	31.8	32.1
7	27.0	16.6	19.1	20.6	18.4	29.1	38.5	43.3	43.5	34.3	30.8	30.2
8	28.1	27.2	24.2	12.2	2.4	10.3	36.6	43.6	40.7	20.4	35.3	31.3
9	26.7	24.2	14.2	13.4	15.8	19.1	37.4	43.3	41.8	31.1	32.2	33.4
10	27.9	25.8	29.8	10.9	17.6	19.0	40.9	44.9	39.1	30.6	30.8	31.9
11	13.8	5.6	19.2	17.4	4.1	19.8	37.3	38.7	31.6	28.7	27.9	27.7
12	16.6	2.6	20.0	3.1	20.2	29.5	42.6	44.9	31.1	28.7	27.9	26.8
13	18.9	5.9	22.2	4.1	18.6	31.7	39.1	32.3	30.2	33.3	36.0	25.6
14	34.6	6.4	7.2	0.0	19.3	31.4	41.2	41.0	31.6	31.8	36.5	11.9
15	24.4	28.3	9.3	1.6	-0.3	11.8	42.3	41.2	31.7	33.5	35.7	32.1
16	32.8	27.4	16.0	17.0	15.7	22.6	44.9	34.8	31.9	32.7	29.2	17.3
17	23.7	21.8	0.9	14.1	22.0	20.5	44.1	31.3	31.3	33.6	29.2	31.8
18	28.1	3.3	8.2	17.1	15.4	16.4	41.5	35.7	34.4	30.5	28.7	28.2
19	27.1	20.1	4.2	6.7	22.4	10.6	40.7	36.0	33.8	29.1	32.0	26.6
20	24.1	6.9	16.3	22.2	22.2	24.7	40.8	33.5	35.1	25.2	30.1	35.5
21	31.4	3.4	14.6	9.6	11.6	32.4	37.7	22.1	34.7	32.6	31.1	32.2
22	26.1	6.6	1.6	1.1	21.8	11.9	40.7	42.7	32.7	16.6	32.2	31.3
23	27.6	3.1	3.1	17.4	21.4	14.1	41.0	38.4	29.7	30.8	34.2	29.4
24	21.2	8.5	0.7	3.6	25.9	28.1	42.1	34.1	28.2	35.6	31.4	28.4
25	27.4	6.2	14.0	16.3	15.3	13.8	43.7	34.0	33.2	31.2	31.2	28.2
26	29.6	25.9	2.6	15.1	9.6	16.5	43.6	30.5	29.5	31.1	31.9	29.1
27	11.8	6.7	23.1	15.0	4.2	29.8	41.2	35.8	34.7	28.7	30.2	29.2
28	31.6	6.1	2.1	16.3	8.0	35.1	37.8	36.1	28.2	29.7	28.0	28.8
29	32.5	5.5	19.3	17.5	25.9	—	41.2	45.9	30.1	20.4	28.1	31.9
30	11.4	6.7	21.2	5.9	27.4	—	41.1	32.8	22.4	29.4	28.5	17.9
31	—	11.2	—	17.5	27.7	—	38.2	—	35.3	—	31.0	28.4

Readings of a MINIMUM THERMOMETER exposed on the Ground to the Sky at FORT RAE, 1882-3.

Days.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	August.
August.												
1	0	0	0	0	0	0	0	0	0	0	0	0
2	—	-12.5	-20.0	-33.6	-41.4	-45.3	-37.8	-25.7	-8.9	-5.4	3.7	9.3
3	—	-5.6	-14.2	-31.8	—	-40.0	-31.6	-22.3	-4.2*	-0.6	3.3	13.8
4	—	-10.6	-15.2	-26.6	-46.7	-35.9	-35.6	-14.7	-1.9	0.9	12.4	10.3
5	—	-8.1	-1.9	-14.9	-40.8	—	-38.3	-29.8	-21.1	-1.7	7.1	7.1
6	—	-5.0	-14.0	-35.0	-40.0	—	-37.8	-28.1	-15.4	1.1	3.9	1.1
7	—	-7.8	-21.4	-32.8	-39.4	-31.4	-34.2	-19.4	-13.4	1.4	7.2	11.3
8	—	1.7	—	-31.3	-35.6	-23.3	-30.6	-27.2	-13.7	4.1	6.1	3.2
9	-2.1	-3.6	-3.5	-30.7	-30.6	-31.2	-25.3	-22.2	-11.7	1.1	2.2	-2.8
10	-6.5	-2.5	-2.5	-28.6	-29.4	-29.4	-29.8	-17.8	-12.0	-4.3	6.7	3.8
11	1.9	-1.2	-13.8	-33.8	-32.2	-41.5	-21.6	-18.3	-3.4	2.7	5.4	5.6
12	5.0	-2.1	-16.7	-24.5	—	—	-18.9	-16.2	-10.4	0.6	7.8	10.0
13	8.9	0.8	-21.6	-22.7	-29.7	—	-21.0	-14.9	-11.7	-0.6	4.2	11.1
14	5.0	1.9	-17.3	-38.4	-29.0	-43.1	-18.5	-14.2	-9.4	0.3	0.9	7.2
15	-1.1	0.1	-26.9	-43.6	-35.7	-42.8	-32.1	-19.1	-12.1	4.4	3.6	11.6
16	-5.6	-0.1	-12.8	-37.5	—	-41.3	-30.4	-15.1	-4.4	4.4	-2.8	10.0
17	0.6	-9.2	-11.4	-33.2	-16.3	-25.2	-20.9	-18.2	-4.4	5.2	-2.8	-2.4
18	-1.1	-1.7	-13.9	-26.0	-41.4	-22.1	-40.4	-17.5	-2.5	3.9	9.1	—
19	4.7	-7.5	-16.1	-31.2	-41.9	-32.2	-35.9	-17.7	-2.6	-3.1	-1.8	2.5
20	6.4	-4.2	-14.5	-30.2	-33.3	-25.3	-32.7	-13.6	1.0	1.3	2.1	3.3
21	-0.3	-5.1	-17.1	-38.9	-33.4	-20.5	-22.6	-11.8	-1.2	-0.1	1.6	4.7
22	1.4	-2.8	-25.0	-31.7	-39.4	-26.6	-29.1	0.0	-4.6	5.6	3.2	-3.3
23	-9.4	-3.9	-28.9	-27.3	-45.2	-25.0	-38.9	-1.2	0.5	9.8	7.6	1.7
24	2.5	-1.7	-17.1	-16.7	-42.2	-23.5	-31.9	-7.2	-3.6	6.5	8.4	-4.3
25	3.1	-3.3	-10.9	-32.0	-37.6	-35.9	-27.3	-8.5	-7.8	7.7	—	3.4
26	1.9	-5.0	-10.6	-31.2	-33.2	-24.6	-31.8	-8.1	0.6	8.4	9.1	4.4
27	1.4	-4.7	-12.2	-26.2	—	-18.3	-30.4	-7.4	-3.3	7.4	6.1	-2.6
28	-1.9	-1.7	-24.4	-16.7	—	—	-27.0	-7.8	-5.1	10.1	2.2	-1.0
29	-11.6	-2.2	-14.0	-23.4	—	—	-27.4	-1.1	-5.3	-0.1	1.7	-2.3
30	-4.7	0.1	-22.6	-22.1	-36.2	—	-29.0	-3.4	-5.9	4.4	-2.8	-0.9
31	-9.4	-6.7	-24.7	-33.8	-40.5	—	-31.2	-5.6	-0.6	0.1	3.0	2.8
31	—	-6.8	—	-36.7	-33.1	—	-31.1	—	-2.4	—	5.7	4.6

* Covered with snow.

Terrestrial Radiation or the defect of a MINIMUM THERMOMETER exposed on the ground to the sky below the Minimum Temperature in the shade at FORT RAE, 1882-3.

Days.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	August.
August.												
1	—	8.9	2.9	2.9	3.7	3.4	4.1	4.5	2.5	3.1	3.7	5.4
2	—	0.7	1.7	1.8	—	3.4	3.3	0.8	10.4	6.4	4.8	4.2
3	—	8.9	1.8	4.9	3.7	1.7	2.3	1.1	0.7	4.6	2.6	4.9
4	—	8.1	4.1	2.9	0.0	—	2.1	6.1	3.2	4.1	1.8	6.0
5	—	6.7	1.1	0.9	0.5	—	2.2	4.9	1.6	2.2	5.8	9.6
6	—	7.5	4.1	2.1	0.9	3.2	0.4	1.5	3.3	1.6	3.4	3.4
7	—	0.0	—	3.7	0.4	1.9	5.5	4.4	2.1	1.3	7.5	8.6
8	6.1	5.0	10.2	1.2	6.2	7.1	1.6	2.3	2.2	0.8	10.1	12.3
9	9.8	8.3	1.2	1.2	0.5	5.7	4.5	0.8	2.9	7.9	8.3	7.2
10	2.8	7.5	1.4	1.6	3.9	2.1	0.5	1.8	2.1	3.4	8.4	6.6
11	4.7	2.2	6.8	1.1	—	—	1.7	1.4	6.7	3.3	1.1	4.0
12	1.7	0.0	6.0	0.8	1.5	—	1.9	1.4	7.2	3.9	4.5	3.8
13	1.2	1.4	1.2	2.7	1.7	6.4	1.0	2.4	8.6	4.2	10.1	8.1
14	3.1	0.0	7.0	4.4	1.6	3.9	2.9	1.6	9.9	1.5	8.1	2.1
15	0.2	0.8	1.2	—	—	4.8	1.4	2.4	3.3	2.1	13.2	1.1
16	5.6	0.7	2.9	3.2	2.8	6.8	4.2	1.1	4.2	3.4	13.0	10.2
17	5.6	0.4	3.4	10.6	4.4	1.6	0.6	1.9	3.7	9.9	12.6	1.3
18	2.5	1.5	3.7	1.5	0.7	3.0	4.0	2.0	3.7	9.2	13.7	6.6
19	2.2	2.2	6.9	1.8	2.0	1.1	2.2	1.3	0.6	4.8	11.1	7.8
20	6.9	2.4	3.8	2.5	0.2	1.0	4.0	1.6	7.5	5.7	12.7	2.2
21	2.2	10.8	7.2	1.5	0.7	3.7	2.3	0.2	6.6	1.4	12.2	6.6
22	10.3	3.0	6.7	2.6	2.8	1.5	3.9	4.4	0.8	0.6	6.6	5.6
23	2.5	0.6	1.9	0.8	0.0	0.4	10.3	11.0	2.7	2.7	13.2	11.2
24	1.4	10.6	0.9	2.5	0.1	2.4	1.4	0.2	6.7	3.6	2.6	6.7
25	3.1	0.3	0.5	1.4	0.2	11.4	1.4	3.1	1.2	3.9	0.9	3.9
26	2.8	0.0	0.7	5.5	—	—	0.2	0.7	3.5	5.1	4.1	8.4
27	2.2	0.0	1.9	3.6	—	—	1.7	4.4	5.6	5.1	7.8	8.7
28	10.0	0.3	5.3	1.2	—	—	1.3	0.1	7.3	5.3	7.1	10.4
29	1.9	—	2.1	2.1	1.3	—	5.7	2.3	7.2	4.4	13.0	5.6
30	6.9	1.1	3.4	3.7	2.2	—	3.3	0.3	4.9	8.3	11.8	3.1
31	—	1.9	—	2.1	0.7	—	3.7	—	1.4	—	9.8	0.1

on the Ground to the clear Sky, at FORT RAE, 1883.

exposed

Days.	1	2	3	4	5	6	7	8	9	10	11	Midnight.
Jan. 22	41.6		45.0	45.8	45.3	45.6	41.5		44.1	44.9	45.5	44.5
23	41.5	43.2	44.4	45.5	44.5	43.9	44.0	42.4	41.6	41.7	41.6	40.9
24												
25												
29	36.2	36.4	36.9	36.9			39.0					39.3
30							35.4	36.9	36.2	37.6	36.1	36.2
31									37.9		39.1	
Feb. 1	35.9	36.9	36.8		35.1							
2												
3	27.7	26.6	29.1	35.2	36.5	34.0	31.4	33.4	32.1	33.1		
4												
6												
10												
11								30.6	30.4	31.8	31.0	
12	27.7	27.8			28.8			31.2	33.4	36.9		38.0
13	34.7	33.4	32.9	34.4	34.4	36.4	31.6	38.2	38.2	38.0	38.5	37.7
14	31.8	31.8	32.4				40.8	43.6	43.6		41.1	
15						40.7	43.6	43.7	41.3	44.7	45.9	41.6
16												40.6
17										35.7	36.7	
18						16.9	27.3	26.7	25.7		24.2	26.2
19	18.4				21.7	25.7	26.7	20.1	19.7	19.9	19.2	19.3
20					23.7			26.2	23.5	21.9	25.9	24.2
21		18.4									20.1	20.1
22												
23					29.4	34.4	36.6	37.2	35.7	33.9	36.9	38.7
24								27.8				
28									31.3	38.2	40.7	41.3
Mar. 1									28.6	27.3	26.0	28.3
2									29.3	29.9	30.2	30.0
3					38.9	41.4	41.6	41.6	43.1	42.8	40.8	40.9
4							31.9	34.2	38.0	35.4	34.6	35.0
5						31.9	31.9	34.4	34.2	31.7	34.7	
6												
7										22.9	28.4	27.5
8										32.9	31.9	29.6
9						25.2	26.3	30.6	31.8			
11						21.6	21.6					
14									24.2	19.8	20.1	
16												
17										37.9	38.8	38.8
18								15.1	16.7	16.4	15.9	31.8
19								28.7	30.7	30.8		32.4
21								21.3	24.7	25.2	24.4	25.2
22												
23										37.6	35.4	35.8
24						34.9	31.7	31.1	30.8	34.4	31.5	31.8
25						30.3	30.8	31.9	31.9	29.3	29.3	29.2
26												
28							18.8	21.4	22.6			26.0
29							21.5	24.2	24.2		24.4	26.3
30							22.6	28.0	25.7		26.7	29.9
31									20.1	22.9	26.7	
Apr. 3												23.7
4							20.8	24.2	26.7	25.8	27.7	29.3
5												
6												
10												
12												
15												17.7
16												
17											12.9	16.9
18									11.3	10.9		
May 3									16.3	16.5	17.8	19.6
4												
6												12.0
7												
8										6.8	8.3	8.3
9												
10												5.8
11											9.4	11.9
12										7.3	8.6	8.5
13										2.3	4.2	10.1
14												

Earth Temperatures observed at FORT RAE, 1882-3.

Days.	September.				October.				November.				December.			
	1 ft.	2 ft.	3 ft.	4 ft.	1 ft.	2 ft.	3 ft.	4 ft.	1 ft.	2 ft.	3 ft.	4 ft.	1 ft.	2 ft.	3 ft.	4 ft.
1	0	0	0	0	0.4	1.2	1.1	0.8	3.7	1.0	0.6	0.1	8.0	2.6	0.8	0.4
2	—	—	—	—	1.3	0.5	1.2	0.8	3.7	1.2	0.8	0.5	(7.5)	2.7	1.0	0.4
3	—	—	—	—	1.7	1.2	1.4	0.8	3.9	1.7	0.7	0.6	5.0	2.9	1.0	0.3
4	—	—	—	—	1.2	1.1	0.8	0.6	2.8	1.2	0.6	0.5	—	—	—	—
5	—	—	—	—	1.7	1.2	1.1	0.4	3.1	0.4	0.4	0.4	10.1	3.4	1.2	0.4
6	—	—	—	—	1.4	0.0	0.6	0.1	3.6	1.0	0.4	0.3	—	—	—	—
7	5.2	3.7	2.5	1.6	1.7	1.1	0.9	0.8	3.9	1.4	0.8	0.0	11.1	5.3	1.7	0.6
8	5.8	4.0	2.8	1.7	1.1	0.7	0.7	0.6	5.9	1.4	0.5	0.4	—	—	—	—
9	6.9	4.3	1.9	1.7	1.1	1.1	1.1	1.4	5.8	1.0	0.4	0.4	10.6	4.1	1.6	0.5
10	7.1	4.6	3.3	1.7	0.8	0.8	0.6	0.3	5.0	1.6	0.6	0.5	—	—	—	—
11	6.9	4.0	2.8	1.9	0.6	0.7	0.4	0.3	4.0	1.4	0.5	0.3	12.1	4.8	1.8	0.5
12	7.2	4.0	2.8	1.7	1.9	1.3	0.3	0.6	4.9	1.4	0.4	0.3	—	—	—	—
13	6.1	4.0	2.8	1.7	1.7	1.1	0.6	0.1	3.9	1.6	0.6	0.6	10.6	4.8	2.1	0.6
14	4.4	3.2	2.2	1.4	0.9	0.7	0.6	0.3	4.2	1.6	0.6	0.3	—	—	—	—
15	4.2	3.4	2.2	1.4	1.1	0.9	0.7	0.3	4.2	1.6	0.4	0.3	11.7	5.5	2.1	0.6
16	4.2	1.9	1.9	1.4	0.5	0.7	0.3	0.3	3.1	1.6	0.6	0.4	—	—	—	—
17	3.9	3.2	2.2	1.4	-0.6	-0.2	-0.1	-0.1	4.2	1.5	0.5	0.4	9.4	4.7	2.1	0.7
18	6.4	3.7	2.8	1.7	-0.1	0.7	0.6	0.3	4.6	1.6	0.6	0.3	—	—	—	—
19	6.9	4.6	2.5	1.7	-0.4	0.1	0.1	0.2	3.9	1.5	0.6	0.2	8.9	4.4	2.2	0.7
20	6.1	4.0	2.8	1.9	-0.4	-0.2	0.0	-0.1	4.6	1.7	0.6	0.3	—	—	—	—
21	2.2	3.2	1.9	1.1	-0.2	-0.1	0.0	-0.1	3.2	1.8	0.6	0.3	9.7	4.6	2.1	0.8
22	5.3	2.9	1.9	1.2	-0.1	0.1	0.1	0.0	5.6	2.3	0.6	0.5	—	—	—	—
23	4.2	2.9	2.5	1.4	-0.1	0.1	0.0	0.1	5.1	1.6	0.6	0.3	7.9	4.3	2.1	0.8
24	5.0	3.2	2.5	1.4	-0.6	-0.2	-0.1	-0.1	4.7	2.1	0.6	0.3	—	—	—	—
25	6.4	3.4	2.5	1.4	-1.2	-0.4	-0.1	-0.1	4.4	2.1	0.7	0.3	4.4	2.2	2.2	1.1
26	4.4	3.2	2.5	0.8	-0.9	-0.3	-0.2	-0.2	4.6	1.9	0.7	0.3	—	—	—	—
27	2.5	2.5	1.7	0.8	-1.1	-0.4	-0.4	-0.4	5.1	2.0	0.8	0.3	6.7	3.7	2.0	0.9
28	1.5	1.9	1.7	1.1	-0.2	-0.2	-0.1	-0.2	6.2	2.2	0.9	0.6	—	—	—	—
29	0.5	1.5	1.5	1.2	-0.5	-0.3	0.0	0.0	5.6	2.4	1.6	0.3	8.1	3.7	1.8	0.8
30	1.1	1.5	1.2	0.7	-1.1	-1.0	-0.8	-0.5	5.9	2.6	0.8	0.3	—	—	—	—
31	—	—	—	—	-1.2	-0.9	-0.6	-0.3	—	—	—	—	9.5	4.3	1.9	1.1
Mean	+4.8	+3.3	+2.1	+1.4	+0.5	+0.4	+0.3	+0.2	-4.5	-1.6	-0.6	-0.4	-9.0	-4.1	-1.8	-0.7
Days.	January.				February.				March.				April.			
	1 ft.	2 ft.	3 ft.	4 ft.	1 ft.	2 ft.	3 ft.	4 ft.	1 ft.	2 ft.	3 ft.	4 ft.	1 ft.	2 ft.	3 ft.	4 ft.
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	13.6	5.2	2.2	0.9	14.8	6.4	3.6	2.6	9.7	5.4	4.7	3.7	12.1	6.5	5.9	4.6
4	—	—	—	—	(14.8)	6.5	4.0	2.7	—	—	—	—	—	—	—	—
5	14.2	6.8	3.7	1.1	13.1	6.8	4.1	2.8	11.3	5.6	4.7	3.7	11.4	6.3	5.8	4.6
6	—	—	—	—	10.9	6.4	4.3	2.8	13.1	6.1	4.8	3.7	11.9	6.1	5.8	4.6
7	14.4	6.6	3.2	1.4	—	—	—	—	—	—	—	—	—	—	—	—
8	13.5	6.8	3.3	1.5	10.2	6.0	4.3	3.1	12.6	6.1	4.9	3.8	11.5	6.0	5.7	4.6
9	—	—	—	—	10.2	6.1	4.3	3.2	12.3	6.2	4.9	3.9	10.8	5.9	5.3	4.6
10	12.6	6.4	3.4	1.7	—	—	—	—	—	—	—	—	—	—	—	—
11	—	—	—	—	9.5	5.4	4.2	3.1	11.5	6.0	5.1	3.9	9.9	5.5	5.5	4.5
12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13	—	—	—	—	11.8	5.4	4.1	3.1	10.4	5.9	5.1	4.2	8.8	5.0	5.2	4.4
14	12.0	6.2	2.4	1.8	—	—	—	—	—	—	—	—	—	—	—	—
15	14.8	7.7	3.8	1.7	12.6	5.7	4.2	3.2	12.4	5.9	5.2	4.1	8.8	4.9	5.2	4.4
16	(11.5)	7.2	3.5	2.6	—	—	—	—	—	—	—	—	—	—	—	—
17	12.1	6.4	3.4	2.8	12.1	6.0	4.5	3.3	14.5	6.1	5.1	4.1	7.9	4.6	4.9	4.3
18	(14.8)	9.0	4.3	2.1	—	—	—	—	—	—	—	—	—	—	—	—
19	15.7	7.9	4.3	2.2	12.1	6.0	4.6	3.4	13.8	6.4	5.3	4.2	4.7	2.5	4.3	3.8
20	(11.9)	6.1	3.1	2.2	—	—	—	—	—	—	—	—	—	—	—	—
21	12.1	6.6	3.3	1.7	11.2	5.9	4.6	3.4	12.6	6.1	5.4	4.3	3.9	2.9	3.8	3.4
22	(13.2)	6.2	3.7	(1.9)	—	—	—	—	—	—	—	—	—	—	—	—
23	14.2	6.4	3.8	2.2	11.8	5.9	4.7	3.5	13.2	6.4	5.4	4.3	3.9	2.3	3.8	3.2
24	(12.1)	7.3	3.8	2.3	—	—	—	—	—	—	—	—	—	—	—	—
25	14.2	7.6	3.9	2.2	12.1	6.0	4.7	3.7	14.2	6.6	5.4	4.4	3.4	1.9	3.4	2.8
26	(13.1)	7.1	3.9	2.5	—	—	—	—	—	—	—	—	—	—	—	—
27	12.1	7.1	4.3	2.4	9.9	5.8	4.6	3.6	13.7	6.7	5.6	4.4	2.9	0.8	2.5	2.6
28	(11.1)	6.6	4.1	2.3	—	—	—	—	—	—	—	—	—	—	—	—
29	11.2	6.1	4.1	2.8	—	—	—	—	—	—	—	—	—	—	—	—
30	(12.6)	6.6	3.9	2.6	—	—	—	—	13.0	6.5	5.9	4.5	2.5	0.2	0.8	1.1
31	11.5	7.1	4.2	2.7	—	—	—	—	12.6	6.5	5.8	4.6	—	—	—	1.2
Mean	-13.2	-6.7	-3.5	-1.9	-11.6	-6.0	-4.3	-3.2	-12.6	-6.2	-5.2	-4.1	-7.3	-3.8	-4.1	-3.7

N.B.—The observations with brackets have not been used in taking the means.

Earth Temperatures observed at FORT RAE, 1882-3—continued.

Days.	May.				June.				July.				August.			
	1 ft.	2 ft.	3 ft.	4 ft.	1 ft.	2 ft.	3 ft.	4 ft.	1 ft.	2 ft.	3 ft.	4 ft.	1 ft.	2 ft.	3 ft.	4 ft.
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	-2.2	-0.2	0.8	1.3	3.4	0.7	-0.7	-0.6	8.1	4.0	1.8	0.5	10.5	5.7	3.3	2.2
3	(-2.1)	-0.2	0.9	1.2)	—	—	—	—	—	—	—	—	—	—	—	—
4	-2.8	-0.3	1.1	1.2	5.5	1.1	-0.6	-0.5	9.6	4.2	2.1	0.7	10.2	5.8	3.4	2.1
5	(-2.3)	-1.4	0.9	1.2)	—	—	—	—	—	—	—	—	—	—	—	—
6	-2.3	-0.2	1.1	1.2	6.2	1.6	-0.6	-0.5	5.4	4.6	2.2	0.8	9.4	6.1	3.9	2.3
7	(-2.3)	-0.3	1.1	1.2	—	—	—	—	—	—	—	—	—	—	—	—
8	-2.2	-0.2	1.1	1.1	5.3	1.7	-0.6	-0.4	9.3	4.6	2.2	0.9	9.6	6.1	3.8	2.3
9	-1.8	-0.2	1.1	1.1	5.3	1.9	-0.5	-0.1	9.8	4.6	2.6	1.1	8.8	5.8	3.8	2.5
10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11	-0.7	-0.2	1.1	1.1	6.2	0.7	-0.6	-0.4	8.8	5.2	2.8	1.1	9.7	5.8	3.9	2.6
12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13	0.9	-0.1	1.1	1.0	6.3	2.5	-0.3	-0.3	8.6	4.8	2.6	1.1	9.9	6.1	3.8	2.4
14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15	1.0	-0.2	1.1	1.1	6.3	2.4	0.0	-0.2	9.0	5.1	2.8	1.3	8.9	5.9	3.8	2.6
16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
17	2.1	-0.1	1.1	1.0	6.7	2.9	0.0	-0.4	9.4	5.2	2.8	1.4	8.0	5.7	3.9	2.7
18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19	2.3	0.1	0.9	0.8	6.2	2.7	0.3	-0.2	9.9	5.5	3.0	1.6	9.2	5.7	3.8	2.6
20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
21	3.7	0.1	1.1	0.9	6.7	3.0	0.6	-0.2	11.6	5.8	3.3	1.7	6.3	5.2	3.7	2.6
22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
23	2.7	0.1	1.1	0.8	6.8	3.2	0.8	-0.2	9.7	5.8	3.3	1.8	7.2	5.1	—	2.6
24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
25	3.8	0.2	0.8	0.6	8.3	3.7	1.2	-0.2	8.8	5.6	3.1	1.8	7.1	4.8	3.1	2.3
26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
27	4.4	0.3	1.0	0.6	9.0	4.6	2.1	0.0	8.3	5.2	3.2	1.9	7.1	4.8	3.3	2.3
28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
29	4.7	0.6	0.8	0.6	7.7	4.2	1.8	0.4	7.9	4.9	3.1	1.8	6.7	5.0	3.3	2.6
30	—	—	—	—	—	—	—	—	(9.2)	5.1	3.0	1.8	—	—	—	—
31	3.3	0.5	0.6	0.5	—	—	—	—	8.6	5.3	2.9	1.8	6.1	4.6	3.2	2.3
Mean	+1.1	+0.0	-1.0	-0.9	+6.4	+2.5	+0.2	-0.3	+8.9	+5.0	+2.8	+1.3	+8.4	+5.5	+3.6	+2.4



F O R T R A E.

M A G N E T I C A L O B S E R V A T I O N S.

MAGNETIC OBSERVATIONS.

The Observations made on Terrestrial Magnetism were of two kinds, ABSOLUTE and VARIATION or DIFFERENTIAL.

ABSOLUTE OBSERVATIONS AND ADJUSTMENTS.

The observatory in which the absolute observations were made was a log hut about 15 ft. (4.5 m.) \times 8 ft. (2.5 m.) with a mud fireplace in one corner. No iron was used in its construction.

Absolute observations were made in the neighbourhood of the observatory with satisfactory results, no sign of any local magnetic influence being observed.

HORIZONTAL INTENSITY (X).

The absolute value of the horizontal component of the Earth's magnetic force was found by means of vibrations and deflections with the unifilar magnetometer No. 102, by Jones, London. During every observation the bifilar was read at short intervals, and the mean of these readings was assumed to correspond with the value of the horizontal force X found by means of the absolute observation.

The following are the instrumental constants of the unifilar which were ascertained at Kew before its departure, and verified on the return of the instrument.

Graduation of deflection bar:—

Apparent distance from centre of instrument.		True distance at temp. 0° Cent.
0.20 metre	=	0.199925 metre
0.25 "	=	0.249925 "
0.30 "	=	0.299925 "
0.35 "	=	0.349925 "
0.40 "	=	0.399925 "

Deflection apparatus, angular value of one scale division = 2' 1".

Vibration magnet, angular value of one scale division = 2' 25".

The deflecting magnet employed was marked — N 5.

The suspended " " " — N a.

For deflecting magnet:

Correction to 0° Cent. = $0.000224 (t_0 - 0) + 0.000018 (t_0 - 0)^2$.

Induction coefficient μ = 0.00000637.

Log. π^2 K at 0° Cent. = 9.50076.

Dimensions of inertia cylinder: length = 0.103617 metre.

" " " diameter = 0.00998 metre.

" " " weight = 68.2799 grammes.

The following table gives the results of the observations, each value of X being obtained from a pair of observations, one of vibration and one of deflection; m being the magnetic moment of the magnetic needle used, and X the Earth's magnetic horizontal force.

TABLE 1.

Date.	m	X.	Corresponding British Measures.	Bifilar reading.	X reduced to 420 Bifilar Scale.	Corresponding British Measures.
1882.	C.G.S.	C.G.S.	Foot Grain Sec.	Scale divisions.	C.G.S.	Foot Grain Sec.
Sept. 29	·00068707	·076345	·6558	425	·076250	·6537
Nov. 11	617	6430	·6576	413	564	·6605
" 16	472	6395	·6569	410	587	·6610
" 30	458	6762	·6648	422	743	·6644
Dec. 8	626	6533	·6599	419	552	·6603
" 25	539	6570	·6607	416	646	·6623
1883.						
Feb. 7	584	6521	·6596	423	464	·6584
March 5	557	6841	·6695	425	746	·6645
April 6	495	6565	·6605	408	794	·6655
May 12	457	6644	·6623	415	791	·6655
June 8	323	6579	·6599	417	616	·6621
" 12	281	6785	·6653	422	748	·6645
July 12	262	6644	·6623	424	568	·6606
" 31	220	6710	·6637	424	634	·6620
Aug. 14	237	6435	·6577	419	454	·6581
" 16	287	6683	·6631	433	549	·6602
" 28	328	7012	·6703	440	630	·6620
				Means -	·076604	·6614

The values, as reduced to the same bifilar reading (420), were plotted down to scale and a curve drawn through them.

From this curve the following corrections were obtained for the change of zero of the bifilar.

TABLE 2.

1882.	Sept. 1	to	Oct. 2 (3 a.m.)	Scale Divisions.
1883.	Feb. 9	"	Feb. 13	-15
"	" 14	"	" 15	+ 1
"	" 17	"	" 19	+ 3
"	" 20	"	" 21	+ 4
"	" 22	"	" 23	+ 5
"	" 24	"	" 26	+ 6
"	" 27	"	March 2	+ 7
"	Mar. 1	"	" 7	+ 8
"	" 7	"	" 14	+ 9
"	" 14	"	April 21	+10
"	April 21	"	" 29	+ 9
"	" 30	"	May 6	+ 3
"	May 7	"	June 16	+ 7
"	June 17	"	" 19	+ 6
"	" 20	"	" 22	+ 5
"	" 23	"	" 26	+ 4
"	" 27	"	" 30	+ 3
"	July 1	"	July 5	+ 2
"	" 6	"	" 12	+ 1
"	" 10	"	Aug. 31	0

There was reason to believe that the bifilar subsequent to its adjustment at the beginning of September received a shock on the morning of October 2, at 3 a.m. This is corroborated by the low value of X given by the observation of 29th September, and by the sudden change in the readings at that time.

The mean of the values of X from the last column of table 1 is ·076604, which corresponds to 420 of the bifilar scale; when the bifilar readings are corrected by Table 2, this mean becomes ·076577.

The bifilar scale reading 400 was accordingly assumed to be = $\cdot 076200$, and with the scale value found from deflections as mentioned below, p. 124, table 3 was computed for the reduction of the variation observations.

It appears from Table 1 that the value of m regularly decreased throughout the year, an assumption *a priori* probable, as the magnet was kept at a fairly even temperature, and never received any shock or blow.

In order to utilise observations of vibration unaccompanied by an observation of deflection, and *vice versa*, so as to compare the observations with one another, and with the corresponding bifilar readings, the value of m was assumed to diminish uniformly, and the amount $t(\delta m)$ of the diminution after a time t , was obtained from the observed values of m , each value yielding an equation of condition, of the form $m = M - t(\delta m)$.

The probable values of M and δm having been found from these equations, a value of m was computed for every day on which an observation was made, and from it a value of X derived. These values being reduced to the standard bifilar reading, the mean of 23 vibration observations was found to be $\cdot 076599$, and of 19 observations of deflection $\cdot 076621$. Giving half weight to the deflection observations, on account of their greater liability to error, the mean amounts to $\cdot 076606$.

When the corrections from Table 2 are applied to the bifilar readings, this mean becomes $\cdot 076578$, thus agreeing very closely with the value found above.

The probable error of a single observation of vibration is $\cdot 000052$, and of an observation of deflection $\cdot 00008$.

TABLE 3.

Corrected Scale Reading	Absolute Horizontal Force, C.G.S.	Corrected Scale Reading	Absolute Horizontal Force, C.G.S.
Div		Div	
-600	$\cdot 070921$	+100	$\cdot 070667$
-500	$\cdot 070773$	+200	$\cdot 07247$
-400	$\cdot 07230$	+300	$\cdot 07431$
-300	$\cdot 06389$	+400	$\cdot 07620$
-200	$\cdot 06553$	+500	$\cdot 07814$
-100	$\cdot 06720$	+600	$\cdot 08012$
0	$\cdot 06892$	+700	$\cdot 08216$

ABSOLUTE DECLINATION.

Observations for absolute declination were made with the above-mentioned unifilar, the declinometer being read simultaneously.

Each observation consisted of three or more readings of the collimator magnet with its "scale erect;" it was then turned 180° on its axis, and a like number of readings taken with the "scale inverted." The torsion was always removed from the suspension thread before commencing observations.

The astronomical meridian was determined by star observations with the transit theodolite to within a few seconds, and then indicated by fixed marks both north and south. As the same pillar was used both for the transit instrument and the unifilar, the observed magnetic declination could be referred directly to the meridian.

The following table gives the results of these observations, the readings being reduced to the declinometer scale reading 330.

TABLE 4.

Date.		Local Mean Time.	Absolute Declination.
1882.		h. m.	" " "
September	24	1 39 p.m.	40 16 58 East
October	14	12 45 "	40 22 37
"	15	11 40 "	40 20 48
1883.			
February	15	12 50 "	40 20 49
May	1	11 3 a.m.	40 16 50
"	15	4 26 "	40 18 2
"	15	11 53 "	40 17 16
June	4	—	40 16 22
"	14	6 5 p.m.	40 10 0
"	15	3 38 "	40 9 19
July	2	3 30 "	40 4 52
"	15	12 12 "	40 3 58
"	22	12 30 "	40 3 16
August	2	3 30 "	40 2 26
"	12	4 30 "	40 2 45
"	24	3 14 "	40 0 13
"	30	12 45 "	40 0 18
		Mean	40 10 58

TABLE 5.

Observations of Inclination. (See p. 122.)

Date.	Needle	Observed Inclination.	Date.	Needle	Observed Inclination.	
1882. d. h. m.			1883. d. h. m.			
Sept. 14 11 50 a.m.	1	52 58' 25"	May 16 12 52 p.m.	2	82 54' 4	
" 24 5 25 p.m.	2	" 51' 7"	" 22 12 37 "	1	" 54' 8	
" 29 1 55 "	1	" 50' 7"	" 22 6 32 "	1	" 51' 9	
Oct. 13 11 15 a.m.	2	" 57' 8"	" 24 5 12 "	1	" 48' 0	
" 23 12 30 p.m.	1	" 56' 8"	" 25 6 22 "	1	" 52' 6	
" 29 12 30 "	1	" 56' 4"	" 26 12 37 "	1	" 51' 2	
Nov. 4 11 15 a.m.	1	83 0' 8"	" 26 3 12 "	1	" 52' 25	
" 14 3 0 p.m.	1	82 55' 1"	" 28 11 7 a.m.	2	" 57' 2	
" 27 1 45 "	1	" 58' 9"	" 28 6 27 p.m.	2	" 51' 6	
Dec. 3 12 0 noon	1	" 59' 0"	" 29 12 17 "	2	" 54' 2	
" 13 12 0 "	1	83 1' 3"	" 29 6 12 "	2	" 51' 6	
" 22 1 25 p.m.	1	82 59' 4"	June 5 11 25 a.m.	1	" 55' 0	
" 23 1 0 "	1	" 58' 1"	" 13 10 35 "	2	" 57' 0	
1883.			" 22 1 10 p.m.	2	" 53' 4	
Jan. 5 11 45 a.m.	1	" 56' 1"	" 26 12 30 "	1	" 53' 2	
" 9 12 25 "	1	" 55' 5"	" 27 12 50 "	2	" 54' 3	
" 17 1 45 p.m.	1	" 52' 5"	" 27 4 7 "	2	" 49' 8	
" 27 12 55 p.m.	1	" 53' 1"	" 29 12 25 "	1	" 54' 5	
Feb. 5 1 55 p.m.	1	" 51' 2"	July 5 6 30 "	d.	2	" 45' 9
" 5 1 10 "	1	" 55' 0"	" 6 4 33 "	2	" 50' 5	
" 13 12 45 "	1	" 54' 6"	" 11 1 7 "	2	" 50' 7	
" 20 12 15 "	1	" 51' 9"	" 18 5 20 "	1	" 47' 5	
Mar. 2 1 0 p.m.	1	" 54' 2"	" 19 12 12 "	1	" 54' 3	
" 5 12 0 noon	1	" 53' 9"	" 25 12 5 "	1	" 56' 0	
" 12 11 30 a.m.	1	" 53' 3"	" 25 6 25 "	1	" 51' 1	
" 19 11 30 "	1	" 58' 4"	" 30 10 33 a.m. d.	1	83 0' 25	
" 27 3 15 p.m.	1	" 49' 7"	" 31 10 43 "	d.	1	" 15' 1
" 31 4 45 "	2	" 46' 4"	Aug. 7 1 5 p.m.	1	82 55' 9	
Apr. 5 4 30 "	2	" 52' 4"	" 13 3 20 "	1	" 52' 7	
" 12 1 25 "	1	" 52' 5"	" 13 7 5 "	1	" 51' 9	
" 20 5 30 "	1	" 47' 2"	" 21 6 52 "	1	" 52' 8	
" 28 5 10 "	1	" 49' 0"	" 25 3 52 "	2	" 53' 7	
May 1 3 15 "	1	" 48' 8"	" 29 11 2 a.m.	2	" 54' 8	
" 9 11 40 a.m.	1	" 56' 6"	" 29 3 12 p.m.	2	" 53' 2	
" 10 4 40 p.m.	1	" 49' 9"				
		Mean			82 54' 07	

d. Magnetic disturbance was observed to be in progress during these observations.

The observations indicated that the zero value of the declinometer scale began to change slowly in April, and continued to move in the same direction until July. This was probably due to a movement of rotation in the wooden pillar caused by absorption of moisture in the spring. I noticed a movement in the same direction with the transit instrument, which, when directed to a fixed mark on one day, was often found on the following day to be pointing two or more minutes to the eastward of it.

INCLINATION.

For observations of inclination a dip circle by Barrow, London, with 3½-inch (9 cms.) needles was used.

Table 5 gives the results of these observations. At every observation both ends of the needle were read in each of the usual four positions; the poles were then reversed and the readings repeated.

When the inclination was observed at Kew with this instrument, before leaving England, an almost identical value was afforded by needles 1 and 2, and no difference in the results obtained from them was observed at Fort Rae. The instrument was so much injured on its journey back that it was not possible to make any observations with it after its return to Kew.

An inspection of the observations showed that the value of the inclination varied at different times of the day, and they were accordingly grouped by hours with the following results.

TABLE 6.
Hourly Means of Inclination.

Hour	Mean inclination.	Tan $\frac{-1 Y}{X}$
10 to 11 a.m.	82° 57' 0"	82° 57' 0"
11 to 12 ..	" 56' 5"	" 56' 5"
12 to 1 ..	" 55' 7"	" 55' 6"
1 to 2 p.m.	" 54' 8"	" 55' 2"
2 to 3 ..	" 53' 1"	" 54' 3"
3 to 4 ..	" 52' 0"	" 53' 6"
4 to 5 ..	" 51' 2"	" 52' 2"
5 to 6 ..	" 49' 8"	" 52' 8"
6 to 7 ..	" 48' 9"	" 52' 7"
7 to 8 ..	" 51' 1"	" 51' 4"
8 to 9 ..	" 53' 9"	" 53' 5"

The last column of the above table gives the value of the inclination as calculated from the absolute horizontal and vertical forces, X and Y being the mean values of the whole of the year's observations at those hours.

It corroborates the fact of the great diurnal variation of the inclination, and the mean value for the month or year will probably be more accurately found from the mean values of the vertical and horizontal forces than from the observations of inclination, which are too few in number and are not fairly distributed over the 24 hours.

VERTICAL INTENSITY (Y).

The absolute value of the vertical component of the Earth's magnetic force Y corresponding to a given reading of the balance magnetometer, was found from each value of the inclination δ , in conjunction with the corresponding value of the horizontal intensity X by the formula,

$$Y = X \tan. \delta.$$

These 61 values of Y were reduced to the same scale reading of the balance magnetometer; five of them were rejected by Pierce's criterion, and the mean of the remainder, 0.6176, was adopted as corresponding to the scale reading 1500, and with the scale value found below, Table II was computed for the reduction of the variation observations.

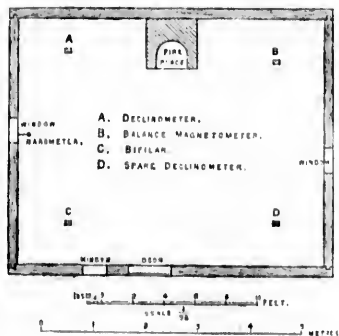
The probable error of this mean was found to be .0004.

VARIATION OBSERVATIONS.

The observatory for the variation instruments was a log hut, 19 ft. 9 in. (6 m.) \times 16 ft. 6 in. (5 m.), and from 7 ft. 6 in. (2.5 m.) to 15 ft. (4.5 m.) in height.

The floor was fastened with wooden pegs, the windows with copper nails. The walls were of wood and mud, the fireplace of mud and stone, which latter had no effect on the magnets.

The projection of the fireplace on either side screened the balance magnetometer and declinometer from the direct heat rays of the fire; the bifilar was screened by a table, which was nailed to the floor. The accompanying plan shows these details and the position and distance apart of the different instruments, which were mounted on wooden pillars about 0.2 metre in diameter, sunk about 1 m. in the ground.



BIFILAR MAGNETOMETER.

The horizontal intensity was recorded by means of the bifilar. A transportable Weber magnetometer with 3-inch (7 cm.) needle, hung in a loop of unspun silk fibre, was adjusted by placing the instrument with the telescope to the North, and in the magnetic meridian, the interval between the suspending threads being so regulated that when the torsion circle was turned through 138° , the reflection of the centre division of the scale coincided with the cross wire of the telescope.

Although it was found that the instrument thus adjusted was slightly too sensitive, it was thought best to leave it untouched, rather than to break the continuity of the observations by altering the adjustment.

The following deflections of the bifilar magnet with the unifilar magnet (N 5) were observed for the determination of the scale value of the instrument.

TABLE 7.

Date.	Temp. Cent.	Mean deflection in scale divisions.				
		At 562 mm.	At 560 mm.	At 555 mm.	At 550 mm.	At 540 mm.
1882.	0					
Sept. 11	14.7					
" 12	12.4	400.25	407.25		435.5	
Oct. 12	12.0		410		434.4	
Nov. 10	9.2		407.75		435	
Dec. 12	6.8		407		429.25	
1883.			404	422	435.5	
Feb. 7	2.5		407.4		431	
April 6	12.4		405.1		425.9	450
May 12	14.7				426.1	
June 10	18.9		404.4		425.8	450
" 10	16.8		401.2		427.75	449.4
July 20	23.0				424.5	
August 16	17.6	398.45	402.4	415	425.3	449
" 30	15.0		403.75		425.7	450.6

The scale value appears therefore to have been practically constant throughout the whole period of the observations, and = $\cdot 000251 X$.

DECLINOMETER.

The declinometer, one on Lamont's principle, having a cylindrical magnet 2.5 in (6 cm.) in length was adjusted by suspending the magnet by a bundle of unspun silk fibres and (after the instrument had been levelled and the torsion removed from the suspension thread) bringing the reflection of the central division of the scale into coincidence with the cross wire of the telescope.

Each division of the scale was = $60'' \cdot 6$, and since of the coefficient of torsion $\frac{H}{P}$ varied from $\cdot 00266$ to $\cdot 0044$, the value of one scale division ranged between $60'' \cdot 76$ and $60'' \cdot 87$.

In the reduction of these observations the scale divisions have been taken as minutes; the recorded deviations are therefore too small by about 1.3 per cent.

Once finally adjusted, this instrument, like the bifilar, was left untouched until dismantled on the morning of the 1st September 1883.

BALANCE MAGNETOMETER.

The instrument for observing the variations of vertical intensity was a Lloyd's balance magnetometer with 12-inch (30 cm.) magnet. It was adjusted by levelling the base slab and bringing the magnet into the plane of the magnetic meridian.

It was soon found that the magnet was largely affected by changes of declination, and required continual re-adjustment to bring it back into the meridian.

The slow oscillation of this long magnet was a frequent source of error in reading off its scale.

The scale value was determined from the times of vibration of the magnet observed both in the vertical and horizontal planes, which were 16 (t') and 10 (t) seconds respectively. The value of the ratio $\frac{t'^2}{t^2}$ was therefore 2.56, and the resulting value of one division of the scale $\cdot 0000633 Y$.

The variation instruments were read at each hour of local mean time in the order, bifilar, declinometer, balance magnetometer, at one minute before each hour, at the hour, and at one minute past, until the 11th October 1882, but on and after that date the readings were made at two minutes' interval, *i.e.*, at 58m., 0., 2m., as it was found that with only one minute's interval between the reading there was a certain amount of hurry, and consequent liability to error, in recording the observations. The bifilar was read at the exact second, the declinometer 12 seconds later, and the balance magnetometer 40 seconds after each minute, but this latter instrument took more or less time to read according to the distance it was necessary to move the micrometer screw to obtain a correct setting.

On days of disturbance observations were also made at the Göttingen hours in the same manner.

NOTES ON THE REDUCTION OF THE DIFFERENTIAL OR VARIATION OBSERVATIONS; BY G. M. WHIPPLE, B.S.C., SUPERINTENDENT OF THE KEW OBSERVATORY.

During the period of observation at Fort Rae all the differential or variation instruments were read three times at each hour, two minutes being allowed to elapse between the consecutive readings, and the mean of the three readings has been accepted throughout as the true value for the hour. This does not, however, obtain on term days when the tri-horary readings were not made, but the actual reading at the instant of the hour was only taken.

The observations were all entered according to local time, care being exercised on term days to correct the readings for difference in time when transcribing them from the term day to the ordinary observation book.

DECLINATION.

The values used in the reductions are given in the following table, one scale division of the declinometer being assumed to be equal to 60' of arc. (*See* p. 124.)

TABLE 8.

Date.	Scale divisions.	Corresponding Declination.
From September 1882 to April 1883	330	40 20 East
From April 15 "	330	40 19
" May 1 "	330	40 18
" " 15 "	330	40 18
" June 1 "	330	40 17
" " 15 "	330	40 10
" July 1 "	330	40 5
" " 15 "	330	40 4
" August 1 "	330	40 4
" " 15 "	330	40 2

From this table other tables were computed, giving the true values in arc of the readings for every tenth scale division from 70 to 790.

Forms having been prepared in accordance with the model adopted by the Vienna Conference, the mean hourly readings were converted into declination values and entered as such in their respective columns, together with the corresponding movement symbols* as determined by the changes occurring in the four minutes during which the instrument was under observation.

* † Readings rising by oscillations.
 † " falling "
 ‡ " rising by jerks.
 † " falling

* † Readings rising steadily.
 † falling "
 ‡ stationary.
 ? Movement uncertain.

The highest and lowest readings noted at any time during the day were then entered as the extreme values for the twenty-four hours, and the differences taken. Hourly, daily, and monthly means were then finally computed.

This set of tables is contained on pp. 130 to 141.

Term Day Observations.

On certain selected days, called term days, a list of which is here given:—

September	15	1882.
October	1 and 15	..
November	1 .. 15	..
December	1 .. 15	..
January	2 .. 15	1883.
February	1 .. 15	..
March	1 .. 15	..
April	1 .. 15	..
May	1 .. 15	..
June	1 .. 15	..
July	1 .. 15	..
August	1 .. 15	..

readings of the declinometer were made every five minutes from midnight up to 11.55 p.m., Göttingen mean time, with the addition of certain other readings made for one previously selected hour, as given in the following list, during which the instrument was read every 20 seconds.

September	15	1882	3 p.m.	and	4 p.m.	Göttingen mean time.
October	1 and 15	..	4 p.m.	..	5 p.m.	..
November	1 .. 15	..	6 p.m.	..	7 p.m.	..
December	1 .. 15	..	8 p.m.	..	9 p.m.	..
January	2 .. 15	1883	10 p.m.	..	11 p.m.	..
February	1 .. 15	..	midnight	..	1 a.m.	..
March	1 .. 15	..	2 a.m.	..	3 a.m.	..
April	1 .. 15	..	4 a.m.	..	5 a.m.	..
May	1 .. 15	..	6 a.m.	..	7 a.m.	..
June	1 .. 15	..	8 a.m.	..	9 a.m.	..
July	1 .. 15	..	10 a.m.	..	11 a.m.	..
August	1 .. 15	..	noon	..	1 p.m.	..

These observations having been reduced to absolute value and tabulated, form the tables on pp. 166 to 223; they are also represented as plotted in curves forming plates 1 to 28. No calculation of means or differences have been made from them.

HORIZONTAL INTENSITY (BIFILAR MAGNETOMETER).

(See p. 123.)

The scale value of this instrument and the temperature corrections of its magnet were determined at Kew, and the latter was also re-examined on its return, but the corrections so found were seen, by a preliminary reduction of the readings, to be very inadequate for the purpose of reducing the observations made when the instrument was fixed *in situ*, and measures were taken to deduce the true corrections from the observations themselves.

The first step in the reductions was to find the mean scale reading for the hour from the three observations, as in the case of the declination.

These values were then extracted for the hours of 11 a.m., noon, and 1 p.m. (being the period of least variation) on such days as the magnets were fairly steady, with the

corresponding observed temperatures ranging from about -15° to $+25^{\circ}$ cent. From these the mean values for every change of 10° was computed, and corrected for change of zero of the instrument.

The observations as corrected by this preliminary determination of the temperature effect were plotted in a curve, and irregular readings being then rejected, a new value was found. In this way a final temperature correction was arbitrarily determined, and the values given below adopted for the reduction of the observations to a common temperature.

TABLE 9.

Temperature.	Cent.	Corrections in scale divisions.	Temperature.	Cent.	Corrections in scale divisions.
0					
-15		-25	+10		+11
-10		-16	+5		+14
-5		-8	+20		+19
0		0	+25		+25
+5		+7			

The mean hourly readings having been reduced to temperature 0° by the above table, were converted into absolute values by Table 3, calculated by Capt. Dawson from the Absolute Observations, and additional corrections (Table 2) for change of zero being applied, the results were entered for every hour in abstracts on the forms adopted by the International Polar Commission. They form the tables on pp. 142 to 153 of hourly absolute values of the horizontal intensity, and are accompanied by symbols giving the nature of the movements at the time of observation determined as has already been described in the case of the declination, p. 125.

Similarly daily, hourly, and monthly means have been computed, and the maximum, minimum, and diurnal range calculated.

TERM DAY OBSERVATIONS.

The values of the horizontal intensity have been computed for every five minutes on the term days already referred to, and plotted as curves. (Plates 1-23.)

Term hour observations of this instrument were not made.

VERTICAL INTENSITY (LLOYD'S BALANCE MAGNETOMETER).

The instrumental readings as recorded are those of a micrometer placed opposite the South end of the magnet, and are such that one division represents a change of $\cdot 00001$ C.G.S. units of force, but on account of the instrumental defects already enumerated, p. 124, the last figure has not been taken into account. The reductions and values are thus only given to $\cdot 0001$ C.G.S.

The first step in the reductions was to make a preliminary determination of the temperature correction: this was done in the same manner as for the bifilar by ascertaining the change in the scale readings when temperature altered greatly,—but corresponding readings of the other instruments showed a comparative absence of magnetic disturbance,—the value so found was roughly calculated to be $\pm 6\cdot 5$ divisions for $\pm 1^{\circ}$ centigrade.

Having constructed a table from this value the hourly readings for each day were reduced to the mean temperature of the day, and the daily means for both scale readings and temperature computed.

Next, the change in readings produced by each re-adjustment of the instrument was estimated both by comparison of readings before and after such re-adjustment, which values

were generally noted in the journal, and also by comparison of daily means for adjacent days at the time of the adjustment. The values finally adopted were as follows:—

TABLE 10.
Corrections for change of zero produced by lifting of the Magnet of the Balance Magnetometer.

Date.	Scale Divisions.	Date	Scale Divisions.	Date.	Scale Divisions.
1882.		1883.		1883.	
October 14	+58	February 23	+9	May 22	+15
" 22	+38	March 2	+18	June 25	-5
" 28	+40	" 8	+3	" 27	+4
November 23	+65	" 16	+18	July 8	+2
December 3	+80	" 20	+12	" 15	+7
" 14	+30	" 26	+13	" 21	+8
		" 31	+5	" 31	+5
1883.		April 4	+4	August 7	+7
January 19	+40	" 14	+5	" 10	+4
" 22	+10	" 20	+15	" 13	+2
" 29	+3	" 28	+11	" 17	+4
February 5	+12	May 2	+14	" 20	+2
" 20	+40	" 9	+10	" 25	+2

The assumption was then made that the change in the scale readings was proportional between the different shiftings of the zero and a table drawn up giving a suitable proportionate correction for every day (with the exception of January 5, when the instrument was wholly disarranged, and on May 25th, when the balance of the magnet was entirely altered).

These corrections being applied to the daily means, 5-day averages of both scale readings and temperature were calculated and the results plotted in a curve; measurements were then made from this curve and a final temperature correction of $\pm 1^\circ$ centigrade = ± 4.5 scale divisions found.

The 5-day means and their corresponding temperatures were then again copied and the new temperature correction applied; another plotting of the second set of 5-day means was then performed and the smoothing of this curve afforded materials for a better estimation of the effects of the re-adjustment of the magnet. Finally a table was drawn up giving corrections to be applied to the daily readings of the magnetometer so as to bring them into one uniform continuous series.

The means of the tri-horary readings were then taken, copied out, reduced to temperature 0° , and corrected for adjustment. The same reductions were also applied to term day readings.

A selection was then made of corrected and reduced scale readings for the times at which absolute determination of the vertical force had been computed by Captain Dawson from his unifilar and dip observations, and from these the following table was prepared for converting scale readings into absolute units.

TABLE 11.

Scale Divisions.	Vertical Force.	Corresponding Measures in British Units.
	C.G.S.	Foot. Grain. Secs.
50 read off as 500	0.6119	13.271
100 " " 1000	0.6147	13.332
150 " " 1500	0.6176	13.395
200 " " 2000	0.6205	13.457
250 " " 2500	0.6233	13.518

The corrected hourly means having been reduced by this table, the values were entered into the International Schedules with corresponding movement symbols.*

The extreme values and daily range were extracted from these results only, not from the individual observations, as in the case of the other two instruments. Daily, hourly, and monthly averages were then finally computed.

The readings on term days were merely copied into the Schedules after correction and reduction, and plotted as curves. (Plates 1 to 23.)

OBSERVATIONS ON SELECTED DAYS.

In conformity with the decision of the Vienna Conference, the instrumental readings on certain days enumerated by Dr. Wild have been copied out, reduced, and measured, in order to give the undisturbed diurnal variation of the magnetic elements. These observations have been entered according to Göttingen mean time, although they were not made precisely at the Göttingen hours, excepting in the case of term days.

The rule followed throughout has been to enter observations at 1h., 2h., 3h., a.m., &c., Fort Rae mean time as 9h. 23m., 10h. 23m., 11h. 23., a.m., &c., Göttingen mean time.

These observations have been grouped in pairs of months in compliance with Circular No. 39 issued by Dr. Wild, and the final curves of diurnal variation drawn from them. (Plates 29 to 32.)

Table 12 exhibits the average values of the Horizontal, Vertical, and Total intensities as well as the Inclination and Declination at Fort Rae, for the year 1882-83, as derived from the means of these selected days.

TABLE 12.

Units.	Electrical.	Gaussian.	British.
	C.G.S.	Metre, Gramme, Sec.	Foot, Grain, Sec.
Inclination - - - -	82° 55' 3"		
Declination - - - -	40° 19' 9" E		
Horizontal Intensity (X) - -	0.076688	0.76688	1.06632
Vertical Intensity (Y) - -	0.61760	6.1760	13.395
Total Intensity - - -	0.62234	6.2234	13.497

For selected days of disturbance the corresponding values have been extracted from the Schedules and entered to the corresponding Göttingen mean time, including also the reduced additional observations made at Fort Rae when a disturbance was seen to be taking place.

Kew Observatory,
April 4, 1885.

G. M. WHIPPLE.

* See p. 125.

Declination.

130

September 1882.

36° +

☉ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1														
2														
3														
4	4 15 ↓	4 29 ↓	4 34 ↓	4 33 ↓	4 40 ↓	4 28 ↓	4 44 ↓	4 13 ↓	4 46 ↓	4 41 ↓	4 29 ↓	4 25 ↓	4 18 ↓	4 14 ↓
5	4 21 ↓	4 51 ↓	4 39 ↓	5 14 ↓	4 16 ↓	5 13 ↓	4 56 ↓	5 16 ↓	5 37 ↓	4 50 ↓	4 33 ↓	4 37 ↓	4 29 ↓	4 28 ↓
6	4 11 ↓	4 19 ↓	4 58 ↓	4 50 ↓	5 24 ↓	5 15 ↓	5 40 ↓	5 31 ↓	4 59 ↓	4 54 ↓	4 47 ↓	4 19 ↓	4 30 ↓	4 30 ↓
7														
8														
9	4 34 ↓	4 29 ↓	4 39 ↓	4 49 ↓	4 40 ↓	5 4 ↓	5 7 ↓	5 0 ↓	4 43 ↓	4 49 ↓	5 1 ↓	4 46 ↓	4 35 ↓	4 34 ↓
10	4 29 ↓	4 48 ↓	4 36 ↓	4 33 ↓	4 52 ↓	4 45 ↓	5 7 ↓	5 5 ↓	4 56 ↓	4 57 ↓	4 46 ↓	4 46 ↓	4 36 ↓	4 37 ↓
11	4 22 ↓	4 30 ↓	4 37 ↓	4 40 ↓	4 50 ↓	4 55 ↓	4 59 ↓	5 3 ↓	5 0 ↓	5 1 ↓	5 13 ↓	4 21 ↓	5 6 ↓	4 24 ↓
12	4 36 ↓	4 39 ↓	4 45 ↓	4 47 ↓	4 49 ↓	4 45 ↓	5 3 ↓	5 7 ↓	5 3 ↓	5 39 ↓	4 53 ↓	4 57 ↓	4 33 ↓	4 29 ↓
13	5 16 ↓	4 9 ↓	4 39 ↓	4 47 ↓	4 46 ↓	5 16 ↓	5 25 ↓	5 9 ↓	5 5 ↓	4 58 ↓	4 48 ↓	4 28 ↓	4 43 ↓	4 41 ↓
14	4 28 ↓	5 4 ↓	4 46 ↓	4 43 ↓	4 45 ↓	5 3 ↓	5 26 ↓	5 28 ↓	4 48 ↓	4 33 ↓	4 38 ↓	4 47 ↓	4 31 ↓	4 24 ↓
15	4 32 ↓	4 44 ↓	4 37 ↓	4 52 ↓	4 58 ↓	4 48 ↓	4 48 ↓	4 44 ↓	4 43 ↓	4 44 ↓	4 33 ↓	4 38 ↓	4 30 ↓	4 30 ↓
16	4 37 ↓	4 32 ↓	4 34 ↓	4 34 ↓	4 35 ↓	4 39 ↓	4 44 ↓	4 50 ↓	4 49 ↓	4 46 ↓	4 38 ↓	4 34 ↓	4 32 ↓	4 33 ↓
17	4 27 ↓	4 30 ↓	4 32 ↓	4 36 ↓	4 49 ↓	4 57 ↓	4 44 ↓	4 46 ↓	4 53 ↓	4 43 ↓	4 40 ↓	4 30 ↓	4 28 ↓	4 28 ↓
18	4 32 ↓	4 34 ↓	4 31 ↓	4 34 ↓	4 35 ↓	4 38 ↓	4 51 ↓	5 4 ↓	5 4 ↓	4 56 ↓	4 50 ↓	4 33 ↓	4 39 ↓	4 18 ↓
19	4 30 ↓	4 28 ↓	4 32 ↓	4 37 ↓	4 35 ↓	4 50 ↓	5 7 ↓	5 1 ↓	4 49 ↓	4 51 ↓	4 33 ↓	4 32 ↓	4 35 ↓	4 26 ↓
20	4 19 ↓	4 28 ↓	4 30 ↓	4 35 ↓	4 51 ↓	4 51 ↓	4 48 ↓	4 51 ↓	4 53 ↓	4 44 ↓	4 40 ↓	4 35 ↓	4 39 ↓	4 24 ↓
21	4 32 ↓	4 28 ↓	4 44 ↓	4 28 ↓	4 33 ↓	4 38 ↓	4 45 ↓	4 16 ↓	4 13 ↓	4 11 ↓	4 14 ↓	4 24 ↓	4 26 ↓	4 26 ↓
22	4 42 ↓	4 42 ↓	4 35 ↓	4 34 ↓	4 40 ↓	4 45 ↓	4 47 ↓	4 44 ↓	4 46 ↓	4 45 ↓	4 40 ↓	4 40 ↓	4 29 ↓	4 29 ↓
23	4 28 ↓	4 30 ↓	4 33 ↓	4 34 ↓	4 55 ↓	5 24 ↓	6 11 ↓	5 55 ↓	4 49 ↓	4 41 ↓	4 31 ↓	4 16 ↓	4 20 ↓	4 22 ↓
24	4 28 ↓	4 30 ↓	4 31 ↓	4 31 ↓	4 44 ↓	4 43 ↓	4 40 ↓	4 40 ↓	4 41 ↓	4 41 ↓	4 33 ↓	4 30 ↓	4 28 ↓	4 24 ↓
25	4 26 ↓	4 57 ↓	4 54 ↓	5 2 ↓	4 42 ↓	4 39 ↓	5 29 ↓	5 15 ↓	5 35 ↓	4 35 ↓	4 40 ↓	4 31 ↓	4 33 ↓	4 44 ↓
26	3 50 ↓	4 23 ↓	4 47 ↓	4 57 ↓	4 20 ↓	4 44 ↓	4 47 ↓	4 47 ↓	4 44 ↓	4 42 ↓	4 37 ↓	4 35 ↓	4 31 ↓	4 28 ↓
27	4 28 ↓	4 33 ↓	4 44 ↓	4 46 ↓	4 54 ↓	5 1 ↓	4 53 ↓	4 38 ↓	4 45 ↓	4 40 ↓	4 37 ↓	4 36 ↓	4 26 ↓	4 23 ↓
28	4 39 ↓	4 31 ↓	4 36 ↓	4 44 ↓	4 47 ↓	4 38 ↓	5 2 ↓	4 50 ↓	4 41 ↓	4 35 ↓	4 32 ↓	4 28 ↓	4 27 ↓	4 27 ↓
29	4 37 ↓	4 48 ↓	5 18 ↓	4 48 ↓	4 49 ↓	5 3 ↓	4 51 ↓	4 45 ↓	4 41 ↓	4 40 ↓	4 34 ↓	4 25 ↓	4 22 ↓	4 18 ↓
30	4 16 ↓	4 17 ↓	4 42 ↓	4 28 ↓	4 33 ↓	4 47 ↓	5 1 ↓	5 4 ↓	4 42 ↓	4 32 ↓	4 30 ↓	4 28 ↓	4 17 ↓	4 17 ↓
Mean	4 29.4	4 34.9	4 40.4	4 47.3	4 45.3	4 53.4	5 1.5	4 59.0	4 54.0	4 46.3	4 40.4	4 31.2	4 29.9	4 26.6

October 1882.

38 +

☉ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	2 8 ↓	2 50 ↓	2 58 ↓	2 20 ↓	2 16 ↓	2 27 ↓	2 40 ↓	2 44 ↓	2 36 ↓	2 31 ↓	2 30 ↓	2 21 ↓	2 20 ↓	2 15 ↓
2	2 9 ↓	2 1 ↓	1 39 ↓	2 28 ↓	0 57 ↓	3 28 ↓	3 33 ↓	2 48 ↓	3 24 ↓	3 15 ↓	2 46 ↓	2 21 ↓	2 54 ↓	2 44 ↓
3	2 31 ↓	2 14 ↓	2 25 ↓	2 36 ↓	2 24 ↓	2 31 ↓	2 35 ↓	3 9 ↓	2 44 ↓	2 38 ↓	2 37 ↓	2 33 ↓	2 20 ↓	2 24 ↓
4	2 25 ↓	2 59 ↓	2 46 ↓	2 29 ↓	2 48 ↓	2 33 ↓	2 57 ↓	2 53 ↓	2 53 ↓	2 44 ↓	2 44 ↓	2 32 ↓	2 25 ↓	2 19 ↓
5	2 21 ↓	2 19 ↓	2 16 ↓	2 40 ↓	2 48 ↓	2 32 ↓	2 43 ↓	3 5 ↓	3 11 ↓	2 47 ↓	2 38 ↓	2 37 ↓	2 35 ↓	2 46 ↓
6	2 27 ↓	1 52 ↓	2 24 ↓	1 40 ↓	1 32 ↓	2 42 ↓	2 42 ↓	2 41 ↓	2 16 ↓	2 16 ↓	2 15 ↓	2 15 ↓	2 23 ↓	2 14 ↓
7	2 24 ↓	2 23 ↓	2 30 ↓	2 31 ↓	2 28 ↓	2 42 ↓	2 49 ↓	2 35 ↓	2 42 ↓	2 35 ↓	2 29 ↓	2 24 ↓	2 21 ↓	2 14 ↓
8	2 22 ↓	2 17 ↓	2 30 ↓	2 22 ↓	2 21 ↓	2 30 ↓	2 30 ↓	2 28 ↓	2 28 ↓	2 20 ↓	2 22 ↓	2 14 ↓	2 19 ↓	2 20 ↓
9	2 23 ↓	2 26 ↓	2 25 ↓	2 46 ↓	2 32 ↓	2 31 ↓	3 4 ↓	2 49 ↓	2 42 ↓	2 31 ↓	2 28 ↓	2 41 ↓	2 23 ↓	2 16 ↓
10	2 14 ↓	2 21 ↓	2 27 ↓	2 26 ↓	2 43 ↓	2 57 ↓	2 54 ↓	2 35 ↓	2 28 ↓	2 37 ↓	2 30 ↓	2 31 ↓	2 13 ↓	2 18 ↓
11	2 14 ↓	2 19 ↓	1 12 ↓	2 27 ↓	2 52 ↓	2 52 ↓	2 48 ↓	2 52 ↓	2 37 ↓	2 36 ↓	2 28 ↓	2 16 ↓	2 9 ↓	2 19 ↓
12	2 17 ↓	2 33 ↓	2 30 ↓	2 24 ↓	2 29 ↓	2 26 ↓	2 44 ↓	2 38 ↓	2 37 ↓	2 32 ↓	2 27 ↓	2 23 ↓	2 22 ↓	2 22 ↓
13	2 17 ↓	2 19 ↓	2 22 ↓	2 25 ↓	2 28 ↓	2 31 ↓	2 46 ↓	2 37 ↓	2 51 ↓	2 32 ↓	2 24 ↓	2 22 ↓	2 17 ↓	2 17 ↓
14	2 24 ↓	2 29 ↓	3 8 ↓	2 46 ↓	2 52 ↓	2 46 ↓	3 0 ↓	2 58 ↓	3 2 ↓	2 46 ↓	2 44 ↓	2 39 ↓	2 18 ↓	2 20 ↓
15	2 35 ↓	3 19 ↓	2 30 ↓	3 28 ↓	2 54 ↓	4 4 ↓	3 32 ↓	3 25 ↓	3 5 ↓	2 42 ↓	2 39 ↓	2 19 ↓	2 19 ↓	2 20 ↓
16	2 4 ↓	2 14 ↓	2 6 ↓	2 47 ↓	2 38 ↓	2 31 ↓	2 44 ↓	2 51 ↓	2 50 ↓	2 51 ↓	2 41 ↓	2 29 ↓	2 25 ↓	2 27 ↓
17	2 54 ↓	2 37 ↓	2 26 ↓	2 31 ↓	2 43 ↓	2 52 ↓	2 41 ↓	2 42 ↓	2 37 ↓	2 32 ↓	2 42 ↓	2 29 ↓	2 21 ↓	2 20 ↓
18	3 15 ↓	2 31 ↓	2 33 ↓	2 31 ↓	2 31 ↓	2 30 ↓	2 31 ↓	2 32 ↓	2 36 ↓	2 44 ↓	2 33 ↓	2 39 ↓	2 25 ↓	2 24 ↓
19	2 31 ↓	2 12 ↓	2 26 ↓	2 30 ↓	2 40 ↓	2 44 ↓	2 42 ↓	2 51 ↓	2 47 ↓	2 32 ↓	2 29 ↓	2 25 ↓	2 21 ↓	2 20 ↓
20	2 26 ↓	2 24 ↓	2 27 ↓	2 29 ↓	2 29 ↓	2 31 ↓	2 35 ↓	2 38 ↓	2 38 ↓	2 34 ↓	2 28 ↓	2 24 ↓	2 25 ↓	2 23 ↓
21	2 26 ↓	2 28 ↓	2 28 ↓	2 30 ↓	2 30 ↓	2 34 ↓	2 34 ↓	2 37 ↓	2 38 ↓	2 32 ↓	2 27 ↓	2 21 ↓	2 23 ↓	2 23 ↓
22	2 7 ↓	2 19 ↓	2 23 ↓	2 58 ↓	2 47 ↓	3 4 ↓	3 0 ↓	2 56 ↓	3 4 ↓	2 59 ↓	2 24 ↓	2 38 ↓	2 39 ↓	2 34 ↓
23	3 50 ↓	3 3 ↓	3 2 ↓	2 44 ↓	3 5 ↓	2 57 ↓	2 31 ↓	2 41 ↓	2 35 ↓	2 30 ↓	2 24 ↓	2 25 ↓	2 27 ↓	2 24 ↓
24	2 24 ↓	2 27 ↓	2 32 ↓	2 29 ↓	2 41 ↓	3 13 ↓	3 0 ↓	2 58 ↓	2 49 ↓	2 33 ↓	2 29 ↓	2 22 ↓	2 21 ↓	2 23 ↓
25	2 15 ↓	2 29 ↓	2 50 ↓	2 38 ↓	2 43 ↓	2 52 ↓	2 45 ↓	2 50 ↓	2 35 ↓	2 40 ↓	2 24 ↓	2 31 ↓	2 22 ↓	2 19 ↓
26	2 19 ↓	2 23 ↓	2 33 ↓	2 32 ↓	2 50 ↓	2 44 ↓	2 53 ↓	2 51 ↓	2 48 ↓	2 39 ↓	2 35 ↓	2 39 ↓	2 22 ↓	2 20 ↓
27	2 20 ↓	2 27 ↓	2 47 ↓	2 44 ↓	2 26 ↓	2 38 ↓	2 40 ↓	2 43 ↓	2 39 ↓	2 46 ↓	2 15 ↓	2 28 ↓	2 31 ↓	2 27 ↓
28	2 19 ↓	2 19 ↓	2 24 ↓	2 35 ↓	3 3 ↓	4 0 ↓	3 43 ↓	3 18 ↓	3 3 ↓	2 39 ↓	2 19 ↓	2 19 ↓	2 27 ↓	2 24 ↓
29	2 20 ↓	2 29 ↓	3 21 ↓	2 49 ↓	2 49 ↓	3 37 ↓	3 48 ↓	2 46 ↓	2 11 ↓	2 40 ↓	2 11 ↓	2 28 ↓	2 22 ↓	2 26 ↓
30	2 32 ↓	3 14 ↓	2 46 ↓	2 19 ↓	2 52 ↓	2 47 ↓	3 7 ↓	2 38 ↓	2 40 ↓	2 46 ↓	2 19 ↓	2 19 ↓	2 27 ↓	2 26 ↓
31	2 29 ↓	1 56 ↓	2 40 ↓	2 31 ↓	2 38 ↓	2 52 ↓	2 34 ↓	2 37 ↓	2 44 ↓	2 34 ↓	2 34 ↓	2 31 ↓	2 27 ↓	2 26 ↓
Mean	2 21.5	2 27.3	2 36.5	2 38.0	2 42.9	2 52.6	2 51.8	2 48.6	2 48.5	2 36.8	2 33.5	2 30.7	2 26.4	2 22.6

* For the greater part of these two days the mirror attached to the magnet just grazed the bottom of the box, the suspension thread having stretched.

62° 38' 52".

λ = - 115° 43' 50" W. = - 7h. 42m. 55s.

Local Mean Time.

September 1882.

1	2	3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.
4 18.2	4 14.2	4 22.2	4 28.2	4 13.2	4 19.2	4 21.2	4 43.2	4 23.2	4 19.2	4 14.2	4 22.2	4 26.3	4 48	4 12	0 36
4 29.2	4 28.2	4 34.2	4 16.2	4 26.2	4 21.2	4 23.2	4 18.2	4 53.2	4 26.2	4 20.2	4 27.2	4 40.4	5 43	3 24	2 19
4 30.2	4 30.2	4 30.2	4 26.2	4 33.2	4 28.2	4 22.2	4 19.2	4 44.2	4 11.2	4 12.2	4 11.2	4 38.0	5 40	4 10	1 30
4 35.2	4 34.2	4 27.2	4 19.2	4 23.2	4 34.2	4 32.2	4 33.2	4 34.2	4 33.2	4 32.2	4 33.2	4 39.4	5 7	4 10	0 57
4 36.2	4 37.2	4 37.2	4 35.2	4 31.2	4 34.2	4 21.2	4 31.2	4 39.2	4 33.2	4 45.2	4 40.2	4 39.1	5 8	4 9	0 59
4 36.2	4 24.2	4 23.2	4 29.2	4 30.2	4 24.2	4 45.2	6 39.2	4 18.2	4 19.2	4 37.2	4 20.2	4 47.9	6 41	3 40	3 1
4 33.2	4 29.2	4 23.2	4 40.2	4 22.2	4 33.2	4 19.2	4 42.2	4 33.2	4 22.2	3 54.2	3 17.2	4 37.0	5 20	1 59	3 21
4 37.2	4 41.2	4 37.2	4 30.2	4 35.2	4 26.2	4 25.2	4 29.2	4 46.2	4 26.2	4 35.2	4 27.2	4 43.6	5 25	4 6	1 19
4 31.2	4 24.2	4 23.2	4 18.2	4 25.2	4 28.2	4 21.2	4 30.2	5 11.2	5 9.2	4 48.2	3 57.2	4 42.3	5 35	3 57	1 38
4 30.2	4 10.2	4 31.2	4 31.2	4 27.2	4 34.2	4 34.2	4 30.2	4 30.2	4 29.2	4 31.2	4 30.2	4 36.5	4 58	4 24	0 34
4 28.2	4 33.2	4 26.2	4 22.2	4 25.2	4 31.2	4 25.2	4 23.2	4 29.2	4 37.2	4 30.2	3 54.2	4 32.7	4 50	3 53	0 57
4 19.2	4 18.2	4 14.2	4 10.2	4 22.2	4 32.2	4 30.2	4 31.2	4 30.2	4 26.2	4 31.2	4 31.2	4 34.3	4 58	4 18	0 40
4 15.2	4 26.2	4 21.2	4 20.2	4 28.2	4 26.2	4 24.2	4 22.2	4 20.2	4 26.2	4 24.2	4 24.2	4 33.4	5 6	4 14	0 52
4 32.2	4 24.2	4 26.2	4 16.2	4 13.2	4 27.2	4 21.2	4 27.2	4 25.2	4 28.2	4 30.2	4 27.2	4 32.5	4 53	4 12	0 41
4 26.2	4 26.2	4 27.2	4 27.2	4 28.2	4 30.2	4 31.2	4 30.2	4 30.2	4 30.2	4 27.2	4 22.2	4 32.7	4 47	4 21	0 26
4 29.2	4 29.2	4 32.2	4 31.2	4 24.2	4 25.2	4 24.2	4 26.2	4 22.2	4 15.2	4 30.2	4 26.2	4 33.4	4 49	4 13	0 35
4 20.2	4 22.2	4 29.2	4 30.2	4 31.2	4 28.2	4 28.2	4 28.2	4 26.2	4 29.2	4 28.2	4 28.2	4 32.4	6 22	4 20	2 2
4 28.2	4 24.2	4 26.2	4 29.2	4 24.2	4 18.2	4 20.2	4 51.2	3 45.2	3 27.2	4 9.2	3 40.2	4 24.8	4 58	3 26	1 32
4 23.2	4 41.2	4 24.2	4 20.2	4 20.2	4 24.2	4 30.2	4 21.2	4 40.2	4 26.2	4 23.2	4 58.2	4 41.9	5 10	3 10	2 10
4 29.2	4 28.2	4 29.2	4 20.2	4 21.2	4 18.2	4 23.2	4 38.2	4 8.2	2 58.2	4 15.2	4 14.2	4 26.9	4 57	2 18	2 39
4 23.2	4 23.2	4 25.2	4 25.2	4 25.2	4 26.2	1 24.2	4 26.2	4 26.2	4 30.2	4 22.2	5 22.2	4 37.3	5 34	4 22	1 12
4 26.2	4 27.2	4 26.2	4 23.2	4 27.2	4 30.2	4 28.2	4 25.2	4 26.2	4 30.2	4 31.2	4 31.2	4 32.9	4 50	4 23	0 27
4 16.2	4 18.2	4 16.2	4 20.2	4 20.2	4 20.2	4 18.2	4 19.2	4 17.2	4 16.2	4 18.2	4 9.2	4 32.3	5 19	4 9	1 10
4 14.2	4 18.2	4 19.2	4 17.2	4 17.2	4 17.2	4 16.2	4 18.2	4 18.2	4 19.2	4 21.2	4 21.2	4 27.3	5 5	4 14	0 51
4 25.5	4 26.3	4 24.8	4 26.4	4 23.1	4 24.0	4 26.8	4 22.5	4 24.7	4 21.7	4 21.7	4 21.7	40 35.5	42 41	37 59	4 42

62° 38' 52".

λ = - 115° 43' 50" W. = - 7h. 42m. 55s.

October 1882.

1	2	3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.
2 17.2	2 16.2	2 17.2	2 18.2	2 16.2	2 16.2	2 16.2	2 16.2	2 16.2	2 16.2	2 16.2	2 16.2	2 21.3	3 4	1 33	1 28
2 16.2	2 13.2	2 19.2	2 18.2	2 17.2	2 17.2	2 17.2	2 17.2	2 17.2	2 17.2	2 17.2	2 17.2	2 28.4	3 52	0 46	3 6
2 28.2	2 23.2	2 20.2	2 17.2	2 19.2	2 12.2	2 12.2	2 12.2	2 12.2	2 12.2	2 12.2	2 12.2	2 25.8	3 11	1 52	1 19
2 26.2	2 23.2	2 24.2	2 24.2	2 20.2	2 16.2	2 16.2	2 16.2	2 16.2	2 16.2	2 16.2	2 16.2	2 33.4	3 50	1 46	2 4
2 17.2	2 14.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 37.3	5 20	1 24	3 56
2 20.2	2 19.2	2 20.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 35.2	4 37	1 30	1 7
2 28.2	2 18.2	2 26.2	2 24.2	2 20.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 27.3	2 50	2 17	0 33
2 20.2	2 9.2	2 16.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 23.8	2 38	2 8	0 29
2 13.2	2 10.2	2 9.2	2 9.2	2 9.2	2 9.2	2 9.2	2 9.2	2 9.2	2 9.2	2 9.2	2 9.2	2 24.3	3 4	1 48	1 16
2 15.2	2 14.2	2 9.2	2 15.2	2 15.2	2 15.2	2 15.2	2 15.2	2 15.2	2 15.2	2 15.2	2 15.2	2 10.9	1 12	2 0	1 12
2 13.2	2 19.2	2 19.2	2 13.2	2 14.2	2 18.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 27.5	3 14	2 5	1 9
2 17.2	2 13.2	2 14.2	2 17.2	2 17.2	2 17.2	2 17.2	2 17.2	2 17.2	2 17.2	2 17.2	2 17.2	2 24.3	2 45	1 49	0 59
2 20.2	2 22.2	2 24.2	2 21.2	2 20.2	2 20.2	2 20.2	2 20.2	2 20.2	2 20.2	2 20.2	2 20.2	2 25.8	2 54	2 15	0 39
2 11.2	2 20.2	2 12.2	2 15.2	2 15.2	2 15.2	2 15.2	2 15.2	2 15.2	2 15.2	2 15.2	2 15.2	2 24.3	3 4	1 48	1 16
2 21.2	2 21.2	2 23.2	2 13.2	2 22.2	2 22.2	2 22.2	2 22.2	2 22.2	2 22.2	2 22.2	2 22.2	2 26.7	2 38	2 2	1 26
2 2.2	2 15.2	2 19.2	2 27.2	2 9.2	2 4.2	2 0.2	2 14.2	2 14.2	2 14.2	2 14.2	2 14.2	2 43.0	4 4	2 10	1 54
2 16.2	2 15.2	2 13.2	2 27.2	2 13.2	2 22.2	2 24.2	2 11.2	0 16.2	2 11.2	0 16.2	2 11.2	2 20.9	3 2	0 28	2 34
2 23.2	2 22.2	2 22.2	2 22.2	2 22.2	2 22.2	2 22.2	2 22.2	2 22.2	2 22.2	2 22.2	2 22.2	2 35.0	4 54	2 11	2 43
2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 25.4	2 54	2 11	2 43
2 21.2	2 21.2	2 24.2	2 24.2	2 25.2	2 24.2	2 24.2	2 24.2	2 24.2	2 24.2	2 24.2	2 24.2	2 28.6	2 52	2 8	0 44
2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 26.8	2 39	2 22	0 17
2 24.2	2 23.2	2 21.2	2 20.2	2 21.2	2 21.2	2 20.2	2 24.2	2 24.2	2 24.2	2 24.2	2 24.2	2 28.6	3 10	1 52	1 35
2 4.2	2 17.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 31.3	3 15	1 48	1 27
2 24.2	2 24.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 23.2	2 28.2	3 23	1 20	2 3
2 19.2	2 20.2	2 19.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 26.6	3 16	0 48	2 28
2 19.2	2 15.2	2 16.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 13.2	2 26.3	3 16	1 20	1 16
2 20.2	2 14.2	2 11.2	2 11.2	2 11.2	2 11.2	2 11.2	2 11.2	2 11.2	2 11.2	2 11.2	2 11.2	2 27.3	3 54	0 19	2 35
2 20.2	2 12.2	2 10.2	2 10.2	2 10.2	2 10.2	2 10.2	2 10.2	2 10.2	2 10.2	2 10.2	2 10.2	2 27.3	3 54	1 26	1 40
2 19.2	2 27.2	2 24.2	2 26.2	2 23.2	2 22.2	2 22.2	4 30.2	2 26.2	2 27.2	2 27.2	2 27.2	2 41.3	5 5	2 1	3 4
2 17.2	2 15.2	2 20.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 21.2	2 32.9	3 30	1 20	2 10
2 24.2	2 16.2	2 15.2	2 16.2	2 16.2	2 16.2	2 16.2	2 16.2	2 16.2	2 16.2	2 16.2	2 16.2	2 26.2	3 28	1 24	2 4
2 25.2	2 25.2	2 24.2	2 26.2	2 26.2	2 26.2	2 26.2	2 26.2	2 26.2	2 26.2	2 26.2	2 26.2	2 29.2	2 51	1 47	1 4
2 18.5	2 19.1	2 19.9	2 19.3	2 20.9	2 17.5	2 26.8	2 15.4	2 16.4	2 28.1	40 29.9	43 20	38 19	5 1		

retched.

Declination.

132

November 1882.

37°+

φ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	3 20 ↓	3 30 ↓	3 44 ↑	3 58 ↓	3 36 ↓	3 48 ↓	4 50 ↓	4 10 ↓	3 40 =	3 18 ↓	3 17 ↓	3 14 ↓	3 16 =	3 20 ↓
2	3 23 =	3 22 =	3 34 ↓	4 5 ↓	3 14 =	3 30 ↓	3 31 ↓	3 32 ↓	3 35 ↓	3 34 ↓	3 36 ↓	3 25 ↓	3 23 ↓	3 22 ↓
3	3 25 =	3 16 =	3 19 ↓	3 31 ↓	4 1 =	4 4 ↓	3 45 ↓	3 33 ↓	3 37 =	3 37 ↓	3 33 ↓	3 25 ↓	3 28 =	3 29 =
4	3 24 ↓	3 26 ↓	3 26 =	3 34 =	3 32 =	3 37 =	3 31 =	3 36 =	3 39 =	3 43 =	3 26 ↓	3 21 =	3 28 =	3 31 =
5	3 21 =	3 23 ↓	3 22 =	3 32 =	3 30 =	3 37 =	3 38 =	3 39 =	3 37 =	3 35 =	3 29 ↓	3 40 =	3 14 =	3 33 =
6	3 24 =	3 10 =	3 33 =	3 30 ↓	3 37 =	3 34 =	3 38 =	3 36 =	3 33 =	3 31 =	3 28 ↓	3 21 =	3 29 ↓	3 25 =
7	3 20 ↓	3 24 ↓	3 27 =	3 41 =	3 31 =	4 13 ↓	4 15 ↓	3 11 ↓	4 57 ↓	4 36 ↓	3 43 ↓	3 33 ↓	3 19 ↓	3 20 =
8	3 25 ↓	3 29 ↓	3 55 ↓	3 49 =	3 57 ↓	4 3 ↓	3 40 ↓	3 45 ↓	3 28 ↓	3 27 =	3 14 ↓	3 28 ↓	3 23 =	3 20 =
9	3 16 ↓	3 20 ↓	4 17 ↓	3 50 ↓	4 20 ↓	4 50 ↓	4 31 ↓	4 18 ↓	4 8 ↓	4 24 ↓	4 25 ↓	3 26 ↓	3 27 ↓	3 19 ↓
10	3 27 =	3 25 =	3 33 =	3 34 =	3 35 =	3 42 =	3 46 =	3 36 =	3 37 =	3 32 =	3 29 =	3 30 =	3 29 =	3 25 =
11	3 29 =	3 28 =	3 28 =	3 29 =	3 35 =	3 37 =	3 35 =	3 30 =	3 37 =	3 37 =	3 30 =	3 30 =	3 33 =	3 17 =
12	3 1 =	18 ↑	3 11 ↑	4 5 ↑	5 41 ↑	5 57 ↑	3 54 ↓	4 11 ↓	4 19 ↓	3 28 ↓	3 34 =	3 28 ↓	3 10 ↓	3 18 ↓
13	4 0 =	2 22 ↓	6 7 ↓	4 13 ↓	5 50 ↓	4 10 ↓	3 49 ↓	3 41 ↓	0 12 ↓	5 33 ↓	4 33 =	3 43 ↓	3 29 ↓	3 48 ↓
14	3 41 ↓	3 8 ↓	4 13 =	3 51 =	3 33 ↓	4 5 ↓	3 26 ↓	3 56 ↓	5 16 ↓	5 54 ↓	4 34 ↓	3 45 ↓	3 18 ↓	3 50 ↓
15	0 20 ↓	2 55 ↓	3 35 ↓	4 2 ↓	3 36 ↓	3 27 ↓	4 9 ↓	3 56 ↓	4 14 ↓	4 23 ↓	3 28 ↓	3 29 ↓	3 18 ↓	3 13 ↓
16	2 5 ↓	2 28 =	3 49 ↓	2 58 ↓	3 22 ↓	3 31 ↓	3 41 ↓	3 39 ↓	3 30 ↓	3 10 ↓	5 19 ↓	3 23 ↓	3 27 =	3 23 ↓
17	3 11 ↓	4 7 ↓	0 12 ↓	0 13 ↓	4 36 ↓	2 21 ↓	3 43 ↓	4 47 ↓	3 30 ↓	7 50 ↓	7 7 ↓	4 17 ↓	4 46 ↓	3 17 ↓
18	4 29 ↓	5 47 ↓	4 20 ↓	2 33 ↓	3 29 ↓	3 21 ↓	4 13 ↓	3 52 ↓	4 19 ↓	3 37 ↓	4 43 ↓	4 0 ↓	3 29 ↓	4 28 ↓
19	2 36 ↓	2 44 ↓	3 30 ↓	4 53 ↓	5 4 ↓	7 17 ↓	3 5 ↓	3 20 ↓	4 31 ↓	4 18 ↓	3 42 ↓	3 34 ↓	3 23 ↓	3 25 ↓
20	> 10 ↓	1 37 ↓	5 30 ↓	4 7 ↓	4 51 ↓	3 24 ↓	4 25 ↓	3 28 ↓	4 10 ↓	4 6 ↓	4 37 ↓	4 31 ↓	3 37 ↓	3 23 ↓
21	3 10 ↓	3 23 ↓	3 26 =	3 36 ↓	3 50 ↓	4 12 ↓	3 33 ↓	5 10 ↓	5 12 ↓	4 57 ↓	4 43 ↓	4 59 ↓	4 27 ↓	4 9 ↓
22	3 9 ↓	3 24 ↓	3 42 =	3 42 ↓	3 32 ↓	3 28 =	3 30 ↓	3 31 ↓	3 37 ↓	3 34 ↓	3 24 ↓	3 23 ↓	3 28 ↓	3 25 =
23	3 28 ↓	3 13 ↓	3 42 ↓	3 25 ↓	4 18 ↓	4 19 ↓	4 4 ↓	3 16 ↓	3 47 ↓	3 17 =	3 11 ↓	3 24 ↓	3 20 =	3 18 =
24	3 5 ↓	2 40 ↓	3 31 ↓	3 23 ↓	3 38 ↓	3 45 ↓	3 41 ↓	3 50 ↓	3 35 ↓	3 22 ↓	3 21 ↓	3 21 ↓	3 20 =	3 24 =
25	3 1 ↓	3 28 ↓	3 20 =	3 34 =	4 14 ↓	5 8 ↓	4 41 ↓	4 1 ↓	4 57 ↓	3 43 ↓	5 11 ↓	3 28 ↓	3 16 =	3 23 ↓
26	3 20 =	3 22 =	3 21 =	3 31 =	3 52 ↓	4 13 ↓	4 43 ↓	3 53 ↓	3 34 ↓	3 34 ↓	3 36 ↓	3 36 ↓	3 25 ↓	3 6 ↓
27	2 54 ↓	3 10 ↓	3 42 ↓	3 41 ↓	3 31 ↓	3 17 =	3 35 =	3 51 ↓	3 33 ↓	3 29 ↓	3 25 =	3 22 ↓	3 20 =	3 10 ↓
28	3 22 ↓	3 16 ↓	3 38 ↓	3 37 ↓	3 39 ↓	4 3 =	3 35 =	3 47 ↓	3 33 ↓	3 19 ↓	3 19 ↓	3 20 ↓	3 21 =	3 17 =
29	3 17 =	3 22 =	3 24 =	3 25 =	3 30 =	3 26 =	3 26 =	3 26 =	3 26 =	3 27 =	3 26 =	3 22 ↓	3 20 =	3 19 ↓
30	3 21 ↓	3 13 ↓	2 49 ↓	3 18 ↓	3 46 ↓	3 49 ↓	4 10 ↓	3 41 ↓	3 37 ↓	3 24 ↓	3 22 ↓	3 17 ↓	3 25 =	3 16 =
Mean	3 11.9	3 20.6	3 35.9	3 32.9	3 36.3	4 2.3	3 26.2	4 8.5	4 2.5	4 1.2	3 33.8	3 35.8	3 28.8	3 26.5

December 1882.

38°+

φ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	2 16 ↓	2 18 ↓	2 21 ↓	2 28 ↓	2 42 ↓	2 14 ↓	2 50 ↓	3 39 ↓	2 33 ↓	2 27 ↓	2 26 ↓	2 24 ↓	2 26 ↓	2 23 ↓
2	2 22 =	2 22 =	2 24 =	2 21 =	2 29 =	2 22 =	2 26 =	2 32 =	2 31 =	2 31 =	2 35 ↓	2 22 ↓	2 20 =	2 18 ↓
3	2 14 =	2 21 =	2 27 =	2 24 =	2 27 =	2 30 =	2 32 =	2 31 =	2 32 =	2 34 =	2 33 ↓	2 13 ↓	2 17 =	2 13 ↓
4	2 27 =	2 17 =	2 5 ↓	2 39 ↓	2 50 ↓	3 3 ↓	2 18 ↓	2 56 ↓	2 52 ↓	2 27 ↓	2 21 ↓	2 21 ↓	2 19 =	2 15 ↓
5	2 16 ↓	2 11 ↓	2 24 =	2 23 =	2 28 =	2 27 =	2 31 ↓	2 27 =	2 23 =	2 22 =	2 20 =	2 19 =	2 18 ↓	2 10 ↓
6	2 31 ↓	2 25 ↓	2 18 =	2 23 =	2 22 =	2 26 ↓	2 25 ↓	2 22 =	2 27 =	2 21 ↓	2 31 ↓	2 22 =	2 20 =	2 19 ↓
7	2 18 =	2 18 =	2 21 =	2 21 =	2 23 =	2 27 =	2 43 ↓	2 26 ↓	2 37 =	2 25 =	2 24 =	2 23 ↓	2 15 ↓	2 9 ↓
8	2 20 =	2 20 =	2 19 =	2 22 =	2 34 ↓	2 25 =	2 23 =	2 22 =	2 22 =	2 23 =	2 23 =	2 21 ↓	2 19 =	2 17 =
9	2 19 =	2 13 =	2 23 =	2 21 =	2 30 ↓	2 27 =	2 16 =	2 28 ↓	2 28 ↓	2 24 =	2 24 =	2 19 ↓	2 18 ↓	2 11 ↓
10	2 27 =	2 12 ↓	2 19 =	2 28 ↓	2 33 ↓	2 24 =	2 18 ↓	2 20 =	2 22 =	2 27 =	2 20 =	2 17 =	2 17 =	2 16 =
11	2 18 =	2 14 ↓	2 20 =	2 21 =	2 27 =	2 41 ↓	2 27 ↓	2 29 ↓	2 55 ↓	2 18 ↓	2 20 =	2 19 ↓	2 19 ↓	2 10 ↓
12	2 15 =	2 18 ↓	2 25 ↓	3 3 ↓	2 13 ↓	2 25 =	2 35 ↓	2 45 ↓	2 52 ↓	2 32 ↓	2 31 ↓	2 17 ↓	2 13 ↓	2 16 ↓
13	1 52 ↓	2 16 ↓	2 19 ↓	2 30 =	2 37 =	2 24 =	2 22 =	2 23 =	2 26 ↓	2 16 ↓	2 21 ↓	2 20 =	2 16 =	2 14 =
14	2 16 =	2 21 =	2 19 ↓	2 23 =	2 25 =	2 35 ↓	2 28 ↓	2 21 =	2 25 =	2 23 =	2 20 =	2 17 =	2 16 =	2 14 =
15	2 19 =	2 20 ↓	2 20 =	2 28 =	2 26 ↓	2 31 ↓	2 26 =	2 31 ↓	2 38 ↓	2 28 ↓	2 20 =	2 14 =	2 24 =	2 10 ↓
16	0 37 =	1 48 ↓	1 53 ↓	1 32 ↓	2 53 ↓	2 17 ↓	2 10 ↓	3 1 ↓	3 22 ↓	2 40 ↓	2 16 ↓	2 18 =	2 5 ↓	2 9 ↓
17	2 16 =	2 23 =	2 29 ↓	2 26 ↓	2 10 ↓	2 16 ↓	2 24 ↓	2 27 ↓	2 26 ↓	2 21 ↓	2 23 ↓	2 23 =	2 23 =	2 19 ↓
18	2 19 =	2 18 =	2 21 =	2 21 =	2 23 =	2 24 =	2 22 =	2 26 ↓	2 28 ↓	2 24 ↓	2 23 ↓	2 20 =	2 20 =	2 17 =
19	2 56 ↓	2 30 ↓	2 39 ↓	2 31 =	2 16 ↓	2 23 =	2 29 =	2 23 =	2 23 =	2 23 =	2 25 ↓	2 24 =	2 21 =	2 20 =
20	2 11 ↓	2 15 ↓	2 25 =	2 44 ↓	2 56 ↓	3 29 ↓	4 0 ↓	3 56 ↓	2 51 ↓	2 24 ↓	2 41 ↓	1 50 ↓	2 12 ↓	2 34 ↓
21	1 49 ↓	3 15 ↓	3 12 ↓	2 23 ↓	2 45 ↓	3 43 ↓	3 33 ↓	3 10 ↓	2 30 ↓	2 53 ↓	2 32 ↓	2 23 ↓	2 8 ↓	2 17 ↓
22	1 10 ↓	2 28 ↓	2 19 ↓	2 47 =	3 3 ↓	3 8 ↓	2 54 ↓	3 35 ↓	3 46 ↓	3 18 ↓	2 19 ↓	2 18 ↓	2 19 =	2 18 ↓
23	1 27 =	2 7 ↓	1 57 ↓	3 13 ↓	3 8 ↓	2 38 ↓	3 8 ↓	2 38 ↓	2 37 ↓	2 17 ↓	2 16 ↓	2 14 =	2 17 =	2 11 ↓
24	1 11 ↓	0 54 ↓	2 23 ↓	2 25 ↓	3 31 ↓	3 14 =	3 28 ↓	3 50 ↓	2 57 ↓	2 20 ↓	2 21 ↓	2 10 ↓	2 16 =	2 19 =
25	2 16 ↓	1 27 ↓	2 27 ↓	2 48 ↓	2 43 ↓	2 41 ↓	2 24 ↓	2 29 ↓	2 28 ↓	2 23 ↓	2 18 ↓	2 16 =	2 15 =	2 20 =
26	2 20 ↓	2 12 ↓	2 23 =	3 19 ↓	3 31 ↓	3 32 ↓	2 41 =	3 34 ↓	2 27 =	2 21 ↓	2 23 ↓	2 17 ↓	2 11 ↓	2 14 ↓
27	2 15 ↓	2 10 ↓	2 16 =	2 21 =	2 20 =	2 24 =	2 25 =	2 27 =	2 24 =	2 24 =	2 22 =	2 22 =	2 19 =	2 19 =
28	1 55 =	2 10 =	2 30 =	2 16 ↓	2 26 ↓	2 26 ↓	2 14 =	2 30 ↓	2 25 ↓	2 23 ↓	2 19 ↓	2 20 =	2 20 =	2 14 =
29	1 57 =	2 14 =	2 31 ↓	2 13 ↓	2 27 =	2 39 ↓	3 13 ↓	3 44 ↓	3 50 ↓	2 31 ↓	2 17 ↓	2 14 =	2 8 ↓	2 8 ↓
30	2 10 ↓	2 16 =	2 30 =	2 34 =	3 4 ↓	3 36 ↓	3 35 ↓	2 29 ↓	2 41 ↓	2 31 ↓	2 43 ↓	2 13 ↓	2 8 ↓	2 24 ↓
31	1 59 ↓	2 5 ↓	2 20 ↓	2 50 ↓	3 11 ↓	4 4 ↓	3 43 ↓	3 47 ↓	3 32 ↓	3 36 ↓	2 31 ↓	2 11 ↓	2 13 ↓	2 3 ↓
Mean	2 9.3	2 13.3	2 21.3	2 34.2	2 36.9	2 39.8	2 40.4	2 39.0	2 39.0	2 38.4	2 33.6	2 27.1	2 16.6	2 25.1

* Approximate.

Declination.

134

January 1883.

39°+

☉ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	1 54 ↓	1 10 ↓	1 12 ↓	1 42 ↓	1 26 ↓	1 19 ↓	1 40 ↓	1 29 ↓	1 22 ↓	1 43 ↓	1 21 ↓	1 27 ↓	1 16 ↓	1 43 ↓
2	1 16 ↓	1 17 ↓	1 18 ↓	1 22 ↓	1 36 ↓	1 35 ↓	1 38 ↓	1 25 ↓	1 14 ↓	1 55 ↓	1 20 ↓	1 19 ↓	1 9 ↓	1 12 ↓
3	1 19 ↓	1 47 ↓	1 20 ↓	1 19 ↓	1 33 ↓	1 20 ↓	1 31 ↓	1 25 ↓	1 27 ↓	1 21 ↓	1 27 ↓	1 24 ↓	1 18 ↓	1 18 ↓
4	1 19 ↓	1 20 ↓	1 26 ↓	1 40 ↓	1 12 ↓	1 21 ↓	1 15 ↓	1 19 ↓	1 22 ↓	1 18 ↓	1 20 ↓	1 22 ↓	1 18 ↓	1 16 ↓
5	1 21 ↓	1 16 ↓	1 17 ↓	1 16 ↓	1 20 ↓	1 19 ↓	1 19 ↓	1 22 ↓	1 24 ↓	1 20 ↓	1 28 ↓	1 27 ↓	1 28 ↓	1 16 ↓
6	1 26 ↓	1 27 ↓	1 38 ↓	1 56 ↓	2 3 ↓	2 3 ↓	1 50 ↓	2 15 ↓	2 8 ↓	1 3 ↓	1 15 ↓	1 21 ↓	1 13 ↓	1 11 ↓
7	1 23 ↓	1 29 ↓	1 26 ↓	1 54 ↓	1 57 ↓	1 21 ↓	2 0 ↓	2 34 ↓	3 0 ↓	2 22 ↓	2 9 ↓	1 59 ↓	1 18 ↓	0 41 ↓
8	1 12 ↓	1 19 ↓	0 59 ↓	1 32 ↓	1 31 ↓	1 35 ↓	2 8 ↓	1 28 ↓	1 22 ↓	1 24 ↓	1 22 ↓	1 16 ↓	1 11 ↓	1 11 ↓
9	2 23 ↓	0 59 ↓	1 12 ↓	1 24 ↓	1 41 ↓	1 48 ↓	1 44 ↓	1 49 ↓	1 31 ↓	1 27 ↓	1 17 ↓	1 15 ↓	1 5 ↓	1 5 ↓
10	1 16 ↓	1 12 ↓	1 20 ↓	1 21 ↓	1 19 ↓	1 19 ↓	1 20 ↓	1 20 ↓	1 21 ↓	1 27 ↓	1 21 ↓	1 17 ↓	1 15 ↓	1 15 ↓
11	1 14 ↓	1 17 ↓	1 18 ↓	1 18 ↓	1 19 ↓	1 19 ↓	1 20 ↓	1 20 ↓	1 21 ↓	1 20 ↓	1 20 ↓	1 15 ↓	1 15 ↓	1 15 ↓
12	1 19 ↓	1 10 ↓	1 20 ↓	1 24 ↓	1 20 ↓	1 19 ↓	1 20 ↓	1 20 ↓	1 22 ↓	1 20 ↓	1 21 ↓	1 16 ↓	1 10 ↓	1 13 ↓
13	1 16 ↓	1 16 ↓	1 17 ↓	1 17 ↓	1 18 ↓	1 18 ↓	1 20 ↓	1 20 ↓	1 16 ↓	1 16 ↓	1 16 ↓	1 17 ↓	1 14 ↓	1 14 ↓
14	1 14 ↓	1 16 ↓	1 15 ↓	1 22 ↓	1 17 ↓	1 22 ↓	1 22 ↓	1 22 ↓	1 22 ↓	1 20 ↓	1 23 ↓	1 27 ↓	1 12 ↓	1 15 ↓
15	1 14 ↓	1 15 ↓	1 20 ↓	1 32 ↓	1 34 ↓	1 41 ↓	1 31 ↓	1 33 ↓	2 0 ↓	1 40 ↓	1 23 ↓	1 18 ↓	1 5 ↓	1 0 ↓
16	1 12 ↓	1 17 ↓	1 19 ↓	1 22 ↓	1 22 ↓	1 23 ↓	1 24 ↓	1 24 ↓	1 21 ↓	1 22 ↓	1 17 ↓	1 17 ↓	1 16 ↓	1 13 ↓
17	1 20 ↓	1 17 ↓	1 19 ↓	1 48 ↓	1 20 ↓	1 19 ↓	2 5 ↓	2 57 ↓	1 45 ↓	1 14 ↓	1 19 ↓	1 17 ↓	1 17 ↓	1 11 ↓
18	1 21 ↓	1 15 ↓	1 22 ↓	1 24 ↓	1 26 ↓	1 27 ↓	1 23 ↓	1 24 ↓	1 19 ↓	1 26 ↓	1 11 ↓	1 1 ↓	1 6 ↓	1 11 ↓
19	1 5 ↓	1 12 ↓	1 16 ↓	1 20 ↓	1 25 ↓	1 26 ↓	1 21 ↓	1 18 ↓	1 20 ↓	1 25 ↓	1 21 ↓	1 20 ↓	1 22 ↓	1 19 ↓
20	0 21 ↓	0 28 ↓	1 3 ↓	1 19 ↓	1 47 ↓	1 24 ↓	1 45 ↓	2 45 ↓	1 50 ↓	1 48 ↓	1 26 ↓	1 14 ↓	1 8 ↓	1 10 ↓
21	1 22 ↓	1 12 ↓	1 28 ↓	1 44 ↓	1 53 ↓	1 52 ↓	1 52 ↓	1 49 ↓	1 37 ↓	1 25 ↓	1 16 ↓	1 5 ↓	1 11 ↓	1 12 ↓
22	1 14 ↓	1 15 ↓	1 26 ↓	2 4 ↓	2 6 ↓	1 35 ↓	1 20 ↓	1 14 ↓	1 18 ↓	1 16 ↓	1 14 ↓	1 14 ↓	1 12 ↓	1 9 ↓
23	1 5 ↓	1 18 ↓	1 30 ↓	1 27 ↓	1 19 ↓	1 44 ↓	1 25 ↓	1 17 ↓	1 14 ↓	1 14 ↓	1 17 ↓	1 18 ↓	1 16 ↓	1 11 ↓
24	1 11 ↓	1 15 ↓	1 19 ↓	1 21 ↓	1 19 ↓	1 20 ↓	1 24 ↓	1 34 ↓	1 35 ↓	1 35 ↓	1 50 ↓	1 10 ↓	1 11 ↓	1 4 ↓
25	1 22 ↓	1 11 ↓	1 19 ↓	2 28 ↓	2 11 ↓	1 30 ↓	2 10 ↓	1 39 ↓	2 4 ↓	1 26 ↓	1 49 ↓	1 28 ↓	1 18 ↓	1 31 ↓
26	1 19 ↓	1 19 ↓	0 56 ↓	1 25 ↓	1 37 ↓	1 12 ↓	2 53 ↓	1 28 ↓	2 4 ↓	1 33 ↓	1 46 ↓	1 18 ↓	1 18 ↓	0 36 ↓
27	1 6 ↓	1 21 ↓	1 17 ↓	1 25 ↓	1 11 ↓	1 33 ↓	2 0 ↓	2 23 ↓	1 46 ↓	1 35 ↓	1 22 ↓	1 12 ↓	1 12 ↓	1 5 ↓
28	1 12 ↓	1 11 ↓	1 20 ↓	1 28 ↓	1 24 ↓	1 20 ↓	1 21 ↓	1 22 ↓	1 20 ↓	1 23 ↓	1 19 ↓	1 10 ↓	1 1 ↓	1 10 ↓
29	1 15 ↓	1 17 ↓	1 14 ↓	1 22 ↓	1 25 ↓	1 18 ↓	1 16 ↓	1 17 ↓	1 15 ↓	1 27 ↓	1 27 ↓	1 23 ↓	1 14 ↓	1 5 ↓
30	1 15 ↓	1 20 ↓	1 15 ↓	1 28 ↓	1 13 ↓	1 15 ↓	1 17 ↓	1 26 ↓	1 27 ↓	1 20 ↓	1 18 ↓	1 19 ↓	1 11 ↓	1 14 ↓
31	0 44 ↓	1 1 ↓	1 19 ↓	1 47 ↓	1 16 ↓	1 41 ↓	1 26 ↓	1 27 ↓	1 27 ↓	1 19 ↓	1 15 ↓	1 12 ↓	1 10 ↓	1 5 ↓
Mean	1 14 9	1 15 9	1 20 5	1 22 5	1 27 8	1 26 4	1 38 6	1 38 6	1 36 1	1 28 8	1 24 6	1 17 0	1 15 0	1 9 4

February 1883.

38°+

☉ = + 62° 38' 52".

Day.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	2 16 ↓	2 15 ↓	2 25 ↓	2 29 ↓	2 34 ↓	2 46 ↓	2 20 ↓	2 52 ↓	2 48 ↓	3 31 ↓	3 0 ↓	2 32 ↓	2 49 ↓	3 8 ↓
2	2 20 ↓	2 14 ↓	2 15 ↓	2 27 ↓	2 33 ↓	2 32 ↓	2 45 ↓	2 46 ↓	3 57 ↓	4 13 ↓	2 49 ↓	2 17 ↓	2 19 ↓	2 10 ↓
3	2 42 ↓	2 4 ↓	2 12 ↓	2 12 ↓	2 12 ↓	2 11 ↓	2 42 ↓	3 17 ↓	3 9 ↓	2 49 ↓	2 19 ↓	2 11 ↓	2 13 ↓	2 15 ↓
4	1 15 ↓	1 4 ↓	2 1 ↓	2 19 ↓	2 33 ↓	3 15 ↓	2 59 ↓	2 54 ↓	2 45 ↓	3 10 ↓	2 49 ↓	2 4 ↓	1 54 ↓	2 4 ↓
5	2 20 ↓	2 16 ↓	2 9 ↓	2 37 ↓	2 38 ↓	2 28 ↓	2 13 ↓	2 30 ↓	3 14 ↓	2 44 ↓	2 19 ↓	2 19 ↓	2 15 ↓	2 15 ↓
6	2 15 ↓	2 14 ↓	2 20 ↓	2 21 ↓	2 43 ↓	2 22 ↓	2 19 ↓	2 54 ↓	3 44 ↓	3 48 ↓	2 50 ↓	2 10 ↓	2 26 ↓	3 14 ↓
7	2 15 ↓	2 11 ↓	2 19 ↓	2 23 ↓	2 20 ↓	2 18 ↓	2 16 ↓	2 20 ↓	2 23 ↓	2 28 ↓	2 22 ↓	2 18 ↓	2 14 ↓	2 7 ↓
8	2 8 ↓	2 19 ↓	2 16 ↓	2 22 ↓	2 22 ↓	2 23 ↓	2 16 ↓	2 32 ↓	2 25 ↓	2 16 ↓	2 20 ↓	2 9 ↓	2 9 ↓	2 6 ↓
9	2 1 ↓	2 17 ↓	2 19 ↓	2 26 ↓	2 17 ↓	2 20 ↓	2 18 ↓	2 18 ↓	2 23 ↓	2 23 ↓	2 23 ↓	2 23 ↓	2 15 ↓	2 2 ↓
10	2 12 ↓	2 13 ↓	2 15 ↓	2 19 ↓	2 22 ↓	2 44 ↓	2 33 ↓	2 28 ↓	2 31 ↓	2 17 ↓	2 18 ↓	2 11 ↓	2 7 ↓	2 10 ↓
11	2 21 ↓	2 8 ↓	2 17 ↓	2 16 ↓	2 17 ↓	2 20 ↓	2 22 ↓	2 38 ↓	2 28 ↓	2 23 ↓	2 16 ↓	2 11 ↓	2 14 ↓	2 11 ↓
12	2 12 ↓	2 14 ↓	2 15 ↓	2 19 ↓	2 25 ↓	2 26 ↓	2 29 ↓	2 24 ↓	2 30 ↓	2 27 ↓	2 16 ↓	2 14 ↓	2 12 ↓	2 8 ↓
13	2 12 ↓	2 14 ↓	2 15 ↓	2 16 ↓	2 17 ↓	2 24 ↓	2 25 ↓	2 30 ↓	2 27 ↓	2 22 ↓	2 22 ↓	2 19 ↓	2 12 ↓	2 10 ↓
14	2 14 ↓	2 1 ↓	2 10 ↓	2 23 ↓	2 25 ↓	2 42 ↓	3 17 ↓	3 54 ↓	2 51 ↓	2 45 ↓	2 17 ↓	2 15 ↓	2 10 ↓	2 6 ↓
15	1 5 ↓	2 15 ↓	2 20 ↓	2 28 ↓	2 24 ↓	2 20 ↓	2 16 ↓	2 20 ↓	2 22 ↓	2 12 ↓	2 19 ↓	2 16 ↓	2 15 ↓	2 14 ↓
16	2 7 ↓	2 22 ↓	2 19 ↓	2 24 ↓	2 19 ↓	2 17 ↓	2 47 ↓	2 17 ↓	2 16 ↓	2 49 ↓	2 27 ↓	2 1 ↓	2 14 ↓	2 15 ↓
17	1 16 ↓	2 23 ↓	2 26 ↓	2 20 ↓	2 14 ↓	2 48 ↓	2 22 ↓	2 41 ↓	3 18 ↓	2 30 ↓	2 18 ↓	2 16 ↓	2 14 ↓	2 10 ↓
18	1 16 ↓	2 14 ↓	2 14 ↓	2 15 ↓	2 21 ↓	2 20 ↓	2 22 ↓	2 25 ↓	2 23 ↓	2 23 ↓	2 20 ↓	2 24 ↓	2 21 ↓	2 13 ↓
19	1 16 ↓	2 18 ↓	2 17 ↓	2 18 ↓	2 19 ↓	2 18 ↓	2 16 ↓	2 18 ↓	2 20 ↓	2 20 ↓	2 18 ↓	2 18 ↓	2 18 ↓	2 18 ↓
20	1 11 ↓	2 8 ↓	2 14 ↓	2 19 ↓	2 19 ↓	3 12 ↓	2 42 ↓	3 53 ↓	2 32 ↓	2 14 ↓	2 11 ↓	2 9 ↓	2 14 ↓	2 16 ↓
21	2 2 ↓	2 12 ↓	2 22 ↓	2 23 ↓	2 20 ↓	3 25 ↓	2 17 ↓	2 48 ↓	2 21 ↓	2 17 ↓	2 11 ↓	2 24 ↓	2 17 ↓	2 22 ↓
22	2 12 ↓	2 6 ↓	2 16 ↓	2 14 ↓	2 17 ↓	3 16 ↓	3 9 ↓	3 29 ↓	3 1 ↓	3 14 ↓	2 50 ↓	2 50 ↓	2 15 ↓	2 9 ↓
23	2 1 ↓	2 26 ↓	2 20 ↓	2 24 ↓	2 27 ↓	2 45 ↓	3 18 ↓	3 39 ↓	4 15 ↓	3 23 ↓	2 21 ↓	2 22 ↓	2 17 ↓	2 16 ↓
24	2 12 ↓	2 25 ↓	2 19 ↓	2 23 ↓	2 26 ↓	2 5 ↓	3 49 ↓	2 14 ↓	3 13 ↓	3 14 ↓	3 15 ↓	3 12 ↓	3 11 ↓	2 17 ↓
25	1 1 ↓	1 10 ↓	2 15 ↓	1 28 ↓	1 19 ↓	2 11 ↓	2 11 ↓	2 25 ↓	2 18 ↓	2 26 ↓	2 19 ↓	2 23 ↓	2 15 ↓	2 9 ↓
26	1 10 ↓	1 12 ↓	2 18 ↓	2 14 ↓	2 43 ↓	1 38 ↓	2 21 ↓	2 29 ↓	3 57 ↓	3 1 ↓	2 43 ↓	2 26 ↓	2 12 ↓	2 9 ↓
27	1 12 ↓	1 18 ↓	2 21 ↓	2 13 ↓	1 24 ↓	2 28 ↓	1 21 ↓	3 51 ↓	4 2 ↓	3 59 ↓	4 1 ↓	3 36 ↓	2 51 ↓	2 1 ↓
28	1 12 ↓	2 8 ↓	2 18 ↓	2 10 ↓	2 6 ↓	1 48 ↓	1 19 ↓	2 51 ↓	3 36 ↓	3 43 ↓	3 20 ↓	2 27 ↓	2 18 ↓	2 18 ↓
Mean	2 16 6	2 10 1	2 19 4	2 26 6	2 29 7	2 49 1	2 41 8	2 52 6	2 57 6	2 48 8	2 33 3	2 18 2	2 18 2	2 13 1

March 1888.

38°+

☉ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	2 49	2 5	2 16	3 28	4 6	2 54	3 2	3 28	3 12	3 11	2 50	2 22	2 10	2 16
2	0 43	2 24	2 35	3 4	2 44	3 50	3 9	4 3	6 8	2 51	3 9	3 24	2 7	3 14
3	2 32	2 17	2 19	2 23	2 28	2 37	3 19	3 16	3 5	2 41	2 48	2 8	2 15	2 13
4	2 26	2 17	2 21	2 27	2 29	2 29	2 40	2 43	2 36	2 29	2 18	2 8	2 7	2 12
5	1 59	2 12	2 18	2 45	2 44	2 35	3 34	2 47	2 22	2 28	2 20	2 13	2 14	2 13
6	2 11	2 17	2 19	2 27	2 37	2 30	2 38	2 7	2 26	2 22	2 18	2 7	2 57	1 59
7	2 5	2 19	1 49	2 31	2 38	2 49	2 44	2 37	2 33	3 5	2 14	2 12	2 13	2 9
8	1 58	2 6	2 20	2 25	2 50	2 21	3 10	3 28	2 28	2 17	2 25	2 9	2 19	2 11
9	2 11	2 18	2 21	2 27	2 32	2 15	2 27	2 30	2 45	2 48	2 30	2 15	2 10	2 10
10	2 40	2 22	2 33	2 27	2 39	2 34	2 46	2 51	2 45	2 48	2 36	2 17	2 5	2 9
11	2 7	2 18	2 22	2 23	2 37	2 47	2 50	2 49	2 28	2 20	2 22	2 16	2 11	2 8
12	2 8	2 16	2 16	2 15	2 17	2 14	2 31	2 53	2 39	2 23	2 7	2 12	2 23	2 1
13	2 0	2 2	3 3	3 11	2 35	3 24	2 12	2 9	2 26	2 12	2 13	2 9	2 11	2 11
14	1 51	2 18	2 16	2 34	4 30	2 59	3 23	3 25	2 43	2 27	2 29	2 17	2 16	2 9
15	1 59	2 25	2 23	2 26	2 24	2 19	2 28	2 24	2 32	2 18	2 18	2 15	2 13	2 15
16	2 9	2 12	2 21	2 17	2 20	2 22	2 22	2 38	2 38	2 21	2 17	2 17	2 14	2 2
17	2 5	2 14	2 22	2 24	2 24	2 22	2 30	2 25	2 25	2 21	2 15	2 17	2 9	2 14
18	1 40	2 13	2 13	2 13	2 24	3 3	2 24	2 24	2 24	2 19	2 19	2 17	2 6	2 9
19	2 10	2 10	2 15	2 11	2 14	2 16	2 18	2 25	2 21	2 21	2 15	2 15	2 8	2 8
20	2 9	2 10	2 9	2 10	2 12	2 16	2 19	2 21	2 24	2 22	2 20	2 14	2 8	2 7
21	2 6	2 4	2 20	2 26	2 35	2 44	2 55	3 6	2 45	2 50	2 37	2 24	1 59	2 7
22	2 3	1 41	2 24	2 41	3 7	3 3	2 58	3 6	1 18	2 47	2 19	2 3	1 10	1 57
23	2 13	2 3	2 11	2 18	2 11	2 44	2 38	2 55	2 37	2 29	2 19	2 14	2 6	2 2
24	2 1	2 12	2 14	2 11	2 11	2 10	2 24	2 27	2 35	2 27	2 19	2 12	2 12	2 8
25	2 15	2 9	2 13	2 14	2 16	2 11	2 33	2 37	2 37	2 31	2 14	2 9	2 1	2 0
26	2 0	1 49	2 6	2 19	2 24	2 26	2 38	2 26	2 34	2 26	2 28	2 37	2 16	2 25
27	1 42	2 24	3 41	3 37	3 37	3 44	4 16	3 39	2 55	4 20	3 0	2 11	2 28	3 31
28	1 57	2 3	2 2	2 54	2 24	2 45	3 13	3 4	27	2 40	2 33	2 32	2 17	3 11
29	1 37	3 40	3 12	2 59	3 20	2 54	3 31	3 32	4 0	2 45	2 14	2 7	2 7	1 59
30	1 42	2 30	2 12	2 29	2 29	2 37	2 20	2 27	2 20	2 19	2 17	2 26	2 13	2 4
31	2 2	2 11	2 38	2 28	2 43	2 33	2 40	3 1	2 44	2 30	2 19	2 14	2 9	2 4
Mean	2 46	2 12 8	2 21 1	2 35 2	2 37 0	2 43 4	2 43 1	2 48 1	2 47 8	2 35 9	2 23 3	2 16 2	2 10 8	2 9 5

April 1888

38° +

☉ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	1 24	1 58	2 10	2 27	2 11	2 49	2 24	2 21	2 19	2 50	2 13	2 13	2 13	2 7
2	2 26	2 18	2 12	2 17	2 26	2 26	2 14	2 26	2 41	2 41	2 16	2 14	2 12	2 9
3	1 40	1 31	2 10	3 3	2 28	2 25	3 13	4 0	4 6	3 29	2 51	2 27	2 45	2 18
4	1 41	2 3	2 4	2 30	2 30	2 26	3 30	3 30	2 36	3 11	2 50	2 30	2 27	2 7
5	2 9	2 11	2 16	2 8	2 17	2 33	2 50	2 49	2 24	2 19	2 27	2 29	2 18	2 9
6	1 58	2 43	2 16	2 17	2 22	2 26	2 40	3 11	2 31	2 31	2 24	2 20	2 18	2 6
7	2 6	2 11	2 11	2 13	2 14	2 14	2 17	2 22	2 23	2 24	2 22	2 18	2 12	2 8
8	2 12	2 5	2 22	2 16	2 18	2 29	3 5	3 32	2 47	2 28	2 28	2 17	2 10	2 3
9	2 2	2 7	2 30	2 4	2 10	3 13	3 26	2 35	2 31	2 22	2 16	2 15	2 12	2 0
10	2 10	2 17	2 8	2 6	2 0	2 22	2 28	2 26	2 27	2 31	2 25	2 20	2 9	2 6
11	1 59	2 21	2 20	2 22	2 19	2 12	2 21	2 25	2 24	2 22	2 12	2 20	2 8	2 6
12	2 5	2 11	2 8	2 35	2 43	3 4	2 39	2 27	2 24	2 22	2 14	2 14	2 7	2 3
13	1 6	2 17	2 26	2 16	2 22	2 32	2 47	2 57	2 28	2 34	2 14	2 4	2 7	2 5
14	2 11	2 9	2 12	2 11	2 10	2 22	2 23	2 28	2 27	2 27	2 21	2 11	2 9	2 8
15	2 8	2 9	2 27	2 10	2 13	2 14	2 47	3 0	2 37	2 27	2 16	2 20	2 13	2 7
16	2 2	2 6	3 16	2 16	2 10	2 29	2 30	2 25	2 28	2 25	2 20	2 15	2 3	1 58
17	2 6	2 9	2 8	2 11	2 21	2 28	2 22	2 22	2 22	2 22	2 22	2 13	2 6	1 57
18	2 9	2 25	2 7	2 14	2 14	2 23	2 53	2 50	2 51	2 44	2 30	2 5	2 9	2 5
19	1 32	1 59	1 3	1 49	1 45	1 43	1 50	1 50	4 5	2 52	2 26	2 26	2 25	2 15
20	2 2	3 9	2 24	2 0	2 15	2 41	2 45	2 17	2 17	2 53	4 0	2 38	2 9	2 8
21	2 12	2 9	2 17	2 22	2 24	2 28	2 21	2 29	2 26	2 35	2 31	2 21	2 20	2 13
22	2 11	2 18	2 14	2 19	2 25	2 31	2 31	2 31	2 31	2 32	2 25	2 14	2 12	2 12
23	2 11	2 10	2 22	2 14	2 19	2 21	2 14	2 28	2 27	2 28	2 13	2 12	2 9	2 9
24	2 1	2 9	2 11	2 11	2 19	2 4	2 23	2 44	2 55	2 49	3 5	2 39	2 16	1 57
25	1 54	2 4	3 22	2 14	2 14	2 44	3 51	3 51	2 30	2 30	2 36	2 29	2 21	2 15
26	2 3	2 16	2 12	2 20	2 24	2 39	3 37	2 38	3 13	3 22	2 10	2 25	2 25	2 10
27	2 19	2 13	2 28	2 31	2 31	3 15	3 8	2 45	2 45	2 30	2 24	2 24	2 13	2 17
28	2 11	2 18	2 19	2 14	2 15	2 17	2 41	2 39	2 38	2 38	2 13	2 12	2 11	2 11
29	2 10	2 15	2 14	2 10	2 10	2 18	2 38	2 36	2 54	2 27	2 28	2 14	2 14	2 9
30	2 19	2 10	2 16	2 10	2 10	2 42	3 6	2 54	2 49	2 36	2 45	2 34	2 14	2 12
Mean	2 42	2 13 7	2 13 9	2 17 9	2 23 6	2 34 3	2 44 1	2 45 3	2 40 4	2 35 7	2 27 7	2 19 9	2 14 4	2 10 9

WASHERY
GEORGE JACOBSON
OF
ALABAMA

Declination.

138

May 1883.

39°+

☉ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	0 54	1 14	1 32	1 53	2 15	2 38	3 02	3 26	3 51	4 16	4 42	5 09	5 36	6 04
2	1 4	1 4	1 19	1 20	1 41	1 44	2 04	2 07	2 27	2 30	2 50	2 53	3 13	3 16
3	1 34	1 31	1 24	1 20	1 29	1 27	1 47	1 45	1 64	1 62	1 81	1 80	1 99	1 97
4	1 18	1 20	1 54	1 35	1 31	1 24	1 27	1 32	1 37	1 42	1 47	1 52	1 57	2 02
5	1 7	1 11	1 32	1 13	1 25	1 21	1 51	1 25	1 31	1 37	1 43	1 49	1 55	2 01
6	0 26	1 3	1 8	1 13	1 26	1 20	2 3	1 24	1 28	1 32	1 37	1 42	1 47	1 52
7	1 3	1 10	1 10	1 14	1 20	1 22	1 40	1 34	1 32	1 34	1 38	1 42	1 46	1 50
8	1 4	1 7	1 30	1 28	1 32	1 32	1 49	1 40	1 37	1 34	1 37	1 40	1 43	1 46
9	1 7	1 15	1 28	1 18	1 26	1 23	1 35	1 28	1 26	1 23	1 21	1 19	1 17	1 15
10	1 12	1 12	1 14	1 13	1 12	1 12	1 30	1 30	1 35	1 35	1 35	1 37	1 37	1 37
11	1 26	1 17	1 18	1 20	1 21	1 22	1 37	1 38	1 32	1 28	1 23	1 18	1 12	1 8
12	1 4	1 9	1 19	1 16	1 21	1 21	1 28	1 36	1 31	1 24	1 18	1 12	1 7	1 8
13	1 17	1 11	1 14	1 10	1 11	1 11	1 43	1 43	1 33	1 24	1 17	1 10	1 4	1 2
14	1 16	0 50	1 18	1 20	1 21	1 21	1 43	1 46	1 32	1 22	1 13	1 07	1 6	1 4
15	1 18	1 11	1 21	1 25	1 25	1 24	1 42	1 38	1 37	1 33	1 27	1 13	1 4	1 2
16	0 43	0 44	1 4	1 10	1 17	1 18	1 41	1 46	1 47	1 41	1 32	1 17	1 5	1 4
17	1 0	0 56	1 26	1 30	1 31	1 31	1 43	1 52	1 55	1 51	1 41	1 30	1 19	1 10
18	1 10	1 13	1 9	1 25	1 29	1 28	1 35	1 47	1 50	1 42	1 32	1 23	1 12	1 10
19	1 7	1 12	1 14	1 16	1 15	1 15	1 46	1 54	1 57	1 46	1 36	1 26	1 15	1 12
20	1 13	1 2	1 17	1 17	1 17	1 17	1 39	1 50	1 49	1 43	1 36	1 27	1 17	1 12
21	2 18	0 49	1 26	1 38	1 37	1 36	1 46	1 57	1 53	1 32	1 22	1 13	1 3	1 37
22	0 19	0 58	1 23	1 10	1 25	1 28	1 27	1 38	1 41	1 40	1 30	1 20	1 10	1 14
23	1 16	0 54	1 14	1 26	1 26	1 26	1 39	1 47	1 35	1 27	1 23	1 14	1 5	1 8
24	0 54	1 26	1 20	1 30	1 31	1 31	1 54	1 57	1 36	1 27	1 21	1 12	1 2	1 6
25	1 13	1 13	1 20	1 15	1 29	1 40	1 39	1 46	1 35	1 25	1 18	1 9	1 2	1 3
26	1 7	0 52	1 14	1 27	1 46	1 45	1 46	1 57	1 38	1 47	1 30	1 23	1 8	1 9
27	1 21	1 24	1 23	1 25	1 20	1 20	1 39	1 33	1 37	1 20	1 12	1 12	1 20	1 11
28	1 1	0 57	1 19	1 27	1 28	1 28	1 46	1 43	1 42	1 27	1 22	1 13	1 12	1 8
29	1 50	1 18	1 11	1 21	1 29	1 29	1 46	1 43	1 53	1 29	1 24	1 14	1 9	1 13
30	1 11	1 14	1 19	1 29	1 28	1 28	1 49	1 48	1 54	1 15	1 18	1 12	1 26	1 15
31	0 57	1 5	1 7	1 17	1 49	1 55	1 43	1 37	1 36	1 14	1 11	1 5	1 7	1 7
Mean -	1 9.4	1 8.9	1 18.9	1 21.4	1 31.1	1 44.8	1 50.4	1 51.0	1 40.6	1 28.9	1 19.6	1 13.8	1 10.0	1 9.2

June 1883.

39°+

☉ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	1 12	1 9	1 3	1 53	1 28	1 25	1 39	2 5	1 50	1 54	1 25	1 16	1 4	1 8
2	0 29	0 50	1 17	1 10	1 24	1 26	1 36	2 24	1 24	1 28	0 49	1 16	1 7	1 11
3	0 52	1 18	1 1	1 25	1 37	1 26	1 40	2 26	2 14	1 30	1 14	1 13	1 4	1 24
4	1 19	1 14	1 11	1 14	1 39	1 44	2 3	1 34	1 28	1 33	1 23	1 18	1 16	1 7
5	1 11	1 20	1 25	1 14	1 29	1 33	1 31	1 35	1 38	1 39	1 14	1 19	1 13	1 12
6	0 49	1 24	2 23	1 26	1 48	1 49	2 11	2 00	1 57	1 43	1 27	1 27	1 17	1 9
7	1 5	1 10	1 15	1 27	1 33	1 39	1 38	1 46	1 45	1 33	1 38	1 23	1 8	1 12
8	1 6	1 3	1 14	1 19	1 13	1 26	2 30	2 5	1 36	1 30	1 19	1 19	1 8	1 8
9	0 36	1 0	1 15	1 21	1 30	2 23	2 37	2 9	1 53	1 47	1 28	1 21	1 9	1 13
10	1 14	1 11	1 20	1 28	1 29	1 47	1 41	1 39	1 29	1 24	1 20	1 19	1 24	1 16
11	0 53	0 58	1 2	1 25	1 26	1 35	1 32	1 25	1 31	1 27	1 20	1 12	1 13	1 8
12	1 16	1 16	1 17	1 6	1 30	1 43	1 31	1 45	1 38	1 26	1 20	1 12	1 12	1 1
13	1 16	1 19	1 19	1 20	1 37	1 28	1 24	1 33	1 35	1 28	1 18	1 16	1 13	1 3
14	1 37	1 14	1 16	1 31	1 36	1 43	2 3	1 43	1 43	1 34	1 25	1 19	1 7	1 5
15	1 13	1 10	1 10	1 14	1 30	1 23	1 22	1 24	1 22	1 28	1 28	1 16	1 2	1 4
16	1 7	1 8	1 11	0 59	1 18	1 22	1 22	1 30	1 28	1 36	1 38	1 57	1 7	1 11
17	0 48	1 8	0 53	1 28	1 19	1 41	1 51	1 45	1 47	1 35	1 14	1 14	0 51	0 33
18	0 28	0 21	1 7	1 48	1 32	1 59	2 0	2 27	2 5	1 44	1 25	1 15	1 25	1 14
19	0 5	0 49	1 11	1 30	1 17	1 38	1 57	2 15	1 50	1 39	1 19	1 17	1 17	1 30
20	0 49	1 1	1 1	1 22	1 18	1 45	1 41	1 41	2 7	1 27	1 22	1 17	1 15	1 3
21	0 54	1 9	1 4	1 16	1 39	1 18	1 37	1 36	1 35	1 33	1 26	1 19	1 10	1 10
22	0 5	1 9	1 14	1 10	1 52	1 46	1 49	2 11	2 3	1 49	1 31	1 5	0 51	0 45
23	1 0	1 17	1 54	1 30	1 40	1 49	2 16	2 38	1 38	1 45	1 39	1 41	1 31	1 13
24	0 26	1 4	1 26	1 26	1 26	1 25	1 41	1 46	1 53	1 38	1 41	1 25	1 20	1 17
25	1 10	1 15	1 14	1 21	1 35	1 36	1 36	2 26	2 27	1 41	1 49	1 25	1 16	1 26
26	1 10	1 46	1 19	1 28	1 46	1 51	2 3	2 24	1 31	1 44	1 44	1 23	1 16	1 26
27	1 14	0 39	2 17	1 51	2 1	1 25	2 53	1 64	2 7	1 38	2 4	1 28	1 23	1 9
28	1 14	1 17	1 11	1 41	1 39	1 50	1 43	2 28	1 53	1 33	1 31	1 29	1 10	1 12
29	1 21	1 8	1 14	1 25	1 37	1 35	1 45	2 3	1 30	1 41	1 46	1 26	1 27	1 13
30	0 38	1 0	0 47	1 13	1 46	2 44	1 6	1 30	2 21	2 14	1 31	1 24	1 24	1 19
Mean -	1 4.1	1 7.4	1 16.2	1 30.1	1 41.8	1 41.6	1 59.0	2 1.2	1 53.3	1 41.1	1 30.2	1 12.6	1 10.0	1 10.1

+ 62° 38' 52".

λ = - 115° 43' 50" W. = - 7h 42m 55s.

Local Mean Time.

May 1883.

1	2
0 16 z	0 18 z
1 14 z	1 9 z
1 18 z	1 12 z
1 3 z	1 7 z
1 4 z	1 1 z
1 3 z	0 29 z
1 14 z	1 6 z
1 1 z	1 8 z
1 7 z	1 8 z
1 0 z	1 4 z
1 11 z	1 8 z
1 7 z	1 8 z
1 4 z	1 4 z
1 6 z	1 4 z
1 5 z	1 9 z
1 3 z	1 4 z
0 59 z	1 3 z
1 19 z	1 15 z
1 7 z	1 11 z
1 7 z	1 6 z
1 9 z	1 37 z
1 16 z	1 14 z
1 13 z	1 8 z
1 2 z	1 6 z
1 9 z	1 13 z
1 8 z	1 9 z
1 20 z	1 11 z
1 10 z	1 8 z
1 9 z	1 13 z
1 16 z	1 15 z
1 7 z	1 7 z
1 10 z	1 9 z

3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.
0 16 z	0 17 z	0 57 z	0 44 z	0 57 z	1 5 z	1 12 z	0 16 z	0 4 z	0 13 z	0 16 z	1 45	0 43	0 2
1 3 z	1 7 z	1 7 z	0 44 z	0 57 z	1 8 z	1 3 z	1 13 z	1 11 z	1 11 z	1 22 z	3 43	0 44	3 58
1 8 z	1 6 z	1 7 z	0 59 z	0 57 z	1 9 z	0 51 z	1 8 z	1 12 z	1 9 z	1 15 z	1 44	0 51	0 50
1 8 z	1 4 z	0 52 z	0 59 z	1 4 z	1 0 z	1 4 z	1 0 z	0 16 z	1 8 z	1 13 z	2 16	0 54	1 22
0 59 z	0 56 z	0 55 z	0 55 z	1 6 z	1 9 z	0 58 z	1 18 z	0 29 z	0 50 z	1 11 z	2 26	0 24	2 3
0 58 z	1 1 z	1 4 z	1 6 z	1 6 z	1 7 z	1 5 z	1 0 z	0 34 z	1 24 z	1 13 z	2 3	0 17	1 46
1 4 z	1 4 z	1 7 z	1 10 z	1 13 z	1 13 z	1 9 z	1 8 z	1 7 z	1 8 z	1 14 z	1 43	1 3	0 41
1 5 z	1 4 z	1 4 z	1 8 z	1 7 z	1 6 z	1 11 z	1 6 z	1 7 z	1 40 z	1 16 z	1 50	0 59	0 51
1 3 z	1 2 z	1 5 z	1 1 z	1 12 z	1 12 z	1 12 z	1 8 z	1 7 z	1 10 z	1 15 z	1 38	0 52	0 46
1 3 z	1 5 z	1 5 z	1 8 z	1 12 z	1 10 z	1 12 z	1 10 z	1 7 z	1 16 z	1 14 z	1 38	0 58	0 38
1 6 z	1 5 z	1 6 z	1 10 z	1 2 z	1 2 z	1 3 z	1 2 z	1 2 z	1 26 z	1 17 z	1 56	1 0	0 56
1 6 z	1 10 z	1 8 z	1 8 z	1 10 z	1 11 z	1 10 z	1 10 z	1 11 z	1 1 z	1 14 z	1 37	0 50	0 47
1 12 z	0 59 z	0 53 z	0 56 z	0 50 z	0 48 z	0 48 z	1 9 z	1 9 z	1 6 z	1 11 z	2 2	0 22	1 40
1 6 z	1 6 z	1 8 z	1 10 z	1 12 z	1 5 z	1 6 z	1 6 z	1 1 z	0 4 z	1 15 z	1 58	0 56	1 2
1 10 z	1 11 z	1 7 z	1 10 z	1 4 z	1 0 z	0 56 z	0 52 z	0 40 z	1 16 z	1 16 z	1 52	0 36	1 16
1 8 z	1 8 z	1 10 z	1 9 z	1 12 z	1 12 z	1 15 z	1 13 z	1 10 z	1 9 z	1 16 z	2 58	0 43	2 15
0 59 z	1 5 z	1 10 z	1 0 z	1 13 z	1 2 z	1 15 z	1 10 z	1 6 z	1 12 z	1 14 z	2 5	0 50	1 15
1 8 z	1 10 z	1 14 z	1 12 z	1 16 z	2 15 z	1 8 z	0 58 z	0 7 z	1 5 z	1 14 z	1 38	1 0	1 38
1 13 z	1 15 z	1 12 z	1 16 z	1 20 z	1 18 z	1 12 z	1 15 z	1 13 z	1 18 z	1 18 z	2 56	0 30	1 53
1 4 z	1 10 z	1 5 z	0 59 z	0 34 z	0 19 z	0 37 z	0 32 z	0 22 z	1 28 z	1 9 z	1 51	0 2	1 50
1 20 z	1 9 z	1 5 z	1 5 z	1 5 z	1 1 z	0 57 z	1 6 z	0 45 z	-0 15 z	1 32 z	3 32	-0 34	4 6
1 10 z	1 19 z	1 3 z	0 51 z	0 57 z	1 9 z	0 48 z	0 55 z	1 4 z	1 11 z	1 17 z	2 30	0 10	2 20
1 6 z	1 5 z	1 4 z	1 11 z	1 10 z	1 8 z	1 10 z	1 19 z	1 11 z	1 4 z	1 22 z	2 44	0 51	1 52
1 5 z	1 7 z	1 6 z	1 6 z	1 9 z	1 2 z	1 11 z	1 7 z	1 7 z	1 6 z	1 22 z	2 9	0 43	1 26
1 9 z	1 4 z	1 8 z	0 53 z	1 3 z	1 3 z	1 8 z	1 9 z	1 20 z	1 17 z	1 17 z	1 47	0 30	0 57
1 8 z	1 9 z	1 10 z	0 53 z	1 15 z	1 7 z	1 12 z	1 9 z	1 13 z	0 57 z	1 20 z	2 28	0 47	1 41
1 13 z	0 57 z	0 16 z	0 58 z	1 2 z	0 59 z	1 10 z	1 2 z	1 4 z	0 51 z	1 18 z	2 28	0 34	1 54
1 6 z	1 7 z	0 53 z	1 6 z	1 13 z	1 7 z	1 14 z	1 0 z	1 5 z	0 51 z	1 18 z	3 27	0 50	3 37
1 14 z	1 10 z	1 12 z	1 6 z	1 0 z	1 6 z	1 3 z	1 12 z	1 14 z	1 11 z	1 22 z	2 22	0 38	1 44
1 0 z	1 0 z	0 58 z	0 55 z	0 57 z	0 58 z	0 47 z	0 54 z	0 39 z	0 39 z	1 12 z	2 6	0 10	1 56
1 8 z	0 58 z	1 0 z	1 1 z	0 56 z	1 15 z	1 7 z	0 31 z	1 12 z	1 13 z	1 14 z	1 56	0 31	1 25
1 6 z	1 5 z	1 3 z	1 2 z	1 4 z	1 4 z	1 3 z	1 4 z	0 59 z	1 5 z	40 16 z	42 42	38 26	4 16

+ 62° 38' 52".

λ = - 115° 43' 50" W. = - 7h 42m 55s.

June 1883.

1	2
0 4 z	0 8 z
1 7 z	1 1 z
1 4 z	1 24 z
1 16 z	1 7 z
1 13 z	1 9 z
1 12 z	1 9 z
1 8 z	1 12 z
1 8 z	1 8 z
1 9 z	1 13 z
1 24 z	1 16 z
1 5 z	1 8 z
1 23 z	1 1 z
1 13 z	1 3 z
1 7 z	1 5 z
1 2 z	1 4 z
1 7 z	1 11 z
0 51 z	0 53 z
1 28 z	1 14 z
1 17 z	1 10 z
1 15 z	1 2 z
1 10 z	1 10 z
0 51 z	0 41 z
1 31 z	1 15 z
1 10 z	1 17 z
1 16 z	1 24 z
1 20 z	1 18 z
1 13 z	1 9 z
1 10 z	1 12 z
1 17 z	1 13 z
1 24 z	1 19 z
1 30 z	1 10 z

3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.
0 4 z	0 1 z	0 57 z	0 46 z	0 46 z	0 56 z	0 59 z	1 40 z	0 36 z	0 54 z	1 15 z	3 26	0 20	2 6
1 17 z	1 6 z	1 4 z	1 7 z	0 59 z	1 14 z	1 9 z	1 4 z	0 54 z	0 50 z	1 24 z	5 13	0 27	4 46
1 11 z	1 8 z	1 12 z	1 5 z	1 10 z	1 13 z	1 13 z	1 11 z	0 49 z	0 58 z	1 19 z	2 29	0 38	1 51
1 5 z	1 12 z	1 11 z	1 12 z	1 13 z	1 16 z	1 17 z	1 18 z	1 17 z	1 16 z	1 20 z	2 5	1 5	1 0
1 11 z	1 9 z	1 10 z	1 8 z	1 13 z	1 9 z	1 10 z	1 10 z	1 13 z	0 53 z	1 17 z	1 39	0 47	0 53
1 3 z	1 7 z	0 55 z	0 53 z	0 53 z	1 18 z	0 59 z	0 53 z	0 53 z	0 54 z	1 24 z	1 57	0 21	2 36
1 11 z	1 8 z	1 11 z	1 11 z	1 2 z	1 10 z	1 10 z	1 11 z	1 11 z	1 11 z	1 19 z	1 58	0 57	1 1
1 7 z	0 57 z	0 54 z	1 2 z	1 2 z	1 9 z	1 2 z	0 46 z	0 57 z	1 1 z	1 19 z	1 33	0 46	1 47
1 11 z	1 6 z	1 5 z	1 7 z	1 17 z	1 19 z	1 19 z	1 18 z	1 15 z	1 13 z	1 24 z	2 42	0 29	2 13
1 2 z	1 1 z	1 1 z	0 57 z	0 40 z	0 51 z	0 45 z	0 52 z	0 54 z	0 43 z	1 15 z	1 47	0 38	1 0
1 11 z	1 10 z	1 12 z	1 11 z	1 15 z	1 18 z	1 17 z	1 13 z	1 13 z	1 13 z	1 18 z	1 35	0 53	0 42
1 9 z	1 12 z	1 13 z	1 13 z	1 15 z	1 18 z	1 13 z	0 50 z	0 52 z	1 16 z	1 17 z	1 51	0 38	1 13
1 11 z	1 7 z	1 10 z	1 7 z	1 2 z	1 10 z	1 4 z	1 1 z	1 16 z	0 51 z	1 14 z	1 39	0 43	0 56
1 5 z	1 3 z	1 4 z	1 4 z	1 10 z	1 9 z	1 14 z	1 10 z	1 12 z	1 11 z	1 21 z	2 11	0 5	2 6
1 3 z	1 6 z	1 4 z	1 6 z	1 8 z	1 9 z	1 14 z	1 12 z	1 10 z	1 9 z	1 12 z	1 28	1 2	0 26
1 2 z	0 59 z	0 59 z	0 17 z	-0 9 z	-0 1 z	-0 1 z	0 36 z	0 26 z	0 30 z	0 58 z	1 38	-0 49	2 27
0 39 z	1 16 z	0 42 z	0 50 z	1 15 z	0 54 z	0 54 z	1 46 z	1 36 z	1 31 z	1 23 z	3 36	0 2	3 34
0 54 z	1 3 z	1 1 z	0 59 z	0 51 z	1 25 z	0 52 z	0 36 z	0 25 z	0 38 z	1 14 z	1 58	0 12	2 20
1 4 z	0 59 z	0 54 z	0 58 z	0 57 z	0 58 z	1 10 z	1 11 z	0 40 z	0 59 z	1 16 z	4 0	0 38	3 22
0 59 z	0 52 z	0 44 z	0 58 z	0 52 z	0 52 z	1 2 z	0 41 z	1 4 z	1 3 z	1 15 z	2 8	0 34	1 36
1 2 z	1 6 z	1 5 z	1 3 z	1 12 z	1 16 z	1 16 z	1 14 z	1 12 z	1 9 z	1 16 z	1 38	0 53	0 46
1 2 z	0 57 z	0 50 z	0 38 z	0 49 z	0 20 z	0 41 z	0 46 z	1 4 z	1 4 z	1 16 z	2 50	0 19	2 31
1 13 z	1 8 z	0 51 z	0 41 z	1 3 z	0 54 z	0 53 z	1 6 z	0 48 z	1 9 z	1 21 z	2 20	0 40	1 48
1 8 z	1 4 z	1 4 z	1 4 z	1 10 z	1 17 z	1 14 z	1 10 z	1 13 z	1 11 z	1 20 z	1 54	0 56	0 58
1 18 z	1 12 z	0 56 z	1 8 z	1 13 z	1 15 z	1 17 z	1 18 z	1 13 z	1 26 z	1 27 z	2 30	0 52	1 38
1 13 z	1 11 z	1 6 z	1 6 z	1 9 z	1 8 z	0 48 z	0 54 z	0 58 z	0 50 z	1 27 z	3 9	0 49	2 20
1 12 z	1 8 z	1 1 z	0 54 z	1 10 z	1 6 z	0 15 z	0 38 z	0 59 z	1 10 z	1 29 z	3 58	0 11	3 47
1 12 z	1 12 z	1 18 z	1 13 z	1 12 z	1 20 z	1 12 z	1 16 z	1 15 z	0 58 z	1 26 z	2 29	0 58	1 31
1 8 z	1 13 z	1 8 z	1 2 z	1 5 z	1 13 z	1 16 z	0 38 z	0 37 z	0 32 z	1 18 z	2 3	0 15	1 38
1 25 z	0 52 z	1 4 z	0 4 z	0 53 z	0 59 z	0 29 z	1 21 z	1 13 z	0 53 z	1 15 z	3 38	0 4	3 34
1 6 z	1 6 z	1 2 z	0 59 z	1 2 z	1 5 z	1 1 z	1 4 z	1 2 z	1 1 z	40 19 z	44 13	38 11	6 2

Declination.

140

July 1883.

38°+

☉ = +62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	2 15	2 12	2 7	2 12	2 3	2 31	2 11	4 1	2 49	2 2	2 59	2 35	2 27	2 21
2	2 7	1 57	2 9	2 10	2 17	2 19	2 11	2 27	2 30	2 28	2 44	2 17	2 7	2 6
3	1 28	2 36	2 29	2 28	2 43	2 55	3 3	2 28	2 26	2 31	2 21	2 19	2 13	2 4
4	1 53	1 47	1 48	2 21	2 35	2 49	2 11	2 22	2 34	2 26	2 30	2 17	2 7	2 5
5	2 15	2 11	2 18	2 11	2 39	2 54	3 3	2 23	2 30	2 3	2 20	2 15	2 7	2 12
6	1 41	2 13	2 7	2 34	2 26	2 33	2 28	2 28	2 29	2 28	2 27	2 18	2 11	2 8
7	2 6	2 11	2 30	2 27	2 33	2 36	2 29	2 53	2 3	2 35	2 7	2 33	2 3	2 14
8	1 39	1 41	2 0	1 28	2 17	2 30	2 22	2 5	2 18	2 19	2 31	2 8	2 6	2 10
9	2 13	2 9	2 21	2 23	2 21	2 34	2 33	2 31	2 31	2 28	2 22	2 27	2 14	2 9
10	2 23	2 43	2 43	2 15	2 22	2 37	2 29	2 29	2 32	2 29	2 28	2 14	2 33	2 20
11	2 15	2 19	2 23	2 24	2 33	2 30	2 27	2 28	2 34	2 28	2 17	2 10	2 13	2 14
12	2 17	2 25	2 20	2 17	2 16	2 36	2 45	2 40	2 31	2 29	2 25	2 24	2 23	2 20
13	2 24	2 18	2 18	2 42	2 27	2 45	2 17	2 28	2 28	2 33	2 17	2 17	2 13	2 21
14	2 11	2 2	1 43	2 5	2 12	2 50	2 36	2 9	2 10	2 26	2 20	2 16	2 11	2 9
15	2 2	2 10	2 22	2 22	2 28	2 33	2 40	2 31	2 3	2 8	2 41	2 17	2 19	2 24
16	1 59	2 10	2 9	2 27	2 32	2 45	2 5	2 2	2 24	2 5	2 31	2 12	2 3	2 14
17	2 5	2 2	2 16	2 15	2 28	2 39	2 26	2 21	2 21	2 22	2 16	2 14	2 14	2 10
18	2 5	2 21	2 26	2 32	2 27	2 53	2 12	2 45	2 12	2 41	2 26	2 10	2 16	2 7
19	2 17	2 2	2 15	2 12	2 31	2 34	2 31	2 46	2 44	2 27	2 14	2 14	2 24	2 31
20	2 6	1 55	2 14	2 21	2 33	2 41	2 45	2 36	2 24	2 22	2 22	2 16	2 14	2 6
21	2 3	2 10	2 14	2 16	2 23	2 22	2 26	2 23	2 22	2 20	2 15	2 8	2 5	2 2
22	2 12	2 16	2 19	2 21	2 23	2 27	2 31	2 25	2 23	2 27	2 23	2 19	2 17	2 11
23	2 29	2 18	2 15	2 21	2 19	2 26	2 20	2 22	2 21	2 23	2 22	2 19	2 9	2 2
24	1 42	1 20	1 8	2 44	2 26	2 39	2 27	2 28	2 21	2 25	2 10	2 10	2 3	2 10
25	2 3	2 4	2 16	2 28	2 35	2 51	2 9	2 22	2 22	2 12	2 12	2 11	2 11	2 13
26	2 14	2 8	2 14	2 42	2 51	2 33	2 33	2 10	2 16	2 54	2 41	2 19	2 14	2 23
27	2 13	2 14	2 16	2 17	2 2	2 39	2 47	2 24	2 28	2 25	2 13	2 15	2 13	2 10
28	2 14	2 15	2 19	2 21	2 26	2 33	2 49	2 49	2 33	2 30	2 21	2 14	2 13	2 12
29	1 59	2 19	2 18	2 24	2 27	2 31	2 29	2 30	2 28	2 24	2 14	2 14	2 4	2 8
30	2 14	2 16	2 17	2 11	2 39	1 44	2 18	2 10	2 11	2 20	2 49	2 29	2 29	2 17
31	1 55	1 58	2 2	2 23	2 23	2 55	2 26	2 4	2 15	2 25	2 11	2 15	2 16	2 15
Mean -	2 7.6	2 7.7	2 14.5	2 24.8	2 31.0	2 39.4	2 53.2	3 3.2	2 56.4	2 49.7	2 34.4	2 22.1	2 13.7	2 11.3

August 1883.

39°+

☉ = +62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	0 56	1 24	1 28	1 26	0 48	1 28	1 47	2 16	2 19	1 31	1 20	1 8	1 13	1 4
2	1 6	1 13	1 23	1 30	1 37	1 39	1 43	1 39	1 35	1 34	1 31	1 21	1 20	1 13
3	1 4	1 22	1 27	1 30	1 30	1 30	1 30	1 28	1 33	1 32	1 28	1 23	1 23	1 18
4	1 15	1 14	1 17	1 18	1 21	1 25	1 28	1 24	1 23	1 29	1 28	1 20	1 12	1 9
5	1 19	1 11	1 20	1 25	1 28	1 28	1 24	1 28	1 28	1 27	1 20	1 20	1 7	0 59
6	1 2	0 44	1 54	0 58	1 1	1 14	2 7	2 22	2 24	1 35	1 31	1 28	1 16	1 13
7	0 58	1 18	1 15	1 13	1 16	1 16	2 24	2 13	1 55	1 28	1 12	1 6	1 18	0 55
8	1 25	1 19	1 10	1 17	1 6	1 19	2 3	1 42	1 40	1 29	1 21	1 9	1 16	1 16
9	1 18	1 18	1 19	1 19	1 33	1 30	1 37	1 28	1 33	1 30	1 22	1 18	1 13	1 15
10	1 17	1 17	1 20	1 19	1 27	1 27	1 33	1 26	1 27	1 31	1 7	1 12	1 12	1 12
11	1 18	1 9	1 34	1 35	1 37	2 2	2 30	1 26	1 46	1 33	1 15	1 16	1 7	1 0
12	1 11	1 13	1 19	1 26	1 32	1 36	1 39	1 55	1 26	1 40	1 31	1 13	1 9	1 10
13	1 13	1 16	1 29	1 34	1 34	1 31	1 40	1 41	1 42	1 29	1 27	1 23	1 17	1 8
14	1 18	1 10	1 4	1 38	1 22	1 38	1 44	1 44	1 45	1 25	1 44	1 25	1 5	1 3
15	1 18	1 16	0 56	1 23	1 26	1 39	1 38	1 27	1 30	1 20	1 13	1 10	1 9	1 12
16	1 19	1 19	1 19	1 24	1 22	1 29	1 33	1 21	1 26	1 26	1 18	1 12	1 15	1 14
17	1 20	1 19	1 19	1 21	1 27	1 28	1 28	1 22	1 22	1 22	1 26	1 19	1 2	1 2
18	1 12	1 23	1 15	1 19	1 28	1 29	2 41	2 12	1 53	1 55	1 40	1 42	1 11	1 23
19	1 15	1 19	1 12	1 18	1 26	1 41	1 34	1 27	1 34	1 22	1 34	1 15	1 12	1 14
20	1 9	1 11	1 21	1 22	1 24	1 29	1 29	1 24	1 24	1 21	1 19	1 18	1 7	1 6
21	1 26	1 17	1 23	1 20	1 30	1 43	1 50	1 45	1 31	1 37	1 25	1 16	1 7	1 12
22	1 10	1 8	1 14	1 26	1 32	1 48	1 30	1 44	1 31	1 43	1 29	1 6	1 30	1 22
23	1 12	1 11	1 23	1 41	1 23	1 38	1 29	1 59	1 46	1 40	1 37	1 9	1 17	1 10
24	1 4	1 38	2 3	1 26	1 34	1 34	1 46	1 47	1 40	1 19	1 14	1 19	1 12	1 6
25	0 57	1 18	1 20	1 20	1 24	1 30	1 16	1 42	1 23	1 32	1 21	1 18	1 13	1 10
26	1 8	1 21	1 22	1 24	1 28	1 35	1 26	1 33	1 20	1 22	1 12	1 12	1 9	1 8
27	1 7	1 19	1 16	1 16	1 20	1 20	1 22	1 20	1 26	1 42	1 27	1 15	1 14	1 14
28	1 1	1 19	1 16	1 14	1 22	1 28	1 43	1 42	1 26	1 33	1 12	1 12	1 12	1 7
29	1 16	1 18	1 10	1 42	2 3	1 48	1 41	2 1	1 24	2 19	1 20	1 9	1 3	1 5
30	1 8	1 14	1 15	1 18	1 18	1 28	1 31	1 44	1 35	1 20	1 11	1 11	1 9	1 8
31	1 13	1 15	1 17	1 19	1 24	1 24	1 22	1 30	1 23	1 31	1 14	1 11	1 6	1 7
Mean -	1 11.4	1 17.8	1 22.6	1 24.4	1 26.9	1 26.8	1 46.3	1 49.7	1 42.7	1 33.5	1 23.3	1 16.5	1 13.1	1 10.8

Horizontal Intensity.

September 1882.

007000+ (C. G. S. Units).

$\phi = + 62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1														
2														
3														
4														
5	695 ↑	478 z	689 ↑	539 ?	439 ↑	693 ↓	734 ↓	649 z	616 z	660 z	651 ↑	681 ↓	775 ↓	764 ↓
6	724 z	720 z	589 ↑	459 ?	414 z	500 ↓	529 ↓	550 ↑	613 z	601 ↑	645 z	649 ?	691 z	691 ↓
7	660 ↑	685 ↓	267 ↓	586 z	668 ↑	656 ↓	705 ↓	703 z	697 z	689 z	678 z	689 z	689 z	707 z
8	474 ↓	436 ↑	414 z	716 ↑	687 z	681 ↑	710 z	714 z	695 z	679 ↑	691 ↑	683 z	689 z	687 z
9	837 z	837 z	839 z	835 z	841 z	837 z	841 z	1025 z	1101 ↑	1029 ↑	1015 ↓	678 z	683 z	658 z
10	567 ↑	574 ?	637 z	628 ↑	557 z	588 ?	593 ↓	616 ↓	628 z	632 ↑	635 ↓	628 z	624 z	616 ↓
11	651 ↓	647 z	630 z	631 z	588 ↓	603 z	592 z	603 ↓	607 z	609 z	516 ↓	597 ?	705 z	617 z
12	662 z	621 ↓	649 z	633 ↓	639 ↓	677 ↓	589 ↓	628 ↓	656 ↓	588 ↓	499 ?	649 ↑	730 ↓	672 z
13	344 z	599 ↑	643 ↑	618 z	647 ↓	570 ↑	578 ↓	630 ↓	599 ↑	601 ↑	550 ↑	641 ↓	693 z	757 ↓
14	677 ↓	484 ↑	586 ↓	689 z	628 ↓	610 ?	540 ↓	493 ↓	685 ↓	664 ?	653 ↓	653 ↓	678 ↑	689 ↑
15	326 ↑	601 ↑	584 ↓	533 ↓	576 ↓	611 z	653 ↓	697 z	681 z	600 z	645 z	651 ↑	654 ↓	654 ↓
16	653 z	649 z	649 z	626 z	616 z	657 ↓	654 ↓	649 ↓	646 z	653 z	657 z	630 z	638 z	636 z
17	653 ↑	677 z	654 z	633 ↓	595 z	625 ↑	676 ↓	660 z	616 z	610 z	674 z	634 z	633 z	639 z
18	663 z	649 z	660 z	626 z	648 z	654 z	658 ↓	603 ↓	594 ↑	591 z	607 z	651 ↑	605 ↓	597 z
19	666 z	656 z	666 z	668 ↑	664 z	681 ↑	599 z	671 z	645 z	635 ↓	639 z	633 z	643 z	643 z
20	631 z	632 ↓	643 ↑	645 z	557 ↓	621 ↓	638 z	641 z	660 z	664 z	647 ↓	645 z	633 z	643 z
21	624 ↑	630 ↑	672 ↑	691 ↑	670 z	668 z	666 z	664 z	643 ↑	647 ↓	645 z	633 z	643 z	645 z
22	570 ↓	578 ↓	653 z	651 ↓	647 z	630 z	639 z	651 z	645 z	641 z	639 z	654 z	649 z	639 ↓
23	677 z	668 z	660 z	626 z	561 ↑	379 ↓	333 ↓	424 ↓	614 ?	614 ↑	623 z	633 z	647 z	648 z
24	676 z	672 z	664 z	668 z	671 z	641 ↓	676 ↓	664 z	674 z	664 z	664 z	645 z	645 z	664 z
25	691 ↑	516 ↓	516 ↓	559 ↓	636 z	654 z	584 z	607 z	556 ?	610 z	643 z	641 z	597 z	716 z
26	497 ↓	523 ↓	614 z	633 ↓	628 ↑	663 z	664 z	664 z	664 z	664 z	664 z	647 z	634 z	685 ↓
27	618 z	584 ↓	599 z	599 z	536 ↓	500 ↓	607 ↑	607 ↑	662 ↓	674 ?	666 z	666 z	668 z	697 ↑
28	506 ↑	612 ?	643 z	632 z	588 ↑	628 z	656 ↑	635 ↓	649 z	653 z	639 z	624 z	622 ↓	630 z
29	599 ↑	440 ↓	403 ↓	465 ↓	517 ↓	484 z	592 ↓	660 ↑	641 z	643 z	641 z	643 z	643 z	641 z
30	622 ?	647 ↓	533 ↓	616 z	614 z	576 ↓	548 ↓	593 ↓	628 z	668 ↓	649 z	641 z	639 z	645 z
Mean	076115	6030	6054	6260	6117	6192	6194	6465	6570	6563	6457	6463	6653	6747

October 1882.

$\phi = + 62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	620 z	633 ↓	487 ↓	660 ↑	679 z	664 z	632 ↓	626 z	643 z	643 z	635 z	630 z	632 z	633 z
2	620 z	637 ↑	[> 7116]	476 ↑	913 ↓	802 ↓	594 ↓	687 ↓	814 ↓	697 ↓	[< 6000]	658 ?	653 ↓	679 ?
3	708 ↓	662 z	647 ↓	607 z	6 z	672 z	674 ↑	609 ↓	611 ?	643 z	643 z	643 z	643 ↑	644 z
4	570 ↓	463 ↓	537 ↓	411 ?	569 z	674 z	574 z	597 ↓	440 z	546 ↑	487 ↓	697 z	707 z	720 z
5	641 z	643 ↓	726 ↓	599 ↑	610 z	672 z	611 z	553 ?	536 ?	637 ?	581 z	523 ↓	560 ↑	693 ↓
6	611 z	463 z	550 ↓	229 ↓	188 z	396 ↑	678 ↓	745 ↓	440 ↓	569 ↓	693 ↓	687 z	705 z	697 ↓
7	672 ?	674 z	662 z	662 z	658 ?	610 z	645 ↓	691 ?	653 ↑	687 ↑	654 ↓	666 ↓	668 z	685 z
8	681 z	683 z	651 z	681 z	166 z	664 ↓	670 z	654 z	658 z	647 z	651 z	649 ↓	647 z	705 ↑
9	679 z	683 z	676 ?	641 ↓	660 z	670 z	574 z	614 z	641 z	653 z	653 ?	637 ↓	531 ↓	588 ↑
10	659 ↑	726 ↑	559 ↑	589 ↓	599 z	599 z	633 ↓	693 ↓	641 ↓	610 ↓	544 ?	661 ↓	669 z	670 z
11	669 ↑	670 z	596 ↑	654 ↓	576 z	616 ↓	639 ?	665 ↑	662 ↓	654 ↓	569 ↑	673 ↓	670 z	693 ↓
12	687 z	664 z	584 ↓	676 z	656 ↓	670 z	635 ?	661 ?	653 ↑	681 ↓	656 ↑	660 z	666 ↓	676 z
13	618 ↑	707 z	693 ?	678 z	679 z	635 z	589 ?	624 z	605 ↓	643 ?	647 z	645 z	656 z	668 z
14	656 ↓	628 ↑	580 ↓	519 ↓	607 z	643 ↓	586 ↓	616 ↓	616 ↓	616 ↓	567 z	660 z	679 z	660 z
15	493 ↓	504 ↓	654 ↓	746 ↑	439 ↓	372 ↓	203 ↓	315 ↓	489 ↑	654 ↓	641 z	687 z	676 z	676 z
16	416 ↓	420 ↑	607 z	624 z	745 ?	704 z	687 z	643 ↓	630 ↑	616 ↑	599 ↓	668 ↓	741 ↓	767 ↓
17	411 ↓	433 ↓	718 ?	701 z	666 ↓	633 ↓	681 ↓	689 ↓	696 ↓	685 ?	670 ?	683 ↓	651 ↓	676 ?
18	611 ↓	455 ↓	517 z	671 ↓	666 ?	666 ?	679 ↓	681 ?	662 ?	660 ?	653 ?	666 ?	668 ?	661 z
19	628 ↑	674 z	679 ↑	648 z	630 ↓	609 ↓	643 ↓	624 z	618 ↓	653 z	644 z	649 z	647 z	654 z
20	681 z	683 z	681 z	662 z	671 z	666 z	658 z	660 ↑	648 z	662 z	648 z	646 ?	674 z	666 z
21	676 z	666 z	671 z	664 z	674 z	663 z	676 z	674 z	670 z	668 ↓	660 z	638 z	664 z	666 z
22	660 z	628 ↑	681 ?	487 ↑	662 ↓	616 ↑	601 ↓	660 ↓	442 ↑	601 ↓	607 ↓	609 ?	781 ↑	802 ↑
23	593 ↓	681 ↓	448 ↑	599 ?	363 ↓	603 z	678 z	654 ↓	679 ?	664 ?	653 ?	664 z	649 z	676 z
24	570 ↑	491 ↓	684 z	641 ↓	641 ?	493 ↓	632 ↓	681 ?	490 z	687 z	679 ?	687 z	674 z	679 z
25	506 z	506 ↓	726 ↓	710 z	461 ↓	614 z	637 ?	610 ↑	668 ↑	651 ↓	666 ↓	681 ↓	695 ↓	701 z
26	609 ↑	683 z	638 z	664 z	599 ?	616 z	601 ↓	624 z	618 z	645 z	687 z	651 ?	707 z	678 z
27	683 z	614 z	660 z	660 z	683 z	664 z	651 ↓	624 z	630 z	610 z	665 ↓	666 ↑	691 ↓	697 z
28	676 z	681 z	693 z	660 z	570 z	113 ↓	403 ↓	499 ↑	645 z	611 z	645 z	699 ↑	745 ↓	818 z
29	676 z	390 ↓	267 ↓	641 ↑	699 ↓	683 ↓	537 ↓	649 ↓	691 ↓	605 ↓	660 ↓	679 ↓	734 ↓	753 ↓
30	464 ↓	337 z	605 z	589 ↑	595 ↓	638 z	646 ↓	666 ↑	656 ↓	647 ↓	658 ↑	681 z	681 z	695 z
31	588 ↓	390 ↓	588 ↓	626 z	577 ↓	678 z	678 z	681 z	683 z	670 z	664 z	668 z	687 z	685 z
Mean	075711	6076	6085	6037	6118	6103	6169	6330	6191	6409	6370	6598	6705	6895

62° 38' 52".

$\lambda = -115^\circ 43' 50'' = -7h. 42m. 55s.$ Local Mean Time (Bifilar Magnetometer).

September 1882.

1	2	3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.
75 ↓	761 ↓	679 z	863 ↓	695 ↓	722 ?	722 z	741 ?	542 ↓	500 ?	695 ?	728 z	664	883	412	471
91 z	691 ↓	683 ↓	701 z	733 z	707 z	716 ↓	685 z	695 ?	678 ?	582 ↓	654 ?	634	743	411	333
89 z	797 z	732 ↓	757 ↑	695 ?	712 z	674 ?	697 ↑	738 ?	697 z	601 ?	628 ↓	667	765	256	509
89 z	685 ↑	681 ↑	835 z	843 z	847 z	855 z	840 z	845 z	847 z	845 z	839 z	716	857	401	456
81 z	638 ↑	689 ↓	741 z	697 ↑	635 ?	607 z	630 z	635 z	643 z	637 ↓	639 z	775	1103	531	572
74 z	616 ↓	624 z	628 z	679 z	653 z	710 ?	730 ?	740 ?	649 ↓	493 ↓	409 ?	624	743	409	274
72 z	617 z	620 z	616 ↓	660 ↓	693 ↓	716 ↓	258 ↑	635 ↓	645 ↓	635 z	607 ?	612	726	258	468
70 z	674 ?	610 ↓	683 z	720 z	714 ↑	705 ↑	570 ?	662 ?	465 ↑	149 ?	457 ?	618	771	149	622
70 z	757 ↓	738 ↓	685 z	670 z	699 z	732 ↓	630 ?	635 ↓	641 ↓	591 ↓	653 ↑	631	763	344	419
70 z	689 ?	681 z	691 ↑	708 z	689 z	670 z	674 ?	670 z	525 ↓	612 ↓	388 ↓	628	708	386	322
70 z	636 z	662	683 ↓	689 z	658 z	626 z	651 z	656	626 z	628 ↓	626 z	628	697	326	371
70 z	674 z	648	680 z	651 ↑	681 ?	685 ?	685 ?	620 ↓	261 ↑	616 ↓	453 ↑	639	689	261	456
70 z	660 z	685 z	691 ↑	658 ?	651 z	649 z	656	660 z	660 z	656 z	660 z	647	691	595	098
70 z	691 ↓	637 z	653 z	663 ↑	685 ↓	666 z	689 z	679 ↓	668 z	668 z	666 z	646	693	588	105
70 z	697	660 z	663 z	671 z	679 ?	697 z	707 ↓	683 z	681 z	679 z	672 ↓	713	599	721	113
70 z	724 ↓	745 ↑	763 ↑	721 z	705 ↓	691 ↑	678 ↓	641 z	687 z	639 ↓	668	668	771	218	218
70 z	617 z	654 z	654 ↑	643 z	654 z	658 z	653 z	658 z	654 z	642 z	653	653	714	463	251
70 z	639 z	645 z	670 z	674 z	660 ↑	662 ?	691 ↓	708 ?	697 ↓	689 z	649	649	708	538	170
70 z	649 z	639 ↑	686 ↓	660 z	668 z	672 z	662 z	687 z	670 z	668 z	668 z	625	687	333	354
70 z	660 z	668 z	687 z	716 ↑	672 z	523 ↓	565 ↑	583	531 ↑	693 ↓	648	648	740	429	281
70 z	724 ?	695 z	726 ↑	693 z	664 z	691 z	557 ?	609 ↓	647 ↑	551 ↑	618	618	728	228	480
70 z	635 z	716 ↑	714 ↓	662 z	672 z	620 ↓	589 z	110 ?	628 ↑	591 ↓	611	611	724	-013	737
70 z	703 z	628 z	678 ↑	668 z	685 ↑	691 z	722 ↓	701 z	653 ?	383 ↑	640	640	724	311	413
70 z	641 z	628 z	676 z	660 ?	654 z	666 z	681 z	664 z	662 ↑	618 ↓	638	681	506	175	175
70 z	668 z	653 ↓	662 z	662 z	674 z	668 z	679 z	693 z	674 z	589 ↓	610	603	386	307	307
70 z	645 z	658 z	661 z	660 z	666 z	679 z	679 z	670 z	649 z	637 ↓	633	683	506	177	177
653	6727	6751	6928	6945	6870	6881	6531	6646	6239	6296	6103	076457	08103	06987	01116

62° 38' 52".

$\lambda = -115^\circ 43' 50'' = -7h. 42m. 55s.$

October 1882.

1	2	3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.
611 z	679 ?	641 z	651 z	654 z	656 z	691 z	698 z	683 z	614 ↓	565 ↓	495 z	632	695	444	251
654 z	679 ?	691 ↑	736 ↓	824 ↓	143 ?	628 ↓	561 ?	178 ↓	683	687	685 ?	667	883	-141	279
654 z	679 ?	689 ?	654 z	658 ↓	695 ↓	693 ?	712 ↓	645 ↓	582 ↑	610 z	470 ↓	649	749	470	279
654 z	679 ?	730 ↑	734 ↓	808 ?	767 ?	500 ↓	298 ↓	-004 ↓	491 ↓	612 ?	-143 z	578	724	342	882
654 z	679 ?	710 ↓	695 z	703 ↑	678 z	626 z	626 z	674 z	679 z	685 z	678 z	573	739	-136	895
654 z	679 ?	666 ↓	703 ↑	676 ↑	668 z	674 ?	691 z	679 z	678 ↑	679 ↓	683 z	670	705	609	96
654 z	679 ?	712 ↓	740 ?	679 ↑	685 ↑	693 ↓	695 z	687 ↓	693 ↓	691 z	683 z	677	743	637	106
654 z	679 ?	729 ?	721 ?	738 ?	761 ↓	714 z	722 z	712 ↓	683 z	593 ↓	472 ↓	679	779	390	389
654 z	679 ?	713 ↓	683 ?	724 ↓	731 ↑	685 ?	662 ↓	701 ↓	679	629	693 ↓	644	755	337	418
654 z	679 ?	722 z	672 z	703 ↓	742 ↑	722 ↓	714 ↓	644	695 ↓	714 ↓	681 z	646	727	306	381
654 z	679 ?	685 z	670 z	664 z	689 z	683 ↑	656 ?	679	668 ?	388 ↑	654	646	712	385	337
654 z	679 ?	666 z	670 z	674 ?	678 z	681 z	687 ↑	689 ↑	697 ↑	685 z	678 ↓	661	710	589	121
654 z	679 ?	716 ↓	716 ↑	767 ↓	718 ↓	612 ↓	714 ↓	611 z	677 ↓	303 ↓	185 ↓	610	767	185	484
654 z	679 ?	666 ↓	679 z	695 ?	743 ↓	707 ↓	699 z	699 z	710 ↑	660 ↓	534 ↑	525	753	393	450
654 z	679 ?	721 z	932 ↓	794 ↓	804 ↓	761 ↓	782 ↓	622 ↓	339 ↓	651 ↑	569 ↓	661	948	260	686
654 z	679 ?	740 ↓	726 ↑	720 ↑	716 ↓	747 ?	699 ?	689 z	699 z	614 ↓	521 ↓	660	747	411	336
654 z	679 ?	693 z	674 ?	678 ?	691 z	685 z	689 z	701 z	701 ?	678 ?	678 ?	659	706	449	277
654 z	679 ?	666 z	672 z	670 z	678 ?	678 ↓	678 z	685 ↓	685 ↑	683 z	683 z	660	689	602	84
654 z	679 ?	670 z	670 z	676 z	674 z	674 z	676 z	678 z	681 z	679 z	681 z	670	683	656	27
654 z	679 ?	670 z	681 z	685 z	699 ?	701 ?	701 ?	705 z	569	500 ↓	633 ↓	662	705	428	227
654 z	679 ?	784 ↓	660 ↑	781 ↑	803 ↑	747 ?	635 z	645 z	553 ↓	472 ↓	549 ↓	647	865	435	430
654 z	679 ?	676 ↑	685 z	672 z	670 z	689 ↑	676 ↓	553 ↓	623 ↓	679 ↓	540 ↓	586	693	-006	699
654 z	679 ?	689 ↑	699 z	672 z	676 z	699 ↑	730 ↓	658 ↓	192 ↓	281 ↓	610 ↓	613	743	37	711
654 z	679 ?	716 ↓	703 ↓	679 z	741 ↓	705 ↓	743 ↓	610 ↓	613 ↓	364 ↓	710 z	628	745	158	587
654 z	679 ?	707 z	703 ?	699 z	722 z	722 z	685 ↓	708	603 ↓	482 ↓	529 ↓	655	712	444	278
654 z	679 ?	691 ↓	700 ↓	767 ↓	714 ↓	726 ↓	679 ↓	270 ↓	351 ↓	528 ↓	624 ↓	641	799	270	516
654 z	679 ?	701 ↓	759 ↓	683 ↑	769 ↓	708 ↓	699 ↓	455 ↓	674 ?	572 ↑	610 ↓	628	828	92	236
654 z	679 ?	728 ↑	747 ↓	741 ↓	693 ?	703 ↓	703 ↓	693 ↓	578 ↓	712 ↓	647 ↓	701	769	-020	789
654 z	679 ?	681	670 ?	691 ↑	695 ↓	703 ↓	703 ↓	701 z	707 ↑	685 ↓	683 ↓	664	707	292	245
654 z	679 ?	685	679 z	695 z	718 z	716 ↓	732 ↓	703 ↓	703 ↓	708 ↓	670 ↓	645	734	385	419
6895		7003	7007	7081	7162	6917	6814	6139	5844	5974	5634	076386	07946	06857	01089

* Off scale at 3 a.m. and 11 a.m.

Horizontal Intensity.

November 1882.

0.07000 + (C. G. S. Units).

φ = +62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	639 ↑	680 ↓	578 ↓	633 ↑	645 ↑	584 ↓	337 ↑	484 ↓	633 ↑	678 ↓	658 ↑	651 ↑	683 ↓	676 ↑
2	708 ↑	676 ↑	685 ↓	514 ↓	718 ↑	712 ↓	681 ↑	701 ↓	683 ↑	676 ↑	663 ↓	679 ↑	683 ↓	653 ↓
3	685 ↑	687 ↑	705 ↓	697 ↑	624 ↑	561 ↓	557 ↑	699 ↓	674 ↑	664 ↑	660 ↓	662 ↓	677 ↓	681 ↓
4	681 ↑	691 ↑	668 ↓	662 ↓	653 ↓	668 ↓	654 ↓	653 ↓	662 ↓	662 ↑	656 ↑	658 ↑	670 ↑	672 ↑
5	703 ↑	710 ↑	685 ↓	677 ↓	693 ↓	677 ↓	676 ↓	668 ↓	683 ↑	679 ↓	673 ↓	658 ↓	769 ↓	641 ↑
6	699 ↑	677 ↓	666 ↓	691 ↓	668 ↓	681 ↑	679 ↓	693 ↓	673 ↓	656 ↓	708 ↓	684 ↓	674 ↑	666 ↓
7	612 ↑	588 ↓	649 ↑	626 ↑	691 ↓	557 ↑	546 ↓	278 ↓	390 ↓	589 ↓	705 ↑	679 ↓	710 ↑	728 ↓
8	601 ↑	597 ↓	484 ↓	586 ↑	384 ↓	487 ↑	597 ↓	664 ↓	670 ↓	666 ↓	666 ↓	668 ↓	699 ↓	706 ↓
9	677 ↑	652 ↓	570 ↓	516 ↓	287 ↓	370 ↓	429 ↓	516 ↑	482 ↓	455 ↓	412 ↓	599 ↑	643 ↓	687 ↓
10	681 ↑	681 ↑	672 ↓	666 ↓	666 ↓	647 ↑	618 ↓	654 ↓	660 ↓	666 ↑	666 ↑	666 ↑	667 ↓	683 ↓
11	679 ↓	679 ↓	679 ↓	676 ↓	656 ↓	660 ↓	626 ↓	664 ↓	643 ↓	645 ↓	649 ↓	651 ↓	647 ↓	647 ↓
12	538 ↑	676 ↓	440 ↓	649 ↓	245 ↓	-002 ↓	491 ↓	697 ↓	260 ↓	734 ↓	704 ↓	693 ↓	757 ↓	800 ↓
13	614 ↑	216 ↓	112 ↓	504 ↓	219 ↓	388 ↓	628 ↓	474 ↓	388 ↓	333 ↓	693 ↑	609 ↓	769 ↓	749 ↓
14	491 ↑	626 ↓	521 ↓	534 ↓	603 ↓	553 ↓	-381 ↓	110 ↓	298 ↓	296 ↓	467 ↓	643 ↓	668 ↓	586 ↓
15	495 ↑	647 ↓	480 ↓	601 ↓	681 ↓	533 ↓	538 ↓	580 ↓	570 ↓	559 ↓	647 ↓	662 ↓	678 ↓	691 ↓
16	508 ↓	601 ↓	599 ↓	853 ↓	714 ↓	703 ↓	687 ↓	679 ↓	689 ↓	664 ↓	672 ↓	643 ↓	649 ↓	652 ↓
17	619 ↓	457 ↓	[1080]	429 ↑	337 ↓	457 ↓	570 ↓	728 ↓	1053 ↓	679 ↓	-108 ↓	439 ↓	169 ↓	681 ↓
18	331 ↓	589 ↓	-120 ↓	635 ↓	720 ↓	732 ↓	513 ↓	710 ↓	625 ↓	647 ↓	510 ↓	628 ↓	736 ↓	570 ↓
19	403 ↓	572 ↓	437 ↑	180 ↓	269 ↓	[27080]	293 ↓	-051 ↓	597 ↓	612 ↓	674 ↓	695 ↓	710 ↓	578 ↓
20	[1080]	-246 ↓	207 ↑	-102 ↓	196 ↓	855 ↓	716 ↓	855 ↓	966 ↓	903 ↓	603 ↓	720 ↓	628 ↓	804 ↓
21	685 ↑	674 ↑	666 ↓	618 ↓	550 ↓	327 ↓	679 ↓	375 ↓	370 ↓	582 ↓	687 ↓	664 ↓	643 ↓	603 ↓
22	605 ↓	602 ↓	580 ↓	610 ↓	641 ↓	649 ↓	645 ↓	45 ↓	624 ↓	637 ↓	647 ↓	645 ↓	649 ↓	664 ↓
23	599 ↓	614 ↓	340 ↓	616 ↓	459 ↓	353 ↓	116 ↓	490 ↓	570 ↓	601 ↓	639 ↓	643 ↓	653 ↓	672 ↓
24	500 ↓	407 ↓	551 ↓	677 ↓	626 ↑	601 ↓	641 ↓	283 ↓	630 ↓	653 ↓	683 ↓	687 ↑	668 ↓	676 ↓
25	664 ↓	533 ↓	626 ↓	586 ↓	305 ↓	364 ↓	393 ↓	322 ↓	351 ↓	954 ↓	440 ↓	588 ↓	622 ↓	651 ↓
26	624 ↓	658 ↑	639 ↓	639 ↓	548 ↓	499 ↓	440 ↓	467 ↓	603 ↑	626 ↓	649 ↓	666 ↓	652 ↓	759 ↓
27	653 ↓	618 ↓	478 ↓	540 ↓	651 ↓	628 ↓	599 ↓	580 ↓	668 ↓	626 ↓	628 ↓	639 ↓	654 ↓	712 ↓
28	416 ↓	516 ↓	591 ↓	620 ↓	605 ↓	538 ↓	684 ↓	697 ↓	645 ↓	662 ↓	611 ↓	681 ↓	656 ↓	664 ↓
29	676 ↓	652 ↓	664 ↓	666 ↓	641 ↓	664 ↓	662 ↓	676 ↓	670 ↓	676 ↓	670 ↓	626 ↓	633 ↓	662 ↓
30	555 ↓	664 ↓	767 ↓	689 ↓	649 ↓	602 ↓	602 ↓	643 ↓	691 ↓	670 ↓	670 ↓	679 ↓	664 ↓	672 ↓
Mean	0.5743	5810	6420	5836	5451	5527	5113	5644	6040	6160	6142	6511	6607	6755

December 1882.

φ = +62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	623 ↓	632 ↑	645 ↑	647 ↓	559 ↓	533 ↑	595 ↑	633 ↓	647 ↑	664 ↑	660 ↓	649 ↑	651 ↑	645 ↓
2	654 ↑	664 ↓	653 ↓	649 ↓	641 ↓	617 ↑	628 ↑	647 ↓	630 ↓	647 ↓	653 ↓	643 ↓	658 ↑	672 ↓
3	685 ↑	668 ↓	633 ↓	649 ↓	643 ↓	639 ↓	643 ↓	653 ↓	658 ↑	656 ↓	701 ↓	672 ↓	647 ↓	662 ↓
4	548 ↑	593 ↑	697 ↓	578 ↓	844 ↓	557 ↓	612 ↓	480 ↓	247 ↓	429 ↑	676 ↓	677 ↓	647 ↓	724 ↓
5	662 ↑	676 ↑	643 ↑	605 ↓	635 ↓	610 ↓	643 ↓	658 ↓	662 ↓	628 ↓	616 ↓	656 ↓	654 ↓	677 ↓
6	576 ↑	580 ↑	656 ↑	658 ↑	662 ↑	660 ↓	651 ↑	679 ↓	651 ↓	685 ↑	653 ↑	670 ↓	677 ↓	677 ↓
7	672 ↓	678 ↓	656 ↓	660 ↓	670 ↓	662 ↓	612 ↓	635 ↓	633 ↓	614 ↓	610 ↓	687 ↓	656 ↓	689 ↓
8	676 ↓	666 ↓	658 ↓	662 ↓	610 ↓	656 ↓	672 ↓	670 ↓	670 ↓	662 ↓	662 ↓	662 ↓	626 ↓	628 ↓
9	666 ↓	697 ↓	656 ↓	656 ↓	651 ↓	656 ↑	620 ↓	591 ↓	480 ↓	516 ↓	510 ↓	618 ↓	718 ↓	687 ↓
10	691 ↑	652 ↓	664 ↓	637 ↓	620 ↓	650 ↓	666 ↓	666 ↓	670 ↓	668 ↓	638 ↑	656 ↓	656 ↓	664 ↓
11	459 ↑	335 ↓	626 ↓	542 ↓	586 ↓	660 ↓	620 ↓	658 ↓	689 ↓	689 ↓	714 ↓	618 ↑	611 ↓	734 ↓
12	666 ↑	626 ↓	401 ↑	381 ↓	687 ↑	677 ↑	628 ↑	578 ↑	593 ↓	572 ↓	624 ↓	683 ↓	676 ↓	654 ↑
13	628 ↑	689 ↓	666 ↓	637 ↓	593 ↑	614 ↓	666 ↓	672 ↓	679 ↓	616 ↓	668 ↓	611 ↓	664 ↓	670 ↑
14	653 ↓	654 ↑	672 ↓	668 ↓	626 ↓	631 ↓	668 ↓	685 ↓	677 ↓	677 ↓	665 ↓	664 ↑	662 ↓	666 ↑
15	668 ↓	668 ↓	681 ↓	662 ↓	681 ↓	658 ↓	685 ↓	672 ↓	630 ↓	668 ↓	662 ↓	664 ↑	649 ↓	591 ↓
16	315 ↑	240 ↓	525 ↓	605 ↓	626 ↓	664 ↓	666 ↓	630 ↓	574 ↓	504 ↓	609 ↓	695 ↓	714 ↓	683 ↓
17	654 ↑	647 ↓	633 ↓	639 ↓	628 ↓	609 ↓	677 ↓	660 ↓	662 ↓	628 ↓	633 ↓	616 ↓	626 ↓	660 ↓
18	676 ↑	676 ↓	662 ↓	664 ↓	664 ↓	662 ↓	662 ↓	668 ↓	668 ↓	668 ↓	670 ↓	660 ↓	654 ↓	656 ↓
19	455 ↓	478 ↓	645 ↓	633 ↓	680 ↑	670 ↓	651 ↓	664 ↓	666 ↓	674 ↓	667 ↓	664 ↓	641 ↓	662 ↓
20	565 ↑	531 ↑	565 ↓	570 ↓	497 ↓	424 ↓	099 ↓	121 ↓	544 ↓	788 ↓	741 ↓	607 ↓	714 ↓	716 ↓
21	126 ↑	296 ↓	544 ↓	637 ↑	612 ↓	394 ↓	467 ↓	589 ↓	674 ↓	588 ↓	670 ↓	703 ↓	610 ↓	726 ↓
22	422 ↓	589 ↑	313 ↓	533 ↓	540 ↓	407 ↓	597 ↓	658 ↓	626 ↓	668 ↓	666 ↓	660 ↑	647 ↓	633 ↓
23	597 ↓	610 ↓	672 ↓	440 ↓	630 ↓	622 ↓	470 ↓	574 ↓	591 ↓	666 ↓	666 ↓	695 ↓	660 ↓	637 ↓
24	489 ↓	184 ↓	603 ↓	653 ↓	469 ↓	318 ↑	368 ↓	478 ↓	635 ↓	645 ↓	718 ↓	631 ↓	651 ↓	651 ↓
25	480 ↓	637 ↓	593 ↓	531 ↓	351 ↓	588 ↑	628 ↑	643 ↓	654 ↓	645 ↓	662 ↓	654 ↓	674 ↓	674 ↓
26	666 ↑	511 ↓	639 ↑	591 ↓	631 ↓	635 ↓	614 ↓	635 ↓	666 ↓	668 ↓	656 ↓	685 ↓	649 ↓	653 ↓
27	674 ↑	664 ↓	668 ↓	683 ↑	698 ↓	679 ↓	679 ↓	672 ↓	679 ↓	674 ↓	676 ↓	672 ↓	726 ↓	664 ↑
28	691 ↓	651 ↓	635 ↓	370 ↓	435 ↓	544 ↓	706 ↓	695 ↓	672 ↓	674 ↓	654 ↓	666 ↓	662 ↓	687 ↓
29	418 ↓	597 ↓	645 ↓	326 ↓	433 ↓	444 ↓	495 ↓	591 ↓	582 ↓	595 ↓	666 ↓	775 ↓	732 ↓	660 ↓
30	672 ↓	658 ↓	649 ↑	480 ↓	521 ↓	603 ↓	572 ↓	674 ↓	612 ↑	521 ↓	533 ↓	593 ↓	677 ↓	677 ↓
31	647 ↑	679 ↑	654 ↓	569 ↓	381 ↑	474 ↓	570 ↓	620 ↓	647 ↑	641 ↓	578 ↓	689 ↓	628 ↓	699 ↓
Mean	0.57839	5861	6166	5893	5927	5957	5969	6142	6146	6371	6530	6687	6625	6742

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$ Local Mean Time (Bifilar Magnetometer).

November 1882.

$2^{\circ} 38' 52''.$

1	2	3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.
676 ↑	710 ↑	705 ↓	691 =	701 ↓	703 ↓	697 ↓	703 =	660 ↓	668 ?	644	714	337	377		
653 ↓	697 ↓	755 ↑	736 ?	761 ↓	763 =	697 =	780 ↓	726 ↓	668 ?	694	891	394	387		
681 ↓	683 ↓	685 =	716 ↓	705 ↓	693 ↓	685 ↓	691 ?	685 ↓	697 ?	681	734	338	196		
672 ?	685 =	699 ↓	699	693 ↓	695 ↑	712 =	716 =	714 ?	761 ↓	683	775	652	132		
641 ?	649 ↓	700 ↓	784 ?	755 ↓	845 ↓	773 ↑	741 ↑	734 ↑	720 =	710	848	635	210		
666 =	689 ↓	722 ↓	738 ?	691 ↓	687 ?	712 ↓	635 =	734 ?	761 ?	688	761	635	126		
728 ↓	706 =	718 ↓	689 ?	697 =	689 ↓	706 =	612 ↓	491 ↓	495 ↑	618	747	276	471		
706 ↓	720 ↓	708 ↓	720 =	730 =	782 ↑	751 ↓	755 ↑	641 =	561 ↓	656	782	461	323		
687 ↓	716 ↓	672 ↓	677 ↓	685 ↓	670 ↑	714 =	693 ↓	681 =	676 =	592	761	232	539		
683 ↓	672 =	699 ↓	708 ↓	670 =	679 =	674 =	674 =	670 =	677 =	670	712	616	96		
647 ↓	670 ?	757 ↓	806 ↓	751 ?	687 ↑	714 ?	681 ↓	-332 ↓	493 ↓	626	806	-332	1,138		
800 ↓	635 ↓	593 ↓	557 ↓	536 ↓	605 ↓	679 ↓	392 ↓	470 ↓	398 ↓	563 ↓	550	802	-949	851	
749 ↓	555 ↓	697 ↓	705 ↓	790 ↓	755 ↓	603 ↓	557 ↓	664 ↓	493 ↓	243 ↓	504	820	-935	855	
886 ↓	712 ↓	1047 ↓	934 ↓	1091 ↓	736 ↓	928 ↓	806 ↓	643 ↓	712 ↓	628 ↓	595	1001	-151	1142	
691 ↓	670 ↓	703 ↓	763 ↓	740 ↓	724 ↓	741 ↓	736 ↓	691 ↓	616 ↓	616 ↓	728	442	495	373	
632 ↓	693 ↓	810 ↓	782 ↓	792 ↓	745 ↓	628 ↓	730 ↓	685 ↓	597 ↓	668 ↓	685	920	457	493	
681 ↓	538 ↓	450 ↓	216 ↓	144 ↓	173 ↓	191 ↓	322 ↓	474 ↓	487 ↓	424 ↓	496	1107	-974*	2081	
570 ↓	531 ↓	453 ↓	749 ↓	519 ↓	425 ↓	546 ↓	618 ↓	557 ↓	576 ↓	561 ↓	823	-129	953		
578 ↓	649 ↓	641 ↓	388 ↓	283 ↓	137 ↓	235 ↓	189 ↓	-902 ↓	101 ↓	151 ↓	373	-667*	1428		
804 ↓	681 ↓	741 ↓	745 ↓	743 ↓	899 ↓	365 ↓	677 ↓	528 ↓	564 ↓	697 ↓	588	1039	-834*	1873	
603 ↓	705 ↓	666 ↓	561 ↓	653 ↓	685 ↓	649 ?	668 =	580 =	429 ↓	516 ↓	500	706	263	443	
662 ↓	681 ↓	649 ↓	674 ↓	683 ↓	664 ↓	689 ↓	614 ↓	574 ↓	570 ↓	614 ↓	336	726	570	156	
677 ↓	656 ↓	676 ↓	693 ↓	676 ↓	672 ↓	681 ↓	368 ↓	593 ↓	469 ↓	569	693	636	252	44	
676 ↓	812 ↓	796 ↓	814 ↓	726 ↓	732 ↓	649 ↓	591 ↓	699 ↓	653 ↓	655	812	359	473		
651 ↓	786 ↓	805 ↓	837 ↓	741 ↓	683 ↓	689 ↓	321 ↓	689 ↓	321 ↓	695	594	1035	258	777	
759 ↓	732 ↓	738 ↓	670 ↓	683 ↓	710 ↓	639 ↓	734 ↓	693 ↓	664 ↓	394 ↓	629	767	254	513	
693 ?	693 ?	662 ↑	707 ↑	699 ?	703 ?	707 ?	685 ?	591 ?	578 ↓	641	716	459	257		
668 =	664 ↓	679 ↓	705 ↓	691 ↓	733 ↓	763 ↓	745 ↓	743 ↓	693 ↓	654	765	373	392		
668 =	672 ↓	683 ↓	676 ↓	679 ↓	689 ↓	687 ↓	581 ↓	581 ↓	512 ↓	660	699	370	329		
691 ↑	740 =	703 ↓	691 ↓	703 ↓	676 ↓	654 ↓	656 ↓	647 ↓	666 ↓	670	781	598	273		
6738	6885	6985	6991	6999	6286	6509	6247	5631	5822	076159	08107	06026	02081		

$2^{\circ} 38' 52''.$

1	2	3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.
645 ↓	664 =	740 ↑	745 ↑	729 ↓	691 ↑	707 ↑	697 ↑	681 =	674 ↓	661	761	533	218		
672 ↓	685 ?	685 ↑	693 ↓	695 ↑	718 ↑	749 ↓	731 ↓	779 ↓	697 ↓	673	782	626	156		
662 ↓	681 ?	689 ↓	703 ↓	730 ↓	745 ↓	749 ↓	718 ↓	681 ?	536 ↓	674	782	497	375		
724 ↓	713 ↓	689 ↓	683 ↓	697 ↓	677 ↓	681 ↓	679 ↓	679 ↓	679 ↓	616	752	244	516		
677 ↓	757 ↓	703 ↓	681 ↓	670 ↓	685 ↓	679 ↓	672 ↓	672 ↓	591 ↓	538	633	208	160		
677 ↓	699 ↓	687 ↓	687 ↓	687 ↓	710 ↓	710 ↓	705 ↓	676 ↓	670 ↓	668	710	168	168		
689 ↓	659 ↓	677 ↓	681 ↓	681 ↓	676 ↓	676 ↓	674 ↓	676 ↓	676 ↓	671 ↓	662	184	610		
658 ↓	664 ↓	662 ↓	666 ↓	668 ↓	674 ↓	682 ↓	714 ↓	640 ↓	718 ↓	658	618	437	281		
687 ↓	761 ↓	691 ↓	691 ↓	769 ↓	718 ↓	689 ↓	714 ↓	710 ↓	712 ↓	695 ↓	709	459	310		
664 ↓	668 ↓	678 ↓	674 ↓	681 ↓	685 ↓	708 ↓	681 ↓	538 ↓	637 ↓	663	714	538	176		
734 ↓	706 ↓	804 ↓	753 ↓	738 ↓	714 ↓	703 ↓	685 ↓	612 ↓	549 ↓	645 ↓	637	853	355	518	
634 ↓	677 ↓	693 ↓	693 ↓	724 ↓	710 ↓	695 ↓	703 ↓	672 ↓	595 ↓	638	726	397	419		
670 ↓	677 ↓	693 ↓	695 ↓	681 ↓	689 ↓	681 ↓	685 ↓	677 ↓	676 ↓	669	699	591	106		
666 ↓	679 ↓	683 ↓	687 ↓	695 ↓	697 ↓	699 ↓	685 ↓	679 ↓	679 ↓	687	672	624	75		
591 ↓	670 ↓	1012 ↓	950 ↓	710 ↓	679 ↓	923 ↓	938 ↓	820 ↓	704 ↓	700	717	200	591		
683 ↓	695 ↓	677 ↓	708 ↓	670 ↓	703 ↓	738 ↓	691 ↓	718 ↓	625 ↓	625	743	182	561		
660 ↓	654 ↓	674 ↓	691 ↓	689 ↓	726 ↓	729 ↓	788 ↓	706 ↓	685 ↓	679 ↓	673	601	191		
656 ↓	679 ↓	728 ↓	724 ↓	720 ↓	676 ↓	570 ↓	288 ↓	628 ↓	542 ↓	640	792	297	536		
662 ↓	628 ↓	660 ↓	668 ↓	666 ↓	676 ↓	716 ↓	712 ↓	668 ↓	506 ↓	646	739	260	476		
716 ↓	712 ↓	553 ↓	550 ↓	601 ↓	388 ↓	548 ↓	467 ↓	595 ↓	-365 ↓	487	788	-212	1000		
726 ↓	683 ↓	681 ↓	728 ↓	689 ↓	691 ↓	684 ↓	628 ↓	850 ↓	610 ↓	698	800	112	678		
633 ↓	708 ↓	701 ↓	718 ↓	720 ↓	693 ↓	705 ↓	714 ↓	649 ↓	591 ↓	617	728	415	415		
637 ↓	634 ↓	672 ↓	730 ↓	681 ↓	679 ↓	681 ↓	670 ↓	685 ↓	666 ↓	544 ↓	743	433	310		
651 ↓	666 ↓	679 ↓	679 ↓	674 ↓	708 ↓	701 ↓	683 ↓	684 ↓	664 ↓	576	728	181	544		
674 ↓	679 ↓	672 ↓	674 ↓	666 ↓	679 ↓	674 ↓	674 ↓	679 ↓	657 ↓	666	611	344	344		
653 ↓	664 ↓	705 ↓	687 ↓	716 ↓	718 ↓	745 ↓	710 ↓	761 ↓	790 ↓	689	670	599	288		
664 ↓	681 ↓	703 ↓	714 ↓	755 ↓	703 ↓	685 ↓	677 ↓	685 ↓	637 ↓	679 ↓	764	637	132		
687 ↓	687 ↓	692 ↓	714 ↓	714 ↓	721 ↓	689 ↓	895 ↓	771 ↓	706 ↓	489 ↓	665	805	392	593	
660 ↓	693 ↓	767 ↓	730 ↓	718 ↓	701 ↓	719 ↓	718 ↓	726 ↓	695 ↓	631	631	430	454		
677 ↓	798 ↓	721 ↓	710 ↓	708 ↓	677 ↓	720 ↓	701 ↓	793 ↓	649 ↓	705 ↓	654	298	448	359	
699 ↓	736 ↓	738 ↓	721 ↓	716 ↓	695 ↓	733 ↓	218 ↓	687 ↓	714 ↓	701 ↓	654	257	381	370	
6915	7016	7041	6984	6903	7038	7039	6853	6334	5996	076456	08091	06788	01303		

* November 17. Off Scale at 3 a.m.

" " 19. " 6 a.m.

" " 20. " 1 a.m.

December 1882.

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$

Horizontal Intensity.

January 1883.

007000+ (C. G. S. Units).

$\phi = + 42^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	653	649	650	657	653	658	661	670	660	681	645	649	660	681
2	663	654	658	661	659	668	663	666	667	666	666	666	666	666
3	663	659	656	670	664	663	669	660	666	666	666	666	666	666
4	660	649	656	688	666	666	669	661	662	668	664	664	666	666
5	658	654	658	663	659	678	679	672	666	666	662	666	666	666
6	660	643	650	646	689	678	671	663	660	674	663	666	666	666
7	676	659	650	678	671	670	674	652	655	673	663	666	666	666
8	664	653	643	663	662	669	657	661	664	666	666	666	666	666
9	631	669	665	669	659	669	642	663	663	649	666	666	666	666
10	650	662	662	666	659	666	662	666	668	661	668	666	666	666
11	652	668	670	666	662	666	662	666	666	666	666	666	666	666
12	650	667	666	666	666	666	666	666	666	666	666	666	666	666
13	656	666	668	666	668	666	666	666	666	666	666	666	666	666
14	656	661	661	668	661	664	661	661	666	664	666	666	666	666
15	657	654	664	661	661	666	661	661	666	666	666	666	666	666
16	663	642	664	667	666	666	661	661	666	666	666	666	666	666
17	658	642	668	668	668	666	666	666	666	666	666	666	666	666
18	652	674	643	670	667	666	661	666	666	666	666	666	666	666
19	646	662	642	656	666	666	666	666	666	666	666	666	666	666
20	643	661	654	663	663	666	666	666	666	666	666	666	666	666
21	688	664	670	642	666	666	666	666	666	666	666	666	666	666
22	666	644	662	674	663	666	661	661	666	666	666	666	666	666
23	674	669	653	661	661	666	661	661	666	666	666	666	666	666
24	669	668	662	666	664	666	664	663	666	666	666	666	666	666
25	659	654	667	661	666	666	669	669	666	666	666	666	666	666
26	663	669	663	666	668	666	666	666	666	666	666	666	666	666
27	676	669	666	666	666	666	666	666	666	666	666	666	666	666
28	662	668	662	666	666	666	666	666	666	666	666	666	666	666
29	664	669	666	666	666	666	666	666	666	666	666	666	666	666
30	664	669	666	666	666	666	666	666	666	666	666	666	666	666
Mean	663.21	664.8	669.0	677.4	684.8	675.3	683.8	686.6	690.3	683.1	673.1	649.1	661.0	676.6

February 1883.

$\phi = + 42^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	664	668	642	666	649	658	666	668	669	642	667	649	652	684
2	661	651	668	666	666	666	666	666	666	666	666	666	666	666
3	657	651	669	666	666	666	666	666	666	666	666	666	666	666
4	666	664	663	669	648	666	666	666	666	666	666	666	666	666
5	666	666	666	666	666	666	666	666	666	666	666	666	666	666
6	667	666	666	666	666	666	666	666	666	666	666	666	666	666
7	668	661	668	666	666	666	666	666	666	666	666	666	666	666
8	661	666	666	666	666	666	666	666	666	666	666	666	666	666
9	668	666	662	666	666	666	666	666	666	666	666	666	666	666
10	667	666	666	666	666	666	666	666	666	666	666	666	666	666
11	666	666	666	666	666	666	666	666	666	666	666	666	666	666
12	666	666	666	666	666	666	666	666	666	666	666	666	666	666
13	666	666	666	666	666	666	666	666	666	666	666	666	666	666
14	666	666	666	666	666	666	666	666	666	666	666	666	666	666
15	666	666	666	666	666	666	666	666	666	666	666	666	666	666
16	666	666	666	666	666	666	666	666	666	666	666	666	666	666
17	666	666	666	666	666	666	666	666	666	666	666	666	666	666
18	666	666	666	666	666	666	666	666	666	666	666	666	666	666
19	666	666	666	666	666	666	666	666	666	666	666	666	666	666
20	666	666	666	666	666	666	666	666	666	666	666	666	666	666
21	666	666	666	666	666	666	666	666	666	666	666	666	666	666
22	666	666	666	666	666	666	666	666	666	666	666	666	666	666
23	666	666	666	666	666	666	666	666	666	666	666	666	666	666
24	666	666	666	666	666	666	666	666	666	666	666	666	666	666
25	666	666	666	666	666	666	666	666	666	666	666	666	666	666
26	666	666	666	666	666	666	666	666	666	666	666	666	666	666
27	666	666	666	666	666	666	666	666	666	666	666	666	666	666
28	666	666	666	666	666	666	666	666	666	666	666	666	666	666
Mean	665.52	665.0	666.8	667.7	666.4	666.2	667.0	668.8	640.1	667.7	667.7	668.3	666.6	677.5

+ 62° 38' 52".

λ = - 115° 43' 50" = - 7h. 42m. 55s. Local Mean Time (Bifilar Magnetometer).

January 1883.

1	2
660	683
635	676
662	638
638	662
633	674
683	681
620	749
650	662
650	649
653	684
666	634
662	638
643	647
670	647
637	639
644	646
641	626
693	645
631	643
660	660
668	660
633	674
662	662
649	666
703	638
738	730
633	810
673	664
738	666
630	644
662	678
649	664
6610	6706

3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.
668	660	666	687	710	705	708	705	689	678	678	716	435	581
634	660	676	676	679	672	670	672	664	649	649	694	508	187
634	674	668	662	662	674	670	674	670	648	648	674	470	204
653	664	670	693	705	775	734	687	685	559	602	782	544	438
691	714	733	747	794	697	740	736	681	639	690	794	612	182
699	701	699	681	687	708	712	762	759	689	64	780	97	683
797	714	695	753	714	741	683	538	399	645	573	828	191	637
664	714	685	693	707	726	722	757	697	695	644	759	191	568
749	679	734	675	676	691	697	708	695	714	654	749	420	329
718	736	705	708	788	771	732	672	664	668	685	788	624	664
662	668	666	668	668	670	681	689	693	701	668	718	651	167
668	672	670	670	673	678	676	674	674	676	663	710	609	101
660	685	663	673	679	664	645	660	672	664	651	703	463	230
679	670	681	676	673	689	681	679	668	672	661	689	610	79
654	668	678	695	701	687	670	662	639	551	632	701	442	259
666	678	672	703	674	691	703	634	357	302	633	706	444	262
687	686	672	687	687	687	672	483	612	647	627	508	267	459
704	681	679	699	672	652	674	668	666	647	647	725	171	601
648	678	670	681	679	672	626	662	630	635	629	695	493	292
676	681	705	695	716	747	670	738	701	733	607	775	377	598
689	672	676	689	681	676	674	681	678	676	621	699	313	384
674	633	679	679	666	672	664	679	681	670	667	667	335	262
631	679	670	670	664	678	674	676	681	681	637	684	411	274
612	757	718	721	714	693	689	689	678	647	668	713	599	174
681	678	674	714	714	710	329	601	712	695	604	712	347	453
734	708	703	719	796	761	732	691	685	632	632	811	7	834
697	718	736	769	870	796	827	786	799	720	668	913	368	543
666	726	708	682	794	789	691	664	664	616	674	808	616	292
679	674	676	678	679	701	689	687	674	683	648	705	493	246
656	693	689	722	657	714	738	697	648	386	662	743	329	382
662	724	714	712	687	666	718	683	678	664	655	724	446	278
6779	6893	6884	6970	7023	7068	6931	6809	6664	6537	*076433	*07913	*07007	*00906

62 38' 52".

λ = - 115° 43' 50" = - 7h. 42m. 55s.

February 1883.

1	2
610	384
649	738
632	718
759	681
672	685
603	681
660	685
662	674
645	672
658	664
668	666
660	672
668	691
679	706
648	662
664	662
671	689
668	649
666	660
677	683
677	674
732	745
664	706
598	697
683	679
614	613
601	790
737	734
666	6775

3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.
734	808	738	749	340	820	741	670	649	523	622	824	67	757
705	806	835	736	691	708	703	643	637	687	511	877	-312	1259
741	730	697	683	729	616	775	769	674	109	626	777	388	689
678	697	755	718	759	718	753	612	724	699	644	766	384	384
703	711	718	704	710	717	734	790	714	637	667	800	302	498
660	679	666	683	697	678	713	732	747	676	616	747	171	576
664	678	682	678	685	689	681	694	716	693	672	716	605	111
678	681	682	692	691	691	691	692	695	674	601	676	526	111
664	685	735	743	747	818	751	755	749	711	692	830	637	183
668	672	672	674	674	678	679	683	674	630	661	697	576	121
670	670	674	670	676	678	678	678	676	691	661	691	581	107
681	678	678	676	678	678	678	678	676	678	662	683	610	73
674	672	672	676	678	689	683	695	701	689	671	703	593	106
664	681	708	716	734	689	687	670	676	684	631	714	315	419
695	691	734	706	747	612	697	633	612	612	612	762	603	148
662	660	666	660	672	666	677	683	647	335	635	683	118	365
713	724	733	684	681	644	677	681	681	674	629	725	250	375
668	676	660	681	703	693	306	741	697	683	671	751	500	231
658	685	676	676	685	683	681	685	685	681	671	703	651	52
664	672	681	670	672	672	679	681	681	605	698	716	216	912
743	719	728	800	736	784	693	741	728	647	647	806	157	349
743	808	644	593	796	769	794	745	463	183	610	812	470	1282
718	736	701	738	699	755	718	668	607	733	638	811	189	560
712	813	801	578	636	506	582	362	391	380	513	881	-275	1156
689	689	703	705	731	624	741	478	626	230	607	750	128	631
718	693	743	738	739	763	743	718	693	576	618	893	301	371
830	874	918	805	830	768	768	623	616	478	602	918	24	934
710	714	740	732	804	810	660	502	493	614	570	820	-016	836
6961	7165	7182	7026	6867	7058	6913	6717	6245	5665	*076134	*07918	*09230	*01418

Horizontal Intensity.

March 1885.

0.07000 + (C. G. S. Units).

$\phi = + 62^{\circ} 38' 52''$

Days.	1	2	3	4	5	6	7	8	9	10	11	Mean.	1	2
1	427 ↑	457 ↑	604 ↓	474 ↓	464 ↑	392 ↑	570 ↓	327 ↓	485 ↑	568 ↑	504 ↓	643 ↓	630 ↓	695 ↑
2	430 ↓	551 ↓	637 ↓	534 ↓	561 ↑	291 ↓	334 ↓	359 ↓	340 ↑	551 ↑	638 ↓	620 ↑	712 ↓	720 ↑
3	635 ↑	491 ↑	641 ↓	646 ↑	611 ↑	612 ↓	611 ↓	304 ↓	522 ↓	699 ↓	637 ↓	687 ↓	681 ↓	708 ↓
4	627 ↑	514 ↑	633 ↓	655 ↓	645 ↓	608 ↓	605 ↓	614 ↓	626 ↓	638 ↓	649 ↓	660 ↓	661 ↓	668 ↓
5	622 ↓	624 ↓	633 ↓	479 ↓	525 ↓	630 ↓	639 ↓	622 ↓	603 ↓	679 ↓	679 ↓	691 ↓	687 ↓	676 ↓
6	683 ↓	634 ↓	642 ↓	669 ↓	589 ↓	618 ↓	633 ↓	723 ↓	677 ↓	668 ↓	670 ↓	662 ↓	650 ↓	740 ↓
7	644 ↓	497 ↓	533 ↓	666 ↓	620 ↓	580 ↓	618 ↓	624 ↓	641 ↓	538 ↓	609 ↓	685 ↓	676 ↓	681 ↓
8	679 ↓	714 ↓	595 ↓	679 ↓	485 ↓	654 ↓	392 ↓	493 ↓	643 ↓	670 ↓	660 ↓	660 ↓	733 ↓	826 ↓
9	677 ↓	574 ↓	660 ↓	557 ↓	660 ↓	718 ↓	679 ↓	656 ↓	576 ↓	521 ↓	589 ↓	618 ↓	622 ↓	677 ↓
10	522 ↓	553 ↓	626 ↓	637 ↓	612 ↓	610 ↓	520 ↓	604 ↓	614 ↓	642 ↓	643 ↓	660 ↓	699 ↓	704 ↓
11	602 ↓	628 ↓	536 ↓	635 ↓	563 ↓	577 ↓	609 ↓	630 ↓	643 ↓	674 ↓	679 ↓	662 ↓	674 ↓	666 ↓
12	649 ↓	677 ↓	681 ↓	693 ↓	687 ↓	674 ↓	574 ↓	578 ↓	676 ↓	699 ↓	689 ↓	664 ↓	689 ↓	699 ↓
13	551 ↓	658 ↓	467 ↓	542 ↓	710 ↓	379 ↓	668 ↓	706 ↓	656 ↓	676 ↓	679 ↓	666 ↓	670 ↓	668 ↓
14	504 ↓	622 ↓	672 ↓	382 ↓	316 ↓	547 ↓	609 ↓	695 ↓	624 ↓	660 ↓	662 ↓	685 ↓	685 ↓	689 ↓
15	606 ↓	662 ↓	651 ↓	647 ↓	638 ↓	687 ↓	682 ↓	661 ↓	681 ↓	679 ↓	676 ↓	660 ↓	654 ↓	664 ↓
16	702 ↓	672 ↓	679 ↓	677 ↓	670 ↓	664 ↓	624 ↓	637 ↓	599 ↓	637 ↓	658 ↓	628 ↓	668 ↓	687 ↓
17	622 ↓	555 ↓	641 ↓	641 ↓	643 ↓	662 ↓	670 ↓	687 ↓	664 ↓	672 ↓	677 ↓	664 ↓	666 ↓	672 ↓
18	687 ↓	672 ↓	685 ↓	670 ↓	618 ↓	394 ↓	670 ↓	679 ↓	672 ↓	672 ↓	666 ↓	666 ↓	674 ↓	635 ↓
19	689 ↓	621 ↓	651 ↓	649 ↓	681 ↓	676 ↓	681 ↓	681 ↓	668 ↓	677 ↓	668 ↓	664 ↓	626 ↓	664 ↓
20	687 ↓	689 ↓	686 ↓	686 ↓	687 ↓	685 ↓	683 ↓	687 ↓	682 ↓	679 ↓	664 ↓	662 ↓	664 ↓	672 ↓
21	691 ↓	679 ↓	654 ↓	658 ↓	618 ↓	574 ↓	593 ↓	531 ↓	627 ↓	664 ↓	641 ↓	663 ↓	665 ↓	745 ↓
22	591 ↓	628 ↓	610 ↓	544 ↓	416 ↓	440 ↓	582 ↓	553 ↓	533 ↓	574 ↓	611 ↓	611 ↓	644 ↓	740 ↓
23	707 ↓	676 ↓	634 ↓	645 ↓	624 ↓	280 ↓	583 ↓	636 ↓	626 ↓	643 ↓	631 ↓	658 ↓	679 ↓	713 ↓
24	689 ↓	666 ↓	666 ↓	683 ↓	681 ↓	684 ↓	684 ↓	684 ↓	646 ↓	646 ↓	642 ↓	642 ↓	643 ↓	669 ↓
25	626 ↓	626 ↓	660 ↓	660 ↓	664 ↓	201 ↓	636 ↓	697 ↓	691 ↓	630 ↓	641 ↓	641 ↓	644 ↓	662 ↓
26	556 ↓	607 ↓	546 ↓	695 ↓	714 ↓	668 ↓	645 ↓	685 ↓	664 ↓	670 ↓	660 ↓	663 ↓	646 ↓	705 ↓
27	469 ↓	444 ↓	395 ↓	555 ↓	538 ↓	405 ↓	391 ↓	459 ↓	395 ↓	370 ↓	395 ↓	663 ↓	684 ↓	703 ↓
28	467 ↓	618 ↓	625 ↓	574 ↓	601 ↓	399 ↓	524 ↓	601 ↓	443 ↓	666 ↓	624 ↓	679 ↓	681 ↓	673 ↓
29	424 ↓	533 ↓	610 ↓	446 ↓	610 ↓	607 ↓	313 ↓	429 ↓	300 ↓	489 ↓	643 ↓	679 ↓	678 ↓	769 ↓
30	612 ↓	562 ↓	589 ↓	620 ↓	609 ↓	566 ↓	670 ↓	639 ↓	679 ↓	672 ↓	674 ↓	670 ↓	663 ↓	679 ↓
31	679 ↓	489 ↓	482 ↓	519 ↓	547 ↓	582 ↓	620 ↓	570 ↓	601 ↓	624 ↓	624 ↓	628 ↓	622 ↓	666 ↓
Mean	07698	5924	6125	6091	5930	5660	5860	5959	6104	6109	6185	6294	6716	6913

April 1885.

$\phi = + 62^{\circ} 38' 52''$

Days.	1	2	3	4	5	6	7	8	9	10	11	Mean.	1	2
1	681 ↓	666 ↓	664 ↓	623 ↓	601 ↓	559 ↓	674 ↓	683 ↓	680 ↓	681 ↓	683 ↓	666 ↓	674 ↓	645 ↓
2	469 ↓	616 ↓	656 ↓	647 ↓	591 ↓	497 ↓	639 ↓	613 ↓	591 ↓	515 ↓	674 ↓	610 ↓	663 ↓	809 ↓
3	589 ↓	649 ↓	666 ↓	663 ↓	577 ↓	724 ↓	716 ↓	624 ↓	811 ↓	816 ↓	513 ↓	647 ↓	643 ↓	664 ↓
4	419 ↓	544 ↓	628 ↓	637 ↓	593 ↓	616 ↓	433 ↓	387 ↓	681 ↓	525 ↓	665 ↓	624 ↓	639 ↓	662 ↓
5	456 ↓	479 ↓	628 ↓	685 ↓	643 ↓	588 ↓	557 ↓	561 ↓	670 ↓	691 ↓	664 ↓	664 ↓	719 ↓	728 ↓
6	634 ↓	576 ↓	636 ↓	641 ↓	662 ↓	667 ↓	576 ↓	647 ↓	644 ↓	653 ↓	649 ↓	683 ↓	664 ↓	628 ↓
7	624 ↓	666 ↓	678 ↓	681 ↓	681 ↓	689 ↓	689 ↓	689 ↓	682 ↓	670 ↓	670 ↓	664 ↓	642 ↓	645 ↓
8	674 ↓	599 ↓	671 ↓	641 ↓	611 ↓	589 ↓	514 ↓	472 ↓	620 ↓	662 ↓	628 ↓	676 ↓	643 ↓	662 ↓
9	672 ↓	723 ↓	679 ↓	695 ↓	611 ↓	479 ↓	634 ↓	664 ↓	666 ↓	687 ↓	685 ↓	666 ↓	661 ↓	631 ↓
10	599 ↓	681 ↓	679 ↓	660 ↓	680 ↓	674 ↓	691 ↓	705 ↓	668 ↓	676 ↓	666 ↓	666 ↓	670 ↓	693 ↓
11	512 ↓	681 ↓	669 ↓	666 ↓	687 ↓	692 ↓	695 ↓	691 ↓	701 ↓	687 ↓	641 ↓	662 ↓	664 ↓	694 ↓
12	618 ↓	679 ↓	687 ↓	610 ↓	519 ↓	493 ↓	612 ↓	681 ↓	660 ↓	684 ↓	641 ↓	663 ↓	662 ↓	643 ↓
13	587 ↓	572 ↓	597 ↓	666 ↓	597 ↓	643 ↓	616 ↓	679 ↓	664 ↓	641 ↓	691 ↓	670 ↓	670 ↓	689 ↓
14	681 ↓	686 ↓	681 ↓	681 ↓	684 ↓	682 ↓	683 ↓	694 ↓	679 ↓	666 ↓	668 ↓	670 ↓	646 ↓	644 ↓
15	682 ↓	582 ↓	552 ↓	632 ↓	687 ↓	666 ↓	569 ↓	523 ↓	628 ↓	685 ↓	674 ↓	676 ↓	666 ↓	666 ↓
16	695 ↓	701 ↓	668 ↓	516 ↓	549 ↓	616 ↓	704 ↓	707 ↓	693 ↓	670 ↓	662 ↓	660 ↓	617 ↓	645 ↓
17	689 ↓	679 ↓	668 ↓	624 ↓	614 ↓	668 ↓	682 ↓	693 ↓	685 ↓	679 ↓	672 ↓	664 ↓	670 ↓	662 ↓
18	491 ↓	531 ↓	674 ↓	599 ↓	641 ↓	515 ↓	386 ↓	395 ↓	643 ↓	668 ↓	662 ↓	662 ↓	693 ↓	712 ↓
19	311 ↓	617 ↓	670 ↓	510 ↓	549 ↓	470 ↓	517 ↓	350 ↓	383 ↓	648 ↓	588 ↓	664 ↓	743 ↓	765 ↓
20	675 ↓	511 ↓	601 ↓	672 ↓	728 ↓	639 ↓	614 ↓	736 ↓	666 ↓	472 ↓	535 ↓	708 ↓	688 ↓	635 ↓
21	679 ↓	643 ↓	676 ↓	685 ↓	624 ↓	672 ↓	703 ↓	701 ↓	691 ↓	691 ↓	678 ↓	674 ↓	666 ↓	666 ↓
22	687 ↓	628 ↓	681 ↓	681 ↓	684 ↓	669 ↓	666 ↓	684 ↓	664 ↓	681 ↓	681 ↓	672 ↓	664 ↓	668 ↓
23	681 ↓	681 ↓	681 ↓	679 ↓	666 ↓	668 ↓	660 ↓	684 ↓	684 ↓	684 ↓	684 ↓	670 ↓	670 ↓	666 ↓
24	517 ↓	708 ↓	708 ↓	716 ↓	724 ↓	703 ↓	689 ↓	704 ↓	684 ↓	623 ↓	683 ↓	664 ↓	472 ↓	728 ↓
25	666 ↓	692 ↓	439 ↓	612 ↓	619 ↓	609 ↓	531 ↓	578 ↓	681 ↓	647 ↓	676 ↓	687 ↓	693 ↓	689 ↓
26	52 ↓	745 ↓	701 ↓	666 ↓	689 ↓	611 ↓	679 ↓	738 ↓	550 ↓	549 ↓	632 ↓	662 ↓	734 ↓	775 ↓
27	529 ↓	679 ↓	394 ↓	531 ↓	631 ↓	414 ↓	510 ↓	645 ↓	710 ↓	716 ↓	707 ↓	703 ↓	668 ↓	728 ↓
28	628 ↓	701 ↓	691 ↓	614 ↓	683 ↓	645 ↓	691 ↓	691 ↓	678 ↓	694 ↓	694 ↓	707 ↓	672 ↓	676 ↓
29	519 ↓	624 ↓	679 ↓	648 ↓	618 ↓	577 ↓	599 ↓	609 ↓	689 ↓	689 ↓	672 ↓	676 ↓	699 ↓	681 ↓
30	604 ↓	681 ↓	701 ↓	666 ↓	599 ↓	555 ↓	343 ↓	597 ↓	641 ↓	662 ↓	649 ↓	613 ↓	728 ↓	845 ↓
Mean	07498	6265	6386	6433	6255	6134	6196	6339	6011	6463	6332	6672	6668	6879

+ 62° 38' 52"

λ = - 115° 43' 50" = - 7h. 42m. 55s. Local Mean Time (Bifilar Magnetometer).

March 1883.

1	2
630 ↓	695 ↑
714 ↓	730 ↑
681 ↓	726 ↑
687 ↓	708 ↑
687 ↓	676 ↑
656 ↓	726 ↑
676 ↓	683 ↑
753 ↓	839 ↑
672 ↓	677 ↑
699 ↓	705 ↑
668 ↓	666 ↑
680 ↓	699 ↑
670 ↓	668 ↑
685 ↓	684 ↑
684 ↓	664 ↑
668 ↓	687 ↑
666 ↓	672 ↑
637 ↓	635 ↑
650 ↓	664 ↑
664 ↓	672 ↑
605 ↓	745 ↑
674 ↓	710 ↑
679 ↓	713 ↑
682 ↓	667 ↑
628 ↓	662 ↑
646 ↓	705 ↑
681 ↓	703 ↑
681 ↓	673 ↑
728 ↓	764 ↑
661 ↓	679 ↑
672 ↓	666 ↑
6716	6933

3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.
783 ↓	738 ↓	782 ↓	788 ↓	722 ↓	610 ↓	641 ↓	388 ↓	605 ↓	506 ↓	570	788	160	628
676 ↓	786 ↓	741 ↓	769 ↓	724 ↓	720 ↓	618 ↓	448 ↓	614 ↓	595 ↓	581	786	72	714
745 ↓	723 ↓	721 ↓	710 ↓	706 ↓	718 ↓	666 ↓	708 ↓	617 ↓	601 ↓	645	747	390	367
689 ↓	726 ↓	703 ↓	736 ↓	716 ↓	788 ↓	732 ↓	638 ↓	489 ↓	544 ↓	624	788	366	422
677 ↓	677 ↓	701 ↓	679 ↓	694 ↓	691 ↓	722 ↓	728 ↓	732 ↓	701 ↓	665	734	463	271
712 ↓	739 ↓	733 ↓	732 ↓	763 ↓	740 ↓	699 ↓	474 ↓	656 ↓	462 ↓	663	800	316	484
689 ↓	736 ↓	710 ↓	697 ↓	741 ↓	718 ↓	469 ↓	732 ↓	654 ↓	614 ↓	638	777	246	497
808 ↓	732 ↓	729 ↓	740 ↓	695 ↓	679 ↓	487 ↓	753 ↓	685 ↓	664 ↓	621	806	388	438
695 ↓	691 ↓	676 ↓	685 ↓	708 ↓	747 ↓	745 ↓	740 ↓	710 ↓	674 ↓	669	733	249	494
728 ↓	724 ↓	687 ↓	693 ↓	672 ↓	683 ↓	684 ↓	655 ↓	689 ↓	663 ↓	649	728	442	280
668 ↓	676 ↓	670 ↓	572 ↓	670 ↓	672 ↓	685 ↓	687 ↓	689 ↓	677 ↓	649	678	527	164
705 ↓	679 ↓	676 ↓	676 ↓	679 ↓	682 ↓	628 ↓	-072 ↓	572 ↓	521 ↓	628	708	-108	816
666 ↓	683 ↓	664 ↓	676 ↓	670 ↓	694 ↓	687 ↓	670 ↓	643 ↓	622 ↓	641	710	349	361
677 ↓	673 ↓	679 ↓	676 ↓	697 ↓	724 ↓	691 ↓	670 ↓	661 ↓	586 ↓	627	724	232	492
664 ↓	683 ↓	668 ↓	666 ↓	670 ↓	676 ↓	679 ↓	695 ↓	555 ↓	502 ↓	628	695	440	255
668 ↓	666 ↓	674 ↓	671 ↓	695 ↓	699 ↓	697 ↓	701 ↓	683 ↓	593 ↓	667	708	289	139
641 ↓	685 ↓	699 ↓	691 ↓	697 ↓	708 ↓	708 ↓	695 ↓	687 ↓	685 ↓	668	714	533	181
670 ↓	668 ↓	666 ↓	664 ↓	664 ↓	670 ↓	674 ↓	697 ↓	693 ↓	697 ↓	657	703	394	307
666 ↓	668 ↓	670 ↓	676 ↓	683 ↓	691 ↓	695 ↓	697 ↓	691 ↓	689 ↓	673	699	637	62
681 ↓	683 ↓	681 ↓	679 ↓	679 ↓	699 ↓	694 ↓	647 ↓	449 ↓	662 ↓	669	710	439	281
743 ↓	777 ↓	824 ↓	795 ↓	548 ↓	638 ↓	597 ↓	546 ↓	574 ↓	292 ↓	625	824	213	604
677 ↓	697 ↓	714 ↓	706 ↓	749 ↓	708 ↓	685 ↓	291 ↓	209 ↓	665 ↓	600	808	46	762
683 ↓	691 ↓	733 ↓	736 ↓	710 ↓	734 ↓	736 ↓	481 ↓	593 ↓	566 ↓	649	731	283	471
687 ↓	687 ↓	681 ↓	701 ↓	711 ↓	761 ↓	687 ↓	664 ↓	691 ↓	627 ↓	674	764	667	334
664 ↓	660 ↓	661 ↓	685 ↓	713 ↓	699 ↓	684 ↓	685 ↓	626 ↓	627 ↓	642	716	422	294
763 ↓	796 ↓	660 ↓	745 ↓	623 ↓	493 ↓	800 ↓	728 ↓	656 ↓	388 ↓	664	806	390	416
774 ↓	792 ↓	730 ↓	729 ↓	720 ↓	668 ↓	499 ↓	593 ↓	357 ↓	-134 ↓	528	818	-480	1295
712 ↓	681 ↓	749 ↓	738 ↓	814 ↓	691 ↓	479 ↓	538 ↓	628 ↓	676 ↓	637	830	320	469
681 ↓	736 ↓	729 ↓	786 ↓	721 ↓	697 ↓	6	689 ↓	666 ↓	597 ↓	633	808	326	482
678 ↓	676 ↓	714 ↓	718 ↓	741 ↓	689 ↓	729 ↓	697 ↓	693 ↓	655 ↓	749	820	320	420
685 ↓	643 ↓	713 ↓	712 ↓	736 ↓	755 ↓	788 ↓	679 ↓	519 ↓	622 ↓	631	788	476	312
6984	7948	7972	7439	7937	6917	6679	6231	6128	5768	*07408	*07839	*06520	*01319

+ 62° 38' 52"

λ = - 115° 43' 50" = - 7h. 42m. 55s.

April 1883

1	2
674 ↓	645 ↓
663 ↓	686 ↓
616 ↓	804 ↓
639 ↓	662 ↓
641 ↓	660 ↓
730 ↓	728 ↓
664 ↓	628 ↓
649 ↓	645 ↓
651 ↓	662 ↓
673 ↓	683 ↓
660 ↓	693 ↓
662 ↓	664 ↓
663 ↓	647 ↓
670 ↓	689 ↓
656 ↓	684 ↓
667 ↓	666 ↓
637 ↓	645 ↓
656 ↓	662 ↓
695 ↓	712 ↓
743 ↓	705 ↓
685 ↓	633 ↓
666 ↓	666 ↓
664 ↓	628 ↓
672 ↓	666 ↓
673 ↓	666 ↓
610 ↓	614 ↓
672 ↓	689 ↓
714 ↓	725 ↓
708 ↓	728 ↓
743 ↓	728 ↓
687 ↓	676 ↓
722 ↓	681 ↓
709 ↓	845 ↓
6608	6879

3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.
664 ↓	676 ↓	679 ↓	673 ↓	678 ↓	708 ↓	705 ↓	630 ↓	730 ↓	648 ↓	667	732	559	173
703 ↓	736 ↓	759 ↓	694 ↓	628 ↓	681 ↓	685 ↓	685 ↓	664 ↓	364 ↓	645	759	269	492
683 ↓	636 ↓	648 ↓	668 ↓	782 ↓	595 ↓	719 ↓	610 ↓	651 ↓	651 ↓	624	810	122	528
749 ↓	679 ↓	704 ↓	724 ↓	701 ↓	716 ↓	691 ↓	666 ↓	626 ↓	595 ↓	612	751	9	742
708 ↓	722 ↓	685 ↓	660 ↓	769 ↓	693 ↓	743 ↓	645 ↓	385 ↓	628 ↓	638	771	333	438
664 ↓	679 ↓	703 ↓	674 ↓	676 ↓	671 ↓	678 ↓	683 ↓	695 ↓	645 ↓	649	701	474	279
660 ↓	666 ↓	693 ↓	684 ↓	680 ↓	708 ↓	710 ↓	741 ↓	736 ↓	695 ↓	682	745	645	100
676 ↓	714 ↓	695 ↓	687 ↓	681 ↓	681 ↓	681 ↓	708 ↓	697 ↓	687 ↓	642	744	470	244
653 ↓	634 ↓	662 ↓	695 ↓	689 ↓	697 ↓	676 ↓	676 ↓	678 ↓	679 ↓	648	714	470	244
689 ↓	722 ↓	725 ↓	795 ↓	790 ↓	736 ↓	656 ↓	614 ↓	589 ↓	685 ↓	798	744	583	216
664 ↓	670 ↓	676 ↓	701 ↓	691 ↓	714 ↓	697 ↓	687 ↓	422 ↓	586 ↓	660	714	422	292
638 ↓	668 ↓	660 ↓	660 ↓	672 ↓	681 ↓	681 ↓	691 ↓	643 ↓	648 ↓	693	744	420	243
694 ↓	678 ↓	728 ↓	710 ↓	710 ↓	707 ↓	736 ↓	707 ↓	695 ↓	697 ↓	645	740	383	357
656 ↓	648 ↓	666 ↓	678 ↓	678 ↓	681 ↓	683 ↓	689 ↓	685 ↓	676 ↓	676	697	631	243
681 ↓	674 ↓	775 ↓	748 ↓	714 ↓	758 ↓	780 ↓	747 ↓	701 ↓	699 ↓	673	794	573	271
651 ↓	664 ↓	676 ↓	678 ↓	703 ↓	705 ↓	708 ↓	645 ↓	591 ↓	691 ↓	665	758	512	196
664 ↓	672 ↓	668 ↓	676 ↓	676 ↓	681 ↓	681 ↓	683 ↓	681 ↓	693 ↓	672	693	607	86
812 ↓	721 ↓	812 ↓	849 ↓	797 ↓	666 ↓	633 ↓	390 ↓	630 ↓	633 ↓	657	841	344	507
853 ↓	681 ↓	589 ↓	681 ↓	654 ↓	647 ↓	388 ↓	716 ↓	542 ↓	384 ↓	587	865	-160	1031
651 ↓	660 ↓	681 ↓	693 ↓	728 ↓	728 ↓	742 ↓	681 ↓	641 ↓	676 ↓	645	760	260	481
670 ↓	674 ↓	673 ↓	674 ↓	678 ↓	687 ↓	683 ↓	684 ↓	685 ↓	684 ↓	678	705	580	122
662 ↓	666 ↓	685 ↓	681 ↓	689 ↓	678 ↓	681 ↓	674 ↓	674 ↓	678 ↓	671	705	641	62
672 ↓	676 ↓	681 ↓	678 ↓	681 ↓	689 ↓	693 ↓	701 ↓	712 ↓	708 ↓	678	712	647	64
610 ↓	614 ↓	623 ↓	598 ↓	386 ↓	685 ↓	747 ↓	693 ↓	707 ↓	697 ↓	667	740	473	131
859 ↓	759 ↓	701 ↓	790 ↓	714 ↓	643 ↓	499 ↓	459 ↓	508 ↓	513 ↓	619	859	293	650
708 ↓	784 ↓	814 ↓	721 ↓	788 ↓	701 ↓	689 ↓	605 ↓	399 ↓	743 ↓	681	821	393	432
743 ↓	693 ↓	724 ↓	718 ↓	728 ↓	724 ↓	643 ↓	624 ↓	624 ↓	653 ↓	621	713	366	327
687 ↓	716 ↓	708 ↓	720 ↓	697 ↓	695 ↓	693 ↓	703 ↓	693 ↓	693 ↓	680	739	603	421
722 ↓	722 ↓	710 ↓	674 ↓	681 ↓	710 ↓	714 ↓	234 ↓	241 ↓	683 ↓	664	743	450	293
687 ↓	647 ↓	672 ↓	674 ↓	703 ↓	703 ↓	743 ↓	662 ↓	685 ↓	570 ↓	662	849	542	397
6982	6867	6968	6992	7933	6941	6835	6651	6174	6419	*07583	*07805	*06814	*01011

Horizontal Intensity.

150

May 1883.

0.07000+ (C. G. S. Units).

$\phi = +62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	676 ↓	647 ↓	641 ↓	621 ↓	647 ↑	689 ↓	679 ↓	653 ↓	666 ↓	639 ↓	691 ↓	701 ↓	710 ↓	741 ↓
2	540 ↓	658 ↓	660 ↓	676 ↓	485 ↓	383 ↓	446 ↓	609 ↓	701 ↓	685 ↓	699 ↓	757 ↓	720 ↓	660 ↓
3	586 ↓	529 ↓	555 ↓	626 ↓	455 ↓	685 ↓	693 ↓	703 ↓	697 ↓	689 ↓	697 ↓	705 ↓	697 ↓	678 ↓
4	691 ↓	519 ↓	536 ↓	519 ↓	611 ↓	701 ↓	701 ↓	697 ↓	672 ↓	679 ↓	678 ↓	662 ↓	662 ↓	720 ↓
5	674 ↓	691 ↓	695 ↓	674 ↓	630 ↓	544 ↓	561 ↓	660 ↓	654 ↓	649 ↓	637 ↓	614 ↓	701 ↓	745 ↓
6	632 ↓	665 ↓	658 ↓	707 ↓	649 ↓	548 ↓	614 ↓	718 ↓	679 ↓	695 ↓	676 ↓	668 ↓	681 ↓	705 ↓
7	666 ↓	687 ↓	668 ↓	647 ↓	697 ↓	672 ↓	672 ↓	728 ↓	658 ↓	663 ↓	691 ↓	679 ↓	705 ↓	685 ↓
8	708 ↓	722 ↓	437 ↓	576 ↓	643 ↓	626 ↓	662 ↓	697 ↓	697 ↓	712 ↓	681 ↓	670 ↓	689 ↓	757 ↓
9	651 ↓	563 ↓	582 ↓	676 ↓	666 ↓	676 ↓	705 ↓	687 ↓	664 ↓	672 ↓	693 ↓	676 ↓	701 ↓	679 ↓
10	683 ↓	687 ↓	674 ↓	689 ↓	689 ↓	701 ↓	693 ↓	691 ↓	656 ↓	683 ↓	674 ↓	665 ↓	676 ↓	672 ↓
11	497 ↓	612 ↓	610 ↓	630 ↓	603 ↓	589 ↓	687 ↓	706 ↓	697 ↓	689 ↓	683 ↓	676 ↓	672 ↓	672 ↓
12	643 ↓	679 ↓	660 ↓	691 ↓	706 ↓	693 ↓	703 ↓	691 ↓	679 ↓	681 ↓	679 ↓	666 ↓	662 ↓	668 ↓
13	668 ↓	691 ↓	674 ↓	697 ↓	695 ↓	622 ↓	662 ↓	582 ↓	610 ↓	671 ↓	685 ↓	677 ↓	677 ↓	681 ↓
14	708 ↓	664 ↓	622 ↓	664 ↓	703 ↓	621 ↓	668 ↓	708 ↓	699 ↓	677 ↓	699 ↓	695 ↓	679 ↓	676 ↓
15	593 ↓	639 ↓	597 ↓	605 ↓	603 ↓	666 ↓	633 ↓	631 ↓	631 ↓	681 ↓	695 ↓	697 ↓	674 ↓	672 ↓
16	670 ↓	722 ↓	753 ↓	732 ↓	710 ↓	745 ↓	687 ↓	464 ↓	484 ↓	649 ↓	681 ↓	685 ↓	679 ↓	679 ↓
17	710 ↓	661 ↓	551 ↓	687 ↓	687 ↓	716 ↓	708 ↓	626 ↓	679 ↓	674 ↓	676 ↓	705 ↓	699 ↓	681 ↓
18	687 ↓	671 ↓	672 ↓	580 ↓	595 ↓	593 ↓	638 ↓	691 ↓	699 ↓	693 ↓	668 ↓	679 ↓	697 ↓	714 ↓
19	691 ↓	691 ↓	712 ↓	635 ↓	653 ↓	228 ↓	491 ↓	603 ↓	623 ↓	668 ↓	691 ↓	701 ↓	693 ↓	689 ↓
20	666 ↓	712 ↓	649 ↓	597 ↓	591 ↓	646 ↓	683 ↓	651 ↓	699 ↓	664 ↓	669 ↓	681 ↓	705 ↓	765 ↓
21	545 ↓	660 ↓	628 ↓	646 ↓	386 ↓	612 ↓	687 ↓	242 ↓	212 ↓	745 ↓	685 ↓	848 ↓	863 ↓	841 ↓
22	622 ↓	612 ↓	649 ↓	624 ↓	429 ↓	591 ↓	555 ↓	586 ↓	681 ↓	712 ↓	705 ↓	662 ↓	662 ↓	660 ↓
23	622 ↓	622 ↓	669 ↓	668 ↓	637 ↓	602 ↓	649 ↓	499 ↓	615 ↓	691 ↓	689 ↓	664 ↓	672 ↓	660 ↓
24	597 ↓	561 ↓	553 ↓	597 ↓	634 ↓	576 ↓	570 ↓	656 ↓	676 ↓	694 ↓	664 ↓	646 ↓	666 ↓	693 ↓
25	635 ↓	664 ↓	666 ↓	662 ↓	679 ↓	618 ↓	649 ↓	685 ↓	685 ↓	664 ↓	674 ↓	670 ↓	687 ↓	706 ↓
26	544 ↓	639 ↓	620 ↓	767 ↓	261 ↓	593 ↓	692 ↓	563 ↓	641 ↓	651 ↓	631 ↓	666 ↓	708 ↓	641 ↓
27	574 ↓	620 ↓	645 ↓	644 ↓	544 ↓	461 ↓	679 ↓	710 ↓	689 ↓	676 ↓	645 ↓	689 ↓	699 ↓	817 ↓
28	545 ↓	630 ↓	638 ↓	591 ↓	582 ↓	567 ↓	609 ↓	422 ↓	497 ↓	683 ↓	689 ↓	672 ↓	564 ↓	695 ↓
29	499 ↓	630 ↓	674 ↓	663 ↓	674 ↓	540 ↓	628 ↓	519 ↓	654 ↓	664 ↓	679 ↓	676 ↓	666 ↓	687 ↓
30	654 ↓	563 ↓	622 ↓	572 ↓	610 ↓	665 ↓	534 ↓	630 ↓	614 ↓	658 ↓	684 ↓	677 ↓	705 ↓	709 ↓
31	701 ↓	695 ↓	658 ↓	628 ↓	591 ↓	633 ↓	633 ↓	670 ↓	672 ↓	679 ↓	660 ↓	677 ↓	641 ↓	660 ↓
Mean	076146	6447	6327	6227	6144	6076	6148	6241	6384	6457	6781	6816	6944	7075

June 1883.

$\phi = +62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	680 ↓	681 ↓	670 ↓	551 ↓	679 ↓	703 ↓	612 ↓	603 ↓	643 ↓	635 ↓	653 ↓	668 ↓	666 ↓	705 ↓
2	693 ↓	686 ↓	651 ↓	575 ↓	593 ↓	291 ↓	476 ↓	637 ↓	500 ↓	499 ↓	695 ↓	705 ↓	740 ↓	761 ↓
3	707 ↓	542 ↓	626 ↓	666 ↓	712 ↓	705 ↓	677 ↓	531 ↓	523 ↓	697 ↓	685 ↓	668 ↓	677 ↓	710 ↓
4	626 ↓	677 ↓	705 ↓	738 ↓	534 ↓	580 ↓	593 ↓	706 ↓	699 ↓	679 ↓	683 ↓	672 ↓	668 ↓	666 ↓
5	681 ↓	662 ↓	641 ↓	679 ↓	692 ↓	699 ↓	691 ↓	703 ↓	687 ↓	681 ↓	679 ↓	679 ↓	670 ↓	685 ↓
6	581 ↓	694 ↓	112 ↓	533 ↓	599 ↓	578 ↓	425 ↓	586 ↓	663 ↓	666 ↓	708 ↓	673 ↓	826 ↓	802 ↓
7	699 ↓	681 ↓	675 ↓	672 ↓	668 ↓	614 ↓	624 ↓	677 ↓	677 ↓	677 ↓	674 ↓	676 ↓	662 ↓	716 ↓
8	693 ↓	692 ↓	666 ↓	624 ↓	381 ↓	508 ↓	422 ↓	609 ↓	666 ↓	656 ↓	630 ↓	660 ↓	662 ↓	646 ↓
9	551 ↓	607 ↓	660 ↓	633 ↓	612 ↓	359 ↓	440 ↓	607 ↓	689 ↓	673 ↓	670 ↓	685 ↓	714 ↓	734 ↓
10	693 ↓	638 ↓	631 ↓	649 ↓	610 ↓	601 ↓	631 ↓	676 ↓	665 ↓	665 ↓	662 ↓	661 ↓	695 ↓	736 ↓
11	643 ↓	588 ↓	673 ↓	693 ↓	676 ↓	665 ↓	707 ↓	718 ↓	687 ↓	707 ↓	707 ↓	712 ↓	705 ↓	670 ↓
12	705 ↓	693 ↓	693 ↓	679 ↓	666 ↓	512 ↓	693 ↓	666 ↓	718 ↓	714 ↓	685 ↓	681 ↓	674 ↓	698 ↓
13	648 ↓	679 ↓	689 ↓	699 ↓	669 ↓	691 ↓	699 ↓	666 ↓	712 ↓	712 ↓	689 ↓	682 ↓	676 ↓	678 ↓
14	538 ↓	692 ↓	681 ↓	663 ↓	676 ↓	656 ↓	578 ↓	612 ↓	687 ↓	696 ↓	660 ↓	664 ↓	662 ↓	681 ↓
15	693 ↓	695 ↓	701 ↓	691 ↓	701 ↓	208 ↓	695 ↓	695 ↓	689 ↓	668 ↓	637 ↓	637 ↓	665 ↓	672 ↓
16	697 ↓	685 ↓	681 ↓	732 ↓	669 ↓	701 ↓	710 ↓	704 ↓	681 ↓	678 ↓	639 ↓	641 ↓	643 ↓	681 ↓
17	687 ↓	645 ↓	612 ↓	346 ↓	349 ↓	208 ↓	550 ↓	540 ↓	599 ↓	642 ↓	661 ↓	663 ↓	674 ↓	661 ↓
18	614 ↓	562 ↓	557 ↓	454 ↓	548 ↓	612 ↓	599 ↓	485 ↓	645 ↓	739 ↓	705 ↓	681 ↓	766 ↓	855 ↓
19	712 ↓	716 ↓	561 ↓	510 ↓	687 ↓	620 ↓	639 ↓	651 ↓	534 ↓	664 ↓	651 ↓	668 ↓	678 ↓	749 ↓
20	710 ↓	643 ↓	675 ↓	669 ↓	612 ↓	674 ↓	651 ↓	654 ↓	555 ↓	651 ↓	701 ↓	661 ↓	630 ↓	670 ↓
21	706 ↓	687 ↓	689 ↓	699 ↓	699 ↓	718 ↓	701 ↓	695 ↓	662 ↓	666 ↓	636 ↓	647 ↓	633 ↓	651 ↓
22	715 ↓	701 ↓	697 ↓	712 ↓	607 ↓	649 ↓	666 ↓	516 ↓	515 ↓	611 ↓	611 ↓	714 ↓	643 ↓	668 ↓
23	664 ↓	672 ↓	499 ↓	620 ↓	551 ↓	643 ↓	487 ↓	637 ↓	710 ↓	689 ↓	693 ↓	685 ↓	794 ↓	767 ↓
24	707 ↓	654 ↓	679 ↓	668 ↓	681 ↓	641 ↓	645 ↓	653 ↓	630 ↓	664 ↓	685 ↓	664 ↓	687 ↓	679 ↓
25	683 ↓	671 ↓	287 ↓	618 ↓	670 ↓	555 ↓	557 ↓	607 ↓	569 ↓	678 ↓	610 ↓	668 ↓	666 ↓	736 ↓
26	681 ↓	437 ↓	622 ↓	545 ↓	545 ↓	545 ↓	580 ↓	311 ↓	569 ↓	668 ↓	670 ↓	674 ↓	693 ↓	710 ↓
27	721 ↓	618 ↓	425 ↓	338 ↓	338 ↓	354 ↓	359 ↓	626 ↓	551 ↓	761 ↓	705 ↓	707 ↓	759 ↓	814 ↓
28	572 ↓	615 ↓	668 ↓	572 ↓	605 ↓	899 ↓	689 ↓	512 ↓	626 ↓	691 ↓	693 ↓	681 ↓	662 ↓	664 ↓
29	551 ↓	586 ↓	624 ↓	687 ↓	697 ↓	678 ↓	662 ↓	607 ↓	666 ↓	661 ↓	672 ↓	662 ↓	670 ↓	670 ↓
30	626 ↓	519 ↓	645 ↓	633 ↓	230 ↓	688 ↓	323 ↓	567 ↓	484 ↓	597 ↓	714 ↓	740 ↓	738 ↓	814 ↓
Mean	076180	5947	6222	6107	6097	5906	5884	5959	6331	6634	6753	6791	6886	7110

Horizontal Intensity.

July 1888.

007000 (C. G. S. Units).

☉ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	499 ↓	544 ↓	670 ↓	641 ↓	495 ↓	617 ↓	467 ↓	370 ↓	533 ↓	480 ↓	612 ↓	649 ↓	730 ↓	810 ↓
2	680 ↓	652 ↓	574 ↓	524 ↓	630 ↓	748 ↓	708 ↓	746 ↓	679 ↓	662 ↓	681 ↓	681 ↓	670 ↓	682 ↓
3	676 ↓	429 ↓	483 ↓	531 ↓	614 ↓	628 ↓	591 ↓	610 ↓	663 ↓	664 ↓	664 ↓	668 ↓	667 ↓	687 ↓
4	607 ↓	651 ↓	640 ↓	666 ↓	639 ↓	607 ↓	548 ↓	609 ↓	607 ↓	607 ↓	607 ↓	683 ↓	687 ↓	691 ↓
5	482 ↓	612 ↓	611 ↓	614 ↓	512 ↓	531 ↓	399 ↓	412 ↓	574 ↓	610 ↓	670 ↓	678 ↓	705 ↓	714 ↓
6	643 ↓	683 ↓	689 ↓	684 ↓	664 ↓	684 ↓	718 ↓	728 ↓	726 ↓	660 ↓	668 ↓	648 ↓	644 ↓	674 ↓
7	664 ↓	666 ↓	702 ↓	705 ↓	705 ↓	692 ↓	691 ↓	641 ↓	519 ↓	444 ↓	584 ↓	678 ↓	660 ↓	689 ↓
8	734 ↓	620 ↓	718 ↓	782 ↓	784 ↓	697 ↓	784 ↓	464 ↓	482 ↓	710 ↓	664 ↓	679 ↓	685 ↓	697 ↓
9	187 ↓	699 ↓	703 ↓	685 ↓	734 ↓	689 ↓	684 ↓	668 ↓	679 ↓	683 ↓	666 ↓	670 ↓	672 ↓	647 ↓
10	502 ↓	616 ↓	544 ↓	720 ↓	711 ↓	695 ↓	712 ↓	722 ↓	708 ↓	685 ↓	691 ↓	701 ↓	662 ↓	712 ↓
11	693 ↓	625 ↓	643 ↓	644 ↓	679 ↓	720 ↓	718 ↓	694 ↓	694 ↓	697 ↓	668 ↓	681 ↓	699 ↓	704 ↓
12	704 ↓	601 ↓	670 ↓	664 ↓	687 ↓	618 ↓	654 ↓	672 ↓	691 ↓	689 ↓	687 ↓	666 ↓	674 ↓	681 ↓
13	583 ↓	531 ↓	569 ↓	508 ↓	618 ↓	513 ↓	523 ↓	546 ↓	617 ↓	633 ↓	678 ↓	611 ↓	716 ↓	664 ↓
14	601 ↓	569 ↓	544 ↓	668 ↓	519 ↓	635 ↓	469 ↓	229 ↓	581 ↓	579 ↓	678 ↓	660 ↓	672 ↓	670 ↓
15	685 ↓	674 ↓	664 ↓	685 ↓	693 ↓	708 ↓	637 ↓	493 ↓	128 ↓	124 ↓	734 ↓	664 ↓	639 ↓	704 ↓
16	64 ↓	726 ↓	548 ↓	539 ↓	620 ↓	611 ↓	567 ↓	398 ↓	459 ↓	470 ↓	685 ↓	595 ↓	755 ↓	755 ↓
17	676 ↓	665 ↓	649 ↓	701 ↓	687 ↓	693 ↓	628 ↓	664 ↓	611 ↓	666 ↓	666 ↓	644 ↓	648 ↓	668 ↓
18	629 ↓	245 ↓	286 ↓	570 ↓	388 ↓	162 ↓	516 ↓	660 ↓	611 ↓	603 ↓	549 ↓	584 ↓	635 ↓	626 ↓
19	606 ↓	710 ↓	671 ↓	651 ↓	512 ↓	626 ↓	687 ↓	643 ↓	728 ↓	674 ↓	660 ↓	660 ↓	718 ↓	779 ↓
20	618 ↓	678 ↓	683 ↓	639 ↓	670 ↓	607 ↓	641 ↓	651 ↓	687 ↓	653 ↓	662 ↓	624 ↓	635 ↓	631 ↓
21	578 ↓	672 ↓	682 ↓	695 ↓	689 ↓	706 ↓	699 ↓	689 ↓	660 ↓	643 ↓	630 ↓	610 ↓	622 ↓	639 ↓
22	629 ↓	652 ↓	676 ↓	691 ↓	702 ↓	703 ↓	703 ↓	692 ↓	675 ↓	660 ↓	657 ↓	612 ↓	628 ↓	643 ↓
23	645 ↓	623 ↓	642 ↓	664 ↓	739 ↓	714 ↓	714 ↓	705 ↓	693 ↓	676 ↓	653 ↓	613 ↓	643 ↓	653 ↓
24	681 ↓	628 ↓	620 ↓	533 ↓	670 ↓	618 ↓	572 ↓	629 ↓	392 ↓	544 ↓	649 ↓	728 ↓	759 ↓	736 ↓
25	647 ↓	684 ↓	533 ↓	563 ↓	517 ↓	465 ↓	616 ↓	684 ↓	684 ↓	746 ↓	701 ↓	683 ↓	692 ↓	670 ↓
26	689 ↓	708 ↓	678 ↓	584 ↓	124 ↓	408 ↓	593 ↓	341 ↓	442 ↓	603 ↓	613 ↓	767 ↓	764 ↓	733 ↓
27	670 ↓	704 ↓	664 ↓	643 ↓	697 ↓	616 ↓	569 ↓	580 ↓	693 ↓	693 ↓	701 ↓	693 ↓	693 ↓	678 ↓
28	679 ↓	679 ↓	679 ↓	676 ↓	684 ↓	617 ↓	678 ↓	668 ↓	689 ↓	689 ↓	691 ↓	691 ↓	685 ↓	683 ↓
29	674 ↓	582 ↓	648 ↓	691 ↓	683 ↓	691 ↓	673 ↓	692 ↓	676 ↓	674 ↓	694 ↓	679 ↓	662 ↓	662 ↓
30	714 ↓	712 ↓	743 ↓	662 ↓	648 ↓	422 ↓	483 ↓	645 ↓	476 ↓	479 ↓	644 ↓	705 ↓	915 ↓	914 ↓
31	434 ↓	591 ↓	669 ↓	407 ↓	492 ↓	407 ↓	381 ↓	371 ↓	326 ↓	318 ↓	666 ↓	736 ↓	687 ↓	687 ↓
Mean.	676.26	672.5	633.8	619.2	622.4	617.0	606.5	595.3	603.8	612.8	616.4	677.1	688.1	698.6

August 1888.

☉ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	674 ↓	291 ↓	274 ↓	628 ↓	687 ↓	694 ↓	712 ↓	457 ↓	454 ↓	519 ↓	668 ↓	703 ↓	743 ↓	824 ↓
2	616 ↓	621 ↓	620 ↓	609 ↓	601 ↓	660 ↓	664 ↓	691 ↓	687 ↓	674 ↓	664 ↓	654 ↓	685 ↓	668 ↓
3	618 ↓	562 ↓	662 ↓	580 ↓	666 ↓	699 ↓	699 ↓	686 ↓	679 ↓	633 ↓	635 ↓	614 ↓	612 ↓	672 ↓
4	611 ↓	678 ↓	678 ↓	672 ↓	665 ↓	637 ↓	701 ↓	701 ↓	693 ↓	681 ↓	666 ↓	660 ↓	648 ↓	660 ↓
5	511 ↓	661 ↓	614 ↓	626 ↓	662 ↓	605 ↓	542 ↓	494 ↓	681 ↓	669 ↓	636 ↓	661 ↓	643 ↓	660 ↓
6	628 ↓	482 ↓	576 ↓	606 ↓	606 ↓	777 ↓	531 ↓	390 ↓	506 ↓	448 ↓	630 ↓	678 ↓	808 ↓	917 ↓
7	714 ↓	611 ↓	661 ↓	674 ↓	681 ↓	631 ↓	372 ↓	248 ↓	605 ↓	645 ↓	679 ↓	678 ↓	693 ↓	692 ↓
8	664 ↓	616 ↓	689 ↓	746 ↓	716 ↓	690 ↓	546 ↓	645 ↓	681 ↓	705 ↓	689 ↓	695 ↓	676 ↓	681 ↓
9	612 ↓	660 ↓	646 ↓	674 ↓	611 ↓	672 ↓	682 ↓	676 ↓	689 ↓	679 ↓	672 ↓	670 ↓	663 ↓	666 ↓
10	619 ↓	681 ↓	689 ↓	699 ↓	689 ↓	710 ↓	701 ↓	689 ↓	676 ↓	668 ↓	666 ↓	660 ↓	679 ↓	681 ↓
11	681 ↓	669 ↓	614 ↓	570 ↓	597 ↓	593 ↓	589 ↓	641 ↓	574 ↓	701 ↓	699 ↓	693 ↓	687 ↓	724 ↓
12	645 ↓	618 ↓	664 ↓	670 ↓	641 ↓	670 ↓	647 ↓	691 ↓	661 ↓	660 ↓	643 ↓	643 ↓	660 ↓	699 ↓
13	661 ↓	669 ↓	639 ↓	584 ↓	662 ↓	676 ↓	687 ↓	676 ↓	674 ↓	670 ↓	660 ↓	668 ↓	663 ↓	692 ↓
14	410 ↓	695 ↓	693 ↓	718 ↓	668 ↓	678 ↓	676 ↓	666 ↓	658 ↓	671 ↓	656 ↓	668 ↓	693 ↓	804 ↓
15	596 ↓	714 ↓	742 ↓	701 ↓	705 ↓	706 ↓	705 ↓	693 ↓	691 ↓	682 ↓	677 ↓	679 ↓	681 ↓	681 ↓
16	611 ↓	692 ↓	701 ↓	683 ↓	707 ↓	710 ↓	695 ↓	727 ↓	692 ↓	692 ↓	678 ↓	668 ↓	670 ↓	674 ↓
17	611 ↓	692 ↓	691 ↓	689 ↓	672 ↓	687 ↓	693 ↓	694 ↓	679 ↓	643 ↓	612 ↓	610 ↓	714 ↓	714 ↓
18	600 ↓	599 ↓	688 ↓	642 ↓	546 ↓	412 ↓	499 ↓	624 ↓	499 ↓	599 ↓	693 ↓	695 ↓	683 ↓	790 ↓
19	676 ↓	681 ↓	693 ↓	681 ↓	649 ↓	612 ↓	685 ↓	684 ↓	672 ↓	674 ↓	662 ↓	666 ↓	670 ↓	723 ↓
20	611 ↓	692 ↓	551 ↓	674 ↓	740 ↓	670 ↓	632 ↓	701 ↓	693 ↓	662 ↓	668 ↓	678 ↓	681 ↓	689 ↓
21	628 ↓	642 ↓	612 ↓	628 ↓	691 ↓	612 ↓	639 ↓	681 ↓	674 ↓	651 ↓	672 ↓	648 ↓	666 ↓	681 ↓
22	611 ↓	627 ↓	628 ↓	612 ↓	628 ↓	572 ↓	685 ↓	639 ↓	628 ↓	602 ↓	674 ↓	614 ↓	707 ↓	722 ↓
23	631 ↓	661 ↓	621 ↓	629 ↓	601 ↓	628 ↓	683 ↓	555 ↓	647 ↓	660 ↓	616 ↓	614 ↓	707 ↓	796 ↓
24	600 ↓	628 ↓	612 ↓	474 ↓	59 ↓	595 ↓	614 ↓	567 ↓	658 ↓	676 ↓	668 ↓	660 ↓	681 ↓	695 ↓
25	611 ↓	611 ↓	648 ↓	612 ↓	612 ↓	612 ↓	620 ↓	672 ↓	670 ↓	672 ↓	676 ↓	674 ↓	678 ↓	681 ↓
26	600 ↓	617 ↓	626 ↓	647 ↓	647 ↓	647 ↓	679 ↓	681 ↓	678 ↓	676 ↓	672 ↓	678 ↓	681 ↓	685 ↓
27	611 ↓	611 ↓	611 ↓	687 ↓	691 ↓	689 ↓	685 ↓	681 ↓	672 ↓	676 ↓	660 ↓	664 ↓	670 ↓	683 ↓
28	611 ↓	664 ↓	699 ↓	672 ↓	651 ↓	668 ↓	649 ↓	630 ↓	662 ↓	651 ↓	679 ↓	695 ↓	712 ↓	699 ↓
29	611 ↓	685 ↓	687 ↓	495 ↓	511 ↓	637 ↓	614 ↓	708 ↓	678 ↓	681 ↓	674 ↓	679 ↓	679 ↓	670 ↓
30	691 ↓	681 ↓	679 ↓	691 ↓	689 ↓	674 ↓	687 ↓	651 ↓	651 ↓	658 ↓	670 ↓	678 ↓	681 ↓	708 ↓
31	691 ↓	689 ↓	693 ↓	689 ↓	685 ↓	687 ↓	685 ↓	670 ↓	670 ↓	658 ↓	664 ↓	664 ↓	664 ↓	676 ↓
Mean.	661.87	677.1	639.6	645.3	644.2	650.2	644.6	634.5	649.9	652.1	665.0	668.5	681.5	710.2

38° 52'

λ = - 115° 43' 50" = - 7h. 42m. 55s. Local Mean Time (Bifilar Magnetometer).

July 1883.

810	↑
684	?
687	?
691	?
714	?
674	?
679	?
687	?
697	?
647	?
708	?
719	?
705	?
681	?
664	?
670	?
703	?
745	?
668	?
678	?
676	?
779	?
611	?
639	?
643	?
653	?
736	?
670	?
732	?
678	?
683	?
662	?
914	?
687	?
6986	?

3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.																
942	↑	691	↑	425	?	662	?	584	?	726	?	588	?	511	?	465	?	586	?	610	?	944	?	370	?	572	?		
613	?	678	?	676	?	736	?	747	?	714	?	691	?	649	?	643	?	666	?	668	?	679	?	779	?	323	?	356	?
777	?	781	?	810	?	812	?	873	?	786	?	712	?	641	?	628	?	607	?	606	?	881	?	329	?	552	?	349	?
780	?	734	?	738	?	730	?	749	?	732	?	719	?	699	?	616	?	533	?	678	?	780	?	534	?	609	?	609	?
841	?	914	?	938	?	871	?	802	?	794	?	777	?	743	?	645	?	674	?	683	?	1008	?	399	?	609	?	609	?
674	?	670	?	810	?	768	?	784	?	666	?	682	?	664	?	699	?	714	?	692	?	810	?	653	?	137	?	137	?
609	?	701	?	674	?	699	?	683	?	647	?	707	?	753	?	563	?	614	?	646	?	757	?	427	?	330	?	427	?
687	?	681	?	638	?	724	?	734	?	695	?	683	?	679	?	682	?	679	?	679	?	798	?	220	?	578	?	578	?
641	?	660	?	683	?	820	?	788	?	765	?	685	?	693	?	691	?	569	?	689	?	843	?	555	?	278	?	278	?
708	?	707	?	998	?	340	?	861	?	-81	?	705	?	681	?	674	?	666	?	691	?	1019	?	120	?	699	?	699	?
719	?	1081	?	609	?	878	?	589	?	480	?	502	?	728	?	662	?	412	?	676	?	1069	?	267	?	802	?	802	?
654	?	645	?	648	?	670	?	662	?	674	?	672	?	687	?	674	?	499	?	676	?	693	?	405	?	288	?	288	?
683	?	732	?	818	?	743	?	701	?	710	?	670	?	689	?	672	?	679	?	644	?	820	?	482	?	338	?	338	?
654	?	666	?	630	?	683	?	672	?	672	?	676	?	679	?	685	?	536	?	612	?	720	?	193	?	537	?	537	?
897	?	837	?	701	?	689	?	757	?	759	?	517	?	373	?	355	?	689	?	625	?	897	?	110	?	787	?	787	?
817	?	687	?	699	?	774	?	753	?	810	?	755	?	741	?	727	?	647	?	647	?	847	?	365	?	462	?	462	?
753	?	687	?	740	?	693	?	689	?	740	?	712	?	714	?	710	?	654	?	683	?	753	?	603	?	150	?	150	?
678	?	681	?	919	?	917	?	584	?	718	?	728	?	521	?	561	?	605	?	609	?	919	?	142	?	777	?	777	?
912	?	812	?	854	?	816	?	798	?	802	?	726	?	521	?	588	?	668	?	700	?	930	?	502	?	428	?	428	?
647	?	693	?	691	?	699	?	691	?	668	?	685	?	660	?	668	?	622	?	665	?	723	?	567	?	136	?	136	?
621	?	666	?	672	?	674	?	683	?	691	?	689	?	683	?	668	?	681	?	666	?	706	?	527	?	179	?	179	?
662	?	674	?	676	?	744	?	755	?	732	?	678	?	716	?	636	?	553	?	674	?	765	?	231	?	244	?	244	?
644	?	653	?	678	?	699	?	738	?	786	?	714	?	691	?	674	?	601	?	674	?	785	?	499	?	289	?	289	?
810	?	788	?	842	?	782	?	678	?	804	?	716	?	722	?	705	?	708	?	677	?	862	?	348	?	547	?	547	?
672	?	682	?	705	?	710	?	745	?	716	?	681	?	689	?	695	?	695	?	667	?	745	?	508	?	247	?	247	?
743	?	816	?	734	?	757	?	732	?	712	?	689	?	565	?	585	?	639	?	646	?	818	?	732	?	386	?	386	?
662	?	676	?	670	?	674	?	681	?	681	?	683	?	697	?	687	?	687	?	665	?	706	?	495	?	211	?	211	?
678	?	687	?	666	?	679	?	687	?	705	?	749	?	722	?	727	?	678	?	684	?	759	?	567	?	192	?	192	?
660	?	672	?	738	?	1006	?	174	?	536	?	614	?	771	?	609	?	609	?	684	?	1059	?	-292	?	1351	?	1351	?
1079	?	981	?	708	?	597	?	718	?	661	?	565	?	527	?	610	?	493	?	625	?	1097	?	-273	?	1370	?	1370	?
810	?	714	?	635	?	697	?	728	?	497	?	824	?	672	?	687	?	681	?	559	?	865	?	-004	?	869	?	869	?
7416	?	7118	?	7139	?	7400	?	7037	?	7048	?	6804	?	6609	?	6381	?	6100	?	676291	?	60047	?	66708	?	601389	?	601389	?

38° 52'

λ = - 115° 43' 50" = - 7h. 42m. 55s.

August 1883.

814	↑
699	?
668	?
672	?
681	?
660	?
660	?
917	?
697	?
681	?
665	?
693	?
681	?
724	?
699	?
697	?
804	?
681	?
672	?
714	?
681	?
681	?
699	?
695	?
681	?
681	?
681	?
670	?
708	?
676	?
704	?
7104	?

3	4	5	6	7	8	9	10	11	12	Daily and Monthly Means.	Highest Reading.	Lowest Reading.	Difference.																
821	↑	796	?	845	?	656	?	812	?	586	?	618	?	624	?	439	?	639	?	630	?	630	?	028	?	841	?	841	?
699	?	716	?	734	?	758	?	812	?	740	?	697	?	674	?	670	?	651	?	681	?	869	?	028	?	291	?	221	?
693	?	734	?	708	?	736	?	750	?	745	?	716	?	720	?	664	?	567	?	668	?	763	?	542	?	221	?	221	?
681	?	685	?	679	?	705	?	668	?	668	?	672	?	681	?	679	?	681	?	675	?	710	?	610	?	100	?	100	?
759	?	694	?	679	?	747	?	794	?	832	?	757	?	697	?	660	?	476	?	653	?	824	?	437	?	387	?	387	?
913	?	753	?	681	?	736	?	701	?	689	?	708	?	506	?	511	?	660	?	647	?	952	?	379	?	573	?	573	?
678	?	743	?	899	?	720	?	803	?	753	?	668	?	613	?	637	?	527	?	670	?	924	?	372	?	552	?	552	?
689	?	681	?	674	?	672	?	672	?	672	?	678	?	691	?	501	?	622	?	669	?	728	?	192	?	192	?	192	?
676	?	676	?	676	?	683	?	674	?	670	?	678	?	691	?	683	?	681	?	672	?	691	?	618	?	73	?	73	?
664	?	695	?	777	?	812	?	777	?	777	?	755	?	514	?	653	?	570	?	689	?	824	?	200	?	624	?	624	?
693	?	707	?	718	?	708	?	714	?	716	?	687	?	689	?	699	?	678	?	672	?	736	?	570	?	166	?	166	?
687	?	681	?	710	?	683	?	679	?	679	?	678	?	687	?	691	?	689	?	665	?	744	?	595	?	119	?	119	?
741	?	643	?	658	?	676	?	668	?	681	?	745	?	703	?	678	?	626	?	669	?	751	?	578	?	173	?	173	?
804	?	814	?	996	?	718	?	730	?	773	?	751	?	751	?	724	?	701	?	710	?	998	?	409	?	899	?	899	?
689	?	681	?	676	?	672	?	672	?	672	?	681	?	682	?	670	?	697	?	691	?	757	?	670	?	87	?	87	?
689	?	691	?	689	?	691	?	691	?	689	?	683	?	689	?	691	?	683	?	689	?	714	?	668	?	46	?	46	?
676	?	678	?	695	?	683	?	685	?	699	?	712	?	693	?	666	?	658	?	679	?	714	?	624	?	90	?	90	?
904	?	940	?	879	?	708	?	808	?	812	?	796	?	664	?	679	?	664	?	670	?	940	?	234	?	706	?	706	?
684	?	687	?	689	?	701	?	755	?	718	?	712	?	707	?	608	?	514	?	678	?	757	?	364	?	393	?	393	?
687	?	695	?	710	?	697	?	693	?	697	?	703	?	720	?	736	?	678	?	680	?	732	?						

Vertical Intensity.

September 1882.

06100 + (C. G. S. Units).

$\phi = + 62^{\circ} 38' 52''$.

Days-	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1														
2														
3														
4														
5														
6														
7														
8	86 z	81 ↑	72 z	67 z	69 z	72 z	77 z	72 ↓	75 z	78 ↓	79 z	89 z	95 ↓	104 ↑
9	64 ↓	62 z	74 z	72 ↓	70 ↓	71 ↓	73 ↑	71 z	73 z	72 z	75 z	77 z	81 z	80 ↓
10	75 ↓	73 z	75 z	—	—	—	—	—	—	83 z	82 z	83 ↑	84 z	84 z
11	77 ↓	83 z	85 z	86 z	85 z	84 z	82 z	82 z	82 z	82 ↑	82 ↓	83 ↓	84 z	83 ↑
12	84 z	84 z	86 ↓	86 ↓	85 ↓	83 ↓	83 ↓	83 ↓	84 ↓	82 ↓	81 ↓	82 ↑	83 ↓	84 z
13	87 ↑	81 ↓	95 ↓	93 ↓	95 ↓	91 ↓	87 ↑	84 ↓	83 ↓	79 ↓	83 ↑	87 ↓	86 ↓	86 z
14	84 ↓	87 ↑	92 ↓	88 z	81 z	85 ↓	83 ↓	90 ↑	82 z	82 z	83 z	84 z	84 z	84 ↓
15	81 ↓	87 ↑	84 ↑	88 ↑	88 z	81 ↓	80 z	82 z	81 z	80 z	80 z	80 z	80 z	81 ↓
16	80 z	80 z	79 z	80 z	81 ↓	80 z	77 ↑	78 z	78 z	80 z	80 z	78 ↑	79 z	79 z
17	79 z	80 z	78 z	83 z	81 z	82 z	81 z	80 ↓	81 z	80 z	80 z	81 z	82 z	82 z
18	—	80 z	80 z	81 ↓	81 z	81 z	81 z	77 ↓	78 ↑	75 z	78 z	80 z	81 z	82 z
19	—	82 z	82 z	81 z	81 z	82 z	81 z	80 z	80 z	80 z	80 z	80 z	81 z	82 z
20	93 ↑	88 ↓	84 z	88 z	86 z	83 z	81 z	82 z	82 z	83 z	82 z	82 z	84 z	84 z
21	84 ↓	85 ↓	89 ↑	84 z	84 z	84 z	84 z	84 z	84 z	84 z	83 ↓	83 z	84 z	84 z
22	80 ↓	—	85 ↓	84 z	84 z	82 z	81 z	82 z	83 z	83 z	83 z	83 z	84 z	82 ↑
23	83 z	83 ↓	83 z	83 z	90 ↑	98 ↑	92 ↑	83 ↑	80 ↓	81 z	82 z	83 z	83 z	84 ↓
24	80 z	81 z	81 z	81 ↓	81 z	81 z	81 z	81 ↓	81 z	82 z	81 z	81 z	81 z	83 z
25	79 ↓	118 ↑	110 ↑	103 ↓	100 ↓	91 ↓	104 ↑	100 ↓	110 z	83 z	80 z	85 ↓	81 z	82 z
26	102 z	87 ↑	83 z	84 z	82 z	83 z	82 z	82 z	82 z	82 z	73 z	80 z	78 ↓	78 z
27	83 z	91 z	86 ↓	86 z	91 ↑	85 ↓	80 ↓	80 ↓	80 z	79 ↓	80 z	80 z	79 ↓	82 z
28	82 z	75 ↓	77 ↓	79 z	77 z	75 ↓	75 ↓	75 z	75 ↑	74 ↓	74 z	75 z	76 ↓	77 z
29	79 ↑	89 ↑	91 z	94 ↓	85 ↓	80 ↓	77 z	74 z	73 z	75 z	75 z	76 ↓	77 z	76 ↓
30	80 z	80 ↓	82 ↑	76 ↓	77 z	76 ↓	82 z	75 ↑	75 ↓	75 z	77 z	77 z	76 z	77 z
Mean -	61871	820	840	840	835	821	819	808	809	796	797	803	819	826

October 1882

$\phi = + 62^{\circ} 38' 52''$.

Days-	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	73 z	78 ↑	81 ↓	76 z	74 z	77 z	76 ↑	73 z	73 ↑	75 z	75 ↑	77 z	77 z	77 z
2	81 z	82 z	121 ↑	123 z	122 z	120 z	113 z	89 z	91 ↓	102 z	106 z	117 z	127 z	118 ↑
3	77 z	80 z	80 z	77 z	80 z	80 ↓	78 z	78 z	74 ↓	75 z	78 z	80 z	78 z	80 z
4	73 ↓	77 z	88 ↑	92 ↓	77 ↑	77 ↑	77 ↑	90 ↓	77 ↓	69 ↓	75 ↓	81 z	77 z	82 z
5	79 ↓	80 z	78 z	81 z	79 z	80 ↑	78 z	82 z	77 ↓	78 z	72 ↓	73 z	70 z	61 z
6	102 z	102 z	102 z	103 z	102 z	102 z	102 z	103 z	105 z	87 z	81 z	82 z	81 z	80 z
7	79 z	78 z	78 ↓	76 ↓	76 ↓	77 ↓	78 z	78 z	78 z	79 z	80 z	76 ↓	77 z	78 z
8	78 z	80 z	78 z	80 z	80 z	80 z	80 z	79 z	79 z	78 z	78 z	78 z	78 z	78 z
9	77 z	78 z	81 z	84 z	81 z	81 z	81 z	78 z	77 z	76 z	75 z	76 z	72 z	75 z
10	81 z	83 z	95 z	95 z	95 z	84 ↓	81 z	77 z	79 ↓	81 z	82 z	81 z	77 z	80 z
11	81 z	82 z	87 z	81 ↓	85 ↓	80 ↓	80 ↓	73 z	78 z	78 z	78 z	81 z	80 z	81 z
12	78 z	82 z	84 z	77 z	80 z	78 z	78 z	78 z	78 z	78 z	79 z	78 z	78 z	78 z
13	81 z	80 z	78 z	78 z	78 z	79 z	77 z	77 z	74 z	82 z	75 z	77 z	75 z	78 z
14	80 z	81 z	74 z	71 z	65 z	64 z	64 z	63 z	62 z	61 z	63 z	67 z	75 z	75 z
15	80 z	79 z	86 ↑	113 ↑	105 ↑	93 ↑	76 ↓	91 ↑	76 ↓	72 z	75 z	76 z	77 z	78 z
16	77 z	117 z	102 z	95 z	83 z	77 z	77 z	74 z	77 z	80 z	71 z	74 z	74 z	71 z
17	107 z	82 z	83 ↓	83 ↓	78 z	77 z	75 ↓	81 ↓	92 z	74 z	75 z	78 z	79 z	80 z
18	61 z	66 ↑	89 ↓	81 ↓	79 z	79 z	79 z	79 z	80 z	80 z	79 z	79 z	78 z	80 z
19	71 z	77 z	77 z	79 z	81 z	77 z	77 z	75 z	74 z	74 z	75 z	75 z	76 z	76 z
20	75 z	74 z	74 z	73 z	74 z	74 z	74 z	78 z	75 z	75 z	75 z	76 z	77 z	77 z
21	72 z	73 z	72 z	73 z	73 z	73 z	73 z	73 z	73 z	73 z	73 z	74 z	73 z	74 z
22	77 z	73 z	77 z	77 z	81 z	89 z	91 z	91 z	80 z	72 z	80 z	79 z	[77]	69 z
23	72 z	94 z	93 ↓	77 z	77 z	75 z	71 z	65 z	69 z	68 z	70 z	71 z	70 z	73 z
24	80 z	67 z	75 z	90 z	86 z	84 z	68 z	66 z	67 z	68 z	68 z	68 z	68 z	68 z
25	66 z	94 z	86 z	84 z	77 z	77 z	73 z	69 z	68 z	69 z	68 z	68 z	69 z	68 z
26	64 z	69 z	66 z	67 z	71 z	66 z	67 z	65 z	65 z	66 z	67 z	68 z	68 z	71 z
27	73 z	77 z	75 z	73 z	68 z	69 z	68 z	65 z	65 z	62 z	63 z	66 z	69 z	68 z
28	79 z	74 z	73 z	80 z	91 z	92 z	93 z	91 z	73 z	74 z	78 z	83 z	73 z	75 z
29	80 z	87 z	100 z	84 z	76 ↓	73 ↓	75 z	71 z	75 z	74 z	74 z	77 z	80 z	84 z
30	67 z	72 z	81 z	85 z	84 z	74 z	74 z	75 z	74 z	74 z	76 z	77 z	77 z	78 z
31	72 z	82 z	78 z	75 z	77 z	77 z	78 z	78 z	78 z	79 z	79 z	79 z	80 z	80 z
Mean -	61781	816	837	837	820	800	786	775	762	751	755	771	772	774

* Magnet accidentally displaced.

62° 38' 52".

$\lambda = -115^{\circ} 13' 50'' = -7h. 42m. 55s.$ Local Mean Time (Balance Magnetometer).

September 1882.

1	2	3	4	5	6	7	8	9	10	11	12	Daily Means.	Highest Reading.	Lowest Reading.	Difference.
95 ↓	102 ↑	102 ↓	105 ↓	106 ↓	106 ↓	73 ↓	73 ↓	74 ↓	72 ↓	68 ↓	67 ↓	81	106	67	.0039
81 ↓	80 ↓	80 ↓	84 ↓	87 ↓	88 ↓	87 ↓	84 ↓	84 ↓	82 ↓	80 ↓	77 ↓	81	88	63	.0026
84 ↓	83 ↓	83 ↓	85 ↓	86 ↓	94 ↓	86 ↓	88 ↓	77 ↓	96 ↓	78 ↓	84 ↓	83	96	73	.0023
84 ↓	83 ↓	83 ↓	85 ↓	82 ↓	84 ↓	72 ↓	64 ↓	69 ↓	83 ↓	87 ↓	83 ↓	81	87	64	.0024
81 ↓	84 ↓	84 ↓	86 ↓	84 ↓	84 ↓	77 ↓	69 ↓	76 ↓	78 ↓	50 ↓	69 ↓	77	86	50	.0036
86 ↓	86 ↓	85 ↓	85 ↓	85 ↓	85 ↓	84 ↓	79 ↓	79 ↓	80 ↓	85 ↓	68 ↓	84	95	68	.0027
84 ↓	84 ↓	84 ↓	84 ↓	84 ↓	86 ↓	84 ↓	82 ↓	80 ↓	76 ↓	64 ↓	58 ↓	83	107	58	.0049
80 ↓	81 ↓	82 ↓	82 ↓	91 ↓	80 ↓	80 ↓	77 ↓	82 ↓	80 ↓	81 ↓	81 ↓	82	93	77	.0016
81 ↓	79 ↓	82 ↓	82 ↓	94 ↓	80 ↓	80 ↓	77 ↓	83 ↓	75 ↓	77 ↓	81 ↓	79	94	70	.0021
82 ↓	82 ↓	83 ↓	83 ↓	83 ↓	83 ↓	83 ↓	82 ↓	82 ↓	82 ↓	81 ↓	81 ↓	81	84	78	.0006
81 ↓	81 ↓	86 ↓	83 ↓	84 ↓	84 ↓	83 ↓	84 ↓	81 ↓	77 ↓	80 ↓	82 ↓	81	86	75	.0011
81 ↓	84 ↓	85 ↓	84 ↓	85 ↓	85 ↓	84 ↓	84 ↓	84 ↓	81 ↓	82 ↓	81 ↓	82	86	80	.0006
84 ↓	84 ↓	85 ↓	84 ↓	86 ↓	86 ↓	84 ↓	84 ↓	80 ↓	80 ↓	78 ↓	81 ↓	83	91	78	.0013
84 ↓	84 ↓	85 ↓	84 ↓	86 ↓	84 ↓	84 ↓	84 ↓	84 ↓	83 ↓	84 ↓	85 ↓	84	95	83	.0012
84 ↓	81 ↓	84 ↓	84 ↓	85 ↓	8	84 ↓	85 ↓	85 ↓	81 ↓	81 ↓	82 ↓	81	90	80	.0010
83 ↓	84 ↓	85 ↓	82 ↓	83 ↓	84 ↓	86 ↓	83 ↓	84 ↓	81 ↓	81 ↓	79 ↓	84	98	79	.0019
81 ↓	81 ↓	84 ↓	84 ↓	84 ↓	84 ↓	61 ↓	79 ↓	79 ↓	74 ↓	71 ↓	85 ↓	85	118	61	.0024
80 ↓	81 ↓	84 ↓	84 ↓	82 ↓	81 ↓	79 ↓	75 ↓	66 ↓	69 ↓	69 ↓	94 ↓	88	118	66	.0052
78 ↓	78 ↓	79 ↓	77 ↓	77 ↓	77 ↓	67 ↓	67 ↓	81 ↓	81 ↓	81 ↓	83 ↓	80	102	66	.0036
79 ↓	81 ↓	79 ↓	79 ↓	80 ↓	78 ↓	78 ↓	75 ↓	74 ↓	73 ↓	73 ↓	66 ↓	80	91	66	.0025
76 ↓	77 ↓	78 ↓	77 ↓	77 ↓	77 ↓	77 ↓	77 ↓	73 ↓	73 ↓	63 ↓	68 ↓	75	82	63	.0019
76 ↓	77 ↓	77 ↓	77 ↓	77 ↓	76 ↓	77 ↓	77 ↓	77 ↓	71 ↓	70 ↓	70 ↓	78	94	70	.0024
77 ↓	77 ↓	75 ↓	75 ↓	75 ↓	73 ↓	73 ↓	73 ↓	75 ↓	75 ↓	73 ↓	71 ↓	78	82	71	.0014
819	826	813	833	81	800	800	785	779	787	786	774	.61815	.6218	.6150	.0068

62° 38' 52".

$\lambda = -115^{\circ} 13' 50'' = -7h. 42m. 55s.$

October 1882.

1	2	3	4	5	6	7	8	9	10	11	12	Daily Means.	Highest Reading.	Lowest Reading.	Difference.
77 ↓	77 ↓	77 ↓	78 ↓	79 ↓	79 ↓	80 ↓	78 ↓	78 ↓	76 ↓	80 ↓	88 ↓	77	88	73	.0015
77 ↓	77 ↓	135 ↓	131 ↓	67 ↓	74 ↓	64 ↓	69 ↓	75 ↓	72 ↓	80 ↓	77 ↓	95	131	25	.0106
82 ↓	80 ↓	80 ↓	81 ↓	81 ↓	81 ↓	81 ↓	81 ↓	72 ↓	73 ↓	76 ↓	81 ↓	78	83	72	.0011
77 ↓	77 ↓	80 ↓	81 ↓	81 ↓	75 ↓	73 ↓	73 ↓	78 ↓	78 ↓	84 ↓	101 ↓	80	102	79	.0013
77 ↓	77 ↓	80 ↓	80 ↓	77 ↓	79 ↓	79 ↓	80 ↓	79 ↓	78 ↓	79 ↓	80 ↓	88	102	78	.0027
77 ↓	77 ↓	79 ↓	81 ↓	81 ↓	81 ↓	81 ↓	81 ↓	81 ↓	80 ↓	80 ↓	79 ↓	78	81	76	.0005
78 ↓	78 ↓	81 ↓	81 ↓	85 ↓	81 ↓	81 ↓	79 ↓	81 ↓	79 ↓	79 ↓	78 ↓	79	81	78	.0003
75 ↓	75 ↓	79 ↓	78 ↓	77 ↓	77 ↓	78 ↓	77 ↓	75 ↓	75 ↓	80 ↓	66 ↓	79	86	66	.0020
77 ↓	77 ↓	81 ↓	81 ↓	81 ↓	81 ↓	77 ↓	78 ↓	76 ↓	61 ↓	71 ↓	78 ↓	81	95	61	.0034
78 ↓	78 ↓	81 ↓	81 ↓	79 ↓	78 ↓	78 ↓	78 ↓	78 ↓	81 ↓	61 ↓	76 ↓	81	87	61	.0026
78 ↓	78 ↓	80 ↓	78 ↓	79 ↓	77 ↓	75 ↓	75 ↓	73 ↓	73 ↓	77 ↓	83 ↓	78	84	72	.0012
78 ↓	78 ↓	79 ↓	80 ↓	80 ↓	81 ↓	81 ↓	81 ↓	84 ↓	81 ↓	81 ↓	81 ↓	79	81	74	.0010
75 ↓	77 ↓	77 ↓	77 ↓	75 ↓	70 ↓	66 ↓	59 ↓	65 ↓	71 ↓	85 ↓	96 ↓	71	96	59	.0037
78 ↓	78 ↓	78 ↓	78 ↓	77 ↓	78 ↓	78 ↓	77 ↓	77 ↓	75 ↓	76 ↓	65 ↓	80	113	65	.0048
71 ↓	71 ↓	68 ↓	63 ↓	71 ↓	64 ↓	69 ↓	66 ↓	68 ↓	87 ↓	67 ↓	91 ↓	77	117	64	.0053
80 ↓	80 ↓	77 ↓	77 ↓	78 ↓	80 ↓	78 ↓	77 ↓	77 ↓	77 ↓	82 ↓	58 ↓	79	107	58	.0049
77 ↓	77 ↓	79 ↓	78 ↓	79 ↓	78 ↓	78 ↓	80 ↓	79 ↓	78 ↓	77 ↓	78 ↓	79	96	64	.0012
77 ↓	77 ↓	77 ↓	78 ↓	76 ↓	77 ↓	77 ↓	77 ↓	78 ↓	75 ↓	75 ↓	75 ↓	75	81	71	.0010
75 ↓	75 ↓	75 ↓	75 ↓	75 ↓	73 ↓	73 ↓	73 ↓	75 ↓	75 ↓	73 ↓	73 ↓	74	78	73	.0005
73 ↓	73 ↓	74 ↓	74 ↓	74 ↓	73 ↓	73 ↓	73 ↓	69 ↓	65 ↓	64 ↓	75 ↓	72	75	64	.0011
69 ↓	69 ↓	54 ↓	67 ↓	59 ↓	67 ↓	67 ↓	74 ↓	75 ↓	64 ↓	80 ↓	68 ↓	74	91	54	.0037
73 ↓	73 ↓	75 ↓	75 ↓	73 ↓	73 ↓	73 ↓	69 ↓	69 ↓	87 ↓	70 ↓	79 ↓	74	94	65	.0029
68 ↓	68 ↓	68 ↓	68 ↓	67 ↓	68 ↓	68 ↓	68 ↓	68 ↓	60 ↓	86 ↓	95 ↓	60	95	60	.0015
68 ↓	68 ↓	68 ↓	68 ↓	68 ↓	68 ↓	68 ↓	68 ↓	68 ↓	84 ↓	54 ↓	66 ↓	72	90	54	.0042
74 ↓	74 ↓	68 ↓	68 ↓	68 ↓	67 ↓	64 ↓	64 ↓	64 ↓	63 ↓	37 ↓	72 ↓	83	86	37	.0045
75 ↓	75 ↓	69 ↓	69 ↓	58 ↓	70 ↓	57 ↓	74 ↓	74 ↓	84 ↓	67 ↓	74 ↓	69	84	57	.0027
78 ↓	78 ↓	71 ↓	71 ↓	73 ↓	77 ↓	77 ↓	70 ↓	38 ↓	53 ↓	68 ↓	75 ↓	74	93	38	.0053
78 ↓	78 ↓	74 ↓	74 ↓	75 ↓	75 ↓	74 ↓	74 ↓	73 ↓	51 ↓	66 ↓	70 ↓	75	100	51	.0049
78 ↓	78 ↓	78 ↓	78 ↓	78 ↓	78 ↓	76 ↓	76 ↓	79 ↓	78 ↓	78 ↓	77 ↓	78	85	67	.0018
81 ↓	81 ↓	81 ↓	81 ↓	81 ↓	81 ↓	80 ↓	80 ↓	81 ↓	78 ↓	73 ↓	72 ↓	78	83	72	.0010
785	775	753	745	747	739	794	740	737	784	.61773	.6211	.6125	.0106		

Vertical Intensity.

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November 1882.

06100+ (C. G. S. Units).

 $\phi = + 62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	79 ↑	83 ↑	90 ↓	83 ↓	84 ↑	95 ↑	88 ↓	84 ↑	79 ↓	84 ↑	82 ↑	81 ↓	84 ↓	85 ↓
2	85 ↑	87 ↓	93 ↓	90 ↓	88 ↓	85 ↓	84 ↓	87 ↑	87 ↓	87 ↓	88	80	90 ↓	91 ↓
3	88 ↓	86 ↓	91 ↓	89 ↓	102 ↓	96 ↓	93 ↓	99 ↓	91 ↓	91 ↓	91 ↓	91 ↓	91 ↓	87 ↓
4	88 ↓	88 ↓	87 ↓	88 ↓	62 ↓	64 ↓	64 ↓	69 ↓	61 ↓	60 ↓	55 ↓	56 ↓	56 ↓	55 ↓
5	87 ↓	87 ↓	87 ↓	87 ↓	87 ↓	87 ↓	87 ↓	87 ↓	87 ↓	87 ↓	87 ↓	87 ↓	87 ↓	87 ↓
6	63 ↓	63 ↓	60 ↑	63 ↓	63 ↓	64 ↓	64 ↓	64 ↓	64 ↓	60 ↓	61 ↓	61 ↓	61 ↓	61 ↓
7	61 ↓	87 ↓	70 ↓	69 ↓	65 ↓	64 ↓	63 ↓	72 ↓	60 ↓	53 ↓	42 ↓	61 ↓	67 ↓	65 ↓
8	75 ↓	83 ↓	72 ↓	66 ↓	72 ↓	64 ↓	65 ↓	65 ↓	64 ↓	64 ↓	63 ↓	64 ↓	66 ↓	68 ↓
9	66 ↓	67 ↓	73 ↓	90 ↓	88 ↓	84 ↓	80 ↓	73 ↓	65 ↓	67 ↓	73 ↓	72 ↓	73 ↓	75 ↓
10	69 ↓	69 ↓	69 ↓	71 ↓	71 ↓	71 ↓	71 ↓	69 ↓	69 ↓	69 ↓	70 ↓	70 ↓	70 ↓	71 ↓
11	72 ↓	70 ↓	73 ↓	73 ↓	72 ↓	72 ↓	73 ↓	73 ↓	77 ↓	74 ↓	77 ↓	77 ↓	77 ↓	78 ↓
12	88 ↓	110 ↓	102 ↓	102 ↓	101 ↓	108 ↓	93 ↓	98 ↓	112 ↓	107 ↓	91 ↓	89 ↓	87 ↓	84 ↓
13	>139	132 ↓	123 ↓	129 ↓	139 ↓	>144 ↓	78 ↓	122 ↓	125 ↓	125 ↓	102 ↓	105 ↓	99 ↓	86 ↓
14	106 ↓	100 ↓	111 ↓	110 ↓	101 ↓	92 ↓	110 ↓	121 ↓	107 ↓	89 ↓	82 ↓	84 ↓	88 ↓	90 ↓
15	99 ↓	64 ↓	70 ↓	73 ↓	65 ↓	56 ↓	49 ↓	40 ↓	41 ↓	43 ↓	43 ↓	46 ↓	48 ↓	52 ↓
16	38 ↓	49 ↓	63 ↓	67 ↓	56 ↓	49 ↓	50 ↓	49 ↓	50 ↓	50 ↓	50 ↓	50 ↓	45 ↓	47 ↓
17	64 ↓	62 ↓	27 ↓	95 ↓	110 ↓	111 ↓	103 ↓	119 ↓	88 ↓	104 ↓	43 ↓	34 ↓	39 ↓	40 ↓
18	121 ↓	75 ↓	66 ↓	78 ↓	82 ↓	73 ↓	96 ↓	55 ↓	65 ↓	70 ↓	62 ↓	61 ↓	65 ↓	56 ↓
19	67 ↓	69 ↓	73 ↓	72 ↓	84 ↓	68 ↓	100 ↓	80 ↓	76 ↓	62 ↓	62 ↓	64 ↓	66 ↓	61 ↓
20	>126 ↓	100 ↓	105 ↓	>126 ↓	>135 ↓	120 ↓	124 ↓	113 ↓	96 ↓	105 ↓	82 ↓	68 ↓	61 ↓	66 ↓
21	69 ↓	73 ↓	73 ↓	77 ↓	83 ↓	78 ↓	75 ↓	113 ↓	>112 ↓	102 ↓	86 ↓	80 ↓	71 ↓	58 ↓
22	78 ↓	84 ↓	84 ↓	84 ↓	78 ↓	78 ↓	77 ↓	79 ↓	77 ↓	77 ↓	79 ↓	79 ↓	80 ↓	82 ↓
23	82 ↓	91 ↓	100 ↓	85 ↓	98 ↓	92 ↓	73 ↓	76 ↓	77 ↓	73 ↓	77 ↓	80 ↓	80 ↓	80 ↓
24	86 ↓	88 ↓	77 ↓	77 ↓	81 ↓	80 ↓	73 ↓	71 ↓	71 ↓	73 ↓	72 ↓	73 ↓	76 ↓	78 ↓
25	72 ↓	87 ↓	82 ↓	90 ↓	88 ↓	88 ↓	104 ↓	81 ↓	68 ↓	98 ↓	96 ↓	67 ↓	75 ↓	115 ↓
26	79 ↓	73 ↓	74 ↓	73 ↓	81 ↓	77 ↓	82 ↓	82 ↓	71 ↓	69 ↓	67 ↓	66 ↓	73 ↓	70 ↓
27	43 ↓	67 ↓	80 ↓	76 ↓	68 ↓	68 ↓	69 ↓	67 ↓	64 ↓	77 ↓	81 ↓	80 ↓	83 ↓	80 ↓
28	88 ↓	82 ↓	86 ↓	88 ↓	83 ↓	80 ↓	78 ↓	81 ↓	80 ↓	80 ↓	82 ↓	82 ↓	82 ↓	81 ↓
29	82 ↓	84 ↓	82 ↓	82 ↓	80 ↓	80 ↓	80 ↓	81 ↓	81 ↓	80 ↓	80 ↓	79 ↓	78 ↓	78 ↓
30	86 ↓	76 ↓	74 ↓	75 ↓	84 ↓	79 ↓	73 ↓	74 ↓	77 ↓	78 ↓	82 ↓	82 ↓	82 ↓	84 ↓
Mean	61757	800	796	838	845	820	808	805	766	782	734	717	723	719

December 1882.

 $\phi = + 62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	80 ↓	78 ↓	78 ↓	87 ↓	84 ↓	93 ↓	95 ↓	82 ↓	82 ↓	82 ↓	83 ↓	84 ↓	84 ↓	83 ↓
2	88 ↓	88 ↓	90 ↓	90 ↓	94 ↓	94 ↓	90 ↓	95 ↓	93 ↓	95 ↓	>95 ↓	>97 ↓	>96 ↓	>96 ↓
3	89 ↓	84 ↓	88 ↓	89 ↓	88 ↓	88 ↓	93 ↓	92 ↓	95 ↓	>95 ↓	>95 ↓	>95 ↓	>95 ↓	>95 ↓
4	66 ↓	84 ↓	73 ↓	88 ↓	88 ↓	88 ↓	61 ↓	79 ↓	108 ↓	63 ↓	72 ↓	72 ↓	80 ↓	72 ↓
5	62 ↓	76 ↓	76 ↓	84 ↓	77 ↓	72 ↓	73 ↓	74 ↓	75 ↓	73 ↓	75 ↓	75 ↓	74 ↓	73 ↓
6	84 ↓	79 ↓	72 ↓	74 ↓	72 ↓	73 ↓	73 ↓	74 ↓	75 ↓	74 ↓	73 ↓	70 ↓	68 ↓	72 ↓
7	21 ↓	70 ↓	71 ↓	71 ↓	71 ↓	71 ↓	67 ↓	69 ↓	67 ↓	65 ↓	66 ↓	69 ↓	68 ↓	65 ↓
8	69 ↓	69 ↓	68 ↓	68 ↓	70 ↓	67 ↓	66 ↓	70 ↓	69 ↓	69 ↓	69 ↓	69 ↓	69 ↓	69 ↓
9	65 ↓	65 ↓	67 ↓	68 ↓	69 ↓	67 ↓	66 ↓	66 ↓	66 ↓	66 ↓	65 ↓	63 ↓	63 ↓	62 ↓
10	64 ↓	67 ↓	69 ↓	71 ↓	72 ↓	68 ↓	69 ↓	68 ↓	69 ↓	70 ↓	71 ↓	74 ↓	71 ↓	71 ↓
11	86 ↓	108 ↓	79 ↓	88 ↓	72 ↓	69 ↓	69 ↓	68 ↓	68 ↓	70 ↓	69 ↓	69 ↓	72 ↓	77 ↓
12	69 ↓	72 ↓	95 ↓	91 ↓	73 ↓	71 ↓	71 ↓	69 ↓	64 ↓	61 ↓	67 ↓	70 ↓	71 ↓	74 ↓
13	62 ↓	68 ↓	73 ↓	76 ↓	74 ↓	74 ↓	68 ↓	70 ↓	71 ↓	69 ↓	70 ↓	70 ↓	71 ↓	71 ↓
14	71 ↓	72 ↓	74 ↓	72 ↓	76 ↓	71 ↓	69 ↓	71 ↓	71 ↓	71 ↓	70 ↓	70 ↓	69 ↓	76 ↓
15	75 ↓	72 ↓	75 ↓	75 ↓	75 ↓	72 ↓	74 ↓	74 ↓	73 ↓	73 ↓	71 ↓	71 ↓	75 ↓	73 ↓
16	50 ↓	55 ↓	104 ↓	98 ↓	96 ↓	86 ↓	81 ↓	83 ↓	72 ↓	70 ↓	71 ↓	83 ↓	77 ↓	73 ↓
17	71 ↓	73 ↓	71 ↓	71 ↓	73 ↓	82 ↓	71 ↓	70 ↓	72 ↓	72 ↓	72 ↓	72 ↓	72 ↓	73 ↓
18	70 ↓	72 ↓	73 ↓	73 ↓	73 ↓	73 ↓	75 ↓	73 ↓	73 ↓	73 ↓	73 ↓	73 ↓	71 ↓	74 ↓
19	81 ↓	81 ↓	81 ↓	78 ↓	72 ↓	72 ↓	74 ↓	73 ↓	73 ↓	73 ↓	74 ↓	73 ↓	73 ↓	73 ↓
20	82 ↓	81 ↓	82 ↓	90 ↓	96 ↓	110 ↓	91 ↓	73 ↓	103 ↓	82 ↓	79 ↓	69 ↓	73 ↓	69 ↓
21	73 ↓	105 ↓	97 ↓	97 ↓	91 ↓	91 ↓	96 ↓	77 ↓	77 ↓	77 ↓	82 ↓	70 ↓	81 ↓	77 ↓
22	71 ↓	75 ↓	102 ↓	102 ↓	109 ↓	73 ↓	80 ↓	76 ↓	75 ↓	73 ↓	75 ↓	78 ↓	77 ↓	79 ↓
23	71 ↓	80 ↓	74 ↓	108 ↓	81 ↓	76 ↓	74 ↓	73 ↓	75 ↓	75 ↓	79 ↓	78 ↓	81 ↓	79 ↓
24	50 ↓	115 ↓	81 ↓	81 ↓	81 ↓	78 ↓	89 ↓	90 ↓	69 ↓	62 ↓	74 ↓	77 ↓	73 ↓	76 ↓
25	89 ↓	76 ↓	81 ↓	100 ↓	85 ↓	78 ↓	76 ↓	77 ↓	77 ↓	75 ↓	77 ↓	77 ↓	79 ↓	79 ↓
26	74 ↓	72 ↓	77 ↓	72 ↓	77 ↓	77 ↓	69 ↓	68 ↓	70 ↓	73 ↓	72 ↓	77 ↓	76 ↓	78 ↓
27	71 ↓	78 ↓	78 ↓	75 ↓	77 ↓	76 ↓	76 ↓	75 ↓	75 ↓	76 ↓	75 ↓	75 ↓	74 ↓	75 ↓
28	71 ↓	71 ↓	71 ↓	82 ↓	90 ↓	75 ↓	74 ↓	75 ↓	75 ↓	76 ↓	75 ↓	75 ↓	75 ↓	75 ↓
29	61 ↓	84 ↓	82 ↓	82 ↓	82 ↓	88 ↓	83 ↓	73 ↓	62 ↓	65 ↓	68 ↓	77 ↓	78 ↓	75 ↓
30	71 ↓	73 ↓	80 ↓	87 ↓	89 ↓	91 ↓	81 ↓	75 ↓	70 ↓	62 ↓	62 ↓	62 ↓	74 ↓	72 ↓
31	65 ↓	73 ↓	75 ↓	96 ↓	99 ↓	80 ↓	75 ↓	72 ↓	73 ↓	73 ↓	72 ↓	71 ↓	62 ↓	61 ↓
Mean	61718	784	795	834	817	801	777	736	751	729	740	746	749	748

* Needle displaced accidentally.

62° 38' 52".

λ = - 115° 43' 50" = - 7h. 42m. 55s. Local Mean Time (Balance Magnetometer).

November 1882.

1	2	3	4	5	6	7	8	9	10	11	12	Daily Means.	Highest Reading.	Lowest Reading.	Difference.
84 =	85 ↓	85 ↓	86 =	85 ↑	85 =	85 ↓	85 ↓	83 =	83 ↓	81 =	81 ↓	84	95	79	*0016
90 ↓	91 ↓	89 ↓	89 ↓	89 ↓	89 ↓	89 ↓	80 =	81 ↓	83 ↓	86 ↓	88 ↓	87	99	80	*0019
91 =	57 =	55 ↓	55 ↓	56 ↓	55 ↓	55 ↓	55 ↓	55 ↓	55 ↓	54 =	56 =	74	102	54	*0048
58 ↓	58 ↓	53 ↓	50 =	48 =	44 =	44 =	44 =	43 ↓	41 =	40 =	37 =	51	64	37	*0027
61 ↓	61 ↓	61 ↓	61 ↓	66 ↑	61 ↓	62 ↓	50 ↓	59 ↓	62 ↓	61 ↓	64 =	58	66	37	*0029
67 ↓	65 ↓	64 ↓	64 ↓	63 ↓	64 ↓	63 ↓	63 ↓	61 =	62 =	55 ↓	44 ↓	61	64	44	*0020
66 ↓	66 ↓	66 ↓	66 ↓	64 ↓	65 ↓	66 =	67 =	65 ↓	65 ↓	58 ↓	47 ↓	63	87	35	*0052
66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	67 ↓	63 ↓	67 ↓	67 ↓	68 ↓	68 ↓	68 ↓	67	83	58	*0023
70 ↓	71 ↓	69 ↓	69 ↓	68 =	68 ↓	69 ↓	69 ↓	68 ↓	68 ↓	69 ↓	71 ↓	72	90	65	*0004
72 ↓	71 ↓	72 ↓	72 ↓	74 ↓	74 ↓	73 ↓	73 ↓	72 ↓	72 ↓	73 ↓	73 ↓	70	73	69	*0004
77 =	78 =	80 ↓	78 ↓	80 ↓	80 ↓	79 ↓	79 ↓	79 ↓	79 ↓	79 ↓	77 ↓	77	79	70	*0004
87 ↓	84 ↓	71 ↓	74 ↓	75 ↓	78 ↓	67 ↓	73 ↓	98 ↓	103 ↓	97 ↓	55 ↓	90	113	55	*0057
99 ↓	86 ↓	79 ↓	94 ↓	89 ↓	89 ↓	89 ↓	89 ↓	89 ↓	86 ↓	104 ↓	105 ↓	106	141	78	*0061
88 ↓	90 ↓	98 ↓	102 ↓	102 ↓	86 ↓	62 ↓	62 ↓	69 ↓	69 ↓	78 ↓	97 ↓	93	121	62	*0029
48 ↓	48 ↓	50 ↓	53 ↓	55 ↓	54 ↓	48 ↓	53 ↓	50 ↓	48 ↓	45 =	50 ↓	49	99	40	*0059
45 ↓	47 ↓	48 ↓	43 ↓	43 ↓	47 ↓	51 ↓	44 ↓	47 ↓	48 ↓	49 ↓	56 ↓	49	67	38	*0029
65 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	67	119	21	*0098
66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	67	121	47	*0074
61 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	66 ↓	67	100	56	*0044
71 ↓	58 ↓	55 ↓	61 ↓	68 ↓	64 ↓	62 ↓	66 ↓	64 ↓	62 ↓	73 ↓	73 ↓	81	126	55	*0071
		55 ↓	71 ↓	76 ↓	78 ↓	77 ↓	79 ↓	78 ↓	82 ↓	79 ↓	80 ↓	78	113	55	*0058
80 ↓	81 ↓	81 ↓	81 ↓	81 ↓	81 ↓	80 ↓	80 ↓	75 ↓	78 ↓	62 ↓	77 ↓	78	84	62	*0023
76 ↓	76 ↓	79 ↓	79 ↓	80 ↓	78 ↓	78 ↓	78 ↓	54 ↓	62 ↓	62 ↓	67 ↓	100	79	54	*0046
75 ↓	75 ↓	79 ↓	79 ↓	68 ↓	68 ↓	71 ↓	74 ↓	64 ↓	62 ↓	57 ↓	65 ↓	68	88	57	*0031
73 ↓	70 ↓	77 ↓	77 ↓	50 ↓	68 ↓	65 ↓	56 ↓	54 ↓	63 ↓	86 ↓	80 ↓	77	115	50	*0065
		71 ↓	69 ↓	72 ↓	70 ↓	71 ↓	43 ↓	67 ↓	69 ↓	67 ↓	47 ↓	70	85	43	*0042
80 ↓	81 ↓	83 ↓	82 ↓	82 ↓	84 ↓	80 ↓	81 ↓	80 ↓	78 ↓	63 ↓	72 ↓	75	89	45	*0044
80 ↓	81 ↓	83 ↓	84 ↓	84 ↓	87 ↓	81 ↓	83 ↓	74 ↓	79 ↓	75 ↓	82 ↓	82	85	74	*0038
78 ↓	78 ↓	80 ↓	81 ↓	81 ↓	81 ↓	80 ↓	80 ↓	80 ↓	76 ↓	81 ↓	68 ↓	79	84	68	*0016
83 ↓	84 ↓	72 ↓	71 ↓	70 ↓	71 ↓	69 ↓	72 ↓	76 ↓	75 ↓	73 ↓	78 ↓	76	86	69	*0017
72 ↓															
723	719	687	697	700	700	687	674	693	701	708	698	*61741	*6241	*6121	*0120

62° 38' 52".

λ = - 115° 43' 50" = - 7h. 42m. 55s.

December 1882.

1	2	3	4	5	6	7	8	9	10	11	12	Daily Means.	Highest Reading.	Lowest Reading.	Difference.
84 =	85 =	83 ↓	77 ↓	79 =	85 ↓	88 ↓	86 ↑	88 =	85 ↓	87 ↓	90 =	84	95	77	*0018
96 ?	>96 ?	>96 ?	>96 ?	>96 ?	96 ?	>96 ?	>96 ?	>96 ?	92 ?	>94 ?	>103 ?	94	103	88	*0015
95 ?	>95 ?	>95 ?	>95 ?	>95 ?	95 ?	>95 ?	>95 ?	>95 ?	>77 ?	71 ↓	88 ↓	89	95	71	*0024
80 ↓	73 ↓	75 ↓	77 ↓	73 ↓	71 ↓	73 ↓	74 ↓	75 ↓	74 ↓	72 ↓	76 ↓	76	108	61	*0047
24 ↓	73 ↓	73 ↓	73 ↓	75 ↓	75 ↓	76 ↓	76 ↓	73 ↓	71 ↓	57 ↓	53 ↓	84	84	53	*0031
68 ↓	72 ↓	75 ↓	73 ↓	71 ↓	73 ↓	67 ↓	69 ↓	71 ↓	70 ↓	71 ↓	71 ↓	72	84	67	*0017
68 ?	63 ↓	74 ↓	72 ↓	71 ↓	74 ↓	71 ↓	71 ↓	71 ↓	69 ↓	69 ↓	69 ↓	69	72	65	*0007
69 ?	69 =	67 ↓	67 ↓	67 ↓	67 ↓	69 ↓	69 ↓	64 ↓	66 ↓	65 ↓	57 ↓	67	70	57	*0013
63 ↓	62 ↓	67 ↓	68 ↓	68 ↓	69 ↓	67 ↓	67 ↓	67 ↓	64 ↓	64 ↓	53 ↓	65	69	53	*0016
71 ↓	71 ↓	71 ↓	70 ↓	71 ↓	66 ↓	69 ↓	68 ↓	68 ↓	68 ↓	68 ↓	61 ↓	68	74	54	*0020
52 ↓	77 ↓	74 ↓	70 ↓	66 ↓	73 ↓	73 ↓	69 ↓	69 ↓	70 ↓	67 ↓	67 ↓	73	108	66	*0042
51 ↓	74 ↓	73 ↓	73 ↓	73 ↓	73 ↓	74 ↓	72 ↓	72 ↓	69 ↓	71 ↓	61 ↓	71	95	61	*0034
50 ↓	71 ↓	69 ↓	74 ↓	70 ↓	69 ↓	71 ↓	71 ↓	70 ↓	71 ↓	70 ↓	64 ↓	70	76	62	*0034
49 ↓	76 ↓	78 ↓	76 ↓	74 ↓	77 ↓	77 ↓	76 ↓	73 ↓	73 ↓	73 ↓	73 ↓	73	78	69	*0009
25 ↓	73 ↓	72 ↓	75 ↓	80 ↓	47 ↓	34 ↓	18 ↓	45 ↓	50 ↓	62 ↓	60 ↓	65	80	18	*0062
27 ↓	73 ↓	73 ↓	76 ↓	74 ↓	74 ↓	73 ↓	73 ↓	74 ↓	75 ↓	75 ↓	75 ↓	73	109	50	*0059
22 ↓	73 ↓	74 ↓	73 ↓	73 ↓	73 ↓	75 ↓	73 ↓	65 ↓	71 ↓	71 ↓	73 ↓	72	82	65	*0017
21 ↓	71 ↓	74 ↓	68 ↓	71 ↓	72 ↓	62 ↓	66 ↓	64 ↓	80 ↓	73 ↓	72 ↓	71	80	62	*0018
23 ↓	73 ↓	75 ↓	73 ↓	75 ↓	75 ↓	76 ↓	77 ↓	69 ↓	72 ↓	73 ↓	94 ↓	75	91	69	*0021
24 ↓	73 ↓	53 ↓	61 ↓	61 ↓	66 ↓	26 ↓	55 ↓	78 ↓	55 ↓	86 ↓	65 ↓	75	120	26	*0094
24 ↓	72 ↓	75 ↓	75 ↓	75 ↓	74 ↓	75 ↓	71 ↓	47 ↓	61 ↓	68 ↓	66 ↓	78	105	47	*0058
27 ↓	72 ↓	82 ↓	78 ↓	78 ↓	75 ↓	81 ↓	81 ↓	68 ↓	75 ↓	73 ↓	69 ↓	104	68	68	*0041
28 ↓	77 ↓	78 ↓	79 ↓	80 ↓	78 ↓	77 ↓	77 ↓	77 ↓	73 ↓	74 ↓	74 ↓	108	48	48	*0060
27 ↓	77 ↓	77 ↓	77 ↓	77 ↓	76 ↓	78 ↓	78 ↓	73 ↓	72 ↓	74 ↓	74 ↓	91	77	50	*0063
29 ↓	79 ↓	79 ↓	77 ↓	77 ↓	77 ↓	78 ↓	78 ↓	77 ↓	77 ↓	77 ↓	77 ↓	76	79	100	*0008
29 ↓	78 ↓	79 ↓	79 ↓	78 ↓	77 ↓	76 ↓	74 ↓	70 ↓	70 ↓	71 ↓	68 ↓	73	79	68	*0011
4 ↓	75 ↓	76 ↓	76 ↓	78 ↓	73 ↓	74 ↓	71 ↓	66 ↓	58 ↓	61 ↓	56 ↓	72	78	56	*0032
4 ↓	73 ↓	77 ↓	75 ↓	75 ↓	75 ↓	75 ↓	55 ↓	63 ↓	69 ↓	69 ↓	73 ↓	90	90	55	*0035
4 ↓	75 ↓	76 ↓	76 ↓	76 ↓	76 ↓	76 ↓	76 ↓	74 ↓	74 ↓	68 ↓	62 ↓	94	61	61	*0031
4 ↓	77 ↓	77 ↓	80 ↓	74 ↓	77 ↓	75 ↓	78 ↓	69 ↓	70 ↓	69 ↓	70 ↓	75	91	67	*0024
4 ↓	61 ↓	65 ↓	63 ↓	63 ↓	61 ↓	61 ↓	61 ↓	62 ↓	62 ↓	61 ↓	58 ↓	69	99	58	*0041
49	748	751	749	748	736	715	705	701	704	705	701	*61748	*6215	*6118	*0097

Vertical Intensity.

January 1883.

0°6100+ (C. G. S. Units).

φ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	62	71	84	76	73	85	79	71	69	73	70	77	77	78
2	78	77	78	78	81	77	70	73	72	72	74	73	75	78
3	81	82	78	78	80	78	73	77	77	78	77	77	77	78
4	78	77	81	78	78	73	78	77	77	78	78	47	46	48
5	73	84	80	81	82	82	83	81	82	81	80	78	78	79
6	80	93	98	96	93	107	94	68	66	75	77	75	83	77
7	77	86	110	103	96	79	93	82	70	74	66	64	73	82
8	76	74	65	74	78	74	72	71	71	71	73	70	70	72
9	72	75	81	81	80	73	73	71	71	70	75	71	73	73
10	73	70	71	72	73	73	73	71	71	74	70	73	73	73
11	73	73	73	73	72	72	73	72	71	71	72	72	73	73
12	71	73	72	74	74	72	73	72	71	71	71	68	71	72
13	70	69	71	71	71	71	80	66	65	69	71	71	69	69
14	75	68	67	71	71	71	69	68	69	69	67	71	72	72
15	77	77	80	86	84	82	77	77	74	79	70	76	77	77
16	73	81	82	77	81	82	76	73	75	77	79	78	78	79
17	80	88	96	88	89	88	78	81	69	78	80	79	80	80
18	64	81	86	84	83	78	79	77	72	75	80	78	78	81
19	82	81	82	82	83	81	81	81	82	82	83	81	81	82
20	81	78	95	103	94	103	98	89	73	68	71	67	76	80
21	91	75	78	84	85	85	73	74	68	71	71	80	81	81
22	77	79	83	60	101	84	79	80	80	79	80	81	81	81
23	71	75	83	84	88	88	81	81	80	78	80	80	79	79
24	81	83	83	83	84	80	81	79	77	77	80	71	78	81
25	80	82	88	88	101	81	84	72	72	68	77	76	76	79
26	93	88	109	89	97	116	101	78	73	71	67	77	77	77
27	89	82	79	78	78	86	89	78	73	79	78	77	77	81
28	77	80	81	82	81	80	78	80	80	80	77	79	81	82
29	83	81	80	82	83	87	76	80	81	78	78	77	76	78
30	78	96	83	81	77	78	80	78	77	77	80	77	80	77
31	68	77	84	89	73	76	74	77	73	72	73	78	78	78
Mean	61.72	79.9	82.9	81.8	82.6	81.6	79.6	76.9	73.9	74.4	75.0	73.9	75.6	76.1

February 1883.

φ = + 62° 38' 52".

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	75	76	80	89	80	75	75	75	71	70	67	72	75	79
2	83	74	111	109	104	106	101	73	80	94	64	74	84	78
3	68	69	90	84	90	108	80	73	78	79	71	70	78	80
4	49	84	69	88	96	109	104	81	77	74	73	75	71	78
5	94	91	102	85	84	80	81	78	75	67	80	78	80	81
6	71	78	81	81	78	77	77	77	104	88	76	72	75	75
7	77	83	77	78	75	77	78	78	78	77	75	74	76	77
8	74	79	78	78	72	77	75	74	73	73	72	72	73	76
9	75	74	76	77	77	78	78	77	76	75	72	74	74	75
10	75	74	78	79	81	79	77	75	77	77	75	74	77	78
11	68	67	79	75	76	74	72	70	71	72	73	75	76	77
12	67	68	69	69	66	67	63	61	66	68	70	69	69	69
13	69	69	69	69	69	73	68	64	67	67	66	67	68	68
14	82	75	71	71	71	81	84	78	63	63	60	66	66	66
15	69	70	71	69	67	69	69	71	71	71	69	69	70	68
16	68	73	71	68	68	67	65	65	67	68	66	67	67	68
17	73	67	68	68	76	67	63	63	64	64	64	66	69	69
18	69	68	69	69	69	69	69	67	67	68	68	67	67	67
19	72	71	71	70	71	68	70	69	68	68	68	68	67	68
20	70	69	77	79	102	93	80	79	65	69	29	73	75	75
21	55	77	77	74	76	72	73	71	72	72	72	72	75	73
22	72	117	104	102	104	95	114	79	107	105	91	79	76	87
23	89	93	82	79	82	86	88	66	73	66	71	74	78	73
24	73	76	89	78	76	80	109	79	52	78	79	69	71	49
25	129	110	101	101	80	83	81	71	80	80	80	78	77	71
26	75	76	78	78	93	82	78	74	73	69	69	72	77	79
27	73	80	84	82	77	78	101	88	90	101	83	91	71	77
28	89	97	86	95	109	120	109	117	97	79	73	77	77	74
Mean	61.44	78.9	80.6	80.9	81.0	82.5	82.1	76.9	73.2	73.8	70.5	73.1	73.5	71.6

Vertical Intensity.

March 1883.

0.6100+ (C. G. S. Units).

$\phi = +62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	45	81	89	101	113	120	111	110	62	68	72	65	75	78
2	72	103	91	104	105	139	118	107	96	76	78	77	81	81
3	110	105	87	83	84	84	86	86	77	74	69	77	77	77
4	83	89	86	86	84	82	82	80	77	78	80	80	80	80
5	81	81	99	101	93	86	78	72	77	80	80	80	79	79
6	82	80	82	84	88	85	88	88	78	77	78	81	81	81
7	78	88	85	81	84	77	74	77	77	71	81	81	82	81
8	87	87	101	95	121	99	112	85	77	78	77	77	82	74
9	83	86	96	115	89	78	78	79	76	75	71	75	77	74
10	56	79	84	81	81	82	80	78	75	75	73	77	77	81
11	64	80	81	83	93	88	73	75	73	79	80	81	80	77
12	82	80	81	81	81	78	80	77	77	78	78	79	78	81
13	96	92	105	117	125	114	82	82	81	79	79	80	76	77
14	98	83	101	129	129	83	82	79	74	75	77	78	77	77
15	76	81	82	78	77	76	77	76	77	77	78	77	78	78
16	75	78	80	79	77	78	77	76	77	74	77	77	79	82
17	78	84	86	81	82	79	81	78	78	80	77	75	77	78
18	78	77	82	82	84	81	77	77	76	74	74	73	72	73
19	73	73	82	81	78	77	77	78	78	76	75	74	72	73
20	75	75	75	76	75	74	75	76	76	75	74	74	75	75
21	86	82	86	84	84	86	83	75	66	71	68	69	76	74
22	101	95	109	87	117	108	97	84	70	77	76	76	82	81
23	72	82	81	85	90	111	77	74	71	73	74	76	78	78
24	77	77	76	76	77	75	75	75	75	75	75	74	74	74
25	73	76	78	78	78	77	78	75	73	73	75	74	73	74
26	58	79	85	84	89	95	77	74	72	72	71	71	86	91
27	115	93	100	98	103	132	119	111	111	90	64	69	74	< 55
28	80	79	89	100	102	92	103	102	78	76	68	81	74	78
29	87	88	98	108	108	108	99	110	82	74	74	77	78	80
30	83	85	89	91	84	78	79	79	77	78	78	79	78	80
31	79	88	85	84	86	81	77	75	76	76	79	77	78	81
Mean	61804	843	874	896	918	904	857	829	768	787	750	763	776	767

April 1883.

$\phi = +62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	72	81	82	84	92	84	79	76	82	83	81	81	82	82
2	151	88	84	84	90	91	81	83	82	78	81	81	82	84
3	84	95	102	111	114	105	110	113	77	74	91	91	87	84
4	111	98	91	91	91	98	117	100	84	81	70	78	83	73
5	84	87	94	88	88	98	98	85	83	86	83	84	84	81
6	88	102	89	86	84	87	86	83	81	81	82	82	80	81
7	84	84	84	81	81	84	84	81	81	82	82	82	82	82
8	86	84	90	91	98	91	95	82	71	77	81	83	82	84
9	78	86	98	88	94	105	81	81	81	82	84	84	81	85
10	84	81	84	85	90	84	84	83	84	83	83	83	83	86
11	81	95	92	88	100	85	81	82	81	81	81	81	82	84
12	89	90	86	95	90	91	82	82	82	81	82	82	82	81
13	93	84	91	88	88	86	82	82	82	81	81	81	82	84
14	84	84	84	80	81	83	84	83	82	81	81	81	82	81
15	81	79	82	81	82	82	88	88	78	81	81	82	81	80
16	82	83	91	94	84	88	81	81	82	81	81	82	80	80
17	81	81	81	86	81	81	81	81	81	82	82	82	81	80
18	91	91	93	89	94	104	95	80	77	77	80	81	84	86
19	139	105	93	98	89	95	98	112	89	77	77	77	73	69
20	117	93	91	96	105	103	103	98	113	103	86	81	80	80
21	80	81	84	84	81	77	80	80	80	80	80	78	78	79
22	78	81	80	84	81	77	77	75	74	78	77	77	77	78
23	77	77	80	81	81	81	81	77	78	78	76	77	77	78
24	77	76	76	74	78	83	85	90	73	82	73	75	< 59	< 48
25	99	97	109	100	88	96	85	81	82	78	78	75	78	77
26	102	88	78	84	86	84	81	77	81	67	73	78	82	78
27	76	79	95	95	91	91	76	77	77	77	78	79	79	82
28	64	71	75	81	81	81	76	77	78	78	80	80	78	77
29	79	77	74	77	80	86	77	66	73	74	74	75	75	78
30	69	71	78	80	87	78	70	66	65	68	71	73	75	75
Mean	61867	858	874	886	899	890	861	839	813	807	797	803	799	793

62° 38' 52".

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$ Local Mean Time (Balance Magnetometer).

March 1883.

1	2	3	4	5	6	7	8	9	10	11	12	Daily Means.	Highest Reading.	Lowest Reading.	Difference.
75	78														
83	81											81	120	45	.0075
77	81	74	75	79	77	68	63	67	85	83	84	85	139	62	.0077
79	81	80	83	80	78	69	69	67	72	72	65	85	110	54	.0056
81	81	80	83	77	79	83	81	69	54	68	77	80	89	67	.0022
81	81	80	83	81	84	71	69	67	73	79	83	80	89	67	.0022
83	81	82	78	81	80	81	81	78	74	77	78	81	103	72	.0031
82	81	82	78	81	82	81	78	75	78	78	93	81	93	69	.0024
82	81	84	85	84	83	78	73	68	76	82	86	79	88	68	.0020
82	81	77	81	81	<54?	64	64	<54?	63	82	82	79	131	54	.0067
77	81	80	81	81	79	77	77	78	76	79	79	79	81	73	.0043
77	81	78	81	82	81	No 2	No 2	No 2	No 2	No 2	78	78	84	56	.0028
77	81	80	81	79	80	No 2	No 2	No 2	No 2	No 2	81	79	93	64	.0039
78	78	78	78	77	77	79	79	76	<53?	103	89	80	102	53	.0039
77	77	77	79	79	79	79	79	78	77	74	89	80	127	74	.0044
78	78	78	78	77	78	75	71	73	74	74	90	82	129	73	.0038
79	79	82	78	78	78	82	82	77	77	78	71	78	87	71	.0016
77	77	83	No	81	81	No	No	79	79	77	66	77	83	66	.0017
77	73	77	79	79	77	78	77	77	76	78	77	78	86	75	.0011
73	73	76	75	74	74	75	75	77	74	74	75	76	84	72	.0012
75	75	77	76	75	75	75	75	75	75	75	75	75	82	72	.0010
76	74	77	76	75	75	76	76	77	76	89	88	79	89	71	.0018
83	83	63	<63?	63	<61?	61	<61?	61	67	78	93	76	93	61	.0032
78	78	80	81	81	74	74	76	74	71	90	80	85	117	70	.0047
78	78	78	76	79	75	78	71	66	66	84	82	77	114	53	.0056
75	77	75	77	77	74	73	73	73	67	71	71	71	78	51	.0027
77	75	77	75	77	78	74	68	67	68	74	87	71	87	67	.0029
80	80	85	<53?	56	44	61	53	53	67	68	68	69	94	43	.0052
69	67	69	67	74	72	69	67	71	97	93	93	88	112	55	.0077
81	78	81	78	<64?	<63?	<63?	<63?	73	68	69	69	79	103	62	.0043
80	80	80	80	73	69	67	67	77	80	81	75	83	110	67	.0033
83	83	83	80	80	74	73	73	81	80	80	80	91	91	73	.0019
80	80	80	77	77	80	75	No 2	78	74	64	81	78	88	64	.0024
776	767	772	772	775	751	744	737	717	731	780	839	.61795	.6239	.6143	.0096

62° 38' 52".

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$

April 1883.

1	2	3	4	5	6	7	8	9	10	11	12	Daily Means.	Highest Reading.	Lowest Reading.	Difference.
82	83														
83	83	83	83	83	84	82	85	81	75	73	89	81	92	72	.0020
86	83	85	85	84	84	84	85	84	82	81	111	86	111	78	.0033
86	83	68	67	60	53	68	66	75	73	73	88	89	155	60	.0095
83	83	81	81	83	83	85	80	79	74	83	78	87	117	70	.0042
84	83	83	82	83	79	77	69	77	77	72	97	84	98	69	.0039
81	83	83	84	83	84	84	84	84	84	84	79	84	102	79	.0031
82	82	82	81	82	84	81	81	77	73	80	81	81	84	73	.0011
84	86	86	84	84	85	85	85	85	81	84	84	85	98	71	.0027
84	87	84	85	85	83	83	84	83	83	84	84	83	104	78	.0037
80	86	86	87	85	86	86	85	85	83	71	77	83	90	71	.0039
84	84	84	84	84	84	84	83	83	80	<71?	72	83	100	71	.0029
84	83	83	83	83	83	83	83	83	81	83	85	84	93	82	.0013
84	85	85	85	84	84	84	84	83	83	83	83	81	93	81	.0013
80	80	80	80	83	83	83	83	81	81	81	82	82	84	80	.0004
83	83	83	83	83	83	83	86	80	80	81	81	82	88	78	.0010
81	81	81	81	82	80	80	82	78	75	73	78	82	82	73	.0023
80	81	80	80	84	81	81	81	82	80	80	81	81	89	80	.0009
82	84	82	75	69	67	67	67	74	<59?	83	83	81	104	80	.0045
57	60	60	59	59	<42?	66	76	66	61	61	73	78	139	52	.0077
83	83	82	83	83	84	84	79	75	69	70	79	89	117	69	.0048
78	79	80	79	78	78	78	78	77	77	77	78	79	81	77	.0007
77	78	78	79	80	79	79	79	78	78	78	78	78	83	74	.0009
77	78	79	78	77	76	78	78	78	78	78	77	77	81	75	.0007
<53?	<53?	<53?	<53?	<53?	<53?	<53?	<53?	<53?	<53?	<53?	<53?	70	90	53	.0038
80	80	75	78	78	73	70	70	<55?	64	68	80	109	55	.0054	
73	74	68	71	73	70	69	69	67	82	71	71	139	53	.0048	
81	81	80	79	80	80	80	79	73	73	73	80	93	68	.0037	
78	81	81	81	78	80	80	79	77	77	77	77	77	83	64	.0019
78	75	75	75	75	73	73	73	71	70	68	74	86	66	.0020	
80	78	77	77	77	75	75	75	69	64	78	88	74	88	64	.0014
789	797	789	785	773	773	778	766	761	785	819	.61816	.6229	.6153	.0077	

Vertical Intensity.

May 1883.

06100+ (C. G. S. Units).

$\phi = + 62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	77	83	84	85	75	74	74	73	73	69	70	74	73	75
2	86	86	80	80	101	110	84	73	78	74	76	79	80	81
3	81	94	95	93	90	95	80	80	79	80	77	78	78	78
4	80	82	85	87	81	80	80	80	82	82	81	79	80	82
5	77	78	76	77	83	83	81	77	73	73	74	73	76	77
6	80	85	81	82	86	96	89	76	78	76	88	77	77	82
7	83	83	80	85	88	82	81	79	75	74	76	76	76	80
8	77	84	88	85	88	83	79	77	73	74	73	73	78	78
9	78	77	79	83	77	79	80	80	79	79	78	78	78	79
10	77	78	79	80	79	77	77	77	76	76	74	75	77	77
11	92	90	89	89	91	77	75	76	77	77	77	77	77	77
12	74	80	79	78	78	77	77	78	74	77	77	76	77	77
13	88	81	82	83	82	86	83	75	70	74	75	73	75	76
14	81	89	90	84	84	88	80	77	77	72	75	76	76	76
15	91	85	80	84	80	78	75	72	73	76	No	77	78	78
16	76	81	81	97	93	98	104	73	77	73	75	75	78	78
17	75	101	91	81	80	78	74	75	74	73	75	78	78	76
18	76	74	77	90	81	78	76	76	77	77	77	77	77	79
19	74	77	82	101	100	95	89	80	70	74	75	76	76	77
20	75	76	81	80	80	75	77	76	75	73	78	77	78	74
21	77	84	98	108	100	100	82	84	75	78	81	73	68	< 66 ?
22	89	88	84	95	91	93	86	73	76	78	78	76	81	82
23	< 64	82	81	91	89	87	80	82	72	74	78	77	77	77
24	87	84	84	82	82	82	73	72	< 70	78	78	76	81	79
25	83	81	83	82	84	81	83	73	78	78	79	79	79	80
26	91	97	93	98	107	81	77	74	74	73	77	77	75	79
27	98	91	82	82	82	79	78	79	76	76	78	75	73	73
28	84	79	78	81	84	73	74	83	83	77	77	77	78	80
29	105	90	80	80	81	80	80	76	77	74	75	76	76	77
30	72	78	88	88	82	88	82	74	69	73	77	77	79	81
31	82	83	86	90	82	78	76	73	77	77	77	77	77	77
Mean	818.6	836	840	868	869	863	804	775	754	758	767	762	770	776

June 1883.

$\phi = + 62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	80	79	84	92	81	80	77	71	71	71	72	73	78	81
2	82	101	95	95	101	129	> 142 ?	> 143 ?	111	126	86	72	78	80
3	108	101	93	90	88	81	No	93	83	78	76	77	77	81
4	88	82	82	91	81	81	No	78	78	77	77	77	77	76 ?
5	78	84	84	81	79	78	77	77	77	78	76	73	74	76 ?
6	81	111	107	108	90	90	98	63	62	67	72	70	70	76
7	76	80	80	80	79	77	74	76	75	77	77	77	78	80
8	76	80	85	89	92	96	90	70	70	73	75	78	82	83
9	74	80	89	88	91	104	82	77	69	69	72	72	79	78
10	80	84	83	81	80	78	73	74	76	77	75	77	77	81
11	72	84	84	80	81	86	78	78	78	78	78	78	76	78
12	81	80	80	80	91	93	77	77	77	77	78	78	79	79
13	81	81	82	81	80	80	81	81	81	77	77	77	78	78
14	91	76	81	82	82	79	79	75	73	75	77	78	79	78
15	78	79	79	80	79	80	78	79	78	78	77	78	77	78
16	80	79	79	80	79	80	80	79	78	77	76	75	75	77
17	81	89	89	93	88	83	102	92	66	75	75	78	81	80
18	93	77	77	94	94	94	94	94	75	75	81	81	81	81
19	73	77	111	94	86	94	81	78	74	77	81	81	80	81
20	74	74	91	80	88	80	78	73	74	78	78	78	80	82
21	77	80	82	84	82	80	81	80	78	78	77	77	77	77
22	78	80	81	81	94	82	76	70	66	69	73	73	73	76
23	81	101	110	110	116	103	89	79	77	78	78	78	78	78
24	71	79	77	81	82	80	77	76	73	77	77	78	78	79
25	71	77	78	82	82	84	82	81	81	73	77	77	77	75
26	90	91	83	91	85	78	73	89	67	73	77	71	75	74
27	81	98	111	111	> 140 ?	103	78	78	84	78	77	77	79	80
28	76	71	82	83	89	82	79	73	73	73	76	73	74	75
29	81	78	83	73	76	73	74	71	73	77	78	78	79	81
30	95	101	112	108	> 132 ?	> 132 ?	> 132 ?	94	91	81	74	72	73	73
Mean	818.6	859	893	893	900	872	824	808	769	770	763	767	778	781

July 1883.

0-6100+ (C. G. S. Units).

$\phi = + 62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	9b	85	93	105	105	115	111	97	70	69	77	77	81	81
2	77	78	80	88	77	78	80	80	77	75	76	74	74	76
3	75	76	81	82	75	73	79	71	67	66	73	75	75	86
4	68	71	77	87	93	91	80	75	75	77	78	79	80	80
5	114	85	80	85	102	97	83	81	77	75	76	79	81	81
6	73	84	85	87	80	80	79	75	77	75	74	75	74	75
7	76	77	75	79	78	76	76	75	77	77	77	79	78	77
8	101	77	88	86	84	118	104	89	66	73	73	80	75	77
9	78	77	78	83	78	79	79	76	76	76	75	76	76	77
10	93	117	106	84	80	84	78	77	77	77	77	78	80	85
11	80	87	82	81	80	80	81	78	78	77	77	77	76	82
12	78	85	81	85	86	87	81	81	77	80	79	79	78	80
13	91	97	88	97	97	103	97	80	68	67	75	76	78	79
14	82	83	108	105	73	108	> 135	84	64	74	73	73	73	73
15	80	78	78	78	77	77	78	87	87	87	69	72	71	75
16	81	80	90	95	82	79	80	80	73	67	71	76	71	75
17	82	80	81	88	85	80	80	77	74	75	74	74	76	76
18	82	76	90	90	91	90	78	77	77	73	78	66	75	74
19	85	86	84	84	87	80	78	74	75	74	77	75	77	73
20	74	82	77	77	81	78	73	70	71	73	71	73	73	74
21	78	74	74	74	75	76	76	76	74	73	73	73	75	75
22	77	77	77	78	78	77	77	77	77	75	76	75	75	77
23	75	79	77	77	77	78	77	77	77	75	77	75	75	73
24	82	84	89	93	77	88	99	94	69	65	70	75	75	82
25	70	74	97	97	98	84	81	78	75	79	76	78	79	78
26	73	75	81	88	88	83	75	66	68	69	76	84	82	84
27	87	84	84	85	92	92	89	78	77	77	77	77	77	78
28	77	76	77	79	78	80	78	76	77	76	78	76	77	77
29	80	78	77	77	79	78	77	77	76	75	75	76	75	76
30	85	81	84	127	131	116	109	103	100	138	115	100	96	82
31	73	85	82	96	93	111	149	134	134	130	80	78	73	80
Mean -	81816	818	842	876	859	874	862	814	764	768	761	768	771	780

August 1883.

$\phi = + 62^{\circ} 38' 52''$.

Days.	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2
1	90	87	101	93	90	113	105	114	91	79	75	82	81	89
2	88	96	88	86	84	81	96	78	80	80	80	81	81	81
3	85	83	93	86	84	83	81	80	81	81	81	80	81	81
4	81	81	81	81	81	80	80	80	80	80	79	79	80	80
5	80	84	81	81	81	86	95	89	81	82	77	78	78	81
6	82	91	110	108	108	103	103	88	66	67	73	78	80	64
7	81	81	81	81	81	93	98	84	78	76	76	76	81	81
8	83	81	84	84	84	93	94	81	79	73	78	78	78	78
9	83	80	80	80	80	79	78	77	77	77	77	76	77	77
10	77	77	77	77	77	77	75	75	74	74	74	75	75	77
11	81	86	86	91	88	86	80	67	70	73	76	75	75	76
12	77	73	77	74	77	76	75	75	70	66	69	72	75	77
13	73	77	73	80	76	75	75	73	73	73	73	73	75	81
14	85	84	80	83	77	73	74	73	73	73	73	73	75	73
15	74	73	77	77	77	77	74	74	73	73	73	73	74	75
16	73	75	75	75	75	76	75	73	73	73	73	74	75	75
17	73	73	73	73	73	73	73	73	73	74	73	74	76	76
18	78	79	88	101	107	124	133	109	98	78	78	78	81	75
19	76	76	77	77	80	76	75	76	75	74	75	75	75	73
20	84	81	84	80	79	76	76	75	75	75	77	76	77	76
21	66	81	80	80	77	77	77	77	77	74	75	75	77	76
22	75	61	86	88	91	82	75	74	74	68	73	75	77	81
23	74	80	80	92	83	81	93	81	73	75	73	75	80	79
24	86	96	91	91	79	78	78	79	74	75	76	77	80	80
25	68	79	75	71	81	81	73	73	74	74	76	76	76	75
26	73	71	71	74	74	75	75	75	75	77	76	75	76	76
27	78	75	74	76	77	76	76	75	75	73	74	75	73	73
28	76	77	74	76	79	77	77	74	73	74	70	73	74	77
29	76	77	78	91	91	79	75	68	73	73	74	74	75	77
30	73	74	77	76	76	75	75	74	75	74	74	75	77	77
31	67	68	68	68	68	68	68	68	68	66	64	66	68	68
Mean -	61780	800	810	830	821	813	823	781	758	743	748	757	766	770

+ 62° 38' 52".

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$ Local Mean Time (Balance Magnetometer).

July 1883.

1	2	3	4	5	6	7	8	9	10	11	12	Daily Means.	Highest Reading.	Lowest Reading.	Difference.
81	81	46	45	56	47	27	40	54	61	83	73	111	111	27	0004
74	76	77	77	81	81	76	75	73	75	73	77	88	88	73	0015
76	86	80	83	83	83	74	70	62	61	69	73	86	86	61	0025
80	80	83	83	83	83	74	77	68	82	73	78	93	93	68	0025
81	81	85	81	85	46	55	64	64	66	68	78	114	114	46	0068
74	75	77	78	78	78	74	78	77	77	76	75	87	87	73	0014
78	77	75	73	74	75	76	77	77	74	84	86	86	86	72	0014
75	75	82	79	73	73	75	73	75	75	76	76	118	118	66	0052
76	77	72	74	80	83	71	67	75	75	73	106	106	106	67	0039
80	84	83	83	71	43	56	78	77	78	81	80	117	117	43	0074
76	76	88	78	78	47	54	48	65	73	68	73	88	88	45	0043
78	80	88	80	81	78	79	80	80	77	73	67	79	87	67	0010
78	79	78	77	71	78	78	79	79	77	75	81	103	103	67	0016
73	73	75	75	77	77	77	78	78	77	76	75	135	135	64	0021
73	75	69	75	73	69	70	70	69	75	75	68	87	87	39	0048
77	76	76	78	78	68	63	76	76	71	81	86	99	99	63	0016
76	76	76	77	75	78	77	79	66	71	71	72	76	88	66	0022
75	74	77	78	62	61	63	64	77	83	51	91	91	91	51	0040
77	73	60	64	71	66	72	70	65	76	76	68	74	87	60	0027
73	74	76	75	77	76	77	74	75	75	75	75	82	82	70	0012
75	75	76	77	77	77	77	78	78	78	78	78	79	79	73	0006
78	77	78	78	78	79	81	78	78	76	80	80	77	81	75	0006
75	75	78	76	78	79	79	68	65	76	87	87	75	87	63	0024
75	80	80	75	78	78	78	71	72	74	68	73	77	99	58	0041
79	78	79	80	80	80	80	78	78	78	74	77	80	98	70	0018
83	84	88	86	83	84	83	81	71	77	107	95	81	107	66	0041
77	78	78	79	79	80	80	80	80	79	78	78	80	93	73	0019
77	77	77	78	79	78	79	78	78	72	72	67	80	80	67	0013
77	76	77	77	77	78	<33	83	63	63	81	86	72	86	22	0064
96	83	65	61	52	63	45	39	73	85	80	79	88	138	45	0093
73	80	78	49	47	53	53	31	53	66	68	75	149	149	31	0118
771	780	770	746	735	715	675	693	711	715	747	782	61777	6249	6123	0127

+ 62° 38' 52".

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$

August 1883.

1	2	3	4	5	6	7	8	9	10	11	12	Daily Means.	Highest Reading.	Lowest Reading.	Difference.
81	81	89	73	77	83	68	56	66	81	112	86	86	114	50	0028
83	81	83	81	81	81	75	81	81	81	81	81	81	90	75	0011
81	81	83	83	83	84	81	80	80	80	81	81	81	92	77	0015
80	80	81	81	81	81	81	80	80	81	80	78	80	85	78	0009
80	81	80	80	81	81	72	66	67	68	77	111	111	111	66	0045
80	80	81	81	81	81	81	80	80	81	81	81	81	110	36	0024
81	81	81	81	81	83	47	68	71	88	88	88	93	93	47	0051
78	78	79	80	80	79	79	78	76	77	69	67	29	93	67	0027
77	77	77	77	78	77	77	76	77	77	77	77	77	77	76	0007
75	75	77	77	77	77	77	75	75	75	75	75	91	91	67	0024
75	75	77	77	75	75	75	74	74	74	73	75	77	77	66	0011
75	81	80	75	75	76	75	70	70	70	70	70	74	81	70	0011
78	73	78	70	68	75	73	73	71	72	73	73	75	85	68	0017
74	75	74	74	74	75	74	74	74	74	74	74	74	77	73	0004
75	75	75	75	75	74	74	74	75	74	74	74	74	76	71	0005
74	75	75	76	76	76	76	76	73	73	73	74	74	76	69	0007
81	75	49	59	52	53	40	65	65	71	75	78	80	132	46	0086
76	74	75	75	75	75	75	73	75	75	75	75	75	85	73	0011
77	77	77	77	77	78	77	77	77	75	68	68	76	84	68	0016
77	77	78	81	79	81	75	75	77	74	75	75	84	84	65	0016
77	77	79	80	79	73	76	76	73	75	79	73	73	91	69	0035
80	79	81	78	77	79	79	79	71	55	73	81	78	95	55	0040
80	80	81	79	78	78	77	77	73	88	68	77	78	96	55	0041
76	76	77	77	77	77	77	77	77	75	70	61	75	81	61	0023
76	76	74	76	77	77	76	75	75	75	73	76	75	77	71	0006
73	73	75	73	75	75	75	75	78	75	73	73	74	78	71	0005
74	77	77	77	76	75	75	75	77	73	73	75	79	79	70	0009
75	77	75	78	77	77	77	77	73	73	81	73	76	93	68	0024
77	77	78	78	69	68	69	69	69	68	68	68	73	78	68	0010
68	68	67	68	68	68	69	69	64	63	61	65	66	69	61	0008
768	770	765	768	758	752	736	741	737	735	743	770	61777	6212	6136	0096

F O R T R A E.

T E R M D A Y O B S E R V A T I O N S.

September 15, 1882.

$\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity.

0.07000 (C.G.S.) +

Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	652	681	677	683	668	683	548	589	589	318	546	576
5	662	683	674	677	672	689	546	605	612	342	607	577
10	672	681	683	668	670	651	574	630	450	324	618	579
15	691	703	689	670	674	670	522	622	383	327	601	514
20	711	704	699	666	672	666	487	544	292	468	584	567
25	711	695	699	662	689	656	459	506	338	412	603	533
30	714	699	691	658	672	691	424	500	390	368	622	559
35	671	691	675	662	664	689	666	531	550	401	605	548
40	683	691	668	662	654	654	589	487	570	576	612	544
45	668	675	679	674	670	655	677	518	578	580	614	532
50	677	691	672	665	674	631	620	517	214	610	628	578
55	666	679	681	677	662	649	586	614	473	544	607	512

Declination.

39° +

Minutes.	1	2	3	4	5	6	7	8	9	10	11	12
5	1 25	1 26	1 32	1 27	1 24	1 29	1 59	1 57	0 6	1 12	1 14	1 36
10	1 24	1 25	1 33	1 29	1 28	1 34	1 52	1 30	0 41	0 51	1 12	1 23
15	1 20	1 26	1 30	1 7	1 28	1 42	1 48	1 23	0 30	0 47	1 3	1 25
20	1 21	1 26	1 30	1 21	1 29	1 58	1 40	1 26	0 57	1 24	1 25	1 34
25	1 25	1 25	1 28	1 21	1 30	1 41	1 39	1 28	0 57	1 32	1 44	1 37
30	1 21	1 32	1 25	1 34	1 33	1 59	2 19	1 29	1 0	1 4	1 34	1 48
35	1 20	1 31	1 28	1 33	1 34	2 4	2 10	1 19	1 4	1 1	1 36	1 49
40	1 28	1 31	1 28	1 31	1 35	1 54	1 7	0 58	1 29	0 50	1 22	1 40
45	1 29	1 35	1 32	1 32	1 31	1 57	1 0	0 54	0 10	1 12	1 16	1 36
50	1 28	1 36	1 30	1 3	31	1 48	2 39	1 0	1 7	1 10	1 38	1 44
55	1 32	1 39	1 30	1 25	1 26	2 16	3 19	1 9	1 48	1 21	1 36	1 41
60	1 27	1 33	1 29	1 26	1 26	2 3	1 54	0 39	0 50	1 30	1 40	1 41

Vertical Intensity.

0.0100 (C.G.S.) +

Minutes.	81	81	83	79	82	81	75	62	84	55	89	84
5	83	82	81	81	82	82	75	64	62	83	89	81
10	83	84	85	84	82	70	75	61	64	81	85	83
15	83	84	94	82	81	79	75	61	58	90	86	84
20	83	86	86	82	83	77	75	63	90	85	86	86
25	83	83	81	81	80	75	80	64	91	85	84	89
30	83	81	75	85	81	71	71	63	98	84	84	86
35	83	84	69	84	79	68	54	84	87	95	81	87
40	83	84	79	82	81	68	64	60	80	80	83	85
45	84	84	74	82	81	68	59	86	64	93	84	85
50	83	84	77	82	79	58	60	73	74	87	83	84
55	83	83	78	82	79	58	59	84	91	87	85	81

Auroral Observations.

- 1. 4 M.
- 1. 50 First light in S.E. to 30 alt.
- 1. 55 Arch (1) S.E. to N.W., brightest in S.W. alt. to 12.
- 1. 58 Light more diffuse, 600 streamers in N.W.
- 2. 0 Very indistinct arch, S.E. through Cassiopeia and γ and δ Ursa Majoris.
- 2. 1 Arch brighter, lower edge through Cassiopeia, sharply defined.
- 2. 7 A confused mass of curtain-shaped aurora (1) below arch, on horizon to E.S.E.
- 2. 12 Above aurora brighter and moving to E.
- 2. 17 The Hercules now in the centre of this patch of aurora, more aurora in N.W. two parallel curtains.
- 2. 24 Narrow streak of aurora from nose of Hercules through south to within 10' of Arcturus.
- 2. 39 Curve of aurora from N.W. on L. arm through ζ and ν Ursa Majoris to the E. of Cassiopeia.
- 2. 43 Bright patch of aurora between Cassiopeia and Arcturus, white of bright light moving towards ν Ursa Major.
- 2. 52 A small patch of rapidly-moving aurora with faint vertical streamers low the horizon, below and to the N. of Cassiopeia. Aurora in N.W. passing between ζ Ursa Majoris and Arcturus and above ν Ursa Major to Cassiopeia, moving to S. through south at 6.57, through a Lyra at 6.2.
- 3. 1 Another patch half way between ν Ursa Major and horizon (1).
- 3. 4 Small patch (2) near Arcturus, the 1st of the arch has a striated appearance.
- 3. 13 Arch from horizon to Arcturus, and from Aquila to Pegasus, and 10' above S.E. horizon; another from latter point, through Cassiopeia and ζ Ursa Majoris to N.W. horizon; all auroral curve from Cassiopeia through Arcturus towards S.E. horizon; all moving slowly towards S.W.
- 3. 25 Streamers on horizon to E.
- 3. 27 Aurora on E. horizon, increasing, striated and with rapid motion, other arches less bright southernmost now S' S.W. of Altair.
- 3. 32 Cloud of aurora 20 to 30' in width, in zenith and to S.E., S., and N.W.
- 3. 37 Sky more & less covered with faint aurora, except in S.W. from horizon to about 12' alt.
- 3. 45 Aurora rather fainter and extending from zenith to E. and S. to 30' alt., fainter in N. and W.
- 3. 53 Arch (1) from N.W. to S.E. through south. 6.58. Arch (2) from N.W. to E.

62° 38' 52".

 $\lambda = -115^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

Göttingen Mean Time.

September 15, 1882.

Horizontal Intensity.

0	11	Noon.	1	2	3	4	5	6	7	8	9	10	11
46	576	491	548	593	647	693	681	660	645	651	645	656	645
47	577	476	557	593	647	679	685	656	659	651	649	670	653
48	579	405	563	614	651	687	683	662	647	651	634	649	632
49	514	513	576	612	652	697	681	660	645	651	654	639	626
50	567	514	580	628	660	701	679	656	647	656	656	624	635
51	531	540	607	612	660	689	681	651	643	654	658	620	641
52	539	531	572	628	658	681	675	647	651	654	658	626	643
53	548	513	589	637	654	675	670	651	647	656	660	614	649
54	544	511	589	670	666	687	664	649	651	658	664	618	651
55	534	518	584	635	658	691	668	645	651	658	662	620	645
56	538	514	574	651	670	685	656	645	651	660	654	610	645
57	512	561	580	658	691	685	656	645	651	658	664	653	—

Declination.

0	1	2	3	4	5	6	7	8	9	10	11	12
1 58	1 54	1 54	1 51	1 50	1 40	1 43	1 49	1 30	1 31	1 32	1 28	1 28
2 0	1 0	1 54	1 52	1 48	1 40	1 44	1 44	1 30	1 27	1 33	1 28	1 28
2 5	1 56	1 49	1 50	1 44	1 43	1 44	1 38	1 29	1 29	1 32	1 30	1 30
3 1	1 55	1 52	1 48	1 43	1 44	1 44	1 34	1 32	1 32	1 30	1 30	1 30
3 4	1 58	1 48	1 48	1 44	1 44	1 44	1 31	1 28	1 30	1 30	1 30	1 30
3 8	1 48	1 52	1 46	1 44	1 44	1 44	1 30	1 29	1 30	1 30	1 31	1 31
3 16	1 49	1 50	1 51	1 47	1 41	1 48	1 32	1 31	1 29	1 30	1 31	1 31
3 40	1 40	1 55	1 50	1 50	1 46	1 45	1 30	1 32	1 29	1 29	1 28	1 30
3 58	1 44	1 53	1 49	1 44	1 42	1 42	1 30	1 32	1 29	1 28	1 32	1 32
4 1	1 45	1 54	1 53	1 41	1 41	1 42	1 30	1 34	1 30	1 33	1 30	1 30
4 10	1 44	1 55	1 52	1 39	1 37	1 45	1 30	1 32	1 30	1 30	1 29	1 29
4 17	1 43	1 50	1 47	1 47	1 43	1 50	1 30	1 32	1 32	1 32	1 29	—

Vertical Intensity.

80	86	83	78	79	77	77	78	78	79	81	81	81
81	84	83	79	81	77	77	78	78	79	81	80	80
82	86	82	79	81	77	77	78	78	79	80	81	81
83	86	81	79	80	77	78	78	77	79	80	81	81
84	86	79	78	80	77	79	76	78	79	78	81	81
85	86	77	78	80	77	78	78	78	79	79	80	80
86	86	79	78	81	77	78	77	77	80	79	80	81
87	86	78	78	79	77	78	79	78	80	79	81	81
88	87	78	78	79	77	78	77	79	81	79	81	81
89	86	77	79	79	77	78	77	79	81	80	81	81
90	85	77	78	79	77	78	77	79	79	81	80	81
91	84	77	78	79	77	78	77	79	79	80	80	80
92	84	77	78	79	77	78	77	79	79	80	80	80
93	84	78	80	76	77	78	78	78	81	81	—	—

Auroral Observations.

h. m.	4. M.
7 2	Aurora very faint, except in S. E. 7.7. Aurora very dim in all directions.
7 12	Arch on S. E. horizon passing between α and β Gemorum. Steady band of auroral light about 10' higher.
7 23	The arch in E. low even about β and λ almost disappeared. Faint auroral light in N. and S. W., about 30' alt. 7.35. Disappeared.
7 38	Arch from S. W. to S. E. (2); crimson and violet colours, disappearing directly, except in N. W., where it broke into patches (1), patches also in S. E.
7 44	Serpentine aurora (1) from S. E. to N. W., prismatic (2) in N. W.
7 51	Serpentine aurora disappeared except from N. W., zenith (3), prismatic in N. W., to 15' alt.
7 56	Aurora disappeared, except a prismatic patch (2) in N. W., faint patch in S. E.
8 20	Became dim and almost disappeared except in N. W.
8 0	Curious-shaped aurora (2) in N. W., to alt 10'; 8.1. Ditto, formed into an arch (1) to S. E. 8.2. Ditto, brighter.
8 4	Arch in zenith (1) N. E. to S. W., 8.5. Arch disappeared.
8 7	Faint aurora from N. to S. E., 10' alt.
8 10	Aurora nearly disappeared except a patch in S. E.
8 17	Broke up and became curiously-shaped from N. W. to S. and from N. to E.
8 20	Faint patches in S. E., N., and S. W. 8.21. Aurora disappeared.
8 25	Arch (1) N. to E. 8.28. Aurora entirely disappeared. 8.40. Auroral light in N., and several patches in zenith. 8.50. Faint patch in N. W.
9 0	Auroral light in N. E. 9.7. Faint patch in S. and S. E. 9.13. Auroral light in N., 5' alt. 9.17. Very faint patch on N. W. horizon.
9 27	Auroral light in N., moving rapidly to E. 9.33. Ditto, disappeared except a patch in N.
9 30	Faint band from N. to E. 9.42. Faint patch in S. E. till 10.2.
9 47	Faint band W. to S. E., 10.8. Faint patch in S. to S. W., 10.23. Very faint band S. E. to S. W., 10.30. Very faint, rough stationary till 10.50.
10 7	Faint band from N. W. to E., 11.17. Auroral light in N. W., 11.25. Faint band from W. to E., 11.40. Very faint band S. W. to S. E.

October 1, 1882.

$\delta = +62^{\circ} 38' 52''$.

Horizontal Intensity.		0.07000 (C.G.S.) +										
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	656	662	658	672	668	679	674	656	651	624	641	452
5	654	664	660	670	666	683	676	658	651	609	643	444
10	654	664	660	668	670	585	674	654	643	628	641	459
15	656	664	660	666	674	681	674	652	673	616	644	474
20	658	662	660	666	679	679	670	649	677	620	633	487
25	658	664	668	666	679	679	661	645	647	624	633	512
30	658	662	672	662	679	679	658	647	616	628	576	500
35	660	662	670	662	676	679	660	639	628	620	517	516
40	662	662	670	666	674	679	662	647	620	620	504	542
45	662	662	674	666	677	675	662	654	628	633	454	570
50	660	662	670	666	675	677	654	627	628	641	465	597
55	658	662	670	668	679	674	658	651	624	647	455	616

Declination.		40° +										
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	0 16	0 18	0 18	0 16	0 17	0 19	0 17	0 17	0 22	0 12	0 22	1 0
5	0 17	0 18	0 17	0 18	0 18	0 19	0 18	0 18	0 18	0 11	0 20	1 1
10	0 18	0 18	0 17	0 16	0 17	0 18	0 18	0 19	0 19	0 6	0 26	0 56
15	0 18	0 19	0 17	0 18	0 16	0 18	0 18	0 20	0 21	0 4	0 24	0 58
20	0 18	0 19	0 17	0 17	0 16	0 18	0 19	0 21	0 21	0 8	0 30	0 58
25	0 17	0 18	0 16	0 17	0 16	0 18	0 18	0 22	0 25	0 17	0 29	0 46
30	0 18	0 18	0 16	0 17	0 16	0 18	0 20	0 20	0 20	0 20	0 35	0 44
35	0 16	0 18	0 15	0 16	0 18	0 16	0 19	0 22	0 19	0 21	0 24	0 45
40	0 17	0 18	0 15	0 17	0 18	0 17	0 18	0 22	0 19	0 16	0 36	0 42
45	0 18	0 19	0 15	0 17	0 18	0 18	0 20	0 20	0 20	0 12	1 19	0 39
50	0 18	0 18	0 15	0 17	0 19	0 17	0 18	0 21	0 20	0 18	0 47	0 33
55	0 18	0 18	0 16	0 18	0 19	0 16	0 18	0 25	0 16	0 18	0 48	0 29

Vertical Intensity.		0.6100 (C.G.S.) +										
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	75	75	75	73	73	74	74	73	71	74	77	86
5	75	75	75	73	73	74	74	75	73	71	74	81
10	75	75	75	72	73	74	75	73	68	74	75	81
15	75	75	75	72	73	74	74	73	70	75	79	82
20	75	75	74	71	73	74	74	71	70	75	80	84
25	75	75	74	71	73	74	74	72	74	75	81	81
30	75	75	74	71	74	74	74	72	74	77	81	81
35	75	75	74	71	74	74	74	71	74	77	81	80
40	75	75	74	71	74	74	74	71	75	75	85	80
45	76	75	73	74	74	74	72	73	76	76	84	79
50	76	76	73	74	74	74	72	71	75	76	90	78
55	75	76	73	73	74	74	71	70	75	78	87	77

Auroral Observations.	
h. m.	
A.M.	
5 58	Faint patches of aurora in zenith about 10° wide.
6 22	Faint streak about 5° from zenith to N.W. horizon, about 20° alt.
6 27	Faint arch through zenith from N.W. to S.E. (1.5). Parallel arch (2.5) 5° to S.
7 8	Arch (1) 30° alt. in N.W. through zenith to about 30° alt. in S.E.
7 17	A few faint streamers in S.E. between the moon and horizon.
7 52	Very faint.
7 57	Patch (1) in E., about 5° alt. Faint patch in zenith.
8 8	Broad arch (1) about 20° alt. in N.W. to zenith, and extending in two arches to S.E. and E. horizon.
8 27	Faint patches in zenith and N.W. horizon.
8 49	Faint streamers in N.W.
8 45	Aurora disappeared except a faint broad patch about 10° alt. to N.W.
8 57	Serpentine arch in N.W., about 19° alt., extending to zenith, and from thence in vertical streamers (1).
9 0	" disappeared.
9 4	Broad diffused patch in zenith (1).
9 5	Faint arch from N.W. to zenith.
9 15	Large circular patch (1) in zenith, patch in E.
9 29	" extending in a V-shape toward S.E., and in vertical streamers to S.
9 24	Irregular arch (2.5) through zenith.
9 27	Faint aurora through zenith.
9 31	Streamers (1) from 40° alt. in N.W. to 5° S.W. of zenith.
9 52	Aurora disappeared except a faint patch 20° alt. in W.

+ 62° 38' 52".

 $\lambda = - 115^{\circ} 43' 50'' = - 7h. 42m. 55s.$

Göttingen Mean Time.

October 1, 1882.

10	'1
641	452
643	444
641	459
624	474
633	487
633	512
576	500
517	516
504	542
454	570
465	597
455	616

Horizontal Intensity.

Noon.	1	2	3	4	5	6	7	8	9	10	11
637	668	666	630	624	651	647	635	631	628	617	641
649	670	668	611	635	649	645	635	630	628	637	643
636	679	660	639	616	651	643	637	635	631	639	641
658	683	660	639	614	647	645	637	630	630	635	641
660	679	664	637	626	643	643	635	630	632	631	641
662	675	666	639	626	643	643	635	628	633	635	643
672	668	672	633	633	643	639	635	628	633	633	645
674	666	668	626	635	643	639	631	628	632	635	643
674	666	664	622	652	649	639	632	626	612	635	645
674	664	658	635	654	651	639	631	626	615	641	—
674	666	645	622	658	649	639	631	628	635	639	—
672	666	631	622	647	647	637	633	628	639	641	—

Declination.

22	1	0
20	1	1
16	0	58
14	0	58
30	0	58
20	0	46
15	0	44
14	0	45
16	0	43
19	0	39
47	0	33
48	0	29

0 15	0 20	0 22	0 20	0 44	0 39	0 32	0 31	0 22	0 19	0 17	0 15
0 23	0 20	0 20	0 39	0 42	0 38	0 32	0 30	0 22	0 20	0 17	0 14
0 20	0 17	0 24	0 38	0 46	0 36	0 33	0 30	0 22	0 20	0 17	0 15
0 23	0 16	0 27	0 41	0 46	0 32	0 32	0 30	0 22	0 20	0 17	0 17
0 20	0 16	0 27	0 40	0 44	0 36	0 31	0 30	0 21	0 20	0 15	0 17
0 19	0 17	0 29	0 40	0 44	0 36	0 30	0 26	0 20	0 16	0 16	0 16
0 17	0 20	0 29	0 37	0 43	0 36	0 30	0 25	0 22	0 17	0 16	0 15
0 18	0 20	0 27	0 39	0 44	0 36	0 30	0 26	0 19	0 17	0 15	0 17
0 18	0 21	0 25	0 39	0 40	0 34	0 31	0 25	0 20	0 18	0 16	0 16
0 18	0 22	0 25	0 42	0 44	0 33	0 32	0 25	0 21	0 19	0 16	—
0 20	0 20	0 30	0 45	0 38	0 34	0 31	0 25	0 20	0 19	0 15	—
0 20	0 21	0 35	0 46	0 38	0 33	0 30	0 23	0 19	0 18	0 10	—

Vertical Intensity.

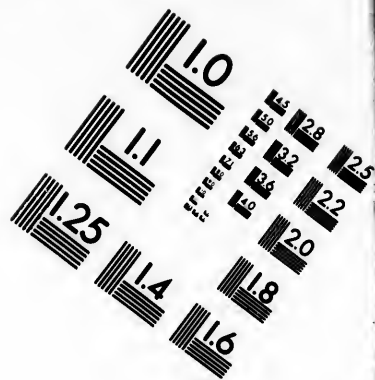
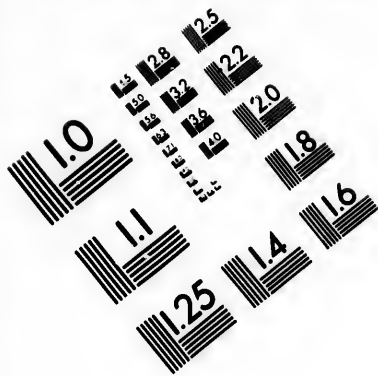
77	86
77	81
75	81
79	82
80	84
81	83
83	84
83	80
85	80
84	79
90	78
85	77

-6	74	76	76	73	73	74	76	76	76	77	76
-5	74	76	75	73	73	74	75	76	76	76	76
-5	74	76	76	71	72	74	74	76	76	76	76
75	74	76	76	71	72	74	74	76	76	76	76
74	74	76	76	71	73	75	75	76	77	76	76
74	75	76	77	71	73	75	75	76	78	76	76
74	75	77	77	71	75	75	75	78	78	76	76
74	75	77	76	71	71	75	75	78	78	76	76
74	75	77	76	72	73	75	76	76	77	76	76
74	75	78	76	72	74	75	76	76	77	76	—
74	75	78	75	72	74	76	76	76	77	76	—
74	76	77	75	73	74	76	76	76	77	76	—

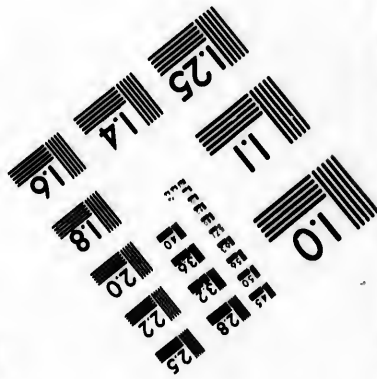
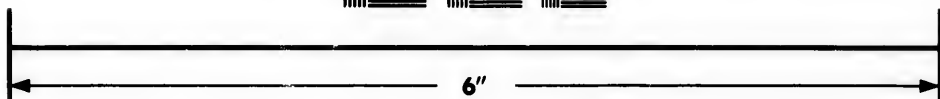
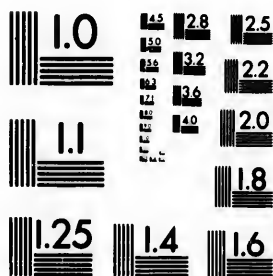
Auroral Observations.

h. m.	A.M.
10 12	Streamers (1) on W. horizon.
10 20	Streamers (1) 10' alt. in W.
10 23	Patches (1) from W. to S.E., 2° W. of zenith.
10 27	Aurora (1) from W. to S.E.
10 29	" diffused and slightly prismatic (2).
10 35	Irregular masses of aurora (1) in N.W. moving towards S.E.
10 39	Aurora from W. to S.E., 20° alt. in N.E., with streamers (2).
10 43	Patches on N.W. horizon.
10 47	" very faint and moving towards S.W.
10 50	" disappeared except a small patch on N.W. horizon.
10 53	Faint irregular arch from N.W. to 25° alt. N.E.
10 57	" disappeared.
11 3	Auroral light on N.W. horizon.
11 5	Faint arch N.W. to S.E.
11 17	Patches of auroral light 15° alt. in N.W.
11 19	" extending in irregular form towards N.E. horizon.
11 20	Very faint arch from W. to N.E., 15° N. of zenith.
11 33	Faint patch on N.W. horizon.
11 39	" disappeared, clouds increasing.
11 47	Patch 5° alt. in N.W. moving towards S.
12 5	Faint streamers in N.W.





**IMAGE EVALUATION
TEST TARGET (MT-3)**



**Photographic
Sciences
Corporation**

23 WEST MAIN STREET
WEBSTER, N.Y. 14590
(716) 872-4503

1.5 1.8 2.0 2.2 2.5
2.8 3.2 3.6 4.0

1.0 1.1 1.2 1.5 1.8 2.0 2.5

October 15, 1882.

 $\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity. 0.07000 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	708	765	755	707	658	681	664	536	379	261	588	487
5	718	769	737	710	681	678	660	534	212	546	573	533
10	730	771	759	656	670	668	666	495	207	511	531	517
15	720	757	743	662	716	656	714	422	205	514	415	563
20	728	767	728	674	681	660	683	482	165	403	450	645
25	716	760	718	612	714	651	677	303	185	403	504	654
30	705	780	710	589	761	656	685	396	249	394	519	656
35	722	761	706	645	765	660	699	485	261	448	514	628
40	722	757	697	610	728	660	672	557	191	515	508	605
45	730	765	689	647	734	649	601	422	373	570	517	551
50	743	765	695	666	691	714	597	412	357	610	455	534
55	751	763	732	639	679	660	533	320	318	578	482	420

Declination. 39° 4																
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	1	19	1	8	1	12	1	21	1	26	1	20	1	32	1	18
5	1	17	1	10	1	18	1	27	1	22	1	34	1	18	1	28
10	1	18	1	2	1	10	1	20	1	24	1	19	1	34	1	33
15	1	16	1	13	1	12	1	14	1	28	1	23	1	31	1	21
20	1	20	1	12	1	15	1	39	1	28	1	23	1	26	1	26
25	1	26	1	4	1	12	2	5	1	16	1	27	1	21	1	28
30	1	19	1	10	1	8	2	20	1	8	1	26	1	16	0	50
35	1	19	1	12	1	14	1	44	1	14	1	27	1	14	0	55
40	1	17	1	14	1	14	1	34	1	21	1	29	1	18	1	4
45	1	16	1	13	1	19	1	10	1	16	1	40	1	15	0	57
50	1	12	1	10	1	14	1	16	1	21	2	0	1	5	1	15
55	1	11	1	12	1	12	1	23	1	19	1	46	1	14	1	50

Vertical Intensity. 0.6100 (C.G.S.) +												
	75	75	71	67	64	67	66	84	65	92	91	76
0	76	75	72	68	64	63	66	84	113	79	94	75
5	76	75	71	68	63	65	65	85	93	58	93	77
10	75	75	73	65	66	64	64	83	79	76	74	81
15	75	73	73	66	60	63	64	82	81	66	77	84
20	76	74	69	66	58	64	70	84	94	79	77	85
25	76	73	70	66	56	63	66	70	100	75	79	86
30	76	74	67	61	62	70	66	94	87	47	92	88
35	76	73	65	63	64	65	63	96	89	52	81	89
40	76	73	66	62	62	63	62	67	92	58	83	94
45	76	73	64	64	62	62	70	82	80	56	70	100
50	76	73	69	64	64	64	62	72	87	91	80	101

Auroral Observations.	
h. m.	A.M.
6	20
7	55
9	45
10	15
10	25

Sky overcast, but faint light all over the sky, showing yellow auroral line in spectroscope.

Faint masses of auroral light in zenith and S.W., about 30 alt.

Sky dark and clouded, light entirely disappeared.

Sky overcast, but faint light from E. to N.W. horizon.

Patch of aurora (1) about 50' alt. in S.E.

62° 38' 52".

 $\lambda = -115^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

Göttingen Mean Time.

October 15, 1882.

Horizontal Intensity.

Noon.	1	2	3	4	5	6	7	8	9	10	11
401	439	399	331	292	414	620	664	653	654	666	699
305	489	412	318	245	500	651	639	651	660	668	722
269	480	420	362	267	482	651	643	616	668	662	718
296	439	409	351	320	497	641	618	664	653	674	687
285	437	375	312	303	536	641	639	664	664	674	660
346	439	377	303	315	589	654	641	687	676	676	666
353	411	318	335	344	569	653	649	730	685	678	668
407	368	281	278	331	626	670	637	689	670	707	679
461	338	361	302	383	615	649	649	670	658	693	672
484	335	340	258	407	609	633	649	641	664	693	678
474	305	337	300	385	597	622	656	643	670	689	679
454	335	322	300	388	591	660	651	637	670	681	679

Declination.

° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
1 49	2 22	1 31	3 24	2 46	2 27	1 34	1 29	1 26	1 19	1 18	1 18	1 18	1 18	1 18
2 50	2 21	2 56	2 18	2 50	2 40	1 36	1 28	1 24	1 18	1 18	1 18	1 18	1 18	1 13
2 58	2 42	3 30	4 8	2 56	3 4	1 34	1 33	1 22	1 17	1 18	1 18	1 18	1 18	1 13
2 50	2 4	3 10	3 40	3 8	2 26	1 36	1 28	1 20	1 15	1 18	1 18	1 18	1 18	1 13
2 58	1 54	3 4	2 32	2 25	2 5	1 42	1 35	1 19	1 19	1 20	1 20	1 20	1 20	1 21
2 8	2 0	2 46	2 35	3 3	1 49	1 40	1 33	1 20	1 15	1 18	1 18	1 18	1 18	1 20
2 17	1 48	3 15	2 20	3 3	1 47	1 32	1 30	1 48	1 11	1 18	1 18	1 18	1 18	1 20
2 19	1 56	2 50	2 48	3 16	1 41	1 36	1 24	1 20	1 15	1 11	1 11	1 11	1 11	1 20
2 27	2 14	4 10	2 30	2 18	1 43	1 33	1 30	1 16	1 17	1 18	1 18	1 18	1 18	1 20
1 16	1 58	1 56	3 10	3 39	1 44	1 32	1 27	1 20	1 18	1 20	1 20	1 20	1 20	1 20
1 3	2 25	3 26	3 10	1 33	1 31	1 30	1 18	1 18	1 20	1 18	1 18	1 18	1 18	1 20
2 1	3 24	3 56	2 10	2 36	1 38	1 33	1 24	1 16	1 18	1 22	1 22	1 22	1 22	1 20

Vertical Intensity.

93	103	114	98	77	69	76	73	75	76	75	79
88	100	106	71	85	66	73	75	75	76	75	79
102	106	99	71	92	84	70	73	76	76	75	79
99	111	103	98	99	78	70	75	76	75	76	79
98	104	100	91	94	75	71	75	76	75	76	77
85	104	91	75	90	75	71	74	75	76	76	77
86	105	102	79	90	73	71	74	75	75	76	77
88	100	98	83	81	71	73	75	75	76	77	77
89	108	90	78	70	71	71	76	75	76	78	77
94	105	94	74	75	70	71	75	74	74	77	77
100	104	93	91	89	75	76	75	74	76	79	77
101	105	98	89	96	71	76	74	77	75	79	77

Auroral Observations.

H. M.

A.M.

- 10 50 Patches in zenith visible between clouds.
 11 25 Masses of aurora in zenith and about 5° S. of zenith. Sky cloudy.

P.M.

- 12 15 Patches visible through clouds in S.E. horizon.
 1 10 Bright aurora (2) from S.W. to N.W. horizon, partly visible between clouds.
 1 30 Bright patch in S.W. about 50° alt.

November 1, 1882.

 $\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity. 007000 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	670	683	714	722	726	714	691	703	656	707	651	607
5	674	683	720	720	728	712	678	697	654	639	656	599
10	679	679	714	712	732	701	687	703	687	641	674	563
15	678	693	714	712	730	699	699	699	674	649	683	561
20	679	695	718	716	732	703	703	708	670	639	689	578
25	683	699	718	720	718	699	701	697	660	612	681	584
30	687	693	720	718	710	695	697	691	674	622	676	597
35	683	693	710	704	730	691	699	687	685	645	614	603
40	681	695	714	710	749	691	689	683	701	633	630	643
45	683	703	726	701	743	695	697	681	687	660	618	666
50	687	705	732	697	730	697	707	664	689	678	610	678
55	683	708	722	712	722	697	705	666	668	660	601	676

Declination. 40° +												
	0	1	2	3	4	5	6	7	8	9	10	11
0	0 26	0 26	0 22	0 21	0 36	0 26	0 26	0 22	0 30	0 21	0 38	0 39
5	0 24	0 27	0 23	0 21	0 35	0 24	0 26	0 24	0 31	0 26	0 37	0 38
10	0 24	0 28	0 22	0 16	0 32	0 23	0 24	0 24	0 46	0 27	0 40	0 42
15	0 24	0 25	0 23	0 27	0 26	0 28	0 25	0 28	0 46	0 10	0 28	0 43
20	0 23	0 24	0 26	0 28	0 22	0 25	0 24	0 37	0 40	0 30	0 30	0 42
25	0 24	0 23	0 26	0 26	0 24	0 28	0 22	0 31	0 37	0 12	0 31	0 41
30	0 24	0 22	0 26	0 26	0 24	0 27	0 23	0 27	0 31	0 36	0 36	0 41
35	0 25	0 25	0 28	0 30	0 20	0 25	0 26	0 25	0 12	0 26	0 46	0 42
40	0 25	0 24	0 22	0 15	0 14	0 26	0 24	0 26	0 26	0 15	0 38	0 42
45	0 24	0 24	0 21	0 44	0 16	0 26	0 23	0 26	0 29	0 12	0 41	0 40
50	0 24	0 23	0 24	0 22	0 22	0 26	0 22	0 26	0 30	0 27	0 41	0 29
55	0 26	0 24	0 23	0 43	0 23	0 26	0 21	0 26	0 31	0 29	0 41	0 40

Vertical Intensity. 06100 (C.G.S.) +												
	80	80	80	79	76	82	79	76	76	77	84	92
0	80	80	80	79	76	82	79	76	76	77	84	92
5	80	80	80	79	77	81	79	76	74	76	84	91
10	80	80	80	79	77	81	79	79	71	77	84	92
15	79	81	81	79	78	80	78	76	70	79	81	89
20	80	80	81	80	79	81	77	74	71	79	83	89
25	80	80	80	79	79	79	77	75	69	82	84	89
30	80	80	80	79	79	80	77	76	70	81	83	88
35	80	81	80	77	78	79	79	76	72	83	90	88
40	80	81	79	77	80	80	78	77	74	85	90	87
45	79	81	80	77	81	80	77	77	74	83	90	86
50	80	80	80	78	82	79	77	76	74	82	90	84
55	80	80	80	77	82	79	77	77	75	84	92	85

Auroral Observations.	
h. m.	A.M.
2 5	Faint arch (1) from N.N.W. to N.E., 15° alt.
2 17	" almost disappeared. Faint streamers in N.N.W. (° 5).
2 27	Arch brighter and lower, passing through Pleiades, brightest in N.E.
2 35	" disappeared except a faint patch in N.E.
2 40	Arch reappeared (1).
2 58	" increasing in width. Faint streamers in N.N.W.
3 15	Arch very faint, except in N.E.
3 30	Arch bright (1) and streamers in N.W.
4 0	Arch very irregular (1), bright broad patch (2) in E.N.E.
4 25	Aurora very faint from N.W. to N.E.
5 5	Faint auroral light in S.S.W. at the edge of a cloud. Arch in N.E. disappeared except a very faint light in N.N.W.
5 25	Aurora entirely disappeared.

62° 38' 52".

 $\lambda = -115^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

Göttingen Mean Time.

November 1, 1882.

Horizontal Intensity.

Noon.	1	2	3	4	5	6	7	8	9	10	11
664	628	633	444	424	676	651	656	649	664	687	662
670	632	641	414	480	674	656	656	653	676	676	674
668	647	648	351	482	674	643	641	660	681	676	681
635	654	601	324	500	649	664	649	664	683	670	683
631	645	584	336	484	633	678	658	651	683	676	660
633	641	559	388	521	672	674	656	653	685	664	710
635	639	519	370	567	683	672	668	653	683	670	703
614	630	480	353	603	666	670	651	658	681	662	718
601	618	452	361	632	664	666	654	656	679	662	718
610	618	439	351	664	662	662	651	658	681	653	670
624	626	—	355	674	660	662	651	651	679	643	710
626	618	437	388	670	649	662	658	651	687	653	707

Declination.

°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'										
0	34	0	42	0	44	1	21	1	6	0	54	0	34	0	31	0	18	0	19	0	21	0	20	0	25
0	32	0	42	0	42	1	12	1	26	0	54	0	35	0	16	0	19	0	19	0	21	0	20	0	22
0	42	0	36	0	41	1	28	1	14	0	51	0	34	0	26	0	16	0	18	0	21	0	20	0	20
0	42	0	35	0	46	2	14	1	22	0	51	0	32	0	27	0	4	0	18	0	22	0	20	0	20
0	38	0	36	0	48	1	50	1	10	0	40	0	38	0	27	0	14	0	16	0	20	0	20	0	20
0	43	0	38	0	57	1	40	1	0	0	39	0	35	0	27	0	16	0	18	0	21	0	18	0	18
0	43	0	37	1	19	1	54	1	2	0	39	0	34	0	30	0	17	0	18	0	21	0	18	0	18
0	42	0	38	1	12	1	50	0	58	0	37	0	33	0	32	0	26	0	17	0	22	0	16	0	16
0	46	0	41	1	24	2	0	0	50	0	35	0	36	0	28	0	14	0	18	0	24	0	22	0	22
0	46	0	40	1	22	1	45	0	44	0	34	0	30	0	24	0	4	0	19	0	25	0	20	0	20
0	44	0	47	1	48	1	48	0	50	0	22	0	29	0	22	0	10	0	21	0	26	0	20	0	20
0	44	0	50	1	46	1	21	0	51	0	31	0	24	0	14	0	18	0	20	0	24	0	20	0	21

Vertical Intensity.

81	83	87	106	79	78	77	80	81	81	86	86
82	82	88	104	74	80	77	81	81	84	86	86
82	82	89	95	79	79	80	80	81	84	86	84
81	83	92	92	73	78	80	81	81	85	85	84
81	84	94	86	81	78	80	81	81	85	85	85
81	84	99	86	85	77	81	82	81	85	84	85
83	85	103	86	84	77	81	81	81	85	84	85
84	86	103	81	81	77	81	84	82	85	84	85
87	87	105	80	83	77	82	84	82	85	84	84
83	87	106	85	82	77	81	84	82	86	85	86
82	87	not read	81	81	77	81	84	83	86	84	86
83	87	104	80	80	77	82	83	82	86	85	87

Auroral Observations.

h. m.	A.M.	
10	20	Diffused arch (2) from S.E. through zenith to N.W. horizon.
10	30	Arch disappeared.
10	35	Diffused light in N.W. drifting towards S.W., slightly prismatic.
10	40	" disappeared except a few faint streamers in N.W. horizon.
10	50	" disappeared.
11	0	Auroral light in zenith (1).
11	8	Bright patch (2) on N.W. horizon.
11	50	Faint arch from E.S.E. through zenith to W.N.W. (1) in N.N.W.
		P.M.
12	10	Aurora disappeared.
2	25	Streak of auroral light on N.E. horizon.

November 15, 1882.

$\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity. 0-0700 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	1,069	1,025	1,110	984	966	841	515	609	714	216	691	607
5	1,112	1,000	1,077	1,077	816	736	609	599	730	337	749	512
10	1,069	976	1,045	958	932	806	605	572	687	183	660	517
15	1,099	920	1,065	798	976	833	615	678	651	307	741	465
20	1,047	934	1,093	736	928	806	643	712	628	405	647	489
25	1,039	958	1,097	720	810	826	759	697	489	470	653	516
30	956	1,000	1,097	707	913	757	745	722	-144	893	730	569
35	966	976	1,057	707	954	697	728	744	300	664	763	570
40	936	1,183	1,029	695	1,155	630	753	753	324	569	691	582
45	980	1,122	984	732	1,087	643	747	765	309	705	660	591
50	1,002	1,138	936	736	948	712	712	725	375	687	512	5-6
55	1,025	1,087	944	763	869	567	641	738	113	693	605	569

Declination. 37° +												
Minutes.	0	1	2	3	4	5	6	7	8	9	10	11
0	3 59	3 40	3 47	3 7	3 55	1 20	3 29	3 15	2 58	1 10	2 57	3 0
5	4 9	3 34	3 45	3 0	2 29	1 3-	3 32	3 19	3 3	1 40	3 0	3 14
10	3 59	3 24	3 39	3 31	2 24	1 42	3 46	3 10	3 20	0 40	3 14	3 6
15	3 57	3 24	3 47	4 8	2 7	2 11	3 56	3 3	3 10	0 52	3 0	3 34
20	1 47	3 42	3 42	3 51	1 51	2 26	4 20	3 46	3 16	0 20	1 55	3 55
25	3 50	3 38	3 31	3 19	1 58	2 45	4 12	3 17	4 28	2 1	3 17	3 33
30	3 37	3 30	3 27	2 58	1 40	2 26	3 56	1 44	3 0	1 5	1 49	3 41
35	3 34	3 7	3 30	3 31	1 20	1 24	1 49	1 43	1 50	1 0	1 14	3 56
40	3 38	3 18	3 35	2 57	1 20	2 11	1 31	2 34	0 52	1 1	1 25	3 46
45	3 28	4 0	3 19	3 3	1 38	2 74	1 18	2 6	0 55	1 8	2 32	1 56
50	3 23	3 52	3 17	1 5	1 25	3 10	3 9	2 19	1 27	2 24	3 19	4 3
55	3 29	3 54	3 14	3 51	1 19	3 24	2 58	1 40	1 51	2 2-	3 16	4 6

Vertical Intensity. 0-6100 (C.G.S.) +												
Minutes.	106	105	91	79	42	48	90	79	94	99	67	64
0	106	105	91	79	42	48	90	79	94	99	67	64
5	101	98	89	73	46	51	86	79	95	99	69	64
10	95	99	91	57	60	61	86	81	95	99	73	66
15	100	100	93	61	59	62	88	79	94	99	66	70
20	101	102	85	61	62	69	88	79	96	98	63	70
25	104	99	81	61	67	72	83	85	100	98	54	71
30	103	98	86	60	85	75	79	87	99	98	49	75
35	102	98	83	52	77	79	81	86	99	98	58	79
40	101	96	85	51	74	82	80	89	99	98	66	79
45	103	90	80	66	74	85	80	96	99	—	76	77
50	101	89	86	61	69	81	78	96	99	80	67	74
55	98	93	84	56	63	83	82	93	99	71	66	77

Auroral Observations.

h. m. A.M.
 6 0 Sky overcast but very light, aurora probably behind clouds.
 P.M.
 12 20 Sky became dark.

32° 38' 52".

$\lambda = - 115^{\circ} 43' 50'' = - 7h. 42m. 55s.$

Göttingen Mean Time.

November 15, 1882.

Horizontal Intensity.

11	Noon.	1	2	3	4	5	6	7	8	9	10	11
607	578	699	551	595	643	605	589	641	668	668	687	740
512	582	784	597	666	589	624	500	664	672	666	670	722
517	584	745	589	656	588	574	548	641	654	672	699	693
465	632	726	597	612	597	544	531	645	666	695	658	708
489	601	681	523	538	589	570	559	647	662	678	691	678
516	603	589	516	588	569	538	582	643	674	679	699	710
569	618	559	548	586	564	565	586	664	666	689	697	691
570	678	603	512	649	589	635	626	660	681	656	683	695
582	681	626	561	578	550	637	645	647	695	681	697	714
591	687	654	557	591	542	643	660	643	685	687	707	664
566	672	553	559	637	544	614	656	662	687	681	703	689
569	687	714	582	656	533	588	653	664	679	683	693	720

Declination.

0	1	2	3	4	5	6	7	8	9	10	11	12
4 12	4 16	4 47	3 49	3 53	3 50	4 26	3 42	3 29	3 20	3 10	3 20	3 20
4 13	3 44	4 23	3 51	4 2	3 56	4 30	3 36	3 32	3 18	3 26	3 17	3 17
4 9	3 38	4 20	3 46	4 2	4 6	4 20	3 38	3 34	3 22	3 9	3 18	3 18
4 2	3 50	4 22	3 59	4 3	3 51	4 17	3 32	3 26	3 17	3 17	3 18	3 18
4 2	3 36	4 27	4 9	3 56	4 14	4 25	3 38	3 29	3 19	3 13	3 34	3 34
4 35	4 6	4 26	4 14	4 2	4 21	4 13	3 40	3 27	3 25	3 21	3 14	3 14
4 34	3 59	4 10	3 53	4 6	4 23	4 7	3 26	3 25	3 18	3 11	3 32	3 32
4 15	3 44	4 22	3 52	3 52	4 14	3 50	3 35	3 19	3 21	3 20	3 16	3 16
4 19	3 44	4 9	4 4	4 14	4 2	3 51	3 32	3 17	3 12	3 22	3 14	3 14
4 15	4 24	4 10	4 2	4 16	3 52	3 41	3 27	3 20	3 9	3 21	3 17	3 17
4 20	4 29	4 5	3 40	4 20	4 1	3 56	3 23	3 20	3 12	3 22	3 20	3 20
4 22	3 50	3 59	3 44	4 21	4 6	3 44	3 30	3 22	3 12	3 25	3 28	3 28

Vertical Intensity.

71	56	70	53	47	40	48	43	47	46	51	54
69	52	61	63	46	37	45	40	44	47	52	51
74	55	59	51	46	39	42	41	44	47	53	50
71	58	64	51	46	41	42	43	44	48	50	51
73	66	56	49	40	41	41	42	45	48	52	50
75	66	54	50	46	39	40	43	45	49	48	54
69	61	61	51	46	43	40	43	43	49	51	52
71	68	52	45	42	44	41	46	46	47	52	55
70	71	51	49	41	47	41	46	46	50	51	52
68	69	49	43	42	49	40	45	45	51	52	51
61	65	51	47	43	46	42	45	47	50	51	51
60	64	49	49	44	44	42	46	46	51	53	54

December 1, 1882.

 $\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity. $\mu=07000$ (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	-67	-70	705	740	685	679	641	601	619	616	654	662
5	-76	-73	681	714	685	672	619	629	619	610	654	666
10	-70	691	691	699	681	672	641	591	641	620	647	668
15	-71	693	697	710	674	668	649	622	651	631	643	656
20	-70	703	691	703	676	654	656	647	666	649	631	645
25	-71	-78	683	697	670	651	670	653	668	656	630	637
30	-79	-73	701	687	656	651	664	651	653	664	628	603
35	-74	-72	-74	679	647	641	654	628	612	660	619	614
40	-73	-70	722	687	670	654	649	615	674	666	641	641
45	-72	-70	761	689	681	654	551	631	679	670	647	649
50	-69	-71	-81	691	639	647	542	609	662	676	651	645
55	-70	-70	-84	685	697	641	563	626	605	674	649	595

Declination. $39^{\circ} +$												
	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ
0	1 19	1 16	1 14	1 11	1 20	1 22	1 14	0 58	1 22	1 14	1 11	1 22
5	1 16	1 17	1 18	1 18	1 18	1 20	1 14	1 9	1 23	1 11	1 13	1 19
10	1 21	1 17	1 16	1 10	1 18	1 18	1 12	1 20	1 24	1 12	1 15	1 21
15	1 14	1 20	1 18	1 14	1 21	1 17	1 16	1 24	1 24	1 12	1 17	1 20
20	1 14	1 16	1 18	1 14	1 22	1 21	1 18	1 20	1 21	1 16	1 18	1 21
25	1 20	1 9	1 20	1 12	1 22	1 19	1 16	1 22	1 24	1 18	1 18	1 25
30	1 10	0 59	1 19	1 10	1 21	1 20	1 18	1 30	1 29	1 18	1 21	1 36
35	1 8	1 9	1 12	1 12	1 21	1 22	1 20	1 26	1 16	1 20	1 20	1 23
40	1 12	1 16	1 4	1 17	1 24	1 18	1 17	1 22	1 0	1 23	1 20	1 25
45	1 12	1 15	0 52	1 20	1 23	1 16	1 21	1 22	1 8	1 20	1 21	1 26
50	1 14	1 15	0 51	1 22	1 24	1 16	1 9	1 24	1 20	1 14	1 21	1 31
55	1 12	1 14	1 3	1 22	1 26	1 16	1 2	1 23	1 17	1 12	1 23	1 29

Vertical Intensity. $0-6100$ (C.G.S.) +												
	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ
0	71	70	70	69	69	75	75	70	75	70	76	75
5	70	70	70	69	69	75	74	68	79	73	77	75
10	69	70	69	69	69	75	75	68	79	74	77	75
15	70	70	69	68	70	73	74	71	79	76	76	75
20	70	69	70	68	70	74	74	72	77	77	76	76
25	70	69	70	68	70	75	75	71	77	78	76	77
30	70	66	70	68	71	75	75	70	76	77	76	79
35	70	71	69	68	70	74	73	74	75	77	76	79
40	70	70	69	68	70	73	77	76	73	77	76	79
45	71	70	68	68	71	74	81	75	74	77	76	81
50	70	70	69	68	73	74	70	73	71	77	76	81
55	70	70	69	68	73	75	71	79	71	77	76	86

Auroral Observations.	
h. m.	
A.M.	
1 25	Faint arch ($\delta 5$) E.S.E. to W.N.W., 20 alt.
1 38	" disappeared. Bright streak (1) in N., 10 alt.
1 50	Faint light in N.W. ($\delta 5$), 10 alt.
2 50	Arch (2) from E. to N.W., 2 N of zenith.
3 0	" through zenith.
3 20	Bright diffused arch (2) from E.S.E. through zenith to W.N.W.
3 40	Band (1) from S.E. to N.W., 6 S.W. of zenith.
1 0	Curtain of aurora through zenith from N.W. to S.E. ($\delta 8$), about 10 in extent.
3 15	Aurora disappeared, except a faint arch ($\delta 5$) from E.S.E. to W.N.W., 20 S of zenith.
4 20	Arch ($\delta 5$) drifting towards S., slightly diffused in E.S.E.
1 25	Diffused arch ($\delta 5$) from E.S.E. to W.N.W., 1 S.W. of zenith.
4 15	" drifting towards zenith.
4 55	Above arch very faint and through zenith.
5 10	" brighter towards W.N.W.
5 25	" bright (1) and 2 S.W. of zenith.
5 35	" disappeared.

62° 38' 52".

 $\lambda = -115^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

Göttingen Mean Time.

December 1, 1882.

Horizontal Intensity.

Noon.	1	2	3	4	5	6	7	8	9	10	11
643	607	452	599	561	628	664	639	639	664	649	714
668	589	469	599	580	612	670	641	641	656	647	726
666	586	495	599	591	624	660	647	641	658	647	722
656	570	485	595	597	631	676	641	641	651	649	708
647	559	533	595	633	647	664	660	649	651	645	697
645	550	570	588	626	641	656	660	649	647	643	705
637	514	580	589	626	647	656	658	651	647	649	707
603	499	555	548	624	662	660	651	653	643	656	722
614	495	586	553	632	670	647	654	654	651	672	724
641	474	591	570	633	672	643	662	651	651	722	720
649	473	612	551	641	670	631	664	651	653	773	708
645	510	599	551	641	664	637	651	662	649	749	699
595											

Declination.

°	'	°	'	°	'	°	'	°	'	°	'	°	'
1	19	1	45	2	11	1	54	1	47	1	43	1	29
1	18	1	48	2	12	1	51	1	47	1	43	1	27
1	17	1	47	2	6	1	48	1	41	1	44	1	22
1	16	1	44	2	10	1	52	1	42	1	40	1	24
1	15	1	42	2	14	1	50	1	39	1	33	1	27
1	14	1	42	2	9	1	50	1	38	1	45	1	22
1	13	1	50	1	56	2	3	1	38	1	42	1	24
1	12	1	54	1	57	2	1	1	44	1	36	1	23
1	11	1	56	2	2	1	44	1	36	1	23	1	24
1	10	1	56	2	2	1	44	1	34	1	24	1	24
1	9	1	50	1	51	1	58	1	44	1	34	1	28
1	8	1	50	1	51	1	58	1	44	1	34	1	28
1	7	1	39	2	1	1	52	1	57	1	40	1	30
1	6	1	40	1	58	1	55	2	2	1	48	1	28
1	5												
1	4												
1	3												
1	2												

Vertical Intensity.

88	85	off scale	91	85	81	81	79	82	82	83	83
88	89	95	91	84	81	81	81	82	83	83	83
87	86	off scale	88	84	80	83	81	83	83	84	82
87	85	94	94	79	81	82	82	82	88	84	82
86	83	92	94	81	81	81	82	82	83	84	83
86	84	95	91	80	80	81	82	83	83	84	79
86	84	96	97	82	83	81	82	83	83	84	81
85	81	93	off scale	84	81	80	82	81	83	84	82
85	84	93	"	82	81	81	82	82	83	84	82
85	off scale	90	"	82	81	82	82	81	83	83	83
85	93	90	91	82	81	81	81	82	81	82	81
85	off scale	93	91	81	81	81	81	82	83	84	79

Auroral Observations.

- h. m.
A.M.
- 5 45 Faint patch in E.S.E., 5° alt.
6 0 Faint auroral light in S.W., 30° alt.
6 10 " diffused.
6 20 Irregular arch (1) from S.E. to W., 40° alt.
6 40 Arch (2) from E.S.E. to W., 6° S.W. of zenith.
6 45 Aurora much diffused, drifting through zenith, with much quivering motion, and slightly prismatic.
6 55 Band (1) from E., through Ursa Major, to N.W.
7 5 Band as above, and a diffused light in zenith. Very faint.
7 25 Band less bright, and light disappeared.
7 35 Above band disappeared.
7 40 Faint auroral light from W.N.W. through zenith.
8 25 Faint auroral light in zenith and in N.N.W.
8 35 Patch of aurora (1) in N.N.W., 15° alt.
8 45 Faint arch (5) from E. to N.W., 10° alt.
8 55 Aurora disappeared. Sky nearly overcast.

December 15, 1882.

$\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity. 0.07000 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	681	691	691	687	695	687	685	679	691	666	661	647
5	679	695	689	693	689	689	685	681	687	668	656	681
10	679	689	693	683	693	691	678	681	676	666	656	695
15	681	689	697	691	697	687	681	681	683	666	660	693
20	683	687	695	697	699	683	679	679	687	668	668	685
25	685	693	695	695	689	689	679	683	683	670	664	675
30	681	689	699	699	695	687	683	681	681	672	668	683
35	687	691	707	695	687	681	681	681	670	672	672	681
40	687	697	691	691	685	687	683	687	671	676	666	689
45	691	691	695	693	687	683	683	687	662	672	670	697
50	689	691	697	689	693	689	679	693	654	670	678	685
55	683	691	687	699	687	685	681	687	654	668	660	683

Declination. 39° +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	1 16	1 17	1 18	1 18	1 18	1 19	1 19	1 20	1 16	1 18	1 19	1 20
5	1 16	1 16	1 18	1 18	1 18	1 19	1 20	1 20	1 16	1 18	1 20	1 20
10	1 17	1 17	1 16	1 16	1 18	1 20	1 22	1 19	1 12	1 19	1 21	1 16
15	1 17	1 17	1 17	1 19	1 19	1 20	1 23	1 20	1 14	1 18	1 20	1 27
20	1 17	1 18	1 17	1 19	1 18	1 20	1 19	1 20	1 15	1 19	1 20	1 20
25	1 17	1 16	1 17	1 18	1 18	1 21	1 19	1 19	1 15	1 18	1 21	1 23
30	1 17	1 17	1 18	1 18	1 18	1 20	1 20	1 19	1 11	1 20	1 21	1 25
35	1 18	1 16	1 18	1 19	1 18	1 20	1 20	1 20	1 12	1 19	1 21	1 24
40	1 18	1 16	1 17	1 20	1 19	1 21	1 20	1 20	1 17	1 19	1 22	1 22
45	1 18	1 17	1 17	1 20	1 19	1 20	1 20	1 19	1 14	1 19	1 21	1 18
50	1 18	1 17	1 18	1 19	1 18	1 19	1 20	1 16	1 16	1 19	1 20	1 22
55	1 18	1 18	1 18	1 18	1 20	1 20	1 20	1 16	1 16	1 18	1 19	1 24

Vertical Intensity. 0.6100 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	-6	-5	-5	-6	-5	-3	-3	-3	-4	-5	-5	-5
5	-6	-5	-5	-6	-5	-3	-3	-3	-4	-5	-4	-5
10	-6	-5	-5	-6	-5	-3	-3	-3	-4	-5	-3	-5
15	-5	-4	-5	-6	-5	-3	-3	-3	-3	-5	-3	-5
20	-6	-4	-5	-5	-5	-3	-3	-3	-3	-3	-3	-5
25	-5	-4	-5	-5	-5	-3	-3	-3	-3	-3	-3	-4
30	-5	-4	-5	-5	-5	-3	-3	-3	-3	-3	-3	-4
35	-5	-4	-5	-5	-5	-3	-3	-3	-3	-3	-3	-4
40	-5	-4	-6	-5	-5	-3	-3	-3	-3	-3	-3	-4
45	-5	-4	-6	-5	-5	-3	-3	-3	-3	-3	-3	-4
50	-5	-5	-6	-5	-4	-3	-3	-3	-3	-3	-3	-4
55	-5	-5	-6	-5	-3	-3	-3	-3	-3	-3	-3	-4

Auroral Observations.		
h. m.	A.M.	
5	50	Faint band from N.E. to N.W., about 20' alt.
6	0	" brighter (1) in N.E.
6	10	Ditto.
6	20	" disappeared, except in N.E. Faint patches in zenith.
6	30	Aurora very faint. Patches in zenith drifted to 10 alt. N.E.
6	45	" disappeared except a streak in N.W.
7	0	Bright irregular-shaped arch (1) from E. to N.E., 10 alt. Bright streak (1) in N.W.
7	5	Aurora faint. Above arch, 15 alt. Faint streak in E.S.E.
7	10	Streaks disappeared. Faint arch from E.S.E. through zenith to W.N.W. Arch from E. to N.E. very faint.
7	20	" disappeared. Arch from E.S.E. to W.N.W. very faint. Faint arch (2) through Cygnus, Cassiopeia, and Gemini, slightly brighter patch in Leo.
7	40	Arch (5) through Leo, passing halfway between Ursa Major and N. horizon.
7	50	Aurora very faint.

$\lambda = -115^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

Göttingen Mean Time.

December 15, 1882.

Horizontal Intensity.

11	Noon.	1	2	3	4	5	6	7	8	9	10	11
647	685	703	651	685	687	679	666	654	649	666	576	668
681	679	695	651	693	685	673	674	656	656	658	552	637
695	672	670	626	631	679	676	670	662	658	662	596	679
643	672	674	641	691	676	658	666	656	668	645	589	681
685	662	681	658	685	672	630	668	662	664	649	591	670
678	674	699	670	691	679	676	664	645	656	611	620	693
683	672	701	647	689	676	668	662	647	660	617	679	697
681	666	693	668	687	670	672	660	647	662	620	662	738
689	668	683	670	687	664	672	660	651	666	628	718	716
697	666	660	658	687	674	666	660	643	676	617	753	733
685	664	654	668	691	676	666	666	647	670	603	708	741
683	701	664	679	689	668	670	654	649	660	578	672	726

Declination.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 23	1 18	1 32	1 27	1 28	1 28	1 28	1 32	1 23	1 28	1 32	1 13	1 4		
1 24	1 20	1 34	1 26	1 28	1 34	1 30	1 29	1 29	1 25	1 30	1 14	1 13		
1 23	1 29	1 42	1 28	1 29	1 30	1 29	1 23	1 23	1 18	1 32	1 6	1 3		
1 24	1 28	1 25	1 35	1 31	1 40	1 32	1 33	1 18	1 37	1 0	1 5	1 5		
1 28	1 26	1 31	1 26	1 31	1 38	1 28	1 20	1 24	1 34	1 0	1 5	1 2		
1 25	1 25	1 29	1 24	1 28	1 32	1 28	1 17	1 28	1 31	1 4	1 2	1 2		
1 23	1 22	1 32	1 26	1 29	1 35	1 27	1 24	1 30	1 27	0 53	1 3	1 3		
1 27	1 24	1 30	1 28	1 29	1 31	1 24	1 22	1 24	1 26	0 56	0 51	0 51		
1 23	1 22	1 28	1 25	1 21	1 31	1 20	1 10	1 21	1 24	0 56	1 0	0 55		
1 24	1 31	1 32	1 28	1 29	1 33	1 24	1 27	1 21	1 26	0 48	0 55	0 55		
1 22	1 31	1 31	1 24	1 30	1 33	1 20	1 24	1 32	1 20	0 58	1 6	1 6		
1 17	1 29	1 31	1 29	1 34	1 29	1 24	1 30	1 32	1 18	1 6	1 8	1 8		

Vertical Intensity.

75	75	77	74	73	74	74	71	69	73	71	72	72
75	75	75	75	73	73	73	71	70	74	70	73	73
75	76	75	74	73	74	74	72	70	73	73	71	71
75	75	72	73	73	74	74	71	70	73	71	73	73
75	75	73	74	73	73	73	71	70	73	71	74	72
74	75	72	74	72	73	71	71	71	73	73	76	76
76	74	73	75	73	74	73	70	74	72	75	75	75
76	73	72	74	73	73	73	70	72	73	76	77	77
77	74	73	74	72	74	71	69	71	71	73	77	77
76	75	73	74	73	74	72	69	72	73	75	77	77
76	74	74	75	74	74	72	69	72	73	77	77	77
75	78	74	74	74	74	72	69	72	71	72	72	75

Auroral Observations.

h. m.	
A.M.	
8 5	Arch (1) from N.E. to N.W., 45° alt., and arch (5) from S.E. to W., 2° S. of zenith.
8 15	Aurora disappeared, except a faint patch 20° N.W. of zenith, and a brighter patch (5) in E. and S.E.
8 25	Aurora disappeared.
10 10	Arch (1) from N.W. to E., through zenith.
10 20	" 5° S.W. of zenith (5).
10 35	" irregular in shape, and through zenith (5 to 1); brightest in N.W.
10 50	" uniform and (5).
10 55	Aurora disappeared.
11 10	Faint streak in zenith.
P.M.	
1 30	" in E.N.E., 40° alt.
1 33	" disappeared.

$\lambda = -115^{\circ} 43' 50'' = -7h, 42m, 55s.$

Göttingen V. Time.

January 2, 1883.

Horizontal Intensity.

11	Noon.	1	2	3	4	5	6	7	8	9	10	11
654	662	610	463	500	624	674	626	622	651	624	677	639
670	660	591	474	540	637	664	614	620	653	607	687	637
656	658	582	493	551	676	641	622	628	643	601	697	668
643	658	567	502	550	701	658	616	630	633	624	685	637
638	651	559	508	582	693	660	607	626	639	635	676	654
664	641	561	497	578	689	653	599	633	643	630	695	645
660	630	517	480	544	701	654	603	641	654	632	643	647
654	628	519	463	548	693	643	610	653	648	639	674	660
662	620	519	444	616	681	649	610	641	687	639	620	654
666	618	514	398	628	668	641	624	645	681	658	621	662
668	624	463	416	630	649	643	605	633	685	685	643	689
660	622	474	444	616	672	628	597	658	641	651	641	674

Declination.

o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /
o 18	o 34	o 46	o 42	o 34	o 27	o 38	o 34	o 19	o 11	o 8	o 17	o 15
o 18	o 38	o 46	o 42	o 33	o 30	o 42	o 32	o 14	o 16	o 10	o 10	o 13
o 18	o 38	o 46	o 42	o 36	o 31	o 40	o 21	o 13	o 16	o 12	o 10	o 19
o 16	o 35	o 42	o 48	o 22	o 32	o 40	o 25	o 13	o 10	o 10	o 10	o 16
o 18	o 36	o 35	o 38	o 25	o 34	o 43	o 20	o 19	o 9	o 12	o 12	o 13
o 19	o 36	o 36	o 43	o 24	o 30	o 45	o 22	o 14	o 9	o 6	o 20	o 20
o 18	o 41	o 41	o 56	o 28	o 30	o 44	o 20	o 12	o 12	o 22	o 18	o 18
o 20	o 38	o 53	o 52	o 37	o 18	o 43	o 17	o 10	o 10	o 16	o 18	o 18
o 16	o 36	1 0	o 36	o 34	o 31	o 37	o 22	o 7	o 16	o 21	o 14	o 14
o 18	o 37	1 12	o 38	o 38	o 36	o 30	o 18	o 8	o 14	o 13	o 11	o 11
o 18	o 48	1 28	o 39	o 40	o 38	o 36	o 18	o 10	o 10	o 18	o 12	o 12
o 20	o 40	o 56	o 43	o 28	o 33	o 35	o 17	o 14	o 20	o 18	o 6	o 6

Vertical Intensity.

76	83	75	69	72	73	74	73	73	75	77	73
76	82	76	70	74	73	74	73	73	74	76	76
76	83	75	72	70	74	74	73	73	75	77	70
77	82	76	72	71	73	73	74	73	74	78	75
77	81	77	70	73	73	72	74	73	75	78	77
78	78	75	69	73	73	74	74	74	75	79	76
80	77	74	77	73	73	73	73	74	75	76	77
81	79	73	73	73	74	73	74	76	75	78	76
82	79	74	69	72	74	72	74	76	74	76	76
82	77	68	67	71	75	71	74	75	75	76	76
83	77	69	71	72	74	73	73	75	75	76	75
84	75	69	71	71	75	72	73	75	76	77	79

Auroral Observations.

h. m.
 7 23 Double arch (*) from S.E. to N.W., 45° alt. in N.
 7 40 Segment of arch (*) from E. horizon towards N., 8° alt.
 7 50 Fainter arch, about 5° above and parallel to the last.
 8 22 Arch (1) from E. to N.W., about 45° alt.
 8 50 " fainter (*).
 9 45 Mass of aurora (1) in N.W., alt. 45°, drifting towards W.
 9 53 " Arch now diffused and irregular (1) from S.E. to W.S.W., alt. 60°.
 10 20 " much diffused and striated in N.W., also at 10.5.
 10 20 " very faint, 10.55. Disappeared.
 10 50 Arch (1) from E.S.E. through zenith to N.W. 10.55. Very faint.
 11 0 " striated (1) and drifting N.
 11 5 Arch now S.W. of zenith, (1) in N.W. extremely, and a patch (*) on N.W. horizon.
 11 10 " Arch now S.W. of zenith, (1) in N.W. and striated, about (*) in other parts.
 11 15 " disappeared. Two patches (1) in N.W., 45° alt.
 11 20 Patches in N.W., very faint. Faint patch on E.S.E. horizon.
 11 50 Patch in N.W., 45° alt. (1).
 12 0 Faint arch from N.W. to E., 10° N. of zenith. 12.15. Disappeared.
 P.M.
 12 20 " Mass of aurora on horizon from E. to E.S.E. 12.30. Faint patch only in E., 8° alt.
 12 40 Arch (*) from W.N.W. through zenith to E.S.E. Another arch (*) to (1), 70° alt., from W.N.W. to about 50° alt. in S.E.
 1 0 " Both arches very faint.
 1 40 " disappeared. Faint streak in N.W., 45° alt.
 1 20 " Mass of aurora in N.W., drifting to N., 45° alt. 1.35. Disappeared.
 5 30 " Faint band (*) parallel to horizon from N.N.E. to N.W., 10° alt. 5.40. Disappeared.

Term Day Observations.

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January 15, 1883.

$\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity.

0.07000 (C.G.S.) +

Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	6.2	6.4	689	6.9	683	689	683	674	6.0	6.6	685	668
5	6.5	6.7	683	6.9	687	683	687	683	6.2	6.7	685	670
10	6.2	6.5	685	6.9	681	687	681	6.2	6.7	681	685	6.2
15	6.6	6.6	6.7	6.4	6.8	6.8	6.7	6.0	6.7	6.6	6.7	6.6
20	6.0	6.1	6.7	6.2	6.8	6.8	6.7	6.6	6.2	6.7	6.7	6.4
25	6.6	6.4	6.4	6.6	6.9	6.8	6.8	6.7	6.6	6.7	6.7	6.9
30	6.2	6.7	6.7	6.9	6.8	6.9	6.7	6.2	6.4	6.9	6.7	6.4
35	6.4	6.0	6.6	6.8	6.8	6.8	6.7	6.6	6.6	6.7	6.7	6.4
40	6.4	6.6	6.8	6.9	6.8	6.8	6.8	6.0	6.4	6.8	6.7	6.4
45	6.1	6.1	6.7	6.8	6.8	6.8	6.8	6.9	6.6	6.8	6.8	6.6
50	6.1	6.7	6.8	6.8	6.9	6.8	6.7	6.6	6.7	6.8	6.7	6.7
55	6.1	6.8	6.8	6.8	6.8	6.8	6.7	6.7	6.7	6.8	6.7	6.7

Declination.

39° +

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5	1 15	1 14	1 12	1 14	1 16	1 14	1 16	1 16	1 16	1 15	1 14	1 12	1 19	1 19	1 19	1 19	1 19
10	1 14	1 12	1 12	1 14	1 16	1 17	1 14	1 16	1 18	1 16	1 14	1 14	1 19	1 19	1 19	1 19	1 19
15	1 14	1 10	1 12	1 17	1 16	1 15	1 16	1 16	1 19	1 16	1 15	1 14	1 19	1 19	1 19	1 19	1 19
20	1 14	1 10	1 14	1 16	1 14	1 14	1 14	1 16	1 16	1 14	1 14	1 15	1 20	1 20	1 20	1 20	1 20
25	1 14	1 11	1 15	1 16	1 14	1 14	1 12	1 13	1 15	1 15	1 12	1 13	1 21	1 21	1 21	1 21	1 21
30	1 14	1 10	1 14	1 16	1 14	1 14	1 12	1 16	1 14	1 15	1 10	1 10	1 27	1 27	1 27	1 27	1 27
35	1 14	1 10	1 14	1 16	1 16	1 16	1 16	1 16	1 16	1 16	1 10	1 10	1 24	1 24	1 24	1 24	1 24
40	1 13	1 14	1 15	1 16	1 16	1 14	1 16	1 18	1 16	1 16	1 12	1 12	1 28	1 28	1 28	1 28	1 28
45	1 12	1 13	1 13	1 17	1 16	1 14	1 14	1 18	1 15	1 15	1 13	1 14	1 28	1 28	1 28	1 28	1 28
50	1 12	1 12	1 14	1 16	1 16	1 16	1 16	1 15	1 16	1 15	1 13	1 14	1 30	1 30	1 30	1 30	1 30
55	1 13	1 11	1 15	1 16	1 15	1 16	1 15	1 16	1 15	1 16	1 13	1 15	1 30	1 30	1 30	1 30	1 30

Vertical Intensity.

0.6100 (C.G.S.) +

5	74	74	77	77	77	76	77	77	76	76	76	75	75	75	75	75	75
10	74	74	77	77	77	77	77	77	76	76	76	76	76	76	76	76	76
15	74	74	77	77	77	77	77	77	76	76	76	76	76	76	76	76	76
20	74	74	77	77	77	77	77	77	76	76	76	76	76	76	76	76	76
25	74	74	77	77	77	77	77	77	76	76	76	76	76	76	76	76	76
30	74	74	77	77	77	77	77	77	76	76	76	76	76	76	76	76	76
35	74	74	77	77	77	77	77	77	76	76	76	76	76	76	76	76	76
40	74	74	77	77	77	77	77	77	76	76	76	76	76	76	76	76	76
45	74	74	77	77	77	77	77	77	76	76	76	76	76	76	76	76	76
50	74	74	77	77	77	77	77	77	76	76	76	76	76	76	76	76	76
55	73	73	77	77	77	78	77	77	76	76	76	76	76	76	76	76	76

Auroral Observations.

h. m.

A. M.

- 10 45 Arch (1) from 60 alt. N.N.W. through zenith to 60 alt. E.S.E. Sky nearly overcast.
- 10 55 Sky overcast. Aurora disappeared.
- 11 30 Masses of aurora (-5) in N.N.W., alt. 50, visible between clouds.
- 11 40 " disappeared.

2° 38' 52".

 $\lambda = -115^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

Göttingen Mean Time.

January 15, 1883.

Horizontal Intensity.

Noon.	1	2	3	4	5	6	7	8	9	10	11
572	454	401	532	645	616	565	695	679	681	653	693
557	452	396	677	647	597	569	679	668	691	653	674
544	439	416	674	654	582	572	664	639	687	630	654
517	422	517	683	654	580	570	672	654	639	639	660
489	437	557	651	653	573	576	676	668	637	639	654
504	427	580	645	653	572	591	660	647	647	633	697
527	409	591	651	641	569	593	649	662	643	658	681
497	396	618	635	639	567	620	666	658	641	635	664
478	487	647	639	646	548	651	691	649	665	666	660
470	422	662	637	612	548	643	603	653	619	676	670
467	411	670	632	605	561	649	677	660	639	687	672
444	396	639	645	607	563	672	677	649	685	670	670

Declination.

o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
1 31	1 54	2 31	1 44	1 35	1 42	2 1	1 29	1 16	1 7	1 3	1 4	1 0	1 0	1 0
1 38	2 20	2 20	1 19	1 36	1 48	1 51	1 28	1 10	1 5	1 4	1 0	1 0	1 0	1 0
1 19	2 14	2 40	1 34	1 32	1 54	1 48	1 22	1 10	1 12	1 3	1 5	1 0	1 0	1 0
1 44	2 25	2 2	1 54	1 32	2 0	1 49	1 17	1 9	1 7	0 59	1 0	1 0	1 0	1 0
1 52	2 34	1 43	1 31	1 32	2 0	1 46	1 23	1 8	1 5	1 0	1 0	1 0	1 0	1 0
1 40	2 26	1 39	1 33	1 34	1 58	1 43	1 23	1 8	1 6	1 4	1 0	1 0	1 0	1 0
1 42	2 10	4 49	1 28	1 36	2 0	1 42	1 31	1 8	1 6	0 58	0 59	0 59	0 59	0 59
1 49	2 15	1 42	1 32	1 36	1 56	1 34	1 18	1 8	1 5	1 2	1 14	1 14	1 14	1 14
1 47	2 30	1 34	1 37	1 38	1 58	1 34	1 20	1 5	1 14	1 0	1 14	1 14	1 14	1 14
2 0	2 21	1 36	1 26	1 42	1 59	1 36	1 20	1 7	1 4	1 1	1 14	1 14	1 14	1 14
1 54	2 6	1 30	1 42	1 49	1 53	1 31	1 19	1 3	1 6	1 3	1 11	1 11	1 11	1 11
2 10	2 6	1 39	1 39	1 47	2 0	1 34	1 11	1 2	1 1	1 3	1 16	1 16	1 16	1 16

Vertical Intensity.

80	85	85	78	76	76	71	70	74	-8	77	79
81	86	88	76	76	77	70	70	71	-9	-9	77
82	90	86	77	76	74	69	70	72	-9	-9	77
84	84	81	71	75	75	70	70	74	-6	-6	76
86	83	82	76	76	74	70	70	-5	-6	-6	76
86	85	79	79	77	74	71	70	74	-7	-7	76
84	84	76	79	77	73	70	70	-5	-7	-6	79
86	84	76	79	77	74	70	69	-5	-8	-6	77
85	85	77	78	76	73	70	73	-4	-8	-7	77
85	88	77	78	76	72	70	71	-6	-8	-8	77
86	86	79	75	76	71	71	71	-6	-6	-6	77
89	83	79	75	76	71	70	73	-7	-7	-7	77

Term Day Observations.

186

February 1, 1883.

☉ = + 62° 38' 52".

Horizontal Intensity. 0.07000 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	---	26	27	68.4	71	28	68.5	631	66.4	639	666	668
5	24	22	25	68	68.5	24	68.5	638	66.4	658	658	666
10	22	22	25	68.5	68.7	22	67.9	638	65.4	662	656	664
15	20	22	27	68.5	67	22	631	631	66.2	662	660	658
20	21	21	21.2	68.7	666	28	631	638	66.4	66.4	658	64.5
25	21	21	21	68.5	658	24	637	572	66.6	666	660	620
30	21	21.6	21.1	69.1	670	24	587	668	66.6	666	66.4	54.8
35	21	21.4	21.4	69.7	683	25	67.9	666	66.4	66.4	658	43.1
40	21	21	21	69	69.7	25	687	662	65.8	66.4	66.4	47.8
45	21	21	21	68.5	69.5	25	69.5	666	66.4	66.6	666	43.0
50	21	21	21.2	68.5	67.1	25	697	666	66.6	66.8	666	50.8
55	21	21	21.8	687	676	25	697	662	65.8	66.6	666	52.9

Declination. 339 +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	1 0	1 1	1 1.1	1 9	1 11	1 6	1 7	1 16	1 16	1 16	1 16	1 15
5	1 0	1 4	1 5	1 7	1 8	1 8	1 16	1 17	1 16	1 16	1 15	1 16
10	1 0	1 9	1 11	1 8	1 8	1 8	1 16	1 16	1 15	1 17	1 15	1 17
15	1 0	1 4	1 9	1 11	1 11	1 8	1 16	1 16	1 16	1 16	1 15	1 21
20	1 0	1 2	1 8	1 11	1 8	1 14	1 15	1 17	1 16	1 16	1 15	1 28
25	1 0	1 4	1 11	1 11	1 11	1 13	1 14	1 18	1 16	1 17	1 15	1 36
30	1 0	1 2	1 11	1 11	1 11	1 14	1 14	1 17	1 17	1 17	1 14	1 50
35	1 0	1 5	1 11	1 11	1 7	1 15	1 14	1 16	1 17	1 17	1 14	2 47
40	1 0	1 6	1 13	1 11	1 7	1 18	1 14	1 16	1 17	1 16	1 14	1 36
45	1 0	1 11	1 11	1 11	1 5	1 17	1 16	1 16	1 16	1 16	1 14	1 31
50	1 0	1 11	1 11	1 11	1 5	1 17	1 15	1 16	1 16	1 16	1 14	1 41
55	1 0	1 12	1 8	1 11	1 4	1 12	1 16	1 16	1 16	1 16	1 15	1 44

Vertical Intensity. 0.6100 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	---	7.9	7.6	7.7	7.7	7.9	7.5	7.4	7.6	7.6	7.7	7.7
5	7.6	7.6	7.6	7.6	7.6	7.8	7.5	7.6	7.6	7.6	7.6	7.6
10	7.6	7.6	7.6	7.6	7.6	7.8	7.6	7.6	7.6	7.6	7.6	7.6
15	7.6	7.6	7.6	7.6	7.6	7.8	7.6	7.6	7.6	7.6	7.6	7.6
20	7.6	7.6	7.6	7.6	7.6	7.8	7.6	7.6	7.6	7.6	7.6	7.6
25	7.6	7.6	7.6	7.6	7.6	7.8	7.6	7.6	7.6	7.6	7.6	7.6
30	7.6	7.6	7.6	7.6	7.6	7.8	7.6	7.6	7.6	7.6	7.6	7.6
35	7.6	7.6	7.6	7.6	7.6	7.8	7.6	7.6	7.6	7.6	7.6	7.6
40	7.6	7.6	7.6	7.6	7.6	7.8	7.6	7.6	7.6	7.6	7.6	7.6
45	7.6	7.6	7.6	7.6	7.6	7.8	7.6	7.6	7.6	7.6	7.6	7.6
50	7.6	7.6	7.6	7.6	7.6	7.8	7.6	7.6	7.6	7.6	7.6	7.6
55	7.6	7.6	7.6	7.6	7.6	7.8	7.6	7.6	7.6	7.6	7.6	7.6

Auroral Observations.

- 1 00 Arch 11 from N.N.W. to E.S.E. 15 alt. A few streamers from N.W. to S. at
- 1 05 Streamers disappeared except a very faint patch in E.N.E. 15 alt.
- 1 10 E. 1 streamer 11 from N.N.W. A few streamers from E.N.E. 15 alt.
- 1 15 Streamers disappeared. Streaks as before. Arch from N.W. to S.E. 15 alt. First arch from N.W. to S.E. 15 alt.
- 1 20 Streamers disappeared. Very faint patch in E.N.E. 15 alt.
- 1 25 Arch 11 from E. to N.N.W. 8 alt. brightest in E. with the arch 5 from N.W. to S.E. 15 alt.
- 1 30 Arch 11 from E. to N.N.W. disappeared. Streamers from N.N.W. 11 20 alt. Arch from S.E. to N.W. as before, till 1 30.
- 1 35 The faintest streamer from N.W. towards S.E. 15 alt.
- 1 40 Streaks now from W.N.W. pointing to zenith. Faint light 10 from S.E. towards zenith, 50 alt.
- 1 45 Faint streak from S. from S.E. through zenith to N.W.
- 1 50 Arch 11 from E. to N.N.W. 11 20 alt. Arch from S.E. to N.W. A few streamers 10 in N.N.W. 60. The same.
- 1 55 Streamers disappeared. Arch very faint in N.N.W. and 10 in E.S.E.
- 2 00 Streamers disappeared. Arch from E.S.E. to N.N.W. 10 alt. 10 in E.S.E. to S. alt. rest faint.
- 2 05 Arch 11 from E.S.E. to N.N.W. 10 alt. Faint streak from W.N.W. 50 alt.
- 2 10 Streamers disappeared. Arch 11 from S.E. through zenith to S.W. 20. Arch very faint.
- 2 15 Streamers disappeared from zenith to S.W. 20. Through zenith 100 alt. in N.W. 100 Disappeared. Faint streak through zenith.
- 2 20 Faint streamer 10 from S.E. to W.N.W. 7 8 of zenith till 20.
- 2 25 Faint streamer 10 from E. to S.W. 25 alt.
- 2 30 Faint streamer 10 from S.E. extending to P. 50. N.W. 50. The same.
- 2 35 Faint streamer 10 from S.E. to W.N.W. 11 from N.N.W. to E.S.E. 50 alt.
- 2 40 A few faint streamers 11 50 in N.W. 50 alt.

32° 38' 52".

 $\lambda = -115^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

Göttingen Mean Time.

February 1, 1883.

Horizontal Intensity.

	Noon.	1	2	3	4	5	6	7	8	9	10	11
668	555	617	670	683	686	643	508	161	457	572	455	637
666	555	616	694	681	617	644	472	300	504	572	433	691
664	576	618	708	672	660	645	459	207	518	599	388	697
658	599	637	744	658	666	620	399	-13	587	601	440	722
645	616	649	718	666	668	609	412	067	649	630	385	724
620	630	660	712	674	662	588	450	149	672	653	294	707
548	616	666	707	672	674	574	377	300	617	609	497	741
411	607	679	691	662	670	559	294	303	584	584	632	763
478	628	675	712	651	668	553	249	166	585	519	601	828
480	610	683	707	631	662	516	254	371	591	521	610	814
508	612	674	674	622	647	531	120	424	588	514	591	845
529	632	668	672	624	658	544	409	476	500	418	644	835

Declination.

	0	1	2	3	4	5	6	7	8	9	10	11
6	1 35	1 17	1 22	1 20	1 11	1 16	2 18	2 27	1 30	1 38	2 7	1 3
5	1 46	1 39	1 13	1 17	1 36	1 43	2 22	2 42	1 40	1 36	2 7	0 46
5	1 35	1 14	1 10	1 26	1 12	1 40	2 28	2 19	1 37	1 42	1 48	0 59
5	1 32	1 36	1 9	1 24	1 25	1 39	2 40	3 8	1 26	1 32	1 31	1 3
5	1 29	1 34	1 6	1 20	1 27	1 48	2 31	2 50	1 32	1 49	2 5	0 53
4	1 28	1 28	1 23	1 23	1 30	1 48	2 35	2 51	1 31	1 50	2 26	0 48
4	1 30	1 26	8	1 22	1 26	1 10	1 54	1 30	1 54	1 30	1 40	1 2
4	1 31	1 22	1 15	1 22	1 26	2 6	3 14	2 11	1 20	2 2	1 8	0 59
4	1 26	1 22	1 9	1 22	1 28	2 14	3 19	1 51	1 28	2 14	1 20	0 56
4	1 31	1 18	1 14	1 16	1 24	2 8	3 15	1 53	1 42	2 0	1 15	0 36
4	1 35	1 22	1 11	1 31	1 34	2 10	3 1	1 52	1 49	1 52	1 39	0 32
5	1 27	1 23	1 22	1 35	1 30	2 4	2 44	1 48	1 49	2 22	1 31	0 39

Vertical Intensity.

88	79	76	76	73	76	68	101	80	68	67	73
82	81	76	75	74	75	68	103	82	70	64	72
83	81	75	75	75	75	65	103	83	72	72	72
90	84	75	74	75	75	72	81	79	69	68	71
89	80	75	75	75	71	70	68	71	75	50	77
79	89	78	76	75	75	71	81	58	69	77	44
94	87	76	75	74	74	79	79	67	68	76	64
73	86	76	75	74	75	69	84	80	68	73	68
81	84	75	75	75	69	87	71	70	71	62	75
81	82	75	77	74	76	69	84	75	73	75	76
81	84	77	75	75	76	67	109	77	72	69	56
89	82	76	76	75	76	67	110	84	70	62	68

Auroral Observations.

- h. m. AM.
- 9 25 Arch (*) now uniform and from N.N.W. to S.E., 50' alt.
- 9 43 " disappeared. Faint aurora in N.W. and S.E.
- 10 20 Arch (1) from S.E. to N.W., 10' alt., brightest in S.E.
- 10 30 Arch (2) from S.E. to N.W., 20' alt., and another faint arch just below from the same points.
- 10 43 Above arches both very faint. (1) in N.W. and (2) in S.E., and a third faint arch (3) in S.E., lower one as before.
- 11 20 Curtain-shaped arch (2) from S.E. to N.W., slightly prismatic, pulsating, and drifting towards zenith, 45' alt. in S.
- 11 30 " extending N.W. and S.E. through zenith; slightly prismatic (2).
- 11 32 Above arch now from S.E. to N.W. (through zenith, and 15' wide in zenith (1 to 2).
- 11 45 Sky nearly covered with faint aurora.
- 11 50 Arch (1) from S.E. to W.N.W., 45' alt. in S., and a curtain-shaped light (1), slightly prismatic, in N.N.W., moving towards W.
- P.M.
- 12 10 Irregular arch (1) to (2) from N.N.W. through zenith to S.E., brightest in N.N.W.
- 12 15 Bright streak (1) in N.N.W., 15' (1) drifting towards W. Another streak (2) in E.S.E., 13' alt.
- 12 20 Irregular arch (1) from N.N.W. through zenith to S. alt. in E. 1' in zenith and in N.N.W. brighter (1-3). Also at 12.30.
- 12 40 Aurora disappeared except a bright patch in N.N.W., 10' alt.
- 12 53 Diffused arch (1) from N.N.W. through zenith to E.S.E., straight.
- 1 5 " disappeared. Faint streak in E.S.E., 5' alt., and a few faint streamers in N.N.W., 5' alt.
- 1 13 Bright patch (1) in N.N.W., 10' alt. Faint band (2) from W.N.W. to S.E., 20' alt., till 1.35.
- 1 50 Faint arch (1) from W.N.W. to S.E., 20' alt.
- 2 6 Arch diffused (1) 15' alt. Faint diffused lights in E. and E.S.E., 5' alt.
- 2 13 Lights disappeared. Arch (1) from W.N.W., 15' alt.
- 2 25 " Faint streak in N.N.W., 20' alt. Streamer (*) in E.S.E., 5' alt.

2° 38' 52".

 $\lambda = -115^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

Göttingen Mean Time.

February 15, 1883.

Horizontal Intensity.

Noon.	1	2	3	4	5	6	7	8	9	10	11
670	654	668	679	683	670	672	668	662	664	664	664
664	656	672	674	683	674	670	666	660	660	658	662
660	668	670	678	683	674	672	666	660	656	664	664
664	666	672	679	679	676	670	662	660	656	662	666
658	664	666	678	676	674	672	664	666	658	662	665
649	660	681	670	678	672	672	662	664	664	662	684
643	666	678	676	678	658	670	664	662	662	666	693
645	666	678	681	676	658	662	666	668	660	664	712
647	666	681	679	674	651	662	664	664	662	662	723
635	672	678	687	676	649	664	662	660	662	660	699
612	664	666	685	676	662	662	664	666	660	662	703
622	666	674	685	670	668	668	662	668	656	664	707

Declination.

° /		° /		° /		° /		° /		° /		° /	
1 18	1 22	1 18	1 17	1 16	1 20	1 17	1 20	1 20	1 14	1 11	1 12		
1 18	1 22	1 19	1 17	1 17	1 20	1 20	1 21	1 20	1 16	1 15	1 13		
1 19	1 19	1 23	1 18	1 18	1 20	1 19	1 19	1 20	1 16	1 14	1 15		
1 18	1 20	1 16	1 16	1 19	1 20	1 19	1 22	1 16	1 13	1 14	1 18		
1 20	1 20	1 20	1 16	1 20	1 22	1 22	1 19	1 16	1 15	1 14	1 4		
1 23	1 20	1 17	1 18	1 19	1 18	1 20	1 20	1 16	1 17	1 14	1 8		
1 24	1 20	1 16	1 18	1 18	1 21	1 19	1 20	1 21	1 16	1 13	1 3		
1 23	1 19	1 17	1 16	1 18	1 25	1 18	1 18	1 20	1 16	1 14	1 0		
1 20	1 20	1 16	1 18	1 21	1 22	1 20	1 22	1 19	1 15	1 14	1 1		
1 25	1 20	1 17	1 18	1 20	1 28	1 22	1 22	1 22	1 11	1 14	1 0		
1 31	1 20	1 20	1 18	1 19	1 22	1 22	1 21	1 17	1 12	1 14	1 3		
1 35	1 21	1 18	1 17	1 18	1 18	1 20	1 20	1 12	1 15	1 12	1 1		

Vertical Intensity.

71	66	69	69	70	70	70	70	69	70	67
70	65	69	69	70	70	70	65	69	70	67
69	67	68	69	70	70	70	69	69	69	68
68	67	69	69	71	71	70	69	69	70	68
70	67	69	69	70	70	70	69	69	70	68
69	67	68	70	71	71	70	69	67	70	69
70	67	68	69	70	70	70	69	67	69	69
72	68	69	69	70	70	69	69	68	69	70
73	66	67	69	71	70	71	70	69	69	69
71	67	68	69	72	70	71	70	69	68	69
74	66	68	72	70	70	69	69	68	69	68
74	67	69	70	72	70	70	69	69	69	67

Auroral Observations.

h. m.

A.M.

9 0

Diffused arch very faint and from S.E. to Moon.

9 10

" disappeared.

9 20

A few bright streamers (1) in N.N.W., and a parallel streak (1) in S.W., 45° alt., the whole disappearing immediately afterwards.

9 50

Aurora (1) from 20° alt. in S.E. to Moon, through Leo.

10 0

Bright diffused and irregular arch (5 to 2), with prismatic streamers in E.S.W., from E.S.E. to W.N.W., brightest in E.S.E.

10 6

" disappeared, except a very faint streak in E.S.E., 200 alt.

10 10

Streak disappeared.

11 15

Diffused lights (1) in zenith and to 10° alt. in N.W. Bright streak (1) in W.N.W. parallel to horizon, 25° alt.

11 50

Streak disappeared. Bright diffused arch (1) with streamers, from E.S.E. through zenith to 20° alt. in N.N.W., shifting towards S.

11 55

Arch disappeared, except faint streaks (5) on E.S.E. and N.W. horizons.

P.M.

12 5

Arch (7) from 30° alt. in E.S.E. to W.N.W. through zenith, slightly diffused in W.N.W.

12 10

" disappeared. Faint diffused lights from N.N.W. to N.N.E., 15° alt.

12 15

Above disappeared. Faint arch (5) from E.S.E. through zenith to N.N.W. till 12.45.

1 50

Patch in W.N.W. (1), 10° to 25° alt.

2 0

Several streamers (5) from N.N.W. to S., 30° alt., till 2.15.

March 1, 1883.

$\phi = +62^{\circ} 38' 52''$.

Horizontal Intensity.		0.07000 (C.G.S.) +										
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	753	728	771	765	824	676	586	504	557	431	493	565
5	769	730	749	798	824	676	586	504	557	431	493	565
10	757	704	728	810	812	639	609	472	557	302	525	570
15	755	710	720	824	812	605	620	464	573	306	484	589
20	744	726	772	824	820	666	502	493	614	427	457	603
25	724	773	786	779	804	689	461	467	599	331	439	607
30	730	781	822	804	759	666	681	416	493	444	459	582
35	720	786	816	816	712	653	710	475	422	338	396	572
40	718	784	824	818	701	666	812	491	267	422	500	557
45	716	776	781	775	741	658	769	518	203	470	469	559
50	712	792	787	776	744	666	786	519	318	429	519	519
55	71	799	757	771	732	626	624	531	377	485	574	517

Declination.		38° +																						
Minutes.	1	2	3	4	5	6	7	8	9	10	11	12												
0	2	2	2	3	2	12	2	20	2	1	3	14	2	22	2	56	1	51	2	0	1	16	2	11
5	2	3	2	4	2	10	2	18	2	2	3	16	2	17	2	56	1	44	2	6	1	51	2	24
10	1	58	2	12	2	12	2	18	1	58	2	20	2	1	2	47	1	72	2	22	0	56	2	29
15	1	53	2	9	2	10	2	16	2	1	3	17	2	1	2	46	1	42	2	34	1	74	2	20
20	2	8	2	10	2	9	2	8	2	3	3	16	1	3	2	36	1	55	2	49	2	7	2	16
25	2	10	1	5	2	2	2	1	2	4	2	22	1	15	2	35	1	58	1	54	2	16	2	26
30	1	50	1	5	2	8	2	7	2	1	2	23	1	39	1	22	2	26	1	45	1	53	2	21
35	1	56	1	58	2	14	2	43	2	4	2	22	0	44	2	32	2	7	3	14	2	41	2	24
40	2	8	1	56	2	18	2	18	1	58	2	23	1	16	2	1	5	2	38	2	0	2	30	
45	2	6	2	3	2	20	2	16	1	57	2	22	1	22	1	58	1	58	1	28	1	53	2	30
50	2	4	2	3	2	19	2	22	2	1	1	22	1	56	2	4	2	45	1	70	1	45	2	40
55	2	2	2	9	2	18	2	10	2	6	2	20	2	44	1	54	2	43	1	29	1	41	2	32

Vertical Intensity.		0.6100 (C.G.S.) -										
Minutes.	1	2	3	4	5	6	7	8	9	10	11	12
0	71	71	67	67	68	64	69	63	65	53	90	84
5	70	71	68	62	61	64	71	67	68	41	91	88
10	71	71	69	64	63	64	74	72	71	44	85	91
15	70	73	70	57	58	63	76	79	75	38	76	90
20	69	73	70	57	60	64	83	81	74	41	80	89
25	70	70	71	63	60	62	63	74	77	34	77	88
30	70	70	67	58	58	62	63	74	77	34	77	88
35	70	70	67	58	58	62	63	74	77	34	77	88
40	72	68	68	57	56	61	72	61	55	30	79	93
45	72	68	68	56	56	61	72	61	55	30	79	93
50	73	70	68	54	60	63	67	64	74	80	85	104
55	73	68	68	60	61	67	67	67	75	83	87	106

Auroral Observations.

h. m. A.M. Base (1) from E. through Fra Major to N.W. 320. Also one on other side of Fra Major.
 2 10 Bright arch (2) with streamers from W.N.W. through zenith to E.E. slightly prismatic, in rapid motion drifting N.E. Bright diffused masses (17) on horizon from E. to E.S.E.
 3 20 Arch low less bright (1) in zenith, diffused in W.N.W., and stratified in E.S.E. Aurora in E. horizon low (15).
 3 30 Irregular of uniform brightness (2) and (3) wide in zenith. Aurora in E. horizon low (15).
 4 19 Upper arch dividing in zenith and drifting N. and S. Lower arch as before.
 5 20 Lower arch blended with upper one, alt. 20, and extending to zenith; streamers of a greenish line at the extremities of both arches. Lower arch serpentine in shape in E.S.E.
 5 25 Arch divided. Upper one faint (5). Lower one 30 alt. upper arches (7) low (2). Another arch (11) from E. to E.N.E. 3 alt.
 6 0 Upper arch disappeared except a faint patch in W.N.W. 20. Centre arch (17) slightly prismatic; alt. alt. Lower arch very faint (25).
 6 10 Centre arch low less bright, except in W.N.W. where (2) and stratified. Lower arch as before.
 6 15 Through zenith (1), and regular except in E.S.E.
 6 20 70 alt. and (7) except in W.N.W. where (1). Faint patch (5) in N.W. 10 alt. Faint streak (5) in zenith.
 6 35 Above arch (17) from S.E. through Leo and zenith to N.W. till 1.50.
 6 40 Arch low less bright. Low and prismatic, streamers from S. side. 5.10. Arch through Orion and Pleiades (1).
 6 50 Arch stratified and diffused. 5.30. Two more arches (2) from S.E. extending to Leo.
 7 15 Arch low less bright through Orion and Pleiades, and faint mass of light in S.E. adjoining the arch and extending to 57 alt.
 7 20 Another arch (2) from S.E. through zenith to about 20 alt. in S.W. and diffused masses of light either side of base, in S.E.
 7 30 Disappeared, except the arch through Orion which is slightly prismatic, and making void in about in S.W. streamers (15) on the arch 157 alt.
 7 40 Disappeared. Band from S.E. through zenith prismatic, and pulsating with great rapidity.
 7 50 Three bands, the through, and one on either side of zenith, with similar streaks between the bands as well as streamers, the whole (2) prismatic, and in S.W. and pulsating in all directions.
 8 55 Irregular of light from E. to N.W. 10 alt. and prismatic, also patches and streamers from S.E. to W. 45 alt. in S.
 9 15 Above arch (17). Another arch (2) from N.E. to W.N.W. irregular and pulsating. Pyramids of light on N. horizon.
 9 25 Latter arch through zenith and just passing the Pleiades to W.
 9 30 Above band (17) and diffused through E. to W. N.E. curving above the horizon to S.E. through Leo and Pleiades to W.N.W. (1).
 9 45 Above band (17) from S.E. to N.W. 10 alt. and S.E. passing S. of zenith to W.N.W. about 20 wide.
 9 50 Diffused masses of light (17) from N.E. to S.W. 10 alt. and S.E. passing S. of zenith to W.N.W. about 20 wide.
 7 50 and band (1) from S.E. to N.W. 10 alt. 7.55. Band disappeared.

$\lambda = -115^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

Göttingen Mean Time.

March 1, 1883.

Horizontal Intensity.

Noon.	1	2	3	4	5	6	7	8	9	10	11
514	112	203	422	433	326	595	561	551	593	828	855
470	069	276	529	500	209	572	551	521	607	774	763
422	110	390	422	422	232	561	517	529	595	734	740
467	169	403	601	412	442	599	476	522	597	674	761
472	164	392	570	327	485	565	501	643	695	788	788
478	180	361	567	322	485	548	451	603	681	732	804
540	298	409	495	327	489	544	452	656	687	790	790
480	278	386	444	245	550	544	451	651	697	765	761
484	260	257	442	202	559	506	497	611	716	728	869
351	202	274	495	278	551	531	483	658	714	777	812
216	140	388	461	218	550	544	478	607	714	761	802
153	189	348	442	311	516	546	572	637	759	800	794

Declination.

o	r	o	r	o	r	o	r	o	r	o	r	o	r
2 16	3 13	4 55	3 42	3 52	4 46	2 54	2 55	2 75	2 11	1 51	2 19	2 19	2 21
2 31	4 18	4 52	2 17	3 30	4 12	1 1	2 57	2 1	1 56	2 16	2 21	2 16	2 21
3 14	4 25	3 40	2 45	4 29	3 29	1 8	1 9	2 74	2 7	2 16	2 19	2 16	2 19
4 5	4 5	2 44	2 44	4 6	2 50	2 52	1 6	2 22	1 59	2 18	2 19	2 18	2 19
1 28	4 6	2 54	2 56	3 28	3 12	1 11	2 50	2 22	2 1	2 16	2 1	2 16	2 1
3 19	4 30	2 54	3 10	4 54	3 28	3 8	3 12	2 24	2 2	2 9	2 0	2 9	2 0
3 3	5 38	2 55	3 21	4 34	3 12	1 17	1 17	2 20	1 57	2 13	2 13	2 13	2 13
2 52	6 1	3 1	1 26	4 14	3 3	1 6	1 13	2 15	1 52	2 11	2 17	2 11	2 17
2 11	4 7	3 71	3 48	3 21	3 15	3 11	3 19	2 12	1 59	2 12	2 12	2 12	2 16
2 71	4 28	3 58	3 48	4 15	3 10	3 0	2 50	2 1	2 1	2 16	2 9	2 16	2 9
2 58	5 10	3 58	4 18	4 0	3 3	2 51	2 48	2 8	2 7	2 1	2 16	2 1	2 16
3 16	4 58	4 17	3 58	4 32	2 51	2 55	2 40	2 11	1 51	2 4	2 0	2 4	2 0

Vertical Intensity.

108	107	125	110	100	-5	70	71	70	65	-3	-4
106	108	130	139	108	81	-1	-3	-4	66	-4	-4
97	108	129	110	113	74	66	-5	-3	66	-3	-4
105	116	121	111	110	79	-0	-5	64	-2	-5	-4
101	117	119	111	109	61	68	-1	60	-4	-7	-4
114	121	120	109	102	-5	68	67	66	-1	-9	-3
100	103	116	109	111	-3	68	66	67	-1	-8	-6
111	112	110	96	104	65	71	67	69	-3	-6	-5
116	124	111	96	104	69	72	68	69	69	-6	-8
112	113	106	97	109	-3	73	62	-1	-7	-7	-3
112	113	108	109	-8	79	-2	63	-0	-7	-8	-4
105	116	109	109	95	81	-0	67	-5	-4	-6	-5

Auroral Observations.

- h. m.
A.M.
8 30 Auroral band (2) prismatic, and moving with great rapidity in circular motions.
8 50 Irregular arch (2), striated and slightly prismatic from E.S.E. through zenith to N.W., about 10° wide. N. side of arch pulsating from E. to N., and S. side from N. towards S.
8 55 Irregular arch (1-5) from E.S.E. to W., appearing like confused masses in E.S.E., and forked in W., from 50° alt. in S. to zenith. A few faint streamers (7) from E.S.E. to E.N.E., 10° alt.
9 5 Streamers disappeared. Arch (2), a lower arch from E. to N.N.W., 20° alt. with bright, prismatic streamers (2) in rapid motion and pulsating.
9 10 Auroral faint (1, 5) and in confused masses, the sky from E.S.E. to W.N.W. and zenith in one or less colored with aurora from 10° alt. in N.E.
9 25 " drifting towards S., and like small cumulus clouds in N.E.
9 35 Above disappeared. Arch (2) from E.S.E. to S.W., 8 W., 30° alt. A few faint streamers (5) from N.N.W. to N.E., from 15 to 10° alt.
9 45 Above arch very faint, 10° alt. Streamers as before. Faint masses in zenith.
10 0 " disappeared. Arch (2) from E.S.E. to W.S.W., to alt. in S. Band (7) with streamers from same points, 5° alt. in N.
10 10 Aurora (7) from E.S.E. to zenith, and extending in a circle to E.S.E. and thence in a bright horizontal line (1) to N.E. Patch (2) in S., 10° alt.
10 20 Faint r. mass of aurora (2) on horizon and to 0° alt. all round except in W.S.W.
10 30 Faint aurora (5) from S.W. to S.E., 5° alt. Bank of aurora (1) in rapid motion from N.W. to E.S.E., from 5 to 0° alt.
10 50 Bank disappeared, a few patches (5) on N. horizon. Aurora from S.W. to S.E. as before.
11 10 Very faint patch on N. horizon. Aurora as above.
11 20 Irregular aurora (1) from N. to N.N.W., 8° alt. Aurora from S.E. to S.W. as before, but fainter (2), and 6° alt., till 11.35.
11 35 Faint arch (3) from N.N.E. through zenith to W.S.W., of zenith.
P.M.
12 0 Irregular aurora (1) from S.W. to zenith, and a few patches (5) on N. of zenith.
12 15 Irregular aurora (1) from W. through zenith to E.S.E., striated and pulsating in all directions, about 10° either side of zenith.
12 20 Irregular arch (1) from 60° alt. E.S.E. through zenith to W., drifting S. Patch (1) on N.N.W. horizon. 12.30. Disappeared. Faint masses (5) in N.N.W. and N.W.
12 35 Irregular arch (1) from 60° alt. E.S.E. through zenith to W., drifting S. Patch (1) on N.N.W. horizon. 12.30. Disappeared. Faint masses (5) in N.N.W. and N.W.
1 0 " disappeared. Bright irregular aurora (1) from E.S.E. to E.N.E., 60° alt., till 1.10.
1 25 Faint patch (1) in N.N.W., 15° alt.
1 30 Faint irregular arch (1) from E. to S.W., 30° alt. in S.E.
1 40 " disappeared, except a faint patch (1) in S., 25° alt., till 1.50.
2 10 Faint streamers (5) in N.N.E., 30° alt., till 2.15.

March 15, 1883.

$\phi = +62^{\circ} 38' 52''$.

Horizontal Intensity. 007000 (C.G.S.) +												
Minutes.	Midnight.	1 am.	2	3	4	5	6	7	8	9	10	11
0	6-1	6-6	6-2	6-9	7-12	6-9	6-7	6-11	6-14	6-13	6-18	6-62
5	6-3	6-1	6-7	6-9	7-12	6-9	6-7	6-11	6-14	6-13	6-18	6-62
10	6-2	6-5	6-4	6-11	7-14	6-9	6-7	6-11	6-14	6-13	6-18	6-62
15	6-6	6-11	6-8	6-9	7-15	6-9	6-4	6-13	6-16	6-15	6-20	6-64
20	6-2	6-9	6-6	6-9	7-14	6-9	6-7	6-12	6-15	6-14	6-19	6-64
25	6-6	6-11	6-4	6-11	7-16	6-9	6-7	6-12	6-15	6-14	6-19	6-64
30	6-6	6-9	6-6	6-8	7-12	6-8	6-4	6-12	6-15	6-14	6-19	6-64
35	6-6	6-2	6-8	6-8	7-14	6-8	6-7	6-12	6-15	6-14	6-19	6-64
40	6-2	6-6	6-7	7-12	7-14	6-8	6-6	6-12	6-15	6-14	6-19	6-64
45	6-6	6-4	6-8	7-12	7-14	6-8	6-6	6-12	6-15	6-14	6-19	6-64
50	6-2	6-6	6-8	7-18	7-14	6-8	6-7	6-12	6-15	6-14	6-19	6-64
55	6-4	6-6	6-9	7-18	7-13	6-9	6-6	6-13	6-16	6-15	6-20	6-64

Declination. 39° +												
Minutes.	Midnight.	1 am.	2	3	4	5	6	7	8	9	10	11
0	1 12	1 12	1 13	1 12	1 11	1 14	1 13	1 19	1 18	1 6	1 18	1 22
5	1 15	1 12	1 13	1 12	1 13	1 13	1 16	1 22	1 26	1 16	1 25	1 25
10	1 13	1 11	1 14	1 11	1 14	1 16	1 16	1 26	1 30	1 16	1 18	1 12
15	1 12	1 10	1 14	1 13	1 13	1 15	1 17	1 31	2 4	1 15	1 22	1 24
20	1 13	1 11	1 15	1 11	1 11	1 14	1 18	1 34	1 33	1 15	1 22	1 23
25	1 13	1 10	1 13	1 11	1 11	1 16	1 16	1 33	1 31	1 15	1 19	1 22
30	1 12	1 11	1 13	1 8	1 11	1 14	1 16	1 31	1 22	1 15	1 20	1 22
35	1 11	1 13	1 12	1 7	1 12	1 14	1 15	1 26	1 19	1 6	1 18	1 22
40	1 11	1 13	1 12	1 5	1 14	1 12	1 14	1 23	1 5	1 7	1 16	1 23
45	1 12	1 12	1 12	1 4	1 12	1 13	1 14	1 16	1 16	1 13	1 19	1 25
50	1 12	1 12	1 12	1 6	1 12	1 13	1 17	1 19	1 16	1 19	1 23	1 24
55	1 11	1 12	1 13	1 8	1 13	1 13	1 18	1 20	1 17	1 22	1 20	1 26

Vertical Intensity. 06100 (C.G.S.) +												
Minutes.	Midnight.	1 am.	2	3	4	5	6	7	8	9	10	11
0	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6
5	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6
10	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6
15	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6
20	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6
25	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6
30	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6
35	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6
40	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6
45	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6
50	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6
55	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6	7-6

Auroral Observations.											
4 20	Arch from E.S.E. to N. 35° alt., very faint except in E.S.E. where (?) till 430.										
4 40	disappeared, except a very faint patch in E.S.E. 425. The same.										
5 0	Faint streamers (3) in N.W. to 20° alt., faint patches in E.S.E. horizon.										
5 5	Arch (?) with streamers in N.W. from N.W. to E.S.E. 36° alt.										
5 10	Arch very faint except at extremities alt. 27°-32°. Uniform (?) 50° alt.										
5 25	... through zenith (?) and diffuse in N.W.										
5 35	... irregular and from E.S.E. through zenith to N.W., where streamer, 5.40. Diffused and (?)										
5 45	... faint in zenith, 5.50. The same, 5.55. Arch drifting towards S. and (?)										
6 0	Also arch (?) (5), diffuse and through zenith. Also (?)										
6 10	... (?) in E.S.E. and irregular to 15° alt., 6.15. The arch very faint (?) and alt. 80° in S.										
6 20	... from E.S.E. to W. (?) with streamers, 30° alt. in S. (?) Through Leo just passing Pleiades (?)										
6 35	... through zenith, 6.40 and 6.45 (?)										
6 50	... through Leo and just passing the Moon (?)										
6 55	... from E. through zenith, diffuse in E. and streamers (?)										
7 0	... 15° alt. in N.W. 7.5. With masses of light (?) in E.S.E. horizon,										
7 10	... from S.E. through Leo and the Moon, and diffuse masses (?) like cumulus clouds.										
7 15	... diffuse arch from E.S.E., one through Leo Major and one through the Moon and Pleiades (?) also pyramid-shaped aurora in E.N.E. to 30° alt. Also at 7.20.										
7 20	Also aurora like a somewhat from N.E. through zenith to N.W. (?) 7.25. Arch fainter (?)										
7 30	... irregular and diffuse from N.E. towards S.E. and through zenith to 15° alt. in N.W. (?)										
7 45	... diffuse in (?) 7.55. The same.										
7 55	... diffuse auroral light from 40° alt. through zenith and the Moon to N.W. (?)										
8 0	... from (?) (?) in S.E. through Spica and Leo to W.N.W.										
8 5	... irregular and reformed in S.E. (?)										
8 10	Arch (?) from S.E. through Leo and Ursa Major to N.W., slightly prismatic, and diffuse in S.E.										
8 15	Arch from E.N.E. through Arcturus and zenith to N.W., slightly prismatic (?) and in rapid motion.										
8 20	... irregular and (?)										
8 25	Broad arch (?) from E. to N.W., 89° alt.										

° 38' 52".

 $\lambda = -115^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

Göttingen Mean Time.

March 15, 1883.

Horizontal Intensity.

Hour	1	2	3	4	5	6	7	8	9	10	11
654	643	660	691	685	681	679	673	653	662	664	653
653	645	668	689	685	678	681	678	662	666	662	653
656	637	679	633	683	681	679	670	662	660	662	664
654	654	691	689	687	681	679	672	668	660	662	662
651	658	687	685	681	681	679	676	660	654	664	664
647	668	681	679	695	678	664	668	673	660	662	654
654	654	668	681	691	679	656	666	653	660	662	653
658	638	662	685	685	683	658	664	662	662	662	660
647	638	654	681	697	672	672	666	664	660	662	664
647	628	654	681	697	672	672	666	664	660	662	664
647	632	678	685	691	671	676	670	664	669	662	666
649	643	691	681	685	678	679	662	658	662	653	663
641	647	695	681	681	679	674	664	664	664	653	664

Declination.

Hour	1	2	3	4	5	6	7	8	9	10	11
1 24	1 24	1 27	1 19	1 23	1 25	1 26	1 22	1 20	1 14	1 14	1 14
1 24	1 23	1 23	1 17	1 24	1 23	1 24	1 20	1 19	1 10	1 14	1 11
1 24	1 24	1 20	1 20	1 25	1 22	1 26	1 21	1 22	1 11	1 14	1 11
1 24	1 21	1 16	1 19	1 24	1 22	1 24	1 22	1 22	1 12	1 13	1 11
1 26	1 21	1 19	1 18	1 24	1 22	1 21	1 18	1 18	1 13	1 15	1 10
1 26	1 21	1 20	1 21	1 23	1 23	1 24	1 17	1 12	1 14	1 14	1 13
1 22	1 26	1 20	1 24	1 25	1 21	1 23	1 14	1 16	1 14	1 13	1 14
1 22	1 29	1 23	1 27	1 26	1 24	1 31	1 17	1 16	1 14	1 13	1 12
1 25	1 32	1 26	1 26	1 21	1 24	1 28	1 15	1 16	1 11	1 11	1 12
1 24	1 29	1 25	1 25	1 21	1 26	1 25	1 14	1 17	1 14	1 11	1 12
1 26	1 28	1 18	1 23	1 24	1 27	1 20	1 20	1 24	1 15	1 12	1 11
1 22	1 28	1 19	1 22	1 28	1 26	1 18	1 16	1 21	1 13	1 13	1 12

Vertical Intensity.

80	78	75	76	75	77	76	77	76	77	77	77
79	77	74	77	76	75	76	75	76	76	76	77
78	75	75	76	75	76	76	76	76	75	76	77
77	75	74	76	75	77	77	77	75	76	77	75
76	75	75	76	75	76	76	77	77	77	77	78
76	76	75	76	76	77	76	75	76	76	77	77
76	75	76	76	76	76	76	76	76	76	77	77
76	77	75	76	75	75	79	77	77	76	77	77
76	77	75	76	77	75	76	79	77	76	77	77
75	76	75	76	76	76	76	77	77	77	76	77
79	76	76	76	76	76	76	77	76	77	77	77
78	75	76	76	75	75	75	77	76	76	77	77

Auroral Observations.

- h. m.
 8 30 Arch (1st) from S.E. through zenith to N.W. in rapid motion at zenith. *31. Brighter and prismatic.
 8 33 Curtail. - capid aurora (1-3) all over the sky with less motion.
 8 40 " very faint, the greater part disappeared.
 8 45 " disappeared, arch (1st) from S.E. to N.W., 30° alt., prismatic.
 8 53 Patches (2) from S.E. to N.W., 25° alt.
 9 3 Arch (1) from E. to N.W., 30° alt. 0.15. Disappeared. Faint, diffused light in N.W., 25° alt.
 9 29 Faint patches (2) from S.E. to N.W. on horizon. Faint aurora (3) from S.E. to zenith.
 9 22 Bar (1) from N.N.E. to N.W., 8° alt. Mass of aurora (2) in N.W., 5° alt.
 9 29 Patch in N.S.W., 20° alt. Arch (1) from E.N.E. to N.N.W., 35° alt.
 9 33 Arch (2) from E.N.E. to N.N.W., 45° alt.
 9 40 " Irregular (5) and 25° alt. 0.45. Disappeared except a faint patch in N.W., 20° alt.
 9 55 Very faint patch on horizon in S.E. 0.55. Faint streak (3) from N.N.W. to zenith.
 10 0 Arch (3) from S.E. to W., 45° alt. Faint aurora (2) from S.E. to N.N.W., 35° alt.
 10 5 Above arch brighter (3) and the faint aurora (2) through zenith.
 10 10 Arch diffused and the other aurora brighter (1) and arched.
 10 15 Faint streaks in zenith. Two arches (2) from S.E. to W., 45° and 55° alt.
 10 20 Lower arch as before, other irregular (2) and 25° alt.
 10 25 Both arches very faint, till 10.55.
 11 0 Upper arch disappeared, the other (2) and 35° alt.
 11 20 Arch as before. Diffused band from E.N.E. through zenith to N.N.W. (2 to 1), brightest in S.E.
 11 25 Band very faint. 11.30. Disappeared. Arch much diffused and very faint. 11.45. Aurora disappeared.
 P.M.
 12 20 Faint streaks (2) from S.E. to S.W., 20° alt.
 12 30 Faint streak in N.N.W., 5° alt. Bank (3) on horizon from N.N.E. to N.N.W. and to about 6° alt.
 12 45 Arch (2) from N.N.E. to N.N.W., 5° alt.

April 1, 1883.

$\phi = +62^{\circ} 38' 52''$.

Horizontal Intensity. 0.07000 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	6.0	6.4	6.8	7.2	7.4	7.6	7.8	8.0	8.2	8.4	8.6	8.8
5	6.2	6.3	6.8	6.8	6.9	7.1	7.7	7.7	7.8	8.2	8.7	8.8
10	6.6	6.9	6.8	7.1	7.4	7.4	7.9	8.2	8.2	8.6	8.7	8.8
15	6.4	6.5	7.0	7.0	7.1	7.1	7.8	8.1	8.2	8.6	8.7	8.8
20	6.4	6.9	7.0	7.2	7.4	7.4	7.8	8.2	8.2	8.6	8.7	8.8
25	6.4	7.1	7.2	7.6	7.6	7.6	8.2	8.2	8.2	8.6	8.7	8.8
30	6.6	7.1	7.4	7.6	7.6	7.6	8.2	8.2	8.2	8.6	8.7	8.8
35	6.9	7.2	7.7	7.7	7.7	7.7	8.2	8.2	8.2	8.6	8.7	8.8
40	6.4	6.9	7.0	7.4	7.4	7.4	7.7	7.7	7.7	8.2	8.7	8.8
45	6.3	6.6	7.2	7.3	7.9	7.3	6.6	6.6	6.6	6.6	6.6	6.6
50	6.6	6.8	7.3	7.4	7.4	7.5	6.6	6.6	6.6	6.6	6.6	6.6
55	6.6	6.8	7.4	7.3	7.5	7.4	6.9	6.9	6.9	6.8	6.4	6.0

Declination. 38° +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	2 3	2 5	2 3	2 18	2 6	1 54	2 0	2 10	1 43	2 8	1 52	2 20
5	2 5	2 4	2 2	2 13	2 4	1 57	2 0	2 30	1 33	2 34	1 16	2 15
10	2 6	2 2	2 0	2 3	2 0	1 57	2 0	2 56	1 0	2 20	1 45	2 8
15	2 7	2 0	1 58	2 4	2 1	1 56	2 0	2 38	1 34	2 9	1 59	2 13
20	2 8	2 2	1 57	2 2	2 4	1 56	2 0	2 16	0 47	2 0	2 4	2 11
25	2 6	2 4	1 57	2 1	2 6	1 55	2 2	2 21	1 20	2 54	1 58	2 10
30	2 8	2 4	1 58	2 0	2 6	1 53	2 1	1 28	1 54	1 59	2 6	2 8
35	2 8	2 2	1 59	2 1	2 4	1 56	2 1	1 34	2 10	1 57	2 9	2 10
40	2 6	2 4	2 0	1 59	2 2	1 56	2 1	1 54	2 0	1 52	2 7	2 10
45	2 6	2 2	2 2	1 56	1 58	1 54	2 2	1 42	2 1	1 4	2 10	2 12
50	2 6	2 6	2 9	1 58	1 56	2 0	2 5	1 39	2 9	2 8	2 10	2 13
55	2 5	2 4	2 12	2 2	1 52	2 2	2 9	1 39	2 4	2 7	2 15	2 24

Vertical Intensity. 0.6100 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	78	77	79	78	78	77	74	68	77	79	66	83
5	78	77	78	77	77	77	73	68	82	74	59	83
10	77	77	77	75	77	77	74	66	75	73	76	79
15	78	79	78	74	77	77	74	58	55	76	82	78
20	77	79	78	74	77	77	74	61	67	75	82	81
25	76	78	79	75	77	76	74	62	82	72	82	81
30	76	77	74	75	77	75	75	55	81	74	81	82
35	77	78	81	76	80	74	74	74	81	76	81	81
40	77	79	75	79	74	75	74	75	81	73	81	82
45	77	78	77	76	79	74	75	72	82	75	82	82
50	77	79	76	77	78	74	74	73	79	76	83	82
55	77	79	76	78	77	73	72	76	81	73	82	81

h. m.		Auroral Observations.										
4	57	Arch (1) from E.S.E. to N.N.W., 15° alt.										
5	10	Arch (5 to 1) from E.S.E. to N.N.W., 20° alt., brightest in N.N.W.										
5	21	" very faint. Striated streak (5) in N.N.W., 10° to 20° alt.										
5	26	Masses of aurora (1) in E.S.E. Arch (5) from E.S.E. to N.N.W., 30° alt.										
5	33	Above arch diffused and irregular (1), 0° alt. Faint aurora (3) from E.S.E. to S.W., 30° alt.										
5	47	Arch from E.S.E. to N.N.W., very faint, except at extremities (7), curtain-shaped in N.N.W., the other arch as before. Masses of aurora now (7).										
5	51	Streamers at N.N.W. end of above arch (1) and to 50° alt.										
6	1	Arch (5) from E.S.E. to N.N.W., diffused, striated, and through zenith. Arch from E.S.E. to S.W. very faint and 20° alt. in S.W. Another arch (3 to 7) from E.N.E. to E.S.E., where brightest, 5° alt.										
6	12	Above disappeared. Two arches from E.S.E. to N.N.W., one passing about 5° S. of zenith, the other about 10° N.E. of zenith, slightly diffused (7).										
6	26	Above arches (7) in one and through zenith, where about 10° wide. 6.37. Drifting towards S.										
6	43	" (1-5) in E.S.E. and (1) in other parts.										
6	50	" through zenith, and much diffused; (2) from E.S.E. to zenith, the rest (1-5).										
6	56	" regular in brightness (1) except from E.S.E. to 15° alt., where (2) and slightly prismatic; lower edge of arch about 70° alt. in S.W.										
7	0	" about 20° wide and irregular, prismatic streamers on N.E. edge, quivering and in rapid motion (1-5 to 2-5), brightest on N.E. edge.										
7	6	" very irregular (1) and about 10° wide. Bright irregular masses on horizon from E.S.E. towards E., prismatic (2) and about 15° alt.										
7	10	Above arch (5) except in N.N.W. where (2), with prismatic streamers. Bright masses (1-5) on horizon from E.S.E. to N. to 5° alt.										
7	15	The whole sky from 15° alt. E.S.E. to N.W. and 5° S. of zenith, more or less covered with aurora (7). Arch (2) with prismatic streamers from N.N.W. to E., 7° alt.										

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$

Göttingen Mean Time.

April 1, 1883.

Horizontal Intensity.

Noca.	1	2	3	4	5	6	7	8	9	10	11
622	620	531	683	643	708	674	687	664	676	649	654
653	626	531	689	635	708	678	687	663	668	643	660
664	654	329	695	651	703	681	672	673	664	649	660
654	618	536	685	666	699	681	678	673	666	649	662
662	668	609	522	685	674	691	685	681	670	651	666
664	653	601	559	674	683	689	681	581	666	673	645
670	653	567	588	664	691	679	674	679	664	670	645
672	645	540	607	658	703	664	672	676	660	664	647
664	647	529	620	647	708	666	685	674	651	666	651
654	630	521	624	653	716	664	691	672	666	650	647
630	624	523	653	651	720	664	691	676	665	653	653
601	624	521	670	651	714	664	691	676	676	649	653

Declination.

o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /
2 13	2 28	2 36	2 25	2 36	2 18	2 24	2 17	2 15	2 15	2 6	2 6
2 15	2 26	2 54	2 22	2 14	2 18	2 24	2 17	2 15	2 15	2 6	2 6
2 8	2 20	2 54	2 20	2 28	2 19	2 21	2 18	2 17	2 10	2 5	2 5
2 13	2 20	2 25	2 0	2 20	2 27	2 20	2 21	2 12	2 10	2 6	2 5
2 11	2 14	2 29	2 51	2 24	2 27	2 19	2 20	2 16	2 12	2 13	2 7
2 10	2 21	2 31	2 49	2 21	2 24	2 19	2 20	2 13	2 12	2 7	2 6
2 8	2 19	2 16	2 41	2 27	2 24	2 18	2 22	2 12	2 12	2 8	2 5
2 10	2 22	2 45	2 40	2 26	2 19	2 22	2 21	2 12	2 12	2 7	2 5
2 10	2 21	2 41	2 36	2 28	2 22	2 24	2 21	2 14	2 12	2 7	2 6
2 12	2 22	2 40	2 39	2 31	2 17	2 25	2 20	2 15	2 12	2 4	2 7
2 13	2 23	2 44	2 15	2 32	2 18	2 24	2 17	2 15	2 12	2 5	2 7
2 24	2 25	2 47	2 29	2 33	2 18	2 24	2 14	2 15	2 12	2 5	2 6

Vertical Intensity.

84	90	83	78	76	77	81	82	81	82	82	81
81	90	84	78	76	78	82	82	81	82	82	81
79	84	81	78	76	80	82	82	82	82	82	81
78	84	92	86	78	76	82	83	82	83	83	83
81	82	92	83	78	76	82	82	81	83	83	83
82	85	92	84	79	76	82	83	82	82	82	83
82	85	94	81	79	76	82	82	81	83	83	83
81	86	91	80	79	76	82	82	81	83	83	82
82	87	89	79	79	77	82	83	82	83	83	82
82	87	87	79	79	77	82	82	81	83	83	83
82	87	85	77	79	78	81	82	82	82	83	82
81	88	82	80	76	77	81	82	82	82	81	82

Auroral Observations.

h. m.	4.M.
7 20	Above aurora (5) except in N.W., where irregular and (1). Arch (1).
7 27	Double arch (1-5) with streamers from E. to N.N.W., 15° alt. Faint masses (3) from E.S.E. to zenith and extending to about 5° alt. S.W.
7 35	Faint broad irregular aurora from E.S.E. to N.W. (3), except in N.W., where (7). Single arch (1) from E.S.E. to N., where striated, 5° alt.
7 40	Aurora very faint and extending to 20° S. of zenith. Arch (1-5) and alt. 7.
7 45	Aurora disappeared, except arch from N. to E.N.E. (2) and irregular. Very faint arch from E.S.E. to W.N.W., alt. 15 in S.
7 50	First arch now from N.N.W. to E. (2), 5° alt., other arch as before. Faint streamers (3) in N.N.W., 1° alt.
7 55	Arches as before, E. end of arch partly hidden behind clouds. Streamers (7) from 15° alt. to 5° alt. towards E. Faint masses (5) on N.N.W. horizon.
8 0	Faint streak (5) in N.E. and zenith.
8 5	Arch from N.N.W. to E. (1), other arch as before. Streaks disappeared.
8 10	Arch now from N.N.W. to E.N.E., where visible through clouds, (1-3) in N.N.W. and 5° alt. Faint masses (5) in E.S.E., 7° alt.
8 18	Corona in zenith (6) drifting towards N.W.
8 20	Folds of aurora (1-5) in N.N.W. to 15° alt. Faint aurora in N. between clouds. Faint streamers in zenith to Leo.
8 25	Aurora light nearly all over the sky, brightest in N.N.W., sky rapidly clouding over.
8 29	Bright aurora (2) from N. to N.E., 3° alt.
8 35	Aurora (1) visible between clouds, till 10.25.
11 55	Bank of aurora (1) from N.N.W. to E.N.E., 5° to 15° alt., partly visible between clouds.

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$

Göttingen Mean Time.

April 15, 1883.

Horizontal Intensity

Noon.	1	2	3	4	5	6	7	8	9	10	11
567	685	676	631	555	593	684	685	678	666	649	678
565	685	672	628	555	597	691	681	674	664	653	679
561	683	672	629	544	604	681	679	674	662	656	681
603	676	678	597	555	610	685	685	685	685	649	683
618	683	679	565	574	620	691	676	683	660	662	684
612	687	666	569	521	628	685	674	676	666	666	681
645	687	664	578	504	610	685	672	676	662	670	681
654	685	668	582	511	643	691	672	670	658	681	681
656	683	666	574	542	654	693	674	668	656	681	685
664	679	656	572	561	658	664	674	670	651	679	679
672	672	645	567	551	666	687	676	674	654	678	681
678	672	645	567	572	674	691	678	670	654	666	691

Declination.

o	z	o	z	o	z	o	z	o	z	o	z	o	z	o	z
1 17	1 12	1 12	1 28	1 49	1 43	1 31	1 28	1 15	1 12	1 6	1 2	1 17	1 12	1 12	1 2
1 20	1 17	1 13	1 31	1 48	1 45	1 21	1 29	1 13	1 13	1 6	1 0	1 18	1 17	1 13	1 0
1 29	1 17	1 16	1 34	1 52	1 44	1 31	1 22	1 16	1 13	1 4	0 58	1 14	1 17	1 13	0 58
1 19	1 15	1 15	1 38	1 51	1 37	1 35	1 18	1 18	1 11	1 5	1 1	1 19	1 15	1 11	1 1
1 26	1 14	1 13	1 45	1 59	1 36	1 31	1 19	1 20	1 11	1 6	1 1	1 26	1 14	1 11	1 1
1 20	1 13	1 11	1 47	2 0	1 35	1 27	1 16	1 20	1 12	1 7	1 1	1 20	1 13	1 11	1 1
1 19	1 12	1 15	1 47	2 9	1 33	1 28	1 17	1 18	1 7	1 5	0 57	1 19	1 12	1 15	0 57
1 17	1 12	1 15	1 48	2 5	1 31	1 21	1 14	1 14	1 7	1 5	0 57	1 17	1 12	1 15	0 57
1 15	1 12	1 16	1 47	2 9	1 31	1 21	1 17	1 18	1 7	1 5	0 57	1 15	1 12	1 16	0 57
1 17	1 11	1 19	1 47	2 4	1 29	1 13	1 15	1 19	1 2	1 5	0 57	1 17	1 11	1 19	0 57
1 14	1 11	1 24	1 43	2 4	1 28	1 31	1 18	1 16	1 4	1 4	0 56	1 14	1 11	1 24	0 56
1 14	1 14	1 22	1 45	1 55	1 30	1 26	1 15	1 13	1 3	1 3	0 55	1 14	1 14	1 22	0 55

Vertical Intensity.

78	81	81	81	89	75	79	81	81	79	82
81	81	81	85	90	76	79	80	81	81	79
82	82	81	86	88	76	80	80	81	81	79
82	81	82	84	88	76	80	81	82	81	79
82	81	82	86	86	77	79	81	82	81	79
82	81	82	87	87	77	80	81	81	81	82
82	81	82	86	84	77	80	81	81	80	84
81	81	81	88	80	79	80	80	80	79	81
82	81	81	87	84	79	80	81	82	80	81
82	81	81	87	76	79	81	81	82	81	81
81	81	81	87	76	79	81	81	82	79	81
81	82	84	89	77	79	81	81	83	79	81

52''.

11

612
626
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74
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84
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79

May 1, 1883.

$\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity. 0-07000 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	664	660	681	697	712	743	697	656	607	683	660	681
5	658	658	683	697	722	745	668	676	607	685	668	679
10	657	668	681	688	738	751	666	679	616	679	665	677
15	666	664	685	685	739	751	664	679	616	679	656	668
20	647	660	683	688	734	738	660	676	548	658	661	651
25	647	672	674	671	740	743	662	685	570	676	647	651
30	653	674	681	710	741	745	674	647	588	637	635	647
35	639	672	689	712	751	747	691	472	601	610	649	656
40	670	666	697	716	749	736	701	525	632	635	641	660
45	658	668	693	716	751	724	701	467	610	677	679	664
50	660	679	687	726	749	712	669	412	647	660	674	659
55	658	685	701	728	753	712	662	506	654	687	681	612

Declination. 39 +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	1 0	1 5	1 5	1 4	1 0	1 2	1 9	0 50	1 8	1 2	1 8	1 16
5	1 2	1 6	1 8	1 4	0 58	1 1	1 14	0 52	1 13	1 0	1 8	1 16
10	1 1	1 5	1 6	1 4	0 59	1 4	1 1	0 54	1 15	0 58	1 10	1 18
15	1 2	1 7	1 6	1 2	1 3	1 4	1 1	0 54	1 12	0 59	1 8	1 20
20	1 6	1 8	1 6	1 2	1 2	1 1	1 1	0 56	1 15	1 1	1 11	1 23
25	1 5	1 6	1 6	1 1	1 8	1 1	0 46	1 0	1 16	1 5	1 14	1 22
30	1 4	1 9	1 4	1 2	1 0	0 50	0 44	1 2	1 15	1 17	1 12	1 22
35	1 7	1 8	1 6	1 2	1 7	0 55	0 48	0 35	1 12	1 8	1 13	1 23
40	1 2	1 6	1 4	1 1	1 5	1 1	0 44	1 0	1 2	0 54	1 2	1 20
45	1 6	1 3	1 6	1 2	1 5	1 1	0 52	1 17	1 5	0 58	1 16	1 35
50	1 7	1 2	1 6	1 2	1 6	1 4	0 58	1 12	1 2	1 5	1 18	1 33
55	1 6	1 4	1 6	0 59	1 4	1 6	0 54	1 11	1 3	1 1	1 16	1 34

Vertical Intensity. 0-6100 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	77	77	77	74	74	70	64	71	61	83	76	80
5	77	76	75	74	74	68	63	74	61	84	79	80
10	77	76	75	73	73	69	63	74	62	79	71	80
15	76	76	76	75	75	68	61	75	75	78	81	81
20	76	77	76	74	74	69	64	76	66	79	81	81
25	76	76	76	74	74	69	63	76	66	76	81	80
30	76	76	76	74	74	67	65	75	66	72	80	79
35	76	76	75	74	74	67	66	76	66	79	79	76
40	77	76	75	74	74	67	66	76	66	79	80	77
45	77	75	75	74	71	67	67	74	65	81	76	77
50	77	75	75	74	71	67	71	73	81	81	80	82
55	77	74	74	74	70	67	70	100	83	77	81	83

Auroral Observations.

- h. m. a. 0 0 0 Aurora from E.N.E. to zenith, passing through ϵ , ζ & Ursa Major (γ), and streamers in N.W. (γ), 6.5 Fainter, 6.6 Disappeared
- h. m. a. 0 12 30 Point segment from E.N.E. to β Ursa Major (γ).
- h. m. a. 0 13 20 Segment (γ) from E. of Arcturus towards ϵ Ursa Major, 15.20. Segment brighter (γ) and extending towards N.W.
- h. m. a. 0 17 0 Fainter and nearer zenith. Faint. Fainter (γ) and through β Ursa Major.
- h. m. a. 0 19 0 Brighter (γ) and a streamer in E.N.E., 50 to 60 alt.
- h. m. a. 0 20 20 Fainter (γ) and more diffused in E.N.E.
- h. m. a. 0 22 0 A streak (γ) shifts steadily in E.N.E., alt 70 to zenith.
- h. m. a. 0 25 0 Irregular arch (γ) through Ursa Major and Capella, streamers in N.E.
- h. m. a. 0 24 40 Aurora in N.E. fainter, 25.40. Aurora disappeared except irregular patch in N.W. (γ), 45 alt.
- h. m. a. 0 28 0 Segment in E.N.E. (γ), 20 alt., and streamers (γ) between Capella and α and β Geminae.
- h. m. a. 0 31 0 Arch from 10 alt. in E.N.E. to Polarix, faint patch as before in N.W.
- h. m. a. 0 33 30 γ (γ) extending from 10 alt. in E.N.E. to Capella, passing between Polarix and Ursa Major.
- h. m. a. 0 35 0 γ disappeared except patch (γ) in E.N.E.
- h. m. a. 0 36 0 Faint arch (γ) through zenith to E.N.E., 30.40. Fainter and γ farther to N.W.
- h. m. a. 0 38 0 Aurora disappeared.
- h. m. a. 0 39 0 γ from Ursa Major to E. horizon, 41.40. Aurora extending to Capella (γ), 42.30. Aurora fainter and more diffused.
- h. m. a. 0 41 0 Narrow streak (γ) through ϵ , ζ & Ursa Major. Faint light in N.W., 25 alt.
- h. m. a. 0 42 20 Fainter, and light in N.W. disappears, 45.0. Arch through Leo (γ).
- h. m. a. 0 44 0 A broad band of diffused light (γ), N.W., 8, and S.E. of zenith. Streamer (γ) in N.E.
- h. m. a. 0 45 40 Faint streamers (γ) converging in Ursa Major.
- h. m. a. 0 50 40 γ disappeared leaving indistinct light.
- h. m. a. 0 53 0 Streamer (γ) in Ophiuchus, Nebulosa arch (γ) thence through Ursa Minor towards Aurica. Patch (γ) in W.W.W., 80 alt.

$\lambda = -110^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

Göttingen Mean Time.

May 1, 1883.

Horizontal Intensity.

11	Noon.	1	2	3	4	5	6	7	8	9	10	11
681	605	600	656	677	656	672	619	654	697	710	749	761
679	582	630	672	679	654	670	641	662	695	722	755	779
677	546	630	677	674	651	670	653	674	697	720	757	810
668	559	647	687	664	651	660	647	687	708	730	747	824
651	499	647	687	672	651	653	643	689	708	723	743	814
651	521	647	689	679	653	656	639	691	701	730	743	810
647	542	644	689	683	656	660	639	683	703	730	755	814
656	517	643	691	681	662	662	643	681	697	722	760	872
660	542	656	691	679	668	653	643	683	699	714	755	853
664	567	668	677	674	674	639	639	693	701	732	759	845
630	591	666	683	672	672	635	639	699	708	747	761	819
622	601	660	681	662	674	637	653	697	708	761	761	810

Declination.

o	r	o	r	o	r	o	r	o	r	o	r	o	r	o	r	o	r
1	26	1	34	1	33	1	26	1	31	1	36	1	46	1	29	1	22
1	27	1	34	1	32	1	26	1	33	1	36	1	44	1	25	1	24
1	30	1	27	1	28	1	28	1	34	1	35	1	34	1	23	1	20
1	23	1	26	1	28	1	31	1	36	1	35	1	40	1	24	1	20
1	34	1	30	1	26	1	30	1	36	1	43	1	43	1	28	1	23
1	33	1	35	1	22	1	29	1	36	1	45	1	36	1	25	1	16
1	32	1	18	1	23	1	29	1	37	1	49	1	42	1	28	1	10
1	23	1	20	1	26	1	30	1	38	1	51	1	42	1	26	1	8
1	39	1	36	1	28	1	29	1	38	1	48	1	43	1	25	1	8
1	18	1	29	1	30	1	29	1	38	1	48	1	39	1	23	1	6
1	34	1	29	1	20	1	31	1	39	1	49	1	36	1	27	1	8
1	33	1	34	1	28	1	34	1	38	1	46	1	36	1	26	1	12
1	43	1	30	1	28	1	34	1	38	1	46	1	36	1	26	1	12

Vertical Intensity.

83	76	74	74	74	73	69	68	70	73	74	74
84	77	73	75	74	73	69	68	70	74	74	74
86	77	73	75	74	73	69	69	70	74	74	73
88	75	73	74	74	73	69	69	70	74	75	73
85	74	73	74	73	72	68	69	70	74	75	73
84	74	74	74	73	72	68	70	71	74	74	74
84	73	73	75	73	71	68	70	71	74	74	74
77	72	73	75	73	71	68	70	71	74	74	74
76	74	74	75	73	70	68	71	71	74	74	74
77	75	74	75	73	69	68	70	70	74	75	76
76	75	74	75	73	70	68	70	71	74	74	74
77	74	74	74	73	69	68	70	71	74	74	74

Auroral Observations.

h. m. a.

A. W.

0 53 30

0 56 40

0 59 0

7 0 0

7 5 0

7 10 0

7 15 0

7 30 0

h. m.

7 32

7 45

7 50

7 55

8 15

8 21

8 41

8 45

8 50

9 0

9 10

9 45

9 55

9 41

Above arch slightly brighter, streamer disappeared.

" Through Ursa Major about 10° in breadth. 600. Through Gemm.

" more diffused, and extending to Arcturus. Diffused light in N. E.

" disappeared. Segment of arch (3) just below Gemm.

Diffused mass in E. S. E. to 10° alt., 3° wide.

" and arch (1-3) from S. E. to S. W., 14 alt.

Arch now (5). 7.30. Now interrupted in the centre.

Curtain-shaped striated aurora (2) from E. S. E. to N. N. W. to zenith, in rapid motion.

Corona (1-5) in zenith, prismatic. 7.35. More or less aurora (1 to 2-3), brightest in N. N. W.

Arch (1-3) from N. N. E. to S. W., with streamer, N. N. E. to S. W., faint streamer in zenith.

Diffused aurora from S. W. horizon to zenith (1). Faint aurora from zenith to N. N. E.

Aurora very faint. 8.0 to 8.10. Disappeared, except faint patches from S. to W. S. W. from 5° to 10° alt.

Streak (5) from E. S. E. to zenith. 8.20. Disappeared.

Very faint streamer in N. N. W., 40 alt.

Corona in zenith (1), streamer (7) from 70° alt. in N. N. W. to 50° alt. in E. S. E., passing 15° E. N. E. of zenith.

" disappeared except a few streamer (8) in N., 70 alt.

Faint masses in zenith (3).

Diffused arch (7) from E. S. E. through zenith to N. N. W., disappearing under clouds at extremities.

" broader (1) and drifting towards S. E. 9.15. Through zenith, regular and (1-3).

" 70° alt., partly visible through clouds (1). 9.30. Very faint.

" disappeared except a faint streak (5) in N. N. E., 75° alt.

Faint masses (7) in N. N. W., 20 alt., faint band (3) from S. E. to S. S. W., 10° alt. 9.40. Disappeared.

May 15, 1883.

$\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity. 007000 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	681	685	695	684	701	710	706	662	664	599	612	612
5	682	689	695	691	712	726	706	666	654	557	628	622
10	683	691	693	689	720	724	714	676	651	559	641	610
15	683	687	695	687	721	726	708	670	656	563	641	586
20	683	683	693	687	728	736	701	672	655	559	632	599
25	683	685	695	687	726	745	697	672	651	593	539	597
30	683	687	695	691	722	749	689	670	641	581	618	599
35	687	688	695	691	722	744	681	677	651	589	620	616
40	687	689	693	691	718	734	677	681	616	571	637	593
45	683	689	695	681	728	724	683	683	454	582	626	593
50	689	687	695	681	736	720	691	677	480	599	567	628
55	693	691	691	703	738	718	676	668	517	589	605	610

Declination. 39 +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	1 8	1 8	1 8	1 11	1 11	1 7	1 0	1 1	1 6	1 24	1 13	1 18
5	1 7	1 7	1 8	1 10	1 8	1 7	1 4	1 2	1 3	1 17	1 18	1 14
10	1 7	1 8	1 9	1 11	1 6	1 8	1 6	1 4	1 2	1 29	1 9	1 14
15	1 7	1 6	1 10	1 12	1 5	1 7	1 7	1 4	1 9	1 20	1 5	1 14
20	1 6	1 8	1 10	1 12	1 4	1 8	1 6	1 2	0 52	1 22	1 7	1 17
25	1 6	1 8	1 10	1 12	1 5	1 7	1 7	1 1	1 0	1 18	1 11	1 23
30	1 7	1 8	1 10	1 12	1 6	1 4	1 7	1 3	0 56	1 6	1 19	1 19
35	1 7	1 8	1 10	1 12	1 7	1 6	1 4	1 4	0 50	1 4	1 18	1 16
40	1 7	1 8	1 12	1 10	1 7	1 4	1 3	1 5	0 48	1 9	1 10	1 23
45	1 7	1 8	1 12	1 12	1 8	1 1	1 4	1 8	0 53	1 8	1 6	1 39
50	1 7	1 8	1 10	1 10	1 6	1 1	1 6	1 9	1 3	1 6	1 9	1 17
55	1 7	1 8	1 11	1 11	1 6	1 0	1 2	1 10	1 12	1 10	1 15	1 20

Vertical Intensity. 06100 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	76	77	77	77	77	75	71	74	73	91	85	85
5	77	76	77	77	77	75	74	74	74	90	85	84
10	77	76	77	77	77	75	71	74	73	92	84	84
15	77	77	77	77	77	74	71	75	75	92	83	78
20	77	77	77	77	77	71	73	75	83	91	85	81
25	77	77	77	76	77	71	73	76	81	91	85	79
30	77	77	77	77	77	70	73	76	84	86	83	80
35	77	77	77	77	78	71	73	75	85	81	85	83
40	77	77	77	77	77	71	73	75	85	85	86	84
45	77	77	77	77	78	71	73	76	94	81	89	83
50	77	77	76	77	77	71	71	75	98	84	87	84
55	76	76	77	77	77	71	71	73	94	83	86	84

Auroral Observations.	
h. m. s.	
7 42 0	Faint arch (*) in S.W., 20 alt.
7 43 30	" disappeared.
7 47 0	Segment of arch (*) from E.S.E. to 60 alt.
7 49 20	Faint streamers (*) in S.E.
7 50 40	Slightly brighter.
7 51 10	" serpentine (1) and light more concentrated.
7 53 0	" extending to 45 alt. (**).
7 54 30	" extending to above Arcturus (*5).
7 55 10	" disappeared except nebulous light (*) in S.E.
7 56 30	" reappeared as at 5:1 m. with patch (1), alt. 5.
7 58 0	Patch (*) alone visible.
7 59 0	As at 5:5 m. (**).
8 2 0	" now (*6).
8 5 0	Arch (1) from S.E. to W.N.W., 10 S. of zenith.

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$

Göttingen Mean Time.

May 15, 1883.

Horizontal Intensity.

Noon.	1	2	3	4	5	6	7	8	9	10	11
630	626	645	614	649	653	670	687	701	674	677	685
626	610	643	630	643	654	670	697	693	672	674	687
599	624	643	630	645	647	666	693	693	672	674	685
593	612	649	639	651	647	666	691	695	670	674	683
595	609	660	639	653	649	672	695	695	674	674	685
605	603	666	619	651	651	681	695	697	674	672	687
614	622	668	641	654	635	679	697	697	677	676	689
610	620	656	639	656	651	681	701	681	676	676	687
595	620	651	641	634	662	689	697	691	674	679	681
618	616	637	627	658	683	683	697	691	674	676	681
616	612	631	645	653	670	685	695	691	674	674	681
611	639	644	651	654	672	677	697	679	677	683	683

Declination.

°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
1 16	1 42	1 41	1 49	1 48	1 38	1 30	1 23	1 16	1 2	1 6	1 8	1 10	1 10	1 14	1 46	1 41	1 42
1 22	1 46	1 41	1 42	1 48	1 37	1 30	1 20	1 16	1 4	1 8	1 10	1 10	1 10	1 14	1 46	1 41	1 42
1 24	1 47	1 36	1 43	1 48	1 37	1 31	1 19	1 16	1 4	1 8	1 10	1 10	1 10	1 14	1 46	1 41	1 42
1 23	1 48	1 36	1 48	1 44	1 39	1 29	1 18	1 16	1 5	1 8	1 10	1 10	1 10	1 14	1 46	1 41	1 42
1 25	1 48	1 34	1 49	1 40	1 39	1 32	1 17	1 13	1 4	1 8	1 10	1 10	1 10	1 14	1 46	1 41	1 42
1 25	1 41	1 34	1 42	1 38	1 33	1 27	1 17	1 14	1 4	1 10	1 10	1 10	1 10	1 14	1 46	1 41	1 42
1 27	1 44	1 34	1 52	1 35	1 36	1 30	1 18	1 15	1 4	1 10	1 10	1 10	1 10	1 14	1 46	1 41	1 42
1 30	1 42	1 36	1 56	1 36	1 37	1 31	1 18	1 18	1 5	1 9	1 10	1 10	1 10	1 14	1 46	1 41	1 42
1 39	1 42	1 40	1 55	1 36	1 35	1 30	1 16	1 16	1 6	1 10	1 10	1 10	1 10	1 14	1 46	1 41	1 42
1 40	1 42	1 46	1 52	1 35	1 34	1 32	1 16	1 8	1 6	1 10	1 10	1 10	1 10	1 14	1 46	1 41	1 42
1 39	1 43	1 50	1 51	1 35	1 32	1 32	1 17	1 5	1 6	1 10	1 10	1 10	1 10	1 14	1 46	1 41	1 42
1 39	1 42	1 53	1 48	1 37	1 31	1 20	1 18	1 2	1 5	1 10	1 10	1 10	1 10	1 14	1 46	1 41	1 42

Vertical Intensity.

83	81	76	74	71	73	74	77	77	77	77	77	77	77	77	77	77	77
86	82	78	74	71	74	74	77	77	77	77	77	77	77	77	77	77	77
87	82	78	74	71	73	74	77	77	77	77	77	77	77	77	77	77	77
86	82	76	71	71	71	75	79	77	78	78	78	78	78	78	78	78	78
81	81	79	71	72	73	75	79	77	78	78	78	78	78	78	78	78	78
85	79	77	74	71	71	75	78	77	78	78	78	78	78	78	78	78	78
84	81	76	73	73	73	75	77	77	78	78	78	78	78	78	78	78	78
81	82	79	73	73	74	75	77	77	78	78	78	78	78	78	78	78	78
83	78	77	73	72	72	76	79	77	77	77	77	77	77	77	77	77	77
83	77	77	73	73	74	76	76	77	77	77	77	77	77	77	77	77	77
83	77	76	73	73	74	76	76	77	77	77	77	77	77	77	77	77	77
84	76	75	71	73	74	76	77	76	77	77	77	77	77	77	77	77	77

Auroral Observations.

- h. m.
A.M.
- 8 15 Above arch disappeared. Patch (1) in S.E., 25' alt.
- 8 20 Arch (1-5) from S.E. to W.N.W., upper edge through Ursa Major, lower passing the Moon.
- 8 25 Arch (1) partly disappeared, passing halfway between zenith and Moon.
- 8 30 Arch (1-5) from E.S.E. passing Ursa Major to N.W., where diffused.
- 8 36 Diffused prismatic arch (2), with streamers in rapid motion from E.S.E. to N.W.
- 8 41 " disappeared except a streak (1) in N.W. from horizon to 20' alt.
- 8 45 Streak in N.W. disappeared. Faint streak in zenith.
- 8 50 " disappeared.
- 9 0 Irregular aurora (2) from E.S.E. to E. prismatic, 5 to 15' alt.
- 9 5 " disappeared.

Term Day Observations.

202

June 1, 1883.

$\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity. 0.07000 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	676	687	769	777	763	818	712	767	726	691	691	678
5	683	676	757	781	738	814	657	781	730	691	689	679
10	687	705	755	781	732	796	547	57	728	693	689	676
15	687	722	761	775	734	782	506	722	710	695	687	681
20	670	730	759	784	769	757	584	718	716	691	685	674
25	693	736	769	784	784	745	510	728	712	689	681	670
30	695	749	769	786	810	555	547	734	708	689	681	674
35	716	771	767	781	814	720	597	734	705	687	683	674
40	706	753	767	783	812	687	631	730	703	685	685	656
45	701	751	761	769	828	678	738	732	701	691	679	671
50	695	757	767	747	841	651	753	734	701	687	674	674
55	708	765	769	781	841	708	741	732	697	687	674	366

Declination. 39° +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	1 7	1 8	1 3	0 58	1 15	0 59	1 13	0 53	1 18	1 13	1 10	1 4
5	1 5	1 7	1 3	0 59	1 19	1 3	1 9	0 45	1 13	1 11	1 8	1 3
10	1 5	1 10	1 7	1 4	1 20	1 4	0 24	0 49	1 11	1 11	1 8	1 5
15	1 5	1 3	1 4	1 5	1 19	1 5	0 15	1 4	1 13	1 11	1 8	1 6
20	1 6	1 1	1 1	1 2	1 13	1 5	0 12	1 5	1 13	1 11	1 9	1 7
25	0 57	0 59	1 1	0 55	1 14	1 6	0 30	1 11	1 13	1 12	1 9	1 3
30	1 6	0 59	1 0	0 57	1 3	1 6	0 47	1 12	1 11	1 13	1 12	1 7
35	1 6	1 4	1 3	0 58	1 1	1 7	0 41	1 11	1 12	1 15	1 13	1 4
40	1 8	1 3	1 1	1 3	0 59	1 4	0 41	1 7	1 12	1 13	1 9	1 13
45	1 7	1 6	0 58	1 3	1 0	1 5	0 51	1 5	1 12	1 13	1 9	2 3
50	1 10	1 3	0 59	1 8	1 0	1 6	0 43	1 11	1 11	1 13	1 8	1 51
55	1 7	1 3	1 0	1 13	1 2	1 7	0 45	1 13	1 12	1 12	1 5	1 23

Vertical Intensity. 0.6100 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	79	81	81	79	71	71	71	76	75	80	81	81
5	79	81	83	79	75	71	65	76	79	81	81	82
10	80	82	83	76	72	72	59	71	78	78	78	83
15	80	81	83	76	75	73	64	72	76	78	78	84
20	80	81	83	76	77	71	62	75	76	79	77	84
25	78	82	81	77	76	72	71	74	75	79	79	84
30	79	82	81	77	76	71	81	77	77	79	79	84
35	81	81	80	79	77	70	84	74	74	80	79	84
40	81	82	79	79	76	74	87	75	74	81	81	86
45	81	82	79	77	73	72	70	76	74	80	81	106
50	82	82	79	77	73	72	72	76	74	81	82	81
55	81	81	79	74	71	73	71	77	75	80	82	86

Auroral Observations.

None.

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$

Göttingen Mean Time.

June 1, 1883.

Horizontal Intensity.

11	Noon.	1	2	3	4	5	6	7	8	9	10	11
678	342	542	714	660	620	624	622	635	645	676	681	718
679	338	582	710	645	616	633	624	635	639	679	687	718
676	348	620	710	645	609	635	622	649	649	679	695	728
681	414	647	710	639	618	641	639	664	653	660	695	724
674	470	668	714	637	614	639	647	662	656	666	697	718
670	353	679	703	632	603	643	635	653	658	666	703	712
674	409	681	694	632	603	643	610	633	664	664	706	716
674	381	685	699	633	601	643	611	641	656	666	708	722
674	392	703	693	624	601	637	616	641	661	668	714	734
656	433	708	685	622	616	630	639	645	658	668	714	751
431	463	710	683	614	620	633	630	656	666	679	712	753
444	502	710	668	628	624	626	624	653	677	689	718	759

Declination.

\circ	\prime	\circ	\prime	\circ	\prime	\circ	\prime	\circ	\prime	\circ	\prime	\circ	\prime	\circ	\prime	
1	4	1	33	1	25	1	37	1	53	1	55	1	57	1	42	
1	3	1	29	1	29	1	43	1	57	1	49	1	55	1	43	
1	5	1	29	1	25	1	40	1	59	1	50	1	55	1	43	
1	6	1	29	1	28	1	44	1	59	1	50	1	49	1	41	
1	7	1	28	1	29	1	46	2	4	1	51	1	47	1	36	
1	7	1	28	1	25	1	39	2	5	1	50	1	55	1	35	
1	7	1	27	1	33	1	51	2	4	1	48	1	35	1	17	
1	4	2	2	1	27	1	27	1	51	2	1	47	1	35	1	17
1	11	1	58	1	25	1	31	1	53	1	53	1	52	1	18	
2	3	1	43	1	24	1	32	1	54	1	56	1	53	1	17	
1	51	1	34	1	25	1	33	1	56	1	59	1	54	1	17	
1	23	1	36	1	25	1	36	1	52	1	52	1	54	1	17	

Vertical Intensity.

88	87	81	79	74	70	70	71	71	75	78	80	82
86	85	81	79	73	69	71	71	71	75	78	80	82
89	83	81	79	71	69	71	71	71	76	79	81	83
83	83	81	79	71	70	71	71	71	76	77	81	82
84	81	81	78	71	70	71	71	71	75	78	81	82
84	81	81	77	71	71	71	71	71	75	78	82	83
86	81	80	77	71	71	71	71	71	75	78	82	83
90	80	79	76	69	69	71	71	71	75	78	82	83
93	80	80	75	70	71	71	71	71	75	77	79	81
86	80	81	75	69	71	71	71	71	75	77	80	81
106	80	81	74	70	71	71	71	71	75	77	80	81
81	81	79	74	71	70	71	71	71	74	77	81	82
86												83

June 15, 1883.

$\odot = + 6^{\circ} 38' 52''$.

Horizontal Intensity. 0-0700 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	681	705	708	755	710	703	685	701	697	689	705	701
5	681	705	714	737	701	699	687	701	697	689	703	701
10	681	699	740	763	701	693	691	701	697	685	699	699
15	706	701	730	750	708	680	601	699	693	689	697	697
20	703	701	736	745	706	685	687	699	691	687	691	699
25	699	701	738	753	699	681	691	699	693	693	695	701
30	708	697	743	745	701	683	691	699	691	701	697	697
35	710	703	734	732	706	683	695	699	687	701	699	695
40	708	701	716	710	711	681	695	697	683	693	697	693
45	706	699	712	714	712	685	695	697	695	695	697	691
50	700	701	711	714	716	683	697	693	695	697	697	691
55	703	703	738	712	710	683	699	697	685	703	699	689

Declination. 39° +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	1 3	1 5	1 6	1 5	1 10	1 12	1 12	1 11	1 10	1 10	1 10	1 10
5	1 3	1 4	1 4	1 8	1 11	1 11	1 12	1 11	1 10	1 10	1 8	1 10
10	1 4	1 5	0 58	1 4	1 10	1 12	1 11	1 11	1 12	1 10	1 8	1 10
15	1 4	1 5	1 3	1 4	1 8	1 13	1 10	1 11	1 11	1 10	1 8	1 10
20	1 0	1 4	1 6	1 8	1 8	1 13	1 10	1 11	1 11	1 10	1 10	1 10
25	1 3	1 4	1 4	1 10	1 9	1 14	1 10	1 12	1 11	1 12	1 10	1 10
30	1 4	1 7	1 3	1 10	1 11	1 15	1 12	1 11	1 11	1 11	1 9	1 10
35	1 3	1 7	1 9	1 11	1 11	1 14	1 12	1 10	1 9	1 10	1 9	1 10
40	1 3	1 7	1 11	1 8	1 10	1 14	1 11	1 12	1 8	1 11	1 10	1 10
45	1 3	1 8	1 11	1 7	1 10	1 13	1 11	1 11	1 9	1 12	1 10	1 10
50	1 4	1 8	1 9	1 8	1 10	1 14	1 10	1 11	1 8	1 10	1 11	1 12
55	1 5	1 6	2 6	1 10	1 12	1 13	1 10	1 11	1 8	1 10	1 10	1 12

Vertical Intensity. 0-6100 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	79	79	79	81	77	78	77	79	79	76	79	80
5	78	79	79	80	77	79	78	79	79	77	77	80
10	78	79	79	78	77	79	78	79	78	78	79	80
15	79	79	81	77	78	79	78	79	78	79	79	81
20	79	79	80	79	79	79	78	79	79	79	79	81
25	78	79	79	79	80	78	78	79	79	79	79	80
30	78	79	79	77	81	79	79	78	79	79	79	81
35	78	79	81	76	81	79	79	78	79	78	80	81
40	79	79	81	76	79	78	79	79	79	79	81	80
45	79	79	81	76	79	78	79	79	78	79	80	79
50	79	79	81	77	78	78	79	79	78	79	79	79
55	79	78	81	77	78	78	79	79	79	79	79	80

Auroral Observations.

None.

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$

Göttingen Mean Time.

June 15, 1883.

Horizontal Intensity.

11	Noon.	1	2	3	4	5	6	7	8	9	10	11
701	683	693	705	706	701	695	674	679	654	662	662	654
701	683	695	703	705	701	679	676	672	666	669	665	666
699	683	697	703	703	699	685	676	668	660	660	666	670
697	691	701	701	695	706	677	679	660	672	656	666	676
699	693	705	705	699	693	689	674	647	639	658	668	681
704	691	701	708	695	695	689	668	617	637	636	672	677
697	695	703	706	699	695	685	653	639	641	656	668	679
695	695	703	705	695	689	677	637	612	637	660	668	677
691	695	703	706	693	685	672	639	635	644	665	672	683
691	697	705	706	693	691	663	651	633	637	658	670	691
691	693	706	705	695	687	668	666	617	645	658	670	699
689	693	706	703	695	689	670	674	641	651	660	663	697

Declination.

0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
1 10	1 13	1 19	1 21	1 22	1 23	1 24	1 25	1 26	1 28	1 28	1 28	1 28	1 28	1 28	1 28	1 28	1 28	1 28	1 28
1 10	1 13	1 20	1 21	1 22	1 22	1 26	1 21	1 18	1 28	1 18	1 18	1 18	1 18	1 18	1 18	1 18	1 18	1 18	1 18
1 10	1 14	1 19	1 22	1 22	1 25	1 26	1 28	1 27	1 21	1 19	1 19	1 19	1 19	1 19	1 19	1 19	1 19	1 19	1 19
1 10	1 14	1 18	1 22	1 22	1 23	1 23	1 31	1 24	1 22	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2
1 10	1 14	1 19	1 22	1 22	1 24	1 24	1 28	1 25	1 22	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
1 10	1 14	1 20	1 22	1 22	1 24	1 27	1 28	1 28	1 28	1 6	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2
1 10	1 14	1 19	1 22	1 22	1 24	1 29	1 30	1 28	1 17	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
1 10	1 17	1 20	1 21	1 21	1 23	1 28	1 30	1 30	1 24	1 24	1 4	1 5	1 4	1 5	1 4	1 4	1 4	1 4	1 4
1 10	1 16	1 18	1 22	1 25	1 28	1 23	1 40	1 32	1 32	1 12	1 4	1 5	1 4	1 5	1 4	1 4	1 4	1 4	1 4
1 10	1 17	1 19	1 22	1 27	1 25	1 27	1 37	1 35	1 23	1 3	1 3	1 5	1 5	1 5	1 2	1 2	1 2	1 2	1 2
1 11	1 18	1 18	1 23	1 27	1 24	1 28	1 29	1 31	1 31	1 11	1 5	1 6	1 6	1 6	1 2	1 2	1 2	1 2	1 2
1 12	1 19	1 19	1 24	1 29	1 26	1 29	1 23	1 29	1 18	1 4	1 4	1 4	1 4	1 4	1 1	1 1	1 1	1 1	1 1

Vertical Intensity.

79	79	79	77	76	77	76	76	79	77	77	79	79
79	77	79	78	77	77	77	76	79	77	77	79	79
79	77	78	78	77	77	77	77	78	78	77	77	79
79	79	79	77	77	77	77	76	78	77	77	76	78
79	79	79	77	77	78	77	76	79	78	77	77	79
79	79	79	78	78	77	77	76	78	78	77	79	79
79	79	79	78	78	77	77	76	78	78	78	79	78
79	78	78	77	77	77	77	76	78	78	78	79	78
79	78	79	77	77	77	77	76	78	78	78	79	78
79	78	79	77	77	77	77	76	78	78	77	78	78
79	78	79	77	77	77	77	76	78	78	77	78	78
79	78	79	77	76	77	76	76	78	78	77	79	78

38' 52".

11

701
701
699
697
699
704
697
695
695
691
691
691
689

0 1
1 10
1 10
1 10
1 10
1 10
1 10
1 10
1 10
1 10
1 10
1 11
1 12

80
80
80
81
81
80
81
81
80
79
79
80

July 1, 1883.

$\phi = +62^{\circ} 38' 52''$.

Horizontal Intensity.		0.0700 (C.G.S.) +										
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	505	570	641	706	788	701	480	693	666	661	617	618
5	835	551	660	699	788	718	448	693	708	666	548	618
10	833	551	660	699	788	718	448	693	708	666	609	641
15	769	574	485	771	826	722	621	687	676	633	548	639
20	781	567	459	749	798	691	616	674	695	544	476	661
25	722	595	610	869	781	640	633	649	691	499	544	670
30	712	632	697	962	761	563	643	654	703	601	487	677
35	708	599	734	971	771	506	679	660	697	626	513	732
40	668	596	749	971	741	470	668	662	676	641	523	714
45	684	591	771	769	710	225	652	672	677	641	538	616
50	588	591	755	777	763	361	681	654	666	641	570	660
55	589	681	759	757	771	571	687	672	658	664	601	681

Declination.		38° +										
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	2 14	2 9	1 57	1 25	1 53	1 31	2 9	2 3	1 45	1 51	1 44	1 55
5	2 26	2 7	1 39	1 32	1 41	1 23	1 47	2 3	1 35	1 51	2 5	1 44
10	2 38	2 23	1 19	1 52	1 44	1 34	1 30	2 1	1 43	1 58	2 19	1 38
15	1 20	2 17	1 40	1 43	1 50	1 38	2 8	2 9	1 52	1 53	1 15	1 50
20	1 54	2 4	0 43	1 37	1 43	1 30	2 1	2 9	1 53	1 43	1 19	1 58
25	1 47	1 59	0 59	1 45	1 54	1 24	2 10	2 8	1 48	2 35	1 1	2 8
30	2 18	1 42	0 59	1 19	1 55	1 19	2 7	1 57	1 50	2 7	1 31	2 33
35	2 28	1 46	1 7	1 51	1 52	1 25	2 3	1 57	1 47	1 42	2 9	2 23
40	2 6	1 30	1 12	2 11	1 38	1 27	2 3	1 51	1 49	1 34	2 18	2 28
45	2 47	1 26	1 25	1 45	1 43	1 45	1 59	1 45	1 50	1 36	1 20	2 42
50	2 33	1 35	1 28	1 46	1 43	0 53	1 58	1 45	1 54	1 47	2 12	1 50
55	2 15	1 39	1 30	1 41	1 53	1 35	2 2	1 43	1 55	1 49	2 6	2 38

Vertical Intensity.		0.6100 (C.G.S.) +										
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	53	29	51	57	67	63	54	73	83	86	92	101
5	49	26	51	56	57	70	71	74	84	88	98	103
10	44	35	50	57	63	68	66	74	82	93	86	101
15	37	38	56	49	58	67	68	71	81	96	91	98
20	33	40	47	49	65	66	68	71	80	90	86	99
25	31	43	44	57	66	72	64	72	87	97	84	93
30	28	47	44	42	66	71	65	73	85	96	101	103
35	30	46	47	58	66	64	68	76	86	96	108	96
40	33	46	49	50	67	70	71	77	85	91	109	99
45	31	47	52	48	76	66	71	79	86	90	98	104
50	29	47	52	51	75	87	71	84	86	84	106	101
55	26	51	53	59	69	61	73	81	86	90	98	104

Auroral Observations.

None.

$\lambda = - 115^{\circ} 43' 50'' = - 7h. 42m. 55s.$

Göttingen Mean Time.

July 1, 1883.

Horizontal Intensity.

11	Noon.	1	2	3	4	5	6	7	8	9	10	11
623	689	516	624	533	435	427	519	574	637	720	779	865
628	695	551	624	440	379	435	546	569	640	756	779	891
641	691	588	630	398	379	439	569	578	645	693	800	930
639	683	616	628	383	386	470	569	620	654	710	808	934
662	679	612	631	428	390	527	595	623	633	727	830	922
670	644	597	637	467	370	523	580	612	640	720	814	934
677	641	586	616	420	373	527	572	583	662	727	847	954
731	576	603	609	517	364	555	565	567	662	725	821	927
712	610	607	593	516	362	542	540	578	660	733	839	895
626	563	607	589	521	372	565	521	584	664	753	853	944
660	559	618	586	478	409	521	574	578	627	721	821	889
681	542	630	516	452	411	531	544	586	724	784	871	810

Declination.

o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /
1 55	2 38	2 36	2 16	3 23	3 34	4 23	3 29	3 5	2 38	2 18	2 19	2 27
1 44	2 24	2 42	2 23	3 27	3 35	4 22	3 22	3 5	2 29	2 15	2 31	2 32
1 38	2 15	2 24	2 23	3 21	3 41	4 12	3 19	2 59	2 6	2 21	2 19	2 33
1 50	2 5	2 9	2 27	3 45	3 42	4 11	3 18	2 53	2 22	2 35	2 20	2 24
1 58	2 8	2 1	2 22	3 30	3 59	3 1	3 1	2 56	2 32	2 25	2 24	2 22
2 8	2 17	2 3	2 31	3 11	4 1	3 19	3 1	2 59	2 35	2 27	2 22	2 25
2 31	2 3	2 15	2 37	3 41	3 43	3 35	3 11	2 55	2 25	2 19	2 15	2 15
2 23	2 9	2 18	2 51	3 17	4 1	3 17	3 8	2 57	2 29	2 1	2 15	2 11
2 18	2 4	2 24	3 2	3 17	4 6	3 53	3 6	2 50	2 34	2 15	2 2	2 35
2 42	2 11	2 26	2 49	3 8	3 39	3 30	3 3	2 36	2 33	2 18	2 21	2 33
2 50	2 30	2 21	2 52	3 31	3 19	3 40	3 1	2 32	2 29	2 18	2 18	2 20
2 38	2 32	2 27	3 22	3 49	3 50	3 37	2 57	2 31	2 22	2 15	2 23	2 30

Vertical Intensity.

104	104	108	104	111	110	70	64	69	74	81	82	75
104	104	110	104	107	112	75	66	69	76	81	82	77
101	103	110	111	109	104	73	67	70	76	82	82	79
98	102	109	112	105	102	78	68	70	76	83	82	81
99	102	107	111	109	95	73	68	71	75	81	81	79
93	103	104	109	111	96	70	65	71	76	80	80	74
96	102	103	104	104	89	69	69	71	76	80	81	69
94	106	103	100	110	87	69	67	73	79	80	80	70
99	103	103	100	110	90	70	68	73	78	80	80	65
104	104	104	101	108	82	68	68	73	79	78	77	60
104	103	104	99	106	81	71	69	73	78	78	75	58
104	104	103	100	111	76	71	70	75	78	79	75	55

Term Day Observations.

208

July 15, 1883.

$\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity. 0-0700 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	672	666	679	668	666	670	679	683	683	561	639	681
5	654	662	666	670	671	672	670	685	620	546	649	668
10	660	658	666	670	671	668	670	685	478	393	612	660
15	662	670	677	670	672	666	677	681	450	622	656	658
20	664	693	683	672	672	674	670	683	518	668	670	658
25	666	630	683	672	672	674	670	685	536	683	674	664
30	668	662	666	674	672	677	676	687	561	687	668	664
35	664	658	674	677	674	677	676	687	677	689	658	672
40	668	658	672	668	679	677	676	685	647	683	668	677
45	658	681	658	674	668	676	679	681	637	612	668	677
50	670	674	70	670	674	677	679	685	597	614	679	681
55	662	672	656	672	668	683	679	685	557	654	677	685

Declination. 39° +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	1 7	1 6	1 7	1 11	1 14	1 14	1 17	1 14	1 6	1 22	0 55	1 18
5	1 8	1 6	1 8	1 10	1 14	1 16	1 16	1 15	1 4	1 4	0 53	1 13
10	1 8	1 4	1 6	1 11	1 17	1 17	1 15	1 14	2 2	1 4	1 1	1 13
15	1 7	1 4	1 6	1 13	1 12	1 16	1 14	1 17	1 46	1 9	1 4	1 21
20	1 6	1 6	1 7	1 12	1 13	1 15	1 14	1 12	1 26	1 7	1 6	1 22
25	1 6	1 8	1 8	1 12	1 14	1 16	1 14	1 10	1 36	1 7	1 10	1 21
30	1 6	1 8	1 9	1 12	1 14	1 16	1 14	1 10	0 58	1 10	1 15	1 21
35	1 6	1 6	1 10	1 12	1 13	1 15	1 15	1 8	1 12	1 12	1 20	1 20
40	1 6	1 4	1 10	1 13	1 14	1 16	1 14	1 8	1 4	1 9	1 12	1 18
45	1 7	1 2	1 10	1 13	1 14	1 15	1 14	1 7	1 9	0 36	1 16	1 21
50	1 5	1 5	1 11	1 13	1 15	1 15	1 15	1 9	1 6	1 3	1 12	1 12
55	1 5	1 6	1 12	1 14	1 15	1 14	1 14	1 2	1 9	0 54	1 12	1 19

Vertical Intensity. 0-6100 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	74	75	76	76	77	77	77	77	77	68	79	79
5	74	75	75	75	77	77	77	77	77	75	77	79
10	74	74	75	75	76	77	77	76	77	81	78	79
15	74	74	76	76	77	77	76	76	67	84	79	80
20	74	76	76	76	78	77	76	76	68	82	79	79
25	74	74	76	76	76	78	77	76	75	81	79	79
30	75	76	76	76	76	78	77	76	77	78	78	78
35	75	75	76	76	76	77	77	76	79	77	78	78
40	75	74	76	76	77	77	77	75	79	78	81	78
45	74	70	76	76	77	76	77	75	75	81	79	78
50	74	75	76	76	77	76	77	76	81	81	81	78
55	74	75	75	76	77	76	77	76	75	81	79	79

Auroral Observations.

h. m. |
 A.M. |
 8 16 | Faint streak (-5) from W.N.W. from 60 alt. to 5° from zenith, drifting towards S.E. and becoming very faint.
 8 11 | Aurora (1) from about 20 alt. in E.S.E. towards S.E. and curved towards zenith.
 8 46 | " disappeared.
 8 56 | Streaks (1) at short intervals from E.S.E. horizon to 20° towards zenith, and immediately becoming very faint.
 8 59 | " disappeared.

$\lambda = -115^{\circ} 43' 50'' = -7h. 42m. 55s.$

Göttingen Mean Time.

July 15, 1883.

Horizontal Intensity.

Hour.	1	2	3	4	5	6	7	8	9	10	11
681	677	697	681	546	337	074	546	683	732	637	812
681	677	695	677	527	309	007	504	656	716	630	832
668	695	703	668	538	238	099	584	617	711	633	843
660	701	703	656	516	182	135	695	647	685	664	861
658	693	697	643	499	158	137	714	666	643	672	869
658	693	708	637	493	128	124	714	664	630	703	897
664	695	693	649	478	174	238	710	691	632	714	875
664	689	699	633	442	071	142	710	706	632	732	901
672	697	697	643	386	067	452	706	706	630	716	956
677	697	697	649	418	088	437	728	710	626	706	948
677	697	689	614	401	053	484	734	710	630	706	972
681	695	693	565	359	012	523	708	710	633	777	994

Declination.

Hour.	1	2	3	4	5	6	7	8	9	10	11
1 20	1 27	1 31	1 25	1 52	3 15	4 51	0 36	1 14	1 15	1 10	1 14
1 21	1 19	1 35	1 36	2 7	3 34	3 56	1 30	1 14	1 24	1 15	1 19
1 21	1 28	1 29	1 42	2 10	3 55	3 44	1 36	1 20	1 22	1 14	1 17
1 21	1 20	1 32	1 39	2 32	4 17	4 8	1 32	1 24	1 21	1 20	1 17
1 22	1 26	1 34	1 44	2 15	3 50	3 1	1 38	1 16	1 24	1 21	1 20
1 22	1 28	1 33	1 40	2 32	4 3	3 8	1 42	1 20	1 19	1 24	1 21
1 23	1 30	1 35	1 43	2 47	4 47	2 51	1 44	1 16	1 16	1 19	1 32
1 25	1 31	1 38	1 45	2 49	4 1	2 32	1 46	1 19	1 12	1 14	1 34
1 24	1 30	1 36	1 51	2 38	4 0	2 31	1 16	1 10	1 13	1 16	1 48
1 23	1 30	1 34	2 0	3 1	4 21	2 31	1 15	1 8	1 12	1 14	1 37
1 18	1 31	1 34	1 39	2 55	3 38	2 3	1 38	1 8	1 11	1 12	1 47
1 24	1 33	1 33	1 46	3 6	4 39	1 47	1 26	1 9	1 10	1 18	2 7

Vertical Intensity.

79	80	81	79	82	87	89	71	78	74	76	77
79	79	80	79	82	94	69	68	77	74	70	75
79	79	80	81	82	94	71	70	77	74	77	75
79	80	79	79	83	97	81	72	76	75	76	75
79	80	80	79	84	87	89	71	76	75	76	75
79	80	79	79	84	93	69	72	76	76	77	73
79	80	81	79	80	98	57	72	74	77	79	69
79	81	79	80	84	86	57	74	74	76	79	72
80	79	79	81	90	81	53	74	73	76	81	70
80	79	78	76	90	81	53	75	73	75	81	73
80	81	79	77	86	94	58	76	75	75	79	76
80	79	78	78	90	87	63	77	74	76	79	70

August 1, 1883.

 $\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity. 007000 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	855	662	658	697	-08	-10	681	670	710	620	599	035
5	804	708	670	751	691	-14	099	674	722	616	643	104
10	-82	676	693	730	641	561	-10	605	689	632	589	189
15	-79	660	666	751	-143	-12	689	697	693	635	578	302
20	-18	654	681	-71	280	865	664	683	685	605	565	274
25	-14	615	697	-28	467	824	672	687	687	651	008	270
30	652	612	662	-12	670	-95	660	693	660	641	-103	375
35	650	597	635	-38	617	-49	664	-01	611	653	-121	364
40	618	626	618	-41	-28	-41	685	697	632	616	009	379
45	620	660	616	726	771	-16	679	705	624	582	030	412
50	626	647	632	-34	645	712	662	-26	618	553	009	467
55	641	647	683	712	683	695	670	-36	641	586	031	542

Declination. 38 +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	2 15	2 12	1 58	2 18	2 0	0 16	1 42	2 14	2 20	2 0	1 54	4 28
5	1 57	2 20	2 10	2 4	1 57	1 18	1 43	2 4	2 10	1 57	1 38	3 44
10	2 5	2 15	2 14	2 9	1 45	1 13	1 41	2 1	2 6	1 53	1 23	3 22
15	1 53	2 32	2 10	2 4	3 52	0 13	1 57	2 4	2 5	1 54	1 29	1 18
20	1 41	2 36	2 5	1 54	0 57	0 1	1 59	2 10	2 2	1 56	1 45	2 54
25	2 18	2 33	1 58	2 8	-0 48	0 36	2 8	2 17	2 4	1 57	5 4	4 3
30	2 15	2 26	2 2	2 0	0 16	1 2	2 6	2 18	2 6	1 44	3 19	1 51
35	2 12	2 8	1 54	1 56	0 2	2 35	2 12	2 11	1 58	1 18	1 13	3 32
40	2 20	1 52	1 54	1 54	0 55	1 41	2 14	2 7	2 5	1 40	2 57	5 31
45	2 16	2 0	1 54	1 48	1 0	1 48	2 19	2 13	2 2	1 51	1 45	3 22
50	2 18	2 8	1 55	1 58	0 40	1 51	2 13	2 12	2 2	1 24	1 5	3 22
55	2 34	2 2	2 11	1 54	0 34	1 48	2 13	2 18	2 14	1 59	1 48	3 24

Vertical Intensity. 0.6100 (C.G.S.) +												
Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	60	45	52	51	61	31	56	62	71	-7	86	111
5	49	48	51	51	65	22	59	68	70	79	85	124
10	51	46	55	53	64	40	60	64	69	85	92	129
15	49	46	55	53	89	64	62	66	71	84	100	116
20	47	46	54	51	33	52	65	68	74	88	110	92
25	50	46	54	53	27	53	67	69	76	91	68	111
30	42	45	54	54	37	51	67	69	74	89	85	103
35	45	45	54	56	54	51	68	70	76	85	90	93
40	46	48	53	58	64	51	68	70	80	85	114	101
45	44	52	52	59	45	51	67	69	82	87	94	101
50	49	50	.	62	35	55	66	68	80	90	92	101
55	43	49	.	63	47	56	63	72	76	86	94	101

Auroral Observations.

None.

$\lambda = -115^{\circ} 43' 50'' = -7\text{h. } 42\text{m. } 55\text{s.}$

Göttingen Mean Time.

August 1, 1883.

Horizontal Intensity.

Noon.	1	2	3	4	5	6	7	8	9	10	11
544	710	620	699	517	274	454	653	704	695	771	779
546	728	612	703	510	302	454	653	697	703	757	804
534	749	656	718	551	283	302	651	687	672	777	843
612	759	676	698	555	377	527	637	703	681	812	843
644	743	706	706	510	437	517	658	703	722	804	869
628	687	695	712	457	454	519	663	703	743	814	822
610	664	674	722	452	398	595	668	683	714	820	81
653	643	679	706	495	444	607	670	666	706	802	784
658	635	703	647	540	444	628	645	684	703	816	786
686	591	701	643	517	496	630	632	716	735	818	708
693	570	706	609	472	472	615	649	705	775	810	777
724	597	703	565	431	476	645	687	695	771	808	782

Declination.

o	p	o	p	o	p	o	p	o	p	o	p	o	p
2 49	2 29	2 52	2 56	3 4	3 36	3 46	2 6	2 6	2 40	2 26	2 21	2 21	2 21
2 32	2 32	3 2	2 56	3 14	4 6	3 36	2 11	2 6	2 42	2 28	2 22	2 22	2 22
2 47	2 20	2 39	3 0	3 12	4 35	3 22	2 16	2 7	2 32	2 30	1 55	1 55	1 55
2 39	2 4	2 32	2 53	3 6	3 36	3 7	2 20	2 4	2 27	2 26	1 48	1 48	1 48
2 24	2 45	2 24	2 49	3 15	3 29	2 48	2 18	2 7	2 29	2 26	1 53	1 53	1 53
2 27	2 51	2 15	2 44	3 16	3 10	2 18	2 21	2 10	2 15	2 22	2 3	2 3	2 3
2 26	2 47	2 20	2 42	2 54	3 32	2 14	2 17	2 14	2 24	2 13	2 8	2 8	2 8
2 28	2 52	2 41	2 42	3 33	3 59	2 33	2 14	2 10	2 26	2 22	1 55	1 55	1 55
2 22	2 7	2 46	2 40	3 15	3 41	2 11	2 14	2 10	2 18	2 22	2 13	2 13	2 13
2 37	2 26	2 53	2 28	3 35	3 54	2 26	2 22	2 46	2 42	2 17	2 15	2 15	2 15
2 35	2 50	2 56	2 39	4 20	3 44	2 17	2 23	2 40	2 55	2 8	2 13	2 13	2 13
2 31	3 8	2 55	2 45	4 36	4 3	2 8	2 12	2 36	2 28	2 12	2 20	2 20	2 20

Vertical Intensity.

108	85	102	101	108	126	88	79	80	82	85	93
111	88	108	100	111	99	81	77	81	82	86	88
111	84	114	100	112	123	77	77	80	81	87	87
105	85	110	100	114	95	77	77	82	81	87	85
94	89	113	100	116	94	78	76	82	80	88	88
93	91	113	104	114	92	79	75	82	81	90	90
92	89	107	100	112	101	77	75	82	84	91	90
89	86	104	98	115	104	78	78	81	87	89	87
89	84	104	98	112	95	78	79	79	88	85	85
85	86	104	99	105	103	77	80	76	87	85	86
84	90	101	105	120	86	77	78	79	85	89	85
85	97	100	107	129	86	77	79	81	85	90	82

August 15, 1883.

 $\phi = + 62^{\circ} 38' 52''$.

Horizontal Intensity.

0.07000 (C.G.S.) +

Minutes.	Midnight.	1 a.m.	2	3	4	5	6	7	8	9	10	11
0	867	966	808	718	714	755	667	718	691	701	701	755
5	952	966	788	718	724	751	769	724	695	695	701	738
10	947	988	767	728	724	749	745	720	687	687	701	697
15	865	904	741	716	759	745	759	750	703	699	705	718
20	853	908	745	722	757	749	741	726	712	703	705	751
25	824	996	738	730	771	751	751	724	705	706	714	757
30	817	1,031	738	726	769	732	747	714	691	701	720	732
35	824	990	726	691	773	759	743	720	695	701	777	741
40	794	910	714	701	822	757	745	718	697	701	771	728
45	843	899	726	691	820	767	738	722	699	705	755	701
50	897	863	708	693	822	759	720	705	701	703	751	691
55	952	832	720	706	763	761	728	699	708	703	741	672

Declination.

39 +

	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ
0	25	0 48	0 59	1 3	1 7	1 4	1 10	1 17	1 12	1 18	1 18	1 5
5	31	0 50	1 2	1 2	1 2	1 8	1 8	1 15	1 11	1 17	1 17	1 8
10	1 4	0 47	1 3	1 3	1 1	1 8	1 9	1 15	1 10	1 17	1 18	1 18
15	1 6	0 52	1 8	1 3	0 55	1 12	1 4	1 13	1 11	1 16	1 18	1 9
20	1 2	0 49	1 6	1 3	0 56	1 16	1 8	1 11	1 13	1 17	1 18	1 1
25	1 0	0 48	1 5	1 8	0 58	1 23	1 10	1 10	1 16	1 18	1 14	0 50
30	48	0 52	1 4	1 1	0 58	1 22	1 6	1 10	1 15	1 16	1 16	0 54
35	58	0 55	1 6	1 12	0 59	1 22	1 6	1 10	1 12	1 16	1 4	1 0
40	49	1 7	1 0	1 9	1 2	1 16	1 7	1 10	1 14	1 18	0 59	1 11
45	42	0 56	1 4	1 11	1 6	1 14	1 10	1 11	1 13	1 14	1 0	1 24
50	44	0 53	1 4	1 1	1 0	1 14	1 11	1 11	1 14	1 16	1 6	1 23
55	54	0 58	1 4	1 7	1 7	1 9	1 14	1 13	1 6	1 18	1 4	1 18

Vertical Intensity.

0.6100 (C.G.S.) +

0	76	61	74	75	75	68	70	70	73	74	74	71
5	69	65	75	75	75	70	71	71	71	74	74	71
10	67	65	74	75	74	68	71	71	71	71	73	73
15	67	69	74	75	74	69	71	71	71	74	74	73
20	69	68	74	75	74	70	71	71	71	74	74	73
25	71	68	74	79	74	71	71	71	74	74	74	74
30	70	66	74	79	70	70	71	71	75	74	74	76
35	71	67	74	74	70	69	72	71	74	71	70	75
40	71	71	74	75	68	69	71	71	75	74	71	77
45	72	71	74	75	70	69	74	71	74	71	71	77
50	68	71	74	74	68	70	71	71	75	71	71	77
55	56	71	75	75	68	70	75	73	74	71	73	76

Auroral Observations.

None.

$\lambda = - 115^{\circ} 43' 50'' = - 7h. 42m. 55s.$

Göttingen Mean Time.

August 15, 1883.

Horizontal Intensity.

11	Noon.	1	2	3	4	5	6	7	8	9	10	11
-55	708	714	712	706	706	693	687	681	676	677	681	685
738	712	710	716	691	699	695	681	681	672	674	681	679
697	710	720	726	691	697	695	683	676	685	676	676	677
718	714	708	710	705	697	693	683	677	681	679	687	681
751	708	706	693	703	689	693	681	676	683	681	681	687
757	705	705	706	705	691	691	685	677	679	681	681	689
732	695	708	718	695	699	691	679	677	676	679	691	683
733	714	718	701	697	703	687	685	677	674	681	681	683
718	710	716	699	701	703	689	681	677	673	679	685	683
703	701	710	705	706	705	689	677	676	679	685	681	687
691	693	716	705	701	699	687	681	679	677	697	685	687
672	714	722	705	706	687	683	679	676	683	687	685	689

Declination.

1 5	1 18	1 28	1 30	1 41	1 40	1 55	1 33	1 10	1 9	1 9	1 11	1 14
1 8	1 16	1 30	1 39	1 46	1 38	1 33	1 24	1 13	1 11	1 8	1 11	1 12
1 15	1 14	1 29	1 30	1 42	1 37	1 32	1 22	1 15	1 11	1 9	1 10	1 12
1 1	1 16	1 31	1 35	1 37	1 37	1 31	1 20	1 12	1 12	1 9	1 13	1 12
0 50	1 23	1 34	1 40	1 39	1 35	1 28	1 21	1 12	1 10	1 8	1 14	1 12
0 54	1 24	1 37	1 38	1 38	1 38	1 22	1 18	1 11	1 10	1 9	1 12	1 11
1 0	1 28	1 36	1 36	1 38	1 36	1 29	1 23	1 10	1 11	1 10	1 14	1 11
1 11	1 14	1 34	1 39	1 38	1 36	1 29	1 17	1 10	1 11	1 8	1 15	1 14
1 21	1 24	1 29	1 40	1 39	1 35	1 28	1 17	1 10	1 12	1 9	1 11	1 14
1 21	1 25	1 26	1 40	1 40	1 35	1 26	1 16	1 10	1 10	1 12	1 14	1 14
1 23	1 32	1 22	1 41	1 41	1 31	1 26	1 13	1 11	1 12	1 11	1 14	1 11
1 18	1 29	1 26	1 40	1 39	1 36	1 21	1 12	1 11	1 12	1 12	1 14	1 14

Vertical Intensity.

73	75	75	76	75	74	74	75	75	75	75	75	75
74	76	76	76	74	74	74	75	74	75	75	74	74
73	75	76	77	74	74	74	74	75	76	75	74	74
71	77	76	77	74	74	74	74	75	75	74	75	74
73	76	77	77	74	74	74	75	75	75	74	75	74
74	76	76	76	75	74	74	75	75	75	74	75	74
76	76	76	76	74	74	74	75	75	75	74	74	74
75	75	76	75	74	74	74	76	75	75	74	75	74
77	76	76	75	74	74	74	75	75	75	74	74	74
77	76	76	75	74	74	75	74	75	75	75	75	74
77	76	76	75	74	74	75	75	75	74	75	75	74
76	75	76	74	71	74	74	74	75	74	75	74	74

40 +

Readings of Declinometer at 20 second intervals.

Commencing the 15th day of September 1882, at 3 p.m., Göttingen Mean Time.

Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.
Min. Sec.	°	Min. Sec.	°	Min. Sec.	°	Min. Sec.	°	Min. Sec.	°	Min. Sec.	°
0	0	31	9	40	50	19	20	48	29	0	49
0	20	51	10	0	50	40	40	48	20	50	38
0	40	51	20	0	50	20	0	48	40	51	39
1	0	51	40	0	50	20	20	48	30	0	51
1	20	50	20	0	50	40	40	48	20	50	40
1	40	50	20	0	50	21	0	47	40	50	40
2	0	50	40	0	50	20	20	47	34	0	50
2	20	51	12	0	50	40	40	47	20	50	41
2	40	50	20	0	50	22	0	47	40	50	40
3	0	51	40	0	49	20	20	46	32	0	50
3	20	51	20	0	49	40	40	46	20	49	42
3	40	50	0	0	48	23	0	47	40	49	25
4	0	51	40	0	48	20	20	47	33	0	49
4	20	52	0	0	48	40	40	47	20	50	43
4	40	52	20	0	48	24	0	47	40	50	20
5	0	52	40	0	48	20	20	47	34	0	50
5	20	52	20	0	48	40	40	46	20	49	44
5	40	51	0	0	48	25	0	46	10	50	20
6	0	50	20	0	48	40	40	46	35	0	49
6	20	50	0	0	48	20	20	46	20	49	45
6	40	50	20	0	49	26	0	46	40	49	20
7	0	50	40	0	48	20	20	47	36	0	51
7	20	50	20	0	47	40	40	48	20	50	46
7	40	50	0	0	47	27	0	49	40	50	20
8	0	50	20	0	47	20	20	49	37	0	50
8	20	50	0	0	47	40	40	49	20	49	47
8	40	51	20	0	48	28	0	49	40	49	20
9	0	50	40	0	48	20	20	49	38	0	49
9	20	50	20	0	48	40	40	49	20	50	40

40° +

Commencing the 1st day of October 1882, at 4 p.m., Göttingen Mean Time.

Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.
Min. Sec.	°	Min. Sec.	°	Min. Sec.	°	Min. Sec.	°	Min. Sec.	°	Min. Sec.	°
0	0	44	6	40	46	13	20	46	20	0	44
0	20	43	7	0	45	40	40	46	20	44	27
0	40	43	20	0	45	14	0	46	40	44	20
1	0	42	40	0	46	20	20	46	21	0	43
1	20	41	8	0	46	40	40	46	20	44	28
1	40	41	20	0	46	15	0	46	20	40	44
2	0	42	40	0	47	20	20	46	22	0	44
2	20	42	20	0	46	40	40	46	20	44	29
2	40	43	0	0	47	16	0	47	10	44	20
3	0	44	20	0	46	40	20	47	23	0	44
3	20	45	10	0	46	20	40	47	20	43	30
3	40	44	20	0	46	17	0	48	40	44	20
4	0	43	40	0	45	20	20	48	24	0	44
4	20	42	20	0	46	40	40	48	20	43	31
4	40	42	0	0	46	18	0	47	40	43	20
5	0	42	40	0	46	20	20	46	25	0	44
5	20	43	20	0	47	40	40	46	20	44	32
5	40	44	0	0	46	19	0	44	40	43	20
6	0	45	40	0	46	20	20	44	26	0	43
6	20	45	20	0	46	40	40	44	20	43	33

40 +

Readings of Declinometer at 20 second intervals.

Commencing the 15th day of *October* 1882, at 5 p.m., Göttingen Mean Time.

Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	
Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	
0	0	1 27	0	2 4	0	1 3	0	0 47	0	0 43	0	0 21
0	20	1 27	20	2 0	20	1 5	20	0 45	20	0 43	20	0 21
1	0	1 28	0	1 26	0	1 3	0	0 42	0	0 40	0	0 19
1	20	1 28	20	1 24	20	1 1	20	0 42	20	0 40	20	0 19
2	0	1 27	0	1 26	0	0 57	0	0 40	0	0 38	0	0 18
2	20	1 24	20	1 23	20	0 55	20	0 39	20	0 37	20	0 18
2	40	1 21	40	1 20	40	0 53	40	0 39	40	0 37	40	0 18
3	0	1 20	0	1 19	0	0 51	0	0 38	0	0 36	0	0 17
3	20	1 22	20	1 21	20	0 49	20	0 38	20	0 36	20	0 17
3	40	1 23	40	1 22	40	0 47	40	0 38	40	0 36	40	0 17
4	0	1 28	0	1 27	0	0 50	0	0 42	0	0 40	0	0 18
4	20	1 32	20	1 28	20	0 49	20	0 42	20	0 40	20	0 18
4	40	1 35	40	1 26	40	0 50	40	0 42	40	0 40	40	0 18
5	0	1 40	0	1 26	0	0 49	0	0 41	0	0 39	0	0 18
5	20	1 43	20	1 26	20	0 50	20	0 41	20	0 39	20	0 18
5	40	1 53	40	1 24	40	0 49	40	0 40	40	0 38	40	0 18
6	0	2 0	0	1 20	0	0 48	0	0 38	0	0 36	0	0 17
6	20	2 6	20	1 18	20	0 48	20	0 38	20	0 36	20	0 17
6	40	2 12	40	1 16	40	0 48	40	0 39	40	0 37	40	0 17
7	0	2 14	0	1 16	0	0 47	0	0 42	0	0 40	0	0 18
7	20	2 17	20	1 14	20	0 47	20	0 41	20	0 39	20	0 18
7	40	2 17	40	1 16	40	0 48	40	0 41	40	0 39	40	0 18
8	0	2 13	0	1 13	0	0 48	0	0 40	0	0 38	0	0 18
8	20	2 16	20	1 11	20	0 48	20	0 40	20	0 38	20	0 18
8	40	2 13	40	1 18	40	0 50	40	0 40	40	0 38	40	0 18
9	0	2 15	0	1 8	0	0 50	0	0 47	0	0 45	0	0 19
9	20	2 12	20	1 5	20	0 50	20	0 46	20	0 44	20	0 19
9	40	2 9	40	1 6	40	0 48	40	0 44	40	0 42	40	0 19

40 +

Commencing the 1st day of *November* 1882, at 6 p.m., Göttingen Mean Time.

Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	
Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	
0	0	34	0	34	0	38	0	34	0	36	0	29
0	20	32	20	33	20	37	20	34	20	36	20	27
0	40	32	40	33	40	36	40	34	40	36	40	28
1	0	32	0	33	0	34	0	34	0	35	0	30
1	20	33	20	34	20	30	20	34	20	36	20	32
1	40	33	40	36	40	28	40	33	40	36	40	32
2	0	34	0	36	0	24	0	33	0	35	0	31
2	20	33	20	36	20	23	20	33	20	34	20	31
2	40	33	40	35	40	22	40	32	40	33	40	31
3	0	34	0	34	0	23	0	32	0	33	0	31
3	20	34	20	34	20	24	20	32	20	34	20	30
3	40	33	40	33	40	25	40	33	40	32	40	28
4	0	32	0	32	0	25	0	33	0	31	0	28
4	20	34	20	32	20	26	20	34	20	30	20	27
4	40	34	40	32	40	25	40	33	40	30	40	25
5	0	33	0	32	0	23	0	33	0	35	0	35
5	20	34	20	32	20	26	20	33	20	34	20	34
5	40	33	40	33	40	27	40	32	40	31	40	24
6	0	33	0	34	0	28	0	33	0	32	0	25
6	20	32	20	32	20	28	20	34	20	34	20	23
6	40	30	40	30	40	28	40	32	40	34	40	24
7	0	30	0	29	0	30	0	33	0	35	0	25
7	20	30	20	29	20	32	20	33	20	34	20	25
7	40	28	40	30	40	34	40	34	40	35	40	24
8	0	27	0	23	0	28	0	34	0	35	0	24
8	20	28	20	34	20	34	20	34	20	36	20	24
8	40	30	40	36	40	34	40	34	40	35	40	28
9	0	28	0	28	0	34	0	35	0	34	0	31
9	20	30	20	39	20	34	20	34	20	33	20	35
9	40	32	40	39	40	34	40	34	40	31	40	34

40° 4

Readings of Declinometer at 20 second intervals.

Commencing the 15th day November 1882, at 7 pm., Göttingen Mean Time.

Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.
Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°
0	0	42	10	0	38	20	0	37	30	0	26	40	0	32
0	20	42	10	20	34	20	20	37	30	20	29	40	20	39
0	40	41	10	40	32	20	40	38	30	40	29	40	40	26
1	0	42	11	0	33	21	0	40	31	0	30	41	0	23
1	20	44	11	20	33	21	20	42	31	20	29	41	20	22
1	40	42	11	40	33	21	40	42	31	40	29	41	40	22
2	0	38	12	0	34	22	0	39	32	0	28	42	0	21
2	20	38	12	20	35	22	20	36	32	20	26	42	20	21
2	40	40	12	40	36	22	40	32	32	40	26	42	40	21
3	0	44	13	0	37	23	0	33	33	0	25	43	0	19
3	20	45	13	20	37	23	20	36	33	20	26	43	20	19
3	40	45	13	40	36	23	40	38	33	40	27	43	40	20
4	0	43	14	0	38	24	0	39	34	0	28	44	0	24
4	20	40	14	20	35	24	20	40	34	20	30	44	20	26
4	40	38	14	40	34	24	40	39	34	40	31	44	40	26
5	0	36	15	0	34	25	0	34	35	0	35	45	0	20
5	20	33	15	20	33	25	20	40	35	20	36	45	20	27
5	40	32	15	40	32	25	40	40	35	40	36	45	40	24
6	0	28	16	0	32	26	0	39	36	0	33	46	0	22
6	20	26	16	20	34	26	20	39	36	20	32	46	20	20
6	40	25	16	40	34	26	40	39	36	40	32	46	40	18
7	0	25	17	0	35	27	0	38	37	0	22	47	0	18
7	20	28	17	20	36	27	20	38	37	20	29	47	20	19
7	40	30	17	40	35	27	40	40	37	40	24	47	40	20
8	0	26	18	0	35	28	0	33	38	0	25	48	0	21
8	20	40	18	20	34	28	20	32	38	20	29	48	20	24
8	40	44	18	40	36	28	40	30	38	40	32	48	40	26
9	0	44	19	0	36	29	0	27	39	0	35	49	0	26
9	20	42	19	20	36	29	20	25	39	20	36	49	20	25
9	40	40	19	40	36	29	40	25	39	40	35	49	40	24

40° 4

Commencing the 1st day of December 1882, at 8 pm., Göttingen Mean Time.

Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.
Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°
0	0	19	10	0	20	20	0	24	30	0	24	40	0	24
0	20	19	10	20	20	20	20	24	30	20	24	40	20	23.5
0	40	19	10	40	20	20	40	24	30	40	24.5	40	40	23.5
1	0	19	11	0	20	21	0	24	31	0	25	41	0	23
1	20	19	11	20	20	21	20	23.5	31	20	25	41	20	23
1	40	19	11	40	20	21	40	23.5	31	40	25	41	40	23
2	0	20	12	0	20	22	0	23.5	32	0	24.5	42	0	23.5
2	20	20	12	20	20	22	20	23.5	32	20	24.5	42	20	23.5
2	40	20	12	40	21	22	40	23.5	32	40	24	42	40	23.5
3	0	20	13	0	21	23	0	23	33	0	24	43	0	23.5
3	20	20	13	20	21	23	20	23	33	20	24	43	20	24
3	40	20	13	40	21	23	40	23	33	40	24	43	40	24
4	0	20	14	0	21	24	0	22.5	34	0	23.5	44	0	23.5
4	20	20	14	20	21	24	20	22.5	34	20	23	44	20	24
4	40	20	14	40	22	24	40	22	34	40	23	44	40	24
5	0	20	15	0	22	25	0	22	35	0	23	45	0	23.5
5	20	20	15	20	22	25	20	22	35	20	23	45	20	24
5	40	20	15	40	22	25	40	22	35	40	23	45	40	23
6	0	20	16	0	22	26	0	22	36	0	23	46	0	23
6	20	20	16	20	22	26	20	22	36	20	23	46	20	23
6	40	20	16	40	22	26	40	22	36	40	23	46	40	23
7	0	20	17	0	22	27	0	22.5	37	0	23.5	47	0	23
7	20	20	17	20	22	27	20	22.5	37	20	24	47	20	24
7	40	20	17	40	23	27	40	23	37	40	24	47	40	24
8	0	20	18	0	24	28	0	23	38	0	24	48	0	23.5
8	20	20	18	20	25	28	20	23	38	20	24	48	20	26
8	40	20	18	40	25	28	40	23.5	38	40	24	48	40	25.5
9	0	20	19	0	24.5	29	0	23.5	39	0	24.5	49	0	24
9	20	20	19	20	24.5	29	20	24	39	20	24.5	49	20	24
9	40	20	19	40	24	29	40	24	39	40	24	49	40	26

40° +

Readings of Declinometer at 20 second intervals.

Commencing the 15th day of December 1882, at 9 p.m., Göttingen Mean Time.

Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.
Min. Sec.	°	Min. Sec.	°	Min. Sec.	°	Min. Sec.	°	Min. Sec.	°	Min. Sec.	°
0 0	32	10 0	32	20 0	34	30 0	27	40 0	24	50 0	20
0 20	32	10 20	31	20 20	34	30 20	27	40 20	23	50 20	21
0 40	33	10 40	29	20 40	35	30 40	27	40 40	23	50 40	21
1 0	33	11 0	28	21 0	35	31 0	28	41 0	24	51 0	21
1 20	34	11 20	29	21 20	35	31 20	27	41 20	24	51 20	21
1 40	34	11 40	30	21 40	33	31 40	26	41 40	24	51 40	21
2 0	35	12 0	30	22 0	33	32 0	26	42 0	23	52 0	22
2 20	35	12 20	31	22 20	33	32 20	26	42 20	24	52 20	21
2 40	32	12 40	31	22 40	34	32 40	26	42 40	24	52 40	21
3 0	31	13 0	31	23 0	35	33 0	26	43 0	23	53 0	20
3 20	30	13 20	31	23 20	35	33 20	26	43 20	23	53 20	20
3 40	30	13 40	31	23 40	34	33 40	26	43 40	23	53 40	20
4 0	29	14 0	32	24 0	34	34 0	26	44 0	22	54 0	19
4 20	29	14 20	34	24 20	34	34 20	26	44 20	24	54 20	19
4 40	30	14 40	35	24 40	34	34 40	25	44 40	24	54 40	18
5 0	30	15 0	37	25 0	33	35 0	26	45 0	26	55 0	18
5 20	31	15 20	37	25 20	32	35 20	26	45 20	25	55 20	18
5 40	32	15 40	38	25 40	31	35 40	25	45 40	24	55 40	18
6 0	33	16 0	38	26 0	30	36 0	26	46 0	23	56 0	18
6 20	31	16 20	37	26 20	29	36 20	26	46 20	21	56 20	16
6 40	31	16 40	36	26 40	28	36 40	26	46 40	21	56 40	15
7 0	32	17 0	33	27 0	28	37 0	26	47 0	22	57 0	14
7 20	32	17 20	32	27 20	28	37 20	26	47 20	23	57 20	14
7 40	32	17 40	32	27 40	28	37 40	26	47 40	24	57 40	14
8 0	33	18 0	31	28 0	28	38 0	25	48 0	24	58 0	14
8 20	33	18 20	32	28 20	28	38 20	25	48 20	23	58 20	14
8 40	34	18 40	32	28 40	28	38 40	25	48 40	23	58 40	14
9 0	33	19 0	33	29 0	28	39 0	24	49 0	23	59 0	14
9 20	33	19 20	33	29 20	27	39 20	24	49 20	22	59 20	15
9 40	32	19 40	33	29 40	28	39 40	24	49 40	22	59 40	14

40 +

Commencing the 2nd day of January 1883, at 10 p.m., Göttingen Mean Time.

Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.
Min. Sec.	°	Min. Sec.	°	Min. Sec.	°	Min. Sec.	°	Min. Sec.	°	Min. Sec.	°
0 0	8	10 0	12	20 0	12	30 0	22	40 0	21	50 0	18
0 20	14	10 20	10	20 20	12	30 20	21	40 20	20	50 20	17.5
0 40	13	10 40	11	20 40	10	30 40	20	40 40	19.5	50 40	17
1 0	12.5	11 0	10.5	21 0	10.5	31 0	18	41 0	19.5	51 0	16
1 20	12.5	11 20	11	21 20	8	31 20	16	41 20	19.8	51 20	16
1 40	13	11 40	10	21 40	10	31 40	16	41 40	19.5	51 40	16
2 0	11.5	12 0	10	22 0	10	32 0	16	42 0	18	52 0	15
2 20	11	12 20	9.5	22 20	9.5	32 20	16	42 20	16.5	52 20	15
2 40	10.5	12 40	9.5	22 40	8	32 40	15.5	42 40	16	52 40	16
3 0	10.5	13 0	9	23 0	8	33 0	15.5	43 0	16.5	53 0	16
3 20	9.5	13 20	9	23 20	7	33 20	15	43 20	16	53 20	16
3 40	9.5	13 40	8.5	23 40	8	33 40	15	43 40	17	53 40	16
4 0	10	14 0	9	24 0	8	34 0	16	44 0	17	54 0	18
4 20	10	14 20	11	24 20	8	34 20	15.5	44 20	16	54 20	17.5
4 40	9.5	14 40	10	24 40	7.5	34 40	14.5	44 40	16	54 40	18
5 0	10	15 0	10	25 0	6	35 0	15.5	45 0	18	55 0	18
5 20	8.5	15 20	9	25 20	7	35 20	14	45 20	18	55 20	19.5
5 40	8.5	15 40	9.5	25 40	8.5	35 40	14.5	45 40	16.5	55 40	19.5
6 0	8	16 0	10.5	26 0	8.5	36 0	16	46 0	16	56 0	18.5
6 20	8	16 20	10	26 20	9.5	36 20	16	46 20	17	56 20	18
6 40	7	16 40	11	26 40	11	36 40	17.5	46 40	18	56 40	18
7 0	7.5	17 0	10	27 0	14.5	37 0	16	47 0	17	57 0	20
7 20	7	17 20	12	27 20	15.5	37 20	18	47 20	16	57 20	20
7 40	7.5	17 40	10	27 40	16	37 40	18	47 40	17.5	57 40	20
8 0	7.5	18 0	12	28 0	18	38 0	17	48 0	18	58 0	19.5
8 20	8	18 20	12	28 20	20	38 20	17.5	48 20	18.5	58 20	19.5
8 40	9	18 40	12	28 40	20	38 40	19.5	48 40	18	58 40	17
9 0	8.5	19 0	12	29 0	22	39 0	20.5	49 0	17	59 0	17.5
9 20	10	19 20	12	29 20	21	39 20	20	49 20	18	59 20	18
9 40	9	19 40	12	29 40	21	39 40	19.5	49 40	18.5	59 40	17

39° +

Readings of Declinometer at 20 second intervals.

Commencing the 15th day of *January* 1883, at 11 p.m., Göttingen Mean Time.

Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.
Min.	Sec.	Min.	Sec.	Min.	Sec.	Min.	Sec.	Min.	Sec.	Min.	Sec.
0	0	10	0	20	0	30	0	40	0	50	0
0	20	10	20	20	20	30	20	40	20	50	20
1	0	11	0	21	0	31	0	41	0	51	0
1	20	11	20	21	20	31	20	41	20	51	20
1	40	11	40	21	40	31	40	41	40	51	40
2	0	12	0	22	0	32	0	42	0	52	0
2	20	12	20	22	20	32	20	42	20	52	20
2	40	12	40	22	40	32	40	42	40	52	40
3	0	13	0	23	0	33	0	43	0	53	0
3	20	13	20	23	20	33	20	43	20	53	20
3	40	13	40	23	40	33	40	43	40	53	40
4	0	14	0	24	0	34	0	44	0	54	0
4	20	14	20	24	20	34	20	44	20	54	20
4	40	14	40	24	40	34	40	44	40	54	40
5	0	15	0	25	0	35	0	45	0	55	0
5	20	15	20	25	20	35	20	45	20	55	20
5	40	15	40	25	40	35	40	45	40	55	40
6	0	16	0	26	0	36	0	46	0	56	0
6	20	16	20	26	20	36	20	46	20	56	20
6	40	16	40	26	40	36	40	46	40	56	40
7	0	17	0	27	0	37	0	47	0	57	0
7	20	17	20	27	20	37	20	47	20	57	20
7	40	17	40	27	40	37	40	47	40	57	40
8	0	18	0	28	0	38	0	48	0	58	0
8	20	18	20	28	20	38	20	48	20	58	20
8	40	18	40	28	40	38	40	48	40	58	40
9	0	19	0	29	0	39	0	49	0	59	0
9	20	19	20	29	20	39	20	49	20	59	20
9	40	19	40	29	40	39	40	49	40	59	40

39° +

Commencing the 1st day of *February* 1883, at Midnight, Göttingen Mean Time.

Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.
Min.	Sec.	Min.	Sec.	Min.	Sec.	Min.	Sec.	Min.	Sec.	Min.	Sec.
0	0	10	0	20	0	30	0	40	0	50	0
0	20	10	20	20	20	30	20	40	20	50	20
1	0	11	0	21	0	31	0	41	0	51	0
1	20	11	20	21	20	31	20	41	20	51	20
1	40	11	40	21	40	31	40	41	40	51	40
2	0	12	0	22	0	32	0	42	0	52	0
2	20	12	20	22	20	32	20	42	20	52	20
2	40	12	40	22	40	32	40	42	40	52	40
3	0	13	0	23	0	33	0	43	0	53	0
3	20	13	20	23	20	33	20	43	20	53	20
3	40	13	40	23	40	33	40	43	40	53	40
4	0	14	0	24	0	34	0	44	0	54	0
4	20	14	20	24	20	34	20	44	20	54	20
4	40	14	40	24	40	34	40	44	40	54	40
5	0	15	0	25	0	35	0	45	0	55	0
5	20	15	20	25	20	35	20	45	20	55	20
5	40	15	40	25	40	35	40	45	40	55	40
6	0	16	0	26	0	36	0	46	0	56	0
6	20	16	20	26	20	36	20	46	20	56	20
6	40	16	40	26	40	36	40	46	40	56	40
7	0	17	0	27	0	37	0	47	0	57	0
7	20	17	20	27	20	37	20	47	20	57	20
7	40	17	40	27	40	37	40	47	40	57	40
8	0	18	0	28	0	38	0	48	0	58	0
8	20	18	20	28	20	38	20	48	20	58	20
8	40	18	40	28	40	38	40	48	40	58	40
9	0	19	0	29	0	39	0	49	0	59	0
9	20	19	20	29	20	39	20	49	20	59	20
9	40	19	40	29	40	39	40	49	40	59	40

40° +

Readings of Declinometer at 20 second intervals.

Commencing the 15th day of February 1883, at 1 a.m., Göttingen Mean Time.

Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.
Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°
0	0	12° 5'	10	0	8° 5'	20	0	9° 8'	30	0	13° 5'	40	0	17° 5'
0	20	12° 0'	20	0	8° 5'	20	20	10° 0'	40	0	13° 8'	40	20	17° 3'
1	0	11° 8'	40	0	8° 5'	40	0	10° 3'	40	40	14° 0'	40	40	17° 3'
1	20	12° 0'	11	0	8° 8'	21	0	10° 5'	31	0	14° 2'	41	0	17° 3'
1	40	11° 8'	20	0	9° 0'	20	20	11° 5'	20	20	15° 2'	20	20	17° 0'
1	0	9° 5'	40	0	9° 8'	40	0	11° 8'	40	40	15° 8'	40	40	17° 0'
1	20	8° 0'	12	0	9° 8'	22	0	12° 0'	32	0	16° 0'	42	0	17° 0'
1	40	11° 8'	20	0	9° 8'	20	20	12° 0'	40	0	16° 5'	40	20	17° 0'
1	0	11° 5'	40	0	10° 0'	40	0	12° 0'	40	40	17° 0'	40	40	17° 5'
1	20	11° 0'	13	0	10° 3'	23	0	12° 0'	33	0	17° 5'	43	0	17° 5'
1	40	10° 5'	40	0	10° 3'	20	20	12° 5'	20	20	17° 8'	43	20	17° 5'
1	0	10° 3'	14	0	10° 3'	24	0	13° 3'	40	0	18° 0'	40	40	17° 5'
1	20	10° 0'	20	0	10° 3'	20	20	13° 0'	34	0	18° 0'	44	0	17° 5'
1	40	10° 0'	40	0	10° 5'	40	0	13° 5'	40	40	17° 5'	40	40	17° 5'
1	0	10° 0'	15	0	10° 5'	25	0	13° 8'	35	0	17° 8'	45	0	17° 5'
1	20	10° 3'	20	0	10° 5'	20	20	13° 8'	20	20	17° 8'	20	20	17° 0'
1	40	10° 3'	40	0	10° 5'	40	0	14° 0'	40	40	17° 8'	40	40	17° 0'
1	0	10° 0'	16	0	10° 8'	26	0	14° 0'	36	0	17° 5'	46	0	16° 5'
1	20	10° 0'	20	0	10° 5'	20	20	14° 0'	20	20	17° 5'	20	20	16° 3'
1	40	9° 8'	40	0	10° 0'	40	0	14° 0'	40	40	17° 5'	40	40	16° 0'
1	0	9° 5'	17	0	10° 0'	27	0	13° 8'	37	0	17° 5'	47	0	15° 8'
1	20	9° 5'	20	0	10° 0'	20	20	13° 5'	20	20	17° 5'	20	20	15° 5'
1	40	9° 5'	40	0	9° 8'	40	0	13° 5'	40	40	17° 5'	40	40	15° 5'
1	0	9° 5'	18	0	9° 8'	28	0	13° 0'	38	0	17° 8'	48	0	15° 8'
1	20	9° 8'	20	0	10° 0'	20	20	12° 8'	20	20	18° 0'	20	20	14° 3'
1	40	9° 5'	40	0	10° 0'	40	0	12° 8'	40	40	18° 0'	40	40	14° 3'
1	0	9° 0'	19	0	9° 8'	29	0	13° 0'	39	0	17° 8'	49	0	14° 0'
1	20	8° 5'	20	0	9° 8'	20	20	13° 0'	20	20	17° 8'	20	20	15° 0'
1	40	8° 5'	40	0	9° 8'	40	0	13° 2'	40	40	17° 5'	40	40	14° 5'

40° +

Commencing the 1st day of March 1883, at 2 a.m., Göttingen Mean Time.

Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.
Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°
0	0	12° 0'	10	0	11° 0'	20	0	8° 8'	30	0	8° 0'	40	0	18° 0'
0	20	12° 0'	20	0	12° 0'	20	20	8° 5'	20	20	9° 5'	20	20	20° 0'
1	0	11° 0'	40	0	11° 5'	40	0	9° 0'	40	40	10° 0'	40	40	19° 5'
1	20	9° 0'	11	0	11° 8'	21	0	8° 0'	31	0	11° 0'	41	0	17° 0'
1	40	7° 8'	20	0	10° 5'	20	20	6° 0'	20	20	9° 8'	20	20	20° 0'
1	0	7° 0'	40	0	10° 3'	40	0	4° 0'	40	40	9° 5'	40	40	22° 0'
1	20	6° 5'	13	0	12° 0'	22	0	4° 0'	32	0	8° 5'	42	0	22° 0'
1	40	5° 0'	20	0	12° 0'	20	20	6° 0'	20	20	9° 0'	20	20	22° 3'
1	0	4° 0'	40	0	11° 8'	40	0	6° 5'	40	40	10° 0'	40	40	22° 3'
1	20	5° 0'	13	0	12° 3'	23	0	5° 0'	33	0	13° 0'	43	0	19° 5'
1	40	5° 0'	20	0	10° 0'	20	20	5° 8'	20	20	17° 0'	20	20	21° 0'
1	0	5° 5'	40	0	9° 5'	40	0	4° 3'	40	40	19° 0'	40	40	20° 0'
1	20	7° 5'	14	0	8° 0'	24	0	2° 0'	34	0	20° 0'	44	0	12° 0'
1	40	9° 0'	20	0	8° 1'	20	20	1° 3'	20	20	20° 5'	40	20	23° 0'
1	0	10° 0'	40	0	8° 3'	40	0	2° 0'	40	40	17° 0'	40	40	22° 0'
1	20	9° 8'	15	0	9° 5'	25	0	1° 8'	35	0	14° 0'	45	0	20° 0'
1	40	10° 3'	20	0	10° 5'	20	20	2° 0'	20	20	12° 0'	20	20	19° 0'
1	0	11° 0'	40	0	10° 1'	40	0	2° 0'	40	40	13° 0'	40	40	20° 0'
1	20	7° 5'	16	0	11° 3'	26	0	1° 5'	36	0	15° 5'	46	0	20° 0'
1	40	10° 0'	20	0	12° 0'	20	20	3° 8'	20	20	8° 5'	20	20	10° 0'
1	0	10° 8'	40	0	12° 5'	40	0	3° 0'	40	40	10° 0'	40	40	20° 0'
1	20	12° 0'	17	0	11° 0'	27	0	3° 0'	37	0	11° 0'	47	0	20° 0'
1	40	11° 0'	20	0	11° 0'	20	20	3° 5'	20	20	12° 0'	20	20	21° 5'
1	0	11° 5'	40	0	10° 8'	40	0	7° 0'	40	40	16° 0'	40	40	24° 0'
1	20	13° 0'	18	0	10° 5'	28	0	12° 0'	38	0	17° 0'	48	0	18° 0'
1	40	14° 5'	20	0	9° 5'	20	20	12° 0'	20	20	18° 0'	20	20	22° 0'
1	0	14° 1'	40	0	8° 5'	40	0	12° 1'	40	40	15° 8'	40	40	21° 0'
1	20	14° 0'	19	0	8° 0'	29	0	12° 0'	39	0	15° 0'	49	0	19° 5'
1	40	14° 0'	20	0	9° 0'	20	20	10° 5'	20	20	14° 0'	20	20	19° 5'
1	0	13° 8'	40	0	9° 8'	40	0	8° 0'	40	40	14° 0'	40	40	18° 5'

40° +

Readings of Declinometer at 20 second intervals.

Commencing the 15th day of *March* 1883, at 3 a.m., Göttingen Mean Time.

Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.
Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "
0	0	12° 0	10	0	10° 5	20	0	11° 0	30	0	8° 3
20	0	12° 3	20	0	10° 0	20	0	10° 0	40	0	8° 0
40	0	12° 0	40	0	10° 0	40	0	8° 0	40	0	5° 5
1	0	12° 0	11	0	10° 0	21	0	6° 5	31	0	7° 8
20	0	11° 8	20	0	10° 0	20	0	5° 0	20	0	7° 5
40	0	10° 5	40	0	10° 5	40	0	4° 5	40	0	5° 5
2	0	10° 5	12	0	10° 5	22	0	6° 0	32	0	6° 8
20	0	10° 0	20	0	10° 0	20	0	6° 5	20	0	6° 2
40	0	9° 8	40	0	10° 0	40	0	7° 5	40	0	6° 2
3	0	9° 8	13	0	10° 0	23	0	8° 5	33	0	6° 0
20	0	10° 0	20	0	9° 8	20	0	10° 0	20	0	6° 3
40	0	10° 0	40	0	10° 0	40	0	10° 5	40	0	6° 3
4	0	10° 5	14	0	10° 5	24	0	11° 5	34	0	6° 0
20	0	11° 3	20	0	11° 3	20	0	11° 0	20	0	6° 0
40	0	11° 5	40	0	12° 0	40	0	10° 3	40	0	6° 5
5	0	11° 8	15	0	12° 5	25	0	10° 0	35	0	6° 5
20	0	11° 8	20	0	12° 3	20	0	9° 5	20	0	6° 3
40	0	11° 5	40	0	12° 0	40	0	8° 5	40	0	6° 2
6	0	10° 5	16	0	11° 5	26	0	7° 8	36	0	6° 5
20	0	10° 0	20	0	11° 0	20	0	7° 5	20	0	6° 5
40	0	9° 0	40	0	10° 0	40	0	7° 5	40	0	6° 3
7	0	9° 0	17	0	9° 8	27	0	8° 0	37	0	6° 0
20	0	9° 0	20	0	9° 5	20	0	8° 3	20	0	6° 0
40	0	9° 8	40	0	9° 5	40	0	8° 3	40	0	6° 0
8	0	10° 0	18	0	9° 8	28	0	8° 5	38	0	6° 0
20	0	11° 0	20	0	10° 5	20	0	8° 3	20	0	5° 8
40	0	11° 0	40	0	11° 5	40	0	9° 0	40	0	5° 5
9	0	12° 0	19	0	12° 3	29	0	9° 0	39	0	5° 0
20	0	11° 0	20	0	12° 3	20	0	8° 5	20	0	4° 5
40	0	10° 5	40	0	12° 0	40	0	8° 3	40	0	4° 5

39° +

Commencing the 1st day of *April* 1883, at 4 a.m., Göttingen Mean Time.

Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.
Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "	Min. Sec.	° ' "
0	0	1 6° 0	10	0	1 0° 0	20	0	1 3° 8	30	0	1 6° 0
20	0	1 5° 8	20	0	1 0° 0	20	0	1 3° 8	20	0	1 2° 0
40	0	1 6° 0	40	0	1 0° 3	40	0	1 2° 0	40	0	1 2° 3
1	0	1 6° 3	11	0	1 0° 0	21	0	1 1° 0	31	0	1 4° 5
20	0	1 6° 0	20	0	1 0° 5	20	0	1 1° 0	20	0	1 6° 0
40	0	1 5° 8	40	0	1 0° 3	40	0	1 2° 0	40	0	1 5° 8
2	0	1 5° 5	12	0	1 0° 0	22	0	1 2° 5	32	0	1 4° 0
20	0	1 5° 3	20	0	1 0° 3	20	0	1 4° 0	20	0	1 4° 0
40	0	1 5° 0	40	0	1 0° 0	40	0	1 5° 0	40	0	1 5° 0
3	0	1 5° 0	13	0	1 0° 0	23	0	1 5° 0	33	0	1 5° 0
20	0	1 6° 0	20	0	1 1° 0	20	0	1 5° 0	20	0	1 6° 0
40	0	1 5° 5	40	0	1 1° 0	40	0	1 5° 0	40	0	1 7° 0
4	0	1 5° 0	14	0	1 0° 8	24	0	1 5° 3	34	0	1 5° 0
20	0	1 4° 5	20	0	1 1° 3	20	0	1 6° 0	20	0	1 5° 0
40	0	1 4° 0	40	0	1 1° 0	40	0	1 6° 5	40	0	1 5° 0
5	0	1 3° 8	15	0	1 2° 0	25	0	1 6° 0	35	0	1 4° 0
20	0	1 5° 0	20	0	1 2° 0	20	0	1 6° 0	20	0	1 5° 8
40	0	1 3° 0	40	0	1 2° 0	40	0	1 6° 0	40	0	1 4° 0
6	0	1 2° 5	16	0	1 2° 0	26	0	1 5° 0	36	0	1 4° 0
20	0	1 4° 0	20	0	1 2° 0	20	0	1 4° 5	20	0	1 5° 0
40	0	1 3° 0	40	0	1 2° 0	40	0	1 3° 5	40	0	1 6° 0
7	0	1 2° 0	17	0	1 1° 3	27	0	1 4° 0	37	0	1 6° 0
20	0	1 2° 5	20	0	1 1° 0	20	0	1 4° 0	20	0	1 6° 0
40	0	1 2° 0	40	0	1 1° 0	40	0	1 5° 8	40	0	1 5° 8
8	0	1 2° 0	18	0	1 1° 3	28	0	1 5° 0	38	0	1 5° 0
20	0	1 2° 0	20	0	1 1° 5	20	0	1 6° 0	20	0	1 6° 0
40	0	1 1° 0	40	0	1 2° 0	40	0	1 7° 0	40	0	1 5° 5
9	0	1 0° 0	19	0	1 3° 0	29	0	1 7° 0	39	0	1 4° 0
20	0	1 0° 0	20	0	1 4° 0	20	0	1 7° 0	20	0	1 4° 0
40	0	1 0° 0	40	0	1 4° 0	40	0	1 6° 8	40	0	1 2° 5

40°+

Readings of Declinometer at 20 second intervals.

Commencing the 15th day of April 1883, at 5 a.m., Göttingen Mean Time.

Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.
Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°
0	0	9°0	10	0	8°5	20	0	8°4	30	0	8°3	40	0	8°2
0	20	9°0	10	20	8°8	20	20	8°4	30	20	8°8	40	20	8°8
0	40	9°0	10	40	8°8	20	40	8°3	30	40	8°8	40	40	8°8
1	0	9°0	11	0	8°8	31	0	8°3	31	0	8°8	41	0	8°5
1	20	9°0	11	20	8°8	31	20	8°3	31	20	8°8	41	20	8°5
1	40	9°0	11	40	8°5	31	40	8°3	31	40	9°0	41	40	8°5
2	0	9°0	12	0	8°5	32	0	8°1	32	0	9°0	42	0	8°5
2	20	9°0	12	20	8°5	32	20	8°1	32	20	9°0	42	20	8°5
2	40	9°0	12	40	8°5	32	40	8°0	32	40	9°0	42	40	8°3
3	0	8°8	13	0	8°5	33	0	8°3	33	0	9°0	43	0	8°5
3	20	8°8	13	20	8°5	33	20	8°1	33	20	8°8	43	20	8°5
3	40	8°8	13	40	8°3	33	40	8°1	33	40	8°8	43	40	8°5
4	0	8°6	14	0	8°3	34	0	8°1	34	0	8°6	44	0	8°3
4	20	8°6	14	20	8°5	34	20	8°2	34	20	8°5	44	20	8°3
4	40	8°5	14	40	8°5	34	40	8°1	34	40	8°5	44	40	8°3
5	0	8°5	15	0	8°5	35	0	8°0	35	0	8°2	45	0	8°5
5	20	8°5	15	20	8°5	35	20	8°0	35	20	8°0	45	20	8°3
5	40	8°5	15	40	8°5	35	40	8°0	35	40	8°0	45	40	8°1
6	0	8°8	16	0	8°5	36	0	8°0	36	0	8°2	46	0	8°1
6	20	8°8	16	20	8°8	36	20	8°2	36	20	8°2	46	20	8°1
6	40	8°8	16	40	8°8	36	40	8°0	36	40	8°4	46	40	8°0
7	0	8°5	17	0	8°8	37	0	8°0	37	0	8°6	47	0	8°0
7	20	8°8	17	20	8°8	37	20	8°2	37	20	8°5	47	20	8°0
7	40	8°8	17	40	8°5	37	40	8°5	37	40	8°5	47	40	8°0
8	0	8°5	18	0	8°5	38	0	8°7	38	0	8°7	48	0	7°8
8	20	8°5	18	20	8°5	38	20	8°7	38	20	8°7	48	20	7°8
8	40	8°5	18	40	8°8	38	40	8°8	38	40	8°8	48	40	7°8
9	0	8°5	19	0	8°8	39	0	8°8	39	0	8°8	49	0	7°8
9	20	8°5	19	20	8°8	39	20	8°5	39	20	8°6	49	20	7°5
9	40	8°5	19	40	8°5	39	40	8°5	39	40	8°6	49	40	7°5

39°+

Commencing the 1st day of May 1883, at 6 a.m., Göttingen Mean Time.

Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.
Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°
0	0	1° 9'0	10	0	1° 1'0	20	0	0° 55'6	30	0	0° 44'0	40	0	0° 57'5
0	20	1° 12'0	10	20	1° 0'2	20	20	0° 54'0	30	20	0° 44'1	40	20	0° 56'1
0	40	1° 12'1	10	40	1° 0'0	20	40	0° 53'9	31	40	0° 45'0	40	40	0° 54'5
1	0	1° 12'0	11	0	1° 0'0	31	0	0° 54'1	31	0	0° 49'0	41	0	0° 53'8
1	20	1° 11'5	11	20	1° 0'0	31	20	0° 54'8	31	20	0° 47'0	41	20	0° 53'9
1	40	1° 14'0	11	40	1° 0'5	31	40	0° 53'2	31	40	0° 47'0	41	40	0° 52'0
2	0	1° 13'9	12	0	1° 1'5	22	0	0° 56'1	32	0	0° 46'0	42	0	0° 51'5
2	20	1° 14'0	12	20	1° 1'9	22	20	0° 56'1	32	20	0° 47'5	42	20	0° 51'3
2	40	1° 15'0	12	40	1° 2'0	22	40	0° 54'0	32	40	0° 48'0	42	40	0° 52'0
3	0	1° 16'0	13	0	1° 2'2	23	0	0° 51'3	33	0	0° 49'8	43	0	0° 51'0
3	20	1° 15'5	13	20	1° 2'1	23	20	0° 51'6	33	20	0° 50'0	43	20	0° 50'5
3	40	1° 16'9	13	40	1° 2'5	23	40	0° 51'5	33	40	0° 49'5	43	40	0° 50'0
4	0	1° 13'0	14	0	1° 2'5	24	0	0° 51'5	34	0	0° 48'0	44	0	0° 54'1
4	20	1° 11'7	14	20	1° 1'8	24	20	0° 51'5	34	20	0° 48'0	44	20	0° 54'3
4	40	1° 14'0	14	40	1° 1'3	24	40	0° 49'0	34	40	0° 48'0	44	40	0° 54'5
5	0	1° 13'9	15	0	1° 0'5	25	0	0° 46'0	35	0	0° 48'3	45	0	0° 54'0
5	20	1° 13'8	15	20	1° 1'5	25	20	0° 43'9	35	20	0° 48'5	45	20	0° 53'7
5	40	1° 16'0	15	40	1° 1'5	25	40	0° 43'0	35	40	0° 48'0	45	40	0° 53'7
6	0	1° 16'0	16	0	1° 1'5	26	0	0° 43'0	36	0	0° 48'0	46	0	0° 54'0
6	20	1° 8'1	16	20	0° 59'8	26	20	0° 43'0	36	20	0° 48'0	46	20	0° 54'1
6	40	1° 6'5	16	40	0° 59'1	26	40	0° 39'9	36	40	0° 47'0	46	40	0° 54'0
7	0	1° 6'0	17	0	0° 58'1	27	0	0° 37'5	37	0	0° 47'5	47	0	0° 53'8
7	20	1° 7'0	17	20	0° 56'8	27	20	0° 37'0	37	20	0° 47'7	47	20	0° 53'5
7	40	1° 6'2	17	40	0° 56'0	27	40	0° 38'0	37	40	0° 47'5	47	40	0° 52'3
8	0	1° 6'0	18	0	0° 55'0	28	0	0° 40'0	38	0	0° 46'3	48	0	0° 53'0
8	20	1° 6'3	18	20	0° 54'5	28	20	0° 41'3	38	20	0° 46'0	48	20	0° 53'0
8	40	1° 6'0	18	40	0° 54'5	28	40	0° 41'0	38	40	0° 45'1	48	40	0° 54'0
9	0	1° 5'5	19	0	0° 55'9	29	0	0° 42'0	39	0	1° 0'0	49	0	0° 53'8
9	20	1° 4'0	19	20	0° 55'9	29	20	0° 42'5	39	20	0° 59'9	49	20	0° 53'8
9	40	1° 2'0	19	40	0° 56'0	29	40	0° 44'0	39	40	0° 58'2	49	40	0° 51'5

40° +

Readings of Declinometer at 20 second intervals.

Commencing the 15th day of *May* 1883, at 7 a.m., Göttingen Mean Time.

Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.
Min. Sec.	'	Min. Sec.	'	Min. Sec.	'	Min. Sec.	'	Min. Sec.	'	Min. Sec.	'
0 0	1'0	10 0	3'5	20 0	2'3	30 0	2'5	40 0	5'3	50 0	9'0
0 20	1'5	10 20	4'0	20 20	2'1	30 20	3'0	40 20	5'8	50 20	9'0
0 40	2'0	10 40	4'0	20 40	2'0	30 40	3'0	40 40	5'8	50 40	10'0
1 0	2'0	11 0	4'2	21 0	2'2	31 0	3'0	41 0	5'8	51 0	11'0
1 20	2'0	11 20	4'2	21 20	2'2	31 20	3'2	41 20	5'5	51 20	11'5
1 40	1'8	11 40	4'2	21 40	2'0	31 40	3'2	41 40	5'5	51 40	11'5
2 0	1'8	12 0	4'5	22 0	1'8	32 0	3'4	42 0	5'8	52 0	10'8
2 20	1'8	12 20	4'5	22 20	1'5	32 20	3'4	42 20	5'3	52 20	10'3
2 40	1'8	12 40	4'5	22 40	1'5	32 40	3'6	42 40	5'0	52 40	10'3
3 0	1'6	13 0	4'8	23 0	1'8	33 0	3'8	43 0	5'2	53 0	10'0
3 20	2'0	13 20	5'0	23 20	1'8	33 20	3'8	43 20	5'8	53 20	10'3
3 40	2'2	13 40	5'0	23 40	1'8	33 40	3'8	43 40	6'0	53 40	11'0
4 0	2'3	14 0	4'6	24 0	1'3	34 0	4'0	44 0	6'5	54 0	11'2
4 20	2'3	14 20	4'2	24 20	1'0	34 20	4'0	44 20	7'0	54 20	10'5
4 40	2'0	14 40	3'8	24 40	1'0	34 40	3'8	44 40	7'2	54 40	10'0
5 0	2'0	15 0	3'6	25 0	1'0	35 0	4'0	45 0	7'5	55 0	10'0
5 20	2'0	15 20	3'6	25 20	1'2	35 20	4'0	45 20	7'8	55 20	10'0
5 40	2'0	15 40	4'0	25 40	1'2	35 40	4'0	45 40	7'8	55 40	9'8
6 0	2'2	16 0	4'0	26 0	1'2	36 0	3'8	46 0	8'0	56 0	8'5
6 20	2'4	16 20	4'0	26 20	1'5	36 20	3'8	46 20	8'0	56 20	8'0
6 40	2'0	16 40	4'0	26 40	1'0	36 40	4'0	46 40	7'8	56 40	7'8
7 0	2'5	17 0	4'0	27 0	0'8	37 0	4'4	47 0	7'5	57 0	6'5
7 20	2'8	17 20	4'0	27 20	1'0	37 20	4'0	47 20	7'8	57 20	6'0
7 40	3'2	17 40	4'0	27 40	1'2	37 40	4'0	47 40	8'0	57 40	6'0
8 0	3'5	18 0	4'0	28 0	1'2	38 0	4'0	48 0	8'5	58 0	6'5
8 20	3'8	18 20	3'8	28 20	1'5	38 20	4'0	48 20	9'5	58 20	7'0
8 40	3'8	18 40	3'5	28 40	1'8	38 40	4'0	48 40	10'0	58 40	8'8
9 0	3'6	19 0	3'0	29 0	2'0	39 0	4'0	49 0	10'3	59 0	7'0
9 20	3'4	19 20	2'0	29 20	2'0	39 20	4'2	49 20	10'0	59 20	6'6
9 40	3'3	19 40	2'6	29 40	2'2	39 40	4'6	49 40	9'8	59 40	6'3

40 +

Commencing the 1st day of *June* 1883, at 8 a.m., Göttingen Mean Time.

Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.
Min. Sec.	'	Min. Sec.	'	Min. Sec.	'	Min. Sec.	'	Min. Sec.	'	Min. Sec.	'
0 0	18'0	10 0	10'0	20 0	11'5	30 0	13'0	40 0	11'0	50 0	12'3
0 20	17'0	10 20	10'0	20 20	12'0	30 20	11'1	40 20	11'0	50 20	12'0
0 40	17'0	10 40	10'5	20 40	11'5	30 40	12'0	40 40	10'8	50 40	12'3
1 0	16'3	11 0	10'3	21 0	12'0	31 0	11'8	41 0	9'5	51 0	13'0
1 20	15'0	11 20	10'8	21 20	12'0	31 20	11'5	41 20	11'0	51 20	13'3
1 40	14'5	11 40	11'0	21 40	11'8	31 40	11'8	41 40	11'0	51 40	13'0
2 0	13'5	12 0	11'1	22 0	12'0	32 0	11'8	42 0	11'0	52 0	11'0
2 20	13'5	12 20	11'3	22 20	11'5	32 20	11'0	42 20	11'0	52 20	11'0
2 40	13'3	12 40	11'4	22 40	11'3	32 40	11'0	42 40	11'1	52 40	10'8
3 0	13'1	13 0	11'3	23 0	11'8	33 0	11'5	43 0	11'1	53 0	11'0
3 20	13'0	13 20	11'5	23 20	11'5	33 20	11'3	43 20	11'2	53 20	11'0
3 40	12'0	13 40	11'3	23 40	12'0	33 40	11'1	43 40	12'0	53 40	12'0
4 0	12'0	14 0	11'5	24 0	12'0	34 0	11'0	44 0	12'0	54 0	11'8
4 20	12'8	14 20	12'0	24 20	12'0	34 20	11'1	44 20	11'5	54 20	11'1
4 40	12'0	14 40	11'5	24 40	12'0	34 40	11'0	44 40	11'8	54 40	11'0
5 0	12'3	15 0	12'0	25 0	12'0	35 0	11'0	45 0	11'2	55 0	11'0
5 20	12'0	15 20	12'0	25 20	12'0	35 20	10'9	45 20	11'4	55 20	11'0
5 40	11'8	15 40	11'8	25 40	12'3	35 40	10'9	45 40	12'3	55 40	11'1
6 0	11'2	16 0	12'0	26 0	12'3	36 0	11'0	46 0	12'0	56 0	11'1
6 20	11'6	16 20	12'0	26 20	11'8	36 20	11'0	46 20	11'0	56 20	12'0
6 40	11'3	16 40	12'0	26 40	12'5	36 40	11'0	46 40	11'0	56 40	12'0
7 0	11'1	17 0	11'5	27 0	12'0	37 0	11'0	47 0	11'5	57 0	12'3
7 20	11'0	17 20	12'0	27 20	12'3	37 20	10'8	47 20	11'3	57 20	13'0
7 40	10'5	17 40	11'3	27 40	12'7	37 40	10'8	47 40	12'0	57 40	13'0
8 0	10'3	18 0	12'0	28 0	12'0	38 0	11'0	48 0	12'0	58 0	12'9
8 20	10'0	18 20	12'0	28 20	12'0	38 20	10'8	48 20	11'0	58 20	12'0
8 40	10'3	18 40	12'3	28 40	12'0	38 40	10'9	48 40	11'3	58 40	13'0
9 0	10'0	19 0	12'3	29 0	11'3	39 0	11'0	49 0	12'0	59 0	13'0
9 20	9'5	19 20	12'5	29 20	12'0	39 20	10'5	49 20	12'0	59 20	13'0
9 40	9'5	19 40	11'8	29 40	12'0	39 40	11'0	49 40	12'0	59 40	13'0

40°+

Readings of Declinometer at 20 second intervals.

Commencing the 15th day of June 1883, at 9 a.m., Göttingen Mean Time.

Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.
Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°
0	0	10°0	10	0	10°0	20	0	10°5	30	0	11°3	40	0	11°3
0	20	10°0	10	20	10°0	20	20	11°0	30	20	11°8	40	20	11°0
0	40	9°8	10	40	10°0	20	40	11°0	30	40	11°7	40	40	11°0
1	0	9°9	11	0	10°0	21	0	10°8	31	0	11°3	41	0	10°8
1	20	9°7	11	20	10°0	21	20	11°5	31	20	11°3	41	20	10°0
1	40	10°0	11	40	10°1	21	40	11°8	31	40	11°0	41	40	11°0
2	0	10°1	12	0	10°0	22	0	11°3	32	0	11°0	42	0	11°5
2	20	11°0	12	20	10°2	22	20	11°0	32	20	11°0	42	20	11°0
2	40	11°0	12	40	11°0	22	40	11°8	32	40	10°8	42	40	11°0
3	0	11°0	13	0	11°0	23	0	11°9	33	0	11°0	43	0	11°0
3	20	10°2	13	20	10°4	23	20	11°8	33	20	11°0	43	20	11°3
3	40	10°1	13	40	10°3	23	40	11°9	33	40	10°8	43	40	11°3
4	0	10°3	14	0	10°5	24	0	12°0	34	0	11°0	44	0	11°1
4	20	10°2	14	20	10°1	24	20	11°5	34	20	11°0	44	20	11°8
4	40	10°0	14	40	10°0	24	40	11°8	34	40	10°0	44	40	11°9
5	0	10°0	15	0	10°3	25	0	11°6	35	0	10°0	45	0	12°0
5	20	10°3	15	20	11°0	25	20	11°0	35	20	10°0	45	20	11°8
5	40	10°0	15	40	11°0	25	40	11°0	35	40	9°8	45	40	12°0
6	0	10°0	16	0	10°8	26	0	11°2	36	0	10°0	46	0	12°0
6	20	10°0	16	20	11°2	26	20	11°1	36	20	10°0	46	20	11°0
6	40	9°9	16	40	11°2	26	40	11°9	36	40	10°0	46	40	11°0
7	0	10°1	17	0	11°0	27	0	11°7	37	0	9°8	47	0	11°7
7	20	10°1	17	20	11°0	27	20	11°8	37	20	9°8	47	20	11°0
7	40	9°0	17	40	11°0	27	40	10°8	37	40	9°9	47	40	10°2
8	0	10°0	18	0	11°8	28	0	10°5	38	0	10°0	48	0	10°0
8	20	10°0	18	20	11°9	28	20	11°0	38	20	10°4	48	20	10°0
8	40	9°9	18	40	11°0	28	40	10°2	38	40	10°2	48	40	11°3
9	0	10°0	19	0	10°7	29	0	10°3	39	0	10°1	49	0	11°2
9	20	9°8	19	20	10°3	29	20	10°5	39	20	11°0	49	20	10°2
9	40	9°9	19	40	10°3	29	40	10°8	39	40	11°5	49	40	10°1

38°+

Commencing the 1st day of July 1883, at 10 a.m., Göttingen Mean Time.

Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.
Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°	Min.	Sec.	°
0	0	1 44°0	10	0	2 19°0	20	0	1 19°0	30	0	1 31°0	40	0	2 17°5
0	20	1 47°0	10	20	2 22°0	20	20	1 27°0	30	20	1 33°0	40	20	2 20°0
0	40	1 49°0	10	40	2 24°5	20	40	1 35°0	30	40	1 35°5	40	40	2 20°5
1	0	1 51°0	11	0	2 20°0	21	0	1 40°0	31	0	1 39°0	41	0	2 16°5
1	20	1 53°0	11	20	2 20°0	21	20	1 37°0	31	20	1 41°0	41	20	2 17°0
1	40	1 53°0	11	40	2 21°5	21	40	1 39°0	31	40	1 44°5	41	40	2 18°5
2	0	1 51°0	12	0	2 19°0	22	0	1 37°5	32	0	1 47°5	42	0	2 19°0
2	20	1 50°5	12	20	2 17°0	22	20	1 35°0	32	20	1 54°0	42	20	2 21°0
2	40	1 47°5	12	40	2 22°0	22	40	1 31°0	32	40	2 0°0	42	40	2 26°0
3	0	1 44°5	13	0	2 21°0	23	0	1 29°0	33	0	1 59°0	43	0	2 29°0
3	20	1 49°0	13	20	2 15°5	23	20	1 23°0	33	20	2 5°5	43	20	2 11°0
3	40	1 55°0	13	40	2 18°5	23	40	1 17°0	33	40	2 3°5	43	40	2 10°0
4	0	1 53°0	14	0	2 19°0	24	0	1 5°5	34	0	2 4°5	44	0	2 27°0
4	20	1 58°0	14	20	2 17°0	24	20	1 0°5	34	20	2 1°0	44	20	2 31°5
4	40	2 4°0	14	40	2 19°0	24	40	0 59°0	34	40	2 3°0	44	40	2 22°5
5	0	2 4°5	15	0	2 15°0	25	0	1 2°0	35	0	2 9°0	45	0	2 20°0
5	20	2 5°0	15	20	2 7°0	25	20	1 4°5	35	20	2 11°0	45	20	2 15°5
5	40	2 8°0	15	40	2 5°5	25	40	1 5°5	35	40	2 11°0	45	40	2 18°0
6	0	2 11°0	16	0	2 5°0	26	0	1 7°0	36	0	2 7°0	46	0	2 23°0
6	20	2 11°0	16	20	2 4°0	26	20	1 11°0	36	20	2 6°5	46	20	2 27°0
6	40	2 9°5	16	40	2 1°0	26	40	1 18°0	36	40	2 6°5	46	40	2 12°0
7	0	2 7°0	17	0	1 57°0	27	0	1 23°0	37	0	2 11°0	47	0	2 11°0
7	20	2 1°0	17	20	1 53°0	27	20	1 29°5	37	20	2 12°5	47	20	2 13°5
7	40	1 53°0	17	40	1 54°0	27	40	1 31°0	37	40	2 7°5	47	40	2 16°5
8	0	1 36°0	18	0	1 49°0	28	0	1 29°0	38	0	2 3°0	48	0	2 16°5
8	20	1 40°0	18	20	1 43°5	28	20	1 28°0	38	20	1 59°0	48	20	2 15°5
8	40	2 1°0	18	40	1 37°0	28	40	1 30°0	38	40	2 34°0	48	40	2 14°0
9	0	2 11°0	19	0	1 28°0	29	0	1 33°5	39	0	2 19°0	49	0	1 54°0
9	20	2 15°0	19	20	1 25°0	29	20	1 34°0	39	20	2 4°5	49	20	2 24°5
9	40	2 23°0	19	40	1 16°0	29	40	1 33°0	39	40	2 11°0	49	40	2 19°0

40°+

Readings of Declinometer at 20 second intervals.

Commencing the 15th day of August 1883, at 1 p.m., Göttingen Mean Time.

Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.
Min.	Sec.	'	Min.	Sec.	'	Min.	Sec.	'	Min.	Sec.	'	Min.	Sec.	'
0	0	27'5	10	0	29'0	20	0	34'0	30	0	36'3	40	0	29'0
18'0	10	28'0	10	20	28'5	20	20	35'3	30	20	36'0	40	20	29'2
18'0	40	28'0	10	40	28'3	20	40	36'0	30	40	36'0	40	40	29'7
17'5	0	28'0	11	0	28'3	21	0	36'3	31	0	36'0	41	0	29'8
17'5	20	28'2	20	0	28'3	20	20	37'2	20	20	36'0	20	20	29'8
17'5	40	28'5	40	0	28'5	40	0	37'5	40	0	36'0	40	0	29'5
17'5	0	28'5	12	0	28'8	22	0	37'8	32	0	35'8	42	0	29'0
17'8	20	29'0	20	20	28'8	22	20	37'5	20	20	35'8	20	20	29'0
18'0	40	29'0	40	0	28'5	40	0	37'3	40	0	35'5	40	0	29'0
18'1	0	29'5	13	0	29'0	23	0	36'5	33	0	35'0	43	0	29'0
18'1	20	30'0	20	20	29'0	20	20	36'2	20	20	34'5	20	20	28'5
18'1	40	30'2	40	0	29'2	40	0	36'0	40	0	34'3	40	0	28'2
18'0	0	30'5	14	0	29'5	24	0	36'2	34	0	34'0	44	0	28'0
18'0	20	30'3	20	20	29'7	20	20	36'5	20	20	34'0	20	20	27'5
18'0	40	30'0	40	0	30'0	40	0	37'0	40	0	33'8	40	0	27'0
18'3	0	30'0	15	0	32'5	25	0	37'5	35	0	33'5	45	0	26'2
18'0	20	30'0	20	20	31'8	20	20	38'0	20	20	33'5	20	20	26'0
18'0	40	30'0	40	0	32'0	40	0	38'0	40	0	33'0	40	0	25'8
18'0	0	30'0	16	0	32'0	26	0	38'0	36	0	33'0	46	0	25'5
18'0	20	30'0	20	20	32'0	20	20	38'0	20	20	33'0	20	20	25'0
18'7	40	30'3	40	0	31'5	40	0	38'0	40	0	32'7	40	0	24'5
18'8	0	31'0	17	0	31'0	27	0	38'0	37	0	32'3	47	0	24'0
18'8	20	31'5	20	20	30'6	20	20	38'0	20	20	32'0	20	20	23'0
18'0	40	31'7	40	0	31'0	40	0	38'0	40	0	31'8	40	0	23'8
19'0	0	32'0	18	0	31'0	28	0	38'0	38	0	31'3	48	0	23'5
19'5	20	32'0	20	20	31'0	20	20	37'8	20	20	30'5	20	20	23'0
19'7	40	31'7	40	0	31'2	40	0	37'8	40	0	30'0	40	0	22'2
19'0	0	31'0	19	0	31'8	29	0	37'5	39	0	29'8	49	0	22'0
19'0	20	30'5	20	20	32'2	20	20	37'0	20	20	29'5	20	20	22'0
20'0	40	30'0	40	0	33'0	40	0	37'0	40	0	29'0	40	0	21'7

Reading.

34'5
35'5
37'0
37'8
38'0
40'0
39'8
39'8
39'7
38'5
37'5
35'0
33'5
32'3
31'0
29'5
28'0
27'0
26'3
25'0
24'0
24'5
23'3
22'1
21'0
20'0
19'0

Declination.

September 1882. 36°+ Göttingen Mean Time.

Selected undisturbed days during

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23	2 23	3 23	4 23	5 23
Days.	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f
16	4 30'6	4 27'3	4 23'0	4 24'0	4 20'0	4 21'6	4 20'0	4 29'0	4 31'0	4 32'0	4 33'1	4 34'0	4 34'0	4 34'0	4 35'3	4 35'3	4 35'3
22	4 30'0	4 30'3	4 30'6	4 28'0	4 29'6	4 28'0	4 26'0	4 29'0	4 28'0	4 28'0	4 30'3	4 30'6	4 32'6	4 32'6	4 44'3	4 44'3	4 44'3
29	4 22'6	4 27'0	4 30'0	4 27'6	4 25'0	4 28'3	4 25'6	4 30'3	4 31'0	4 32'0	4 47'6	5 17'6	4 48'0	4 48'0	4 49'3	4 49'3	4 49'3
30	4 18'0	4 20'0	4 20'0	4 18'0	4 18'6	4 17'3	4 15'6	4 18'0	4 9'3	4 15'6	4 16'6	4 41'6	4 28'3	4 28'3	4 32'6	4 32'6	4 32'6
36°+	4 25'3	4 26'2	4 28'2	4 26'9	4 25'8	4 26'8	4 24'3	4 29'1	4 24'8	4 26'9	4 31'7	4 46'0	4 35'7	4 40'4	4 40'4	4 40'4	4 40'4

August 1883. 39°+

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23	2 23	3 23	4 23	5 23
Days.	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f
4	1 8	1 7	1 9	1 11	1 13	1 14	1 11	1 11	1 22	1 15	1 14	1 17	1 18	1 18	1 31	1 31	1 31
9	1 19	1 19	1 17	1 18	1 16	1 16	1 15	1 51	1 5	1 18	1 18	1 19	1 19	1 19	1 33	1 33	1 33
10	1 14	1 16	1 12	1 11	1 12	1 15	1 14	1 15	1 18	1 17	1 17	1 20	1 19	1 19	1 27	1 27	1 27
16	1 15	1 16	1 17	1 16	1 18	1 16	1 16	1 18	1 18	1 19	1 19	1 19	1 19	1 24	1 22	1 22	1 22
17	1 15	1 16	1 14	1 14	1 15	1 17	1 18	1 18	1 21	1 20	1 19	1 19	1 19	1 21	1 27	1 27	1 27
21	1 11	1 10	1 10	1 10	1 10	1 12	1 12	1 12	1 12	1 13	1 15	1 17	1 19	1 24	1 24	1 24	1 24
39°+	1 13'7	1 14'0	1 13'2	1 13'3	1 14'0	1 15'0	1 14'8	1 20'8	1 16'0	1 17'0	1 17'0	1 18'5	1 20'0	1 22'3	1 22'3	1 22'3	1 22'3
40°+	0 19'5	0 20'1	0 20'7	0 20'1	0 19'9	0 20'9	0 19'6	0 25'0	0 20'4	0 22'0	0 21'4	0 23'3	0 27'9	0 31'9	0 31'9	0 31'9	0 31'9

October 1882. 38°+

Selected undisturbed days during

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23	2 23	3 23	4 23	5 23
Days.	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f
1	2 18'0	2 19'0	2 17'0	2 17'0	2 16'0	2 18'0	2 19'0	2 21'0	2 21'0	2 8'0	2 30'0	2 58'0	2 30'0	2 16'0	2 16'0	2 16'0	2 16'0
19	2 22'3	2 22'0	2 21'7	2 22'0	2 22'0	2 26'0	2 25'0	2 20'0	2 21'7	2 30'7	2 11'7	2 26'3	2 30'0	2 39'7	2 39'7	2 39'7	2 39'7
20	2 21'0	2 24'0	2 23'7	2 25'0	2 24'3	2 24'0	2 24'0	2 24'0	2 24'3	2 23'3	2 21'3	2 24'0	2 27'3	2 29'0	2 28'7	2 28'7	2 28'7
21	2 23'3	2 23'0	2 22'0	2 22'0	2 23'3	2 24'0	2 24'0	2 26'0	2 25'0	2 26'0	2 28'0	2 27'7	2 30'0	2 30'0	2 30'0	2 30'0	2 30'0
38°+	2 21'2	2 22'0	2 21'1	2 21'5	2 21'4	2 23'0	2 23'0	2 22'8	2 22'8	2 22'0	2 23'4	2 34'8	2 27'3	2 28'6	2 28'6	2 28'6	2 28'6

November 1882. 37°+

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23	2 23	3 23	4 23	5 23
Days.	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f	o f
4	3 24'7	3 27'3	3 23'3	3 34'3	3 25'7	3 23'1	3 28'0	3 26'0	3 28'0	3 21'1	3 26'1	3 36'0	3 34'3	3 37'0	3 37'0	3 37'0	3 37'0
10	3 16'0	3 28'3	3 28'3	3 24'0	3 28'3	3 20'0	3 28'0	3 26'3	3 26'0	3 26'7	3 25'1	3 34'7	3 34'3	3 34'7	3 34'7	3 34'7	3 34'7
11	3 18'0	3 21'7	3 22'3	3 28'7	3 28'0	3 27'7	3 27'7	3 28'3	3 28'0	3 29'0	3 27'7	3 28'0	3 29'3	3 34'7	3 34'7	3 34'7	3 34'7
29	3 19'7	3 18'7	3 18'0	3 19'3	3 15'7	3 12'0	3 19'0	3 13'7	3 19'3	3 12'3	3 11'7	3 24'0	3 24'7	3 30'0	3 30'0	3 30'0	3 30'0
37°+	3 22'1	3 24'0	3 23'0	3 26'6	3 24'4	3 26'3	3 25'7	3 23'6	3 25'3	3 23'6	3 25'2	3 30'2	3 30'6	3 34'1	3 34'1	3 34'1	3 34'1
40°+	0 21'7	0 23'0	0 22'1	0 24'1	0 22'9	0 24'7	0 24'4	0 23'8	0 24'1	0 22'8	0 24'3	0 32'8	0 29'0	0 31'4	0 31'4	0 31'4	0 31'4

Fort Rae.

Days during

the months of September 1882 and August 1883.

September 1882.

m	h	m
23	1	23
4°0'	4	35'3
32°6'	4	44'3
8°0'	4	49'3
8°3'	4	31'6
5°7'	4	40'4

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.						
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23								
4	39'3	4	44'0	4	50'0	4	49'3	4	45'6	4	38'0	4	34'0	4	32'0	4	32'6	4	25'6								
4	43'0	4	40'0	4	40'0	4	40'3	4	41'0	4	33'1	4	30'1	4	28'0	4	34'3	4	25'6								
5	3'3	4	50'6	4	45'0	4	41'3	4	40'0	4	34'3	4	25'0	4	22'0	4	18'0	4	16'0								
4	47'3	5	1'3	5	3'6	4	41'6	4	32'0	4	30'3	4	28'0	4	17'0	4	17'0	4	14'0								
4	48'2	4	49'0	4	49'6	4	43'1	4	39'7	4	34'0	4	29'3	4	24'8	4	23'0	4	20'3	40	32'5	40	49'6	40	20'3	0	29'3

August 1883.

m	h	m
23	1	23
18	1	34
19	1	33
19	1	27
24	1	22
21	1	27
19	1	24
0°0'	1	27'3
7°9'	0	31'9

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.		
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23								
1	45	1	38	1	34	1	33	1	29	1	28	1	20	1	18	1	9	1	9								
1	30	1	37	1	35	1	33	1	30	1	29	1	18	1	15	1	15	1	12								
1	27	1	31	1	26	1	27	1	21	1	21	1	12	1	12	1	12	1	12								
1	29	1	33	1	31	1	28	1	26	1	18	1	17	1	15	1	14	1	14								
1	38	1	38	1	37	1	37	1	33	1	26	1	19	1	13	1	3	1	10								
1	24	1	22	1	30	1	23	1	31	1	14	1	11	1	6	1	7	1	8								
1	32'2	1	33'5	1	34'3	1	31'8	1	30'0	1	19'2	1	16'2	1	11'7	1	9'8	1	10'2	40	19'3	40	34'3	40	9'8	0	24'5
0	40'2	0	41'3	0	42'0	0	37'5	0	34'9	0	26'6	0	22'8	0	18'3	0	16'4	0	15'3	40	25'9	40	42'0	40	15'3	0	26'7

Days during

the months of October and November 1882.

October 1882.

m	h	m
23	1	23
0°0'	2	16'0
0°0'	2	39'7
0°0'	2	38'7
0°0'	2	30'0
2°1'	2	28'6

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.		
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23								
2	27'0	2	40'0	2	44'0	2	36'0	2	31'0	2	30'0	2	21'0	2	20'0	2	15'0	2	17'0								
2	44'0	2	42'0	2	51'0	2	46'7	2	31'7	2	29'0	2	25'3	2	22'7	2	20'0	2	21'3								
2	30'7	2	38'1	2	38'1	2	37'7	2	34'3	2	28'3	2	24'0	2	22'3	2	22'7	2	22'7								
2	34'3	2	31'3	2	37'3	2	37'7	2	32'3	2	27'0	2	21'3	2	22'0	2	22'7	2	23'7								
2	34'0	2	37'2	2	42'6	2	39'5	2	32'3	2	28'6	2	22'9	2	22'5	2	20'1	2	21'3	40	26'5	40	42'6	40	20'1	0	22'5

November 1882.

m	h	m
23	1	23
3°1'	3	37'0
3°3'	3	34'7
3°3'	3	34'7
3°7'	3	30'0
0°6'	3	34'1
0°0'	0	31'4

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.		
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23								
3	37'0	3	36'7	3	39'0	3	43'0	3	35'7	3	36'3	3	31'3	3	27'7	3	29'0	3	28'0								
3	42'0	3	46'3	3	35'7	3	37'0	3	32'0	3	29'0	3	20'3	3	28'7	3	24'7	3	24'3								
3	36'7	3	35'3	3	36'3	3	37'3	3	37'1	3	30'1	3	20'0	3	33'3	3	17'0	3	17'7								
3	35'7	3	35'7	3	36'0	3	26'0	3	26'7	3	26'0	3	22'3	3	20'0	3	18'7	3	18'0								
3	35'4	3	36'0	3	34'3	3	35'8	3	32'9	3	30'4	3	28'5	3	27'4	3	22'4	3	22'0	40	27'8	40	36'0	40	22'0	0	14'0
0	34'2	0	36'6	0	38'8	0	37'7	0	32'6	0	29'5	0	25'7	0	25'0	0	21'3	0	21'2	40	27'2	40	38'5	40	21'3	0	17'2

Declination.

December 1882. 38°+ Göttingen Mean Time.

Selected undisturbed days during

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
6	2 23.3	2 15.3	2 18.3	2 17.3	2 18.2	2 18.2	2 17.2	2 14.3	—	2 31.3	2 28.3	2 18.0	2 23.0	2 21.7
8	2 16.3	2 15.0	2 15.0	2 10.0	2 10.2	2 10.3	2 10.2	2 17.6	2 19.7	2 19.8	2 19.8	2 19.0	2 21.0	2 14.0
14	2 13.7	2 12.7	2 10.0	2 10.3	2 10.7	2 12.7	2 18.3	2 12.5	2 4.1	2 16.0	2 21.3	2 19.0	2 21.5	2 25.3
15	2 17.0	2 18.0	2 17.0	2 19.0	2 18.0	2 20.0	2 19.0	2 20.0	2 15.0	2 19.0	2 20.0	2 20.0	2 28.0	2 26.0
38° +	2 17.6	2 15.3	2 16.6	2 18.7	2 18.8	2 19.1	2 18.4	2 17.4	2 13.0	2 21.5	2 21.6	2 19.0	2 23.9	2 26.7

January 1883. 39°+

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
2	1 14.0	1 14.0	1 14.0	1 11.0	1 14.0	1 18.0	1 14.0	1 18.0	1 15.0	1 16.0	1 17.0	1 18.0	1 22.0	1 16.0
3	1 17.3	1 16.3	1 16.0	1 15.3	1 17.5	1 16.7	1 17.3	1 17.1	1 16.7	1 18.7	1 16.5	1 20.3	1 19.2	1 22.5
11	1 10.8	1 9.3	1 6.5	1 1.3	1 7.3	1 18.2	1 15.7	1 16.0	1 14.8	1 14.0	1 17.0	1 17.5	1 18.1	1 19.0
13	1 17.7	1 17.2	1 16.2	1 16.0	1 16.5	1 16.5	1 16.0	1 16.1	1 16.0	1 16.0	1 15.6	1 17.0	1 17.0	1 17.7
23	1 14.7	1 9.2	1 14.7	1 13.0	1 14.6	1 14.0	1 13.0	1 17.7	1 12.3	1 5.3	1 17.7	1 20.3	1 17.0	1 29.2
39° +	1 14.9	1 13.2	1 13.5	1 11.3	1 14.0	1 16.9	1 15.2	1 12.0	1 15.0	1 14.0	1 22.8	1 20.6	1 20.7	1 26.9
40° +	0 16.3	0 14.3	0 15.1	0 15.0	0 16.4	0 18.0	0 16.8	0 12.2	0 14.0	0 12.8	0 22.2	0 19.8	0 22.3	0 26.8

February 1883. 38°+

Selected undisturbed days during

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
7	2 11.0	2 10.3	2 11.3	2 9.6	2 11.3	2 11.1	2 15.0	2 5.7	2 14.3	2 13.5	2 11.0	2 19.2	2 22.2	2 20.2
8	2 9.8	2 10.4	2 13.0	2 13.3	2 10.0	2 12.5	2 14.7	2 11.0	2 14.2	2 8.0	2 20.0	2 16.0	2 21.8	2 22.1
10	2 16.7	2 1.7	2 8.2	2 0.5	2 5.0	2 3.8	2 26.0	2 2.7	2 14.0	2 11.7	2 13.0	2 16.7	2 18.8	2 25.2
11	2 15.1	2 14.1	2 14.9	2 14.8	2 15.2	2 15.0	2 13.5	2 14.1	2 8.7	2 3.0	2 8.3	2 17.3	2 16.3	2 16.8
12	2 13.3	2 13.8	2 13.5	2 15.3	2 14.2	2 14.3	2 13.7	2 15.8	2 11.7	2 12.0	2 14.0	2 14.7	2 28.7	2 14.7
13	2 9.8	2 12.5	2 13.5	2 14.0	2 14.2	2 14.6	2 15.1	2 14.0	2 14.0	2 12.0	2 14.0	2 14.6	2 15.9	2 17.3
38° +	2 12.5	2 10.5	2 12.4	2 11.3	2 9.7	2 12.1	2 9.7	2 10.6	2 12.8	2 13.7	2 15.1	2 16.4	2 20.6	2 21.1

March 1883. 38°+

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
11	2 2.3	2 9.3	2 6.3	2 10.7	2 12.7	2 14.1	2 14.3	2 13.6	2 32.0	2 6.7	2 18.0	2 22.0	2 22.2	2 27.3
13	2 13.0	2 11.0	2 12.5	2 11.0	2 9.5	2 13.5	2 12.5	2 14.0	2 20.0	2 59.0	2 22.0	2 23.0	2 26.0	2 20.5
17	2 9.7	2 10.0	2 11.8	2 9.9	2 12.3	2 11.3	2 10.0	2 11.1	2 23.3	2 8.3	2 13.8	2 22.3	2 23.7	2 24.3
19	2 10.0	2 10.0	2 9.7	2 8.8	2 8.8	2 8.3	2 7.0	2 7.3	2 5.9	2 10.2	2 9.8	2 15.4	2 19.3	2 14.3
20	2 8.0	2 8.2	2 8.0	2 6.8	2 7.9	2 8.0	2 8.3	2 8.3	2 8.0	2 9.3	2 10.0	2 9.3	2 10.0	2 12.0
38° +	2 8.6	2 9.7	2 9.7	2 9.4	2 11.2	2 11.0	2 11.4	2 14.9	2 20.6	2 6.7	2 14.7	2 18.4	2 20.2	2 21.7
40° +	0 10.6	0 10.1	0 11.1	0 10.4	0 10.5	0 11.6	0 10.6	0 12.8	0 16.2	0 10.2	0 14.9	0 17.4	0 20.4	0 21.4

Fort Rao.

the months of December 1882 and January 1883.

December 1882.

h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	Mean.	Highest.	Lowest.	Difference.
2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23					
0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1
2 26.3	2 25.3	2 20.7	2 26.7	2 21.0	2 21.0	2 22.0	2 20.0	2 18.5	2 15.7					
2 24.7	2 22.7	2 21.7	2 21.8	2 22.8	2 20.7	2 16.7	2 18.7	2 16.7	2 17.3					
2 25.3	2 28.0	2 21.3	2 25.0	2 22.7	2 20.3	2 17.0	2 16.3	2 14.3	2 14.7					
2 21.0	2 26.0	2 21.0	2 28.0	2 28.0	2 20.0	2 14.0	2 24.0	2 10.0	2 5.0					
2 29.3	2 25.5	2 23.7	2 27.9	2 23.6	2 23.0	2 19.9	2 22.3	2 12.4	2 12.4	40 20.3	40 29.3	40 12.4	0 16.9	

January 1883.

h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	Mean.	Highest.	Lowest.	Difference.
2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23					
0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1
1 35.0	1 38.0	1 25.0	1 34.0	1 43.0	1 20.0	1 19.0	1 9.0	1 12.0	1 13.0					
1 49.7	1 31.3	1 25.3	1 27.0	1 22.7	1 27.3	1 23.7	1 18.3	1 17.8	1 19.7					
1 42.7	1 19.7	1 20.0	1 20.8	1 20.3	1 18.6	1 14.7	1 14.7	1 15.4	1 16.6					
1 26.1	1 22.1	1 49.7	1 35.7	1 28.7	1 25.8	1 17.3	1 13.8	1 13.7	1 12.8					
1 43.8	1 25.0	1 17.1	1 16.8	1 13.7	1 16.5	1 17.8	1 15.9	1 10.7	1 11.8					
1 34.7	1 33.7	1 27.4	1 26.9	1 25.7	1 21.6	1 18.5	1 14.3	1 13.9	1 14.8	40 19.5	40 34.7	40 11.3	0 23.4	
0 32.0	0 29.6	0 25.6	0 27.4	0 24.7	0 22.3	0 19.2	0 18.3	0 13.2	0 13.6	40 20.0	40 32.0	40 13.2	0 18.8	

the months of February and March 1883.

February 1883.

h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	Mean.	Highest.	Lowest.	Difference.
2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23					
0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1
2 17.7	2 16.3	2 19.8	2 25.1	2 27.8	2 22.2	2 17.8	2 13.7	2 7.0	2 9.5					
2 20.6	2 21.7	2 12.0	2 23.0	2 22.7	2 19.7	2 9.3	2 8.7	2 6.0	2 4.7					
2 44.0	2 33.3	2 27.8	2 20.5	2 16.9	2 17.6	2 10.5	2 7.3	2 9.3	2 12.0					
2 20.0	2 22.0	2 28.3	2 27.7	2 23.1	2 16.0	2 11.3	2 11.0	2 10.8	2 10.3					
2 26.3	2 28.5	2 24.2	2 29.5	2 23.2	2 15.7	2 14.3	2 11.5	2 8.1	2 7.0					
2 23.7	2 24.7	2 20.0	2 27.4	2 22.0	2 22.1	2 18.7	2 12.0	2 9.5	2 9.3					
2 27.0	2 26.8	2 28.7	2 25.6	2 23.1	2 18.9	2 13.6	2 10.7	2 8.5	2 8.6	40 15.8	40 28.7	40 8.5	0 20.2	

March 1883.

h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	Mean.	Highest.	Lowest.	Difference.
2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23					
0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1
2 42.3	2 49.7	2 39.7	2 28.0	2 20.0	2 22.3	2 15.6	2 11.0	2 7.5	2 7.5					
2 19.0	2 18.0	2 24.0	2 22.0	2 23.0	2 17.5	2 18.0	2 12.5	2 15.0	2 10.0					
2 21.7	2 19.8	2 22.7	2 25.3	2 21.3	2 13.2	2 10.3	2 8.3	2 14.0	2 12.2					
2 16.0	2 17.7	2 20.0	2 20.7	2 21.0	2 13.3	2 15.0	2 7.7	2 8.0	2 7.7					
2 15.7	2 18.7	2 20.8	2 23.8	2 21.7	2 19.8	2 13.8	2 8.4	2 7.2	2 5.3					
2 22.9	2 24.8	2 25.4	2 24.0	2 21.4	2 17.6	2 15.8	2 9.6	2 10.3	2 8.6	40 15.3	40 25.4	40 6.7	0 18.7	
0 25.0	0 25.8	0 27.1	0 24.8	0 21.3	0 18.3	0 14.7	0 10.2	0 9.3	0 8.6	40 15.6	40 27.1	40 8.6	0 18.5	

Declination.

April 1883. 38°+ Göttingen Mean Time.

Selected undisturbed days during

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23		
Days.	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
10	2 1'7"	2 3'3"	2 59'3"	2 7'0"	2 12'0"	2 11'7"	2 9'5"	2 8'1"	2 10'0"	2 10'0"	2 10'0"	2 8'1"	2 6'3"	2 30'3"		
14	2 4'8"	2 56'2"	2 0'0"	2 59'3"	2 9'2"	2 8'7"	2 8'3"	2 8'8"	2 7'0"	2 11'0"	2 8'7"	2 12'0"	2 12'3"	2 10'2"		
17	2 59'2"	2 0'1"	2 4'5"	2 2'0"	2 2'6"	2 16'0"	2 0'1"	2 11'0"	2 0'7"	2 5'5"	2 9'0"	2 8'2"	2 21'2"	2 25'2"		
21	2 9'0"	2 10'0"	2 11'0"	2 8'0"	2 9'0"	2 9'0"	2 7'0"	2 17'0"	2 11'0"	2 12'0"	2 9'0"	2 17'0"	2 22'0"	2 24'0"		
22	2 7'0"	2 8'0"	2 8'0"	2 12'5"	2 14'0"	2 14'0"	2 12'0"	2 14'0"	2 13'0"	2 13'0"	2 18'0"	2 14'0"	2 9'0"	2 22'0"		
23	2 6'0"	2 3'0"	2 4'0"	2 12'0"	2 12'0"	2 12'0"	2 12'0"	2 11'0"	2 12'0"	2 11'0"	2 10'0"	2 22'0"	2 14'0"	2 19'0"		
38°+	2 4'6"	2 3'4"	2 4'5"	2 6'8"	2 9'8"	2 8'6"	2 8'2"	2 11'7"	2 9'0"	2 10'4"	2 10'8"	2 13'5"	2 14'0"	2 21'8"		

May 1883. 39°+

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23		
Days.	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
9	1 4'0"	1 4'0"	1 8'0"	1 7'0"	1 6'0"	1 11'0"	1 6'0"	1 6'0"	1 40'0"	1 7'0"	1 35'0"	1 28'0"	1 18'0"	1 26'0"		
10	1 2'0"	1 5'0"	1 7'0"	1 11'0"	1 8'0"	1 12'0"	1 8'0"	1 7'0"	1 10'0"	1 12'0"	1 12'0"	1 14'0"	1 12'0"	1 22'0"		
11	1 5'0"	1 5'0"	1 8'0"	1 13'0"	1 10'0"	1 12'0"	1 10'0"	1 7'0"	1 16'0"	1 16'0"	1 17'0"	1 18'0"	1 10'0"	1 31'0"		
12	1 3'0"	1 6'0"	1 10'0"	1 2'0"	1 2'0"	1 3'0"	1 3'0"	1 2'0"	1 26'0"	1 4'0"	1 9'0"	1 19'0"	1 16'0"	1 21'0"		
13	1 0'0"	1 8'0"	1 8'0"	1 10'0"	1 11'0"	1 10'0"	1 10'0"	1 11'0"	1 1'0"	1 17'0"	1 11'0"	1 14'0"	1 10'0"	1 13'0"		
14	1 6'0"	1 8'0"	1 10'0"	1 12'0"	1 5'0"	1 6'0"	1 6'0"	1 1'0"	1 0'0"	1 18'0"	1 11'0"	1 21'0"	1 25'0"	1 51'0"		
39°+	1 5'3"	1 6'0"	1 8'5"	1 9'0"	1 7'0"	1 9'0"	1 7'0"	1 5'7"	1 5'5"	1 4'0"	1 5'8"	1 19'0"	1 16'8"	1 27'3"		
40°+	0 5'0"	0 4'7"	0 6'5"	0 7'9"	0 8'4"	0 8'8"	0 7'6"	0 8'7"	0 13'3"	0 12'2"	0 13'3"	0 16'3"	0 15'4"	0 24'6"		

June 1883. 39°+

Selected undisturbed days during

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23		
Days.	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
4	1 8'	1 12'	1 5'	1 10'	1 15'	1 15'	1 11'	0 49'	0 58'	1 19'	1 14'	1 12'	1 14'	1 39'		
5	1 12'	1 12'	1 12'	1 10'	1 16'	1 17'	1 18'	1 17'	1 16'	1 15'	1 20'	1 25'	1 24'	1 20'		
11	1 1'	1 1'	0 57'	0 40'	0 51'	0 45'	0 53'	0 54'	0 45'	0 53'	0 58'	1 3'	1 25'	1 16'		
15	1 3'	1 4'	1 4'	1 10'	1 9'	1 14'	1 10'	1 13'	1 11'	1 13'	1 10'	1 10'	1 14'	1 20'		
39°+	1 6'0"	1 7'0"	1 4'5"	1 3'0"	1 7'8"	1 7'3"	1 7'8"	1 3'0"	1 2'0"	1 9'8"	1 10'5"	1 12'2"	1 19'3"	1 28'5"		

July 1883 38°+

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23		
Days.	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
21	2 2'	2 7'	2 7'	2 11'	2 14'	2 15'	2 12'	2 12'	2 14'	2 15'	2 5'	2 14'	2 16'	2 23'		
22	2 2'	2 7'	2 10'	2 9'	2 12'	2 16'	2 14'	2 14'	2 14'	2 12'	2 16'	2 19'	2 21'	2 23'		
23	2 4'	2 6'	1 56'	2 3'	2 6'	2 8'	2 8'	2 15'	2 14'	2 29'	2 18'	2 15'	2 21'	2 19'		
28	2 11'	2 14'	2 15'	2 16'	2 15'	2 16'	2 15'	2 15'	2 15'	2 14'	2 15'	2 19'	2 11'	2 26'		
29	1 12'	2 14'	2 17'	2 11'	2 14'	2 15'	2 12'	2 7'	1 25'	1 29'	2 19'	2 23'	2 24'	2 27'		
38°+	2 6'2"	2 9'6"	2 9'0"	2 10'0"	2 12'4"	2 14'0"	2 12'2"	2 11'6"	2 5'4"	2 11'4"	2 15'6"	2 18'5"	2 20'6"	2 23'6"		
40°+	0 6'1"	0 8'3"	0 6'8"	0 6'5"	0 10'1"	0 10'7"	0 10'0"	0 7'8"	0 3'7"	0 10'6"	0 13'1"	0 15'1"	0 20'0"	0 26'0"		

Fort Rae.

the months of April and May 1883.

April 1883.

ays during

m	h	m
23	1	23
6 ³	1	30 ³
11 ³	2	10 ²
11 ²	2	25 ²
9 ⁰	2	24 ⁰
4 ⁰	2	19 ⁰
4 ⁰	2	31 ⁸

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.						
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23								
0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0			
2	22 ⁰	2	28 ⁰	2	25 ⁷	2	26 ⁵	2	30 ⁵	2	25 ⁷	2	19 ⁵	2	9 ²	2	5 ⁷	1	59 ²								
2	21 ⁸	2	21 ³	2	27 ⁷	2	26 ⁸	2	27 ⁰	2	20 ⁸	2	10 ⁹	2	9 ³	2	8 ⁴	2	7 ⁸								
2	27 ⁷	2	24 ⁷	2	22 ⁸	2	21 ⁵	2	22 ⁵	2	21 ⁸	2	13 ³	2	6 ⁰	2	3 ¹	2	1 ⁰								
2	28 ⁰	2	23 ⁰	2	29 ⁰	2	26 ⁰	2	25 ⁰	2	21 ⁰	2	20 ⁰	2	14 ⁰	2	12 ⁰	2	7 ⁰								
2	31 ⁰	2	32 ⁰	2	31 ⁰	2	37 ⁰	2	25 ⁰	2	24 ⁰	2	14 ⁰	2	17 ⁰	2	13 ⁰	2	9 ⁰								
2	21 ⁰	2	31 ⁰	2	28 ⁰	2	27 ⁰	2	28 ⁰	2	23 ⁰	2	22 ⁰	2	9 ⁰	2	9 ⁰	2	8 ⁰								
2	25 ³	2	26 ⁷	2	27 ⁴	2	27 ⁵	2	26 ³	2	22 ⁷	2	16 ⁶	2	10 ⁸	2	8 ⁵	2	5 ³	40	13 ⁹	40	27 ³	40	3 ⁴	0	24 ¹

May 1883.

ays during

m	h	m
23	1	23
8 ⁰	1	16 ⁰
2 ⁰	1	22 ⁰
0 ⁰	1	31 ⁰
0 ⁰	1	21 ⁰
0 ⁰	1	13 ⁰
5 ⁰	1	21 ⁰
6 ⁸	1	27 ³
5 ⁴	0	24 ⁶

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.				
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23								
1	23 ⁰	1	35 ⁰	1	28 ⁰	1	26 ⁰	1	23 ⁰	1	23 ⁰	1	21 ⁰	1	7 ⁰	1	8 ⁰	1	3 ⁰								
1	23 ⁰	1	30 ⁰	1	30 ⁰	1	35 ⁰	1	25 ⁰	1	25 ⁰	1	5 ⁰	1	0 ⁰	1	4 ⁰	1	3 ⁰								
1	42 ⁰	1	37 ⁰	1	38 ⁰	1	38 ⁰	1	39 ⁰	1	24 ⁰	1	16 ⁰	1	11 ⁰	1	12 ⁰	1	16 ⁰								
1	43 ⁰	1	22 ⁰	1	36 ⁰	1	32 ⁰	1	24 ⁰	1	18 ⁰	1	13 ⁰	1	7 ⁰	1	8 ⁰	1	6 ⁰								
1	34 ⁰	1	22 ⁰	1	2 ⁰	1	23 ⁰	1	24 ⁰	1	13 ⁰	1	9 ⁰	1	4 ⁰	1	4 ⁰	1	1 ⁰								
1	34 ⁰	1	22 ⁰	1	38 ⁰	1	37 ⁰	1	33 ⁰	1	17 ⁰	1	13 ⁰	1	4 ⁰	1	9 ⁰	1	10 ⁰								
1	32 ⁵	1	19 ⁰	1	38 ⁷	1	35 ⁸	1	26 ²	1	18 ²	1	11 ²	1	5 ⁵	1	6 ⁸	1	4 ⁸	40	16 ⁰	40	39 ⁰	40	4 ⁸	0	34 ²
0	28 ⁹	0	32 ⁹	0	33 ¹	0	31 ⁷	0	26 ³	0	20 ⁵	0	13 ⁹	0	8 ²	0	7 ⁷	0	5 ²	40	15 ⁰	40	33 ¹	40	4 ⁷	0	28 ⁴

the months of June and July 1883.

June 1883.

ays during

m	h	m
23	1	23
1	39	
1	29	
1	26	
1	20	
3	1	28 ⁵

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.				
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23								
1	44	2	3	1	44	1	28	1	13	1	23	1	18	1	16	1	7	1	5								
1	33	1	29	1	35	1	28	1	29	1	24	1	19	1	13	1	12	1	11								
1	35	1	22	1	23	1	31	1	27	1	20	1	12	1	5	1	8	1	11								
1	32	1	22	1	24	1	27	1	28	1	28	1	6	1	2	1	4	1	3								
1	33 ⁵	1	27 ⁰	1	29 ⁵	1	31 ⁰	1	29 ³	1	23 ⁷	1	13 ⁷	1	9 ⁰	1	7 ⁸	1	7 ⁵	40	14 ⁶	40	37 ⁰	40	2 ⁰	0	35 ⁰

July 1883.

ays during

m	h	m
23	1	23
2	23	
2	23	
1	19	
2	26	
2	27	
6	2	23 ⁶
0	0	26 ⁰

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.				
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23								
2	22	2	26	2	21	2	22	2	20	2	26	2	25	2	28	2	25	2	2								
2	27	2	21	2	25	2	23	2	27	2	23	2	29	2	27	2	21	2	2								
2	26	2	20	2	22	2	23	2	23	2	22	2	20	2	29	2	24	2	2								
2	23	2	29	2	29	2	23	2	20	2	21	2	23	2	23	2	23	2	2								
2	21	2	29	2	20	2	28	2	24	2	25	2	24	2	24	2	28	2	2								
2	27 ⁸	2	23 ⁴	2	25 ⁴	2	21 ⁸	2	28 ⁸	2	25 ⁴	2	26 ⁴	2	20 ²	2	28 ⁰	2	2 ⁶	40	16 ⁸	40	33 ⁴	40	5 ⁴	0	30 ⁰
0	30 ⁷	0	35 ²	0	32 ³	0	31 ⁴	0	29 ¹	0	24 ⁶	0	25 ¹	0	9 ⁶	0	7 ⁹	0	6 ⁹	40	15 ⁷	40	35 ²	40	3 ⁷	0	31 ⁵

Horizontal Intensity.

September 1882. 0°07000 (C.G.S.) + Göttingen Mean Time.

Selected undisturbed days during

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23		
Days.																
16	662	683	648	626	611	626	626	628	626	623	649	649	626	626		
24	629	666	660	668	672	662	687	670	668	676	672	664	668	672		
29	678	676	660	654	666	681	664	662	618	599	440	403	465	517		
30	653	662	662	674	668	679	693	674	589	622	647	533	616	614		
0°0000 +	6285	6693	6600	6630	6643	6693	6750	6660	6328	6175	6020	5622	6012	6147		

August 1883.

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23	
Days.															
4	734	708	736	759	745	716	720	664	567	653	678	678	672	626	
9	681	674	674	672	672	678	691	661	622	679	666	646	674	615	
10	676	676	685	674	670	678	691	682	681	679	682	689	699	689	
16	683	676	672	672	672	681	682	670	697	692	697	703	683	707	
17	691	689	691	691	689	683	689	691	683	691	693	691	689	687	
31	678	689	691	695	695	691	697	695	685	691	689	693	689	685	
0°0000 +	6925	6823	6912	6938	6925	6878	6925	6610	6258	6735	6847	6850	6843	6765	
0°0000 +	6743	6773	6726	6784	6774	6787	6853	6635	6443	6550	6434	6236	6428	6486	

October 1882.

Selected undisturbed days during

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23	
Days.															
1	628	662	660	666	679	679	670	649	637	620	633	487	660	679	
19	674	678	691	685	689	689	701	701	678	628	674	679	628	630	
20	672	670	678	678	678	685	685	685	683	681	683	681	662	672	
21	670	676	674	674	676	678	681	679	681	676	666	672	664	674	
0°0000 +	6685	6715	6758	6738	6805	6828	6843	6785	6698	6287	6640	6198	6610	6637	

November 1882.

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23	
Days.															
4	683	685	716	705	693	691	685	699	697	681	691	668	662	653	
10	716	672	677	685	670	674	693	681	676	681	681	672	666	666	
11	672	699	708	670	679	674	674	670	677	679	679	679	676	656	
29	664	679	705	691	732	763	745	743	693	676	653	662	666	651	
0°0000 +	6818	6838	7015	6878	6935	7105	6993	6983	6858	6792	6760	6703	6675	6565	
0°0000 +	6762	6777	6887	6818	6870	6967	6918	6884	6778	6690	6700	6501	6643	6601	

Fort Rae.

the months of September 1882 and August 1883. (Bifilar Magnetometer).

September 1882.

h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.									
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23							
656		656																								
658		672																								
665		672																								
666		614																								
611		6147																								
5898		6188		6415		6498		6595		6457		6397		6420		6535		6618		0°76407		0°76750		0°76622		0°01128

August 1883.

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.			
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23							
637		701		703		693		683		666		660		658		660		668		683						
672		685		670		689		679		672		670		664		668		675		675						
710		701		689		676		668		665		660		679		681		664		664						
687		693		707		697		678		676		668		670		672		689		689						
687		693		679		693		683		537		633		630		714		676		676						
687		685		670		670		639		678		664		664		676		670		670						
6838		6913		6897		6840		6667		6625		6202		6608		6785		6763		0°76796		0°76955		0°76558		0°00397
6368		6561		6656		6669		6631		6541		6495		6514		6660		6691		0°76602		0°76853		0°76236		0°00617

the months of October and November 1882.

October 1882.

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.			
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23							
664		637		616		643		643		635		630		632		633		641								
609		643		654		628		633		641		649		647		654		656		670						
666		638		660		638		663		658		656		674		666		670		670						
662		676		674		670		668		660		658		664		666		670		670						
6502		6535		6535		6498		6565		6485		6482		6543		6547		6593		0°76622		0°76843		0°76298		0°00545

November 1882.

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.			
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23							
668		654		653		663		662		656		658		670		672		683								
647		618		654		660		666		664		666		581		683		672		672						
660		656		664		643		645		649		671		647		647		674		674						
664		663		676		679		676		670		656		653		660		668		668						
6597		6475		6618		6610		6632		6597		6578		6627		6655		6748		0°76753		0°77105		0°76475		0°00610
6550		6505		6577		6554		6594		6541		6530		6585		6601		6671		0°76688		0°76967		0°76501		0°00466

Horizontal Intensity.

December 1882. 0-07000 (C.G.S.)+ Göttingen Mean Time.

Selected undisturbed days during

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.														
6	703	681	670	685	676	676	677	591	548	576	580	656	648	662
8	677	681	681	676	676	674	676	676	674	676	666	658	662	610
14	691	695	681	689	683	683	685	677	676	653	654	672	568	626
15	683	687	695	697	699	683	679	679	687	668	668	682	662	681
070000+	6885	6860	6818	6868	6835	6790	6793	6588	6461	6433	6420	6678	6625	6447

January 1883.

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.														
2	660	666	687	716	710	705	708	705	689	683	674	658	651	559
3	660	676	676	679	672	705	670	672	664	653	519	646	670	624
11	736	705	708	708	711	732	672	664	668	673	668	670	666	662
13	672	679	679	674	678	676	674	674	676	676	676	668	666	668
21	653	679	679	666	673	664	679	681	670	504	500	553	601	597
070000+	6762	6792	6840	7046	7006	6964	6806	6792	6734	6376	6074	6410	6508	6220
070000+	6824	6816	6829	6957	6921	6877	6800	6675	6599	6405	6247	6544	6567	6334

February 1883.

Selected undisturbed days during

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.														
7	679	666	685	697	678	712	732	747	676	678	631	658	653	662
8	678	683	678	683	689	681	695	716	693	651	616	605	653	658
10	685	736	743	747	818	761	755	740	714	687	580	664	660	644
11	670	672	674	674	678	679	683	674	630	630	632	630	681	685
12	670	674	670	676	678	678	685	676	691	678	670	666	610	614
13	678	678	676	678	678	678	676	678	678	681	678	676	672	676
070000+	6767	6848	6877	6928	7032	6965	7043	7052	6803	6642	6328	6498	6548	6582

March 1883.

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.														
11	724	687	693	672	683	685	685	689	603	662	658	536	615	563
15	672	679	676	697	724	691	670	662	586	666	662	651	647	658
17	666	674	683	695	699	697	701	683	593	672	555	641	641	645
19	668	664	664	670	674	697	697	693	697	689	641	653	649	681
20	668	670	676	683	691	695	697	691	689	687	689	689	689	687
070000+	6796	6782	6784	6822	6934	6884	6900	6836	6336	6752	6430	6340	6522	6468
070000+	6782	6800	6831	6875	6983	6925	6972	6944	6570	6697	6379	6419	6535	6525

Fort Rae.

the months of December 1882 and January 1883. (Bifilar Magnetometer.)

December 1882.

h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	Mean.	Highest.	Lowest.	Difference.
658	662												
662	610												
662	681												
6635	6447												
660	641	679	644	685	651	670	677	677	699				
656	666	672	670	666	662	656	656	658	664				
631	668	685	677	677	656	664	662	666	679				
658	685	672	630	668	662	664	649	591	670				
6513	6675	6770	6570	6740	6582	6635	6610	6480	6780	0'076660	0'076885	0'076420	0'000465

January 1883.

h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	Mean.	Highest.	Lowest.	Difference.
651	559												
670	624												
666	662												
666	668												
601	597												
6508	6220												
6567	6134												
508	582	693	660	607	626	639	635	676	654				
531	599	660	656	660	656	631	662	638	624				
600	662	670	670	681	658	658	662	662	662				
647	531	514	601	643	668	670	662	662	660				
563	630	681	630	666	662	664	649	666	651				
5818	6012	6468	6410	6468	6326	6560	6540	6640	6562	0'076556	0'077046	0'075818	0'001228
6166	6344	6619	6490	6604	6554	6598	6575	6560	6671	0'076608	0'076957	0'076166	0'000791

the months of February and March 1883.

February 1883.

h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	Mean.	Highest.	Lowest.	Difference.
653	662												
651	658												
660	654												
681	685												
610	614												
672	676												
648	682												
676	678	676	653	661	654	651	660	685	664				
626	588	619	651	645	647	660	662	674	678				
603	661	670	670	681	668	654	658	664	668				
678	648	588	649	645	664	662	668	666	670				
656	641	622	653	649	666	660	660	672	681				
643	662	647	666	668	660	662	668	691	674				
6470	6482	6401	6570	6581	6598	6612	6660	6753	6725	0'076699	0'077052	0'076328	0'000724

March 1883.

h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	Mean.	Highest.	Lowest.	Difference.
635	563												
647	658												
641	645												
649	681												
687	687												
627	609	630	643	674	670	662	674	666	668				
687	685	681	681	679	676	660	654	664	664				
662	670	687	664	672	677	664	666	672	641				
646	681	661	668	677	658	664	656	664	666				
685	693	687	679	676	664	662	664	672	681				
6474	6676	6732	6670	6756	6690	6624	6628	6676	6640	0'076672	0'076934	0'076336	0'000398
6472	6579	6568	6620	6670	6644	6618	6644	6715	6683	0'076686	0'076983	0'076379	0'000604

Horizontal Intensity.

April 1883. 0-07000 (C.G.S.)+ Göttingen Mean Time.

Selected undisturbed days during

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23		
Days.																
10	654	662	695	689	697	676	676	678	679	679	683	679	660	686		
14	658	728	710	710	707	736	707	695	697	683	689	683	681	685		
17	664	676	678	703	705	708	645	591	691	689	679	668	684	67		
21	666	681	695	718	724	695	681	641	676	679	663	676	680	6		
22	674	673	673	678	687	683	681	685	681	687	648	681	681	658		
23	666	683	681	689	678	681	683	679	678	681	683	651	670	656		
070000+	6660	6840	6888	6995	6997	6965	6788	6615	6837	6830	6808	6730	6710	6372		

May 1883.

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23	
Days.															
9	720	674	660	673	701	716	683	683	683	651	563	582	676	666	
10	689	695	703	685	734	740	716	710	689	683	687	674	635	689	
11	679	718	745	720	699	712	703	701	611	497	612	610	610	603	
12	699	712	732	734	767	759	730	869	599	643	679	666	691	706	
13	626	681	695	691	701	714	697	681	593	628	691	674	697	695	
15	683	685	695	687	716	745	697	672	583	593	639	597	605	603	
070000+	6877	6943	7050	6981	7220	7310	7027	6693	6382	6228	6452	6338	6657	6603	
070000+	6769	6891	6969	6989	7109	7138	6908	6654	6610	6519	6630	6534	6689	6488	

June 1883.

Selected undisturbed days during

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23
Days.														
4	708	691	718	712	734	714	685	617	618	626	672	705	708	534
5	681	708	730	730	693	681	685	683	691	681	662	641	679	695
11	707	732	759	812	798	775	687	601	611	645	588	672	693	676
15	699	701	738	753	699	683	691	699	693	693	695	701	691	701
070000+	6988	7080	7363	7518	7285	7133	6870	6550	6633	6642	6543	6797	6928	6515

July 1883.

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23
Days.														
21	695	693	699	691	668	685	660	668	612	578	672	685	695	689
22	666	672	674	683	691	689	681	648	681	679	672	676	691	705
23	674	676	741	755	701	678	716	616	553	593	630	645	651	716
28	676	676	679	674	681	681	683	697	687	679	679	679	676	685
29	687	666	679	687	705	749	722	757	678	674	582	658	693	683
070000+	6796	6766	6744	6980	6892	6964	6928	6832	6442	6406	6430	6686	6812	6936
070000+	6892	6923	7054	7249	7089	7049	6899	6691	6538	6509	6497	6742	6870	6736

YEAR
REVUE JUIL 1883
ATLANTA

Vertical Intensity.

September 1882. 0-6100 (C.G.S.) + Göttingen Mean Time.

Selected undisturbed days during

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.														
16	81	82	93	80	80	77	82	80	81	80	80	78	80	81
24	82	83	84	83	86	83	84	83	79	80	81	81	81	83
29	78	79	77	76	77	76	73	63	68	79	80	80	91	84
30	77	77	77	76	77	77	77	71	70	80	80	81	82	76
0-61000+	795	802	828	788	800	783	790	743	745	798	825	830	828	810

August 1883.

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.														
4	83	83	84	82	80	83	80	81	77	81	82	82	83	85
9	80	80	79	79	78	78	77	77	67	81	80	80	80	80
10	77	78	77	77	76	77	77	77	78	77	77	77	77	77
16	73	74	75	74	74	74	74	75	74	73	75	75	75	75
17	75	75	75	74	74	75	74	73	73	73	73	73	75	75
31	78	69	68	69	69	69	68	68	68	67	68	68	68	68
0-61000+	777	765	763	758	752	760	750	740	728	760	758	760	763	767
0-61000+	786	774	796	773	776	772	770	742	737	779	792	795	796	789

October 1882.

Selected undisturbed days during

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.														
1	75	75	74	71	73	74	74	73	70	75	80	84	74	74
19	78	79	78	78	80	79	78	77	78	71	77	77	79	81
20	78	76	77	77	78	78	78	75	75	75	74	74	73	74
31	75	75	75	73	75	75	75	73	73	73	73	72	73	73
0-61000+	765	763	760	748	765	765	755	745	740	733	760	768	748	755

November 1882.

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.														
4	55	56	55	55	55	55	55	54	56	58	58	57	58	62
10	67	68	68	69	69	68	68	69	71	69	69	69	71	71
11	72	72	72	73	72	72	72	73	73	72	70	73	73	72
29	84	85	85	83	83	74	79	78	85	82	84	82	82	80
0-61000-	695	703	700	700	698	673	685	685	713	703	703	703	710	713
0-61000+	730	733	730	724	732	719	720	715	724	718	732	736	729	734

Fort Rae.

the months of September 1882 and August 1883. (Balance Magnetometer).

September 1882.

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23
80		77		78		78		80		80		78		79		79		81	
83		81		81		81		83		81		81		81		81		82	
80		77		74		73		75		75		76		77		76		77	
76		80		75		72		75		77		77		76		77		75	
79 ^R		78 ^R		77 ^o		76 ^o		78 ^o		78 ³		78 ^o		78 ³		78 ^R		78 ^R	
																.61791	.61830	.61715	.00087

August 1883.

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23
80		80		80		80		80		79		79		80		80		81	
79		78		77		77		77		77		76		77		77		77	
77		75		75		74		75		74		75		75		77		77	
76		75		71		72		75		73		74		75		75		75	
75		73		73		74		74		73		74		76		76		75	
68		68		68		68		66		65		66		68		68		67	
75 ^R		74 ^R		74 ^o		74 ²		74 ²		73 ⁵		74 ^o		74 ^R		75 ⁵		75 ³	
																.61753	.61777	.61728	.00049
77 ^R		76 ^R		75 ⁵		75 ¹		76 ¹		75 ⁹		76 ^o		76 ⁶		77 ²		77 ¹	
																.61772	.61796	.61737	.00059

the months of October and November 1882.

October 1882.

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23
76		76		71		73		75		75		76		77		76		76	
77		77		73		74		74		75		75		76		76		77	
75		74		73 ^R		73		75		75		76		76		77		75	
72		73		71		72		73		72		73		73		71		73	
75 ^o		75 ^o		73 ^R		73 ⁵		73 ^R		74 ³		74 ^R		75 ⁵		75 ^R		75 ³	
																.61752	.61768	.61733	.00035

November 1882.

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23
64		64		60		61		60		55		56		56		55		53	
71		71		69		69		69		70		70		70		71		72	
72		73		72		77		74		77		77		77		77		78	
80		80		81		81		80		80		79		78		78		80	
71 ^R		74 ^o		70 ⁵		72 ^o		70 ^R		70 ⁵		70 ⁵		70 ¹		70 ⁵		71 ³	
																.61704	.61730	.61673	.00047
73 ⁴		73 ⁵		72 ²		72 ^R		72 ³		72 ⁴		72 ⁷		72 ⁹		73 ²		73 ³	
																.61728	.61736	.61715	.00021

Vertical Intensity.

December 1882. 0-6100 (C.G.S.) + Göttingen Mean Time.

Selected undisturbed days during

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.														
6	73	75	74	76	76	73	71	57	53	84	79	72	72	72
8	72	71	72	71	71	71	69	69	69	69	69	68	68	70
14	72	70	69	71	70	71	71	70	65	71	71	74	72	76
15	76	72	77	77	76	68	73	73	73	75	72	75	75	75
0-61000+	733	720	730	738	733	708	710	673	680	748	730	723	718	733

January 1883.

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.														
2	80	80	80	77	80	77	76	76	77	78	77	78	78	81
3	78	77	80	79	78	77	76	77	78	81	81	78	78	80
10	76	77	77	79	77	73	73	73	73	75	75	73	73	74
13	72	73	74	73	74	73	73	73	71	70	69	71	71	71
23	82	82	82	82	81	81	81	80	81	71	75	85	84	88
0-61000+	776	778	782	778	776	760	756	756	762	746	752	770	768	784
0-61000+	785	749	756	788	755	734	733	715	705	747	741	747	743	759

February 1883.

Selected undisturbed days during

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.														
2	79	80	80	78	78	75	71	74	77	77	82	77	78	75
8	76	78	77	77	79	79	77	74	76	75	79	75	75	74
10	77	78	81	79	77	71	52	73	73	73	75	74	78	79
11	76	77	76	77	77	75	75	75	75	73	68	67	79	75
12	77	73	77	76	77	77	68	68	68	67	68	69	69	66
13	68	68	69	70	69	68	68	67	68	69	69	69	69	69
0-61000+	755	757	767	762	762	742	685	718	705	718	732	745	742	732

March 1883.

Hours -	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23	h m 0 23	h m 1 23
Days.														
11	81	82	81	80	81	80	80	79	83	64	80	81	83	93
15	78	78	77	78	78	71	73	74	90	76	81	82	78	77
17	80	81	81	80	80	79	79	77	66	78	84	86	81	82
19	75	77	74	73	75	77	77	74	75	73	73	82	81	78
20	76	75	75	75	75	75	75	75	75	75	75	75	76	75
0-61000+	780	786	776	772	74	764	768	758	778	732	786	812	798	810
0-61000+	768	772	772	767	767	753	727	738	742	725	789	779	770	771

Fort Rae.

Days during

the months of December 1882 and January 1883. (Balance Magnetometer.)

December 1882.

m	h	m
23	1	23
72		72
68		70
72		76
75		75
18		733

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.			
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23					
73		73		74		75		74		73		70		68		72		75						
67		66		70		69		69		69		69		69		69		67						
71		69		71		71		71		70		70		69		76		78						
73		74		73		73		73		71		70		75		73		73						
708		705		718		720		718		705		698		703		725		730		61716	61748	61650	00098	

January 1883.

m	h	m
23	1	23
78		81
78		80
73		73
71		71
84		88
68		784
43		759

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.	
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23					
77		70		73		73		73		74		73		75		78		77						
78		75		77		77		78		77		77		77		78		80						
73		73		73		71		71		73		73		73		73		73						
71		80		66		63		69		71		71		69		69		70						
88		81		81		78		78		80		80		80		79		79						
773		738		738		736		736		748		746		748		744		756		61759	61784	61726	00058	
740		732		738		733		737		737		732		736		740		743		61738	61759	61705	00054	

Days during

the months of February and March 1883.

February 1883.

m	h	m
23	1	23
78		75
75		72
81		81
79		76
75		66
69		69
41		733

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.	
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23					
77		78		78		78		77		75		74		75		76		77						
77		75		73		75		73		72		73		73		76		78						
79		77		75		77		77		75		74		77		78		78						
74		73		70		71		77		75		73		76		76		77						
67		63		61		60		68		70		69		71		69		69						
71		68		63		67		67		66		67		68		68		68						
745		725		703		733		732		732		720		733		738		745		61734	61767	61685	00081	

March 1883.

m	h	m
23	1	23
81		93
78		77
81		82
81		81
77		78
76		75
98		810
70		771

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.	
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23					
73		73		73		73		79		80		81		80		77		80						
76		77		76		77		77		78		77		78		78		79						
79		81		78		78		80		77		75		77		78		77						
77		77		78		78		76		75		74		73		73		77						
74		75		76		76		75		74		74		75		75		77						
788		766		766		764		774		768		763		764		62		780		61724	61812	61732	00080	
767		746		735		744		751		745		741		749		750		761		61751	61779	61725	00054	

Vertical Intensity.

April 1883. 0° 6100 (C.G.S.) + Göttingen Mean Time.

Selected undisturbed days during

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23	
Days.															
10	80	84	85	83	82	84	82	84	84	84	83	84	85	80	83
14	85	85	84	84	83	81	83	82	82	81	84	84	80	80	83
17	81	81	82	80	82	78	75	73	78	79	80	81	84	84	81
21	82	83	83	84	79	75	69	70	70	78	81	80	80	83	83
22	80	79	78	78	78	77	77	77	78	78	77	77	80	80	81
23	78	79	80	79	79	78	78	77	77	80	77	77	80	80	81
0° 61000 +	822	818	820	808	805	788	773	772	803	810	817	825	830	845	

May 1883.

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23
Days.														
9	84	77	77	78	80	78	74	77	56	75	77	79	82	77
10	80	78	78	80	79	76	76	74	77	77	78	79	80	79
11	80	79	82	80	78	78	77	77	67	92	90	89	89	91
12	78	81	81	80	68	72	74	71	73	75	80	79	78	78
13	77	78	80	78	78	77	77	75	74	88	81	82	82	85
15	77	78	78	77	79	74	72	77	81	91	85	80	85	80
0° 61000 +	788	788	793	788	770	755	745	752	712	832	818	811	827	817
0° 61000 +	805	803	807	798	788	772	759	762	758	822	818	819	829	821

June 1883.

Selected undisturbed days during

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23
Days.														
4	81	80	78	80	79	77	75	64	83	88	86	85	86	91
5	79	80	80	78	79	78	78	78	75	78	84	84	81	79
11	82	80	80	77	73	72	72	72	71	71	84	84	80	82
15	78	79	79	78	79	78	78	78	78	78	79	79	80	79
0° 61000 +	800	798	791	783	775	763	760	730	768	790	813	813	818	828

July 1883.

Hours -	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0 23	1 23	2 23	3 23	4 23	5 23	6 23	7 23	8 23	9 23	10 23	11 23	0 23	1 23
Days.														
21	75	77	76	77	76	74	75	75	75	78	74	74	74	75
22	77	77	77	77	79	78	75	77	77	77	77	77	78	78
23	78	78	77	81	78	78	76	76	80	75	79	77	77	78
28	79	79	80	80	80	80	79	78	78	77	76	77	79	78
29	78	79	78	79	80	78	72	72	67	80	78	77	77	79
0° 61000 +	774	780	780	788	786	770	754	750	751	774	768	764	770	776
0° 61000 +	787	789	787	786	781	767	757	742	761	782	801	799	794	802

Fort Rao.

days during

the months of April and May 1883 (Balance Magnetometer).

April 1883.

m	h	m
23	1	23
85		90
80		81
86		80
84		81
83		81
80		81
810		845

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.					
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23					
84		84		81		84		81		81		81		85		86		86						
83		84		83		82		81		81		81		82		81		80						
81		81		81		82		82		80		82		81		80		80						
77		80		80		80		80		80		78		78		79		80						
78		77		75		74		78		77		77		77		78		77						
81		77		77		78		78		76		77		77		78		78						
810		805		795		800		807		798		798		800		803		800						

May 1883.

m	h	m
23	1	23
82		77
80		79
89		91
78		78
83		85
85		80
817		817
839		831

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.	
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23					
79		80		80		79		79		78		77		78		79		81						
78		77		77		76		76		74		75		77		77		79						
77		75		76		77		77		77		77		77		77		78						
77		77		78		76		77		77		76		77		77		77						
86		84		78		70		75		75		71		75		76		78						
77		75		73		73		76		80		77		78		78		78						
794		777		763		752		767		768		758		770		773		785						
801		791		779		776		787		783		778		785		788		793						

days during

the months of June and July 1883.

June 1883.

m	h	m
23	1	23
86		91
81		79
80		82
80		79
818		828

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.	
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23					
84		80		78		78		77		77		77		77		76		77						
78		77		78		77		78		76		75		75		76		77						
86		78		78		78		78		75		76		76		75		75						
80		78		79		78		78		77		78		77		78		79						
820		781		781		778		778		763		765		763		763		770						

July 1883.

m	h	m
23	1	23
74		75
78		78
77		78
79		78
77		79
770		776
794		802

h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	Mean.	Highest.	Lowest.	Difference.	
2	23	3	23	4	23	5	23	6	23	7	23	8	23	9	23	10	23	11	23					
76		76		76		74		73		73		73		75		75		76						
77		77		77		77		75		76		75		75		77		77						
78		77		77		77		75		74		75		75		73		75						
80		78		76		77		76		78		76		77		77		77						
78		77		77		76		75		75		76		75		76		77						
778		770		766		762		748		752		750		754		756		764						
799		777		774		770		763		758		758		759		760		767						

Hourly Means of the selected undisturbed days grouped

Declination.

40° +

Hours	h 0	m 23	h 1	m 23	h 2	m 23	h 3	m 23	h 4	m 23	h 5	m 23	h 6	m 23	h 7	m 23	h 8	m 23	h 9	m 23	h 10	m 23
Sept. 1882, Aug. 1883 -	0	19.5	0	20.1	0	20.7	0	20.1	0	19.9	0	20.9	0	19.6	0	25.0	0	20.4	0	22.0	0	24.4
Oct. and Nov. 1882 -	0	21.7	0	23.0	0	22.7	0	24.1	0	22.9	0	24.7	0	24.4	0	23.2	0	24.1	0	22.8	0	24.3
Dec. 1882, Jan. 1883 -	0	16.3	0	14.3	0	15.1	0	15.0	0	16.4	0	18.0	0	16.8	0	17.2	0	14.0	0	17.8	0	22.2
Feb. and March 1883 -	0	10.6	0	10.1	0	11.1	0	10.4	0	10.5	0	11.6	0	10.6	0	12.8	0	16.2	0	10.2	0	14.9
April and May 1883 -	0	5.0	0	4.7	0	6.5	0	7.9	0	8.4	0	8.8	0	7.6	0	8.7	0	12.3	0	12.2	0	13.3
June and July 1883 -	0	6.1	0	8.3	0	6.8	0	6.5	0	10.1	0	10.7	0	10.0	0	7.8	0	3.7	0	10.6	0	13.1
Mean -	0	13.2	0	13.4	0	13.7	0	14.0	0	14.7	0	15.8	0	14.8	0	15.8	0	15.1	0	15.9	0	18.7

Horizontal Intensity.

0.07000 (C.G.S.) +

Hours	h 0	m 23	h 1	m 23	h 2	m 23	h 3	m 23	h 4	m 23	h 5	m 23	h 6	m 23	h 7	m 23	h 8	m 23	h 9	m 23	h 10	m 23
Sept. 1882, Aug. 1883 -	6	743	6	773	6	756	6	784	6	774	6	787	6	853	6	635	6	643	6	650	6	644
Oct. and Nov. 1882 -	6	762	6	777	6	687	6	6818	6	6870	6	6967	6	6918	6	6884	6	6778	6	6690	6	6700
Dec. 1882, Jan. 1883 -	6	824	6	6826	6	6829	6	6957	6	6921	6	6877	6	6800	6	6675	6	6599	6	6405	6	6247
Feb. and March 1883 -	6	782	6	6800	6	6831	6	6875	6	6983	6	6915	6	6972	6	6944	6	6570	6	6997	6	6379
April and May 1883 -	6	769	6	6891	6	6969	6	6989	6	7109	6	7138	6	6908	6	6654	6	6610	6	6519	6	6630
June and July 1883 -	6	6891	6	6923	6	7054	6	7249	6	7089	6	7049	6	6899	6	6691	6	6535	6	6509	6	6497
Mean -	6	770	6	6832	6	6888	6	6945	6	6958	6	6927	6	6892	6	6742	6	6590	6	6562	6	6481

Vortical Intensity.

0.61000 (C.G.S.) +

Hours	h 0	m 23	h 1	m 23	h 2	m 23	h 3	m 23	h 4	m 23	h 5	m 23	h 6	m 23	h 7	m 23	h 8	m 23	h 9	m 23	h 10	m 23
Sept. 1882, Aug. 1883 -	7	86	7	84	7	96	7	73	7	76	7	72	7	70	7	74	7	737	7	779	7	792
Oct. and Nov. 1882 -	7	35	7	33	7	30	7	24	7	22	7	219	7	20	7	215	7	234	7	218	7	232
Dec. 1882, Jan. 1883 -	7	55	7	49	7	56	7	58	7	55	7	54	7	53	7	55	7	505	7	547	7	541
Feb. and March 1883 -	7	68	7	72	7	72	7	767	7	767	7	753	7	727	7	738	7	742	7	725	7	759
April and May 1883 -	8	05	8	01	8	07	8	08	8	08	8	07	8	09	8	02	8	08	8	823	8	818
June and July 1883 -	7	87	7	89	7	87	7	86	7	81	7	87	7	87	7	83	7	861	7	802	7	801
Mean -	7	77	7	77	7	75	7	768	7	767	7	753	7	744	7	736	7	738	7	762	7	774

ia pairs of Months (Göttingen Mean Time).

Declination.

	h m 11 23	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23
	0 37'3	0 27'9	0 33'9	0 40'2	0 41'3	0 42'0	0 37'5	0 34'9	0 26'6	0 22'8	0 18'3	0 16'4	0 15'3
	0 32'5	0 29'0	0 31'4	0 34'7	0 36'6	0 38'5	0 37'7	0 32'6	0 29'5	0 25'7	0 25'0	0 21'3	0 21'7
	0 19'8	0 22'3	0 26'8	0 31'0	0 29'6	0 25'6	0 27'4	0 24'7	0 22'3	0 19'2	0 18'3	0 13'2	0 13'6
	0 17'4	0 20'4	0 21'4	0 25'0	0 25'8	0 27'1	0 24'8	0 22'3	0 18'3	0 14'7	0 10'2	0 9'4	0 8'6
	0 16'3	0 15'4	0 24'6	0 28'9	0 32'9	0 33'1	0 31'7	0 26'3	0 20'5	0 13'9	0 8'2	0 7'7	0 5'2
	0 15'1	0 20'0	0 26'0	0 30'7	0 35'2	0 32'5	0 31'4	0 29'1	0 24'6	0 15'1	0 9'6	0 7'9	0 6'9
	0 22'2	0 22'5	0 27'3	0 31'9	0 33'6	0 33'1	0 31'7	0 28'3	0 21'6	0 18'6	0 14'9	0 12'7	0 11'9

(Bifilar Magnetometer.)

Horizontal Intensity.

	h m 11 23	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23
	6336	6438	6456	6368	6561	6656	6669	6631	6541	6495	6514	6660	6691
	6501	6643	6601	6559	6505	6577	6554	6593	6541	6530	6585	6601	6671
	6544	6567	6534	6166	6344	6619	6490	6604	6534	6598	6575	6560	6671
	6419	6535	6525	6472	6579	6568	6620	6670	6644	6618	6644	6715	6683
	6534	6689	6488	6628	6722	6727	6693	6793	6783	6713	6704	6703	6749
	6742	6870	6736	6768	6724	6884	6853	6761	6660	6640	6616	6646	6679
	6496	6622	6523	6492	6573	6680	6647	6676	6621	6599	6606	6648	6691

(Balance Magnetometer.)

Vertical Intensity.

	h m 11 23	h m 0 23	h m 1 23	h m 2 23	h m 3 23	h m 4 23	h m 5 23	h m 6 23	h m 7 23	h m 8 23	h m 9 23	h m 10 23	h m 11 23
	795	796	789	778	768	755	751	761	759	760	766	772	771
	736	729	734	734	735	722	722	723	724	727	729	732	733
	747	743	739	740	732	728	723	727	727	722	726	740	743
	779	770	771	767	746	735	744	753	745	741	749	750	753
	819	829	831	801	791	779	776	787	783	778	785	788	793
	799	794	802	799	777	774	770	763	758	758	759	760	767
	779	777	781	770	758	749	749	752	749	748	752	757	762

37° 4

Readings on selected disturbed days during the

Hours -	A.M.												
	0	23	1	1 23	2	2 23	3	3 23	4	4 23	5	5 23	6
Days, 1882.													
October	6	3 13'6 ↑		3 13'3 ↓		3 13'3 =		3 13'3 ↓		3 28'3 ↓		3 48'3 ↑	
"	28	3 12'0 ↑		3 19'7 ↓		3 35'3 ↑		3 21'0 ↓		2 41'3 ↓		3 39'3 ?	
November	12	3 23'7 ↑		3 25'0 ↓		3 19'7 =		3 22'0 ?		3 29'3 =		3 19'0 =	
"	15	3 23'7 ↑		3 20'7 ?		3 1'3 ↑		2 25'7 ↓		2 9'7 ↑		3 9'0 ↑	
"	17	3 14'7 ↓		3 10'3 ↓		3 23'7 ↑		3 14'7 =		3 28'3 ↓		3 15'3 ↑	
"	18	3 32'0 ↑		4 37'3 ↓		3 53'7 ↓		0 36'0 ↓		3 4'0 ↓		3 36'3 ↑	
"	19	3 39'0 ?		3 17'3 ↓		3 12'0 ↓		3 38'0 ↑		4 30'1 ↓		3 38'0 ?	
"	20	3 32'0 ↓		4 17'3 ↑		4 13'7 ↓		4 35'0 ↓		3 21'3 ↓		2 56'3 ↓	6 36'7 ↓
December	20	3 17'7 =		3 17'3 =		3 18'0 =		3 17'8 =		3 15'2 =		3 13'3 ↓	
"	21	3 37'7 ↓		3 28'3 ↓		3 18'3 =		5 27' =	3 35'0 ↓	3 33'2 ?		4 43'3 ↑	
1883.													
February	24	3 3'3 =		3 2'3 ↓		3 1'7 =		3 8'8 =		3 11'7 =		3 13'7 ?	
"	25	2 46'2 ?	2 46'2 ?	2 53'5 ?		3 5'0 ?	3 0'3 ↑	2 24'7 ↓	2 21'0 ↑	2 46'8 ↓	2 37'7 ↓	2 4'3 ↓	2 51'0 ?
"	27	3 10'0 =		3 2'3 =		3 6'7 =		3 13'8 =		3 29'5 ↑		3 7'0 ↓	
"	28	3 8'8 ↑		3 8'2 =		3 15'5 ?		3 10'7 ?		2 57'7 ↓		2 31'7 =	
March	27	2 44'3 ↓	2 43'0 ?	3 7'3 ↓		2 54'0 ?		2 43'8 =	3 7'3 =	3 40'3 ↓	2 20'7 ↑	2 35'7 ↑	3 1'5 ?
April	3	2 58'5 ↓		2 29'3 ?		3 5'0 ?		3 7'3 =		3 7'8 =		3 2'2 =	
May	21	3 10'0 =	2 53'0 ?	3 5'0 ?	2 38'0 ?	3 59'0 ?		2 34'0 ?		2 19'0 ↓		2 3'0 ?	
"	22	3 9'0 ↑	2 56'0 ?	3 5'0 ?	2 58'0 ?	3 5'0 ?		2 30'0 ?	3 3'0 ?	3 1'0 ↓		2 57'0 ↓	3 40'0 ↑
June	18	3 36'0 ↑	2 30'0 ?	2 42'0 ↓	2 56'0 ?	2 50'0 ↓	2 3'0 ?	3 15'0 ↑	2 48'0 ?	2 21'0 ↑		2 54'0 ↑	
"	27	3 11'0 ↑		3 6'0 ↓		3 6'0 =		3 9'0 ↑		3 8'0 ↑		2 58'0 ↓	
P.M.													
Hours -	0	23	1	1 23	2	2 23	3	3 23	4	4 23	5	5 23	6
Days, 1882.													
October	6	2 50'0 ?		3 31'6 ↑		4 32'6 ↓		3 47'0 =		3 41'0 =		3 56'0 ↑	
"	28	3 35'3 =		4 3'0 ↓		4 59'7 ↓		4 43'0 ↓		4 18'3 ↓		4 2'7 ↑	
November	12	4 5'0 ↑		5 40'2 ↑		5 57'3 ↓	6 14'0 ?	3 34'3 ↑		4 11'0 ↑		4 19'3 ↓	
"	13	4 13'3 ↑		5 49'7 ↑		4 10'3 ↓		3 49'3 ?		5 40'7 ↑		6 12'0 ↑	
"	17	0 13'0 ↓		4 36'0 ↓		3 20'7 ↓		3 42'7 ↓		4 46'7 ↑		3 30'0 ↑	
"	18	2 32'7 ↑		3 29'3 ↓		3 20'7 ↓		4 14'7 ↑		3 51'0 ↓		4 19'0 ↓	
"	19	4 52'3 ↓		5 4'3 ↑		7 16'7 ↑	0 41'7 ↑	3 4'7 ↑	4 40'3 ↑	5 30'0 ↑	5 27'3 ↓	4 30'7 ↑	4 34'0 ↑
"	20	4 6'7 ↓	4 5'8 ?	4 31'3 =	4 24'7 ↓	3 24'3 ↑		4 24'7 ↓		3 37'7 ↓		4 10'0 ↑	
December	20	3 44'3 ↑		3 26'3 =		4 28'7 ↑		4 59'7 ↓	6 29'7 ↑	4 56'3 ↓	3 12'0 ?	3 51'3 ↓	3 21'0 ?
"	21	3 22'7 ↑		3 44'7 =		4 42'0 ?		4 35'0 ↓		4 10'3 ↓		3 29'7 ?	
1883.													
February	24	3 22'7 ↑		3 26'0 ↓		3 4'7 ↓		4 39'7 ?	5 18'0 ↑	8 14'3 ↓	6 35'0 ↓	6 13'3 ↑	3 30'7 ↑
"	25	2 28'2 ↑	3 28'0 ?	4 10'0 ↓	3 40'0 ?	3 31'0 ↓		3 10'8 ↑		3 25'3 ↓		3 18'3 ↓	
"	27	3 32'7 =		3 23'0 ↑		3 27'7 =		3 10'2 ↓	4 20'0 ↑	4 34'7 ↑		5 2'0 ?	5 32'0 ?
"	28	3 20'0 ↑	4 8'5 ?	3 6'3 ↑	4 50'0 ↑	4 38'0 ↑	3 11'0 ?	4 9'3 ↑	3 28'0 ?	3 51'0 ↑	6 47'3 ↑	4 56'3 ↓	3 42'0 ?
March	27	4 36'7 ?	3 33'7 ↓	3 36'7 ↑	4 14'3 ↑	4 54'0 ↓	4 30'5 ?	5 26'3 ↓	3 27'7 ↑	4 39'3 ↑	4 16'3 ↑	3 55'3 ↓	4 30'0 ↓
April	3	4 3'7 ↓	3 21'5 ?	3 27'6 ↓	3 11'0 ↓	3 24'7 ↓		4 12'7 ↑		5 6'0 ↑	4 26'3 ↓	5 5'7 ↓	4 8'5 =
May	21	4 38'0 ↓	4 5'0 ↓	4 7'0 ↑	3 42'0 ?	3 46'0 ?		3 2'0 ↓	4 48'0 ↑	4 20'0 ↑	4 16'0 ?	3 51'0 ?	
"	22	3 10'0 ↑		3 28'0 =	3 34'0 ?	3 28'0 ↑		4 27'0 ↑		4 18'0 ?		3 41'0 ?	
June	18	3 48'0 ↑	1 13'0 ?	3 32'0 ↑	4 3'0 ?	3 39'0 ↓	3 56'0 ↓	4 0'0 ↓		4 27'0 ↑		4 5'0 ↓	
"	27	5 51'0 ↓	3 15'0 ?	4 1'0 ↓	3 11'0 ↓	3 25'0 ↓	4 28'0 ↑	4 51'0 ↓	5 3'0 ↓	4 24'0 ↓		4 7'0 ↑	3 40'0 ?

s during the

Year 1882 and 1883.—Göttingen Mean Time.

M. 23		H. 6		H. M. 6 23		H. 7		H. M. 7 23		H. 8		H. M. 8 23		H. 9		H. M. 9 23		H. 10		H. M. 10 23		H. 11		H. M. 11 23		Noon.		
3 37				2 30.6 ↓				2 50.6 =				6 4.0 ↓					4 27.0 ↓			2 52.0 ↑				3 54.0 ↑				
3 37				3 1.7 ↑				3 3.3 ↑				3 30.0 ?					3 29.3 ↑			3 28.7 =				3 23.7 =				
3 0 =				3 6.7 =				5 49.7 ↑		4 48.0 =		4 1.7 ↑					3 1.0 =			4 18.3 ↑				3 10.7 ↑				
3 0 ↑				3 0.7 ↓				3 27.3 ?				3 6.3 ↑					4 0.0 ↓		2 15.0 ?	2 12.0 ↓				6 6.7 ↑				
3 3 ↑				3 17.0 ↑				3 24.3 ↓				3 7.3 ↓					3 11.3 ?			4 7.0 ↑				0 12.3 ↑			0 0.0 ↓	
3 3 ↑				2 45.0 ↓				3 15.3 ↑				3 22.0 ↓					4 28.7 ↓			5 49.7 ↑				4 20.0 ↓			2 23.3 ↑	
3 0 ↑				3 38.3 ↑				3 40.7 ↓				3 33.3 ↑					2 36.3 ↑			2 44.3 ↑				3 29.7 ↓				
3 3 ↓	6 36.7 ↓			3 16.0 ↓				3 49.3 ↓				2 30.7 ↓					0 12.3 ↓			1 37.3 ↑		4 33.3 ↑		5 30.0 ↓				
3 3 ↓				3 17.7 =				3 14.3 =				3 16.3 ↑		3 51.3 ↓		3 35.3 ↑				3 38.0 =				3 35.0 =				
3 3 ↑				4 18.3 ?				2 43.3 ↑		1 30.3 ↑		2 7.7 ↓		0 0.7 ↓		2 49.0 =				4 45.3 ↓				4 11.7 ↓				
7 7 ↑				3 4.3 ↑			2 5.3 ↓	2 44.5 ↑		2 59.7 ↑		3 5.7 ↑				3 12.3 =				3 45.3 ↑				3 38.7 ↑		3 39.0 ?		
3 3 ↓	2 51.0 ?			2 32.7 ↑		2 39.0 =		2 3.0 ?		2 44.7 ↓		2 40.0 ?		4 43.3 ↓		3 13.0 ↓		2 44.0 ↑		2 18.7 ↓		3 51.0 ?		3 45.0 ↓		2 56.0 ?		
3 0 ↓				3 8.0 ↑				3 17.3 ↓				3 2.5 =				3 42.3 ↓		3 37.3 ↑		3 18.0 =				3 23.7 =				
7 7 =				3 33.7 ↑				4 23.3 ↓		2 20.3 ↑		3 13.3 ↓				3 35.7 ↑		2 23.7 ↓		3 8.3 ?				3 17.7 ↓				
7 7 ↑	3 1.5 ?			3 4.3 ↑				3 2.0 =				2 80.7 ↓		4 3.3 ↓		2 47.3 ↑		1 52.3 ↓		3 21.7 ↑				4 41.0 ↑		3 19.3 ↓		
7 2 =				3 0.7 =				2 56.7 =				2 35.3 ↓		2 41.0 ↓		2 40.3 ↑				2 33.0 ↓				3 10.0 ↓				
3 0 ↑				3 32.0 ↓				2 22.0 ↓		2 47.0 ↑		3 25.0 ↑		2 12.0 ↓		4 18.0 ↑		2 54.0 ?		2 49.0 ↓				3 26.0 ↓				
3 0 ↓	3 40.0 ↑			3 6.0 ↓		2 55.0 ?		2 45.0 ?				1 45.0 ↑		3 7.0 ?		2 19.0 ?		2 56.0 ?		2 58.0 =				3 23.0 ↑				
3 0 ↓				3 46.0 ↓		2 32.0 ↓		3 36.0 ↓		2 27.0 ↓		3 31.0 ↓		3 11.0 ↑		2 28.0 ?		3 26.0 ↓		2 21.0 ↓		3 37.0 ↓		3 7.0 ↑		3 30.0 ?		
3 0 ↓				2 54.0 ?				2 58.0 ↓				2 50.0 ?				3 8.0 ↑				2 32.0 ↓		3 39.0 ↓		4 17.0 ↓		5 9.0 ↑		

M. 23		H. 6		H. M. 6 23		H. 7		H. M. 7 23		H. 8		H. M. 8 23		H. 9		H. M. 9 23		H. 10		H. M. 10 23		H. 11		H. M. 11 23		Midnight.		
6.0 ↑				3 49.3 =				3 15.0 =				3 12.6 =				3 22.6 ↓				3 13.0 ↓				3 20.3 =				
2.7 ↑				3 29.0 ↑				3 30.7 ↓				3 19.0 ↑				3 27.3 ↓				3 3.7 ↑				3 28.7 ↓				
3 9.3 ↓				3 38.3 ↓				3 33.7 ?				3 27.7 ↑				3 10.0 ↓				3 17.7 ↓				3 19.7 ↑				
2.0 ↑				5 32.7 ↓				4 32.7 =				3 43.3 =				2 29.3 ↓				3 48.3 ↓				3 53.0 ↓				
0.0 ↑				*7 50.0 ?		*8 6.0 ?		7 6.7 ↑				4 16.7 ↓				4 46.3 ↓				3 16.7 ?				4 3.7 ↑				
9.0 ↓				3 37.3 ↓				4 41.7 ↓				4 0.3 ↑				3 29.3 ↑				4 38.0 ?				4 11.0 ↓				
0.7 ↑	4 34.0 ↑			4 18.0 ↓				3 42.3 ↑				3 34.0 ↓				3 23.3 ↑				3 25.0 ↑				3 19.7 ↓				
0.0 ↑				4 5.7 ↑				4 36.7 ↓				4 33.3 ?				3 56.7 ↑				3 22.7 ↓				3 39.0 ↑				
1.3 ↓	3 21.0 ?			3 23.7 ↓				3 40.7 ↑				3 50.3 ↓				3 11.0 ↑				3 34.0 ↓				3 38.3 =				
9.7 ?				3 53.0 ↓				3 32.0 ↓				3 20.5 ↑				3 7.7 ↑				3 16.5 ↑				3 19.0 ↑				
3.3 ↑	3 30.7 ↑			4 13.7 ?		3 37.3 ↓		3 35.0 ↓		3 30.0 ?		3 31.7 ↓		4 50.0 ?		4 10.7 ↓		3 14.0 ?		3 17.0 ↓		2 54.0 ?		2 48.2 ↓				
8.3 ↓				3 25.7 ↑				3 19.3 ?				3 23.3 ↓				3 14.7 =				3 9.0 =				3 12.7 ↓				
2.0 ↑	5 32.0 ?			4 59.3 ↑		5 26.3 ↑		5 0.7 ↑		4 20.0 ?		3 36.0 ↓				3 51.0 ?				3 1.3 ?				2 52.8 ↓				
16.3 ↓	2 42.0 ?			4 43.3 ↑		3 37.3 ↑		3 20.3 ?		3 16.0 ?		3 2.3 ?				3 18.3 ?		3 7.0 ?		3 15.3 ?				3 26.7 ↑				
5.3 ↓	4 30.0 ?			5 20.0 ↑		4 9.0 ↑		3 59.7 ?		3 14.0 ↓		3 21.0 ↑				3 27.7 ↓				3 31.0 ↑		3 1.0 ?		3 0.3 ↑		2 46.3 ↑		
5.7 ↓	4 8.5 =			3 28.7 ?		4 41.0 ?		3 50.7 ↑				3 26.7 ↑				3 45.0 ↑				3 28.0 ↓				3 39.7 ↑				
11.0 ?				3 32.0 ↑				3 32.0 ↑				3 53.0 ↑		4 5.0 ?		4 9.0 ↓		4 5.0 ?		3 37.0 ?		3 19.0 ?		3 20.0 =		2 51.0 ?		
11.0 ?				3 40.0 ↓				3 19.0 ?				3 12.0 ↑				3 16.0 ?				3 14.0 ?				3 10.0 =				
5.0 ↓				3 44.0 ↓				3 25.0 ↑				3 35.0 ↑				3 25.0 ↑				3 14.0 ?		3 8.0 ?		2 54.0 ↑				
7.0 ↑	3 40.0 ?			3 48.0 ↑				4 4.0 ↑				3 48.0 ↓				3 23.0 ↑				3 9.0 =				3 12.0 =				

* Approximate.

0-07000. (C.G.S. Units.) +

Readings on selected disturbed days during the

Hours	Days 1882.	A.M.		H. 1	H. 1 23		H. 2	H. 2 23		H. 3	H. 3 23		H. 4	H. 4 23		H. 5	H. 5 23		H. 6
		H. 0	H. 23		H. 1	H. 23		H. 2	H. 23		H. 3	H. 23		H. 4	H. 23		H. 5	H. 23	
	October	6	734 ↓		808 ?		767 ↑		500 ↓		298 ↓		-004 ↑		270 ↑		714 ?		
	"	28	790 ↓		767 ↑		724 ↑		726 ↓		679 ↓		687 ↑		392 ↓		710 ↑		
	November	12	670 ?		757 ↓		806 ↓		751 ?		679 ↓		658 ↑		425 ↑		489 ↑		-441 ↓
	"	13	593 ?		557 ↓		536 ↑		605 ↑		745 ↑		194 ↓		572 ↑		546 ↑		
	"	17	810 ↓		782 ↑		792 ↑		745 ↑		173 ↓		258 ↑		712 ↓		467 ↓		
	"	18	450 ↑		216 ↑		144 ↑		173 ↓		519 ↑		137 ↑		388 ↑		559 ↓		
	"	19	455 ↑		749 ↓		724 ↑		519 ↑		745 ↑		716 =						
	"	20	641 ↑		588 ↓		283 ↓		137 ↑		258 ↑		716 =						
	December	20	660 =		668 =		666 =		676 =		388 ↑		559 ↓		548 ↓		467 ↓		
	"	21	553 ↑		550 ↑		601 ↓												
	1883.																		
	February	14	736 ↑		701 ↑		738 ↑		699 ↑		755 ?		718 ↑						
	"	25	833 ↓	881 ?	804 ↓		578 ↑	164 ↓	026 ↓	372 ↑	506 ↓	666 ↑	582 ↑	502 ?					
	"	27	693 ?		745 ↑		738 ↑		759 ?		763 ↑		741 =						
	"	28	871 ↓		948 ↓		895 ↓		830 ↑		765 ↓		633 ↓						
	March	27	796 ?	695 ?	660 ↑		745 ↑		612 ↓	517 ?	403 ↓	708 ↑	800 ?	765 ?					
	April	3	726 ↑		759 ↑		691 =		678 ↓		681 =		685 ↑						
	May	21	881 ?	897 ?	708 ↓	660 ?	647 ↓		551 ↑		555 ↓		599 ↑						
	"	22	859 ↓	726 ?	674 ↓	763 ?	782 ↑		597 ↑	796 ?	779 ↑		614 ↓	670 ?					
	June	18	853 ↓	833 ↑	857 ↓	749 ↓	835 ↓	710 ↑	743 ↓	767 ?	781 ↓		705 ↑						
	"	27	621 ↑		689 ↑		699 ?		701 ?		703 ↓		714 ↑						
Hours	Days 1882.	P.M.		H. 1	H. 1 23		H. 2	H. 2 23		H. 3	H. 3 23		H. 4	H. 4 23		H. 5	H. 5 23		H. 6
		H. 0	H. 23		H. 1	H. 23		H. 2	H. 23		H. 3	H. 23		H. 4	H. 23		H. 5	H. 23	
	October	6	229 ↑		185 ↓		296 ↑		678 ↓		745 ↓		440 ↓						
	"	28	660 ?		570 ↓		113 ↓		403 ↓		499 ↑		645 ↑						
	November	12	649 ↓		245 ↓		-002 ↑	364 ?	495 ↓		697 ↓		260 ↓						
	"	13	504 ↑		019 ↑		388 ↑		658 ↓		474 ↑		388 ↓						
	"	17	429 ?		337 ↓		457 ↑		570 ↑		728 ↓		1053 ↓						
	"	18	635 ↓		720 ↑		732 ↓		512 ↑		710 ↑		605 ↑						
	"	19	180 ↓		269 ↑		*	-004 ↓	-293 ↓	463 ↑	-051 ↑	331 ↓	597 ↑	591 ↑					
	"	20	-102 ↑	-309 ↑	196 ↑	375 ↑	855 ↑		716 ↑		855 ↓		966 ↓						
	December	20	570 ↓		497 ↓		424 ↓		099 ↑		184 ↑		544 ↑	745 ?					
	"	21	637 ?		612 ↓		394 ↓		467 ↑		589 ↓		674 ↑						
	1883.																		
	February	24	647 ?		668 ↑		747 ↑		469 ↑	094 ↓	-174 ↓	-215 ↓	017 ↑	338 ↑					
	"	25	668 ↓	326 ?	398 ↓	607 ?	651 ?		693 ↓		656 ↓		701 ?						
	"	27	597 ↑		605 ↑		617 ?		429 ↑	500 ?	497 ↑		399 ↓	327 ?					
	"	28	656 ↓	178 ?	276 ?	379 ?	261 ?	392 ?	553 ↑	660 ?	318 ↓	087 ↑	000 ↑	619 ?					
	March	27	555 ↓	643 ↑	538 ↑	578 ↓	405 ↓	424 ?	291 ↑	183 ↓	409 ↓	533 ↓	570 ?	517 ↓					
	April	3	601 ↓	346 ↑	377 ↓	679 ↑	722 ↓		716 ↑		646 ↓	796 ↓	822 ↓	720 ?					
	May	21	-026 ↑	311 ↑	386 ↓	555 ↑	612 ↓		095 ↑	368 ↓	292 ↑	597 ?	712 ↑						
	"	22	654 ↓		529 ↑	651 ?	591 ↓		555 ↓		586 ?		681 ↓						
	June	18	454 ↓	658 ↑	548 ↓	578 ↑	612 =	614 ?	599 ↑		485 ↑		675 ↑						
	"	27	538 ↓	521 ↑	418 ↑	200 ↓	364 ↓	424 ↓	379 ↑	372 ↑	656 ↑		555 ↓	580 ?					

Year 1882-83.—Göttingen Mean Time. (Bifilar Magnetometer).

	h. m. 6 23	h. 7	h. m. 7 23	h. 8	h. m. 8 23	h. 9	h. m. 9 23	h. 10	h. m. 10 23	h. 11	h. m. 11 23	Noon.
	491 ↓		632 ?		-143 =		-021 ↑		463 ?		550 ↓	
	352 ↑		548 ↓		624 ↑		676 ↓		681 ?		693 ↓	
	682 ↓		-332 ↑	-076 ?	493 ↓		538 ?		676 ↓		440 ↓	
	470 ↑		398 ↑		563 ↑		014 ↑	067 ?	236 ↓		212 ↑	
	685 ↓		597 ↓		668 ↓		630 ↓		457 ↓		*-1095 ?	-014 ↓
	474 ↓		487 ↓		424 ↓		331 ↓		389 ↑		-129 ↑	329 ↓
	618 ↑		557 ↓		576 ↓		403 ↑		572 ↓		437 ?	
443 ↑	-002 ↑		101 ↑		351 ↑		*	-680 ↑	-246 ↓	-160 ↑	207 ↑	
	728 ↓		668 ↓		506 ↓	527 ↑	365 ↑		531 ?		565 ↓	
	595 ↓		-060 ↑	315	-131 ↓	164 ↓	116 ↑		296 ↑		542 ↑	
	668 ↓	697 ↑	607 ↓	708 =	732 ?		677 =		616 =		401 ↓	565 ?
502 ?	362 ↑	392 ↑	31 ↓	497 ↓	580 ?	193 ↓	461 ↑	414 ↓	232 ↓	431 ?	478 ↓	536 ?
	718 ↑		693		576 ↑		294 ↓	448 ↑	614 ↑		653 ↓	
	616 ↓		178 ↓	329 ↑	708 ↓		506 ↓	540 ↑	435 ↓		620 ↑	
765 ?	728 ↑		656		588 ↓	372 ↑	469 ↓	372 ↓	444 ↓		395 ↓	527 ↑
	685 ↓		64 ↓		361 ↑	399 ↑	582 ↑		591 ↑		666 ↓	
	563 ↓		322 ↑	517 ↓	283 ↓	313 ↑	340 ↓	607 ?	660 ↓		628 ↑	
670 ↑	710 ↑	572 ?	324 ?		182 ↓	551 ?	348 ↑	574 ?	615 =		649 ↑	
	381 ↓	158 ↑	140 ↓	607 ↑	463 ↓	510 ↓	614 ↑	591 ↑	362 ↓	381 ↑	557 ↑	559 ↓
	678 ↓		672 ↑		691 ↑		793 ↓		-018 ↓	265 ↑	425 ↑	461 ↓
	h. m. 6 23	h. 7	h. m. 7 23	h. 8	h. m. 8 23	h. 9	h. m. 9 23	h. 10	h. m. 10 23	h. 11	h. m. 11 23	Midnight.
	569 ↑		693 ↑		687 ?		795 ?		697 ↓		710 ↓	
	612 ↑		645 ↑		699 ↑		745 ↑		818 ↑		791 ↑	
	734 ↑		794 ↓		693 ?		757 ↑		800 ↓		635 ↓	
	333 ↑		695 ?		609 ↑		769 ↑		749 ↑		555 ↑	
	079 ↑	-497 ?	-108 ↓		439 ↓		169 ↑		681 ↓		538 ↓	
	647 ↓		510 ↑		628 ↓		736 ↑		570 ↓		521 ↑	
591 ↑	622 ↑		674 ↓		695 ↑		710 ↓		578 ↑		649 ↑	
	995 ↓		608 ↓		720 ↑		618 ↓		804 ↑		681 ↓	
745 ?	788 ↓		741 ↑		607 ↑		714 ↓		716 ↓		712 ↓	
	588 ↑		670 ↑		793 ↓		610 ↑		726 ↓		683 ?	
	442 ?	570 ↑	599 ↓	612 ?	565 ↑	525 ?	508 ↑	435 ?	697 ↓	-726 ?	712 ?	
338 ↑	69 ↓		689 ↓		656 ↑		683 ?		679 ↑		689 ↑	
	294 ↓	108 ↓	104 ↑	427 ?	649 ↑		601 ?		790 ↑		810 ↑	
327 ?	444 ↓	637 ↓	647 ?	724 ?	701 ↑		757 ↓	743 ?	722 ↓		716 ↑	
639 ?	391 ↑	495 ↓	565 ↓	624 ↑	662 ↑		681 ↓		793 ↓	753 ?	771 ↑	802 ↓
517 ↓	826 ↓	444 ?	523 ↑		647 ↓		616 ↑		804 ↑		683 ?	
710 ?	745 ↑		685 ↓		828 ↓	832 ?	863 ↓	820 ?	841 ↓	934 ?	833 ↑	907 ?
	795 ?		722 ↓		662 ↑		720 ↑		749 ↓		780 ↓	
	736 ↑		205 ↓		681 ?		765 ↑		855 ↓	745 ?	771 ↑	
580 ?	761 ↓	757 ?	795 ↓		797 ↑		759 ↓		824 ↑		795 ?	

* Approximate.

0·6100. (C.G.S.) +

Readings on selected disturbed days during the

Hours	A.M.		H. 1	H. M. 1 23		H. 2	H. M. 2 23		H. 3	H. M. 3 23		H. 4	H. M. 4 23		H. 5	H. M. 5 23		H. 6
	-	0		23														
Days. 1882.																		
October	6	79 ↑		77 :		66 ↓		73 ↓		75 ↓		28 ?						
"	28	69 ↓		69 ↓		58 ↑		70 ↑		57 ↑		74 ↑						
November	12	78 ↑		80 ↑		80 ↑		70 ↓		72 ↑		71 ↓						
"	13	74 ↑		75 ↓		78 ↓		67 ↑		73 ↑		98 ↓						
"	17	43 ?		43 ↓		47 ↑		51 ↓		44 ↓		47 ↑						
"	18	53 ↓		50 ↓		55 :		62 ↓		69 ↓		74 ↑						
"	19	47 ↑		48 ↓		54 ↑		48 ↓		59 ↑		72 ↓						
"	20	68 ↑		58 ↓		59 ↓		72 ↓		56 ↓		73 ↓						110 ↑
December	10	77 ↓		75 ↑		75 :		76 ↑		72 ↓		69 ↓						
"	21	63 ↓		62 ↓		66 ↓		26 ↓		57 ↑		55 ↑						
1883.																		
February	24	80 ↑		76 ↓		76 ↑		78 ↓		73 ↑		67 ↑						
"	25	82 ↓	67 ?	59 ↓		52 ↓		74 ↓		74 ↑		59 ↓	61 ↓					
"	27	80 ↑		78 ↓		79 ↓		72 ↑		67 ↓		81 ↑						
"	28	56 ↓		67 ↑		67 ↑		67 ↑		66 ↑		72 ↑						
March	27	<55 ?	103 ?	56 ↓		48 ↓		61 ↑		58 ?		43 ↓						
April	3	85 ↓		85 ↓		84 ↑		84 ↑		85 ↓		84 ↑						
May	21	71 ↓		<68 ?		<68 ?		<69 ?		<68 ?		<68 ?						
"	22	<66 ?		<64 ?		<63 ?		<62 ?		<61 ?		<62 ↓						
June	18	37 ↑	61 ↑	68 ↑	77 ↑	72 ↑	57 ↓	39 ↓	65 ↑	68 ↑		76 ↑						
"	27	76 ↓		75 ↓		76 ↓		76 ↑		75 ↓		73 ↓						
Days. 1882.																		
October	6	103 :		105 :		105 :		102 ↑		103 :		105 :						
"	28	80 ↑		91 ↓		90 ↑		93 ↑		91 ↓		73 ↓						
November	12	102 ↑		101 ↓		108 ↑	103 ?	93 ↓		98 ↑		112 ↑						
"	13	129 :		139 ↓		>141 ?		78 ↓		172 ↑		125 ↑						
"	17	95 ↓		110 ↓		111 ↑		103 ↓		119 :		58 ↑						
"	18	78 ↓		82 ↓		73 ↑		96 ↑		55 ↓		65 ↑						
"	19	72 ↑		84 ↓		68 ↑	91	100 ↑	121 ↓	80 ↓	79 ↑	76 ↓	66 ↑					
"	20	>126 ?		>125 ?		120 ↓		124 :		113 ↑		96 ↓						
December	20	90 ↓		96 ↓		120 ↑		91 ↓		77 ?		73 ↑	69 ?	103 ↑				82 ?
"	21	97 ↑		91 ↓		99 ↑		96 ↓		77 ↑		77 ↓						
1883.																		
February	24	78 ↑		76 ↑		80 ↑		109 ↑	140 ↓	150 ↑	101 ↓	52 ↓	67 ↓					
"	25	107 ↓	100 ?	80 ↓	90 ?	83 ↓		82 ?		77 ↓		80 ↓						
"	27	87 ↓		77 ↓		78 ↓		101 ↑	90 ?	88 ↑		90 ↑	96 ?					
"	28	95 ↑	146 ?	109 ↓	116 ?	120 ↑	126 ?	104 ↓	106 ?	117 ↓	120 ↑	92 ↑	74 ↑					
March	27	98 ↑	94 ↑	103 ↑	123 ↑	131 ↑	124 ?	119 ↑	113 ↑	113 ↓	95 ↓	111 ↑	106 ↓					
April	3	127 ↑	165 ?	155 ↓	116 ↓	105 ↓		110 ↓		125 ↑	115 ↓	117 ↑	103 ?					
May	21	108 ↓	86 ↑	100 ↓	106 ?	100 ↑		85 ↑	77 ↑	84 ↓	76 ?	78 ↑						
"	22	95 ↑		99 ↓	90 ?	93 ↓		86 ↓		73 ↓		76 ↓						
June	18	95 ↓	93 ↑	95 ↑	94 ↓	89 ↓	98 ↓	91 ↓		83 ↓		76 ↓						
"	27	131 ↑	116 ↓	>140 ?	107 ↓	100 ↑		98 ↓	84 ↓	89 :		84 ↑						

Year 1882-83.—Göttingen Mean Time. (Balance Magnetometer).

during the

H. 6		H. 6 23	H. 7	H. M. 7 23	H. 8	H. M. 8 23	H. 9	H. M. 9 23	H. 10	H. M. 10 23	H. 11	H. M. 11 23	Noon.
		78 ↑		84 =		101 =		100 =		102 =		102 =	
		84 ↓		67 ↑		74 ↓		79 ↓		74 =		73 ↑	
		74 ↑		115 ↓	118 ?	90 ↑		88 ↑		110 ↓		102 ↓	
		107 ↓		97 ↑		55 ↑		>139 ?	138 ?	132 ?		123 ↑	
		48 ↑		49 ↓		56 ↑		64 ↓		62 ↑		27 ↓	
		83 ↑		84 ↓		58 ↓		121 =		75 ↑		66 ↑	118 ↑
		90 ↓		54 ↑		69 ↑		67 ?		69 ↑		73 ↓	
		78 ↓		83 ↓		90 ↓		>126 ?	110 ↓	100 ↑	100 ↑	105 ↑	
		72 ↓		72 ↓		91 ↑	97 =	85 ↑		81 ↓		85 ↓	
		55 ↓		86 ↑	89 ↓	65 ↑	60 ↑	72 ↑		105 ↑		98 ↑	
		69 ↑	47 ↑	65 ↑	73 ↑	72 ↑		73 ↑		76 ↑		89 ↑	84 ?
	77 ?	92 ↑	95 ↓	86 ↓	88 ↑	96 ↓	92 ↓	109 ↓	111 ↑	120 ↓	110 ?	102 ↑	121 ?
		71 ↓		72 ↑		81 ↓		72 ↑	100 ↓	80 ↓		85 ↑	
		72 ↑		83 ↓	114 ↑	97 ↓		89 ↓	93 ↓	97 ↑		86 ↓	
	64 ?	67 ↑		68 ↓		85 ↑	100 ↓	115 ↓	92 ↑	93 ↑		100 ↑	110 ↓
		82 ↑		81 ↓		111 ↑	87 ↑	84 ↓		95 ↓		102 ↑	
		84 ↑		96 ↑	90 ↓	101 ↓	89 ↓	77 ↑	86 ?	84 ↑		98 ↑	
		<62 ?	73 ?	78 ↑		78 ↑	109 ?	89 ↑	88 ?	88 ↓		85 ↑	
		73 ↓	89 ↑	75 ↑	81 ↑	51 ↑	74 ↑	98 ↑	122 ↓	77 ↑	126 ↓	105 ↓	105 ↑
		65 ↓		58 ↓		77 ↓		81 ↑		98 ↑	128 ↓	132 ↓	113 ↑
H. 23	H. 6	H. M. 6 23	H. 7	H. M. 7 23	H. 8	H. M. 8 23	H. 9	H. M. 9 23	H. 10	H. M. 10 23	H. 11	H. M. 11 23	Midnight.
		87 ↓		81 =		82 ↓		81 =		80 ↑		80 =	
		73 ↓		78 ↑		81 ↑		73 ↑		78 ↑		78 ↑	
		107 ↓		91 ↑		89 ↓		87 ↑		84 ↓		71 ↓	
		125 =		102 =		105 ↓		99 ↓		86 ↓		79 ↓	
		104 ↑		43 ↓		34 ↑		39 ↓		40 ↑		21 ?	
		70 ↑		62 ↓		61 ↓		65 ↑		56 ↑		55 ↑	
	66 ↑	62 ↑		62 ↓		64 ↓		66 ↓		61 ↑		66 ↓	
		105 ↓		82 ↓		68 ↓		61 ↑		66 ↓		55 ↑	
	82 ?	82 ↑		79 ↑		69 ↓		73 ↓		69 ↓		53 ↓	
		77 ↓		82 ↑		70 ↑		81 ↓		77 ↓		75 ↑	
		78 ↑	70 ↑	70 ↓	68 ?	69 ↑	74 ?	71 ↑	71 ?	49 ↑	86 ?	85 ↓	
		80 ↑		80 ↓		78 ↓		77 ↑		71 ↑		79 ↑	
		101 ↓	113 ↓	83 ↓	83 ?	91 ↓		71 ↓		77 ↑		81 ↓	
		79 ↑	67 ↑	71 ↑	76 ?	73 ↓		77 ↑	76 ?	74 ↓		74 ↑	
		92 ↓	60 ↓	64 ↑	69 ↑	69 ↑		74 ↑		<25 ?	63 ?	69 ↓	56 ↑
		94 ↑	105 ?	91 ↓		87 ↓		84 ↑		73 ↑		64 ↓	
		78 ↑		81 ↓		73 ↓	74 ?	68 ↓		<66 ?		69 ↓	<66 ?
		78 ↓		75 ↓		76 ↑		81 ↑		82 ↑		79 ↑	
		75 ↑		81 ↓		83 ↑		81 ↑		78 ↓	73 ?	73 ↓	
		78 ↓	77 ?	77 ↑		82 ?		89 ↑		80 ↑		75 ↑	



OBSERVATIONS OF AURORA, FORT RAE, 1882-83.

GENERAL REMARKS.

The aurora was observed hourly, after the magnetic and meteorological observations had been made; i.e. at from five to ten minutes after each hour.

No means were available for the instrumental determination of the altitude, &c., of arches; the information given on these points is by estimation.

The bearings given are true, not magnetic.

The situation of the Observatory was not altogether favourable for aurora observations high ground from north to east hiding the horizon to an altitude of 3° or 4° in the direction of the magnetic north. In other directions the view was uninterrupted.

The brightness is expressed by numerals on the scale 0 to 4. 5 is rather brighter than the Milky Way. 4 is bright enough to see to read by.

The general colour of the aurora was greenish-yellow, not unlike moonlight, showing in the spectroscope a single line between the green and the yellow. This line was often visible on overcast nights, or when the spectroscope was turned to parts of the sky where no aurora was to be seen. When the brightness reached 1.5, prismatic colouring frequently showed itself, the lower edge of the arch generally assuming a violet or mauve colour, the upper edge retaining its yellow colour, which however looked at times almost green, probably by contrast.

On these occasions a faint continuous spectrum and several bright lines appeared towards the violet end of the spectrum. I once saw a bright band in the red.

It sometimes happened, however, that towards the end of a brilliant display of aurora a crimson glow seemed to fill the air below the arch, of which it did not appear to form a part. This colour was very rich and beautiful, and quite different from the colouring of the aurora itself.

On the few occasions on which aurora was seen by daylight (i.e. after sunset, but before the stars had begun to be visible) it appeared of a pinkish, salmon, or copper colour.

The type of the aurora, and time of its appearance, was generally much the same on successive nights.

The displays were as a rule unattended by the slightest sound, but that a peculiar and distinct sound does occasionally accompany certain displays of aurora, there can be no doubt. The Indians, and voyageurs of the Hudson's Bay Company, who often pass their nights in the open, say that it is not uncommon; a European who lives in a house may pass a lifetime in the country without hearing it. On one occasion I was fortunate enough to hear it myself. The sound was like the swishing of a whip, or the noise produced by a sharp squall of wind in the upper rigging of a ship, and as the aurora brightened and faded, so did the sound which accompanied it. This proves that the aurora could not have been distant, and I think it possible that these low auroræ may be of a different nature to the high ones.

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882. September.	1882. September.				
b. m.	d. h. m.				
A.M.	P.M.				
3rd 5 38	2 9 15	Faint aurora in S.E. (1)			
— 6 23	— 10 0	Aurora through zenith N.W. to S.E., a moderately perfect arch, 150° in extent (2).			
— 6 53	— 10 30	Aurora broke up into patches of light			
— 7 3	— 10 40	" moved 20° to S.W.			
— 7 8	— 10 45	" disappeared			
6th 6 3	5 9 40	Three arches (1), alt. 60° N.W. to S.E.			
7th 6 33	6 10 10	Band of aurora N.W. to S.E., 20° in width, increased in brightness and assumed an E. and W. direction.			
— 7 23	— 11 0	Faint band N.W. to S.E.			
8th 5 56	7 9 33	" brightness (2)			
— 7 23	— 11 0	" Ditto			
— 8 23	— 12 0	" Ditto			
	A.M.				
— 8 43	8 12 20	Ditto			
— 9 23	— 1 0	Aurora in N.W. (1)			
— 10 23	— 2 0	Ditto			
— 11 23	— 3 0	Faint band, N.W. to S.E. (1)			
	P.M.				
9th 4 53	— 8 30	" through zenith, N.W. to S.E.			
— 5 33	— 9 10	Ditto			
— 6 33	— 10 10	Band N.W. to S.E., alt. 30°			
— 6 53	— 10 30	Aurora 10° in width S.E. to N.W. through zenith			
— 7 23	— 11 0	Faint arch N.W. to S.E., alt. 20°			
	A.M.				
— 9 13	9 12 50	" becoming brighter			
— 10 13	— 1 50	" dying away			
— 11 8	— 2 45	Band of aurora N. to S.W.			
— 11 23	— 3 0	Ditto S.W. to S.E., alt. 53°			
	P.M.				
10th 5 23	— 9 0	Faint auroral light E.S.E. (-5)			
— 5 53	— 9 30	" disappearing			
— 6 3	— 9 40	" reappeared, curtain-shaped, curved towards E.N.E.			
— 6 23	— 10 0	Aurora N.W. to E.S.E., alt. from 15° to 20°			
— 7 23	— 11 0	Arch, alt. 40° E. to S.W. (1) detached curtain N.E.			
— 8 13	— 11 50	" fading			
— 8 23	— 12 0	Faint arch S.E. to S.W.			
	A.M.				
— 9 23	10 1 0	Band (1) N.N.E. to S.W.			
— 10 23	— 2 0	Faint aurora N.N.E. to S.W.			
— 11 13	— 2 50	Faint band N.W. to E.S.E., through zenith			
— 11 33	— 3 10	Wide band (1) N.N.W. to E.			
	P.M.				
11th 4 23	— 8 0	Faint band N.W. to E.			
— 5 23	— 9 0	Arch, S.N.E. to S.W. (1)			
— 6 23	— 10 0	Aurora, S.N.E. to S.W. (2)			
— 7 28	— 11 5	Broad auroral light in N.W.			
— 8 23	— 12 0	Band, S.E. of zenith, nearly serpentine			
— 9 23	11 1 0	" (1) N.W. to E.S.E., S.E. of zenith			
	A.M.				
— 9 23	11 1 0	Faint auroral light N.W. to N.E.			
		" band N.W. to S.E., through zenith			
		" auroral light through zenith E.S.E. to W.N.W.			
	P.M.				
13th 3 53	12 7 20	" auroral light in S.E.			
— 5 23	— 9 0	Band of aurora in S.E. (1) alt. 10°, and under clouds			
— 6 13	— 9 50	Bright (3) prismatic-coloured curtain-shaped aurora, extending from S.E. to zenith.			
— 6 13	— 9 50	Band of aurora in N.W. (2) curtain-shape 1			
— 6 23	— 10 0	" became dim			
— 6 25	— 10 12	" passed through zenith to S.W. and disappeared			
— 7 13	— 10 50	Aurora (5)			
— 8 23	— 12 0	Aurora visible through clouds			
	A.M.				
— 9 23	13 1 0	Aurora visible between clouds			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882.	1882.				
September.	September.				
h. m.	d. h. m.				
A.M.	A.M.				
13th 10 23	13 2 0	Aurora visible between clouds - - - -			
— 11 8	— 2 45	Faint patch of auroral light in E. - - - -			
	P.M.				
14th 4 48	— 8 25	Band S.E. to S.W. - - - - -			
— 5 23	— 9 0	Faint band S.E. to S.W. - - - - -			
— 6 23	— 10 0	Band (1) S.E. to S.W. - - - - -			
— 7 23	— 11 0	Band, prismatic (2), E. to N.W. - - - -			
— 8 23	— 12 0	Faint auroral light N.W. to E.S.E. - - -			
	A.M.				
— 9 23	14 1 0	Faint band N.W. to S.E. - - - - -			
— 10 23	— 2 0	" auroral light N.W. to N.E. - - - - -			
— 11 23	— 3 0	Auroral light N.W. - - - - -			
	P.M.				
15th 4 50	— 8 27	Faint auroral light in S.E. to alt. 30° - -			
— 4 55	— 8 32	Arch (1) S.E. to N.W., brightest on horizon to S.E., alt. 12°.			
— 4 58	— 8 35	Light becoming more diffused, faint streamers in N.W. -			
— 5 0	— 8 37	Very indistinct arch from above-mentioned bright patch to S.E., through Cassiopeia and γ and δ Ursæ Majoris.			
— 5 4	— 8 41	Arch becoming brighter, lower edge, which passes through Capella, sharply defined			
— 5 7	— 8 44	A confused mass of curtain-shaped aurora below the arch on the horizon to E.S.E. (1).			
— 5 12	— 8 47	Above-mentioned aurora becoming brighter and moving to E.			
— 5 17	— 8 54	The Pleiades now in the centre of this patch of aurora; more aurora in N.W.; three parallel curtains, colour yellowish.			
		Spectroscope shows a single yellow-green line - - -			
— 5 29	— 9 5	Narrow streak of aurora from near β Pegasi through zenith to within 10° of Arcturus.			
— 5 30	— 9 7	Curve of aurora from N.N.W. on horizon through ζ and η Ursæ Majoris to the E. of Cassiopeia.			
— 5 42	— 9 19	Bright patch of aurora between Cassiopeia and Saturn, a wave of bright light moving therefrom towards Ursæ Major.			
— 5 52	— 9 29	A small patch of rapidly-moving aurors with faint vertical streamers near the horizon, below and to northward of Capella.			
		Aurora in N.W. now passes between ζ Ursæ Majoris and Arcturus, and above Ursæ Major to Cassiopeia.			
— 5 57	— 9 34	Aurora moved from Cassiopeia to zenith - - - - -			
— 6 2	— 9 39	" moving to the southward and passing through α Lyra.			
— 6 4	— 9 41	Another arch halfway between Ursæ Major and the horizon (2).			
— 6 8	— 9 45	Small patch of aurora (2) near Arcturus; the rest of the arch has a striated structure.			
— 6 12	— 9 49	There are now two principal arches, one from horizon to Arcturus, and Aquila to Pegasus, and 10° above S.E. horizon, the other from the latter point through Cassiopeia and ζ Ursæ Majoris to the N.W. horizon, an irregular curve from Cassiopeia through Taurus towards S.E. horizon; these are all moving slowly towards the S.E.			
— 6 22	— 9 59	Streamers on horizon to the E. just below Saturn - -			
— 6 27	— 10 4	Aurora on the E. horizon, increasing, striated, and with rapid motion; other arches less bright southernmost now 8° S.W. of Altair.			
— 6 33	— 10 10	Cloud of aurora 20° to 30° in width in the zenith and to S.E. and N.W.			
— 6 37	— 10 14	The whole sky more or less covered with faint aurora except to the S.W. from the horizon to about 12° alt.			
— 6 43	— 10 20	Aurora rather brighter and now extending from the zenith to E. and S. to 30° from horizon, fainter in N. and W.			

Göttingen Mean Time.		Local Mean Time.			H. F.	D.	V. F.
1882.		1882.					
September.		September.					
h. m.		d. h. m.					
A.M.		P.M.					
15th	6 53	14	10 30	Arch from N.W. to S.E. through zenith (1)			
--	6 58	--	10 35	Arch from N. W. to E. (5)			
--	7 2	--	10 39	Aurora very faint, except in S.E., where it is of a yellowish colour.			
--	7 7	--	10 44	Aurora very dim in all directions			
--	7 12	--	10 49	Arch on N.E. horizon passing between α and β Gemino- rum.			
--	7 23	--	11 0	Steady band of auroral light about 10° higher			
--	7 24	--	11 1	The arch in the E. has risen about 5° and has almost disappeared.			
--	7 33	--	11 10	Three faint segments of auroral light in the N., and a few faint clouds of the same to S.W., about 30° alt.			
--	7 38	--	11 15	The above segments and faint clouds disappeared			
--	7 48	--	11 25	Arch from N.W. to S.E. (2) crimson and violet colours, and disappeared directly afterwards, except in N.W., which broke into patches (1), patches also in S.E.			
--	7 50	--	11 27	Serpentine aurora (1) from S.E. to N.W.			
--	7 51	--	11 28	Prismatic in N.W. (2)			
--	7 55	--	11 32	Serpentine aurora disappeared, except from N.W. to centre of zenith (3)			
--	7 56	--	11 33	Prismatic in N.W. to alt. 15° (mag. disturbance)			
--	7 59	--	11 36	Aurora disappeared, except a patch (2) in N.W. green, pink, yellow, and purple faint patch in S.E.			
--	8 0	--	11 37	Became dim and almost disappeared, except in N.W.			
--	8 1	--	11 38	Curtain-shaped aurora in N.W. (2) to alt. 10°			
--	8 2	--	11 39	" " formed into an arch to S.E. (1)			
--	8 4	--	11 41	" " became brighter			
--	8 5	--	11 42	Curved arch in the centre of zenith N.E. to S.W. (1)			
--	8 7	--	11 44	" disappeared			
--	8 9	--	11 46	Faint aurora from N. to S.E. 10° from horizon, broke up and became curtain-shaped from N.W. to S. and from N. to E.			
--	8 10	--	11 47	Aurora became very dim and nearly disappeared, except a patch in N.E.			
--	8 17	--	11 54	Faint patches of aurora in S.E., N., and S.W.			
--	8 21	--	11 58	" disappeared			
--	8 23	--	12 0	Arch, N. to E. (1)			
		A.M.					
--	8 28	15	12 5	Aurora entirely disappeared			
--	8 45	--	12 22	Auroral light in N. and several patches in zenith			
--	8 50	--	12 27	Faint patch in N.W.			
--	9 0	--	12 37	Auroral light in N.E.			
--	9 7	--	12 44	Faint patch in N. and S.E.			
--	9 13	--	12 50	Auroral light in N., alt. 5°			
--	9 17	--	12 54	Very faint patch in N.W. horizon			
--	9 27	--	1 4	Auroral light in N. moving rapidly to E.			
--	9 33	--	1 10	" disappeared, except a patch in N.			
--	9 39	--	1 16	Auroral band from N. to E.			
--	9 47	--	1 24	Faint patch in N.E.			
--	9 50	--	1 27	Ditto			
--	10 2	--	1 30	Ditto			
--	10 9	--	1 46	Faint band W. to N.E.			
--	10 18	--	1 55	Faint patch in N. to N.W.			
--	10 23	--	2 0	Very faint band S.E. to S.W.			
--	10 30	--	2 7	Remained stationary till 10.56			
--	10 57	--	2 34	Faint band from N.W. to E.			
--	11 17	--	2 54	Auroral light in N.W.			
--	11 25	--	3 2	Faint band from W. to E.			
--	11 40	--	3 17	Very faint band S.W. to S.E.			
		P.M.					
17th	5 29	10	0 0	Faint band S.E. to S.W.			
--	5 58	--	0 35	A bright diffused light in S.E. horizon			
--	6 23	--	10 0	Aurora band (1) E. to N.W.			
--	7 33	--	11 10	Faint patch of auroral light in S.E., alt. 5°			
					393	340	

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882. September. h. m. A.M.	1882. September. d. h. m. P.M.				
17th 7 53	16 11 30	Band (1) S.E. to N.N.W., increasing in width and brightness until the whole sky was covered with rapidly-moving streamers of a reddish and green colour from S.E. to N.N.W. and S.S.E. to S.W. (3). (Great magnetic disturbance.)			
— 7 58	— 11 35	„ disappeared rapidly			
	— 11 43		210	232	
	— 11 52		292	242	
— 8 28	17 12 5	Faint auroral light in S.E.			
— 9 28	— 1 5	Band (1) in N.N.E. horizon with streamers pointing upwards.			
18th 10 33	18 2 10	Faint patch of aurora in the zenith, from N.W. to S.E.			
19th 5 18	— 8 55	Auroral light in S.E. to alt. 15°			
— 5 43	— 9 20	„ became brighter (1) and extended in an arch to N.W., where very faint.			
— 5 53	— 9 30	Aurora became faint in S.E. and brighter (5) in N.W.			
— 5 58	— 9 35	„ became very dim			
— 6 28	— 10 5	Auroral light from S.E. to N.W. through zenith			
— 7 23	— 11 0	Faint band from S.E. to S.W.			
— 10 23	19 2 0	Faint patch and a streak in S.W.			
— 11 23	— 3 0	Faint patch of auroral light in S.E.			
20th 4 33	— 8 10	Faint arch from S.E. to N.W.			
— 5 23	— 9 0	Faint broad band S.E. to N.W.			
— 5 49	— 9 25	Aurora (1) with vertical streamers between β and γ Ursa Majoris, 5° E. of zenith, through Cassiopeia and Andromeda to S.E. horizon. An arch of auroral light somewhat brighter than above through Altair and Arcturus.			
— 6 23	— 10 0	Aurora as above, but with a more diffused light in N.E. horizon.			
— 7 23	— 11 0	Aurora (1) E. to S.W. 5° from zenith, with streamers in slight motion moving W., also a mass of light in E. which rapidly extended to W. in a striated band (2).			
— 8 23	— 12 0	Faint auroral band in S.E. passing from zenith to S.W.			
— 9 23	20 1 0	Diffused masses of auroral light (1 and 3); one in the N. horizon from which streamers of pink and green colours were rapidly ascending, the other on the E. horizon rapidly sending out streamers until there was quite a canopy of light (2 to 3); these last were not coloured. (All the instruments slightly discoloured)	112	350	1414
— 9 28	1 5		390	320	1500
— 10 23	— 2 0	Diffused auroral lights in E. and W. (1)			
— 11 23	— 3 0	Bright streamers (2) in W. about 10° in width. Patch of auroral light in E.			
— 12 23	— 4 0	Patches of aurora from W. to E. (1 in W.)			
21st 5 23	— 9 0	Arch (1) S. E. to N.W.			
— 6 23	— 10 0	Patch in E.			
— 7 23	— 11 0	Arch (1) S.E. to N.W. and a wide patch of aurora from E. to zenith (2).			
— 8 23	— 12 0	Faint patches of auroral light in E. and W.			
— 8 53	21 12 30	Bright vertical streamers of a greenish colour (2) rapidly moving from E. to W.			
— 9 23	— 1 0	Bright streamers (2) pink, green, and yellow, rapidly moving from S.W. to W. to 20° alt. Faint auroral lights in E.			
— 10 23	— 2 0	Prismatic, curtain-shaped aurora (3) rapidly moving from S.W. to E.			
22nd 8 38	22 12 15	Arch (2) from S.E. to S.W., with streamers in S.E.			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882. September.	1882. September.				
h. m.	d. h. m.				
A.M.	A.M.				
22nd 8 15	22 12 25	A second arch arising in N.E. horizon ascending gradually from the horizon to the zenith, clouds of light suddenly breaking forth and separating into rays which streamed upwards, at the same time moving backwards and forwards along the arch (4). (Magnetic disturbance.)			
— 9 17	— 12 40	Diffused and curtain-shaped aurora moving from zenith towards N., colours crimson, transparent yellow, emerald green, and scarlet.			
— 9 23	— 1 0	„ fading away, except a faint arch from E.N.E. to W.			
— 10 33	— 2 10	Band from N.E. to W. (1)			
— 10 38	— 2 15	„ separated into vivid rays converging at the zenith			
— 11 23	— 3 0	Arch (1) from E. to N.W.			
	P.M.				
23rd 4 32	— 8 9	Faint arch from N.N.E. to N.W., about 10° alt.			
— 5 23	— 9 0	Faint patch in the S.E. horizon, about 5° alt.			
— 6 23	— 10 0	Faint band from S.E. to N.W.			
— 7 23	— 11 0	Diffused auroral light (1) in N.E. horizon			
— 8 23	— 12 0	Faint auroral light in S.E.			
	A.M.				
— 11 23	23 3 0	„ „ in S.W.			
24th 8 28	24 12 5	„ „ in E. to zenith, 10° in width			
	P.M.				
25th 3 43	— 7 20	Diffused auroral light in N.W. extending to zenith			
— 4 8	— 7 45	Band (1) from N.W. to 30° S.S.E. Faint green patch in E.S.E.			
— 4 28	— 8 5	Bands (1) from N.W. to S.E. and N.W. to S.S.E.			
— 7 23	— 11 0	Aurora visible through clouds on the zenith			
	A.M.				
— 9 23	25 1 0	Aurora emerging from the clouds in the S.W. horizon. It appears to be the termination of a bright band crossing the sky from S.E.; colour greenish.			
	P.M.				
26th 5 23	— 9 0	Faint band from N.N.E. to N.W.			
— 8 23	— 12 0	Faint patches of auroral light in S.E. and N.W.	367	368	
	A.M.				
— 8 53	26 12 30	Arch (1) from S.W. to S.E. 2° S. of zenith. (Great magnetic disturbance.)	220	270	
— 9 23	— 1 0	Faint diffused masses of auroral light in N.W. horizon	306	300	
	P.M.				
27th 3 25	— 7 10	Faint auroral light in S.E. moving towards S.W.			
— 4 11	— 8 0	Faint patches of aurora in S.E. and N.W.			
— 4 43	— 9 20	Faint arch, S.E. to N.W., 22° from N.W. horizon, drifting towards N.E.			
— 6 18	— 9 55	Diffused mass of aurora in N.W., slightly prismatic (filiflar very much disturbed.)			
28th 8 23	27 12 0	Diffused auroral light from N. through zenith to W. (1). (Instruments very much disturbed.)			
	A.M.				
— 9 43	28 1 20	Faint variegated band from S.E. through zenith			
	P.M.				
29th 12 23	28 4 0	Patch of auroral light (1) in N.W.			
	A.M.				
October.	P.M.				
1st 5 58	30 9 35	Faint patches of aurora in zenith about 10° in width			
— 6 22	— 9 59	Faint streak of aurora about 5° from zenith to N.W. horizon, about 20°.			
— 6 27	— 10 4	Faint arch through zenith, from N.W. to S.E. (°5). Parallel arch (°5) 5° to S.			
— 7 8	— 10 45	Arch (1) 30° alt. N.W. through zenith to about 30° alt. in S.E.			
— 7 17	— 10 54	A few faint streamers of aurora in S.E. between the moon and horizon.			
— 7 52	— 11 29	Aurora became very faint			
— 7 57	— 11 34	Band in E. (1) about 5° alt. Faint patch in zenith			
— 8 8	— 11 45	Broad arch (1) about 20° alt. N.W. to zenith, and extending in two arches to S.E. and E. horizon.			

Göttingen Mean Time.		Local Mean Time.			F. 7.	D.	V. F.
1882. October.		1882. October.					
d.	h. m.	h. m.	A.M.				
1st	8 27	1 12 4		Faint patches in zenith and N.W. horizon			
	8 40	12 17		Faint streamers in N.W.			
	8 45	12 22		Aurora disappeared except a faint broad patch about 10° alt. in N.W.			
	8 57	12 34		Serpentine-shaped arch in N.W. about 10° alt., extending to zenith and from thence in streamers (1).			
	9 0	12 37		Disappeared			
	9 4	12 41		Broad diffused patch in zenith (1)			
	9 5	12 42		Faint arch from N.W. to zenith			
	9 15	12 52		Large circular-shaped patch in zenith (1). Patch in E.			
	9 20	12 57		" extending in a V-shape towards S.E. and in streamers to N.			
	9 24	1 1		Irregular-shaped arch through zenith (1.5)			
	9 27	1 4		Faint auroral lights through zenith			
	9 33	1 10		Streamers (1) 40° alt. in N.W. to 5° S.W. of zenith			
	9 52	1 29		Aurora disappeared, except a faint patch 20° alt. in W.			
	10 12	1 49		Streamers (1) of a greenish colour on W. horizon			
	10 20	1 57		Streamers (1) 10° alt. W.			
	10 24	2 0		Patches (1) from W. to S.E., 2° W. of zenith			
	10 27	2 4		Aurora (1) from W. to S.E.			
	10 29	2 6		" diffused and slightly prismatic (2)			
	10 35	2 12		Irregular masses of aurora (1) in N.W., moving towards S.E.			
	10 36	2 10		Aurora from W. to N.E., 20° alt. N.E., with vertical streamers (2).			
	10 45	2 22		Patches on N.W. horizon			
	10 47	2 24		" very faint and moving towards S.W. horizon			
	10 50	2 27		" disappeared except a small patch in N.W. horizon			
	10 55	2 32		Faint irregular arch from N.W. to 25° alt. N.E.			
	10 57	2 34		" disappeared			
	11 3	2 40		Auroral light in N.W. horizon			
	11 5	2 42		Faint arch N.W. to N.E.			
	11 17	2 51		Patches of auroral light 15° alt. N.W.			
	11 19	2 56		" extending in irregular form towards N. horizon			
	11 20	2 57		Very faint arch from W. to N.E., 15° N. of zenith			
	11 33	3 10		Faint patch in N.W. horizon			
	11 39	3 16		" disappeared (clouds increasing)			
	11 47	3 24		Patch 5° alt. N.W., moving towards S.			
			P.M.				
	12 5	3 42		Faint streamers in N.W.			
			A.M.				
2nd	6 13	9 50		Arch from S.E. to N.W. 37° S.W. of zenith			
	6 34	10 10		" passing through Aquila			
	7 33	11 10		Diffused masses of auroral light of a greenish colour (1) in N.E. horizon, drifting towards N.W.			
	7 53	11 30		Irregular-shaped arch (1) from S.E. to 50° alt. N.W., 2° N.W. of zenith.			
			A.M.				
	8	2 12 10		Striated arch (1) from S.E. to N.W. passing through zenith.			
	9 28	1 5		Aurora (1) 30° alt. from N.W. through zenith to S.E., and covering the whole sky; apparently near; motions rapid.			
	10 28	2 5		Aurora (1) 10° alt. N.W., drifting rapidly towards N.E. and S.W. (All the magnetic instruments very much disturbed.)			
	11 28	3 5		Streamers 20° alt. in S.W.			
	11 54	3 30		Red glow below the arch			
			P.M.				
	12 8	3 45					
	12 28	4 5		Faint arch from W. to E.			
			A.M.				
3rd	3 28	7 5		Arch (1) from S.E. to N.W. passing through zenith; slightly prismatic; green and pink colours in S.E.			
	4 8	7 45		Diffused arch (1) S.E. to N.W., 5° N.W. of zenith, drifting towards N.E.			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882. October.	1882. October.				
h. m.	d. h. m.				
A.M.	P.M.				
3rd 4 28	2 8 5	Diffused irregular-shaped arch (1) from N.W. to S.E., of a greenish colour in N.W. 7° S.W. of zenith, and drifting towards S.W. horizon.			
— 5 6	— 8 43	Diffused arch (1) from S.E. to N.W., 20° alt., slightly prismatic in S.E. (The bifilar very much disturbed.)			
— 5 23	— 8 58	—	212	422	550
	— 9 0	Confused masses of aurora (2) N.W. to E. and S.E. from zenith to horizon.	152	400	700
	— 9 2	—			
— 5 28	— 9 5	A bright patch halfway between α Arietis and horizon, another between α Pegasi and horizon, all striated and with a good deal of quivering and waving motion. (Bifilar and vertical force instruments chiefly disturbed.)	142	390	550
		—			
— 6 30	— 10 7	Faint arch from N.W. to S.E. 10° S.W. of zenith			
— 7 28	— 11 5	„ from S.E. through zenith to 20° alt. N.W.			
— 7 58	— 11 35	„ from S.W. to E. 10° alt.			
	A.M.				
— 8 28	3 12 5	„ from S.W. to S.E.			
— 9 31	— 1 8	Arch from E. to N. (1)			
		Serpentine arch (1) from N.W. through zenith (where brighter (2) and 5° in width) to N.E. (Declinometer slightly disturbed.)			
— 9 53	— 1 30	Patches of auroral light in N.W.			
	P.M.				
4th 3 38	— 7 15	Arch (1) from N.W. to S.E. 10° alt.			
— 4 28	— 8 5	Faint arch from N.W. to E.S.E., streamers in N.W. (1) and in S.E. (.5).			
— 4 53	— 8 30	Wide diffused arch (2) from N.W. through zenith to S.E. moving slowly to S. of zenith and			
— 5 3	— 8 40	striated in S.E.			
— 5 28	— 9 5	Arch (1) from N.W. to E.S.E. about 15° alt.			
— 5 58	— 9 35	Aurora (2) in rapid motion 10° S. of zenith; prismatic. (Diminution of horizontal, and increase of vertical force.)			
— 6 13	— 9 50	Bright patches (2) in E.N.E. and N.W. horizon			
— 6 28	— 10 5	Bright arch (2) in horizon from N. to E.			
— 7 33	— 11 10	Arch (2) from E. to S.W. diffused in the E. horizon			
	A.M.				
— 8 28	4 12 5	Masses of aurora, covering nearly the whole sky, prismatic, and streamers (2) from the zenith towards N.W., moving rapidly. (Instruments slightly disturbed.)			
— 8 44	— 12 20	Masses of aurora disappeared			
— 9 13	— 12 50	Arch from E. to N.W. through Ursa Major, prismatic (1)			
— 9 23	— 1 0	„ Ditto			
— 10 23	— 2 0	Arch from N.E. to S.W. with a diffused mass of light in N.W. (1).			
— 11 8	— 2 45	Arch (1) from W. to S.E. 27° alt. S.W.			
— 11 28	— 3 5	Aurora in S.W. horizon moving towards S.E. 23° S.W. of zenith.			
	P.M.				
— 12 28	— 4 5	Faint patch in S.W. horizon			
	A.M.				
5th 4 33	— 8 10	Faint band from S.E. to W. 10° N. of zenith			
— 5 28	— 9 5	Arch from S.E. to zenith (1)			
— 6 23	— 10 0	Diffused mass of auroral light in E. horizon			
— 7 23	— 11 0	Faint arch from N.E. to S.W. 5° alt.			
	A.M.				
— 9 0	5 12 45	Arch (1) from S.W. to S.E. 20° alt.			
— 10 23	— 2 0	Faint patch in N.W. horizon			
— 11 28	— 3 5	Faint wide patch in N.W. and zenith			
	P.M.				
— 12 26	— 4 3	Faint arch from E.S.E. through zenith to W.N.W.			
	A.M.				
6th 5 23	— 9 0	Sky overcast, but faint light in horizon to S. and E., showing auroral line in spectroscope. (Magnetic disturbance.)			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882.	1882.				
October.	October.				
h. m.	d. h. m.				
A.M.	P.M.				
6th 6 23	5 10 0	Auroral line in S.E. horizon as before - - -			
— 6 43	— 10 20	Arch from N.W. to S.E., 20° S.W. of zenith partly seen through the clouds.			
— 6 47	— 10 24	Curtain-shaped aurora (2) from zenith towards S.W. horizon, in slight motion.			
— 7 28	— 11 5	Curtain-shaped arch (2) from E.S.E. through zenith to W.N.W., quivering arch (1.5) from S.E. to W.			
— 7 35	— 11 12	Bright prismatic streamers (3) rapidly moving from E.S.E. horizon to W. Streamers (2) N.W. of zenith. (Increase of vertical force.)			
— 8 0	— 11 37	Faint patches, in zenith only visible - - -			
8th 5 18	7 8 55	Sky overcast, faint light, probably aurora, in S.E. horizon			
— 9 23	8 1 0	Faint arch from N.W. through zenith to S.E. - - -			
— 10 23	— 2 0	Faint patch in N.W. horizon. Sky nearly overcast.			
— 11 23	— 3 0	Ditto - - - - -			
9th 3 23	7 0	Faint aurora from E. to N.W. horizon, brightest portion in N.W.			
— 4 23	— 8 0	Two arches (1) from E. to N.W. parallel to each other, one about 4° alt., the other 23° alt.			
— 5 23	— 9 0	Faint arch from S.E. to N.W., 25° alt. - - -			
— 6 23	— 10 0	Faint arch from horizon to N.E. through Taurus to Ursæ Major.			
— 7 23	— 11 0	Patch (1) in S.E. horizon. Faint streak in N.W. - - -			
— 8 28	9 12 5	Faint diffused arch from S.E. through zenith to W.N.W.			
— 9 28	— 1 5	Arch (1) from E.S.E. through zenith to W.N.W. - - -			
— 12 23	— 4 0	Arch (1) from S.E. to S.W. - - - - -			
10th 1 28	8 5	Faint patch in N.W. horizon - - - - -			
— 4 53	— 8 30	Bright (1) streamers in N.W. Aurora visible between clouds in S.E.			
— 5 28	— 9 5	Bright broad vertical patch (1) in S.E. Faint lights between clouds in N.W.			
— 5 43	— 9 20	Faint arch (.5) from S.E. to N.W. through zenith. Streamers (1) in N.W.			
— 6 3	— 9 40	Arch from S.E. to N.W. (1) through zenith - - -			
— 6 28	— 10 5	Aurora in S.E., stretching across sky to S. of zenith (.5)			
— 7 33	— 11 10	Arch (.5) from S.E. through Cassiopeia to W. - - -			
— 8 8	— 11 45	Prismatic canopy of auroral light (2) - - - - -			
— 8 23	— 12 0	- - - - -	321	325	1687
— 8 33	10 12 10	" " became brighter and more diffused (3). (Instruments disturbed.)	340	333	1177
— 9 23	— 1 0	Two faint bands from S.E. through zenith to W. - - -	265	310	1030
— 10 38	— 2 15	Two serpentine bands (2) S.W. of zenith to W. - - -			
— 11 23	— 3 0	Faint arch from S.W. horizon to S.S.E., bright diffused patches in N.W. horizon moving towards the S.W. (Bifilar slightly disturbed.)			
— 12 23	— 4 0	Diffused masses of aurora in N.N.W. horizon, in rapid motion toward the zenith (1).			
— 12 33	— 4 10	Bright (3), slightly prismatic, and curtain-shaped aurora, drifting towards the N.E. horizon.			
11th 3 33	7 10	Faint streak in zenith - - - - -			
— 4 32	— 8 9	" " remains stationary, and has become brighter			
— 5 32	— 9 9	Faint band from S.E. through zenith to W. - - -			
— 6 23	— 10 0	Aurora, visible through the clouds, appears to cover the greater part of the sky. (Bifilar and vertical force very unsteady.)			

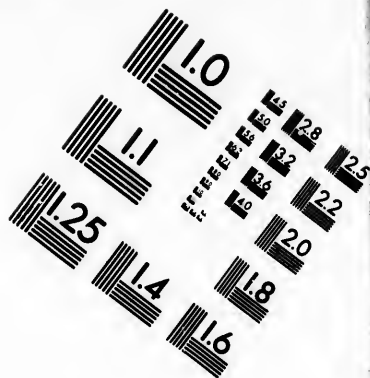
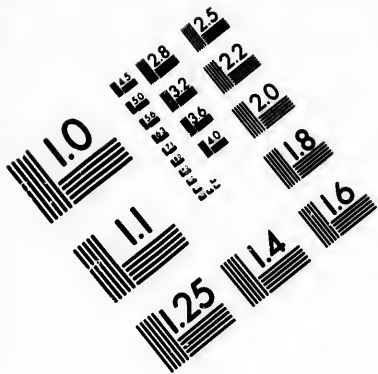
Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882. October.	1882. October.				
h. m.	d. h. m.				
A.M.	P.M.				
11th 7 38	10 11 15	Faint arch from S.E. to N.W. horizon, and several patches visible through clouds.			
	A.M.				
-- 8 33	11 12 10	Arch (1) from N.E. horizon to S.W. horizon, and faint auroral light at zenith.			
-- 9 23	-- 1 0	Mass of auroral light in E. horizon apparently drifting towards the S.W. horizon. Sky nearly overcast. (An increase of vertical force.)			
-- 10 23	-- 2 0	Auroral light from S.E. horizon to E. (1) - - -			
	P.M.				
14th 6 27	13 10 1	Aurora visible through the clouds at zenith - - -			
-- 7 23	-- 11 0	Faint light through the clouds. Sky overcast - - -			
-- 8 23	-- 12 0	Bright patch of auroral light (2) in the S.E., about 15° alt. Sky overcast.			
15th 6 20	11 9 57	Sky overcast, but faint light all over the sky showing yellow auroral line in spectroscope.			
-- 7 55	-- 11 32	Faint masses of auroral light in zenith and S.W., about 30 alt.			
	A.M.				
-- 9 45	15 1 22	Sky dark and clouded, light entirely disappeared - - -			
-- 10 15	-- 1 52	Sky overcast, but faint light from E. horizon to N.W. horizon.			
-- 10 25	-- 2 2	Patch of aurora (1), about 50 alt. in S.E. - - -			
-- 10 50	-- 2 27	Patches in zenith visible between clouds - - -			
-- 11 25	-- 3 2	Masses of aurora in zenith and about 5° S. of zenith. Sky cloudy.			
	P.M.				
-- 12 15	-- 3 52	Patches of aurora visible through clouds in S.E. horizon.			
-- 1 10	-- 4 17	Bright aurora (2) from S.W. to N.W. horizon, partly visible between clouds.			
-- 1 30	-- 5 7	Bright patch in S.W., about 50 alt. - - -			
	P.M.				
16th 1 23	15 8 0	Bright aurora (1) from S.W. to S.E., faint patches visible in zenith through clouds. Sky overcast.			
-- 5 23	-- 9 0	Aurora (1) from S.W. to S.E. - - -			
-- 7 33	-- 11 10	Mass of auroral light extending from S.E. horizon to zenith. Visible through the clouds.			
	A.M.				
-- 10 43	16 2 20	Band from S.S.E. crossing the sky halfway between S.W. horizon and zenith to W. (2).			
-- 11 23	-- 3 0	Bright auroral light (2) in S. and S.W. horizon - - -			
	P.M.				
-- 12 23	-- 4 0	Much the same - - -			
-- 1 23	-- 5 0	Mass of auroral light (1) in N.E. horizon. The auroral light in S. and S.W. as above.			
	A.M.				
17th 4 28	-- 8 5	Aurora visible between the clouds 3 S.W. of zenith - - -			
-- 5 28	-- 9 5	Aurora visible between the clouds S.E. of zenith - - -			
-- 6 29	-- 10 6	Auroral light visible through the clouds. Sky overcast - - -			
-- 7 28	-- 11 5	Faint auroral light in N.E. horizon. Sky cloudy - - -			
	A.M.				
-- 9 28	17 1 5	Auroral light (2) in W. and S.W. horizon. Sky overcast.			
-- 10 28	-- 2 5	Masses of aurora (2) from N.W. to zenith and from E. to N.W., drifting towards the S.W. horizon.			
-- 11 23	-- 3 0	Faint patch in S. and S.E. - - -			
	P.M.				
18th 3 28	-- 7 5	Arch (2) from E. to N.W., about 10° alt. A few streamers on N.W. horizon.			
-- 4 24	-- 8 0	Auroral light (1) from N.N.W. to W. horizon - - -			
-- 5 23	-- 9 0	Auroral light from E. to N.W. horizon, visible between the clouds. Sky nearly overcast.			
	A.M.				
-- 10 28	18 2 5	Sky nearly overcast, patches of aurora (1) visible between clouds S.W. of zenith.			

V. F.	Göttingen Mean Time.	Loen Mean Time.		H. F.	D.	V. F.
	1882. October.	1882. October.				
	h. m.	d. h. m.				
	A.M.	P.M.				
10th	6 28	18 10 5	Faint patch at the edge of a cloud in N.E. Bright streak (1) between clouds in N.			
	— 8 38	19 12 15	Bright band (2) from S.E. towards N.W., visible through clouds.			
		A.M.				
22nd	12 23	22 4 0	Faint arch from E. to S.W., halfway between the horizon and zenith, visible between clouds. Sky overcast. (Magnetic instruments slightly disturbed.)			
	— 1 23	— 5 0	Auroral light in S.E. horizon. Sky overcast			
		A.M.				
23rd	10 31	23 2 8	Patches of auroral light in zenith and in S.W. horizon, visible between the clouds only for a few seconds, when the sky became completely overcast. (Instruments very much disturbed.)			
24th	9 23	24 1 0	Low arch (1) from N.W. horizon to S.W. horizon. Sky overcast.			
	— 10 28	— 2 5	Parallel line (1) from N. to N.W. on horizon. Faint arch S.W. to W.			
		P.M.				
25th	6 28	— 10 5	Sky nearly overcast. Aurora visible between clouds S.E. of zenith (1). (Magnetic instruments disturbed.)			
26th	4 23	25 8 0	A greenish-coloured band (1) from S.E. through zenith to N.W.			
28th	6 28	27 10 5	Bright (2), prismatic, diffused aurora in S. and S.E., about 15° alt.			
	— 7 40	— 11 17	Faint patch near zenith, W.			
	November.					
1st	2 5	31 5 42	Faint arch (1) from N.N.W. to N.E., 15° alt.			
	— 2 17	— 5 54	" almost disappeared. Faint streamers in N.N.W. (5).			
	— 2 27	— 6 4	Arch brighter and lower, passing through Pleiades; brightest in N.E.			
	— 2 35	— 6 12	" disappeared, except a faint patch in N.E.			
	— 2 40	— 6 17	Arch reappeared (1)			
	— 2 58	— 6 35	" increasing in width. Faint streamers in N.N.W.			
	— 3 15	— 6 52	Arch very faint, except in N.E.			
	— 3 30	— 7 7	Arch bright (1), and streamers in N.W.			
	— 4 0	— 7 37	Arch very irregular (1), bright broad patch in E.N.E. (2)			
	— 4 25	— 8 2	Aurora very faint from N.W. to N.E.			
	— 5 5	— 8 42	Faint auroral lights in S.S.W. at the edge of a cloud. Arch in N.E. disappeared except a very faint light in N.N.W.			
	— 5 25	— 9 2	Aurora entirely disappeared			
		November.				
		A.M.				
	— 10 20	4 1 57	Diffused arch (1) from S.E. through zenith to N.W. horizon.			
	— 10 30	— 2 7	Arch disappeared			
	— 10 35	— 2 12	Diffused light in N.W., drifting towards S.W., bright (2), slightly prismatic.			
	— 10 40	— 2 17	" disappeared, except a few faint streamers in the N.W. horizon.			
	— 10 50	— 2 27	" disappeared			
	— 11 0	— 2 37	Auroral light in zenith (1)			
	— 11 8	— 2 45	Bright patch in N.W. horizon (2)			
	— 11 50	— 3 27	Faint arch from E.S.E. through zenith to W.N.W. (1) in N.N.W.			
	— 12 10	— 3 47	Aurora disappeared			
		P.M.				
	— 2 25	— 6 2	Streak of auroral light in N.E. horizon			
3rd	1 23	3 5 0	Arch from W.N.W. to N.E. (1) drifting S.W.			
	— 2 23	— 6 0	Auroral light in zenith, on S.W. horizon and on N.E. horizon (2).			
		A.M.				
5th	5 3	4 8 40	Auroral light in E. drifting N.E.			
		P.M.				

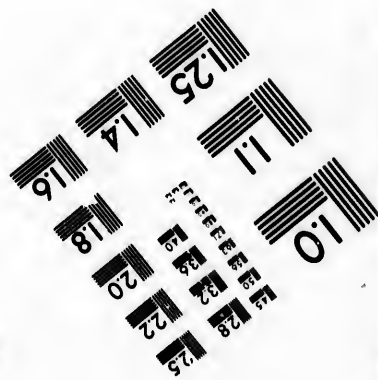
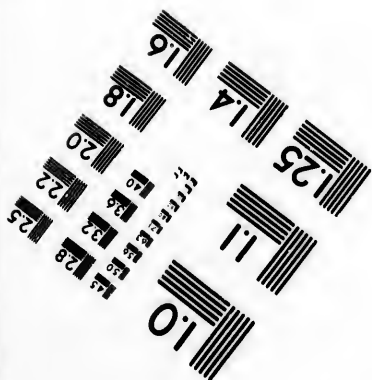
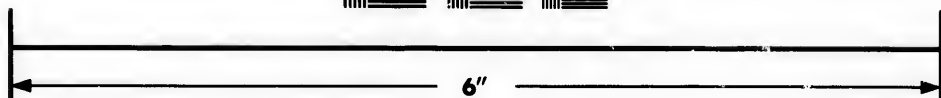
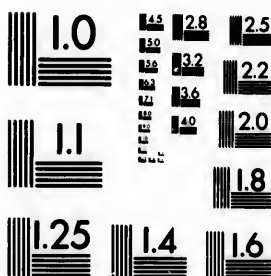
Göttingen Mean Time.		Local Mean Time.			H. F.	D.	V. F.
1882.		1882.					
November.	November.	d.	h. m.				
h. m.	d. h. m.						
A.M.	P.M.						
5th 5 28	1 9 5	Faint arch from E. to N.W., 50 alt., the portion in N.W. visible through clouds.					
— 5 43	— 9 20	“ disappeared. Diffused mass of aurora in N.E., and drifting towards the N.W. horizon.					
— 6 23	— 10 0	Irregular arch (1) from N.E. to N.N.W., 15 alt.					
— 7 23	— 11 0	Faint auroral light in S.E. (*5)					
	A.M.						
— 9 28	5 1 5	Faint horizontal streak (*5) in S.E., about 25 alt.					
— 10 28	— 2 5	Small bright (1) patch in E. horizon					
	P.M.						
6th 2 38	— 6 15	Auroral light in zenith and a faint arch from E.S.E. to N.W., 30 alt.					
— 3 23	— 7 0	Diffused arch from E.S.E. to N.N.W. (1), 20 alt.					
— 4 16	— 7 53	Arch (1) from S.E. to N.W. through zenith, striated in N.W.					
— 4 28	— 8 5	Masses of aurora (1) in E.					
— 5 13	— 8 50	Diffused arch (1) from S.E. to N.N.W., 20 alt.					
— 5 28	— 9 5	Faint mass of aurora in N.E.					
	A.M.						
— 8 32	6 12 9	Faint arch from S.E. through zenith to W.					
— 9 23	— 1 0	Faint streak from zenith towards E. horizon					
	P.M.						
— 12 23	— 4 0	Patches of aurora (1) in N.W. and N.E.					
— 1 23	— 5 0	Arch (1) from N.E. to W.S.W. through zenith					
	A.M.						
7th 10 23	7 2 0	Irregular diffused arch (2) from W. to S.E. through zenith.					
— 11 23	— 3 0	Bright green-coloured patch (2), 20 alt. N.E.					
	P.M.						
— 1 23	— 5 0	Faint streamers (1) in E. and N.W. Arch (1) from S. to S.W. on horizon.					
	A.M.						
8th 3 24	— 7 0	Faint arch from N.E. to W.N.W., 9 alt.					
— 4 23	— 8 0	“ very faint towards N.W.					
— 6 23	— 10 0	Confused mass of aurora in zenith (1 to 2). (Great magnetic disturbance.)			350	388	1079
— 6 33	— 10 10	Patches of aurora in N.E. and N.N.W. (1)			422	396	800
— 7 28	— 11 5	Large bright patch (2) in N.W.			406	415	850
		Irregular-shaped arch from N. horizon through zenith to 30 alt. S.E. (1)					
— 8 13	— 11 50	Bright striated patch (2) in N.W. horizon					
		Faint masses of aurora in zenith					
		Faint arch (1) from W.N.W. to S.S.E.					
	A.M.						
— 8 28	8 12 5	Bright irregular arch (2) of a greenish colour, from N. horizon to S.E. horizon.					
— 9 13	— 12 50	Diffused arch (1) from E.S.E. to W.N.W.					
— 9 28	— 1 5	Bright arch (2) from S.E. to N.W. on horizon. Bright streamers (2) N.W. of zenith.					
— 10 18	— 1 55	Bright irregular-shaped arch (2) from S.E. to N.W.					
— 10 28	— 2 5	Very faint arch from S.E. to N.W.					
	P.M.						
— 12 33	— 1 10	Faint arch from S.E. to W.					
— 1 33	— 5 10	“ has become brighter (1), and patches are appearing in N.E. horizon					
— 2 30	— 6 7	Faint patches S.E. of zenith					
	A.M.						
9th 1 18	— 7 55	Faint patch of auroral light in N.E., 30 alt. Sky overcast.					
	A.M.						
— 11 13	9 2 50	Masses of aurora in zenith (1 to 2)					
— 11 28	— 3 5	Faint streak in zenith (Magnetic disturbance)					
	P.M.						
— 12 24	— 4 0	Faint patches of aurora in N.N.W.					

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882. November.	1882. November.				
h. m.	d. h. m.				
P.M.	A.M.				
9th 1 23	9 5 0	(Great disturbance of the horizontal and vertical forces.)			
— 1 28	— 5 5	Diffused arch (2) from S.E. to N.W., 30 alt., and a bright patch in zenith.			
A.M.	P.M.				
10th 1 13	— 4 50	Sky overcast. Aurora visible between clouds in S.W. (1). Patch in N. (·5).			
P.M.	A.M.				
— 2 28	10 6 5	Faint auroral lights visible between clouds in S.E., 30 alt.			
A.M.	P.M.				
12th 1 28	11 5 5	Streamers (1) from N.N.E. to N.W., 15 alt. Slightly prismatic in N.W.			
— 2 28	— 6 5	Mass of auroral light (1) on E.S.E. horizon, patches also in zenith and in N.W.			
— 3 8	— 6 45	Bright streamers (2) in N.W. and (1) in S.E., green and pink in colour in N.W. Diffused auroral lights (2) in zenith, slightly prismatic. Faint patch (·5) 10 S. of zenith.			
— 3 28	— 7 5	Aurora very faint, except a few streamers S.E. of zenith, drifting towards E. (1).			
— 4 3	— 7 40	Faint arch (·5) from S.E. horizon to S.S.W. Streamers (·5) in N.W.			
— 4 27	— 8 4	Streamers (1) from S.E. to S.W. slightly prismatic and moving rapidly towards N.W. Arch (2) from S.S.E. through zenith to N.N.W., 30 alt.			
— 4 53	— 8 30	Arch from E.S.E. through zenith to W.N.W., diffused in W.N.W. (1).			
— 5 28	— 9 5	Diffused arch from S.E. to N.W. (2)			
— 5 57	— 9 31	Bright-irregular shaped arch (2) from E.S.E. through zenith to W.N.W.			
— 6 27	— 10 4	Faint arch (·5) on horizon from S.E. to S.W. Faint streamers in E.S.E.			
— 7 8	— 10 45	Bright (3) irregularly serpentine arch from E.S.E. to N.W., 70 alt., prismatic, striated, and with rapid motion. A faint crimson glow at times near the extremities of the arch, but not, apparently, forming part of it. Sky nearly covered with streamers more or less faint. (Much magnetic disturbance.)			
— 8 23	— 12 0	The whole sky covered with faint patches of light			
— 9 23	12 1 0	Faint arch 3 alt. in S.W. and a diffused light in zenith			
— 10 23	— 2 0	A diffused light (2) in zenith			
— 11 23	— 3 0	Patches of auroral light (1 to 2) in zenith and on S.W. horizon. A very bright patch on E.S.E. horizon drifting S.			
— 11 38	— 3 15	Arch (1) from S.E. to W.S.W., 30 alt.			
P.M.	A.M.				
— 12 23	— 1 0	Irregular-shaped arch (2) with streamers of a greenish colour from S.S.E. to W.S.W., about 27 alt.			
— 1 23	— 5 0	Arch from S.E. to S.W. (1), slightly prismatic. Masses of aurora in zenith and in N.N.W. of a greenish colour, very bright, and in rapid motion.	202 190 168	450 470 492	1933 1902 1863
— 1 28	— 5 5	The whole sky more or less covered with lights and streamers, apparently drifting in all directions.			
— 2 23	— 6 0	A mass of streamers (2) in zenith and masses of aurora in S.W. (Great magnetic disturbance.)	62 25 70	405 542 515	2027 2029 Off scale.
A.M.	P.M.				
13th 1 8	— 4 45	Arch (1) from W.S.W., through zenith to E.S.E., 30 alt.			
— 1 28	— 5 5	Irregular arch (1), from S.E. through zenith to 30 of N.W.			
— 1 50	— 5 27	Diffused arch (1) from E.S.E. through zenith to W.N.W. Curtain-shaped aurora (1) from S.E. horizon to S.W.			
— 1 58	— 5 35	The whole sky more or less covered with faint masses of auroral light.			
— 2 28	— 6 5	Irregular arch (1) from E.S.E. through zenith to N.W. Streamers in S.E. rapidly moving on horizon to W. Prismatic (2).			





**IMAGE EVALUATION
TEST TARGET (MT-3)**



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Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882. November. h. m. A.M.	1882. November. d. h. m. P.M.				
13th 2 35	12 6 12	Bright (2) prismatic vertical streamers in S.E., extending in an arch to S.W., where curved and prismatic. Streamers in zenith slightly prismatic (2), in rapid motion, and quivering.			
— 3 23	— 7 0	Faint irregular masses of auroral light from E. horizon through zenith towards N.W.			
— 4 23	— 8 0	.. seen only through the cloud: in zenith and half-way between N.E. horizon and zenith.			
— 5 23	— 9 0	Faint auroral lights, between clouds, S. of zenith and a streak through Cassiopeia.			
— 6 34	— 10 11	Aurora visible between clouds, 5 alt. in N.W.			
— 7 28	— 11 5	Patches of aurora in S.W., 50 alt., drifting towards S. Sky nearly overcast.			
	A.M.				
— 8 28	13 12 5	Diffused mass of aurora on horizon in W.N.W., prismatic (2), from which many streamers were flowing, of a greenish colour, and drifting towards S.E. horizon, about 20 S.W. of zenith.			
— 9 23	— 1 0	Masses of aurora (2) from N.W. horizon, visible only at intervals. Sky overcast. (Much magnetic disturbance, especially the horizontal and vertical forces.)			
— 10 23	— 2 0	Auroral line (1) on horizon, from N.N.W. to S.W. Sky overcast. (Magnetic disturbance as before.)			
— 11 23	— 3 0	Faint patch of auroral light (5) in S., 25 alt.			
	P.M.				
— 12 23	— 4 0	Bright diffused light (1) from S.E. horizon to zenith. Faint arch on horizon S. to S.W.			
— 1 23	— 5 0	The whole of the sky from S.E. to S.W. covered with aurora (2) from horizon to 30 alt. Faint (1) streamers in E. Patch of auroral light (1) in N. horizon. (Much magnetic disturbance.)	50 62 102	510 450 470	Off scale. 2500 2249
— 1 28	— 5 5	Bright (3) streamers from S.W. to zenith, where prismatic, and extending in a circular shape and in rapid quivering motion to E. horizon.			
— 1 38	— 5 15	Aurora disappeared except a few faint lights in S.E.			
— 1 40	— 5 17				
— 2 13	— 5 50	Faint arch on horizon (1) from S.E. to S.W. Streamers from arch to zenith about 10 distant to extent of arch.	30	O.S.	O.S.
— 2 28	— 6 5	Arch (2) from S.E. to S.W. on horizon. Irregular arch (1) from E.S.E. through zenith to W.N.W. Faint streak of auroral light 10 alt. E.			
	A.M.				
14th 1 43	— 5 20	Faint arch formed of vertical streamers from N.E. to N.W., 6 alt.			
— 2 23	— 6 0	This arch now through zenith from E. to N.W. (1)			
— 3 18	— 6 55	Bright auroral lights in S.E. and N.N.W., drifting towards each other.			
— 3 28	— 7 5	Arch (1) from E.S.E. to within about 5 of N.W. horizon, 35 alt. Bright streamers on N.W. horizon.			
— 4 23	— 8 0	Irregular arch (1 to 2) from W.N.W. to S.E., alt. 60			
— 5 20	— 8 57	.. more regular (1) Masses of aurora in E.N.E. and streaks in zenith.			
— 6 23	— 10 0	Patches of aurora on N.N.E. horizon and in S.W. (1)			
— 7 23	— 11 0	Masses of aurora (1) in S., visible between clouds. Sky overcast.			
15th 6 0	14 9 37	Sky overcast but very light. Aurora probably behind clouds.			
	P.M.				
— 12 20	15 3 57	Sky became dark			
	A.M.				
16th 3 23	15 7 0	Faint arch (1) from N.E. to N.W., alt. 30			
	A.M.				
— 10 23	16 2 0	Sky overcast, but very light; probably aurora behind the clouds.			

Göttingen Mean Time.		Local Mean Time.			H. F.	D.	V. F.
1882. November.		1882. November.					
	h. m.	d. h. m.	A.M.				
16th	12 23	16	4 0	Bright patch of aurora (1) in N.N.W. - - - - -			
	— 1 23	—	5 0	Auroral light (1) from zenith to 10° alt. in N.W. - -			
			P.M.				
17th	1 13	—	1 50	Arch of vertical streamers from E. to N.W. (1), of a crimson colour in N.W. and greenish in E.			
	— 2 23	—	6 0	Faint patch (*) on N.W. horizon - - - - -			
	— 3 13	—	6 50	Faint streamers on N.W. horizon - - - - -			
	— 4 23	—	8 0	Diffused mass of aurora on E.S.E. horizon and auroral light on N.N.W. horizon, passing through zenith towards S.E. (1).			
	— 5 23	—	9 0	Irregular arch (1) from E. to N.W., 30° alt. Faint arch from E.S.E. to W.N.W., and a few streamers in N.N.W.			
	— 7 23	—	11 0	Faint auroral light (*) from zenith to 30° alt. W. -			
			A.M.				
	— 8 28	17	12 5	Arch (1) of streamers from S.E. to W. Faint patch in N.E.			
	— 9 28	—	1 5	Very faint arch from S.E. through zenith to N.W. -			
	— 10 28	—	2 5	Faint auroral light from S.E. to 10° S. of zenith (*) -			
	— 11 13	—	2 50	The whole sky covered with serpentine prismatic rays, crossing each other in all directions (3). (Great magnetic disturbance.)			
			P.M.				
	— 12 23	—	4 0	A greenish band from S.W. to N., and a right angle- shaped light on S.E. horizon (1 to 2).			
	— 1 23	—	5 0	A diffused light on S.E. horizon - - - - -			
	— 2 23	—	6 0	A few faint patches S.E. of zenith - - - - -			
			P.M.				
18th	3 8	—	6 45	Arch. from S.S.E. horizon to W. horizon, of a greenish colour in S.S.E. and dark red in W. (1).			
	— 3 28	—	7 5	Arch of a dark red colour (2) from S.E. to S.W., 45° alt. Faint patches of auroral light in zenith (*5). Faint broad patch on N.W. horizon (*5).			
	— 4 28	—	8 5	Aurora (1) from S.E. to S.W. on edge of cloud. Faint streamers in E.S.E. (*5).			
	— 5 28	—	9 5	Faint streak (*) S.E. of zenith. Masses of aurora (*5) from S. to S.W. on horizon.			
	— 5 52	—	9 29	Bright (2) diffused arch from N.W. to S.E. Red, green, and purple in colour from N.W. to zenith.			
	— 6 16	—	9 53	Bright streamers (1) from N.W. horizon to zenith, red, green, and purple.			
	— 6 28	—	10 5	Streamers in S.E. and S. from horizon to zenith (1). A red and green-coloured patch on N.W. horizon (1).			
	— 7 30	—	11 7	Faint patches of auroral light S.E. and N.W. of zenith -			
	— 8 6	—	11 43	Bright (3) prismatic arch on E.S.E. horizon - - -			
			A.M.				
	— 8 27	18	12 4	Prismatic rays on E. horizon, and an elliptical-shaped light halfway between E. horizon and zenith; also patches of auroral light in different parts of the sky (2).			
	— 8 58	—	12 35	A slightly prismatic band from Ursa Major through the zenith.			
	— 9 23	—	1 0	Band from N.E. to S.W. (1) - - - - -			
	— 10 23	—	2 0	Sky nearly overcast. Auroral light visible between clouds in all directions.			
	— 11 29	—	3 6	Masses of aurora (1) on E.N.E. horizon and in S.S.W. A faint light in zenith. (Magnetic disturbance.)			
			P.M.				
	— 12 23	—	4 0	Patch of aurora on N.N.W. horizon (1) - - - - -			
	— 1 23	—	5 0	Auroral light in N.W. (1) - - - - -			
	— 2 28	—	6 5	Bright (2) auroral light on N.N.E. horizon, extending towards zenith.			
	— 2 33	—	6 10	Faint patches in zenith - - - - -			
19th	2 23	19	6 0	No aurora. Sky darkly overcast. (Great magnetic disturbance.)			
			P.M.				
20th	6 28	—	10 5	Streamers (1) in N.N.W. drifting towards W., 40° alt. -			

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Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882. November. h. m. A.M.	1882. November. d. h. m. P.M.				
20th 7 28	19 11 5	Faint patch, 10 alt., in S.S.E. (°5), and a faint streak in zenith (°5).			
— 10 28	20 2 5	Faint patches in S. (°5), visible between clouds - - -			
— 11 23	— 3 0	Faint patch in zenith (°5) - - - - -			
— 2 23	— 6 0	A few faint streaks from N.N.W., converging at the zenith.			
21st 1 18	— 4 55	Arch (1) from W. to S.E., about 20 S.W. of zenith, drifting towards N.E. horizon.			
— 1 31	— 5 8	Very faint arch from N.W. to E.S.E., 30 alt. - - -			
— 2 23	— 6 0	Diffused irregular-shaped arch (1) from E.S.E. to N.W., drifting towards zenith, where it appeared to break into streamers and rays.			
— 2 38	— 6 15	Arch reformed from N.N.E. to N.W., the lower part of a reddish colour, and in rapid motion, 20 alt.			
— 3 11	— 6 48	Broad diffused bright arch (2) from S.E. through zenith to N.W., quivering and moving rapidly, and of a pink colour in zenith.			
— 3 18	— 6 55	Broad irregular arch (2) from E.N.E. to E.S.E., coloured violet, pink, and light green, 30 alt.			
— 3 23	7 0	- - - - -	396	348	1423
— 3 28	— 7 5	Very faint arch E.N.E. to E.S.E. - - - - -	376	360	1461
— 3 53	— 7 30	Faint arch from N.N.W. to E., 40 alt.	310	361	1491
— 4 28	— 8 5	Bright arch (1) from E. to E.N.E., 20 alt., of a pink colour in E. Irregular-shaped arch (1) from E.S.E. through zenith to W.N.W.			
— 5 28	— 9 5	Faint arch (°5) on horizon from E. to N.E. - - -			
— 6 28	— 10 5	Faint irregular arch (°5) from E.S.E. through zenith to W.N.W.			
— 1 28	21 5 5	Auroral light (2) in W.N.W., 45° alt. - - - - -			
22nd 12 53	— 4 30	Faint diffused arch (°5) from E.S.E. through zenith to W.N.W.			
— 1 8	— 4 45	Bright (1) streamers from E.N.E. horizon to 5 E. of zenith.			
— 1 28	— 5 5	Faint arch (°5) from E.S.E. to E.N.E., alt. 10 - - -			
— 6 23	— 10 0	Band (1) from E. through the moon to N.W. - - -			
— 7 28	— 11 5	Irregular arch (1) from N.N.E. to N.W., alt. 10. Auroral light in S.W. about 45° alt.			
— 8 28	22 12 5	Arch very faint - - - - -			
— 12 28	— 4 5	Very faint patches of auroral light in zenith - - -			
27th 4 28	26 8 5	Faint patches of aurora (1) on S.S.E. horizon. Sky overcast.			
— 8 30	27 12 7	Patch of aurora on N.N.E. horizon - - - - -			
— 11 28	— 3 5	Masses of aurora (1) from E. to N.W., of a yellowish colour, 3 alt.			
28th 2 28	— 6 5	Faint arch (°5) from E.S.E. to E.N.E., 20 alt. - - -			
— 3 13	— 6 50	Arch (1) from N.E. to N.W. - - - - -			
— 7 28	— 11 5	Patch of aurora (1) 2 S.W. of zenith - - - - -			
— 3 28	28 12 5	Streak (1 to 2) from N.N.W. through zenith - - -			
— 11 28	— 3 5	Faint arch from N.E. to W. - - - - -			
30th 5 28	29 9 5	Faint patch of aurora (°5) in E. horizon - - - - -			
— 6 28	— 10 5	Faint arch (°5) from E.S.E. to W.N.W., 45 alt. Bright patch (1) on E. horizon.			
— 7 28	— 11 5	Band (1) from S.E. towards W., 6 S.W. of zenith - - -			
— 8 28	30 12 5	A diffused light on N.W. horizon - - - - -			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882. November. h. m.	1882. November. d. h. m.				
A.M.	A.M.				
30th 9 28	30 1 5	Diffused lights and patches (1) covering half the sky from N.W. and N.E. horizons.			
— 10 28	— 2 5	Diffused arch (1) from E.N.E. to W.			
— 11 28	— 3 5	Serpentine arch (2) from W. through zenith to E.S.E., with streamers of a greenish colour.			
P.M.					
— 12 28	— 4 5	Faint patch of aurora in zenith			
— 3 28	— 7 5	Bright streamers (1) from E. horizon to zenith			
December.					
A.M.	P.M.				
1st 1 25	— 5 2	Faint arch (°5) E.S.E. to W.N.W., 20° alt.			
— 1 38	— 5 15	disappeared. Bright streak (1) in N., 10° alt.			
— 1 50	— 5 27	Faint light in N.W., 10° alt. (°5)			
— 2 50	— 6 27	Arch (2) from E. to N.W., 2° N. of zenith			
— 3 0	— 6 37	through zenith			
— 3 20	— 6 57	Bright (2) diffused arch from E.S.E. through zenith to W.N.W.			
— 3 40	— 7 17	Band (1) from S.E. to N.W., 6° S.W. of zenith			
— 4 0	— 7 37	Curtain of aurora through zenith from N.W. to S.E., about 40° in extent (°8).			
— 4 15	— 7 52	Aurora disappeared, except a faint arch (°5) from E.S.E. to W.N.W., 20° S. of zenith.			
— 4 20	— 7 57	Arch (°5) drifting towards S., slightly diffused in E.S.E.			
— 4 25	— 8 2	Diffused arch (°5) from E.S.E. to W.N.W., 4° S.W. of zenith.			
— 4 45	— 8 22	drifting towards zenith			
— 4 55	— 8 32	Above arch very faint and through zenith			
— 5 10	— 8 47	brighter towards W.N.W.			
— 5 25	— 9 2	bright, and 2° S.W. of zenith (1)			
— 5 35	— 9 12	disappeared			
— 5 45	— 9 22	Faint patch of aurora in E.S.E., 5° alt.			
— 6 0	— 9 37	auroral light in S.W., 30° alt.			
— 6 10	— 9 47	diffused			
— 6 20	— 9 57	Irregular arch (1) from S.E. to W., 40° alt.			
— 6 40	— 10 17	Arch (2) from E.S.E. to W., 6° S.W. of zenith			
— 6 45	— 10 22	Aurora much diffused, drifting through zenith, with much quivering motion and slightly prismatic.			
— 6 55	— 10 32	Band from E. through Ursa Major to N.W. (1)			
— 7 5	— 10 42	as above, and a diffused light in zenith; very faint.			
— 7 25	— 11 2	Above band less bright, and light disappeared			
— 7 35	— 11 12	Band disappeared			
— 7 40	— 11 17	Faint auroral light from W.N.W. through zenith			
	December,				
	A.M.				
— 8 25	1 12 2	auroral lights in zenith and in N.N.W.			
— 8 35	— 12 12	Patch of aurora (1) in N.N.W., 15° alt.			
— 8 45	— 12 22	Faint arch (°5) from E. to N.W., 10° alt.			
— 8 55	— 12 32	Aurora disappeared. Sky nearly overcast			
	P.M.				
2nd 3 23	— 7 0	Auroral lights (°5) from E. to N.W., about 30° alt., drifting towards zenith.			
— 6 28	— 10 5	Diffused arch (°5) from N.N.W. to E.S.E., about 45 alt.			
	P.M.				
— 12 43	2 4 20	Faint arch (°5) from N.N.E. to S.W.			
— 1 23	— 5 0	Iditto			
	A.M.				
3rd 11 23	3 3 0	Faint arch from W. to S.E. (°5), 60° alt.			
	P.M.				
— 12 28	— 4 5	Patch of aurora (°5) in N.N.E., 15° alt.			
	P.M.				
4th 1 28	— 5 5	Faint streamers (°5) from E. to N. on horizon			
— 2 28	— 6 5	Diffused arch (1) from E. to N., 10° alt.			
— 3 28	— 7 0	Arch (2) from N.E. to N.W., 10° alt.			
— 4 28	— 8 5	Diffused arch from S.E. to W.N.W. and through zenith; more in the shape of curtains in S.E. (1°5).			

Göttingen Mean Time.	Local Mean Time.		II. F.	D.	V. F.
1882. December.	1882. December.				
h. m.	d. h. m.				
A.M.	P.M.				
6th 7 23	5 11 0	Irregular, curved, curtain-shaped aurora about (2) and slightly prismatic, from E.S.E. to N.W., moving rapidly towards Ursa Major.			
	A.M.				
— 8 28	6 12 5	Irregular, diffused, and appearing like cumulus clouds from S.E. horizon to zenith, and there is a portion of an arch from W. towards N.N.E. slightly prismatic and moving rapidly.			
— 9 29	— 1 6	Arch from E. to N.W. through Ursa Major (2.5) -			
— 10 28	— 2 5	Faint patches all round zenith - - - -			
— 11 28	— 3 5	Patch of aurora in N.W., 20° alt. (.5), drifting toward N.E.			
— 12 28	— 4 5	Auroral lights (1) on N.W. and N.N.E. horizons - -			
	P.M.				
— 2 28	— 6 5	Faint arch (.5 to 1) from N.N.E. to W.N.W., alt. 15°, brightest part in N.N.E.			
— 3 18	— 6 55	Arch (1) from E.N.E. to E., 30° alt. - - - -			
	P.M.				
7th 1 28	— 5 5	" " E.S.E. to E.N.E., 15° alt. - - - -			
— 2 28	— 6 5	" " " N.E. curtain-shaped and of a greenish colour in N.E., alt. 25°.			
— 3 28	— 7 5	Arch from E. to N.W. through Ursa Major (1.5) -			
— 4 30	— 8 7	Arch (1) from E. to N.W., 60° alt., brighter on E. horizon (3), where another arch with vertical streamers appears extending along the N.E. horizon.			
— 5 31	— 9 8	Arch now halfway between zenith and N.N.W. horizon, and an intense light (3), curtain-shaped, on N.N.E. horizon.			
— 6 33	— 10 10	Faint arch (.5) from N.E. horizon to W.N.W. - - -			
— 7 33	— 11 10	Aurora (1) in N.E., alt. 12° - - - -			
	A.M.				
— 8 28	7 12 5	Irregular arch (1) from E. through zenith to N.W., very wide at zenith.			
— 9 23	— 1 0	Irregular arch very faint (.5) - - - -			
— 10 28	— 2 5	Auroral light (.5) in N.N.W., 50° alt. - - - -			
— 11 28	— 3 5	Irregular-shaped arch from N.N.W. to E. (1), alt. 30°. Faint light (.5) from S.E. horizon to 50° alt.			
	P.M.				
— 12 28	— 4 5	Patches of aurora in E.S.E. (.5), and in N.N.W. (1) -			
	A.M.				
9th 3 28	8 7 5	Faint patches in W.N.W. (.5) - - - -			
— 5 28	— 9 5	Faint arch (.5) from W.N.W. through zenith to 60 alt. E.S.E.			
— 6 28	— 10 5	Faint light in zenith, arch (1) from S. to S.W., 20° alt. -			
— 7 30	— 11 7	Aurora visible between clouds about 15° N. of zenith and halfway between S.W. horizon and zenith.			
	P.M.				
— 3 28	9 7 5	Faint patches (.5) on horizon in E. and S.E. - - -			
	A.M.				
10th 1 28	— 5 5	Streamers (.5) on E. and N.E. horizon - - - -			
— 2 28	— 6 5	Bright streamers (1 to 2) E.N.E. through zenith to E. -			
— 3 23	— 7 0	Faint arch (.5) from S.E. to N.W., 80° alt. - - -			
— 4 23	— 8 0	Ditto - - - -			
— 5 23	— 9 0	Ditto, also a faint patch from zenith towards N.W., and a few patches on S.E. horizon.			
— 6 23	— 10 0	Above arch has almost disappeared except in S.E., where brighter (1.5).			
— 7 23	— 11 10	Another arch (1) from S.E. through zenith to N.N.W. - Three irregular arches (1) - - - - 1st, from E. to N.N.W. just below tail star of Ursa Major. 2nd, from same point, through zenith - - - - 3rd, through Orion and Taurus - - - - A few detached streamers, more especially at zenith -			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882 December. h. m.	1882 December. d. h. m.				
A.M.	A.M.				
10th 8 28	10 12 5	Arch (1) from E.N.E. to N.N.W., 10° alt., many streamers from N.W. to E.S.E. around, and reaching to the zenith.			
— 9 28	— 1 5	Several streamers (1) from E. to N.N.W., alt. from 10° to 20°.			
— 10 28	— 2 5	Bright patch in N.N.W., 15° alt.			
P.M.					
— 1 28	— 5 5	Faint (·2) arch from E.S.E. to W., 40° alt.			
— 2 28	— 6 5	Ditto and a few faint lights in zenith			
A.M.	P.M.				
11th 3 28	— 7 5	Streamer (1) in N.N.W., 15° alt.			
— 3 43	— 7 20	Faint arch (1) from E.S.E. to N.W., 10° N. of zenith			
— 4 28	— 8 5	„ „ only 5° N. of zenith and drifting towards it			
— 4 53	— 8 30	Above arch, from E. to N.W. through zenith, striated, and reddish glow at both ends (1).			
— 5 28	— 9 5	Patch of aurora (·5) on E. horizon			
— 6 28	— 10 5	Arch (1) from E. through zenith to N.N.W.			
— 7 18	— 10 55	Bright streamers, quivering and in rapid motion, prismatic (2) from S.S.E. to zenith, extending to S.			
— 7 23	— 11 0	Declinometer and vertical force disturbed	370 369 374	434 421 468	1766 1517 1415
— 7 28	— 11 5	Mass of aurora N.W. of zenith and in E., in irregular patches (7).			
	A.M.				
— 8 28	11 12 5	Arch (·5), 10° in width, from 30° alt. E.S.E. through zenith to 40° alt. N.N.W.			
— 9 28	— 1 5	Bright, diffused, and irregular-shaped arch from E.S.E., 5° S. of zenith to S.W. (1 to 2), and slightly prismatic E.S.E.			
— 10 28	— 2 5	Faint arch (·5) from E.S.E. to E.N.E., 10° alt. Faint patches in S.			
— 11 23	— 3 0	Bright patch on N.E. horizon and a light between the clouds halfway between S.W. horizon and zenith.			
P.M.					
— 12 30	— 4 7	Bright patch in N.W., emerging from the clouds. Sky nearly overcast.			
— 1 28	— 5 5	Bright patches on horizon in N.N.W. and E.S.E.			
— 2 28	— 6 5	Patch (·5) in N.N.W., about 15° alt.			
A.M.	P.M.				
12th 5 28	— 9 5	Faint arch (·3) from E.S.E., 5° S. of zenith to W.N.W.			
— 6 28	— 10 5	„ ditto 15° S. of zenith			
— 7 28	— 11 5	Faint, streaky, auroral light extending about 10° S.E. and N.W. either side of zenith.			
	A.M.				
— 10 33	12 2 10	Diffused auroral light (·5) 2° S. of zenith			
— 11 28	— 3 5	Arch (2), prismatic, from N.E. to S.W. through zenith, drifting rapidly towards N.W. (Magnetic disturbance.)			
P.M.					
— 12 28	— 4 5	Faint patches (·5 to 1) in zenith, in S.W. and in N.W.			
— 1 28	— 5 5	Patch of aurora on N.N.E. horizon partly seen through the clouds.			
A.M.	P.M.				
13th 5 29	— 9 6	Arch (·5) from N.E. to N.W., about 45° alt.			
— 6 30	— 10 7	Auroral light (·5) from Cassiopeia to W.N.W.			
— 7 33	— 11 10	Faint aurora (·5) in parallel streaks, 5° to 20° S.W. of zenith, from N.W. to S.E., about 30° alt. on either side.			
	A.M.				
— 8 28	13 12 5	Irregular arch (·5) from N.N.E. to N.W., alt. 15°; much aurora (·5) around and in zenith.			
— 9 28	— 1 5	„ arch as above. Streak of aurora in N.W., 20° alt. (1).			
P.M.					
— 2 28	— 6 5	Faint masses of aurora in E.S.E. and S. Patch (·5) in N.N.W.			
	A.M.				
14th 1 23	— 5 0	Arch (1) from N.E. to N.W., about 10° alt.			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882. December.	1882. December.				
h. m.	d. h. m.				
A.M.	P.M.				
14th 2 23	13 6 0	Arch (1) brighter and some streaks above it in N.W.			
— 3 28	— 7 5	Faint streaks in N.N.W., alt. 5°			
— 4 28	— 8 5	Arch (·5) from E. to N.N.W., 10° alt.			
— 5 28	— 9 5	" " " " 20° alt.			
— 6 28	— 10 5	Two irregular arches from E. to N.N.W., 1st, about 60° alt. (·5), 2nd, very faint and through zenith.			
— 7 18	— 10 55	Arch (·5) from E.S.E. through zenith to W.N.W.			
— 7 28	— 11 5	" " drifted towards N.E., less bright except in E.S.E. Faint arch from E. to N.E., alt. 15°.			
	A.M.				
— 8 28	14 12 5	Arch (1) from E.S.E. to N., 35° alt. Faint lights from E.S.E. to zenith.			
— 9 28	— 1 5	Broad diffused arch (·5) from E.S.E. through zenith to W.N.W.			
— 10 28	— 2 5	Bright irregular arch (1) from 30° alt. E.S.E. through zenith, to 10° alt. N.N.W.			
	P.M.				
— 12 33	— 4 10	Arch (1) from E.S.E. through zenith to W.N.W.			
— 1 23	— 5 0	Diffused arch from S.E., 2° S.W. of zenith to W. (1)			
— 2 23	— 6 0	Aurora appearing like small cumulus clouds from S.E. horizon to zenith, extending to about 3° S. of zenith (1). A few faint streaks in zenith			
— 3 28	— 7 5				
	A.M.				
— 5 50	— 9 27	Faint band from N.E. to N.W., about 20° alt.			
— 6 0	— 9 37	" " brighter (1) in N.E.			
— 6 10	— 9 47	Ditto			
— 6 20	— 9 57	" disappeared except in N.E. Faint patches in zenith.			
— 6 30	— 10 7	Aurora very faint; the patches in zenith drifted to 10° alt. N.E.			
— 6 45	— 10 22	" disappeared except a streak in N.W.			
— 7 0	— 10 37	Bright irregular-shaped arch (1) from E. to N.E., 10° alt. Bright (1) streak in N.W.			
— 7 5	— 10 42	Above arch alt. 45°. Aurora faint. Faint streak in E.S.E.			
— 7 10	— 10 47	Streaks disappeared. Faint arch from E.S.E. through zenith to W.N.W.; arch from E. to N.E. very faint.			
— 7 20	— 10 57	" disappeared. Arch from E.S.E. to W.N.W. very faint. Faint arch (·2) through Cygnus, Cassiopeia, and Gemini. Slightly brighter patch in Leo.			
— 7 40	— 11 17	Arch through Leo (·5), passing halfway between Ursa Major and N. horizon.			
— 7 50	— 11 27	Aurora very faint			
— 8 5	— 11 42	Arch from N.E. to N.W., 45° alt. (1), and arch from S.E. to W., 2° S. of zenith (·5).			
— 8 15	— 11 52	Aurora disappeared except a faint patch 20° N.W. of zenith and a brighter patch in E. and S.E. (·5).			
	A.M.				
15th 8 25	15 12 2	Aurora disappeared			
— 10 10	— 1 47	Arch from N.W. to E. through zenith (1)			
— 10 20	— 1 57	" " 5° S.W. of zenith (·5)			
— 10 35	— 2 12	" " irregular in shape and through zenith (·5 to 1); brightest in N.W.			
— 10 50	— 2 27	" " (·5) and uniform			
— 10 55	— 2 32	Aurora disappeared			
— 11 10	— 2 47	Faint streak in zenith			
	P.M.				
— 1 30	— 5 7	" in E.N.E., 40° alt.			
— 1 33	— 5 10	" disappeared			
	A.M.				
16th 8 28	16 12 5	Masses of aurora visible through clouds, from E. horizon to N.W. horizon up to zenith.			
— 8 38	— 12 15	Streak of aurora (1) about 60° alt. in S.S.W. through zenith to N.N.E., of a greenish colour, and faint patches on S.W. horizon, partly seen through clouds.			
— 9 28	— 1 5	Faint streaks in zenith and patches on S.W. horizon			

Göttingen Mean Time.	Local Mean Time.		H. E.	D.	V. F.
1882. December. h. m. A.M.	1882. December. d. h. m. A.M.				
16th 10 55	16 2 5	Irregular arch (2) from W. to E.N.E. through zenith, of green and reddish colours, drifting rapidly towards S.; also many streaks and patches from E. to S. along horizon; brightest in N.E. and N.W. (.5 to 2).			
— 11 28	— 3 5	From E.S.E. horizon to N.W. horizon, and from about 25° alt. to 30° alt., the sky covered with masses of aurora and streamers, varying from (.3 to 1.5); brightest in S.W. Serpentine arch from E. to 40° W.S.W. of zenith (1).			
— 11 43	— 3 20	Aurora disappeared, except a streak 15° alt. S.E. (.5) -			
— 11 58	— 3 35	Bright, confused, mass of aurora in N.N.W. (1 to 2). Bright streamers about 40° alt. S.S.W. (1).			
	P.M.				
— 12 28	— 4 5	Irregular-shaped arch (.5) from W.N.W. horizon through zenith to 40° alt. E.S.E. Faint arch from N.N.E. to E., alt. 30°, and a faint patch in S.E.			
— 12 58	— 4 35	Faint patches in zenith - Cloudy - - - - -			
— 2 28	— 6 5	Irregular arch (.5) from W.N.W. to E., 15° alt., faint streamers from E.S.E. horizon to 40° alt.			
— 3 33	— 7 10	Faint streamers from E. to S.W. - - - - -			
17th 5 28	17 9 5	Patch of aurora (.5) from N.N.W. horizon to 45° alt. -			
	A.M.				
18th 8 33	18 12 10	Arch from S.E. to N.W., 30° alt., and a patch halfway between the arch and zenith (1).			
— 9 28	— 1 5	Faint auroral light between S.E. horizon and zenith, visible through clouds.			
	P.M.				
19th 12 28	— 4 5	Faint streaks in E.S.E., 50° alt., and in W.N.W., 60° alt.			
— 2 28	— 6 5	Bright (1), green-coloured patch in E.S.E., 15° alt., faint streak in S.E., 45° alt.			
— 3 23	— 7 0	Two bright bands slightly prismatic (2) from S.E. to zenith.			
— 4 28	— 8 5	Auroral light (1) from about 7° alt. in S.E. through the moon towards W. horizon.			
— 5 28	— 9 5	Arch (1.5) from S.S.E. about 6° S.W. of the moon, to W. A faint diffused light from E. horizon to zenith.			
— 6 23	— 10 0	- - - - -	306 212 184	318 318 331	1397 1622 1960
— 6 26	— 10 3	Half the sky covered with bright, prismatic auroral light, moving and changing shape with great rapidity, the "curtain" shape prevailing, and of a crimson colour (3). (Bifilar and vertical force disturbed.)			
— 6 38	— 10 15	Aurora disappeared, except an arch from E.S.E. halfway between zenith and N. horizon to N.W., with streamers rapidly moving backwards and forwards upon it (2), and slightly prismatic.			
— 6 48	— 10 25	Above arch brighter (3), and no streamers - - - - -			
— 7 28	— 11 5	Imperfect arch (1) from N.N.W. to N.E., a S., a brighter patch (2) just below Cygnus and another below Lyra.			
— 7 53	— 11 30	Arch (1) from N.N.W. to E., extending towards zenith, irregular in shape and very wide, about 15° alt. (Great decrease of horizontal and vertical forces.)			
— 8 28	19 12 5	A.M. Arch (1) from N.N.W. to E., very irregular, about 6° alt.; two other arches from N.N.W., 1st, through the moon, 2nd, about 10° above it, and about 45° alt. in S. (1).			
— 9 28	— 1 5	Patch of aurora (.5) on N.E. horizon, and a streak in N.N.W., 15° alt. (1).			
— 10 28	— 2 5	Arch (2) from N.N.W. through zenith to about 30° alt. in E.; faint patch in N.N.E., and another in N.W., about 3° alt.			
— 11 28	— 3 5	Faint arch from E.S.E. to S.W., 20° alt., small bright patch (1) on N.N.E. horizon.			
	P.M.				
— 12 28	— 4 5	Faint streak in S.S.W., 30° alt. Faint arch (.3) from E.S.E. to 20° N.W. of zenith.			
— 1 28	— 5 5	Faint patch on E.N.E. horizon - - - - -			

Göttingen Mean Time.		Local Mean Time.			H. F.	D.	V. F.
1882.		1882.					
December.		December.					
	h. m.	d. h. m.					
	P.M.	A.M.					
19th	2 28	19 6 5		Faint arch from E.S.E. to S.W., 35° alt.			
	A.M.	P.M.					
20th	3 28	— 7 5		Arch (·5) from E. to N.N.W., alt. 8°			
	5 28	— 9 5		Irregular arch (2), with a greenish glow, from E. to N.N.W., 30° alt.; another arch from the same point in N.N.W. to zenith, and of the same colour and brightness; both drifting towards N. horizon.			
	6 28	— 10 5		Arch (·5) from E. to N.N.W., 15° alt.			
	7 3	— 10 40		Irregular-shaped arch (1) from N.N.E. to E.S.E., and from there extending to zenith.			
	7 28	— 11 5		Faint band (·5) parallel to N.W. horizon, about 10° alt. Faint streamers in N.W. passing through Ursu Major and Cygnus.			
	7 33	— 11 10		Above band brighter and about 5° higher			
	8 28	20 12 5	A.M.	Bright, prismatic, streamers in N.N.W. and E.S.E. (2 to 3) in rapid motion, extending to zenith, and when meeting, the whole sky, from N.N.W. and E.S.E. to zenith, is covered with curtain-shaped aurora. (Horizontal and vertical forces disturbed.)			
	8 31	— 12 8		Bright aurora (3) broken up into circles N.N.W. and E.S.E. of zenith, prismatic and in rapid motion.			
	8 38	— 12 15		Bright aurora disappeared. Bright irregular arch (1) from N.W. to E.S.E., 20° alt, of a greenish colour in E.S.E.			
	8 53	— 12 30		Irregular patch (·5) from 40° alt. in E.S.E. to zenith			
	9 28	— 1 5		Bright, broad, diffused arch (1) from N.W. through zenith to 40° of S.E.			
	10 28	— 2 5		Faint masses (·3) on horizon from E. to E.N.E.			
	11 30	— 3 7		Faint auroral light 3° N. of zenith			
	P.M.						
	1 23	— 5 0		Faint streak through zenith			
	2 23	— 6 0		Faint streaks and patches round zenith			
	3 13	— 6 50		Band (·5) on horizon from N.N.E. through W. to S.S.E., and an arch (1) from S.S.E. to N.N.W., 70° alt.			
	3 28	— 7 5		Irregular arch (1) with a greenish glow, from E. to N.N.W. alt., about halfway between horizon and zenith, with streamers in rapid motion. Bright streaks in zenith. (Much magnetic disturbance.)			
	3 53	— 7 30		Bright streak in N.N.W., 45° alt., and a few faint patches in zenith. Sky cloudy.			
	A.M.	P.M.					
21st	1 38	— 5 15		A few streamers in S., 40° alt.			
	2 38	— 6 15		Irregular arch (1) from S.E. to W., alt. 30°, with a greenish glow.			
	3 28	— 7 5		Bright curtain-shaped arch (2) of a greenish colour, from W.S.W. to E.S.E., where curved towards zenith, alt. 20°. (Magnetic disturbance.)			
	5 28	— 9 5		Masses of aurora (0 to 1) in E., alt. from 10° to 15°. Faint arch from E.S.E. to S.W., alt. 5° (·5) in S.W.			
	6 28	— 10 5		Faint band (·5) parallel with horizon from E.S.E. to E., 5° alt., and faint masses S.W. of zenith.			
	7 33	— 11 10		Irregular arch (1·5) from E.S.E. to W.N.W., 30° alt.			
	8 28	21 12 5	A.M.	Faint patches of aurora, like thin clouds, covering almost the whole sky.			
	4 23	— 8 0	P.M.	Arch (1) from S.S.E. to W.N.W., 2° N. of zenith			
	5 38	— 9 15		Arch (1·5) from E. to W.N.W., 30° alt. N.			
	6 33	— 10 10		Diffused masses of auroral light (1) from N.N.E. to W.N.W.			
	7 42	— 11 10?		Arch (1) from S.E. to N.W. just above Sirius, slightly prismatic, striated, and in rapid motion. Faint streak from N.W. horizon to Cassiopeia.			
	8 28	22 12 5	A.M.	Mass of aurora on N.N.W. horizon, with an arch (1) from it to E., 10° alt., and wide streak to zenith.			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1882. December.	1882. December.				
h. m.	d. h. m.				
A.M.	A.M.				
22nd 9 28	22 1 5	Faint streak on N.N.E. horizon - - - - -			
— 10 28	— 2 5	Faint arch from N.N.W. to E.S.E., 8° alt., and a faint streak on N.N.W. horizon.			
P.M.					
— 3 23	— 7 0	Faint arch (°5) from N.N.E. to W.S.W., 5° N.W. of zenith.			
A.M.	P.M.				
24th 4 28	23 8 5	Faint patch E.S.E. of zenith - - - - -			
— 9 23	24 1 0	Portion of a bright arch (2) visible through clouds about 20° N. of zenith.			
— 10 23	— 2 0	Irregular masses of auroral light in S.E. and N.W., prismatic.			
	P.M.				
26th 1 23	25 5 0	Faint arch (°5) from E.S.E. to N.W., about 35° alt. -			
— 7 28	— 11 5	Patches of aurora (°5) visible between clouds, about 5° S.E. of zenith.			
— 9 28	26 1 5	Faint streaks (°2) N.W. of zenith, disappearing under clouds.			
	P.M.				
27th 1 28	— 5 5	Irregular arch (1) from E. to N.N.W., about 5° alt., striated, and in rapid motion.			
— 2 28	— 6 5	Ditto alt. 15° - - - - -			
— 4 28	— 8 5	Faint streamers (°5) from N.N.W. horizon to 40° alt. -			
— 5 28	— 9 5	Faint patches (°5) visible between clouds in E.S.E. -			
— 5 38	— 9 15	Bright broad diffused arch (1) from N.N.W. horizon through zenith, to 20° alt. in E.S.E., disappearing under clouds, and a faint patch midway between S.W. horizon and zenith (°5).			
— 6 28	— 10 5	Above arch disappeared. Faint patches on N.N.W. and E.S.E. horizons.			
— 7 28	— 11 5	Faint arch from E.S.E. to N.E., about 10° alt. -			
— 8 29	27 12 6	Faint streaks around zenith, and a mass of light on N.N.E. horizon.			
— 9 28	— 1 5	A.M.			
— 10 33	— 2 10	Arch from S.E. through zenith to N.W. (1°5) - - -			
— 11 28	— 3 5	Arch (1°5) from S.E. to N.W., alt. 20°, and a diffused light from Orion to W.			
— 12 28	— 4 5	Bright arch (2) from S.E. through the belt of Orion to W.S.W.			
P.M.					
— 12 28	— 4 5	Arch (1) from S.S.E. to N.W., alt. 75°, and a few streaks in zenith.			
— 1 28	— 5 5	Irregular arch (1) from S.S.E. to N.W., 5° S.W. of zenith.			
— 2 28	— 5 5	Faint patches in E.S.E. - - - - -			
A.M.					
28th 1 28	28 5 5	Faint arch (°5) from S.E. to N.W., about 35° alt. -			
— 2 28	— 6 5	Arch (1) from S.E. through Hetselgense and Ursa Major to W.N.W.			
— 2 53	— 6 30	Arch (1) from S.S.E. to W.N.W., with a greenish glow and striated, about 10° S.W. of zenith, drifting rapidly through zenith to within about 20° alt. in N.E.			
— 2 58	— 6 35	The same arch (°5) from E. to N.N.W., alt. 20° - - -			
— 3 28	— 7 5	Arch (1) from N.N.W. to E., 45° alt., with a few vertical streaks at the N.N.W. extremity, about 8° alt. (1).			
29th 4 28	— 8 5	Diffused arch (1) from N.N.W. to S.S.E. through zenith, and drifting towards S.W., striated and with a slight quivering motion.			
— 5 28	— 9 5	Arch (°5) from N.N.W. through zenith to E. - - -			
— 6 28	— 10 5	Two arches, 1st from E. to N.N.W., 10° alt. (1), 2nd from E.N.E. to N.N.W., 5° alt. (°5).			
— 7 8	— 11 5	Faint arch (°5) from E.S.E. to W.N.W., alt. 15° in N. -			

Göttingen Mean Time.	Local Mean Time.		H. F.	F	V. F.
1882. December.	1882. December.				
h. m.	d. h. m.				
A.M.	A.M.				
29th 8 28	29 12 5	Bright broad diffused arch (1) from E.S.E. to N.W. through zenith, of a greenish colour in E.S.E.			
— 8 58	— 12 35	Masses of aurora (·5) between S.W. horizon and zenith -	421	334	1079
	— 12 36	— - - - - - - - - - - - - - - - - - - - - - - - - -	110	345	1065
	— 12 38	— - - - - - - - - - - - - - - - - - - - - - - - - -	342	349	1014
	— 12 42	— - - - - - - - - - - - - - - - - - - - - - - - - -			
— 9 7	— 12 44	" disappeared, bright green-coloured patch (2), 5° alt. in N.W.			
— 9 28	— 1 5	Bright green patch (1) on N.E. horizon - - - - -			
— 10 28	— 2 5	Faint patch (·2) in S.E. Faint masses (·5) in N.E. Bright streak (1) in N.N.W., 10° alt.			
— 11 28	— 3 5	Arch (2) from S.E. through Procyon to W., diffused in S.E., slightly prismatic.			
		P.M.			
— 12 28	— 4 5	Bright streak through zenith - - - - -			
— 1 28	— 5 5	" patch in S.E. horizon - - - - -			
— 3 28	— 7 5	Faint streak in E., 15° alt. - - - - -			
		P.M.			
30th 1 38	— 5 15	Irregular arch (·5) from E. to N.N.W., alt. 5° - - -			
— 2 28	— 6 5	Faint arch from E. to N.N.W. just above horizon, with a streak at N.N.W. extremity (1).			
— 3 28	— 7 5	Bright arch (1) from N.E. to E., 5° alt., striated, but immediately breaking up into patches, extending to E.S.E. and N. (·5).			
— 3 38	— 7 15	Faint patches in E.S.E., alt. 10° - - - - -			
— 4 18	— 7 55	Arch (·5) from E.S.E. to N., alt. 15° - - - - -			
— 4 28	— 8 5	" diffused and through zenith (1) in N. - - - - -			
— 5 28	— 9 5	" from E.S.E. through zenith to N.N.W. (0 to 1), diffused in N.N.W.			
— 6 28	— 10 5	Arch (·5) from E.S.E. through zenith to W.N.W. Patch (·5) on E. horizon.			
— 7 28	— 11 5	Faint arch (·5) from S.E. through the Moon, and 2° N. of zenith to N.W.			
31st 1 28	30 5 5	Bright diffused light (8) on N.E. horizon - - - - -			
— 2 28	— 6 5	Faint patch on N.E. horizon - - - - -			
— 3 28	— 7 0	" diffused light in N.N.W. horizon - - - - -			
— 4 28	— 8 5	Arch (1·5) from Procyon through Ursa Major to N.W. -			
— 5 28	— 9 5	" (2) from S.E. between Procyon and Betelgeuse through zenith to W.N.W.			
— 6 28	— 10 5	Band (1·5) from S.E. through Procyon and Cassiopeia to N.W.			
— 7 28	— 11 10	Diffused arch (1) from N.N.W. through zenith to E.S.E. Mass of aurora (1) on horizon from E. to E.S.E. A fainter arch from same point to W. horizon, 25° S. of zenith.			
		A.M.			
— 8 28	31 12 5	Diffused arch from N.N.W. to E. through zenith (·5 to 1), faintest in zenith. Another arch (1) on horizon from E. to N.			
— 9 28	— 1 5	Mass of aurora on horizon from N.E. to N.N.W. (1), and a faint streak in N.W., 45° alt.			
— 10 28	— 2 5	Arch (1) from E.S.E. to N.N.W., 5° alt., and another arch (1) from about 25° alt. N.W., through zenith, to 15° alt. E.S.E.			
		P.M.			
— 12 28	— 4 5	Faint irregular arch (·5) from E.S.E. to N.E., 10° alt. Faint patches 5° S.W. of zenith.			
— 1 28	— 5 5	Irregular arch from E.S.E. through zenith to N.N.W. (0 to 1), brightest in N.N.W.			
— 2 28	— 6 5	Faint arch (·5) from E.S.E. horizon, through zenith to 30° alt. in N.W.			
1883. January.					
A.M.	P.M.				
1st 1 8	— 4 45	Arch (1) from S.E. to N.W., about 4° alt. in N. - - -			
— 2 28	— 6 5	" " diffused in S.E., about 45° alt. - - - - -			
— 3 28	— 7 5	Faint arch from E. to N.N.W., 8° alt. - - - - -			
— 4 28	— 8 5	Arch (1) from E.S.E. to N.N.W., 20° alt., patch of aurora in N.N.W., 5° alt.			

Gottingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1883. January.	1882. December.				
h. m.	d. h. m.				
A.M.	P.M.				
1st 5 28	31 9 5	Arch (1) from E. to N.N.W., 10° alt. - - - - -			
— 6 28	— 10 5	Faint arch from E. to N.N.W., 8° alt. - - - - -			
— 7 28	— 11 5	„ „ arch from E.S.E. to N.N.E., 15° alt. (5) in E.S.E.			
	1883. January.				
	A.M.				
— 8 27	1 12 5	Bright serpentine arch (1) from E.S.E. to W.N.W., alt. 15° N. Faint streak S.E. of zenith.			
— 9 27	— 1 5	Arch (5) from E.S.E. to N.N.W., diffused, alt. 10° -			
— 10 27	— 2 5	Bright arch (1 to 2) from 40° alt. in E.S.E., through zenith to S.W., where diffused.			
— 11 27	— 3 5	Bright irregular masses (2) 5° S.S.W. of above arch - Arch (1) from S.E. to N.W., about 15° alt., and patches in W.N.W. (1).			
	P.M.				
— 12 27	— 4 5	Faint patches in N.W. - - - - -			
— 1 27	— 5 5	„ patch in N. - - - - -			
— 2 23	— 6 0	Nearly the whole sky covered with auroral lights, patches, and streaks. (Instruments disturbed.)			
2nd 1 20	— 4 57	Arch (5) from E.N.E. to N.N.W., 5° alt. - - - - -			
— 1 30	— 5 7	„ disappeared - - - - -			
— 1 11	— 5 18	Faint arch (3) from E. to E.N.E., 5° alt. - - - - -			
— 1 50	— 5 27	Ditto. ditto. - - - - -			
— 1 55	— 5 32	Faint arch from E.N.E. to N.N.W., 8° alt. - - - - -			
— 2 0	— 5 37	„ irregular in shape and (1) - - - - -			
— 2 10	— 5 47	Ditto. (5) - - - - -			
— 2 30	— 6 7	Arch from same points, 10° alt. (5) - - - - -			
— 2 40	— 6 17	„ slightly diffused and irregular in shape - - - - -			
— 2 50	— 6 27	„ „ „ (1) in N.N.W. - - - - -			
— 3 0	— 6 37	Above arch confused, and from N. to E. 5° alt. - - - - -			
— 3 15	— 6 52	„ „ from E.S.E. to N.N.W., 15° alt., and a streak in N.N.W., 8° alt. (1).			
— 3 26	— 6 57	Streak disappeared and arch very irregular - - - - -			
— 3 35	— 7 12	Arch 10° alt. and (5) - - - - -			
— 3 45	— 7 22	„ „ (1), another arch about 3° below, and a few bright streaks in N.N.W., 15° alt.			
— 4 0	— 7 37	Lower arch disappeared, upper arch slightly diffused (5)			
— 4 20	— 7 57	Arch very faint and uniform - - - - -			
— 4 35	— 8 12	Ditto - - - - -			
— 4 45	— 8 22	Ditto - - - - -			
— 5 0	— 8 37	„ 15° alt. - - - - -			
— 5 25	— 9 2	„ diffused and irregular (0 to 1) - - - - -			
— 5 30	— 9 7	„ disappeared. Patches (5) in E.S.E. and N.N.E.			
— 5 37	— 9 14	Faint arch from S.E. to N.W., 60° alt. - - - - -			
— 5 45	— 9 22	Ditto - - - - -			
— 5 55	— 9 32	„ diffused and alt. 70° - - - - -			
— 6 10	— 9 47	„ regular, alt. 45° (1 to 2) - - - - -			
— 6 15	— 9 52	Double arch (7) from E. to N.W., 12° alt., passing Leo, and just below γ Ursae Majoris.			
— 6 20	— 9 57	Arch row about 8° alt. (0 to 1) - - - - -			
— 6 31	— 10 8	„ faint in N.W. - - - - -			
— 6 40	— 10 17	„ (1) - - - - -			
— 6 55	— 10 32	Ditto - - - - -			
— 7 25	— 11 2	Double arch (8) from S.E. to N.W., 15° alt. in N. - - - - -			
— 7 40	— 11 17	Segment of arch (5) from E. horizon towards N., 8° alt.			
— 7 50	— 11 27	Fainter arch, about 3° above, and parallel with the last.			
	A.M.				
— 8 25	2 12 2	Arch (1) from E. to N.W., about 15° alt. - - - - -			
— 8 50	— 12 27	„ fainter (5) - - - - -			
— 9 0	— 12 37	Ditto - - - - -			
— 9 10	— 1 17	Ditto. Mass of aurora (1) in N.N.W., alt. 25°, drifting towards W.			
— 9 15	— 1 22	Arch, now diffused and irregular from N.N.E. to W.N.W., 60° alt. (1)			
— 9 55	— 1 32	Arch much diffused and striated in N.W. - - - - -			
— 10 5	— 1 42	Ditto. ditto. - - - - -			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1883. January. h. m. A.M.	1883. January. d. h. m. P.M.				
5th 7 28	4 11 5	Bright arch (2) from S.E. to N.W., about 50° alt., and another arch (6) from S.E. to W., through Sirius, 45° alt., a faint diffused mass of light between the arches in W.N.W.			
— 7 48	— 11 25	The first arch has changed into 3 bands about 1° apart, the middle one pulsating from N.W. to S.E.			
— 8 28	5 12 5	Confused masses of light in and all round the zenith; the sky from zenith to N. is nearly covered with mazy lights. (Instruments slightly disturbed.)			
— 9 28	— 1 5	Diffused arch (1.5) from S.E. through zenith to N.W., another faint arch from S.E. to W., passing about 2° above Sirius and through Rigel.			
— 10 28	— 2 5	Irregular arch (1) from E.S.E. to N.W., 3° N. of zenith, and the arch from S.E. to W. through the belt of Orion (1).			
— 11 28	— 3 5	Irregular arch (.5) from E. to N.N.W., alt. 80°, striated in N.N.W. and drifting S.W.			
— 12 28	— 4 5	Faint streak on E.N.E. horizon and another streak in N.N.W., 5° alt. (1).			
	P.M.				
6th 1 28	— 5 5	Faint streaks in E.S.E. and N.N.W., 5° alt. Faint mass of aurora in E., 45° alt.			
— 2 3	— 5 40	Bright diffused arch (1 to 2) from S.E. through zenith to N.W., slightly prismatic in S.E.			
— 2 28	— 6 5	Faint arch (.2) from S.E. to W.N.W., alt. 15° S. Faint diffused light on E.S.E. horizon.			
— 3 28	— 7 5	Arch (1) from E.S.E. to N.W. through Capella and Alcor.			
— 4 28	— 8 5	Band (1) from S.E. through Betelgeuse and Aldebaran to about 10° alt. in N.W.			
— 5 20	— 9 6	Arch (.8) from S.E. to N.W., about 70° alt.			
— 6 28	— 10 5	Arch from E.S.E. to N.W. through Leo and Alcor, very faint except in E.S.E., where bright and diffused; also arch (.7) from S.E. to W., about 50° alt. in S.			
— 7 8	— 10 45	Confused arch (.2) from S.E. to N.N.W. through zenith, of a greenish colour, striated and in rapid motion, drifting from S.E. to E. and from N.N.W. towards N.			
— 7 28	— 11 5	Arch, irregular from E.S.E. to N.N.W., 75° alt., without colour, and in slight motion. A few streaks in zenith (1).			
— 8 28	6 12 5	Arch from S.E. to W.N.W., 65° alt., slightly prismatic, and with much quivering motion, drifting S.W.; another faint arch from N.N.W. to E.S.E., 10° S. of zenith.			
— 9 28	— 1 5	Band from S.E. through E. and N. to S.W., with vertical streamers drifting in all directions, lower edge of arch of a reddish colour with a greenish glow in other parts (2), 65° alt. A few streaks in zenith (1). (Slight magnetic disturbance.)			
— 10 28	— 2 5	Streak from N.N.W. to zenith (.5)			
— 11 28	— 3 5	Bright, confused, and irregular arch (.5 to 1) from E.S.E. to W.N.W. through zenith. Faint irregular masses from S. to S.W., 2° alt.			
— 12 28	— 4 5	Arch (.5 to 1) from E. to W., brightest in E., 15° alt. in S. Faint patches in zenith. Diffused light in N.N.W.			
— 1 28	— 5 5	Above arch very faint and confused. Faint patch on N.N.W. horizon.			
— 2 23	— 6 0		352	372	1438
— 2 28	— 6 5	Arch as above. Sky covered with diffused lights (.5 to 2) from N.N.E. horizon to N.N.W. horizon to zenith. Slight magnetic disturbance.	200	418	1894
— 2 38	— 6 15				
— 2 53	— 6 30	Masses of aurora from S.S.E. to S.W., 10° alt. Bright diffused light from E.S.E. to zenith (1). Bright green irregular patches in N.N.W. (1 to 2).			
— 3 2	— 6 30		128	429	1362
— 3 23	— 7 0		224	360	1450

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1883. January.	1883. January.				
h. m.	h. m.				
P.M.	A.M.				
6th 3 28	6 7 5	The horizons in S. and W.S.W. to zenith are covered with auroral light.			
A.M.	P.M.				
7th 4 28	— 8 5	Irregular arch (5) from N.N.W. to E.S.E., alt. 20°, and a few streaks in N.N.W. (5), alt. 8°.			
— 5 28	— 9 5	Diffused arch (1) from N.N.W. through zenith to E.S.E. Irregular aurora (5 to 15) from E.S.E. through zenith to about 6° alt. N.N.W., striated, and about 30° in width, brightest portion in E.S.E. Arch (5) from E.S.E. to N.W., about 25° alt. in S.W.			
— 7 13	— 10 50	Bright, irregular, diffused arch (2) from S.E. to W., 5° S. of zenith. Arch (2) from E.S.E. through zenith to W.N.W. Another arch from E.S.E. to W.N.W., 5° N. of zenith (1 to 2). Horizon covered with aurora (1) from E. to E.N.E. to 10° alt. Faint masses in S. and S.W., 5° alt.			
— 7 28	— 11 5	Two arches from E.S.E. to W.N.W., 1st, 30° S. of zenith (1 to 2), 2nd, from 20° to 30° N. of zenith (1). Bright, confused, patch (2) on E. horizon.			
— 8 28	7 12 5	Bright diffused arch (2) from E.S.E. to W.N.W. through zenith, where 15° in width. Bright arch (1) from E.S.E. to E.N.E., 5° alt. Bright, confused, patch (1) between arches 45° alt.			
— 9 28	— 1 5	Irregular arch (5 to 1) from E. to N., 5° alt., diffused and brightest in N.			
— 10 28	— 2 5	Arch (5) from E.S.E. through zenith to 10° alt. N.W. Bright streamers (2) quivering and in rapid motion, prismatic 2° S. of zenith, from S.E. to W.N.W., extending to N.N.W., and forming into curtain-shaped aurora. (Bifilar slightly disturbed.)			
— 11 23	— 3 0	Sky nearly covered with masses of auroral light (2). (Horizontal and vertical force disturbed.)			
P.M.					
— 12 23	— 4 0	Arch from S.E. to W., 45° alt. in S., and patches in N.W.			
— 1 23	— 5 0	Arch (1) from S.E. to W., 45° in alt. in S. (1)			
— 2 23	— 6 0	„ fainter (7)			
— 3 28	— 7 5	A few streaks in S.S.W., 20° alt. (5)			
A.M.	P.M.				
8th 1 28	— 5 5	Mass of streamers in N.N.W., alt. 10° (5 to 1)			
— 2 28	— 6 5	Irregular arch (5) with streamers from N.N.W. to E.S.E., and a streak just above N. horizon (5).			
— 3 28	— 7 5	Streak on N.N.W. horizon (1)			
— 4 28	— 8 5	Faint arch (2) from E.S.E. to N.N.W., 45° alt., slightly diffused in N.N.W.			
— 5 28	— 9 5	Two arches, one from E.S.E. to W.N.W. through zenith, confused in E.S.E. (5), the other from W.N.W. 5° S. of zenith to 40° alt. in S.E. (5).			
— 6 28	— 10 5	Sky, from E.S.E. to S.E., 5° alt., to zenith, covered with aurora (1). Arch (1) from S.E. to S.W., 10° alt. (Magnetic disturbance.)			
— 7 31	— 11 8	Auroral lights visible through stratus clouds on N. horizon.			
— 8 28	8 12 5	Ditto ditto ditto			
— 9 28	— 1 5	Arch from E. to N.W., about 40° alt. (8), and lights visible through clouds on N.N.W. horizon.			
— 10 28	— 2 5	Streak (4) 2° N.W. of zenith			
— 11 28	— 3 5	Irregular aurora from N.N.W. to E.N.E., alt. 10° (5 to 1), brightest portion in N.N.W. and a mass of aurora in S.W., about 15° alt. Sky cloudy. (Instruments much disturbed.)			
P.M.					
— 12 28	— 4 5	Mass of aurora (5) just above the N. horizon, and several faint patches along the horizon from N. to E.S.E. Sky cloudy.			
— 1 28	— 5 5	Several faint patches on S.W. horizon, visible between clouds.			
— 1 43	— 5 20	Faint irregular arch from N.W. to E.S.E., 5° S. of zenith			
— 2 28	— 6 5	Faint aurora from E.S.E. to S.S.W., alt. 3°			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1883. January.	1883. January.				
h. m.	d. h. m.				
P.M.	A.M.				
8th 3 28	8 7 5	Faint patch in N.N.W., alt. 5°. Bright light visible between the clouds in N.N.W., 50° alt. (1).			
A.M.					
9th 9 28	9 1 5	Much aurora (1) from N.N.W. through zenith to about 20° alt. in S.W., and 30° in width; partly visible between the clouds. (Magnetic disturbance.)			
— 10 28	— 2 5	Aurora (·5) from N.W. to E.S.E., 25° alt., partly visible between the clouds.			
P.M.					
— 12 28	— 4 5	Streak of a greenish colour (·8) in N.N.W., 10° alt., disappearing immediately.			
— 1 28	— 5 5	Arch (·3) from E.S.E. to W., alt. 10° in S.S.E. - -			
A.M.	P.M.				
10th 5 28	— 9 5	" (1) from E.S.E. to N.N.W., 40 alt., and a mass of aurora on horizon, from E.N.E. to E.S.E. (·5), partly visible between the clouds.			
— 6 28	— 10 5	Irregular aurora (·5) from E.S.E. to N.N.W., 45° alt., and a mass of aurora from E. to E.S.E. just above horizon.			
— 7 28	— 11 5	Faint light, probably aurora, in E., 10 alt. - - -			
— 8 28	10 12 5	Ditto - - - - -			
— 9 28	— 1 5	Sky overcast but light, probably caused by aurora - -			
— 10 28	— 2 5	Faint patches visible between clouds in N.N.W., 10 alt.			
P.M.					
12th 6 33	11 10 10	" light through zenith, extending about 20° alt. E.S.E. and 15° N.W. of zenith.			
— 7 8	— 10 45	Arch (1·5) from N.N.W. to E., 80° N. of zenith, striated and pulsating from N.N.W. towards E.			
— 7 28	— 11 5	Irregular aurora from N.N.W. to E.S.E., 45 alt. - -			
— 8 28	12 12 5	Mass of aurora (·5) just above horizon from E.S.E. to E.N.E., and an irregular arch from E.N.E. to N.N.W., 20° alt.			
— 9 28	— 1 5	Faint arch from E.S.E. to N.N.W., alt. 7°, and a faint streak on N.E. horizon.			
— 10 28	— 2 5	Patch of aurora (·5), 10° alt. N.N.W. - - - -			
— 11 28	— 3 5	" (·8) in N.N.W., 10° alt. - - - -			
P.M.					
— 12 28	— 4 5	Faint masses (·3) in N.E., 50° alt. - - - -			
A.M.	P.M.				
13th 6 28	— 10 5	Patch of aurora (·5) in N.N.W., 8 alt., partly visible through clouds.			
— 10 28	13 2 5	Faint arch (·2) from 5° alt. in N.N.W. through zenith to 60° alt. in E.S.E. Faint band parallel with horizon on edge of a cloud from E. to E.N.E. (·3), alt. 5°.			
— 11 28	— 3 5	Faint light in N.N.W., visible on edge of clouds.			
P.M.					
— 2 28	— 6 5	" band (·1) from S.E. through zenith to N.W. -			
— 2 37	— 6 11	Another band (1) parallel with the first about 3 apart -			
— 3 28	— 7 5	Several streaks of aurora (1) from 8° alt. in N.N.W. through zenith to about 15° alt. in E.S.E. A faint streak just above the horizon from N.N.W. to N.W.			
A.M.					
14th 8 30	14 12 7	Bright band (2) from S.E. through Betelgeuse to W.N.W. pulsating from S.E.			
— 9 23	— 1 0	Arch (2) from S.E. through Leo and Pleiads to N.W. -			
— 10 23	— 2 0	Band (1) from S.E. to W.N.W., 50 alt. - - - -			
— 11 28	— 3 5	Irregular aurora from E.S.E. to N.N.W., 60° alt., about 20° in width. Streaks of aurora from N.N.W. horizon to zenith (·5).			
P.M.					
— 12 28	— 4 5	Irregular arch (1) from N.N.W. to E.N.E., alt. 45°, and a few streaks on E.S.E. horizon (·5).			
— 1 28	— 5 5	Two streamers (2) in N.N.W., 8° alt., and a faint irregular arch from N.N.W. to E.N.E., 30 alt.			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1883. January.	1883. January.				
h. m.	d. h. m.				
P.M.	A.M.				
14th 2 28	14 6 5	Faint arch with streamers (1) from N.N.W. to S.S.E., 30° alt.			
A.M.					
— 10 45	— 2 22	Arch (1) from 60° alt. N.N.W. through zenith to 60° alt. E.S.E. Sky nearly overcast.			
— 10 55	— 2 32	Sky overcast. Aurora disappeared - - -			
— 11 30	— 3 7	Masses of aurora in N.N.W. (·5), alt. 50°, visible between clouds.			
— 11 40	— 3 17	„ disappeared - - - -			
	P.M.				
16th 6 28	15 10 5	Faint mass of aurora on E.S.E. horizon, and a streak from that point 30° alt. (·5).			
— 7 28	— 11 5	Faint arch (·5) from E.S.E. through zenith to W.N.W. Another arch from E. to W.N.W., 50° alt. (·8).			
— 8 28	16 12 5	Bright confused masses (1) about 5° N.W. of zenith. Bright streamers (2) from N.E. to E., prismatic, and rapidly moving towards E.S.E. and N.N.W. and forming into confused masses. Greenish in colour in E.S.E.			
— 8 53	— 12 30	Bright patches in N.N.W., alt. 5° (1) - - -			
— 9 28	— 1 5	Faint arch (·5) from E.S.E. to N.N.W., alt. 10° - - -			
— 10 28	— 2 5	Faint streak (·3) in E.S.E., 10° alt. - - -			
— 11 28	— 3 5	Faint arch (·7) from N.N.E. to W., about 45° alt. - - -			
	P.M.				
— 12 28	— 1 5	Faint band (·5) from N.E. to W., 3° N.W. of zenith - - -			
— 1 28	— 5 5	Faint arch (·5) from S.E. to W., about 55° alt. in S., and faint light about 3° N. of zenith, extending towards W., also particles in N.W. and E.			
— 2 28	— 6 5	Faint lights, like small cumulus clouds, covering three parts of the sky from N.			
	A.M.				
17th 6 28	— 10 5	Faint, confused arch from 20° alt. E.S.E. through zenith to 70° alt. N.N.W. (·4).			
	A.M.				
— 8 27	17 12 1	Faint patches in S.E. and N., about 30° alt. - - -			
— 9 28	— 1 5	Faint masses of light from N.E., N., and N.W. to zenith.			
— 10 28	— 2 5	Masses of light round zenith - - - -			
— 11 28	— 3 5	Arch (·5) from W.N.W. to S.E., 20° alt. (Magnetic disturbance.)			
	P.M.				
— 12 28	— 4 5	Arch (·5) from N.W. to S.E., 25° alt. Mass of aurora on N.N.W. horizon, alt. 6°, and several faint streaks in zenith.			
— 1 28	— 5 5	Arch (·5) from N.W. to S.E., 20° alt., about 6° wide. Another arch (·5 to 1) from E.S.E. through zenith to about 45° alt. N.W. (Instruments unsteady.)			
— 2 28	— 6 5	Faint arch from N.W. to S.E., 20° alt. Irregular arch (·5 to 1) from N.N.W. through zenith to E.S.E., and a streak (1) in N.N.E., alt. 15°, of a greenish glow. Several quiet streaks and patches from E.S.E. to N.N.W. on horizon.			
— 3 28	— 7 5	Faint patch (·5) in N.N.W., 20° alt. - - -			
	P.M.				
18th 5 28	— 9 5	Faint band (·7) from S.E. to N.W., passing between Procyon and Betelgeuse, and about 7° S. of zenith.			
	A.M.				
— 5 38	— 9 15	Bright irregular light (2) from E.N.E. extending to Orion.			
— 6 23	— 10 0	Arch from S.E. to W.N.W., passing just above Rigel (1).			
— 6 58	— 10 35	Arch (1) from S.E. to N.N.W., 65° alt., drifting towards N. horizon.			
— 7 28	— 11 5	Arch (1) from E.S.E. to N.N.W., 15° alt. - - -			
— 8 28	18 12 5	Arch (1) from S.E. to N.W., alt. 20°, and another arch (1) from E.S.E. to N.N.E., alt. 8°, and a streak from N.W. to N., alt. 10°.			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1883. January.	1883. January.				
h. m.	d. h. m.				
A.M.	A.M.				
18th 9 28	18 1 5	Irregular aurora (2) from E.S.E. through zenith to N.N.W., 15° in width, and much aurora on horizon from W. to S.E. (1). (Magnetic disturbance.)			
— 10 28	— 2 5	Faint arch from E.S.E. to N.N.W., alt. 10°			
— 11 28	— 3 5	Arch (·8) from E.S.E. to W., 15° alt. S.			
P.M.					
— 12 28	— 4 5	Arch, very faint. Faint streak on E.S.E., 20° alt. (·5)			
— 1 28	— 5 5	Arch as above (·5) and slightly diffused in E.S.E. Faint patch (·8) in N.N.E., 5° alt.			
— 2 28	— 6 5	Diffused arch (·8) from E.S.E. to W.N.W., 50° alt. in S.			
A.M.	P.M.				
20th 7 28	19 11 5	Faint arch (0·2) from E. to N.N.W., 50° alt			
— 8 28	20 12 5	Bright light in N.N.W. and N.E.			
— 9 28	— 1 5	Bright light (1·5) in zenith and another light from N. towards W. parallel with N.W. horizon (1), also patches in N.E.			
— 10 28	— 2 5	Faint arch (·5) from E.S.E. to N.W., about 40° alt.			
— 11 28	— 3 5	Streak of aurora in N.N.W., (1) 25° alt.			
P.M.					
— 12 28	— 4 5	Patch of aurora (1) on N.W. horizon			
— 1 28	— 5 5	Aurora (1) from 45° alt. in N.N.W. to zenith, 10° wide			
— 2 28	— 6 5	Arch (·5) from W.S.W. to S.E., 35° alt., and a streak of aurora (1) from E.S.E. to zenith.			
— 3 11	— 6 48	Bright diffused arch (1) from E.S.E. through zenith to W., striated in E.S.E.			
— 3 28	— 7 5	Bright now from E.S.E. through zenith to W.N.W., where curtain-shaped and (1 to 2). Bright patch of irregular aurora (2) in W.S.W., 50° alt.			
A.M.	P.M.				
21st 3 28	— 7 5	Arch (2) from S.E. through Procyon and Ursa Major to N.W.			
— 4 28	— 8 5	Arch through zenith (1)			
— 5 28	— 9 5	" " diffused in N.W. (1)			
— 6 28	— 10 5	" (1·5) from E. to N.W., about 50° alt., diffused in N.W.			
— 7 28	— 11 5	Arch (1) from E.S.E. to N.N.W., 60° alt., drifting towards S.			
A.M.	A.M.				
— 8 28	21 12 5	Arch (1) from E.S.E. to N.W., 45° alt., and two streaks from N.W. to zenith, striated (·5 to 1).			
— 9 28	— 1 5	Arch (1·5) from E.S.E. through zenith to about 8° alt. in N.N.W., with streamers of a reddish glow, and in rapid motion. (Magnetic instruments much disturbed)			
— 10 28	— 2 5	Masses of aurora (1) from N.W. to N., alt. 10°			
— 11 28	— 3 5	Faint irregular arch (·5) from E.S.E. to E.N.E., 10° alt.			
P.M.					
— 12 28	— 4 5	Patch (1) in N., 20° alt.			
— 1 28	— 5 5	Faint streak, (·5) in S.E., 45° alt. Masses of aurora (·8) in E., 10° alt.			
— 2 28	— 6 5	Faint patches of aurora (·5) in N.N.E., alt. 10°			
22nd 12 28	22 4 5	" light about 7° S. of zenith			
— 1 28	— 5 5	" patch through Cassiopeia, and one in E.			
A.M.					
23rd 8 28	23 12 5	Patch of streamers in S.E.			
— 9 28	— 1 5	The sky from E., N., and N.W. to zenith nearly covered with bright prismatic aurora, curtain-shaped and serpentine, and streamers in rapid motion, all drifting towards N.W. (2 to 3). (Instruments disturbed on the 2nd and 3rd readings.)			
— 10 28	— 2 5	Streak S.E. of zenith, and band from N.W. extending about 70° towards S.E., 45° alt. (1).			
— 11 28	— 3 5	Bright streak in N.N.W., 8° alt.			
24th 9 35	24 1 12	Arch (·5) from N.W. to S.E., 30° alt.			
P.M.					
25th 2 28	— 6 5	" (1) from S.E., just passing below Procyon and through Alcor to N.W. Another faint arch (·5) from S.E. to W.N.W. through Andromeda.			

Göttingen Mean Time.	Local Mean Time.	II. F.	D.	V. E.
1883. January. h. m. A.M.	1883. January. d. h. m. A.M.			
25th 8 28	25 12 5			Arch (8) from E.S.E. to W.N.W., striated, and of a greenish colour in E.S.E., 30° alt. in S. Faint streak 5° N.N.W. of zenith (5).
— 9 28	— 1 5			Bright diffused arch (1 to 2) from E.S.E. to W.N.W., 60° alt. in S., brightest in E.S.E.
— 10 28	— 2 5			Faint streak (5) in N.N.W., 50° alt. - - -
— 11 28	— 3 5			Prismatic, diffused, curtain-shaped light, extending from about 15° S.E. of zenith to N.W. (1.5).
				P.M.
— 12 28	— 4 5			Light (1) in N.E., like a stratus cloud, and patches in N.W.
— 1 28	— 5 5			Faint patch of streamers in N.W. - - -
— 2 28	— 6 5			„ patches around zenith - - -
— 3 28	— 7 5			Streaks on horizon from N.N.W. to E.S.E. (1) - -
				A.M.
26th 4 28	— 8 5			Faint diffused arch (5) from 70° alt. E.S.E. through zenith to 60° alt. W.N.W.
27th 3 28	26 7 5			Arch (1) from S.E. to N.W. through Leo and Ursa Major.
— 4 13	— 7 50			Arch (2) through zenith, from S.E. to N.W., about 10° wide at zenith. (Horizontal and vertical force disturbed.)
— 4 28	— 8 5			Three arches, one through zenith, and the others on either side, from S.E. to N.W. (2.5).
— 4 35	— 8 12			Above three arches changed into one through zenith (2.5)
— 5 28	— 9 5			Arch (1) from E.S.E. to N.W., 70° alt. - - -
— 6 28	— 10 5			Faint arch (7) from E. to N.W., alt. 45° - - -
— 7 28	— 11 5			Arch (5) from N.N.W. to E.S.E., 30° alt., and a faint patch from E. to E.S.E. on horizon.
				A.M.
— 8 28	27 12 5			Faint arch from N.N.W. to E.S.E., alt. 25° - - -
— 9 28	— 1 5			Irregular aurora from N.N.W. through zenith to S.E. (5 and 1.5), highest in S.E. (Magnetic disturbance.)
— 10 28	— 2 5			Faint masses of aurora in N.N.W. and S.S.E., 20° alt., visible through clouds. Sky nearly overcast.
				P.M.
28th 4 28	— 8 5			Mass of aurora visible through clouds in N.E., 60° alt. Sky overcast.
29th 5 28	28 9 5			Masses of aurora (8), in N.N.E., 10° alt. - - -
— 6 28	— 10 5			Bright patch (1) on E. horizon - - -
— 7 28	— 11 5			Arch (1) from S.E. through zenith to N.W., and another from S.E. to N.N.W. (8), about 40° alt.
				A.M.
— 8 28	29 12 5			Arch (1) from S.E. to N.W. through Leo and Pleiades.
— 9 28	— 1 5			Serpentine light in zenith about 15° S.E. and N.W. of zenith (1).
				P.M.
— 1 28	— 5 5			Arch (1) from N.W. to E.S.E., 65° alt., and vertical streaks in E., 8° alt.
— 2 28	— 6 5			Irregular arch (2) from N.W. through zenith to S.E. (Magnetic instruments slightly disturbed.)
				A.M.
30th 3 28	— 7 5			Faint diffused light about 10° S.W. of zenith - - -
— 7 28	— 11 5			Arch (1.5) from N.N.W. to E.S.E., 30° alt., and a few streaks on horizon from E. to E.S.E. (1).
				A.M.
— 8 28	30 12 5			Mass of aurora from E. to E.S.E., 8° alt. - - -
— 9 28	— 1 5			Streak of aurora (1) in N.W., 10° alt., and a patch in E.S.E., 5° alt.
— 10 28	— 2 5			Arch from N.N.W. to E.S.E., 45° alt. (1), and arch from N.W. to S.E., 25° alt. (1).
— 11 28	— 3 5			Bright patches of aurora in N., alt. 5° to 10° (1) - -
				P.M.
— 12 28	— 4 5			Faint patch in N.N.W., 10° alt. (5) - - -
— 12 33	— 4 10			Arch from W.N.W. through zenith to E.S.E. (5) - -

Gottingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1883. January.	1883. January.				
h. m.	d. h. m.				
A.M.	P.M.				
31st 2 28	30 6 5	Arch from S.E. to N.W., 30° alt. (1)			
— 3 28	— 7 5	Arch from N.N.W. to E.S.E., 5° alt., with streamers (1), irregular aurora (·5) from N.W. to S.E., 25° to 30° alt.			
— 4 28	— 8 5	Arch (2) from N.N.W. through zenith to E.S.E., striated in N.N.W. to 25° alt., other portions very faint. Faint arch from N.W. to S.E., 25° alt.			
— 5 28	— 9 5	Irregular arch (·5 to 1) from N.N.W. to E.S.E., 30° alt., brightest in N.N.W., and a faint irregular arch (0 to ·5) from N.W. to S.E., 25° alt., brightest in N.W.			
— 6 28	— 10 5	Irregular aurora from N.W. through zenith to E.S.E., about 8° wide at zenith, drifting towards S.W. (1), and a mass of aurora (1) from E. to E.S.E., 5° alt.			
— 7 23	— 11 0	—	421	325	874
— 7 28	— 11 5	Bright arch (1 to 2) from E.S.E. to W.N.W., alt. 25° in S., also a bright irregular mass of aurora (1) in E.S.E., from 5° alt. to 60° alt.			
— 8 0	— 11 37	Sky more or less covered with aurora; an irregular arch (1·5) parallel with N.E. horizon, about 7° alt. (Magnetic disturbance.)			
— 8 3	— 11 40	—	261	212	1315
— 8 28	31 12 5	Bright arch (2) from E.S.E. to N.N.E., 5° alt. Faint masses of aurora in S.S.E., 50° alt. (·5).			
— 8 58	— 12 35	Bright irregular masses of aurora parallel with horizon from N.N.E. to E., about 3° alt. (1).			
— 9 28	— 1 5	The sky, in W.N.W. to E.S.E. from horizon to zenith, covered with bright, diffused, and irregular masses of aurora (1 to 2), brightest on horizon. Bright arch (1·5) from E.N.E. to E.S.E., striated and irregular about 8° alt. Faint arch from S.E. to S.S.W. (·5), alt. 20°. (Magnetic disturbance.)			
— 10 1	— 1 38	Two arches, one from E.S.E. to W.N.W., 5° alt., diffused and irregular (1·5), the other from E.S.E. to W.S.W., 10° alt. (·8).			
— 10 28	— 2 5	Broad, bright, diffused, and irregular arch (2) from E.S.E. to N.N.W. through zenith, drifting towards S.W. Arch from E.S.E. to S.W., alt. 15° (1).			
— 11 28	— 3 5	Arch from S.E. to W., about 40° alt. in S. (1)			
— 12 28	— 4 5	Faint masses of light all over the sky			
February.					
A.M.	P.M.				
1st 2 20	— 5 57	Arch (1) from N.N.W. to E.S.E., 15° alt. A few streamers in N.N.W., 8° alt.			
— 2 30	— 6 7	Arch very faint, alt. 15° (·3). Streamers faint (·5)			
— 2 40	— 6 17	„ disappeared, except a very faint patch in E.S.E., 5° alt.			
— 2 50	— 6 27	Faint streak, (·5) in N.N.W. A few vertical streamers in E.N.E., 25° alt. (1).			
— 2 55	— 6 32	Streamers disappeared. Streak as before. Faint patches in E.N.E.			
— 3 5	— 6 42	The above has disappeared. Faint arch from N.W. to S.E., 25° alt.			
— 3 15	— 6 52	Ditto, and streak in N., 10° alt. (1)			
— 3 25	— 7 2	„ disappeared. Very faint patch in E.N.E., 10° alt.			
— 3 35	— 7 12	Arch (·5 to 1) from E. to N.N.W., 8° alt., brightest in E. Another arch (·5) from N.W. to S.E., 27° alt.			
— 3 45	— 7 22	Arches as above, but of uniform brightness (1)			
— 1 0	— 7 37	Arch from E. to N.N.W. disappeared. Vertical streamers from E. to N.N.W., alt. 20° (1). Arch from S.E. to N.W. as before.			
— 4 10	— 7 47	Arch disappeared			
— 4 45	— 8 22	Two parallel streaks from N.W. towards S.E. (·7), 30° alt.			
— 4 55	— 8 32	Streaks now from W.N.W. pointing to zenith. Faint auroral light from S.E. towards zenith, 50° alt. (·2).			

Göttingen Mean Time.	Local Mean Time.		H. F.	D.	V. F.
1883. February.	1883. January.				
h. m.	d. h. m.				
A.M.	P.M.				
1st 5 10	31 8 47	Faint diffused arch (°8) from S.E. through zenith to N.W.			
— 5 20	— 8 57	Arch very faint, and 5° S. of zenith			
— 5 30	— 9 7	Ditto			
— 5 35	— 9 12	Faint streamers in N.N.W. from Cassiopeia to horizon (°5). Segment of arch from same point towards Ursa Major (°7).			
— 5 50	— 9 27	Faint segment of arch (°3 to °7) from E.S.E. through zenith to N.N.W.; diffused in N.N.W., where brightest. A few streamers (°3) from horizon to about 10 alt. in N.N.W.			
— 6 0	— 9 37	Ditto			
— 6 10	— 9 47	Streamers disappeared. Arch very faint in N.N.W. and (°5) in E.S.E.			
— 6 20	— 9 57	Arch from E.S.E. to N.N.E., 60 alt. (1), in E.S.E. to 40 alt., the rest very faint.			
— 6 30	— 10 7	Above arch from E.S.E. to N.N.W., 70° alt. (°3 to °7). Faint streak in W.N.W., 30 alt.			
— 6 40	— 10 17	The above disappeared. Arch from S.E. through Leo and Cassiopeia to N.W. (°7).			
— 6 50	— 10 27	Arch diffused			
— 7 0	— 10 37	„ very faint			
— 7 10	— 10 47	„ disappeared from zenith to N.W.			
— 7 25	— 11 2	„ through zenith, to 30 alt. in N.W.			
— 7 10	— 11 17	„ disappeared. Faint streak through zenith			
— 7 45	— 11 22	Faint arch (°2) from S.E. to W.N.W., 7° S. of zenith			
— 8 0	— 11 37	Aurora disappeared			
— 8 10	— 11 47	Faint streamer in E., from 5 to 25° alt. (°3)			
	February.				
	A.M.				
— 8 35	1 12 12	Faint patch in N.W., 45° alt., and faint light from S.E. extending to Procyon.			
— 8 45	— 12 22	Ditto			
— 8 50	— 12 37	Patch of aurora as above. Irregular arch from N.N.W. to E.S.E., 80 alt. (1).			
— 9 10	— 12 47	Ditto and a few detached streamers in N., 45 alt. (1°5).			
— 9 25	— 1 2	Arch now uniform and from N.N.W. to S.E., 80° alt. (°8)			
— 9 35	— 1 12	Ditto			
— 9 45	— 1 22	Arch disappeared. Faint streak from zenith towards N.W., and two faint streaks in S.E., from 20 to 45 alt.			
— 9 55	— 1 32	Aurora very faint			
— 10 10	— 1 47	Faint streaks only from S.E. to zenith			
— 10 20	— 1 57	Arch from S.E. to N.W., 40 alt. (°5 to 1), brightest in S.E.			
— 10 30	— 2 7	Arch from S.E. to W.N.W., 20 alt. (°5), and another faint arch just below from the same points.			
— 10 45	— 2 22	Above arches both very faint			
— 11 0	— 2 37	Upper arch, brighter and striated, lower one as before			
— 11 20	— 2 57	Curtain-shaped arch (2) from S.E. to N.W., slightly prismatic, pulsating backwards and forwards, and drifting towards zenith, 15° alt. in S.			
— 11 30	— 3 7	Curtain-shaped arch extending N.W. and S.E. through zenith, and with a circular motion, slightly prismatic (2).			
— 11 35	— 3 12	Curtain-shaped arch from S.E. to N.W. through zenith, and 15° wide in zenith (1 to 2).			
— 11 45	— 3 22	Sky nearly covered with faint aurora, the curtain shape most prevailing.			
— 11 50	— 3 27	Arch (°7) from S.E. to W.N.W., 45 alt. in S., and a curtain-shaped light, slightly prismatic in N.N.W., moving towards W. (1).			
— 12 0	— 3 37	Aurora from S.E. to W.N.W., 10° wide and 10° S. of zenith (°5 to 1).			
	P.M.				
— 12 10	— 3 47	Irregular arch from N.N.W. through zenith to S.E. (°5 to 1°5), brightest in N.N.W.			

Göttingen Mean Time.	Local Mean Time.	— — —	H.F.	D.	V.F.
1883. February. h. m. P.M.	1883. February. d. h. m. A.M.				
1st 12 15	1 3 52	Arch broken. Bright streak in N.N.W., alt. 15', with a greenish glow (1), and drifting towards W. Another streak in E.S.E., 15' alt. (.5).			
— 12 20	— 3 57	Irregular arch from N.N.W. through zenith to 5' alt. in E. (1); in zenith, E. of zenith, and in N.N.W. brighter (1.5).			
— 12 30	— 4 7	Ditto			
— 12 40	— 4 17	Aurora disappeared except a bright patch in N.N.W., 10' alt.			
— 12 55	— 4 32	Diffused arch (1) from N.N.W. through zenith to E.S.E., striated.			
— 1 5	— 4 42	Above arch disappeared. Faint streak in E.S.E., 5' alt., and a few faint vertical streamers in N.N.W., 5' alt.			
— 1 25	— 5 2	Above disappeared. Bright patch (1) in N.N.W., 10' alt. Faint band (.5) from W.N.W. to S.S.W., 20' alt.			
— 1 35	— 5 12	Ditto			
— 1 50	— 5 27	Above disappeared. Faint arch (.3) from W.S.W. to S.S.E., 30' alt.			
— 2 5	— 5 42	Arch diffused (.5) alt. 45'. Faint diffused lights in E. and E.S.E., 5' alt.			
— 2 15	— 5 52	Lights disappeared. Arch from W.N.W., 75' alt. (.3).			
— 2 25	— 6 2	Arch as above. Faint streak in N.N.W., alt. 20'. Vertical streamers (.8) in E.N.E., 3' alt.			
— 2 35	— 6 12	Arch through zenith and very faint. Streaks and streamers disappeared.			
— 2 50	— 6 27	Aurora disappeared except a faint streak in zenith (.5)			
— 3 0	— 6 37	" "			
A.M.	P.M.				
2nd 2 28	— 6 5	Bright diffused arch (1) with streamers from 10' alt. in E.S.E. through zenith to 20' alt. in N.N.W.			
— 3 28	— 7 5	Bright diffused light from Procyon to about 10' N.W. of Cassiopeia, and about 10' wide (1.2).			
— 4 28	— 8 5	Faint streak through zenith and about 12' on either side			
— 5 28	— 9 5	Streak from zenith through Cassiopeia towards N.W. (1)			
— 6 28	— 10 5	Diffused lights round zenith, and streak as before (1)			
— 7 28	— 11 5	Diffused irregular arch (.5) N.N.W. to S.E., 30' S. of zenith			
— 7 53	— 11 30	Parallel bands (.5) from N.W. to E.S.E., from 80' S. to 85' N. of zenith, and patches from N.N.W. to E.S.E. (.3) just above horizon.			
	A.M.				
— 8 28	2 12 5	Irregular aurora, from N.W. to 8' alt. in E.S.E., and from 80' to 85' S. of zenith (.1 to 1), brightest in E.S.E.			
— 9 28	— 1 5	Masses of aurora (.5) from W. to S., alt. 5'. Patch in N.N.W., 10' alt., and a few very faint streaks in zenith.			
— 10 28	— 2 5	Diffused masses of aurora (.5) from N. to S.W., 20' alt. Irregular arch (1) from E.S.E. through zenith to about 25' alt. in N.W. with a greenish glow, and drifting rapidly from E. through zenith towards W. (Much magnetic disturbance.)			
— 11 28	— 3 5	Masses of aurora from E.S.E. to S. 60' alt., from (.5 to 1.5), brightest in S.S.E.			
— 12 28	— 4 5	Irregular masses of aurora (.5) from E.S.E. to S.S.W. on horizon, and partly visible through clouds at 10' alt.			
— 1 28	— 5 5	Irregular, and diffused arch from E.S.E. to N.N.E., 3' alt. (.2 to 1.5), brightest in E.S.E. Bright streak (1) in W.N.W., 20' alt. Faint arch (.5) S.E. to S.W., 10' alt.			
— 2 28	— 6 5	Faint diffused arch (.5) from E. through zenith to W.S.W., and irregular masses of aurora (.5) immediately above horizon from E.S.E. to S.S.W.			
	P.M.				
3rd 5 28	— 9 5	Streaks in S., 40' alt. (1).			
— 7 28	— 11 5	Arch (.5) from S.E. to N.N.W., 10' S. of zenith - Sky overcast, but light, probably caused by aurora. (Magnetic disturbance.)			
	A.M.				
— 9 28	3 1 5	Faint streaks (.7) in E.S.E., 80' alt.			

Göttingen Mean Time.		Local Mean Time.			H.F.	D.	V.F.
1883. February.		1883. February.					
	h. m.	d.	h. m.				
	P.M.		A.M.				
3rd	12 28	3	4 5	Canopy (1.5) from about 20 alt. in N. and E. to about 15 alt. in W. and N.W.			
—	1 28	—	5 5	Diffused light through zenith extending about 20 S.E. and 30° N.W. of zenith; rays and patches in N.W. and N.E. Arch (1.5) from S.E. to W., about 45 alt in S.			
—	2 28	—	6 5	Arch (1) from S.E. to W. as before, and cloud-like masses of light along, and just below, the arch. Another arch from E. to N.W., 30 alt. (.5).			
	A.M.		P.M.				
4th	3 28	—	7 5	Diffused arch (1) from E.S.E. to N.N.W., alt. 25 .			
—	4 28	—	8 5	Broad diffused arch (1) from E.S.E. to W.N.W. through zenith, where 20 in width.			
—	5 28	—	9 5	Arch (.7) from E.S.E. to N., 15 alt.			
—	6 28	—	10 5	Diffused arch (1) from E.S.E. to N.N.W., 5 E.N.E. of zenith.			
—	7 28	—	11 5	Diffused arch (.8) from S.E. to W.N.W. through Pleiades.			
			A.M.				
—	9 28	4	1 5	Diffused semicircular light (1) from zenith towards N.W.			
—	11 28	—	3 5	Irregular aurora (.5) from E.S.E. through zenith to W.S.W. Faint streaks just above horizon from E.S.E. through N.W. to S.			
	P.M.						
—	12 28	—	4 5	Streak in E., 25 alt. Streaks of aurora as above (.5). Arch (.5) from E. to N.W., 5 alt. Faint streaks on horizon from N.W. to S.E. and in zenith.			
—	2 28	—	6 5	Streaks of aurora (.5) from N.W. to S., alt. 8			
	A.M.		P.M.				
5th	2 28	—	6 5	Aurora (1) from E.S.E. disappearing under a cloud in E., 5 alt.			
—	4 3	—	7 40	Bright diffused light in zenith, extending about 35 S.E. and N.W. of zenith (1.5).			
			A.M.				
—	8 28	5	12 5	Arch (.5) from S.E. to N.W., 60 S. of zenith. Another arch (.5) from E.S.E. to N.N.W., alt. 15, and masses of aurora, like small cumulus clouds, in zenith, the whole drifting towards N.W. horizon.			
—	9 28	—	1 5	Arch (1) from E.S.E. to S.S.W., 65 alt. Streak of aurora (.5) on N. horizon.			
—	10 28	—	2 5	Irregular diffused arch (1.5) from S.E. to N.N.W. through zenith, about 20 wide. Faint arch from W.N.W. to S., alt. 10.			
—	11 28	—	3 5	Arch (1) from N.N.W. to E.N.E., 5 alt. Masses of aurora, like cumulus clouds, from zenith to S.E. and N.W. drifting in all directions (.5). (Magnetic instruments much disturbed.)			
			P.M.				
6th	3 28	—	7 5	Masses of aurora (.5) on horizon from E.N.E. to N.N.W.			
—	4 28	—	8 5	Arch (1) from E.S.E. to N.N.W., 15 alt. Irregular mass (1) in N.N.W. to 20 alt.			
—	5 28	—	9 5	Two irregular arches (1) from E.S.E. to N.N.W.: 1st, 50 N. of zenith; 2nd, 70 S. of zenith.			
—	6 28	—	10 5	Diffused arch (1) from S.E. through zenith to N.N.W., 10 wide in zenith, and somewhat detached at the other two points.			
—	7 28	—	11 5	Diffused and irregular arch (1 to 2) from E.S.E. through zenith to W.N.W., brightest in W.N.W.			
			A.M.				
—	8 28	6	12 5	Arch from E.S.E. to W.N.W., 40 alt. in S., striated (2) and slightly prismatic in E.S.E.			
—	9 28	—	1 5	Faint arch (.4) from N.N.W. through zenith to 30 alt in E.S.E. Band (1) parallel with horizon from E.S.E. to N.N.W., 1 to 2 alt.			
—	10 28	—	2 5	Faint irregular arch (.3) from E.S.E. to N.N.W., 10 alt.			

Göttingen Mean Time.	Local Mean Time.			H.F.	D.	V.F.
1883. February.	1883. February.					
h. m.	d.	h. m.				
A.M.		A.M.				
6th 11 28	6	3 5	Faint arch (·7) from S.E. to W.N.W., 6° S. of zenith. Another arch (·5) from E.N.E. through Cassiopeia to W.N.W.			
P.M.						
— 12 28	—	4 5	Arch through Cassiopeia as before, the other arch passing below Regulus with a streak between the zenith and the arch.			
— 1 28	—	5 5	Aurora, like cumulus clouds, from S.E. to W., about 10° wide, alt. 45° in S.			
— 2 28	—	6 5	Faint diffused light (·2) S.E. of zenith - - -			
A.M.						
7th 9 28	7	1 5	Band (1) from S.E. to W. passing above Betelgeuse - -			
P.M.						
— 10 28	—	2 5	Portions of arch (1) about 5° N. of zenith - -			
P.M.						
— 12 28	—	4 5	Mass of aurora (·5) on N.N.W. horizon - - -			
— 2 28	—	6 5	Masses of aurora (·5) from E.S.E. to N.N.W., 6° alt. - -			
A.M.		P.M.				
8th 3 28	—	7 5	Faint arch (·4) from S.E. through zenith to N.W., and faint patches in N. and N.E.			
— 4 28	—	8 5	Faint arch (·5) from E.S.E. to N.W., about 30° alt. - -			
— 5 28	—	9 5	Faint arch (·7) from E.S.E. through Denebola to N.N.W.			
P.M.		A.M.				
— 2 28	8	6 5	Faint arch (·3) from 60° alt. E.S.E. to W. through zenith.			
A.M.		P.M.				
9th 3 28	—	7 5	Irregular arch from E. to N.W. with vertical streamers drifting towards E., 30° alt. (1).			
— 9 28	9	1 5	Masses of aurora (·5) visible between clouds, from N.N.W. to N.N.E., 15° alt.			
— 10 28	—	2 5	Bright diffused, irregular arch from N.N.W. to E., 70° alt. (1 to 1·5).			
— 11 28	—	3 5	Arch (·8) from E.S.E. to N.W., 3° S. of zenith - -			
P.M.						
— 12 28	—	4 5	Ditto ditto - - - -			
— 1 28	—	5 5	Arch from N. to W. passing about 2° N.W., of zenith; in N. horizon (1·5), elsewhere very faint.			
A.M.		P.M.				
10th 2 28	—	6 5	Faint irregular arch from E. to N.N.W., 30° alt. - -			
— 3 28	—	7 5	Arch (1) with streamers from E.N.E. to E.S.E., 5° alt. -			
— 4 28	—	8 5	" from E. to N.N.W., 5° alt., striated in N.N.W. Another faint arch (·4) from E.S.E. to W.N.W., 50° alt. in S.			
— 5 28	—	9 5	Diffused arch (1) from E.S.E. to W.N.W., 30° alt. Another arch (·5) from same points through zenith.			
— 6 28	—	10 5	Confused masses of aurora (1 to 2) in N.N.W., from horizon to 40° alt. Band (1) parallel with horizon from N.N.E. to E.S.E., 5° alt.			
— 7 28	—	11 5	Two faint arches, 35° and 50° alt., one from E. to N.W., (1), the other from S.E. through Orion to W.N.W. (1).			
— 8 28	10	12 5	Arch (1·5) from E. to N.W., about 40° alt., diffused in E. Another arch (1) from S.E. through Orion to W.N.W.			
— 9 28	—	1 5	Arch (1) from S.E. through zenith to N.W., and one from S.E. through Betelgeuse to W. (1).			
— 10 28	—	2 5	Diffused masses of light (2) from S.E. through and on either side of zenith, to 45° N.W. of zenith.			
— 11 28	—	3 5	Arch (·5) from W. to S.E., 27° alt. Diffused masses in N.W., 10° alt., and in E.S.E., 45° alt.			
P.M.						
— 12 28	—	4 5	Faint arch (·3) from W. to S.E., 35° alt. Bright, diffused, irregular arch (1·5) from N.W. through zenith to 8° alt. in E.S.E.; this arch seemed to form and disappear in a few minutes.			

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883. February. h. m.	1883. February. d. h. m.				
10th 1 28	10 5 5	Two parallel arches (·5) from W. to S.E., alt. 20 and 30. Mass of aurora in E.S.E., striated (1), and moving towards zenith. A few faint streaks in zenith.			
— 2 28	— 6 5	Faint arch (·3) from W.S.W. to S.E., 15° alt. Bright streaks (1) from E.S.E. to zenith; and an irregular arch (1) from W. to N.E., 25° alt.			
11th 9 28	11 1 5	Arch (1) from N.W. to E.N.E., 45° alt. Another arch (·5) from E.S.E. through zenith to about 50° alt. in W.			
— 10 28	— 2 5	Arch (1) from N.N.W. to E.S.E., 50° alt. Masses of aurora (·5) from W. to N.N.W., 25° alt.			
— 11 28	— 3 5	Faint irregular masses of aurora in W.S.W., 80° alt. (·7)			
— 12 28	— 4 5	Faint streak in E.S.E., 10° alt. (·3)			
12th 5 28	— 9 5	Faint arch from E.S.E. through tail star of Ursa Major to N.N.W.			
— 6 28	— 10 5	Arch (·8) from E.S.E. through zenith to N.N.W., 5 m width.			
— 7 28	— 11 5	Arch from E.S.E. to 20° of N.N.W., 80° alt. (·5 to 1), brightest in E.S.E.			
— 8 28	12 12 5	Faint arch (·5) from 20° alt. E.S.E. through zenith to 20° alt. N.N.W.			
— 9 28	— 1 5	Arch (·5) from E.S.E. through zenith to W.N.W., slightly diffused in E.S.E.			
— 10 28	— 2 5	Faint arch (·5) from 60° alt. in E.S.E. through zenith to N.N.W.			
— 12 28	— 4 5	Faint band (·4) from E. through zenith. Diffused masses of light about 15° S. of zenith (1).			
— 1 28	— 5 5	Faint diffused arch (·5) from S.E. through zenith to N.W.			
13th 9 28	13 1 5	Faint streak (·7) in E. from 10° to about 30° alt.			
— 12 33	— 4 10	Faint arch from S.E. through zenith to N.N.W.			
— 1 28	— 5 5	Faint irregular arch from N.W. to E.S.E., 10° S. of zenith. Irregular aurora (1) from N.N.W. horizon to zenith, with streamers moving towards zenith.			
— 1 58	— 5 35	Arch (1) from N.W. through zenith to E.S.E.			
— 2 28	— 6 5	A few streaks (·5) from 10° alt. in N.W. to zenith			
14th 7 28	— 11 5	Faint arch (·3) from N.N.W. to E.S.E., 45° alt.			
— 8 18	— 11 55	Arch (1 to 1·5) from W. to S.E., 20° alt., striated, and with a greenish glow in S.E., brightest in S.E.			
— 8 28	14 12 5	Arch much diffused and slightly prismatic in S.E., about 25° alt. (2).			
— 9 28	— 1 5	Arch (1) from W. to S.E., 35° alt. Irregular arch (1·5) from E.S.E. through zenith to about 30° alt. in N.W.			
— 10 28	— 2 5	Arch (·5) from W. to S.E., 15° alt., and several streamers about 5° alt. from W. to N.N.E. (·5 to 1), brightest in N.W.			
— 11 28	— 3 5	Faint curtain-shaped aurora (·5) in S.E., 70° alt. Faint streamers in zenith and N.N.W., 40° alt. (·5). Faint arch from S.E. to S.W., 10° alt. (·3).			
— 12 28	— 4 5	Diffused arch (1) from E. through zenith (·7) to 20° alt. in W.			
— 1 28	— 5 5	Streak in zenith (1). Faint patch on E. horizon (·5). Faint arch from E.S.E. to W.S.W., 20° alt. (·3).			
— 2 28	— 6 5	Bright masses of aurora (1·5) in S.W., 15° alt. Faint streaks (·5) in W.N.W., 30° alt.			
15th 3 25	— 7 2	Faint arch from N.N.W. through Ursa Major to E.S.E., and a few streaks in N.N.W., 8° alt. (·5).			

Göttingen Mean Time.	Local Mean Time.	—	H.F.	D.	V.F.
1883. February. h. m. A.M.	1883. February. d. h. m. P.M.				
15th 3 35	11 7 12	Arch as above. Another arch from same points joining the tail star of Ursa Major, and a streak from N.N.W. horizon to zenith (°5).			
— 3 45	— 7 22	Both arches as above. Streak disappeared			
— 4 0	— 7 37	One faint diffused arch (°5) passing through Leo and Ursa Major to N.W.			
— 4 15	— 7 52	Arch as before. Streak from Cassiopeia adjoining the arch in N.W.			
— 4 25	— 8 2	Arch (°5) striated from N.N.W. just above Ursa Major to E.S.E., and several streamers from N.W. to N.N.E. from 5 to 25 alt. (°5).			
— 4 35	— 8 12	Arch (°5) from N.N.W. to E.S.E., 15 alt. Streamers as above (1).			
— 4 50	— 8 27	Segment of arch in E.S.E., 5 alt (°7). Faint streak (°3) in N.N.E., 40 alt.			
— 5 0	— 8 37	Streak disappeared. Faint arch from E.S.E. to N., 45 alt.			
— 5 10	— 8 47	„ disappeared			
— 5 15	— 9 22	Faint streak in N.N.W., 45 alt.			
— 5 55	— 9 32	„ disappeared			
— 7 50	— 11 27	Masses of aurora (°5) from E.S.E. to S.E., 25 alt. . . .			
— 8 0	— 11 37	„ disappeared			
— 8 20	— 11 57	Bright masses of aurora (1) from 20° S.E. to zenith. Faint streaks in N.N.W. from horizon to 50 alt.			
	A.M.				
— 8 25	15 12 2	The whole zenith covered with aurora striated, quivering and with a greenish colour (1°5).			
— 8 30	— 12 7	Ditto faint (°5)			
— 8 35	— 12 12	Ditto disappeared except a very faint patch in zenith. Faint streak in N.N.W. to 30 alt (°3).			
— 8 40	— 12 17	Faint curtain shaped aurora (°7) from E.S.E. to zenith.			
— 8 50	— 12 27	Diffused arch (1) from E.S.E. to W., 50 alt.			
— 9 0	— 12 37	„ very faint and from S.E. to Moon			
— 9 10	— 12 47	„ disappeared			
— 9 20	— 12 57	A few bright streamers (1) in N.N.W. A parallel streak in S.W., 45 alt (1). The whole disappearing immediately afterwards.			
— 9 50	— 1 27	Aurora (1) from 20 alt S.E. to Moon through Leo . .			
— 10 0	— 1 37	Bright diffused and irregular arch (°5 to 2) with prismatic streamers in E.S.E. from E.S.E. to W.N.W., brightest in E.S.E.			
— 10 6	— 1 43	„ disappeared except a very faint streak in E.S.E., 20 alt.			
— 10 10	— 1 47	„ disappeared			
— 11 45	— 3 22	Diffused lights (1) in zenith and to 40 alt in N.W. Bright streak (1) in W.N.W. parallel with horizon, 25 alt.			
— 11 50	— 3 27	Above disappeared. Bright diffused arch (1) with streamers, from E.S.E. through zenith to 20 alt N.N.W., drifting towards N.			
— 11 55	— 3 32	„ disappeared, except the faint (°5) streaks on E.S.E. and N.W. horizons.			
	P.M.				
— 12 5	— 3 42	Arch (°7) from 30 alt in E.S.E. to W.N.W. through zenith, slightly diffused in W.N.W.			
— 12 10	— 3 47	Arch disappeared. Faint diffused lights from N.N.W. to N.N.E., 45 alt.			
— 12 15	— 3 52	„ disappeared. Faint arch (°5) from E.S.E. through zenith to N.N.W.			
— 12 45	— 4 22	„ disappeared			
— 1 50	— 5 27	Patch in N.N.W., 10 to 25 alt (1)			
— 2 0	— 5 37	Several streamers (°5) from N.N.W. to N., 30 alt. . . .			
— 2 15	— 5 52	„ disappeared			

Göttingen Mean Time.		Local Mean Time.			H.F.	D.	V.F.
1883.		1883.					
February.		February.					
h. m.	d.	h. m.	d.				
A.M.		P.M.					
16th 3 33	15 7 10	Bright streamers (1) in N.N.W., from 10° to 20° alt., of a greenish colour.					
— 4 28	— 8 5	Bright (1 to 2) diffused and irregular arch with streamers, slightly prismatic in E.S.E., where brightest, from E.S.E. through zenith to N.N.W.					
— 5 28	— 9 5	Faint arch (*3) from E.S.E. to N.N.W., 30° alt.					
— 7 28	— 11 5	Diffused masses of light (1) in and S. of zenith					
A.M.		P.M.					
— 8 28	16 12 5	Band of light through zenith to about 20° S.E. and N.W. of zenith (1).					
— 10 28	— 2 5	Faint patch in N.W.					
— 11 28	— 3 5	Arch (1) from N.N.W. through zenith to E.S.E. horizon					
P.M.		P.M.					
— 12 28	— 4 5	Arch (1) from S.S.E. to W.S.W., 20° alt. Irregular aurora (1), striated, and in rapid motion, from E.S.E. through zenith and moving towards N.W.					
— 1 28	— 5 5	Arch (*5) from N.W. to S.E., 30° S. of zenith, and a streak (*5) from E.S.E. to zenith.					
A.M.		P.M.					
17th 7 28	— 11 5	Arch (1) from S.E. just above the moon to N.W. horizon					
A.M.		P.M.					
— 8 28	17 12 5	Irregular arch (1) from N.N.W., just above horizon to E.S.E., a mass of aurora of a greenish colour at the N.N.W. end of arch, and from it another arch (1*5), slightly prismatic, through zenith towards S.E. (Decrease of horizontal force.)					
— 9 28	— 1 5	Mass of aurora (1) from N. to N.E., from 2° to 10° alt.					
— 10 28	— 2 5	Irregular aurora from N.N.W. through zenith to about 40° alt. in E.S.E., and about 20° wide in zenith.					
P.M.		P.M.					
— 1 28	— 5 5	Very faint (*2) diffused arch from E. horizon through zenith to 15° alt. S.W.					
— 1 57	— 5 34	Bright prismatic aurora (2) from N.N.W. horizon to 70° alt., thence descending to N.N.E. horizon. Faint masses of aurora, like cumulus clouds, from S. to S.W. (*5), 20° alt. (Magnetic disturbance.)		278	367	1297	
	— 5 35			283	356	1199	
	— 5 37			262	367	1218	
	— 5 39						
— 2 4	— 5 41	" " disappeared except a faint patch (*3) in N.N.W., 10° alt.					
A.M.		P.M.					
18th 7 28	— 11 5	Faint streak (*3) in E.S.E., 25° alt.					
19th 5 28	18 9 5	Bright irregular aurora (2 to 3) with streamers, from E.S.E. to zenith, quivering, and in rapid motion, prismatic, and drifting to N.N.W. (Magnetic disturbance.)					
— 5 36	— 9 13	" " fainter (1), and the whole sky from E.S.E. to zenith and N.N.W. more or less covered with aurora.					
A.M.		P.M.					
— 8 28	19 12 5	Band (1) from Spica through Leo to N.W.					
P.M.		P.M.					
— 1 28	— 5 5	Arch (*5) from E.S.E. to S.W., 30° S. of zenith					
A.M.		P.M.					
20th 7 29	— 11 6	Two parallel arches (*5) about 2° apart, from N.N.W. through zenith to E.S.E.		422	314	718	
	12 0						
A.M.		P.M.					
— 8 28	20 12 5	Irregular arch, striated, (1) from S.E. to S.S.W., 15° alt., pulsating towards zenith.					
— 8 39	— 12 16	The whole sky from E.S.E. to S.W. and at zenith covered with very bright, prismatic, curtain-shaped aurora, in rapid motion and pulsating in all directions, (1 to 3), brightest from E.S.E. to S. (1), in zenith.					
— 8 40	— 12 17	Corona in zenith. (Much magnetic disturbance.)					
	12 18			86	345	1000	
	12 20			51	324	200	
	12 22			60	389	Off scale.	

Göttingen Mean Time.			Local Mean Time.				H.F.	D.	V.F.
1883. February.			1883. February.						
	h.	m.	d.	h.	m.				
	A.M.			A.M.					
20th	9	13	20	12	50	The whole sky from S.W. through W. to E.N.E. to zenith, covered with very bright prismatic aurora, striated and in rapid motion (1 to 3), brightest from N.N.W. to zenith.			
—	9	23	—	1	5	Arch (1) from S.W. to N.E., 8° alt. - - -			
—	10	28	—	2	5	Arch (1) from N.W. to E.N.E., 6° alt. - - -			
—	11	28	—	3	5	Faint streak (·3) in E.S.E., 45° alt. - - -			
	P.M.								
—	12	28	—	4	5	A few bright prismatic streamers in zenith (2) visible between clouds. Bright streak in E.S.E., 50 alt. (1). (Declinometer slightly disturbed.)			
—	2	28	—	6	5	Faint streak in zenith (·5) - - -			
	A.M.								
21st	8	28	21	12	5	Arch from E.S.E. to N.N.W., 25 alt., of a greenish colour and (1) in E.S.E., and the rest (·5).			
—	9	28	—	1	5	Irregular arch (1) from N.N.E. to E., 10° alt. - - -			
—	10	28	—	2	5	Bright patch (1) in N.N.W., 5 alt. - - -			
	P.M.								
22nd	6	28	—	10	5	Arch (1) of a greenish colour from E.S.E. to N., 5 alt. -			
—	7	28	—	11	5	Arch (·5) from S.E. to N.W., about 30 alt. - - -			
	A.M.								
—	8	28	22	12	5	Arch (2) from S.E. to E.N.E., 5 alt., and just above this arch are masses of light, curtain-shaped, and almost green in colour; from this a faint band through Procyon and Aldebaran to W.N.W.			
—	8	53	—	12	30	Band disappeared. Above aurora has extended to Aldebaran, about 30° wide, and appears like cumulus clouds (1). (Vertical force disturbed.)			
—	9	28	—	1	5	Faint arch from E.S.E. to 45 alt. in N.W., 55 alt. -			
—	10	33	—	2	10	Band (1) from S.E. through zenith to N.W. - - -			
—	10	49	—	2	26	„ brighter (3) - - -			
	P.M.								
—	12	28	—	4	5	Bank of aurora from N.W. to N.N.E., 3 to 8 alt. (·5) -			
—	1	28	—	5	5	Irregular arch (1) from E.S.E. through zenith to S.N.W. Patch (·5) on horizon in N.N.E.			
	A.M.								
23rd	8	28	23	12	5	Bank of aurora (1) from N.N.W., to N.N.E., 5 alt. Sky cloudy. (Magnetic disturbance.)			
—	9	2	—	12	39	Irregular striated arch (1) from S.E. to N.N.W., 60 alt. Patches (1) with a greenish glow on N. horizon, 5 to 10 alt., and several parallel streaks in zenith (·5)			
—	10	28	—	2	5	Faint arch (·5) from N.N.W. to E.S.E., alt. 5, partly visible through clouds			
	P.M.								
24th	3	28	—	7	5	Irregular arch (1) from N.N.W. to E.S.E., 15 alt. -			
—	4	28	—	8	5	Masses of aurora on N.N.W. horizon. Two arches (1) from N.N.W. to E.S.E.; 1st, 20 alt., 2nd, 60 alt., both arches moving S. till, the higher one reached the zenith, where it seemed to disappear; the lower one diffused and fainter.			
—	5	28	—	9	5	Irregular aurora (1) from N.N.W. to E.S.E., from 40 to 50 alt., appearing to move towards zenith for a few seconds, and then drifting back towards the horizon.			
—	5	38	—	9	15	Irregular striated arch (1·5) with a greenish glow, from N.N.W. through zenith to 15 alt. in E.S.E., pulsating from N.N.W. to zenith.			
—	6	23	—	10	0	- - - - -	113	314	515
—	6	28	—	10	5	Irregular arch (·5) from N.N.W. through zenith to E.S.E. Irregular, striated, aurora (1 to 1·5) from S.E. to 45 alt. in S.W., alt. 27° in rapid motion, and moving from S.E., where brightest.			
—	6	11	—	10	18	- - - - -			
—	6	42	—	10	19	Curtain-shaped, confused aurora covering the whole sky from zenith to 30 alt. on all sides (1·5) (Magnetic disturbance.)	250	337	100
—	6	43	—	10	20	- - - - -	290	308	400

Göttingen Mean Time.	Local Mean Time.		H.P.	D.	V.F.
1883. March.	1883. February.				
h. m.	d. h. m.				
A.M.	P.M.				
1st 3 55	28 7 32	Arches divided. Upper one faint (·5). Lower one 30° alt. and upper edge (·5) lower (2). Another arch (1) from E. to E.N.E., 3° alt.			
— 4 0	— 7 37	Upper arch disappeared except a faint patch in W.N.W., 20° alt. Centre arch (1·5) and slightly prismatic, 40° alt. Lower arch (·3) very faint.			
— 4 5	— 7 42	Centre arch less bright, except in W.N.W., where striated (2). Lower arch as before.			
— 4 10	— 7 47	Centre arch only remains, and is diffused (1), alt. 60°			
— 4 15	— 7 52	Above arch (1) through zenith and regular except in E.S.E.			
— 4 20	— 7 57	Above arch alt. 70° and (·7) except in W.N.W. (1). Faint patch in N.W., alt. 10° (·5). Faint streak (·5) in zenith.			
— 4 35	— 8 12	Above arch (1·5) from S.E. through Leo and zenith to N.W.			
— 4 50	— 8 27	Ditto			
— 5 0	— 8 37	Arch through Ursa Major, Leo, and Procyon; streamers on N. edge.			
— 5 10	— 8 47	Arch through Orion and Pleiades (1)			
— 5 20	— 8 57	Arch striated and diffused			
— 5 30	— 9 7	Two more arches (2) from S.E. extending to Leo			
— 5 45	— 9 22	Arch as before (1) through Orion and Pleiades, and a diffused mass of light in S.E. adjoining the arch, extending to 30° alt.			
— 5 55	— 9 32	Another arch (·5) from S.E. through zenith to about 20° alt. in N.W., and diffused masses of light either side of arches in S.E.			
— 6 10	— 9 47	„ disappeared except the arch through Orion, which is slightly prismatic and making volute motions in N.W. Streamers on the arch 45° alt. (1·5).			
— 6 20	— 9 57	„ disappeared band from S.E. through zenith, prismatic, and pulsating with great rapidity.			
— 6 25	— 10 2	Three bands, one through, and one on either side of zenith, with winding streaks between the bands as well as streamers; the whole prismatic (2), moving and pulsating in all directions.			
— 6 35	— 10 12	Irregular arch (1) from E. to N.W., alt. 30°, and prismatic. Also patches and streamers from S.E. to W., 45° alt. in S.			
— 6 45	— 10 22	Above arch (·5). Another arch (2) from N.N.E. to W.N.W., prismatic, and pulsating. Pyramids of light on N. horizon.			
— 6 55	— 10 32	Later arch through zenith and just passing the Pleiades to W.			
— 7 0	— 10 37	„ disappeared except band (1) from N.N.E. curving along the horizon to S.E., through Leo and Pleiades to W.N.W. (1).			
— 7 15	— 10 47	Above band, diffused through Leo, Procyon, and Pleiades to W.N.W. (1·5).			
— 7 30	— 11 7	Diffused masses of light (1·5) from N.E. and S.E., passing S. of zenith to W.N.W., about 20° wide.			
— 7 50	— 11 27	Ditto. Band (1) from N.E. to N.W., 40° alt.			
— 7 55	— 11 32	Ditto. Band disappeared			
— 8 20	— 11 57	Above band prismatic (2) and moving with great rapidity in circular motions.			
	March.				
	A.M.				
— 8 30	1 12 7	Irregular arch from E.S.E. through zenith to N.W., striated (2) and slightly prismatic, about 10° wide, and pulsating from E. to N. on N. side of arch and from N. towards S. on S. side.			
— 8 55	— 12 32	Irregular arch from E.S.E. to W. appearing like confused masses in E.S.E. and forked in W., from 50° alt. in S. to zenith (1·5). A few faint (·7) streamers from 1 S.E. to E.N.E., 10° alt.			

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883. March.	1883. March.				
h. m.	d. h. m.				
A.M.	P.M.				
2nd 6 28	1 10 5	Serpentine arch regular and in rapid motion, moving from N.W. to S.E. in waves, or like small clouds, and drifting in a few seconds from zenith to 30° alt. in S.W. (Magnetic instruments much disturbed.)			
— 7 28	— 11 5	Bright irregular arch (2) with streamers slightly prismatic, quivering and in rapid motion from E.S.E. to W.N.W., 15° alt. S., drifting towards zenith.			
— 8 28	2 12 5	Bright streamers (1.5) from S.E. to S.W., moving rapidly backwards and forwards, 10° alt. Faint masses of aurora in E.S.E., 15° alt., and in N.N.W. 20° alt. (Magnetic disturbance.)			
— 9 28	— 1 5	Irregular aurora (5 to 1) from E.S.E. to S.S.W., where brightest, 20° alt. Bright patch (1) in N.E., 3° alt.			
— 10 28	— 2 5	Bright irregular aurora from E. to 10° N.W. of zenith (1).			
— 11 28	— 3 5	Irregular striated arch (5) from S.E. through zenith to N.W. Another arch (1) from S.E. to W.S.W., 25° alt. in S.			
— 12 28	— 4 5	Masses of light (2) from zenith to N.W., drifting towards N., patches and streamers all round zenith to 45° alt.			
— 1 28	— 5 5	Band (5) from E.S.E. to Leo, and one from zenith to W. Arch (1) from S.E. to W., 25° alt.			
3rd 3 28	— 7 5	Diffused arch (7) from E.S.E. through zenith to N.N.W.			
— 4 28	— 8 5	Faint arch (5) from 10° alt. S.E. to W.N.W., 50° alt.			
— 5 28	— 9 5	Arch (7) from E.S.E. to W.N.W., 70° alt. S.			
— 6 28	— 10 0	- - - - -	206	340	- 100
— 6 28	— 10 5	Arch (1) from N.N.W. to E.S.E., 60° alt. (Magnetic disturbance.)	295	270	+ 600
— 7 28	— 11 5	Masses of light (1) in N.W., 50° alt.	314	290	625
— 8 28	3 12 5	" (1) in N.W. and N.E., 50° alt.			
— 9 28	— 1 5	" from E. to N.W., extending from 30° alt. to zenith, prismatic and with a tremulous motion in N.W. (1.5).			
— 10 28	— 2 5	Arch (1) from E. to N.W., alt. 30°, and just above it patches like small cumulus clouds.			
— 11 28	— 3 5	Irregular aurora (5) from N.N.W. to E.N.E., 8° alt.			
— 12 28	— 4 5	Faint streak (3) from E.N.E. horizon to zenith, and a few patches on N. horizon to 5° alt., very faint.			
— 1 28	— 5 5	Streak (5) from E.S.E. horizon to 10° from zenith. Another streak on S.E. horizon (5), and a patch on N. horizon (3).			
4th 3 28	— 7 5	Faint arch (3) from E. to N.N.W., about 25° alt.			
— 4 28	3 8 5	Arch from E.S.E. to N.W., and three streaks parallel with each other and the arch above it in N.W. (1.5).			
— 5 28	— 9 5	Arch (2) from E.S.E. through Denebola and 1 st Major to N.W. Another faint arch from S.E. through Rigel to W.			
— 6 28	— 10 5	The sky from 10° alt. in N. to Orion is nearly covered with irregular masses of light of uniform brightness (1). (Magnetic disturbance.)			
— 7 6	— 10 43	Bright aurora (1.5) covering the sky from about 10° alt. in N. to 30° alt. in S.W., pulsating from E.S.E. to N.N.W., where brightest, 35° alt.			
— 7 28	— 11 5	Arch (3) from S.E. to N.W., 25° alt., about 10° of aurora on either side of zenith (5), and irregular aurora from N.N.W. to E.S.E., from 5° to 10° alt. (5).			
— 8 28	4 12 5	Faint arch (3) from S.E. to N.W., 20° alt. Irregular diffused band (1) from E.S.E. through zenith to N.N.W.			
— 9 28	— 1 5	Arch (1) S.E. to N.W., 35° alt. Irregular diffused aurora from E.N.E. through zenith to N.N.W. (1.5), with streamers in N.N.W. (2) pulsating rapidly from N.N.W. to E.N.E.			

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883.	1883.				
March.	March.				
h. m.	d. h. m.				
A.M.	A.M.				
4th 10 28	4 2 5	Very faint arch from S.E. to N.W., 20° alt., and several streamers (°5) from E.S.E. to W. S. of zenith 30° alt.			
— 11 28	— 3 5	Faint arch (°5) from E.S.E. to W., 15° alt. - - -			
— 12 28	— 4 5	As above, and faint streak (°5) in N.N.W., 10° alt. - -			
— 1 28	— 5 5	Faint arch (°3) from 50° alt. S.E. to W. horizon, 60° alt.			
— 3 28	— 7 5	Masses of aurora from E. to S.E. from horizon to 5° alt. Arch from S.E. to N.N.W., 45° alt. (1).			
5th 4 28	— 8 5	Diffused arch (1) from S.E. to N.N.W., from 70° to 90° alt., moving from N. to S. Several patches somewhat like small cumulus clouds on N. horizon (°5).			
— 5 28	— 9 5	Arch (1°5) from E.S.E. to N.N.W. with streamers, 15° alt. Aurora from S.E. through zenith to N.W. (°5). Two arches (°5) S. of zenith, parallel from N.W. to S.E., 30 and 40 alt.			
— 6 28	— 10 5	Two parallel arches (1) from S.E. to N.W., 25 and 15° alt. Irregular arch from E.S.E. to N.N.W., 20° alt. (1), and several streaks (°5) in zenith.			
— 7 3	— 10 40	Bright diffused irregular arch (2) prismatic, and with streamers, from E.S.E. to W.N.W., 70° alt. in S. Irregular aurora from S.S.E. to W.S.W., 10° alt. (1).			
— 7 23	— 10 58		364	318	593
— 7 24	— 11 0	Much curtain-shaped, rapidly-moving aurora, (2) and prismatic round and about zenith and to N.W. thereof.	318	319	920
— 7 24	— 11 1	Ditto suddenly brightening with development of vertical striae.			
— 7 28	— 11 2		252	310	700
— 7 28	— 11 5	Ditto much fainter. Arch (1°5) from E.S.E. to N.N.E., with prismatic streamers 10° alt.	235	270	
— 7 30	— 11 7		115		
— 8 28	5 12 5	Very irregular and diffused aurora (1) from E.S.E. through zenith to N.N.W. Arch (1) from E.S.E. with streamers to N.			
— 9 28	— 1 5	Band (1°5) from E.S.E. to N., 5° alt. Arch (°5) from S.E. to W.S.W., 10° alt. Faint streak in E.S.E., 40° alt. Faint masses of aurora on N.N.W. horizon.			
— 10 28	— 2 5	Bright green patches (2) in W., 10° alt., and N.N.W., 5° alt. Faint diffused light in E.S.E. to 30° alt. (°5).			
— 11 28	— 3 5	Masses of curtain-shaped aurora from S.E. to W.N.W. through Leo (1).			
— 12 28	— 4 5	The sky from 30° alt. in N. to 25° alt. S. is covered with faint masses of aurora in the shape of clouds and curtains, brightest in N.W. (1).			
— 1 28	— 5 5	Faint diffused arch from S.E. to W., about 60° alt. in S., and another arch from N.E. to W., 40° alt. (°4).			
6th 4 28	— 8 5	Very faint arch from E.S.E. to N., 10° alt. - - -			
— 5 28	— 9 5	Diffused arch (°5 to 1) from E.S.E. to N., 60° alt., brightest at extremities.			
— 6 28	— 10 5	Two arches (1) from E.S.E. to N., 10 and 30° alt. - -			
— 7 28	— 11 5	Diffused arch from E.S.E. to N.W. through zenith, about 15° wide (1).			
— 8 28	6 12 5	Ditto - - - - -			
— 9 28	— 1 5	Irregular arch (2) from 10° alt. in S.E. through zenith to N.W., diffused and brightest in zenith.			
— 10 28	— 2 0	Arch (1°5) from S.E. through zenith to N.W. - - -			
— 11 28	— 3 5	" (°5) from S.E. to N.W., 30° alt. Diffused aurora (°5) from E.S.E. through zenith to N.N.W.			

Göttingen Mean Time.		Local Mean Time.			H.F.	D.	V.F.
1883. March.		1884. March.					
	h. m.	d.	h. m.				
	P.M.		A.M.				
6th	12 28	6	4 5	Irregular diffused aurora from S.E. through zenith to N.W., about 25 wide in zenith (1).			
—	1 28	—	5 5	Arch (5) from S.E. to N.W., 30 alt. - - -			
	A.M.		P.M.				
7th	5 28	—	9 5	Faint diffused auroral light through zenith about 15 towards N.W. and S.E.			
—	6 28	—	10 5	Auroral light visible between clouds in all directions. (Instruments very unsteady.)			
—	7 28	—	11 5	Mass of aurora from E. to S.E. on horizon (5), partly visible between clouds. Arch (8) from S.E. to N.W., 40 alt.			
—	8 28	7	12 5	Aurora, like small cumulus clouds, from S.E. to N.W., 5 to 10 alt (5). Irregular aurora (1) from E.S.E. to zenith. Curtain-shaped aurora from E.S.E. through W. to S.W., and from zenith to alt. 70.			
—	9 28	—	1 5	Irregular aurora (5) from S.E. to N.W., 30 alt., and several streamers (1) in S.W., 50 alt.			
—	9 42	—	1 19	Arch (1.5) from S.E. to N.W., 35 alt., with bright streamers (2) reaching to zenith, in rapid motion. (Magnetic disturbance.)			
—	9 46	—	1 23	Above disappeared except a few patches of the arch -			
—	10 28	—	2 5	Arch (1) from E.S.E. to N.N.W., 20 alt. Mass of aurora from E.S.E. to S.E. from horizon to 6 alt. Patches of auroral light from S.E. to N.W., 25 alt (5).			
—	11 28	—	3 5	Bright band (1.5) with streamers of a greenish colour from W.N.W. to E., 10 alt. Faint irregular arch (5) from E.S.E. to S.S.W., 7 alt.			
—	P.M.		P.M.				
—	12 28	—	4 5	Bright patches (1) on N.E. horizon. Faint arch (3) from E.S.E. to W.S.W., 15 alt.			
—	1 28	—	5 5	Patch (7) on N.W. horizon - - -			
	A.M.		P.M.				
8th	4 28	—	8 5	Irregular diffused striated aurora from S.E. through zenith and about 15 on either side to N.N.W. (1).			
—	5 18	—	8 55	Prismatic arch (1.5) from E.S.E. to N.W., 45 alt. -			
—	5 20	—	8 57	Streamers in rapid motion in zenith (2), sky nearly covered with fainter aurora			
—	5 23	—	9 0	Aurora (1.5) in rapid motion and slightly prismatic, from N.N.W. to E.S.E., from 60 to 80 alt	270	276	401
—	5 28	—	9 5	" fainter (1), lower edge only slightly prismatic. A few streamers in S.W., 50 alt. (5). (Magnetic disturbance).	310	235	350
—	5 59	—	9 39	Arch (1) from E to N.N.W., 6 alt. The whole sky more or less covered with very faint aurora, like cumulus clouds.	305	255	300
—	6 0	—	9 37	- - - - -			
—	6 28	—	10 5	Faint arch (3) from S.E. to N.W., 15 alt. Irregular diffused aurora from E.S.E. to N.N.W., 15 to 80 alt (5 to 1), brightest in N.N.W. Faint aurora in zenith like small cumulus clouds (5).	383	276	405
—	7 3	—	10 40	Bright arch (2) from E.S.E. to N.N.W., alt. 40. Much curtain-shaped aurora (1) from E.S.E. through zenith to W.N.W. and W.S.W.			
—	7 28	—	11 5	Arch from E.S.E. to W.N.W., 59 alt. in S. (1). Another faint arch (3) from S.E. to W., 5 alt			
—	8 28	8	12 5	Bright arch (2) from S.S.E. to W., with bright prismatic streamers, and pulsating, 5 alt. Bright patches on E.S.E. horizon, partly visible between clouds (1).			
—	9 28	—	1 5	The whole zenith covered with aurora (7) extending to 40 alt. in E.S.E. and 20 alt. W.N.W. Bright patches in N.N.E. Visible between clouds (1), alt. 20.			
—	10 28	—	2 5	Faint patches (5) visible between clouds in N.N.W., 50 alt.			

Göttingen Mean Time.	Local Mean Time.		I.F.	D.	V.P.
1883. March.	1883. March.				
h. m. A.M.	d. h. m. P.M.				
9th 3 8	8 6 45	Aurora (·5) from 20° alt. E.S.E. through zenith to 30° alt. W.N.W., striated and of a faint copper colour.			
— 3 28	— 7 5	Irregular arch (1) from E.S.E. to 20° alt. in N.N.W., with streamers slightly prismatic and striated, 80 alt. in S.			
— 4 23	— 8 0	—	413	299	125
— 4 28	— 8 5	Four arches (1) from E.S.E. to W.N.W., two through zenith, one alt. 65°, and the other alt. 45°, striated, and arch 65° alt. with streamers. Another faint arch (·7) from E.S.E. to N.N.E., 30° alt.			
— 4 54	— 8 31	Curtain-shaped folds of aurora in zenith, prismatic and in rapid motion (2·5).			
— 4 56	— 8 33	—	80	520	
— 4 57	— 8 34	Aurora fading (1)			
— 4 59	— 8 36	—	290	330	
— 5 0	— 8 37	Aurora (2) in N.N.W., 35 alt.			
— 5 2	— 8 39	—	298		
— 5 18	— 8 55	Bright irregular aurora (1·5) from N.N.W. to E., alt. 10.			
— 5 23	— 9 0	—	316	268	329
— 5 28	— 9 5	Bright diffused striated and irregular arch (2) from E.S.E. through zenith to W.N.W., with prismatic streamers quivering and in rapid motion, drifting towards S. The sky from E.S.E. to N.N.W. and to 60° alt. is more or less covered with aurora (1 to 2), brightest at 40 alt. (Declinometer and vertical force disturbed.)	312	260	—50
			315	306	O.S.
— 5 53	— 9 30	Bright curtain-shaped aurora (2) from N.N.W. to zenith. Two arches from E.S.E. to N., alt. 15 and 30 (1).			
— 5 57	— 9 34	Aurora faint (·7)			
— 6 0	— 9 37	—	436	275	197
— 0 17	— 9 54	Irregular diffused aurora (1 to 1·5) from E.S.E. to N.N.W., from 10° alt. to 70 alt.			
— 6 28	— 10 5	Diffused arch (1) from E.S.E. to N.N.W., 70 alt. Faint masses on horizon from E.S.E. to E. Faint arch (·3) from S.E. to W.S.W., 5 alt.			
— 7 28	— 11 5	Arch (1) from S.E. through Orion to W.N.W. Another diffused arch (·7) from E.S.E. through zenith and Leo to N.W.			
— 8 28	9 12 5	A.M. Two arches, one from E.S.E. through Arcturus, Leo, and Pleiades to N.W., and the other from S.E. through Spica and Procyon to W.N.W. (1).			
— 9 28	— 1 5	Arch from S.E. to W.N.W., 60 alt. (1)			
— 10 28	— 2 5	Ditto			
— 11 28	— 3 5	Irregular arch (1) from S.E. to N.W., 25 alt. Many streamers (1) in rapid motion just above S.W. horizon.			
	P.M.				
— 12 28	— 4 5	Irregular aurora (·5) from E.S.E. through zenith to N.N.W. Patches of aurora (1) on horizon from E. to N.W. Band of aurora (·3) from S. to W., 8 alt. (Magnetic disturbance.)			
10th 3 33	— 7 10	P.M. Part of arch (1) from S.E. extending 90° towards N.W., 40 alt.			
— 4 28	— 8 5	Arch from E. to N.W. (1·5), curtain-shaped and diffused in E., 45° alt.			
— 5 28	— 9 5	Arch (1) from E.S.E. passing just below Arcturus to N.W.			
— 6 28	— 10 5	Ditto			
— 7 20	— 10 57	No aurora	134	320	576
— 7 23	— 11 0	—	432	319·5	553
— 7 28	— 11 5	Arch (·5) from E.S.E. to N.N.W., 30 alt. Mass of aurora from E.S.E. horizon to 5 alt. Band from E.S.E. to N.E., 15 alt.	429	322	561
— 8 28	10 12 5	A.M. Diffused arch (1) from E.S.E. to N.W., 45 alt. Irregular diffused arch (·5) from E. to N.N.W., 30 alt. Faint patches along N. horizon.			

Göttingen Mean Time.		Local Mean Time.				H.F.	D.	V.F.
1883. March.		1883. March.						
	d. h. m. A.M.	d. h. m. A.M.						
10th	9 19	10 12 56		Sky from E.S.E. to N.N.W. to 20° S. of zenith covered with aurora (1).	} 291 360 393	365 340 346	300 150 350	
—	9 23	— 1 0						
—	9 28	— 1 5	The same portion of sky nearly covered with faint patches and streaks; on N. horizon brightest (3). (Magnetic instruments much disturbed.)					
—	9 59	— 1 36	Faint aurora (3) from E.S.E. to N.N.W., from 5° to 15° alt. Streak (5) in S.W., 10° to 25° alt.					
—	10 28	— 2 5	Bank of aurora (3) from E.S.E. to N.N.E. to 6° alt. Mass of aurora (5) in N.N.W., 10° to 35° alt.					
—	11 28	— 3 5	Faint patch (5) on E. horizon and N.E. 3° alt.					
			P.M.					
11th	6 28	— 10 5	Mass of streamers (5) from N.N.W. horizon to 10° alt.					
—	7 28	— 11 5	Aurora (7) from E.S.E. horizon to zenith					
			A.M.					
—	8 28	11 12 5	Aurora (7) visible between clouds in E.S.E., 15° alt., and in zenith. Bright aurora (1) from W.N.W. horizon to 20° alt.					
—	9 17	— 12 54	Bright irregular aurora (1.5) from N.W. to N.E., with streamers in rapid motic. from 15° to 40° alt.	} 393 402 377	312 314 324	178 173 166		
—	9 23	— 1 0						
—	9 28	— 1 5	The same but faint (5). Bright prismatic vertical streamers (2) in rapid motion from N.E. to E.S.E. (Magnetic disturbance.)					
—	9 57	— 1 34	Faint mass of aurora (5), like small cumulus clouds, covering the zenith and to 30° alt. N.W.					
—	10 28	— 2 5	Bright arch (1) from E.S.E. to W., 25° alt. Bright diffused rays (2), slightly prismatic, from N.N.W. to zenith.					
—	11 28	— 3 5	Arch (1) from S.E. to W.N.W., 45° alt. in S.					
			P.M.					
—	12 28	— 4 5	Above arch 60° alt. Band from 45° alt. in E. through zenith to N.W. (1).					
			P.M.					
12th	7 2	— 11 5	Three faint tapering streaks emerging from E. horizon to 30° alt.					
			A.M.					
—	8 28	12 12 5	Faint band (7) from E.S.E. through Arcturus and zenith to N.W.					
			P.M.					
13th	5 28	— 9 5	Arch (2) 6° S. of zenith, visible between clouds in S.E., 45° alt., and light in N.N.E., 30° alt., visible through clouds.					
—	6 28	— 10 5	Corona (2). Light visible between clouds in S., 45° alt., and in E., 30° and 50° alt.					
			P.M.					
—	12 28	13 1 5	Faint streak (3) in zenith. Faint masses of aurora (5) from S. to S.W., 10° alt.					
—	1 28	— 5 5	Bright prismatic curtain-shaped aurora (2) in W., 5° alt., partly visible between clouds, and drifting towards W.S.W.					
			P.M.					
14th	6 28	— 10 5	Arch (1) from S.E. to W., 50° alt.					
—	7 8	— 10 15	.. (1.5) with streamers from E.S.E. to N., alt. 10°					
—	7 28	— 11 5	Streamers extending irregularly from 50° alt. to 5° alt. in E.S.E. and N. at 50° alt. (1), other parts (1.5). Faint arch (5) from E.S.E. to W.N.W., 25° alt. towards S.					
—	7 43	— 11 20	Streamers (7) from 5° alt. in N. to 5° S. of zenith					
			A.M.					
—	8 28	14 12 5	Arch (1.5) from N.W. to S.E., 10° alt., and extending in masses of diffused and striated aurora with streamers to E.S.E.					
—	9 28	— 1 5	Arch (1) from E.S.E. to N., 10° alt. Diffused arch (1) with streamers from 15° alt. in N.E. to S.E., 70° alt. The whole sky from S. to W. and zenith covered with aurora (5). (Magnetic disturbance.)					
—	10 28	— 2 5	Faint arch (5) from E.S.E. to W., 10° alt. Faint masses at intervals from N.N.E. to E., alt. 5° (5).					

V.F.	Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
	1893. March.	1883. March.				
	h. m.	d. h. m.				
	A.M.	A.M.				
	P.M.	P.M.				
	A.M.	P.M.				
	14th 11 28	14 3 5	Band from E.N.E. to N.W. through Ursa Major (1). Arch from S.E. through Spica to W.N.W. (1).			
	— 12 28	— 4 5	Aurora, like cumulus clouds, from S.E. to W.N.W., extending from 45° alt. in S. to zenith (°5 to 1).			
	15th 4 20	— 7 57	Arch from E.S.E. to N., 35° alt., very faint except in E.S.E., where (°7).			
	— 4 30	— 8 7	Ditto			
	— 4 40	— 8 17	Arch disappeared except a very faint patch in E.S.E.			
	— 4 55	— 8 32	Ditto			
	— 5 0	— 8 37	Faint streamers (°3) in N.N.W. to 50° alt. Faint patch on E.S.E. horizon.			
	— 5 5	— 8 42	Arch (°5) with streamers in N.N.W. from N.N.W. to E.S.E., 30° alt.			
	— 5 10	— 8 47	Arch very faint except at extremities and alt. 25°			
	— 5 20	— 8 57	" uniform (°7), alt. 50°			
	— 5 25	— 9 2	" through zenith (1) and diffused in N.N.W.			
	— 5 35	— 9 12	" irregular and from E.S.E. through zenith to N.W., where striated.			
	— 5 40	— 9 17	" diffused and (°5)			
	— 5 45	— 9 22	Above arch very faint in zenith			
	— 5 50	— 9 27	Ditto			
	— 5 55	— 9 32	" drifting towards S. and (1)			
	— 6 0	— 9 37	" faint (°5) diffused and through zenith			
	— 6 5	— 9 42	Ditto			
	— 6 10	— 9 47	" (1) in E.S.E. and irregular to 15° alt.			
	— 6 15	— 9 52	" very faint (°3) and alt. 30° in S.			
	— 6 20	— 9 57	" from E.S.E. to W. (1°5), with streamers, and 50° alt. in S.			
	— 6 30	— 10 7	" through Leo just passing Pleiades (1°5)			
	— 6 35	— 10 12	" through zenith			
	— 6 40	— 10 17	" (1)			
	— 6 45	— 10 22	Ditto			
	— 6 50	— 10 27	" through Leo, and just passing the moon (1)			
	— 6 55	— 10 32	" from E., through zenith, diffused in E., and vertical streamers (1).			
	— 7 0	— 10 37	" 45° alt. in N.W.			
	— 7 5	— 10 42	Ditto, and masses of light in E.N.E. horizon (2)			
	— 7 10	— 10 47	Above arch from S.E. through Leo and the Moon, and diffused masses, like cumulus clouds, (1°5).			
	— 7 15	— 10 52	Double arch from E.S.E., one through Ursa Major and one through the Moon and Pleiades (2), also pyramid- shaped aurora in E.N.E. to 30° alt.			
	— 7 20	— 10 57	Ditto			
	— 7 30	— 11 7	" like a semicircle from N.E. through zenith to N.W. (2).			
	— 7 35	— 11 12	" fainter (1)			
	— 7 40	— 11 17	Irregular windings from N.E. towards S.E. and through zenith to 45° alt. in N.W. (1°5).			
	— 7 45	— 11 22	Above aurora diffused and (1)			
	— 7 50	— 11 27	Ditto			
	— 7 55	— 11 32	Diffused auroral light from 30 alt. through zenith and the Moon to N.W. (1).			
	— 8 0	— 11 37	Irregular arch (2) from S.E. through Spica and Leo to W.N.W.			
	— 8 5	— 11 42	" pulsating and curtain shaped in S.E. (1)			
	— 8 10	— 11 47	Arch from S.E. through Leo and Ursa Major to N.W., slightly prismatic and diffused in S.E. (1°5).			
	— 8 15	— 11 52	Arch from E.N.E. through Arcturus and zenith to N.W., slightly prismatic and in rapid motion (1°5).			
	— 8 20	— 11 57	Arch motionless and (1)			
	— 8 25	15 12 2	Broad arch (1°5) from E. to N.W., 80° alt.			
	— 8 30	— 12 7	Arch (1°5) from S.E. through zenith to N.W., in rapid motion at zenith.			

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883. March. h.m. A.M.	1883. March. d. h. m. A.M.				
15th 8 32	15 12 9	Arch brighter and prismatic			
— 8 35	— 12 12	Curtain-shaped aurora (1.5) all over the sky, with less motion.			
— 8 40	— 12 17	„ very faint; the greater part disappeared			
— 8 45	— 12 22	„ disappeared. Arch (1.5) from S.E. to N.W., 30° alt., prismatic.			
— 8 55	— 12 32	Patches (7) from S.E. to N.W., 25° alt.			
— 9 5	— 12 42	Arch (1) from E. to N.W., 30° alt.			
— 9 15	— 12 52	„ disappeared. Diffused light in N.W., 25° alt.			
— 9 20	— 12 57	Faint patches (5) from E.S.E. to N.N.W. on horizon. Faint aurora from E.S.E. to zenith (3).			
— 9 22	— 12 59	Band (1) from N.N.E. to N., 8 alt. Mass of aurora (5) in N.N.W., 5° alt.			
— 9 30	— 1 7	Patch in N.N.W., 30° alt. Arch (1) from E.N.E. to N.N.W., 35° alt.			
— 9 35	— 1 12	Arch (3) 45° alt. from E.N.E. to N.N.W.			
— 9 40	— 1 17	„ irregular (5) and 25° alt.			
— 9 45	— 1 22	„ disappeared except a faint patch in N.N.W., 20° alt.			
— 9 50	— 1 27	Very faint patch on horizon in E.S.E.			
— 9 55	— 1 32	Faint streak from N.N.W. to zenith (3)			
— 10 0	— 1 37	Arch (3) from E.S.E. to W., 45° alt. Faint aurora (2) from E.S.E. to N.N.W., 35° N. of zenith			
— 10 5	— 1 42	Above arch brighter (5) and the faint aurora (3) and through zenith.			
— 10 10	— 1 47	Above arch diffused, and the aurora through zenith brighter (1) and striated.			
— 10 15	— 1 52	Faint streaks in zenith. Two arches (5) from E.S.E. to W., 45° and 55° alt.			
— 10 20	— 1 57	Lower arch as before. The other irregular (3) and 75° alt.			
— 10 25	— 2 2	Both arches very faint			
— 10 40	— 2 17	Ditto			
— 10 55	— 2 32	Ditto			
— 11 0	— 2 37	Upper arch disappeared, the other (2) and alt. 35°			
— 11 20	— 2 57	Arch as before. Diffused band from E.N.E. through zenith to N.N.W. (5 to 1), brightest in E.S.E.			
— 11 25	— 3 2	Band very faint			
— 11 30	— 3 7	Above band disappeared, and arch much diffused and very faint.			
— 11 45	— 3 22	Aurora disappeared			
	P.M.				
— 12 20	— 3 57	Faint streaks (3) from S.E. to S.W., 1° alt.			
— 12 30	— 4 7	Faint streak in N.N.W., 5° alt. Band (5) on horizon from N.N.E. to N.N.W. and to about 5° alt.			
— 12 45	— 4 22	Arch (5) from N.N.E. to N.N.W., 5° alt.			
	A.M.				
17th 4 28	16 8 5	Mass of aurora (5) from E. to E.S.E. to 5° alt. Very faint arch from E.S.E. to N.N.W., 25° alt.			
	A.M.				
— 8 28	17 12 5	Faint streak (5) in N.N.W., 15° alt. Masses of aurora (1) in E. from 5 to 10° alt.			
— 9 28	— 1 5	Faint masses of aurora (5) from N.N.W. to zenith, like small cumulus clouds.			
— 10 28	— 2 5	Arch with streamers from E.S.E. to N.E., 15° alt. Very faint except in N.E. (1.5).			
— 11 28	— 3 5	Arch from S.E. to W.N.W., 60° alt. in S. (7), and streaks through zenith (5).			
	P.M.				
18th 5 28	— 9 5	Faint arch (5) from E.S.E. to N., 35° alt.			
— 6 28	— 10 5	Patches on E.S.E. horizon (1)			
	A.M.				
— 8 58	18 12 35	Faint arch from E.S.E., the lower edge just passing through β Cassiopeiae to 50° alt. in N.W., and a streak from Cassiopeia extending nearly to Polaris.			
— 11 23	— 3 0	Faint streak (3) from E.S.E. to 25° alt. Another faint streak on N.N.W. horizon.			

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883. March.	1883. March.				
h. m.	d. h. m.				
P.M.	A.M.				
18th 12 28	18 4 5	Faint arch (·3) from E.S.E. to N.W., 50° alt. Faint streaks from N. to W., alt. 8° (·5).			
A.M.	P.M.				
10th 6 28	— 10 5	Band from E.S.E. (1), lower edge just passing Arcturus about half the moon's breadth above Alcor and through Cassiopeia to N.W.			
— 6 53	— 10 30	Irregular arch (·5) from E.S.E. through zenith to N.N.W.			
— 7 28	— 11 5	Irregular and striated arch (1) from E.S.E. to N.N.W., 80° alt., passing 2° S.W. of Capella and 3° S.W. of 3 Ursae Majoris and through Bootes.			
— 8 28	19 12 5	Faint irregular arch (·5) from E.S.E. to N.N.W., 75° alt.			
— 9 28	— 1 5	Irregular aurora (1) from E.S.E. to N.N.W., from 60° to 70° alt.			
— 10 28	— 2 5	Faint aurora (·5) on horizon from E.S.E. to N.N.E., and a few streaks in zenith (·5 to 1).			
P.M.					
— 12 28	— 4 5	Faint aurora (·5) from N.N.W. horizon to 15° alt.			
A.M.					
21st 10 28	21 2 5	Diffused light from S.E. through zenith towards N.W.			
— 11 28	— 3 5	Arch (1) from S.E. to S.W., 25° alt.			
— 11 33	— 3 10	Above arch striated and with a greenish glow, pulsating from S. to W., 45° alt. Streamers (1) in N.N.W.			
P.M.					
— 12 28	— 4 5	Arch (1) from S.E. to W., 50° alt. Streak from N.W. to zenith (1).			
A.M.	P.M.				
22nd 4 28	— 8 5	Diffused light from S.E. to Cassiopeia, upper edge through the moon, Procyon, and Betelgeuse; lower edge through Arcturus and Alcor (1).			
— 5 28	— 9 5	Two bands from S.S.E., one about 6° above the Moon to Cassiopeia, the other about 7° S. of the Moon and just through Orion (1).			
— 6 28	— 10 5	The sky from 35° alt. to Rigel is covered with light in the shape of bands and clouds, the most northern being the brightest (1·5).			
— 7 28	— 11 5	Irregular arch (1) from E.S.E. to N.W., 1° below the Moon. Curtain-shaped aurora parallel to horizon (2), slightly prismatic from S. to S.W., from 15° to 20° alt.			
— 8 3	— 11 40	Arch (·5) S.E. to S.W., 20° alt. Mass of aurora (1) in N.W. from 8° to 15° alt.			
— 8 20	— 11 57	Irregular arch (2) with a greenish glow from S.E. through zenith to N.N.W. Much aurora, like cumulus clouds, from S. to N.W. (1). (Magnetic disturbance.)			
— 8 28	22 12 5	Band (1) from S.E. through W. to E.N.E., 60° alt.			
— 9 3	— 12 40	Irregular arch (1) from E.N.E. to N.N.W., 10° alt., and a few streamers in N.W., 15° alt. (1).			
— 9 28	— 1 5	Patches (1) from N.N.W. to E.S.E., 3° to 15° alt., highest in N.N.W.			
— 10 28	— 2 5	Imperfect arch (·5) from S.E. to S.W., 15° alt.			
— 11 3	— 2 40	Irregular aurora (1) from S.E. to N.W., 25° alt., pulsating and with a greenish glow.			
— 11 28	— 3 5	Faint streaks in zenith and N.N.W., 15° alt (·5). Bright irregular aurora (1·5) from S.S.E. to S.S.W., with streamers in rapid motion, slightly prismatic, and drifting towards S.E., 10° alt.			
— 11 59	— 3 36	Bright irregular diffused arch (1) from 19° alt. in E.S.E. through zenith to 30° alt. in N.N.W.			
P.M.					
— 12 28	— 4 5	Bright irregular aurora (1) of a greenish colour from E. to N.N.W., 15° alt. Faint streak in E.S.E.			
A.M.	P.M.				
23rd 1 28	— 8 5	Irregular arch (1) from E.S.E. to N.N.W., 70° alt.			

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883. March.	1883. March.				
h. m. A.M.	d. h. m. P.M.				
23rd 5 28	22 9 5	Arch (1) from E.S.E. to N.N.W., 80° S. of zenith. Irregular arch (·5) from the same points 60° N. of zenith.			
— 5 53	— 9 30	Irregular, striated aurora (2) slightly prismatic, from W. through zenith to E.N.E., in rapid motion. (Magnetic disturbance.)			
— 5 56	— 9 33		259	330	0
— 6 1	— 9 38	Irregular arch (1) with streamers from N.N.W. to E.S.E., 8 alt., and several streamers (1·5) in N.N.W., 15 alt.	295	284	375
— 6 23	— 10 0		250	328	402
— 6 26	— 10 3	Above arch 25 alt. Aurora extending horizontally 35° to N.W. (2), and about 10 wide, joining a mass of irregular folds in N.N.W. (1).	274	319	389
— 6 57	— 10 34	Several streaks in zenith (1)	70	265	100
— 7 0	— 10 37		115	310	693
— 7 1	— 10 38	Irregular arch (2) from E.N.E. to N.N.W. with a greenish glow, 5 alt.	192	281	760
— 7 17	— 10 54	Aurora (1) from E.N.E. to N., 3 alt. Streak (1) from 60 alt. in E. to zenith.	178	265	696
— 7 28	— 11 5	Patch (·7) on N.N.E. horizon			
— 7 58	— 11 35	Bright patches (1·5) on N. horizon, and to 5 alt.			
— 8 28	23 12 5	Faint patch in N.N.W., 3 alt. (·7)			
— 8 57	— 12 31	Irregular aurora (1) from N.N.W. to E., 15 alt.			
— 9 28	— 1 5	arch (1) from W. to N.N.E., 20 alt.			
— 9 59	— 1 36	Faint patch in N.N.W., 5 alt. (·7)			
— 10 28	— 2 5	" " N., 15 alt. (·5)			
— 11 28	— 3 5	Band (1) extending about 70° from N.W., alt. 35			
	P.M.				
24th 4 30	— 8 7	Faint diffused arch (·5) from E.S.E. through zenith to N.N.W.			
— 5 20	— 8 57	Irregular aurora from 10 alt. in N.N.W. to zenith, and extending to E. (·5 to 1), brightest in N.N.W.			
— 5 28	— 9 5	Bright band of aurora (1·5) from E.S.E. to N.N.W., 20 alt. Faint horizontal line of aurora (·3) from E. to E.N.E., 3 alt.			
— 6 20	— 9 57	Faint diffused arch (·5) from 15 alt. in E.S.E. through zenith to 20 alt. in N.N.W.			
— 6 28	— 10 5	Very faint masses of aurora (·3) from E. to E.N.E., 15 alt.			
— 7 21	— 10 58		366	308	689
	P.M.				
— 7 23	— 11 0	Curtain-like folds of aurora in zenith and from thence to N.W. horizon (2).	369	304	690
— 7 25	— 11 2				
— 7 26	— 11 3	Arch (1) from 45 alt. in S.E. through zenith towards N.W.	402	304	645
— 7 28	— 11 5	Arch (3) from S.E. through Arcturus and zenith to N.W., prismatic streamers in N.N.W.	240	—	100
— 7 41	— 11 18	Aurora disappeared			
— 8 3	— 11 40	Arch (1·5) from E.S.E. to N.W., 50 alt., and a faint streak parallel to the arch 6° N. of zenith.	220	300	600
— 8 23	— 12 0	Faint patches in and round zenith, hardly perceptible.			
— 9 23	24 1 11	Arch (1·5) from E.S.E. to N.W., about 20 alt. Faint arch (·3) from E.S.E. through zenith to N.W.			
	P.M.				
25th 4 28	— 8 5	Arch (1), the lower edge passing 10° above Arcturus and the upper Alcor.			
— 5 23	— 9 0		415	315	—
— 5 28	— 9 5	" through Leo, Ursa Major, and zenith, upper edge brightest, (1·5); lower very faint (Instruments not disturbed.)			
— 5 48	— 9 25	Arch as before, and with prismatic streamers in lower edge about 15° wide at zenith (2).	328	334	—
— 6 0	— 9 37	" disappeared. Arch (1) from E. to N.W. through Vega.	—	322	—
			—	310	—
			—	307	—

Göttingen Mean Time.		Local Mean Time.			I.E.	D.	V.F.
1883. March.		1883. March.					
	h. m. A.M.	d. h. m. P.M.					
25th	6 23	24 10 0		Diffused arch (2) from E.S.E. to N.W., upper edge crossing Ursa Major in the middle.			
—	6 59	— 10 36		Arch (1) from E.S.E. to N.W., 70° alt. Arch (5) from E.S.E. to N.N.W., 25° alt. Mass of diffused irregular aurora (5) about 15° alt. in N.N.W. to zenith, and about 10° wide.			
—	7 24	— 11 1		Patch (1) with a greenish glow in E.S.E., 10° alt.			
—	7 29	— 11 6		Arch (1) from E.S.E. to N.N.W., 35° alt. and irregular in form. Faint aurora in zenith about 5° wide.			
—	7 58	— 11 35		Irregular striated arch (1) from E.S.E. to N.N.W., 35° alt.			
—	8 1	— 11 38		" very faint			
—	8 28	25 12 5		" diffused, and alt. 30° to 35° (1)			
—	9 26	— 1 3		" irregular (1) and through zenith			
—	10 23	— 2 5		Aurora (1-5) from N.N.W. to N.N.E. parallel to horizon, alt. 25°.			
—	11 28	— 3 5		Faint horizontal streak from N. to N.N.E., 10° alt. (5)			
26th	4 28	— 8 5		Diffused arch (5) from E.S.E. to N.N.W., from 70° to 80° alt.			
—	4 37	— 8 14		Irregular diffused arch from E.S.E. through zenith to about 45° alt. in N.N.W., brightest from E.S.E. to zenith (5 to 1).	125	308	—
—	5 28	— 9 5		Irregular mass of aurora (1) in E.S.E. Arch (1) from E.S.E. through zenith to N.N.W. Irregular arch (5) from the same point to N.W., 45° alt.			
—	6 28	— 10 5		Parallel streaks (8) from E.S.E. to N.N.W., from 75° to 90° alt.			
—	7 5	— 10 42		Arch (1) from S.E. to N.W., 30° alt. Faint diffused arch (5) from E.S.E. through zenith to N.N.W.			
—	7 23	— 11 0		Arch (1-5) from S.S.E. to S.W., 5° alt. Irregular aurora (1) from E.S.E. to 30° alt. in W., 45° alt.			
—	7 28	— 11 5		Arch (1-5) from S.E. to W., 45° alt. Faint streamers (5) in E.S.E.			
—	8 20	— 11 57		Bright, broad, irregular band (2) with prismatic vertical streamers in rapid motion, from E.S.E. to N.N.E., 15° alt. (Magnetic disturbance.)			
—	8 23	— 12 0			279	283	590
—	8 28	26 12 5		Aurora, faint, and like small cumulus clouds from N.N.W. to E.S.E. (7). Streamer (7) from 10° alt. in S.S.W. to zenith.	281	311	1000
—	8 31	— 12 11½		Faint diffused arch through zenith from E.S.E. to N.N.W. (5).	290	304	1110
—	8 35	— 12 12					
—	8 58	— 12 35			318	314	1132
—	9 0	— 12 37		Bright, diffused, and striated masses of light, of a greenish hue, from E.S.E. horizon to 15° alt. Arch (1) from E.S.E. to W.N.W., 70° alt.	386	312	1061
—	9 2	— 12 39			357	318	1071
—	9 3	— 12 40		Bright, prismatic, diffused light in zenith (2)			
—	9 20	— 12 57		Irregular aurora (5) from E.S.E. to N., where brighter (2), with streamers slightly prismatic, 30° alt.	332	318	993
—	9 28	— 1 5		Bright serpentine arch (2) from N.N.W. through zenith to E.S.E., slightly prismatic; and with streamers pulsating on N. edge. Faint diffused light on horizon from E.S.E. to E. (5).			
—	9 57	— 1 31		Diffused and irregular arch from E. through zenith to W.; (1-5) from E. to zenith, and (7) from W. to zenith.			
—	10 28	— 2 5		Very faint irregular arch from E.S.E. to S.W., 30° alt.			
—	11 23	— 3 0		Patches and streaks all over the sky			
—	12 23	— 4 0		Arch (1-5) from S.S.E. to W.N.W., passing about 6° above the moon.			
—	12 46	— 4 23		Faint arch from N.N.E. through Ursa Major to S.S.W.			

Göttingen Mean Time.		Local Mean Time.			H.F.	D.	V.F.
1883. March.		1883. March.					
h. m.		d. h. m.					
P.M.		A.M.					
27th	12 28	27	4 5	Arch (2) from S.W. to N.N.W., 40' alt. Streaks (1) from E.N.E. to zenith, and faint aurora from S. to S.W. to 10' alt.			
				No aurora visible			
	12 57		4 31				
A.M.		P.M.					
28th	3 53		7 30	Arch (7) from S.E., extending about 90° towards N.W., 60° alt.			
	4 5		7 42	Arch (7) from S.E. through zenith to N.W.			
	4 26		8 3	Arch (1) from S.E. to 45' alt. in W.N.W., lower edge covering Regulus.			
	4 42		8 19	Arch (2) very diffused and slightly prismatic in S.E.			
	4 48		8 25	" through zenith (No magnetic disturbance).			
	5 3		8 40	" N. edge through zenith, S. edge just passing Betelgeuse.			
	5 8		8 45	Arch still diffusing and increasing in brightness, brightest part covering Arcturus (3).			
	5 16		8 53	Arch from E.S.E. to N.W. and about 35° wide, the zenith being the centre (3).			
	5 23		9 0	Two arches, one from E.S.E. through zenith to N.W. (2), the other from S.E. passing between Orion and Betelgeuse to W.N.W. (1.5); the former pulsating in zenith.			
	6 3		9 10	Arch (2) from S.E. through Procyon, the lower edge immediately passing γ, δ, ϵ , Orionis to 30' alt. in W.N.W. Prismatic and with a circular motion. Streamers nearly all along the arch from the lower edge almost to the upper. (Instruments disturbed.)			
	6 23		10 0	Diffused arch (2) from S.E. to N.W., the N. edge nearly covering Arcturus and just passing S. of Ursa Major, lower edge passing a little above Spica and below Betelgeuse, pulsating and moving towards N.W.			
	7 3		10 10	Diffused and striated arch (2) from E. through Ursa Major to W.N.W., about 45° wide.			
	7 28		11 5	Mass of aurora in S.S.E., 5' alt.; from it an arch (1) to W.N.W., 10' alt.; another arch from the same to N.W., 40' alt. (1). Nearly the whole sky S. of zenith covered with aurora (7.5 to 1), brightest to S.E.			
	7 57		11 34	Folds of curtain-shaped aurora (1) in E.S.E., from 5' to 25' alt. Mass of aurora (1) in S.W., 30' alt. Streaks (1) in N.N.W., 20' alt.			
	8 14		11 51	The whole sky nearly covered with aurora (1 to 2), prismatic and in confused motion, brightest in N.N.W.	230	198	1100
	8 21		11 58	Sky nearly covered with aurora (1)	-240	160	100
	8 23		12 0		-215	560	1600
	8 25		12 2		-100	270	1263
					-35	388	700
					+18	250	200
A.M.		A.M.					
	8 28	28	12 5	Arch (1) from E.S.E. to N.N.W., 10' alt., with streamers (2) pulsating rapidly. Streaks (1) in zenith.			
	8 59		12 36	Faint aurora (7.5) in N.N.W. from horizon to 5' alt.	248	358	658
	9 0		12 37		270	315	641
					272	317	625
	9 28		1 5	Faint aurora (7.5) from S. to S.W., from 10' to 15' alt. A few parallel streaks from N.N.W. to zenith (1).			
	9 59		1 36	Arch (1) from E.S.E. to N.N.W., 15' alt., patch in N.W., 30' alt. (1).			
	10 28		2 5	Irregular arch (7.5) from E.S.E. to N.N.W., 20' alt.			
	11 8		2 45	Faint streamers (7.5) from E.S.E. to N. and zenith			
	11 28		3 5	Faint aurora (7.3) from 40' alt. in N.N.W. to zenith			
				Faint streak (7.3) in E. alt. 30'			
	11 55		3 32	Band (1) from S.E. to S.W., 10' alt.			
P.M.		P.M.					
	12 28		4 5	Faint irregular diffused arch (7) from E.S.E. to N.W., disappearing immediately afterwards.			
			7 0			310	
A.M.		P.M.					
29th	3 40		7 29	Streak (7) in E.S.E., 60' alt.		298	
	4 0		7 37	Arch (1) from E.S.E. to N.N.W., 80' alt.		301	

Göttingen Mean Time.		Local Mean Time.			H.F.	D.	V.E.
1883. March.		1883. March.					
	h. m.	d. h. m.					
	A.M.		P.M.				
29th	4 20	28 7 57		Two parallel arches (1) and striated, from E.S.E. through zenith to N.N.W., pulsation from E. to N.			
—	1 28	— 8 5		Mass of striated aurora (1) with a greenish glow in E.S.E., 35 alt. Irregular arch (·5) from S. to W., 25 alt.			
		d. h. m. s.					
—	1 57	— 8 31 30		Arch (1) from E.S.E. to W., alt. 30°			
		d. h. m.					
—	5 2	— 8 39		“ “ “ Mass of curtain-shaped folds (1·5), prismatic from E.S.E. to S.E., 45 alt.			
—	5 1	— 8 41		Arch (2) from N.N.W. to N.E., prismatic, 20 alt.			
—	5 28	— 9 5		Streamers (1) from N.W. to N.N.E. in rapid motion, 30 alt. Patches and streamers from S. to S.W., 20 alt.			
—	6 23	— 10 0		Mass of aurora in E.S.E., 35 alt. (1)			
—	7 20	— 10 57		Irregular aurora (1) from E.S.E. to N.W., 70 alt., curtain-shaped and with streamers.			
—	7 28	— 11 5		Masses of aurora (1) from E.S.E. to N.N.W., 70 alt. Irregular diffused and striated arch (·5 to 1·5) from E.S.E. through zenith to N.N.W., where brightest. Faint aurora from S.E. to S.W., 10 alt. (·3)			
		A.M.					
—	8 28	29 12 5		Irregular aurora (·7) from E.S.E. to N., with streamers at extremities, 15 alt. Faint diffused masses in zenith and to 10 alt. in N.W. and S.E. (·5).			
—	9 20	— 12 57		Bright aurora (1) from S.E. to N.W., from 15 to 60 alt. in S. Bright diffused arch (1·5) from E.S.E. to N.N.W. through zenith. Faint irregular masses, like small cumulus clouds, from E.S.E. towards N. to 10 alt. (·7). (Magnetic disturbance.)			
—	9 28	— 1 5		Broad diffused irregular arch (1·5) from E.S.E. through zenith and extending to N.W. and N.N.W. horizon.			
—	9 57	— 1 31		Streaks and streamers (1) in and around zenith. Bright curtain-shaped aurora (1·5) in N.N.W. to 20 alt. Streak (1) in E.S.E. to 10 alt. and in S.W. (1·5) to 10 alt.			
—	9 19	— 1 56		Sky from E.S.E. to N.N.W. and zenith more or less covered with faint aurora. Streak in S. and S.W., 15 alt. (·5)			
—	10 28	— 2 5		As above, except from E.S.E. to E. and from horizon to 15 alt. Bright, vertical, prismatic streamers (2) in rapid motion from E. to E.S.E., 5 alt.			
—	10 29	— 2 6		The whole very faint			
—	10 57	— 2 34		Very faint masses in N.W., 15 alt. (·3)			
—	11 28	— 3 5		Curtain-shaped masses of aurora in S. and S.W., 15 alt. (1).			
		P.M.					
—	4 28	— 8 5		Arch (·7 to 1) from N. to E.S.E., 60 alt., confused, and of a greenish colour, brightest in E.S.E.			
—	4 58	— 8 35		Faint aurora (·7) from E. to N.E., alt. 5			
—	5 28	— 9 5		Arch (·5 to 1) from E.S.E. to N., 5 alt., streamer in N., and brightest in E.S.E. Faint streak (·3) in N.N.W. to 10 alt.			
—	6 28	— 10 5		Faint patch (·5) on E.S.E. horizon. Streak (·7) in zenith.			
—	7 23	— 11 0			405	316	437
—	7 28	— 11 5		Arch (1) from E.S.E. to N.W., lower edge just passing Arcturus through Leo			
—	7 48	— 11 25		Broad, diffused arch through zenith, about 15 wide from N.W. to S.E. (1·5).	391·5	316	417
		A.M.					
—	8 53	30 12 3		Arch from S.E. through zenith to N.W. (1·5), of a serpentine shape in S.E.			
30th	9 3	— 12 40		Masses of aurora from E. and S.E. to N.W., about 15 wide, the centre passing through zenith (1·5).			
—	9 23	— 1 11		Arch (1·5) from E.S.E. to N.W. through Ursa Major			
—	10 28	— 2 5		Half the sky covered with aurora (1)			
—	11 28	— 3 5		Arch (·5) from S.E. to N.W., 45 alt. Faint streaks in zenith (·3).			

Göttingen Mean Time.		Local Mean Time.			J.F.	D.	V.F.
1883. March.		1883. March.					
h. m.	d.	h. m.	d.				
A.M.		P.M.					
31st	4 28	30	8 5	Arch from S.E. to N.W. through zenith (1)			
—	5 28	—	9 5	Arch from E. to N.W., 45 alt. (7)			
—	7 28	—	11 5	Faint irregular arch (.5) from E.S.E. through zenith to N.N.W. Faint streak on N. horizon (.5).			
—	8 28	31	12 5	Patches and streaks (.5) from E.S.E. to N.N.W. and in zenith.			
—	9 28	—	1 5	Irregular aurora (1) from E.S.E. to the zenith			
—	10 23	—	2 0	—	316	321	711
—	10 28	—	2 5	Irregular striated arch (1.5) from N.W. through zenith to E.S.E., 5 wide, drifting towards S.W.			
—	11 6	—	2 43	The whole sky covered with faint streamers (.7) and curtain-shaped aurora.	276	328	555
—	11 23	—	3 0	—			
—	11 28	—	3 5	The whole sky more or less covered with irregular aurora (.7 to 1.5), brightest from W.N.W. to N.E., 15 alt.	310	318	685
—	12 0	—	3 37	Irregular and diffused arch (1) from W.N.W. through zenith to 30 alt. in E.S.E. Faint masses (.3) in N., 5 alt.			
April.							
1st	4 57	—	8 31	Arch (1) from E.S.E. to N.N.W., 15 alt.			
—	5 10	—	8 47	" (.5 to 1) from E.S.E. to N.N.W., 20 alt., brightest part in N.N.W.			
—	5 21	—	8 58	" very faint. Striated streak (.5) in N.N.W., 10 to 20 alt.			
—	5 26	—	9 3	Masses of aurora in E.S.E. (1), arch (.5) from E.S.E. to N.N.W., 30 alt.			
—	5 35	—	9 12	Above arch diffused and irregular (1), alt. 60, and masses of aurora very faint. Faint aurora (.3) from E.S.E. to S.W., 30 alt.			
—	5 47	—	9 24	Arch from E.S.E. to N.N.W., very faint except at extremities (.7), curtain-shaped in N.N.W.; the other arch as before. Masses of aurora (.7).			
—	5 51	—	9 28	Streamers at N.N.W. end of above arch (1) to 30 alt.			
—	6 1	—	9 38	Arch (.5) from E.S.E. to N.N.W., diffused striated, and through zenith. Arch from E.S.E. to S.W. very faint and 20 alt. in S.W. Another lower arch from E.S.E. to E.N.E. (.3 to .7), brightest in E.S.E., 5 alt.			
—	6 12	—	9 49	" disappeared. Two arches from E.S.E. to N.N.W., one passing about 5 S. of zenith, the other about 10 N.E. of zenith, slightly diffused (.7).			
—	6 26	—	10 3	Above arches in one (.7) and through zenith, where about 10 in width.			
—	6 37	—	10 14	" drifting towards S. lower edge very faint			
—	6 43	—	10 20	" (1.5) in E.S.E., and (1) in other parts			
—	6 50	—	10 27	" through zenith and much diffused (2) from E.S.E. to zenith, the rest (1.5).			
—	6 56	—	10 33	Above arch of regular brightness (1) except from E.S.E. to 15 alt., where (2) and slightly prismatic; lower edge of arch about 70 alt. in S.W.			
—	7 0	—	10 37	" about 20 in width and irregular, prismatic streamers on N.E. edge, quivering and in rapid motion (1.5 to 2.5), brightest on N.E. edge.			
—	7 6	—	10 43	" very irregular and about 10 wide (1). Bright irregular masses of aurora on horizon from E.S.E. towards E., prismatic and (2), about 15 alt.			
—	7 10	—	10 47	" (.5) except in N.N.W., where (2) with prismatic streamers. Bright masses (1.5) in horizon from E.S.E. to E. to alt. 5.			
—	7 15	—	10 52	The whole sky from E.S.E. to N.W., 15 alt. and 5 S. of zenith, more or less covered with aurora (.7). Arch (2) with prismatic streamers from N.N.W. to E., alt. 7.			
—	7 20	—	10 57	Above aurora (.5) except in N.W., where irregular and (1). Arch (1).			
—	7 27	—	11 4	Double arch (1.5) with streamers from E. to N.N.W., 15 alt. Faint (.3) masses from E.S.E. to zenith, and extending to about 5 alt. S.W.			

Göttingen Mean Time.		Local Mean Time.			H.F.	D.	V.F.
1883.		1883.					
April.		March.					
h. m.		d. h. m.					
A.M.		A.M.					
1st	7 35	31	11 12	Faint broad irregular aurora from E.S.E. to N.W. (3) except in N.W. where (7). Single arch (1) from E.S.E. to N., where striated, 5 alt.			
—	7 40	—	11 17	Aurora very faint and extending to 20° S. of zenith. Arch (1.5) and alt. 7.			
—	7 45	—	11 22	Aurora disappeared, except arch from N. to N.N.E. (2), and irregular. Very faint arch from E.S.E. to W.N.W., alt. 15 in S.			
—	7 50	—	11 27	First arch now from N.N.W. to E., (2) alt. 5, other arch as before. Faint streamers (3) in N.N.W., 15 alt.			
—	7 55	—	11 32	Arches as before. E. end of arch partly hidden behind clouds. Streamers (7) from 15° alt. to 60 alt. towards E. Faint masses (5) on N.N.W. horizon.			
—	8 0	—	11 37	Arches as before. Faint streak (5) in N.E. and zenith.			
—	8 5	—	11 42	Arch from N.N.W. to E. now (1), other arch as before. Streaks disappeared.			
—	8 10	—	11 47	Arch now from N.N.W. to E.S.E. where visible through clouds, (1.3) in N.N.W. and 5° alt. Faint masses (5) in E.S.E., 7 alt.			
—	8 15	—	11 52	Arch now only visible from N.N.W. to E., 7 alt., and (1). Faint diffused aurora (5) from N.N.W. to zenith.			
—	8 18	—	11 55	Corona in zenith drifting towards N.W. (6)			
—	8 20	—	11 57	Folds of aurora (1.5) in N.N.W. to 15 alt. Faint aurora in N. between clouds. Faint streamers in zenith to Leo.			
—	8 25	1	12 2	Auroral light nearly all over the sky, brightest in N.N.W. Sky rapidly clouding over.			
—	8 29	—	12 6	Bright aurora (2) from N. to N.N.E., 3 alt.			
—	8 35	—	12 12	Bright aurora (1) visible between the clouds from 30° alt. in E.N.E. to zenith.			
—	8 45	—	12 22	Faint aurora (7) visible between clouds from N. to E., 15° alt., and from E.S.E. to S.E., alt. 15° (5). Faint arch from 40 alt. in E. through zenith to 30° alt. in S.W. (5).			
—	8 55	—	12 32	Faint masses of aurora (5) visible between clouds from 10 alt. in N. to 60 alt.			
—	9 6	—	12 43	Faint aurora (7) visible between clouds in N. and E. from 15 alt. to 70 alt. Sky nearly overcast.			
—	9 10	—	12 47	Sky nearly covered with aurora visible between clouds, and two bright streaks (1) in N.N.W., alt. from 7 to 10.			
—	9 15	—	12 52	Bright aurora (1) visible between clouds in N.N.W., 5 alt. and in S. and S.E. (5).			
—	9 27	—	1 4	Bright aurora on N.N.W. horizon (1) apparently disappearing under clouds.			
—	9 40	—	1 17	Ditto. Sky overcast			
—	9 50	—	1 27	Faint patch (5) on N.N.W. horizon			
—	10 0	—	1 37	Ditto. Sky overcast, but light probably caused by aurora.			
—	10 5	—	1 42	Faint patch on N.N.W. horizon (5)			
—	10 25	—	2 2	" (5) on N.W. horizon. Sky dark			
—	11 55	—	3 32	Blas. of aurora (1) from N.N.W., to E.N.E., alt. 5 to 15, partly visible between clouds.			
—	12 5	—	3 42	Faint patches only visible between clouds			
P.M.		P.M.					
2nd	5 28	—	9 5	Arch from S.E. through zenith towards N.W., lower edge immediately passing Arcturus (1.5).			
—	6 28	—	10 5	Arch from E.S.E. to N.W., partly seen through clouds, lower edge 45° alt., upper edge through zenith; (3) in E.S.E., other parts (1.5).			
—	7 0	—	10 37	Aurora visible along the edge of clouds, from N.N.E. towards W.S.W., brightest in N.N.E. (2) Faint diffused arch (7) from S.E. through Leo to W.N.W.			

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883. April.	1883. April.				
h. m.	d. h. m.				
A.M.	P.M.				
2nd 7 28	1 11 5	Arch (7) from S.E. through Spica to W.N.W.; diffused masses of aurora from E.S.E. and N. to W.N.W., covering Cassiopeia.			
-- 8 0	-- 11 57	Diffused arch (1) from S.E. through Leo to N.W.			
	A.M.				
-- 8 28	2 12 5	Arch (1.5) from E.S.E. to N.W., about 50 alt. in S.			
-- 9 23	-- 1 0	Corona in zenith, half the sky covered with aurora, (3) in N.W., (1) elsewhere.			
-- 10 28	-- 2 5	Aurora visible through clouds in N. and N.N.W.; streak through zenith (1).			
-- 11 28	-- 3 5	Aurora (7.5) from N.N.W. to zenith. Streaks (1) on N.N.W. horizon.			
	P.M.				
3rd 7 28	-- 11 5	Mass of aurora (1) visible between clouds in S.W., 45 alt. Sky overcast.			
	A.M.				
-- 8 28	3 12 5	Masses of aurora visible through clouds from E.S.E. to S., 50 alt. (Magnetic instruments much disturbed).			
-- 9 28	-- 1 5	Faint streak from S. to S.W., 30 alt., visible between clouds.			
	P.M.				
4th 4 19	-- 7 56	Arch (1) from E.S.E. to N.N.W., 60 alt. Streak (7.5) in zenith.			
-- 1 28	-- 8 5	Irregular arch (1) from E. to N.N.W., 45 alt., striated, and pulsating from E. to N.			
-- 4 57	-- 8 34	Mass of aurora (7.5) from E. to E.S.E., 15 alt.			
-- 4 58	-- 8 35		130	314	256
-- 4 59	-- 8 36	Arch from E. to N.N.W., 60 alt. (7.5 to 1), brightest in E.			
-- 5 0	-- 8 37		111	312	238
-- 5 28	-- 9 5	Five irregular parallel arches and about 5 apart, from E. to E.S.E., the centre one brightest and passing through zenith to N.N.W. (7.5 to 1).			
-- 6 28	-- 10 5	Mass of aurora (7.5) in E.S.E. to 8 alt. Mass of aurora (1) in N.N.W. to 10 alt. Diffused arch (7.5) from E.S.E. through zenith to N.N.W. Arch (3) from S.E. to W., 50 alt. Sky nearly covered with fainter aurora.			
-- 7 19	-- 10 42	Bright, irregular, and diffused arch (2) with streamers in N.W. from E.S.E. and S.E. through zenith to N.W.			
-- 7 28	11 5	Diffused arch (1.5) from E.S.E. through zenith to N.W. Another irregular arch (1.5) from E.S.E. to N.N.W., 15 alt.			
-- 7 57	-- 11 34	Sky from 5 alt. to 10 alt., and from E.S.E. to W.N.W., covered with aurora (7).			
-- 8 23	-- 12 0		398	302	--
	A.M.				
-- 8 28	4 12 5	Bright diffused arch (2.5) with prismatic vertical streamers, quivering and in rapid motion, from E.S.E. to W., 10 alt., drifting from centre towards zenith.	390	285	--
-- 8 43	-- 12 20	Corona (3) and prismatic. Bright prismatic folds of curtain-shaped aurora from E.S.E. to W. and from 5 alt. to 60 alt. (2.5). (Vertical force slightly affected.)	10	412	--
-- 8 50	-- 12 27	Aurora less bright (7.5 to 2) and sky more or less covered with aurora, brightest about 5 alt. in N.N.W. and 10 alt. in S.E.	37	330	--
-- 8 57	-- 12 34	Sky covered with aurora (7 to 1) streamers, and curtain folds.			
-- 9 0	-- 12 37		191	232	--
-- 9 23	-- 1 0		103	303	--
-- 9 28	-- 1 5	Faint auroral light (7.3) all over sky. Bright band slightly prismatic (1.5) from E.S.E. to N., 2 alt.			
-- 9 57	-- 1 34	Faint irregular masses of aurora (7.3 to 7) from 3 to 5 alt. all round. Very faint light in zenith.			
-- 10 28	-- 2 5	Faint irregular arch (7.3) from S.E. to W., alt. 7. Masses of aurora on horizon from E. to N.N.E. (1).			
-- 11 28	-- 3 5	Arch (7) from S.E. to W., 35 alt in S.; faint patches in N.W. and N.E.			

Göttingen Mean Time.	Local Mean Time.		U.F.	D.	V.F.
1883. April.	1883. April.				
h. m.	d. h. m.				
A.M.	P.M.				
5th 5 28	4 9 5	Faint wide diffused arch (5) from E.S.E. through zenith to N.N.W.			
— 6 19	— 9 56	Diffused and irregular arch (1) from E.S.E. through zenith to N.W.			
— 6 28	— 10 5	Wide irregular aurora from E.S.E. through zenith and to 10 alt., N.E. to N.N.W. (1 to 1.5), brightest in E.S.E., where curtain-shaped.			
— 7 28	— 11 5	Arch (1) from E.S.E. through Areturus to N.W.			
— 8 28	5 12 5	Masses of auroral light from S.E. to N.W. through zenith, about 50 wide (1).			
— 9 28	— 1 5	Masses of light from E.S.E. to W.N.W., sky covered to 25 from N. and S. horizons, brightest in W.N.W. (2), elsewhere (1).			
— 10 28	— 2 5	Light in shape of cirrus (?) clouds. Patches and streaks all over the sky (?).			
— 11 28	— 3 5	Arch (5) from N.W. to N.N.E., 20 alt.			
6th 5 28	— 9 5	Diffused light N. of zenith (?).			
— 6 28	— 10 5	Arch visible from 30 S.E. of zenith to about 20 N.W. of zenith (?). Sky nearly overcast.			
— 7 23	— 11 0	Bright aurora (2) from E.S.E. to zenith, prismatic, and in rapid motion.	251	353	191
— 7 28	— 11 5	Sky nearly covered with faint aurora.			
— 7 57	— 11 31	Faint streaks (3) in zenith and on N. horizon.			
— 7 58	— 11 35		372	312	502
— 8 28	6 12 5	Sky, from E.S.E. to N.N.W. and up to zenith, is covered more or less with faint aurora (3 to 7), brightest in zenith.			
— 9 28	— 1 5	Irregular aurora (1) from N.N.W. through zenith to E.S.E., 10 wide.			
— 9 59	— 1 36	Streak in zenith (1). Faint aurora from E.S.E. to S.W., 10 to 20 alt.			
— 10 28	— 2 5	Aurora as before, except the streak in zenith, which is fainter (3).			
7th 7 28	— 11 5	Diffused arch (7) from E.S.E. through zenith to N.N.W. Faint streak in N., 5 alt. (5).			
— 8 28	7 12 5	Bright curtain-shaped aurora (1.5) from E.S.E. to E.N.E. and zenith, extending in an arch from zenith to W.N.W.			
— 9 28	— 1 5	Bright, irregular, and diffused arch (1) from E.S.E. through zenith to N.W.			
— 10 28	— 2 5	Irregular aurora (7) from 20 E.S.E. to 30 N.N.W., to 60 alt.			
8th 6 28	— 10 5	Faint arch (5) with streamers from E.S.E. to N., 25 alt., partly visible between clouds.			
— 7 28	— 11 5	Arch (7) from E.S.E. to N.W., about 60 alt.			
— 8 28	8 12 5	Arch (1) from E.S.E. to N.W., 50 alt., another arch from S.S.E. to W.N.W. through Leo (5), and a few patches in N.W.			
— 9 28	— 1 5	Diffused masses of (1.5) light round zenith.			
— 10 28	— 2 5	Faint masses of light. Patches and streaks nearly all over the sky.			
— 11 28	— 3 5	Aurora in zenith visible through the clouds.			
9th 7 28	— 11 5	Mass of aurora (5) in E.S.E. to 10 alt. Streak from E.S.E. through zenith towards N.N.W. (1).			
— 8 28	9 12 5	Irregular aurora (5) from E.S.E. through zenith to N.N.W.			
— 9 28	— 1 5	Mass of aurora (1) in E.S.E., 10 to 15 alt.			

Göttingen Mean Time.	Local Mean Time.		U.F.	D.	V.F.
1883. April.	1883. April.				
h. m.	d. h. m.				
A.M.	P.M.				
10th 7 28	9 11 5	Faint patches visible between clouds from N. to E., 25' alt.			
11th 6 28	10 10 5	Diffused arch (7) from E.S.E. to N.W. through zenith, extending from thence about 45° towards S.S.W.			
— 7 30	— 11 7	Irregular arch (1) from W.N.W. to E.S.E., 10' alt. Another arch from E.S.E. to W.N.W., 8' alt. Irregular mass of aurora from E.S.E. to W., alt. from 70° to 80° (1).			
— 8 28	11 12 5	A.M. Arch (1) from E.S.E. through zenith to N.W.; irregular masses of aurora in S. and S.E. (7).			
— 9 28	— 1 5	Diffused masses of aurora from E.S.E. to N.W. through zenith (1), and 60° wide.			
— 10 28	— 2 5	Band (1) from Arcturus to W.N.W., and arch (7) from S.E. to W.N.W., 30' alt.			
— 11 28	— 3 5	Arch (1) from S. to S.W., 20' alt. Patches of aurora (1) on N.N.W. horizon.			
12th 6 23	— 10 0	P.M. Band (1) from E.S.E. through zenith to N.W.			
— 7 20	— 10 57	Irregular striated aurora (1) from N.W. to E.S.E., 25' alt., with streamers to zenith.			
— 7 28	— 11 5	Orbit from N.W. to E., 15 to 25' alt.			
— 7 30	— 11 17	Corona in zenith (8)			
— 7 57	— 11 34	Striated arch (1) from W. to E.S.E., 45' alt.			
— 8 0	— 11 35	- - - - -	333	308	126
— 8 3	— 11 40	Curtain-shaped aurora (1) from W. to E.S.E., with faint streamers 45 to 90' alt.	347	307	309
— 8 23	— 12 0	- - - - -	372	295	240
— 8 28	12 12 5	A.M. Irregular diffused arch (5) from N.W. to N.N.E., 50' alt. Streak (1) from E.S.E. through zenith.	360	293	183
— 8 57	— 12 34	Irregular aurora (1) from N.N.W. to N., 8 to 25' alt.			
— 9 28	— 1 5	Mass of aurora (5) in N.W., 6 to 10' alt. Streak (1) in zenith.			
— 10 28	— 2 5	Faint arch (3) from N.W. to N.N.E., 10' alt.			
13th 8 28	13 12 5	P.M. Bright mass of aurora (1) on E.S.E. horizon partly visible through clouds. Sky overcast.			
14th 5 28	— 9 5	A.M. Very faint arch from E.S.E. to N., 15' alt.			
— 7 28	— 11 5	Arch (7) from E.S.E. through zenith to N.W.			
— 8 28	11 12 5	" (7) from S.E. to N.W., 70' alt.			
15th 8 50	— 12 27	Faint arch from E.S.E. through zenith to N.N.W., partly visible through clouds. Sky overcast.			
— 9 5	— 12 12	" disappeared			
16th 6 28	15 10 5	P.M. Faint streak (5) in N.N.W., 15' alt.			
— 8 28	16 12 5	A.M. Faint striated aurora (3) from E.S.E. to zenith.			
— 10 28	— 2 5	Faint curtain-shaped aurora (5) in S.E., from 5 to 10' alt. A few streamers in W., the same alt. as the moon (1).			
— 11 28	— 3 5	Band of aurora (15) from S.E. to W.N.W. through zenith, prismatic, and pulsating in zenith.			
17th 6 23	— 10 0	P.M. Streamers (1) in S.E., 10' alt., and in W. (7), 15' alt.			
— 7 28	— 11 5	Diffused arch (7) from S.E. through zenith to N.W.			
— 8 28	17 12 5	A.M. Faint band (5) from S.E. through Arcturus to N.W.			
— 9 28	— 1 5	Band (7) from S.E. through Arcturus to N.W. Band from S.E. through Ursa Major to W.N.W. (7).			
18th 7 33	— 11 10	P.M. Three vortical streamers (1) in E.S.E., 10 to 30' alt.			
— 9 20	18 12 57	A.M. Curtain-shaped prismatic aurora from E.S.E. to W., alt. 25 to 45' (2).			
— 9 28	— 1 5	Irregular and diffused aurora from E.S.E. through zenith to N.W., about 15' wide (1).			
— 9 57	— 1 31	Irregular aurora (8) from N.W. to zenith			

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883. April. h. m. A.M.	1883. April. d. h. m. A.M.				
18th 10 20	18 1 57	Irregular striated arch (1) from E.S.E. through zenith to N.N.W.			
— 11 28	— 2 5	Mass of aurora (1) in zenith. Streak in E.S.E., 45° alt. (1), and a few streamers in N.N.W., 30° alt., and in rapid motion (1·5).			
19th 5 43	— 9 20	Streamers (1) in E.S.E., 25° alt. Streamers in S.W., 45° alt. (1), of a greenish glow and in rapid motion.			
— 6 23	— 10 0	Striated arch (1) from E.N.E. to N.W., 45° alt. Arch (1·5) from E.S.E. to N.N.W., 60° alt. Streak (1) in N.W., 5° alt., and patches (1) on N. horizon.	} 288 254 229	221 231 230	104 O.S. O.S.
— 6 24	— 10 1				
— 6 28	— 10 5				
— 6 57	— 10 31	Irregular faint aurora (·5) from E. to N.N.W. up to zenith. Patch (1) in N.W., 15° alt.			
— 7 27	— 11 4	Corona in zenith (1·5). Bright irregular aurora with slightly prismatic streamers from E.S.E. to W., alt. 70° (2).			
— 7 50	— 11 36	Bright irregular arch (1) from S.E. to W., 40° alt.			
— 8 28	19 12 5	Faint arch (·7) from 10° alt. in S.E. to W.N.W., 40° alt. Faint streaks 5° E.S.E. of zenith.			
— 9 22	— 12 59	The whole sky from S.E. to W.N.W. and zenith more or less covered with folds of curtain-shaped aurora from (·5 to 1·5), brightest at 45° alt.			
— 9 28	— 1 5	The above (1)			
— 9 56	— 1 33	Sky nearly covered with faint auroral light			
— 10 28	— 2 5	Serpentine arch (1·5) with streamers from E.S.E. to N.N.W., 35° alt.			
20th 1 55	— 8 32	Bright irregular aurora from E.S.E. horizon to 45° alt., and of a pink colour.			
— 1 58	— 8 35		—53	490	82
— 5 1	— 8 37 50	Irregular arch from E.S.E. to N.N.W. of a light pink colour (·7), alt. 3°.			
— 5 2	— 8 39		126	345	O.S.
— 5 19	— 8 56	Arch (·5 to 1) from E.S.E. to N., alt. 10°, brightest on E.S.E. horizon, and of a greenish colour.			
— 5 23	— 9 0		247	322	443
— 5 28	— 9 5	Faint diffused arch (·3 to ·7) from E.S.E. through zenith to N.N.W., brightest from E.S.E. horizon to 25° alt. Bright irregular aurora (1) slightly prismatic from E.S.E. horizon towards N. 30° alt.			
— 5 57	— 9 34	Bright irregular masses (1·5) on E.S.E. horizon			
— 6 28	— 10 5	Masses of aurora (·5) on E.S.E. horizon			
— 7 28	— 11 5	Irregular masses of aurora (1) from S.E. to 45° N.W. of zenith, extending from 10° alt. to the moon.			
— 8 28	20 12 5	Irregular masses of aurora (1) from S.E. through zenith to N.W.			
— 9 28	— 1 5	Arch (1) from S.E. to N.W., just passing S. of Ursa Major.			
— 10 28	— 2 5	Faint streak (·5) through zenith			
25th 6 28	24 10 5	Mass of aurora (1) in S.W., 45° alt., visible between and through clouds.			
— 7 28	— 11 5	Faint mass of auroral light in N.N.W.			
— 8 28	25 12 5	Irregular arch (1·5) with vertical streamers, prismatic from S.E. to W.N.W., 45° alt.			
— 9 28	— 1 5	Masses of aurora (1) from W.N.W. to W.S.W., 10° alt.			
— 10 28	— 2 5	Irregular aurora (1) from S. to W., 20° alt.			
— 5 23	— 9 0		} 340 316 257	356 329 290	O.S. -100 -50

Göttingen Mean Time.		Local Mean Time.			H.F.	D.	V.F.
1883. April.		1883. April.					
h. m.	d. h. m.	d. h. m.					
A.M.	P.M.	P.M.					
26th 5 31	25 9 11			Bright diffused arch (1) from E.S.E. through zenith to 20° of N.N.W. horizon. Bright curtain-shaped aurora from E.S.E. to E.N.E., from 5° to 40° alt., the whole of a pink colour. At this time there was enough daylight to see to read.	240	350	O.S.
— 5 38	— 9 15			Very faint	160	366	O.S.
— 5 58	— 9 35			Very faint auroral light in zenith	156	260	O.S.
— 6 0	— 9 37			"	207	226	— 50
— 6 2	— 9 39			"	221	215	— 100
— 6 3	— 9 40			" disappeared.			
— 6 58	— 10 35			Faint diffused and irregular arch from E.S.E. through zenith to N.N.W. (°5).			
— 7 28	— 11 5			Diffused masses of auroral light in and around zenith. Arch from S.E. to W., 45° alt. in S. Diffused masses of light in E.N.E. and streamers in N.W. and N.E., 45° alt. (1).			
— 8 28	26 12 5	A.M.		Double arch (1) from S.E. through Spica to W.N.W. Arch (°7) from E.S.E. to N.W., 45° alt.			
— 9 28	— 1 5	P.M.		Sky almost covered with patches and streamers (°7)			
27th 5 53	— 9 30			Arch (1) from S.E. to W., 45° alt. in S.			
	— 10 0			Diffused arch (1) from E.S.E. through zenith to N.W., about 25° wide.			
— 7 20	— 10 57			Folds of curtain-shaped aurora (1) from W. to N.N.W., 5° to 45° alt. Faint diffused aurora (°5) from E.S.E. through zenith to N.N.W., about 5° wide. Faint arch (°3) from S. to W., 30° alt.			
— 7 28	— 11 5			Faint aurora (°3) in N.W. Arch from S. to W., very faint.			
— 7 57	— 11 34			Arch (°5) from N.N.W. to N.N.E., 10° alt. Vertical streak (°5) in N.N.E. from horizon to 15° alt.			
— 8 3	— 11 40			Arch as before. Streak (1), another arch from same points 25° alt. (°5).			
— 8 28	27 12 5	A.M.		Irregular aurora (1) from N.N.W. to E.S.E., 45° alt., striated from N.N.W. to N.N.E.			
— 9 28	— 1 5	P.M.		Streamer (1) in E. from horizon to 10° alt.			
29th 7 28	28 11 5			Aurora visible in zenith through clouds			
— 8 28	29 12 5	A.M.		Aurora visible between the clouds about 6° N. of zenith			
30th 7 28	— 11 5	P.M.		Irregular aurora (°8) from E.S.E. through zenith towards N.N.W., about 4° wide.			
— 8 28	30 12 5	A.M.		Irregular arch (°5) from E.S.E. to W.N.W., 55° alt. Streak (°5) parallel to the arch and 10° S. of zenith.			
May.		P.M.					
1st 6 0	— 9 37			Aurora from E.N.E. to zenith passing through ϵ , ζ , η Ursa Majoris (°3).			
— 6 3	— 9 40			" " and streamers in N.W.			
— 6 5	— 9 42			" fainter			
— 6 6	— 9 43			" disappeared			
h. m. s.							
— 6 12 20	— 9 49			Faint segment from E.N.E. to β Ursa Minoris (°3)			
— 6 13 20	— 9 50			Segment from E. of Areturus towards Ursa Major (°3)			
— 6 15 20	— 9 52			Brighter (°5) and extending towards N.W.			
— 6 17 0	— 9 54			Fainter and nearer zenith			
— 6 18 0	— 9 55			Fainter (°1) and through Ursa Major			
— 6 19 0	— 9 56			Brighter (°5), a streamer in E.N.E. 30° to 50° alt.			
— 6 20 20	— 9 57			Fainter (°3) and more diffused in E.N.E.			
— 6 22 0	— 9 59			A streak (1) slightly striated in E.N.E., alt. 30° to zenith			
— 6 23 40	— 10 1			Irregular arch (°7) through Ursa Major and Capella, streamers in N.E.			

Gottingen Mean Time.	Local Mean Time.		H.E.	D.	V.F.
1883. May. h. m. s. A.M.	1883. April. d. h. m. P.M.				
1st 6 21 40	30 10 2	Aurora in N.E. fainter			
— 6 25 40	— 10 3	Disappeared except irregular patch in N.W. (°4), alt. 45°			
— 6 28 0	— 10 5	Segment in E.N.E., alt. 30° (°3), streamers (°5), between Capella and α and β Geminorum.			
— 6 31 0	— 10 7	Arch from 10° alt. in E.N.E. to Polaris; faint patch as before, in N.W.			
— 6 33 20	— 10 10	Arch (°6) now extending from 10° alt. in E.N.E. to Ca- pella, passing halfway between Polaris and Ursa Major			
— 6 35 0	— 10 12	Disappeared except patch in E.N.E. (°4)			
— 6 36 0	— 10 13	Faint arch (°3) through zenith to E.N.E.			
— 6 36 40	— 10 14	Fainter and 5° further to S.W.			
— 6 38 0	— 10 15	Aurora disappeared			
— 6 39 40	— 10 16	„ from Ursa Major to E. horizon			
— 6 40 40	— 10 17	Now extending to Capella (°6)			
— 6 42 30	— 10 19	Fainter and more diffused			
— 6 44 0	— 10 21	Narrow streak (°9) through ϵ , ζ , η , Ursa Majoris. Faint light in S.W., 25° alt.			
— 6 45 20	— 10 22	Fainter, and light in S.W. disappeared			
— 6 47 0	— 10 24	Arch through Leo (°2)			
— 6 48 0	— 10 25	A good deal of diffused light S.W., S., and S.E. of zenith (°2), streamer (°2) in N.E.			
— 6 49 40	— 10 27	Faint streamers converging in Ursa Major (°2)			
— 6 50 40	— 10 27	Above streamers disappeared leaving nebulous light (°1)			
— 6 53 0	— 10 30	Streamer (1) in Ophiuchus. Nebulous arch (°5) thence through Ursa Minor towards Auriga. Patch in W.S.W., 30° alt. (°5).			
— 6 55 30	— 10 32	Arch slightly brighter, streamer disappeared			
— 6 56 10	— 10 33	Now through Ursa Major about 10° in breadth			
— 6 58 0	— 10 35	Arch now through Ursa Major and Gemini			
— 6 59 0	— 10 36	More diffused, extending to Arcturus. Diffused light in E.N.E.			
— 7 0 0	— 10 37	Disappeared. Segment of arch (1) just below β Gemi- norum.			
— 7 5 0	— 10 42	Diffused mass in E.S.E. to 10° alt., 5° wide			
h. m. — 7 10	— 10 47	Mass of aurora as before. Arch (1°5) from S.E. to S.W., 14° alt.			
— 7 15	— 10 52	Arch now (°5)			
— 7 20	— 10 57	„ as above, but interrupted in the centre			
— 7 30	— 11 7	Curtain-shaped striated aurora from E.S.E. to N.N.W., up to zenith, in rapid motion (2).			
— 7 32	— 11 9	Corona in zenith (2°5), prismatic			
— 7 35	— 11 12	Sky more or less covered with aurora (1 to 2°5), brightest in N.N.W.			
— 7 45	— 11 22	Arch (1°5) from N.N.E. to S.W., with streamers pulsating from N.N.E. to S.W. and faint streamers in zenith.			
— 7 50	— 11 27	Diffused aurora from S.W. horizon to zenith (1). Faint aurora from zenith to N.N.E.			
— 7 55	— 11 32	Aurora very faint			
— 8 0	— 11 37	Disappeared except faint patches from S. to W.S.W., from 5° to 10° alt.			
— 8 10	— 21 47	Ditto			
— 8 15	— 11 52	Streak (°5) from E.S.E. to zenith			
— 8 20	— 11 57	„ - disappeared			
	May.				
A.M.					
— 8 31	1st 12 8	Very faint streamers in N.N.W., 45° alt.			
— 8 41	— 12 18	Corona in zenith (1). Streamers from 70° alt. in N.N.W. to 50° alt. in E.S.E., passing 15° E.N.E. of zenith (°7).			
— 8 45	— 12 22	Corona disappeared except a few streamers in N., 70° alt. (°5).			
— 8 56	— 12 33	Faint masses in zenith (°3)			
— 9 9	— 12 42	Diffused arch (°7) from E.S.E. through zenith to N.N.W., disappearing under clouds at extremities.			
— 9 10	— 12 47	Above arch irregular (1) and drifting towards N.E.			
— 9 15	— 12 52	„ through zenith, regular, and (1°5)			

Göttingen Mean Time.		Local Mean Time.			U.F.	D.	V.F.
1883.	1883.						
May.	May.						
h. m.	d. h. m.						
A.M.	A.M.						
1st 9 26	1 1 3	Arch from N.N.W. to E.S.E., 70° alt., partly visible through clouds (1).					
— 0 30	— 1 7	" very faint					
— 0 35	— 1 12	" disappeared except a faint streak in N.N.E., 75° alt. (°5).					
— 9 41	— 1 18	Faint masses (°7) in N.N.W., 20 alt. Faint band from S.E. to S.S.W., 10 alt. (°5).					
— 9 46	— 1 23	" disappeared					
	P.M.						
2nd 7 28	— 11 5	Arch (°7) from S.E. to W.N.W., 50° alt., from S.					
	A.M.						
3rd 10 28	3 2 5	Streak (2) in N.W. from horizon to 25° alt.					
4th 10 28	4 2 5	Bright irregular, diffused arch (1) from E.S.E. to W., of a light red colour, 60° alt.					
	P.M.						
5th 7 28	— 11 5	Faint arch (°5) from S.E. to W., 45° alt, from S.					
	A.M.						
— 8 28	5 12 5	Faint diffused arch from E.S.E. to W.N.W., the N. edge through Ursa Major (°7).					
	P.M.						
7th 7 2	6 10 39	Diffused and irregular arch from S.S.W. to N., 60° alt. (1)					
— 7 28	— 11 5	Faint streak in zenith					
9th 8 22	8 11 59	Serpentine auroral light from E. horizon to 45° alt. (2)					
	A.M.						
— 8 28	9 12 5	Arch (1°5) from E. to N.N.W., 25° alt. Streak (2) in N.W., 30° alt. Sky cloudy overhead.					
— 8 57	9 12 31	Aurora disappeared					
11th 8 28	11 12 5	Arch (1°5) from E.S.E. to N.W., about 60° alt. Diffused masses of light in zenith and N.W. and S.E. of zenith (1).					
	P.M.						
12th 7 20	— 10 57	Two arches (1) from E.S.E., one through zenith to W., the other 15° S. of zenith to W.S.W.					
— 7 21	— 10 58	" " but fainter		351	317	9	
— 7 23	— 11 0	" " " " " " " " " " " "		352	312	83	
— 7 25	— 11 2	" " " " " " " " " " " "		360	313	111	
— 7 28	— 11 5	Arch (1°5) from E.S.E. through zenith					
— 7 37	— 11 14	Mass of streamers in E.N.E. (2), prismatic and in rapid motion.			368	—	
— 7 57	— 11 34	Faint aurora from E.S.E. to zenith					
— 8 0	— 11 37	" " " " " " " " " " " "					
— 8 1	— 11 38	Streamers (2) from E.S.E. through zenith to N.N.W.		330	323	398	
— 8 2	— 11 39	" " " " " " " " " " " "					
— 8 6	— 11 41	" " disappeared except faint streak in E.S.E.		310	314	412	
	A.M.						
— 8 28	12 12 5	Arch (1) from E.S.E. to N.N.W., 50° alt., and a few streamers in zenith (1).					
	P.M.						
13th 7 20	— 10 57	Faint streak (°5) in E.S.E., from 15° to 45° alt.					
— 7 28	— 11 5	Bright irregular aurora (1) from 15° alt. in E.S.E. to 5° of zenith.					
	A.M.						
— 8 28	13 12 5	Bright streamers (1°5) from N.N.W. to N.N.E., 15 alt.					
	P.M.						
15th 7 42 0	11 11 19	Faint arch in S.W. (°3), 20° alt.					
— 7 43 30	— 11 20	Disappeared					
— 7 47 0	— 11 24	Segment of arch from E.S.E. to 60° alt. (°8)					
— 7 49 20	— 11 26	Faint streamers in S.E. (°7)					
— 7 50 40	— 11 27	Slightly brighter					
— 7 51 40	— 11 28	Serpentine, and light more concentrated (1)					
— 7 53 0	— 11 30	Extending to alt. 45° and (°9)					
— 7 54 30	— 11 31	Extending to above Arcturus and (°5)					
— 7 55 10	— 11 32	Disappeared except nebulous light in S.E. (°2)					
— 7 56 30	— 11 33	Reappeared as at 53m., with patch (1), alt. 5°					
— 7 58 0	— 11 35	Patch alone visible and (°7)					
— 7 59 0	— 11 36	As at 55m. 40s.					
— 8 2 0	— 11 39	" " and (°6)					
— 8 5 0	— 11 42	Arch from S.E. to W.N.W., 10° S. of zenith (1)					

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883. May.	1883. May.				
h. m.	d. h. m.				
A.M.	P.M.				
15th 8 15	14 11 52	Above arch disappeared. Patch in S.E., 25° alt. (1)			
— 8 20	— 11 57	Arch from S.E. to W.N.W., upper edge through Ursa Major, lower passing the Moon (1·5).			
— 8 25	15 12 2	Arch partly disappeared, passing halfway between zenith and Moon (1).			
— 8 30	— 12 7	Arch from E.S.E. passing Ursa Major to N.W., where diffused (1·5).			
— 8 36	— 12 13	Diffused prismatic arch (2), with streamers in rapid motion from E.S.E. to N.W.			
— 8 41	— 12 18	„ disappeared except streak (1) in N.W. from horizon to 20° alt.			
— 8 45	— 12 22	Streak in N.W. disappeared. Faint streak in zenith			
— 8 50	— 12 27	„ disappeared			
— 9 0	— 12 37	Irregular aurora (2) and prismatic from E.S.E. to E., 5° to 15° alt.			
— 9 5	— 12 42	Streak in N.W. disappeared			
16th 9 28	16 1 5	Faint irregular arch (·5) from E.S.E. through zenith to within 30° from W. horizon.			
21st 8 28	21 12 0	Bright auroral light (2) in E., 15° alt.			
— 8 53	— 12 50	Streak (2) in N.W., 30° alt.			
		No aurora observed henceforth owing to the brightness of the twilight, until July 14.			
July	July				
14th 8 23	14 12 0	—	407	333	1153
— 8 34	— 12 11	Bright streak (3) from E.N.E. to zenith			
— 8 35	— 12 12	—	366	349	1017
— 8 37	— 12 14	—	370	342	1082
— 8 38	— 12 15	Disappeared			
	P.M.				
15th 8 16	— 11 53	Faint streak (·5) from W.N.W. from alt. 60° to 5° from zenith, drifting towards S.E., and becoming very faint.			
— 8 44	15 12 21	Aurora from about 20° alt. in E.S.E. towards S.E., and curved towards zenith (1).			
— 8 46	— 12 23	„ disappeared			
— 8 56	— 12 33	Streaks at short intervals from E.S.E. horizon to 20° towards zenith, appearing about (1), and immediately becoming very faint.			
— 8 59	— 12 35	„ disappeared			
	P.M.				
17th 7 56	16 11 33	Irregular aurora (2) from E.S.E. through zenith, moving towards N.W.			
— 8 1	— 11 38	Diffused irregular arch (1·5) from E.S.E. to N.N.W., 60° alt.			
	A.M.				
18th 8 48	18 12 25	„ arch (2) with streamers from E.S.E. through zenith to W.N.W., pink in colour.			
— 8 53	— 12 30	„ disappeared			
	P.M.				
19th 7 30	— 11 7	Streak of aurora (1·5) from 40° to 60° alt. in E.S.E.			
— 7 53	— 11 30	„ disappeared			
23rd 7 28	22 11 5	Auroral streak (2) in E.S.E., 10° alt.			
24th 7 20	23 10 57	No aurora			
— 7 23	— 11 0	—	408	307	1140
— 7 33	— 11 10	Bright streamers in W.S.W., 45° alt., prismatic (3), and rapidly drifting towards S., and becoming fainter.	230	336	—
— 7 37	— 11 14	Streamers in S.E. (1·5), 50° alt., extending towards S.	270	298	—
— 7 39	— 11 16	—			1000
— 7 59	d. h. m. s.	Bright streak (1·5) in N.N.W. from 20° alt. to zenith			
— 8 0	— 11 37	—	323	345	1039
	A.M.				
26th 8 23	26 12 0	—	424	336	1359
— 8 30	— 12 7	Irregular arch (1) from S.E. to N.W., 45° alt. (Magnetic instruments steady.)			
— 8 43	— 12 20	Arch (2) coloured pink in zenith, from E.S.E. through zenith, and moving towards N.W.	405	361	1198

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883. July.	1883. July.				
h. m.	d. h. m.				
A.M.	P.M.				
29th 7 23	28 11 0	Aurora (1·5) from E.S.E., to E.N.E., 5 to 15 alt., highest in E.N.E.	452	333	1050
— 7 29	— 11 5		419	340	990
	A.M.				
— 8 26	29 12 3	Mass of aurora (1) just above horizon in E.S.E.			
— 9 23	— 1 0		412	325	1244
— 9 26	— 1 3	Irregular arch (1·5) from N.W. to S.E., 40 alt.			
— 9 32	— 1 9	" " " " but 60' alt.			
— 9 33	— 1 10		396	312	1360
— 9 39	— 1 36	No aurora visible	358	306	1265
— 10 17	— 1 40	Ditto	360	315	1270
	d. h. m. s.				
	P.M.				
30th 7 0	— 10 37 18	Ditto	409	292	1013
— 7 20	— 10 57 45	Bright irregular aurora (2) from W.S.W. to S.E., 7' alt.			
	d. h. m.				
— 7 23	— 11 0		370	294	1167
— 7 28	— 11 5	Bright masses of aurora (1·5) in S.E., 5' alt. Faint streak (·7) in E., 45 alt.			
— 7 31	— 11 10	Aurora (2), alt. 15' S.W. to S.E., prismatic and in rapid motion. Streamers appearing and disappearing in different parts of the sky.	260	—	—
— 7 46	— 11 23	Corona (1) in zenith followed by rapid fall of bifilar, the aurora becoming fainter meanwhile. Streamers, &c. in other parts of the sky. Auroral light in S.S.W.	216	—	—
	d. h. m. s.				
— 8 1	— 11 38 30	Bright patch (1) in N., alt. 15			
— 8 2	— 11 39		286	—	—
	A.M.				
30th 8 23	30 12 5	Streak (1) in N.N.W., 20 alt.			
	d. h. m. s.				
— 8 57	— 12 34 18	Streamer (1) in S.E., 15' alt.			
	d. h. m.				
— 9 28	— 1 5	Diffused arch (·7) from 50 alt. in N.W. through zenith to 5 towards E.S.E.			
31st 8 28	31 12 5	Arch (1·5) from E.S.E. through zenith to N.W.			
	— 12 37	Diffused auroral light in zenith (1)			
August	August.				
	P.M.				
4th 7 13	3 11 20	Aurora (1) from E.S.E. to S., 40 alt. (Thunder storm)			
	d. h. m. s.				
— 7 59	— 11 36 30	Irregular arch (1·5) from E.S.E. to W.N.W., 60 alt.	372	355	1174
— 8 1	— 11 38 30	" (1) from E.S.E. through zenith to N.W., drifting towards N. (Much lightning.)	362	363	1082
— 8 20	— 11 57 30	Aurora (·5) from E. to N.N.W., 80 alt.			
	d. h. m.				
— 8 26	4 12 3	" disappeared			
	A.M.				
— 8 59	— 12 36 30	Faint aurora (·5) from S.E. to W.N.W., 75 alt.			
	d. h. m.				
	P.M.				
5th 7 26	— 11 3	Irregular and diffused aurora (1·5) from E.S.E. to zenith. (Magnetic instruments not disturbed.)			
	A.M.				
— 9 20	5 12 57	Faint aurora in N.N.W. to 50 alt., striated and (·7). Faint light (·3) in zenith streamers in N.N.E., 45 alt. (1).			
— 9 26	— 1 3	Bright arch of vertical streamers from N.N.W. to E., drifting towards E.S.E., 30 alt. (2).			
— 10 20	— 1 57	Streak (·7) in N.N.W., 25 alt.			
— 10 21	— 1 58		396	312	1335
— 10 23	2 0		408	337	1319
	d. h. m. s.				
— 10 24	— 2 1 20	Bright streak (1·5) in zenith, disappearing immediately	402	338	1326
	2 2 0				

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883. August. h. m. A.M.	1883. August. d. h. m. P.M.				
7th 6 24	6 10 1	Arch (2) from E. horizon to zenith. (Instruments disturbed.)			
— 6 28	— 10 5	„ very faint (·5) „ „ „ „ „ „ „ „ „ „			
— 7 2	— 10 39	Auroral streak (2) in W.N.W., 30° alt. „ „ „ „ „ „			
— 7 6	— 10 41	Patch (1·5) in E.S.E., 25° alt. Streak as before. Sky cloudy.			
— 7 20	— 10 57	Streamers (1) in S.E., 45° alt. „ „ „ „ „ „			
— 7 22	d. h. m. s. — 10 59 30	Irregular aurora from N. to W., 50° alt. (1·5). „ „ „ „ „ „			
— 7 23	d. h. m. — 11 0	„ „ „ „ „ „ „ „ „ „ „ „	530	342	400
— 7 27	— 11 4	A few streamers in S.E. as before at 10·57 „ „ „ „ „ „	334	319	444
— 7 57	d. h. m. s. — 11 34 30	Streamers () from „ to E.S.E., from 10° to 25° alt. „ „ „ „ „ „	281	328	500
— 8 1	d. h. m. s. — 11 58 30	Aurora (·5) from E.S.E. to zenith „ „ „ „ „ „			
8th 6 20	7 9 57	Streamers (1) in E.S.E. moving S., 25° alt. „ „ „ „ „ „			
— 6 21	d. h. m. s. — 9 58	„ „ „ „ „ „ „ „ „ „ „ „	403	339	1361
— 6 22	d. h. m. s. — 9 59 30	Streamers (1) in 40 alt. „ „ „ „ „ „			
— 6 23	d. h. m. s. — 10 0 0	„ „ „ „ „ „ „ „ „ „ „ „	390	348	1208
— 6 24	d. h. m. s. — 10 1 30	Irregular striated arch (2) from E.S.E. to N.W., 75° alt., pulsating towards N.W., and a patch (2) in E.S.E., 30° alt. „ „ „ „ „ „			
— 6 25	d. h. m. s. — 10 2	„ „ „ „ „ „ „ „ „ „ „ „	383	339	1251
— 6 26	d. h. m. s. — 10 3	Above arch through zenith „ „ „ „ „ „			
— 7 20	d. h. m. s. — 10 57	Irregular arch (1) from E.S.E. to W., 20° alt. „ „ „ „ „ „			
— 7 27	d. h. m. s. — 11 4	„ „ „ „ „ „ „ „ „ „ „ „			
— 8 18	d. h. m. s. — 11 55	Bright, broad arch (1 to 2·5) from E. to W. through zenith, with prismatic streamers in E., where brightest, „ „ „ „ „ „			
— 8 20	d. h. m. s. — 11 57 50	„ „ „ „ „ „ „ „ „ „ „ „			
— 8 26	d. h. m. s. 8 12 3	„ „ „ „ „ „ „ „ „ „ „ „			
9th 6 53	8 12 3 P.M.	Bright masses (1) in S.S.W., 25° alt. „ „ „ „ „ „			
— 7 24	— 10 30	Arch (2) with vertical streamers in E., from E. horizon to zenith. „ „ „ „ „ „	390	360	—
— 7 24	— 11 1	Irregular curved band (2) from E.N.E. through Cassiopeia „ „ „ „ „ „			
11th 6 21	10 9 58	Bright streamers (2) slightly prismatic in E., about 10 alt., drifting towards N.E. „ „ „ „ „ „	310	381	1195
— 6 25	— 10 0	„ „ „ „ „ „ „ „ „ „ „ „	337	366	1172
— 6 25	— 10 2	Bright irregular aurora (1·5) with streamers from E.N.E. to zenith, slightly prismatic and quivering, drifting towards N. „ „ „ „ „ „	346	375	1095
— 6 59	d. h. m. s. — 10 36 30	Streak (1) in zenith „ „ „ „ „ „			
— 7 20	d. h. m. s. — 10 57	Bright masses of aurora (1·5) from S. to S.E., 10 alt. „ „ „ „ „ „			
— 7 21	d. h. m. s. — 10 58	Bright streak (1) in E.S.E., 70° alt. „ „ „ „ „ „			
— 7 23	d. h. m. s. — 11 0	„ „ „ „ „ „ „ „ „ „ „ „	370	330	1244
— 7 25	d. h. m. s. — 11 2	„ „ „ „ „ „ „ „ „ „ „ „	373	328	1284
— 7 25	d. h. m. s. — 11 2	„ „ „ „ „ „ „ „ „ „ „ „	352	322	1435
— 7 25	d. h. m. s. — 11 2 30	Arch (1) from W. to S., 40° alt., becoming rapidly brighter and moving to S.E., where prismatic. „ „ „ „ „ „			
— 7 27	d. h. m. s. — 11 4	Corona 5° E.S.E. of zenith „ „ „ „ „ „	220	380	1300 to 1500
— 7 58	d. h. m. s. — 11 35 45	Streak (·7) in N.N.W., 5° to 20° alt. „ „ „ „ „ „			
— 8 27	d. h. m. s. 11 12 4	Faint streamers (·5) in N.N.E., 7° alt. „ „ „ „ „ „			
12th 7 29	d. h. m. s. — 11 6	Diffused auroral light (·3) in a great portion of the sky. „ „ „ „ „ „			

V.F.

400
444
500

1361

1298

1291

1195

1172

1095

1214

1281

1435

1300

to

1500

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883. August. h. m. A.M.	1883. August. d. h. m. A.M.				
12th 9 24	12 1 1	Arch (°5) from E.S.E. through zenith - - -			
13th 8 29	13 12 6	Faint aurora (°3) from E.S.E. to E., 15° alt. - - -			
- 9 26	- 1 3	Faint streak (°2) in E.S.E., from 5° to 10° alt. - - -			
- 10 20	d. h. m. s. - 1 57 20	" (°3) in N.W. 50° alt. - - -			
- 10 21	d. h. m. - 1 58	- - - - - - - - - - - - - - -	402	340	1155
- 10 23	- 2 0	- - - - - - - - - - - - - - -	397	344	1137
- 10 24	- 2 1	" (°5) " from 50° to 80° alt. - - -			
- 10 25	- 2 2	- - - - - - - - - - - - - - -	396	348	1190
- 10 26	- 2 3	Aurora from N.W. through zenith to E.S.E. (1) - - -			
- 10 35	- 2 12	Irregular striated arch (1°5) from E.N.E. through zenith, moving towards W. - - -	386	355	1127
	P.M.				
14th 6 26	- 10 3	Faint arch (°3) from E.S.E. through zenith to N.W. - - -			
- 7 20	- 10 57	Faint arch (°5) from S.E. to N.W., disappearing under clouds, alt. 60. - - -			
- 7 26	- 11 3	" disappeared - - - - -			
	A.M.				
- 9 47	14 1 34	Faint diffusel light (°5) in zenith - - - - -			
- 10 1	- 1 38	Faint arch (°7) from N.W. to zenith - - - - -			
- 10 27	- 2 4	Very faint irregular aurora, from E.S.E. horizon to 35 alt. - - - - -			
	P.M.				
16th 7 28	15 11 5	Faint streak (°5) in E., from 35° to 40° alt. - - -			
- 8 20	- 11 57 30	Irregular aurora (°5) from E.S.E. through zenith to N.N.W., and several faint streaks in N.E., from 25 to 45 alt. - - - - -			
- 8 26	d. h. m. 16 12 3	" disappeared, except a few streamers in E.S.E., 10 to 15° alt. (1). - - - - -			
- 9 26	- 1 3	Faint streak (°3) in N.N.W., from 30° to 55° alt. - - -			
	P.M.				
18th 7 24	17 11 1	Diffused arch (1°5) from E.S.E. through Cassiopeia to N.W. - - - - -			
- 7 25	d. h. m. s. - 11 2 30	Upper edge of arch through zenith - - - - -			
- 8 28	d. h. m. 18 12 5	Arch (1) from S.E. to N.W., passing halfway between the Moon and zenith. - - - - -			
- 9 21	- 12 58	- - - - - - - - - - - - - - -	397	323	1159
- 9 24	- 1 0	- - - - - - - - - - - - - - -	378	358	1265
- 9 24	- 1 1	Corona in zenith, streamers in N.W., and diffused masses of light (2) in S.E. - - - - -			
- 9 25	- 1 2	- - - - - - - - - - - - - - -	372	339	1374
- 10 28	- 2 5	(Magnetometers disturbed at the 2nd and 3rd readings.) Arch (1) from N.E. to N.W., 30° alt. (No aurora during the readings.) - - - - -			
	P.M.				
19th 6 26	- 10 3	Arch (1) visible through clouds in zenith - - - - -			
- 7 33	- 11 10	Aurora (1) from W. to S., 45 alt. - - - - -			
- 8 26	19 12 3	Faint streamers (°5) in E.S.E., from 5° to 15° alt. - - -			
	P.M.				
20th 7 20	- 10 57 30	Bright irregular aurora with prismatic streamers (2) from S.E. to S., from 25 to 40 alt, " fainter (1), and from S. to S.W. - - - - -			
- 7 22	- 10 59 30	" from 50 alt. in S.W. through zenith, prismatic and (2°5). - - - - -			
- 7 24	- 11 1 15	Diffused light (1) in zenith. Bright slightly prismatic streamers (1°5) in N.N.E., 20 alt. Bright irregular aurora (1) in N.W., 10 alt. - - - - -			

Göttingen Mean Time.		Local Mean Time.			H.F.	D.	V.F.
1883. August.		1883. August.					
	h. m.	d. h. m.					
	A.M.		P.M.				
20th	7 58	10 11 35	-	-	302	374	899
-	8 0	- 11 37	-	-	250	318	981
-	8 1	- 11 38	-	Streamers disappeared, the rest very faint			
-	8 2	- 11 39	-	-	253	318	1000
-	8 20	- 11 57	-	Faint streak (5) in W., 70° alt., and in zenith			
				A.M.			
-	8 26	20 12 3	-	Faint masses (7) in S.W., visible between clouds, 60° alt.			
		d. h. m. s.					
				P.M.			
21st	6 19	- 9 56 30	-	Faint aurora (7) from E. to N.E., 20° alt.			
		d. h. m.					
-	6 27	- 10 4	-	Arch (5 to 1) from E.S.E. to N., 10° alt., irregular and brightest in E.S.E.			
-	7 28	- 11 5	-	Arch (1) from E.N.E. to N.W., 45° alt.			
				A.M.			
-	8 24	21 12 1	-	Diffused arch (1) from E.S.E. through zenith to N.W.			
-	9 24	- 1 1	-	Diffused mass of light (1) from 30° alt. S.S.E. through zenith towards N.W.			
				P.M.			
23rd	6 21	22 9 58	-	Striated arch (1) from S.E. to N.W., 45° alt.	403	333	1101
-	6 23	- 10 0	-	" pulsating and (1.5). Streamers in E.S.E., from 5° to 15° alt. (2), and slightly prismatic.	393	332	1099
-	6 25	- 10 2	-	-	385	337	1135
				d. h. m. s.			
-	6 30	- 10 7 28	-	Bright aurora, (2.5) striated and prismatic, from E.S.E. through zenith to N.W., and drifting in all directions	260	360	400
				d. h. m.			
-	7 20	- 10 57	-	Bright patch (1) in N., 5° alt.			
-	7 27	- 11 4	-	Arch (1) with streamers from E.S.E. to N.N.W., 5° alt.			
				Faint masses (3) in zenith.			
-	8 20	- 11 57	-	Faint streak (5) in N.N.W., 10° alt.			
				A.M.			
-	8 26	23 12 3	-	Irregular aurora (1) from N. to N.E. 15° alt.			
-	9 27	- 1 1	-	Faint diffused arch (7) from E.S.E. through zenith to N.N.W.			
				P.M.			
24th	5 20	- 8 59	-	No aurora			
-	5 26	- 9 3	-	Aurora (1) from E.S.E. to zenith			
-	6 20	- 9 57	-	Diffused, striated arch (1) from E.S.E. through zenith to N.N.W. Another lower arch (5) from E.S.E. to N., 20° alt., irregular in E.S.E.			
				Ditto			
-	6 26	- 10 3	-	Irregular arch (1.5) from S.E. through zenith to N.W.			
-	7 24	- 11 1	-	-			
				A.M.			
-	8 26	24 12 3	-	Serpentine arch (2) from E. through zenith to W.N.W.			
-	9 24	- 1 1	-	Diffused masses of light (1.5) from the Moon through zenith to N.W.			
-	10 28	- 2 5	-	Faint masses (5) in and round zenith			
				P.M.			
25th	7 22	- 10 59	-	Aurora more or less all over the sky, visible through clouds	359	345	1103
-	7 26	- 11 3	-				
-	8 0	- 11 37	-	Ditto	330	291	1277
				A.M.			
-	9 26	25 1 3	-	Auroral light in zenith, visible between clouds			
				P.M.			
26th	7 20	- 10 57	-	Arch (1) from E. to N.N.W., 15° alt.			
-	7 27	- 11 4	-	" irregular, 20° alt. Another arch from E.S.E. through zenith to 25° alt. in N.N.W. (7).			
-	8 20	- 11 57	-	Bright, irregular, diffused arch (1.5) from E.S.E. to N.N.W., 45° alt., shooting up in a V shape from N.N.W. towards zenith.			
-	8 21	- 11 58	-	-	405	311	1092

V.F.	Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
	1883. August. h. m. s. A.M.	1883. August. d. h. m. s. P.M.				
899 984	26th 8 22	25 11 59 30	The whole sky from horizon to zenith, E.S.E. to N.N.W., more or less covered with curtain-shaped aurora from (1 to 2), brightest from E.S.E. to E.N.E., where slightly prismatic, to alt. 10°			
1060	— 8 23	d. h. m. s. — 12 0 0		384	340	885
	— 8 25	A.M. 26 12 2				
	— 8 28	— 12 5	Corona in zenith (1)	382	334	921
	— 9 20	d. h. m. s. — 12 57 30	Serpentine arch (1.5) from E.S.E. to N.N.W., 45 alt.			
	— 9 27	d. h. m. s. — 1 4	Above arch from E. to N.N.W. and less bright except in N.N.W. Arch (7) from E.S.E. to W., 40 alt.			
	— 10 20	— 1 57	Arch (1 to 1.5) from E. to N.N.W., 30° alt., brightest in N.N.W.			
	— 10 27	— 2 4	„ very faint			
	— 11 24	— 3 1	Faint streaks (5) through zenith			
	27th 6 20	P.M. — 9 57	Aurora (1) from E. to E.N.E., 10 alt.			
1101 1099	— 6 27	— 10 4	Faint arch (7) from E.S.E. to N., alt. 15			
	— 7 26	— 11 3	Patch on E. horizon, and masses of light along N. horizon (2) to about 15 alt.			
1135	— 8 24	27 12 1	Arch (1) from S.E. to N.W. through zenith. Arch from N.N.W. to E., 45 alt., (3) in N.N.W. horizon, elsewhere about (1.5).			
400	— 9 24	— 1 1	Arch (1) from E.S.E. through zenith, streamers 6 N.E. of zenith and from N.N.W. horizon to 15 alt. (2).			
	28th 7 20	P.M. d. h. m. s. — 10 57 30	Irregular arch (1 to 1.5) from E.S.E. through zenith to N.N.W., brightest in E.S.E.			
	— 7 26	d. h. m. s. — 11 3	Ditto (1)			
	— 8 26	A.M. 28 12 3	Arch (1) from E.S.E. to N.W., 45 alt. Irregular diffused mass (1) from E. to zenith.			
	— 9 21	d. h. m. s. — 1 1 30	Arch (1) from E.S.E. to N.N.W., 30 alt. Mass of aurora (5) in zenith. Faint streamers from E. to N.W., from 20 to 50 alt.			
	— 10 23	— 2 0 3	Streak (1.5) in N.N.W., from 10 to 30 alt.			
	— 10 26	d. h. m. s. — 2 3	„ faint (5), and from 10 to 20 alt.			
	29th 6 27	P.M. — 10 4	Faint streak (5) in E.S.E., from 10 to 30 alt.			
	— 7 20	— 10 57	Arch (5) from E.S.E. to W.N.W., 45 alt. Bright irregular aurora (2) from E.S.E. to zenith, with slightly prismatic streamers.			
	— 7 27	— 11 4	Arch as before. Folds of curtain-shaped aurora (1.5) from E.S.E. to zenith.			
	— 8 20	— 11 57	Arch (7) from E.S.E. to W.N.W., striated and 70 alt. in S.			
	— 8 27	A.M. 29 12 1	Ditto			
1103	— 9 20	— 12 57	Faint aurora (5) from E.S.E. to 60 alt. Faint masses (5) in W.N.W.			
1277	— 9 27	— 1 4	Arch (1) from E.S.E. through zenith to W.N.W., striated in E.S.E., and partly visible between clouds in zenith.			
	30th 5 27	P.M. — 9 4	Faint arch (5) from E.S.E. through zenith to W.N.W.			
	— 6 20	— 9 57	Arch (5 to 1) from E.S.E. to W.N.W., 45 alt., disappearing under clouds.			
	— 6 27	— 10 4	Arch as before. Irregular aurora from E.S.E. to zenith, striated and diffused (1.5).			
	— 7 28	— 11 5	Diffused mass of light in E. and streamers (2) also visible through clouds about 10 S. of zenith to 45 N.W. (1.5).			
902	31st 7 26	30 11 3	Mass of aurora (5) from E.S.E. to E., 20 alt.			

Göttingen Mean Time.	Local Mean Time.		H.F.	D.	V.F.
1883. August. h. m. A.M.	1883. August. d. h. m. A.M.				
31st 8 26	31 12 3	Irregular arch (*5) from E.S.E. to N.W., 80° alt.	-		
— 9 26	— 1 3	Irregular aurora (1) from E.S.E. through zenith to N.N.W., about 5° wide in zenith.	-		
— 10 26	— 2 3	Faint streak (*3) in zenith	-		
September.	P.M.				
1st 5 27	— 9 4	Streak (*7) in E.S.E., 10° alt.	-		
— 6 27	— 10 4	Bright aurora (1) on horizon from E.S.E. to S.E. Masses visible in zenith between clouds (*5).	-		
— 7 20	— 10 57	Bright aurora (1*5) on horizon from E. to E.S.E. Arch (1) from S.E. to W., 30° alt., partly visible between clouds.	-		
— 7 27	— 11 4	Aurora from E. to E.S.E. as before. Masses visible between clouds in S.W., 30° alt.	-		

NOTE.

The readings of the magnetic instruments where given here, are in scale divisions, the values of one scale division in absolute measure (C.G.S. units) being:—

H.F. *000019

D. 1'0

V.F. *00000574.

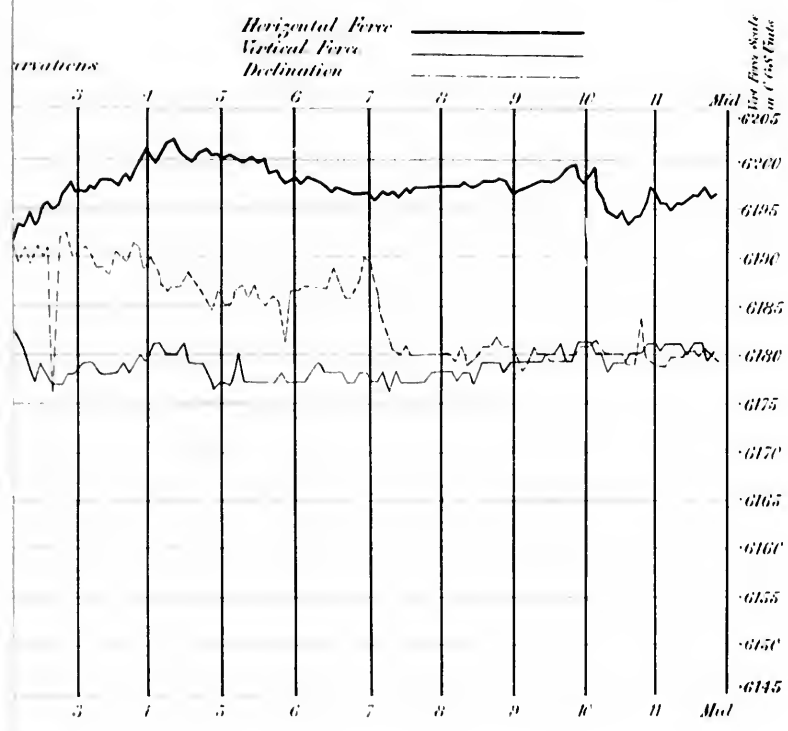
increasing numbers denoting increase of force and of easterly declination. These are easily reduced to absolute values by means of the above scale values, and the tables of hourly magnetic observations. For the values there given correspond, at any hour of local mean time to the reading given here (or when three readings are given, to their mean) and from the nearest hourly observations the value of any intermediate observation can be deduced.

When three readings of the same instrument are recorded opposite any hour, the middle reading was taken at that hour, the others at 2 minutes before and after respectively.

V.E.

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Plate 1.



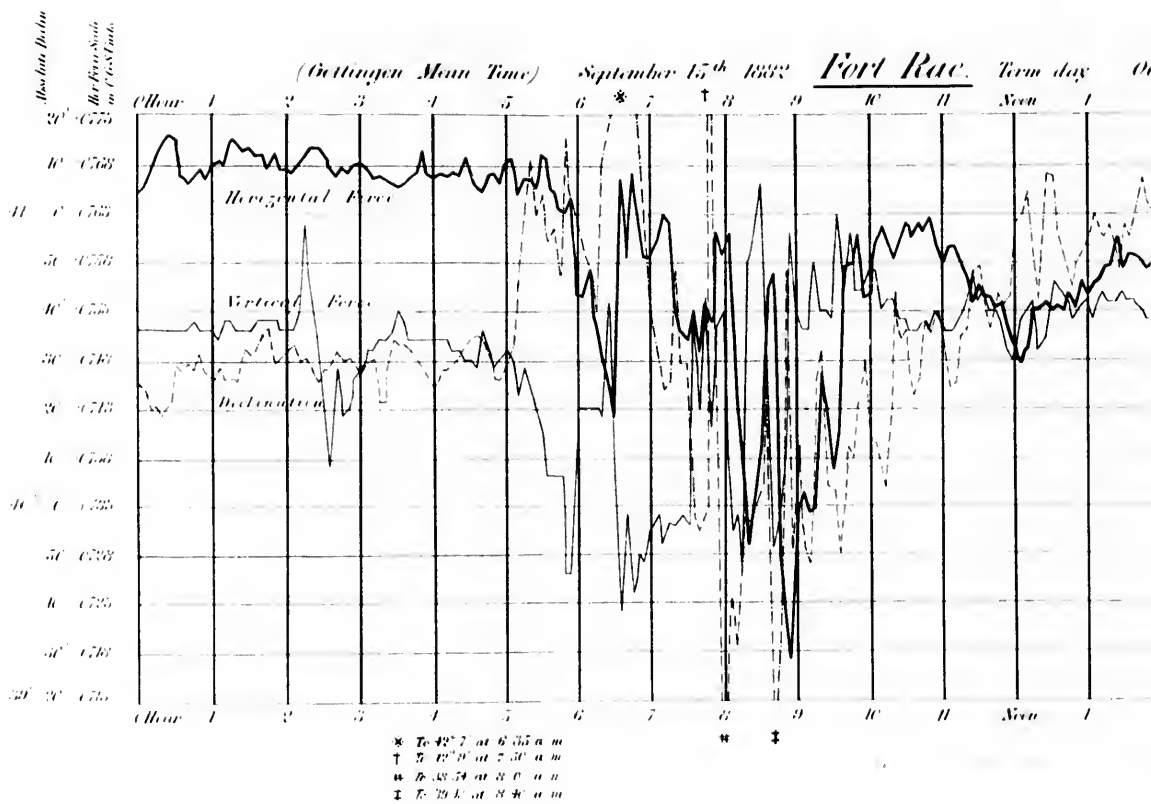


Plate 1.

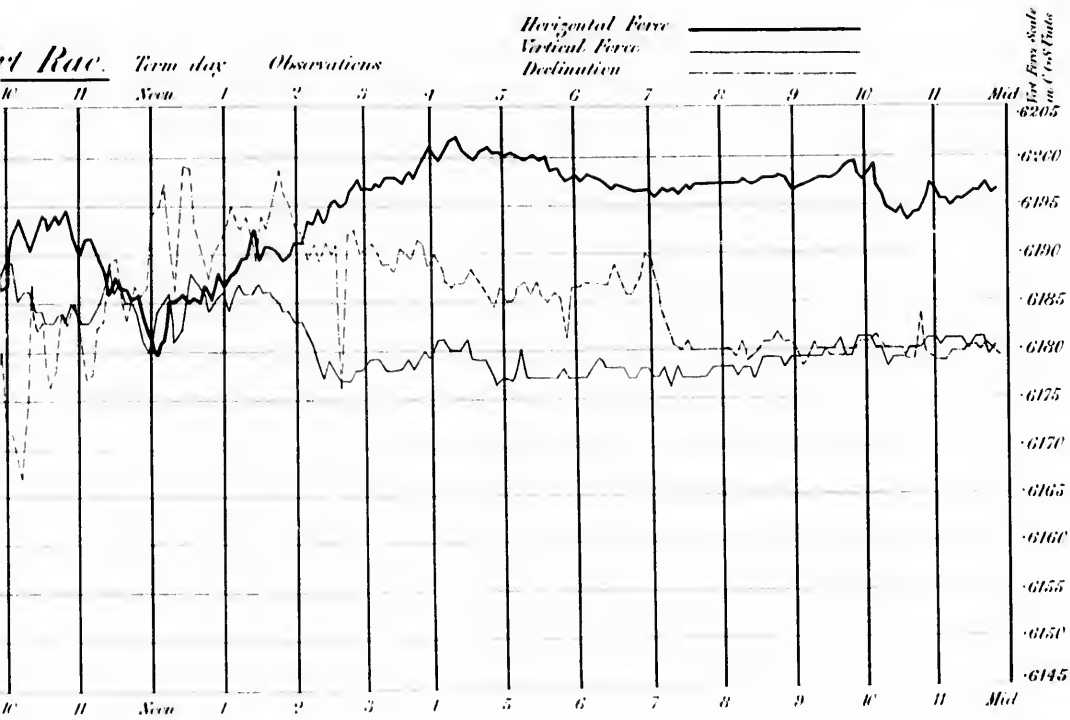
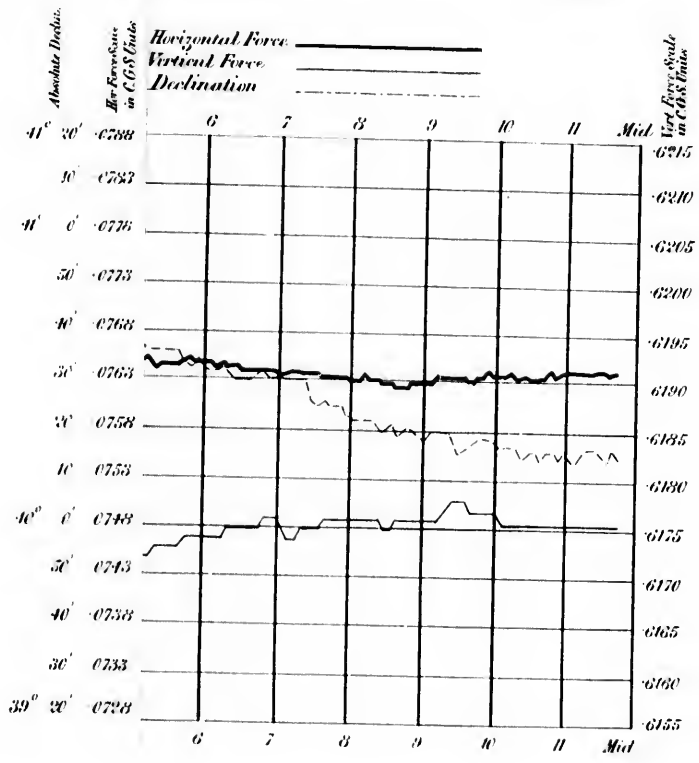




Plate 2.



(Göttingen Mean Time.) October 1st 1882.

Fort Rae. Term day. Obser

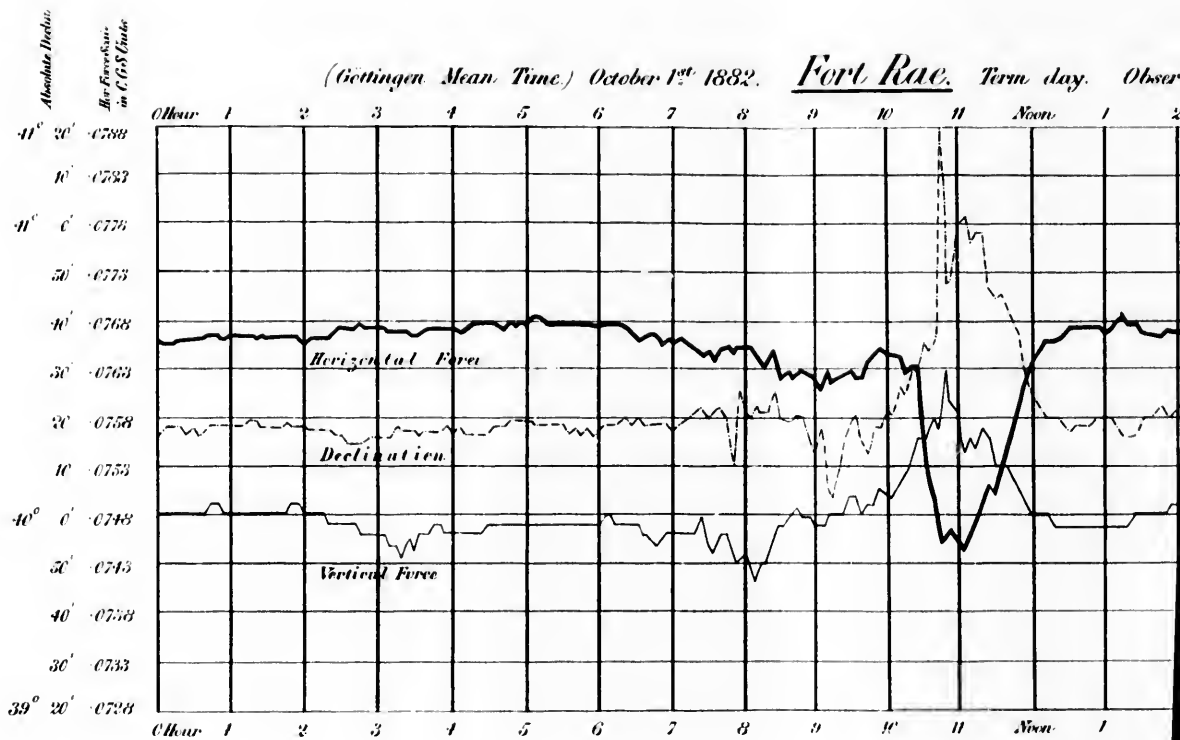
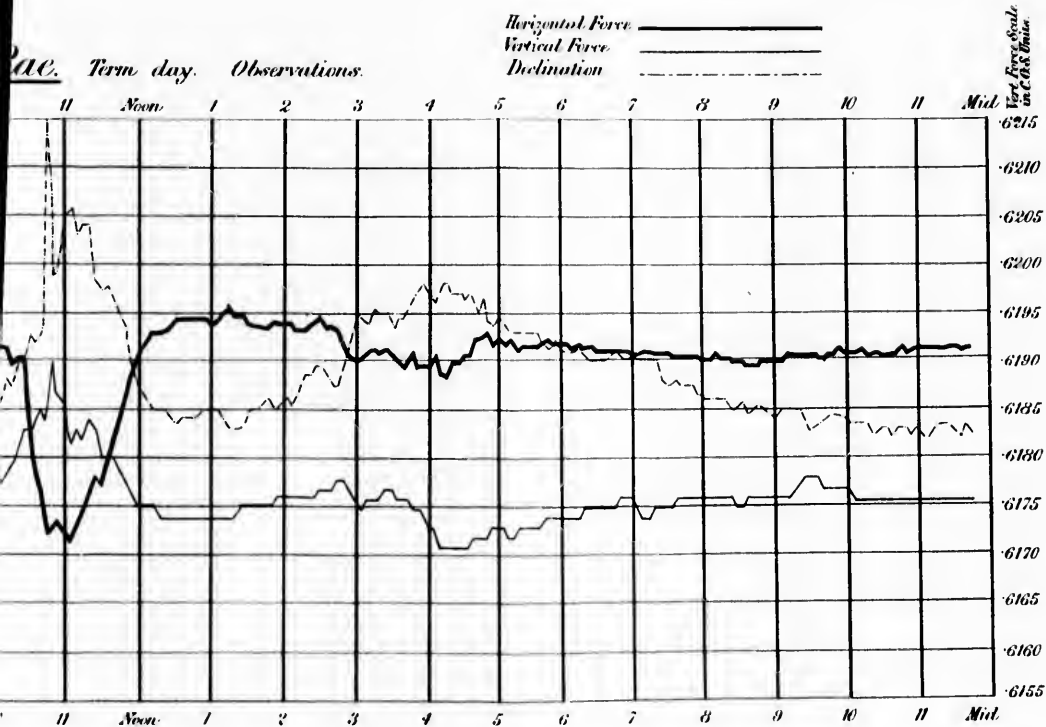


Plate 2.

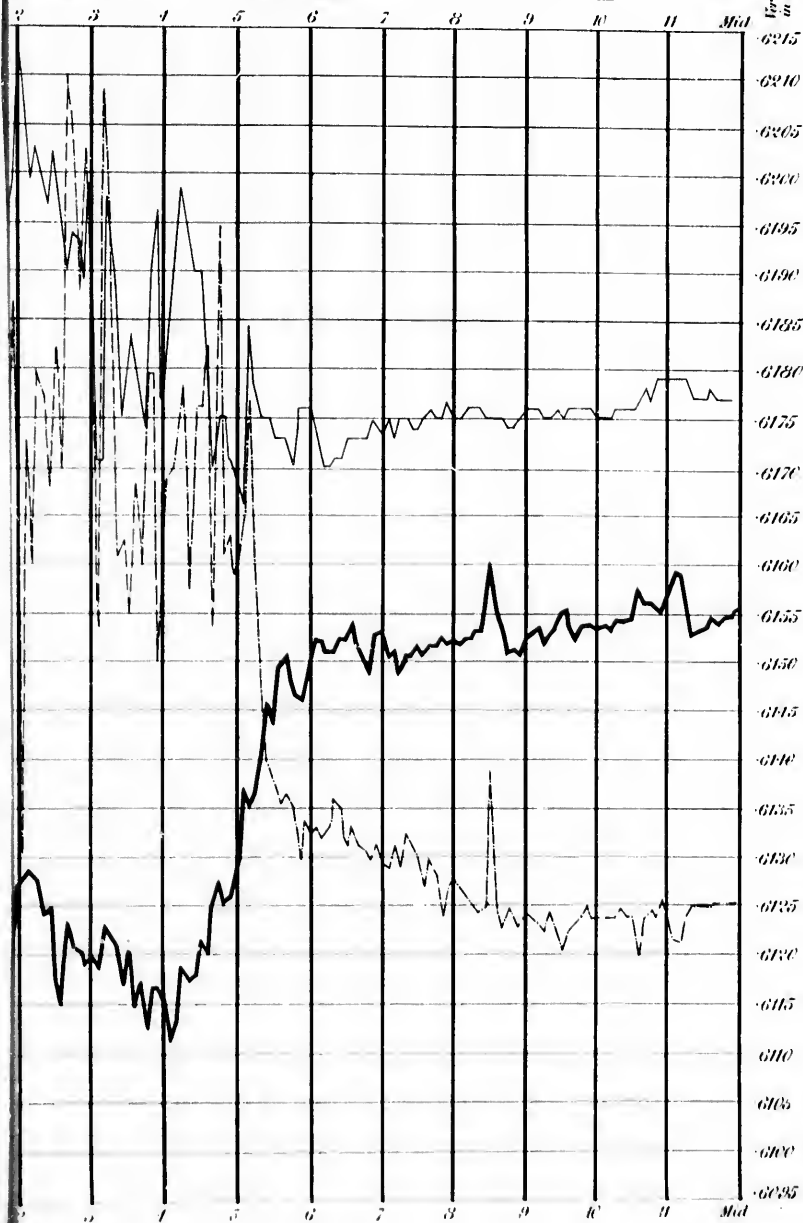




Observations

Horizontal Force _____
 Vertical Force _____
 Declination _____

Vertical Force
in c.c.s. scale

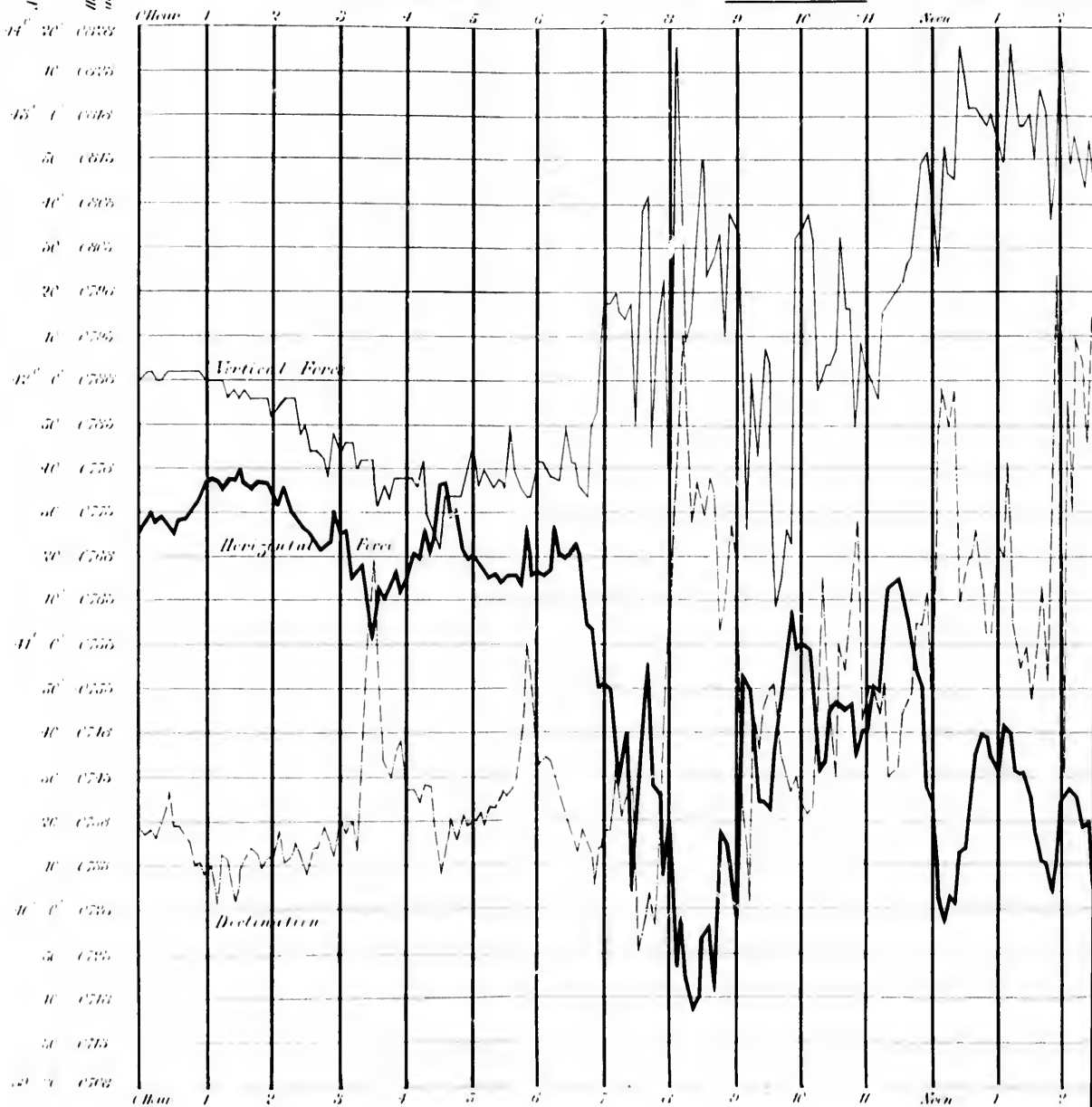


Absolute Depth
 the Force Scale
 in CGS Units.

(Göttingen Mean Time) October 15th 1882

Fert Race

Term day Observat



10 Term day Observations

Horizontal Force _____
 Vertical Force _____
 Declination _____

Vertical Force Scale
 in 1/100 Fathoms

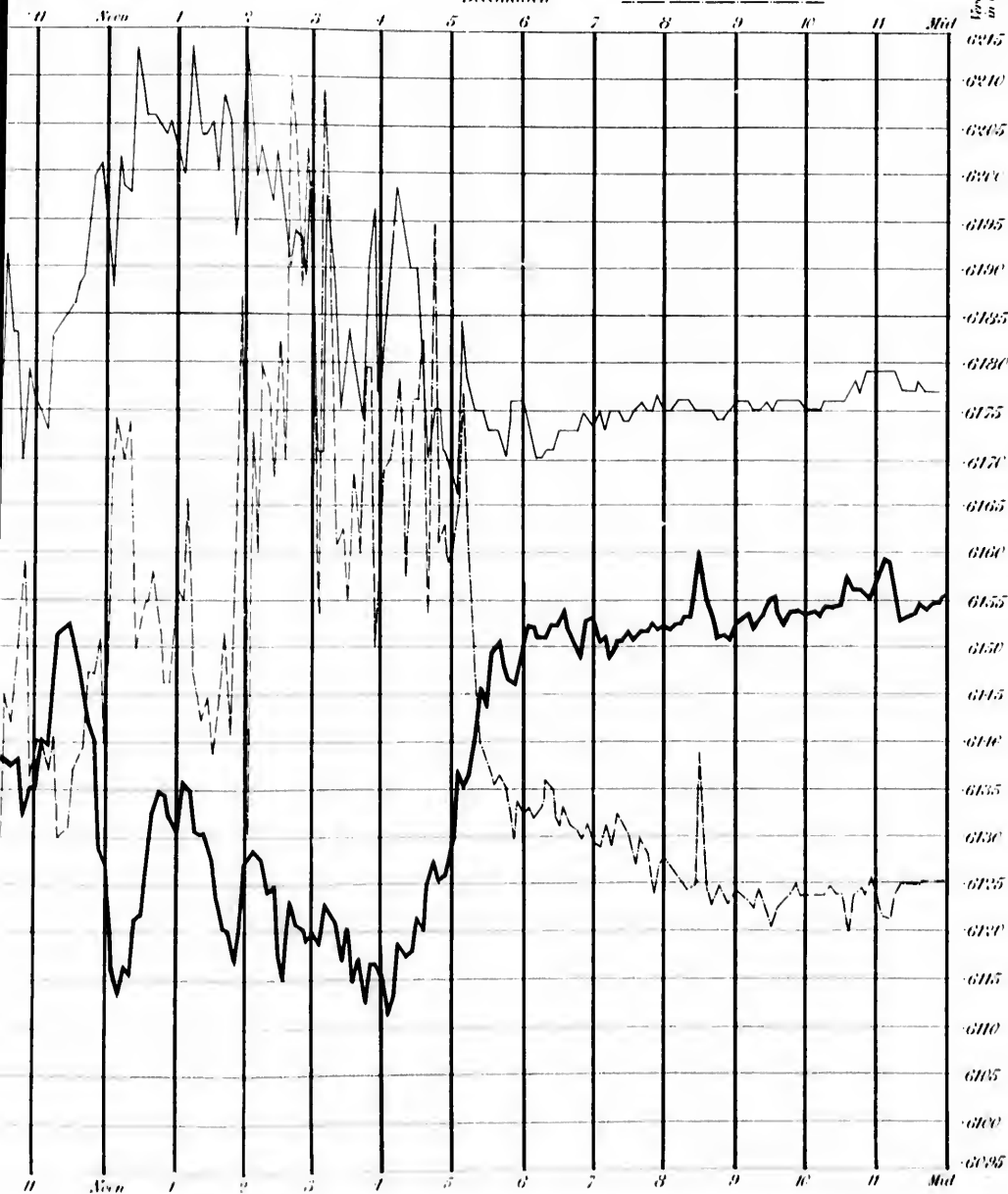
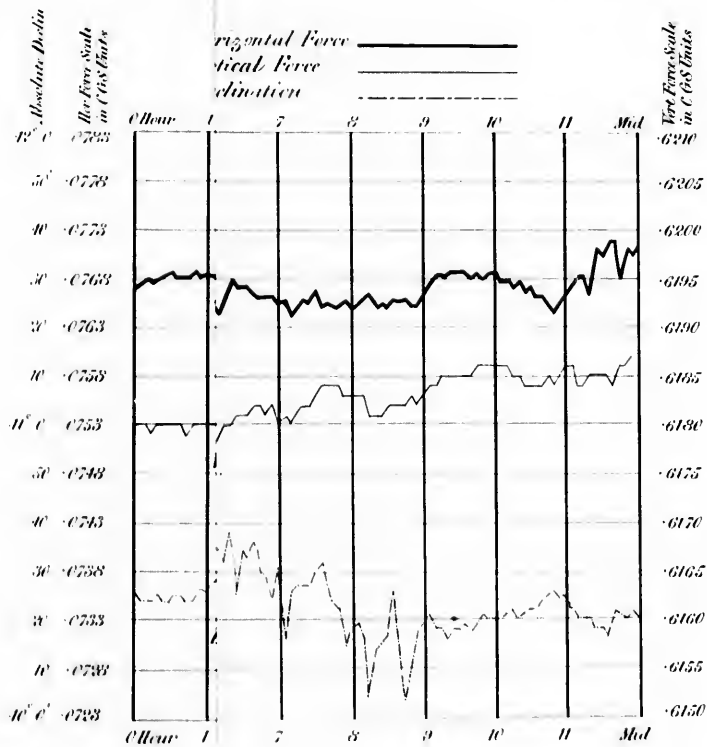
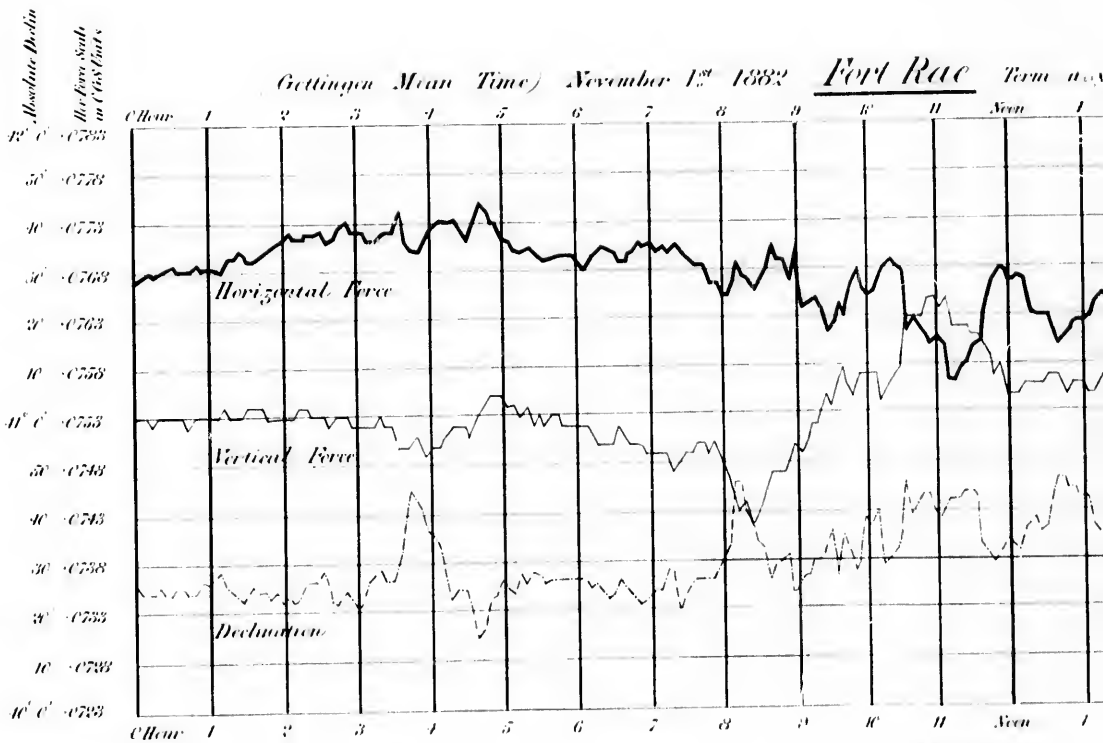




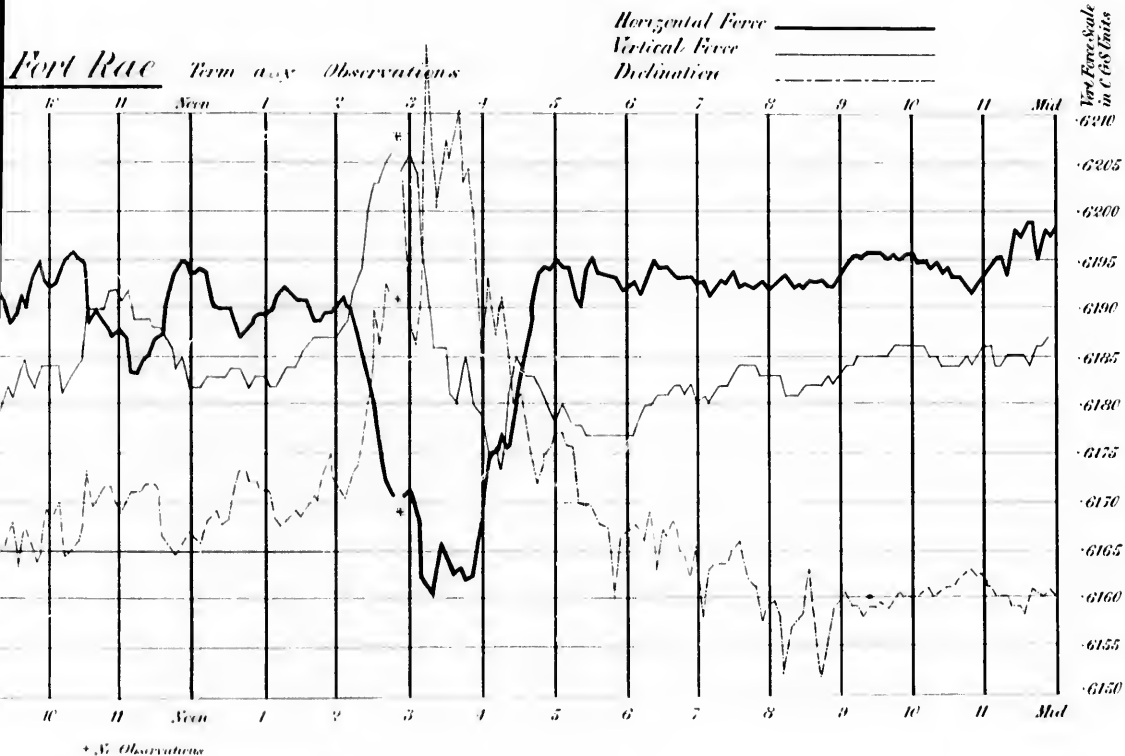
Plate 4.





* N. Observations

Plate 4.



* N. Observations





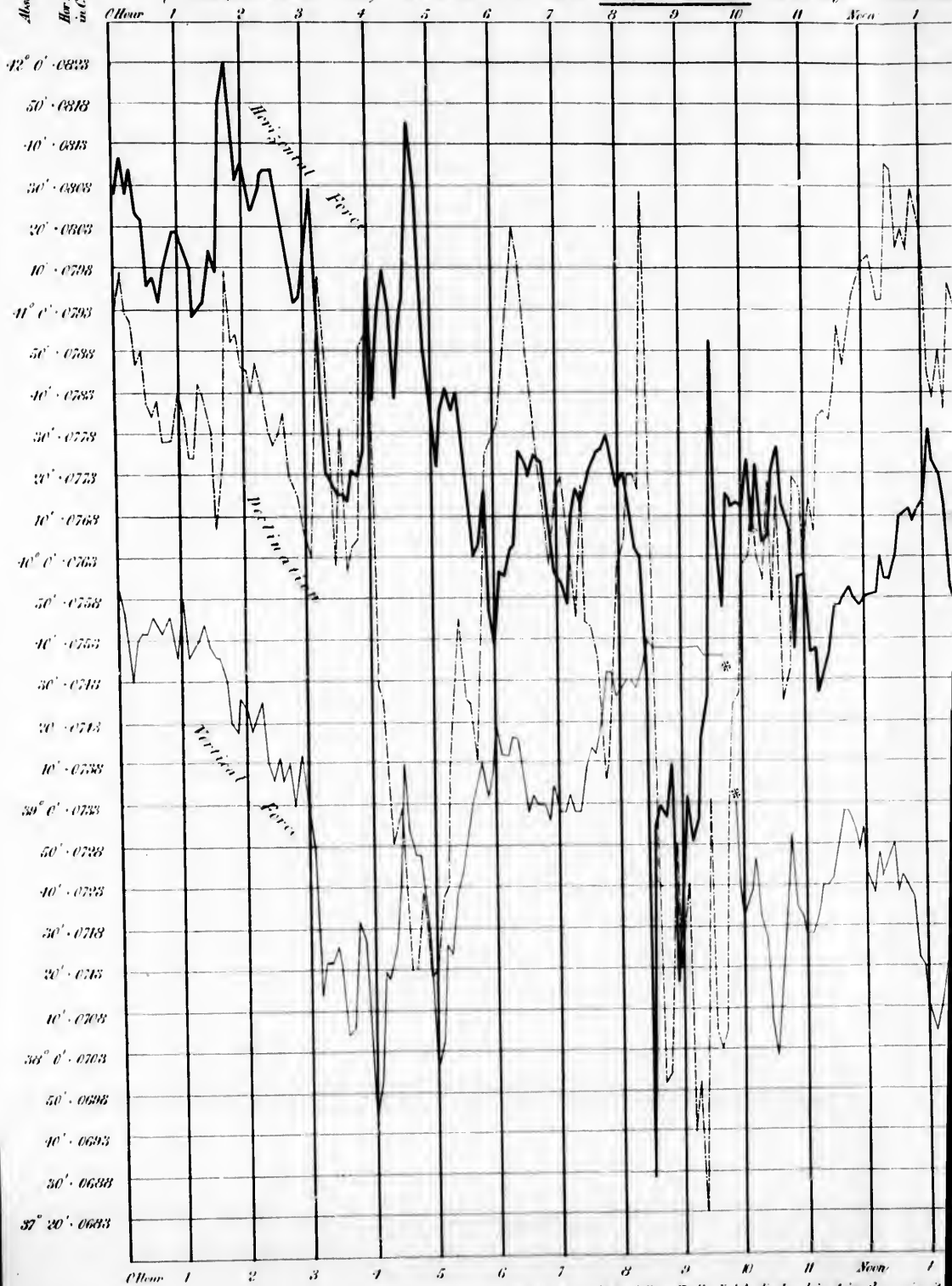
Absolute Declination
 Bar Ferry Scale
 in C.G.S. Units

(Göttingen Mean Time) November 15th 1882.

Fort Rae

Term day

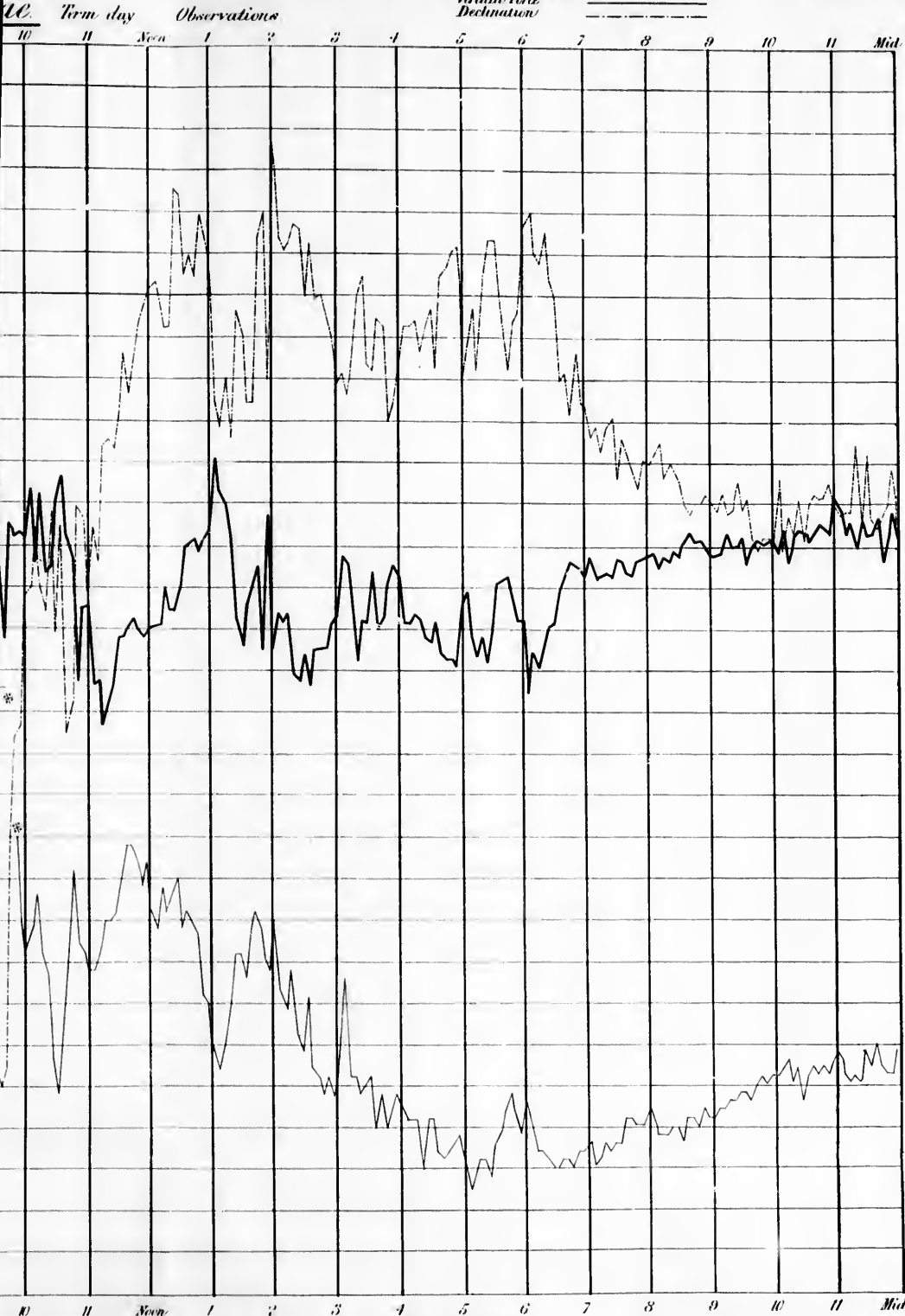
Observat



* No. 4045 in Vertical Force Scale of 1/2 Ark displaced in Azimuth causing it the Day and lowered on its base

Vertical Force Scale
in C.G.S. Units

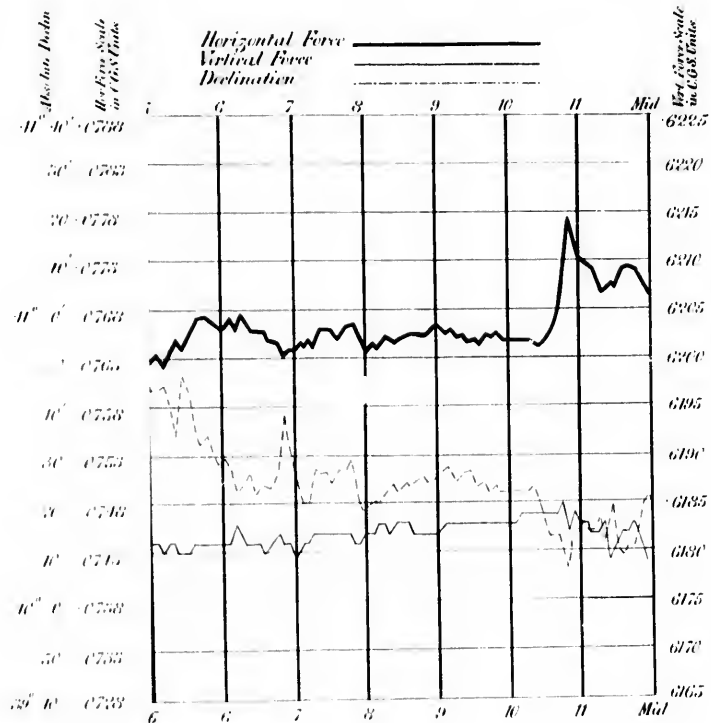
Horizontal Force
Vertical Force
Declination

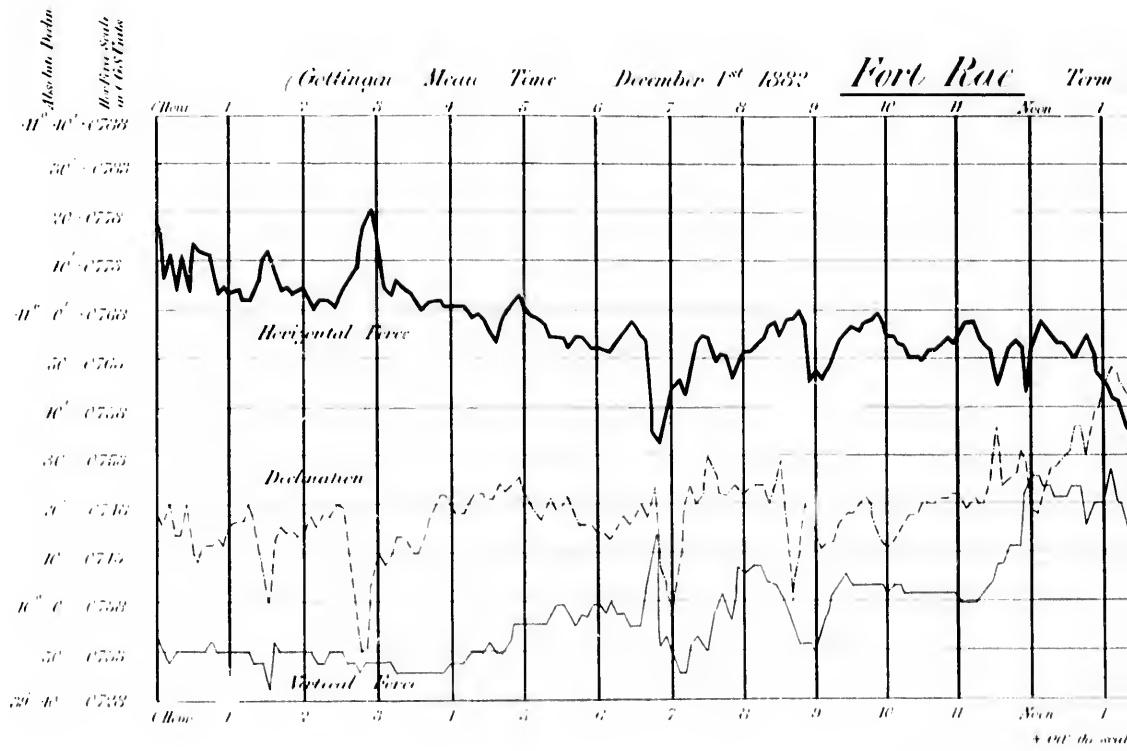


Slightly displaced in Azimuth causing it to touch one of the supports. It was then raised by the key and lowered on its bearings.



Plate 6.





December 1, 1882

Plate 6.

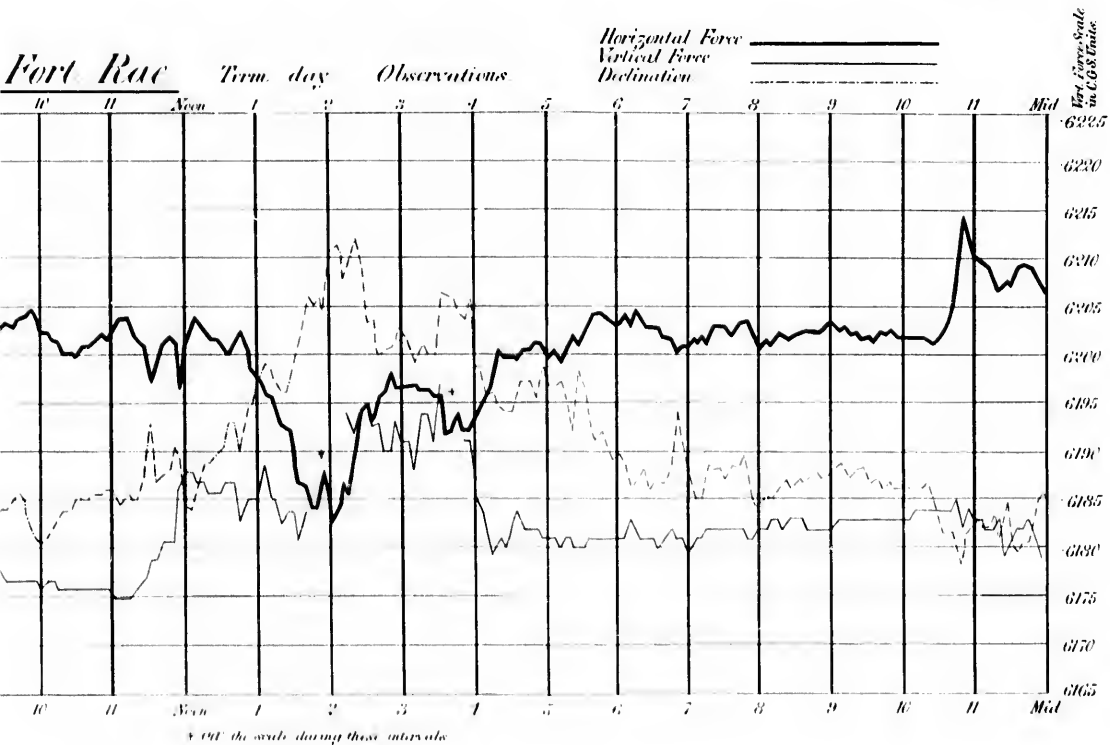
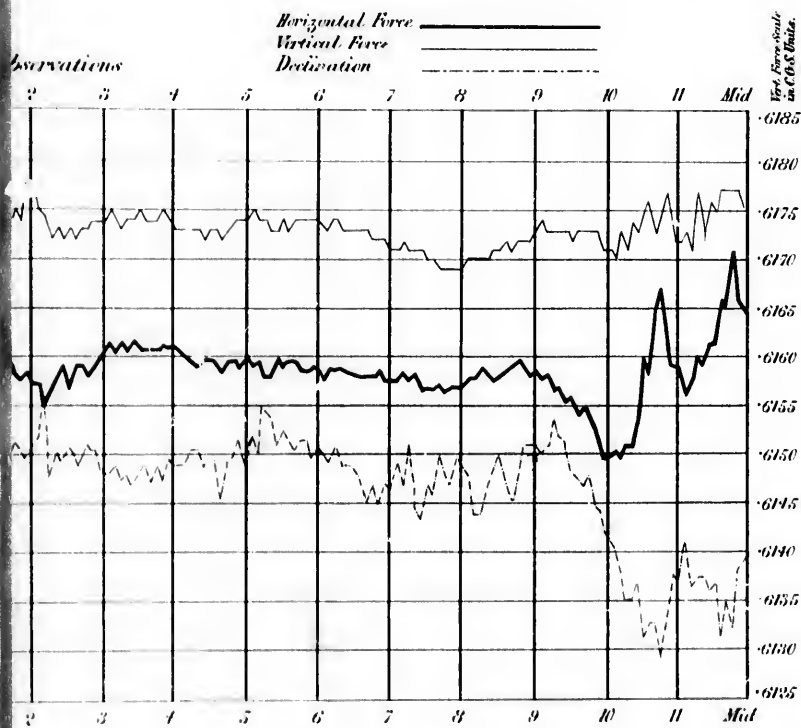




Plate 7.



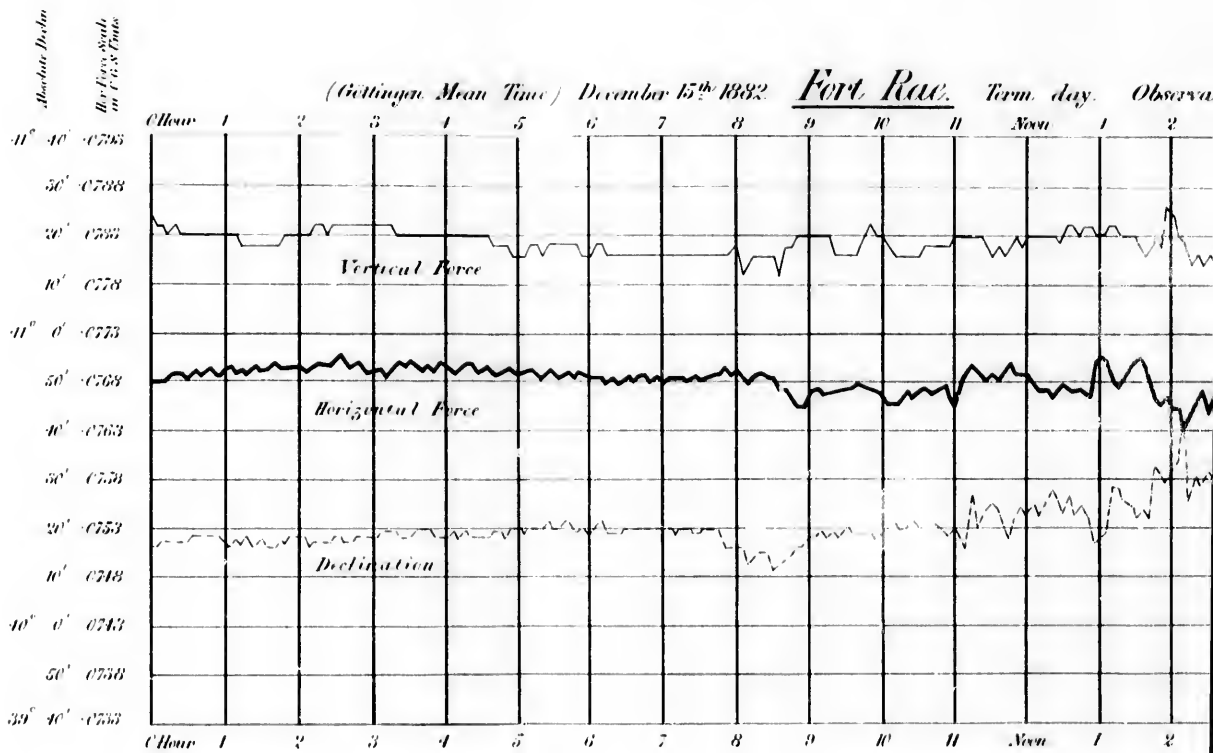


Plate 7.

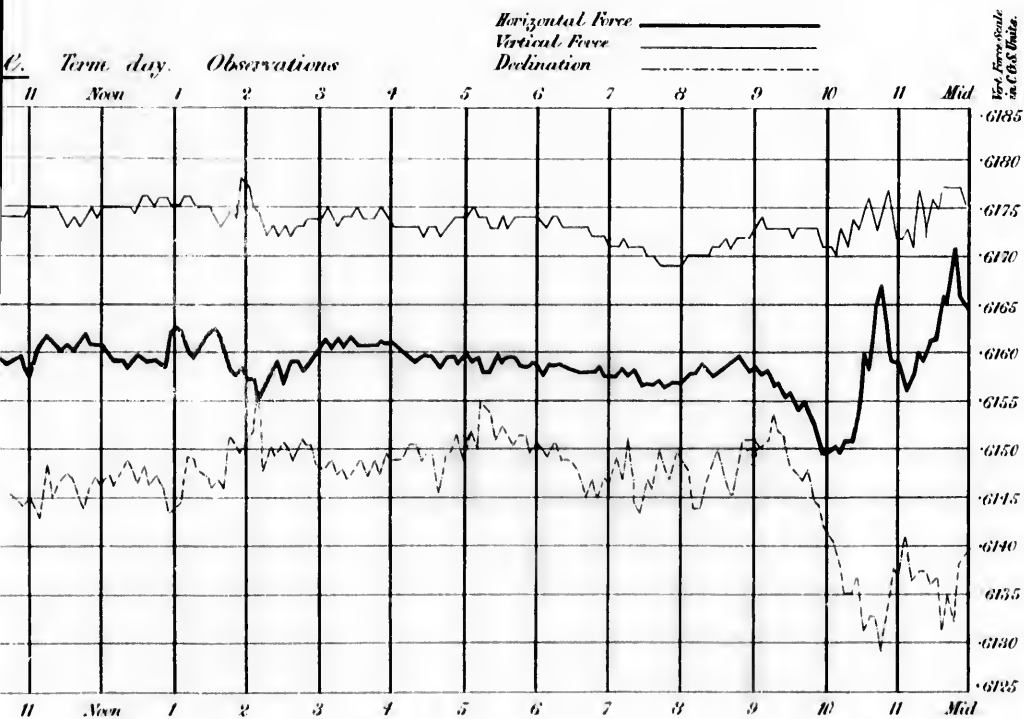
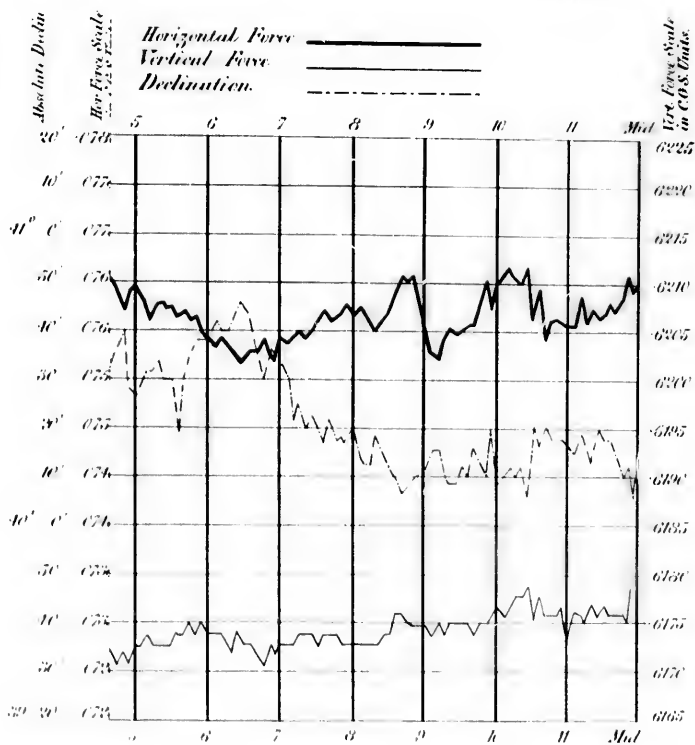




Plate 8.



Absolute Depth
 By Fize's Scale
 in 100 Fathoms

(Göttingen Mean Time) January 2nd 1833 *Fort Raco.* Term day Observed

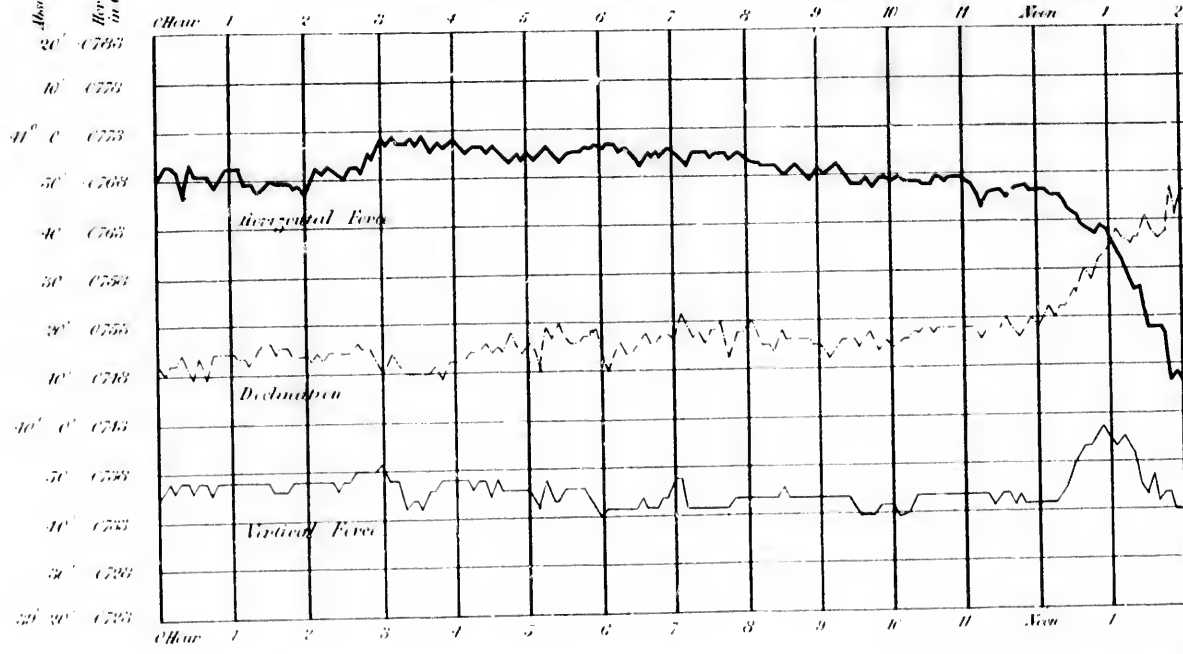


Plate 8.

Rec. Term day Observations.

Horizontal Force ———
 Vertical Force ———
 Declination - - - - -

Vert. Force Scale
 in 0.08 Units.

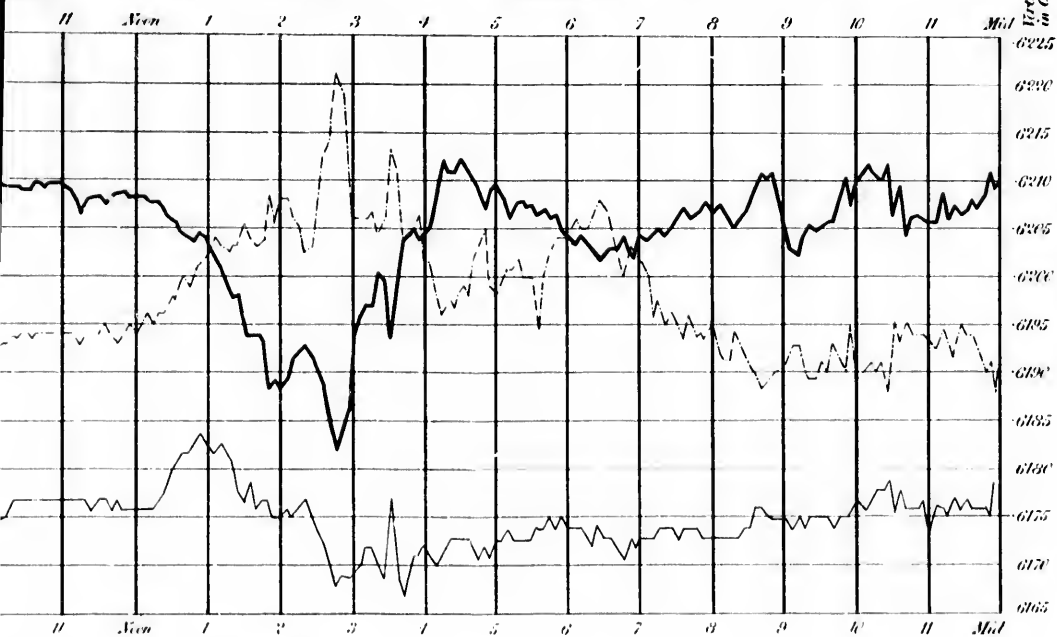
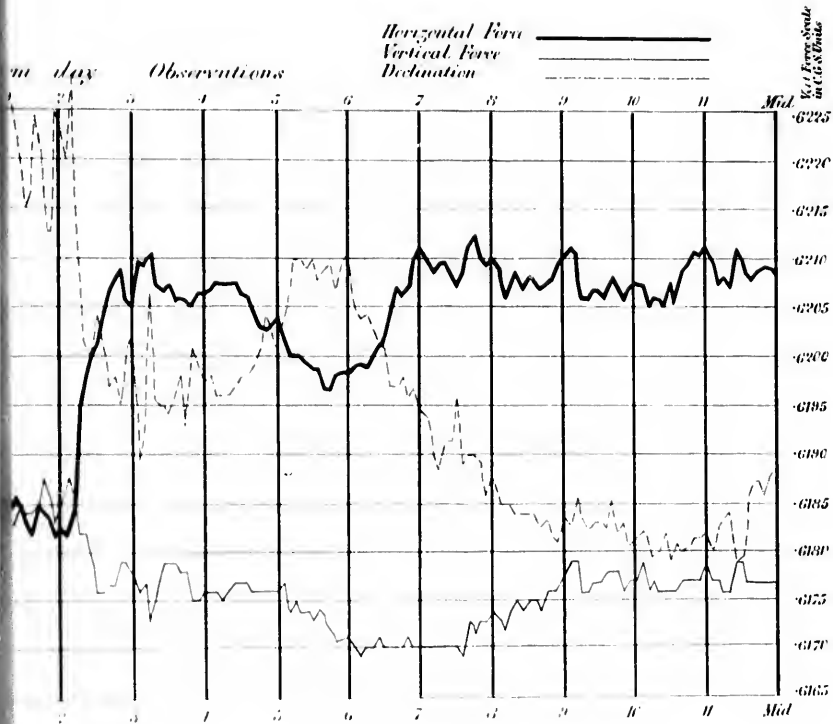
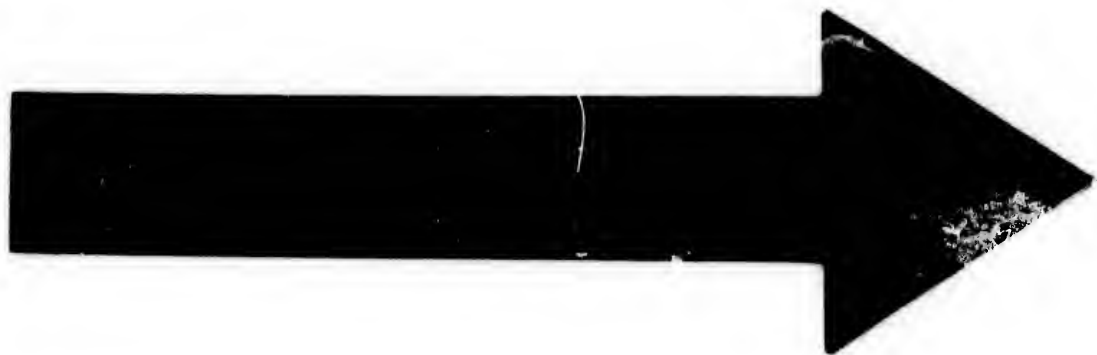
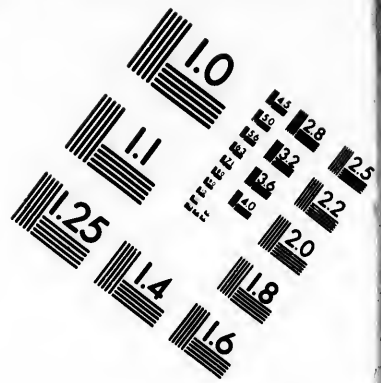
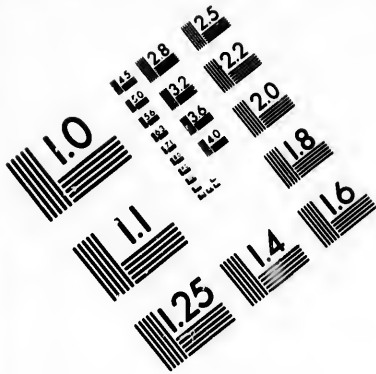




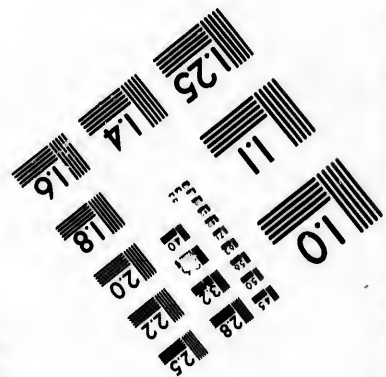
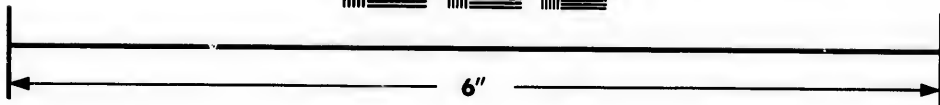
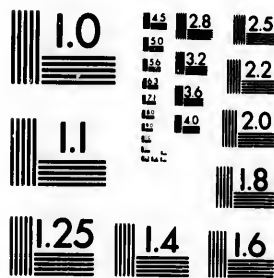
Plate 9.







**IMAGE EVALUATION
TEST TARGET (MT-3)**

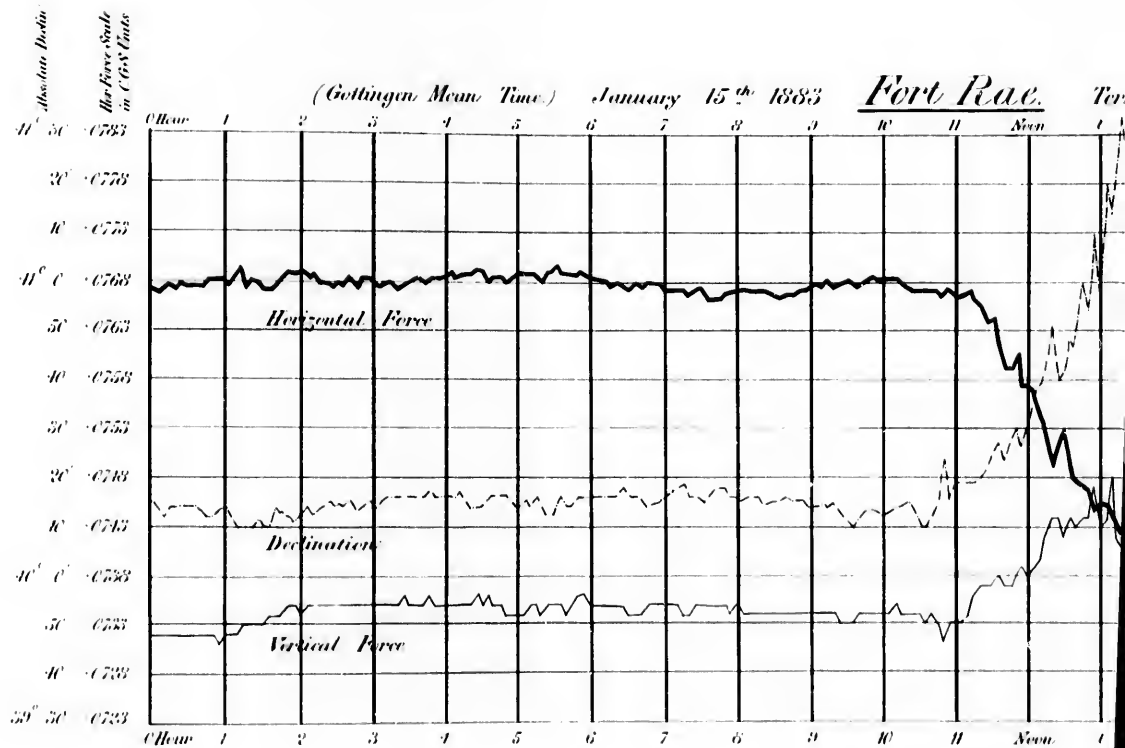


**Photographic
Sciences
Corporation**

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(716) 872-4503

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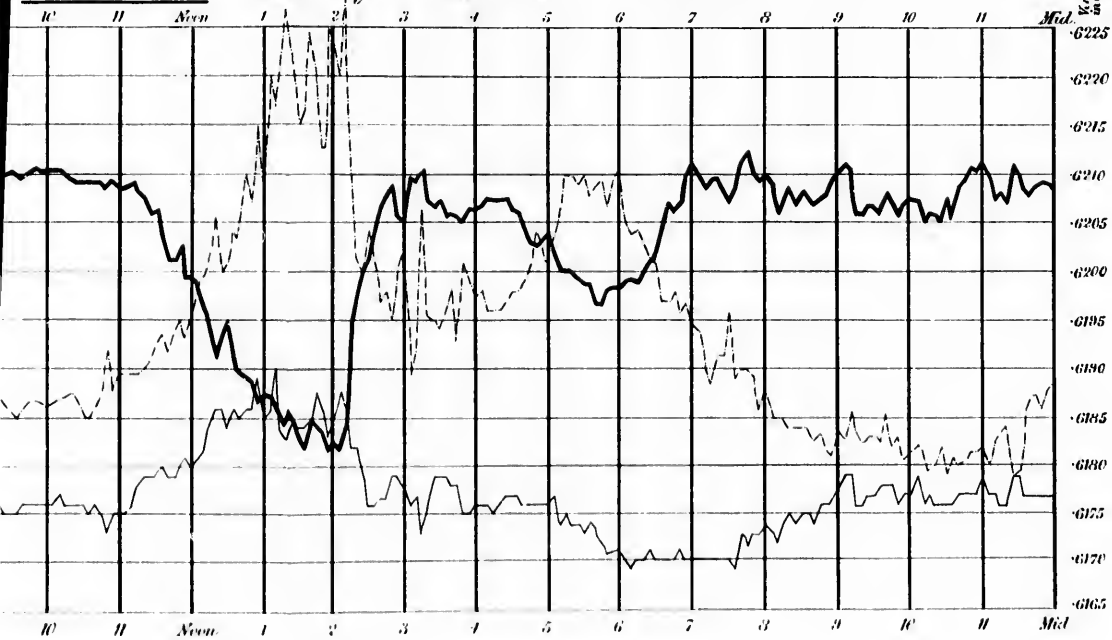
Fort Rae.

Term day

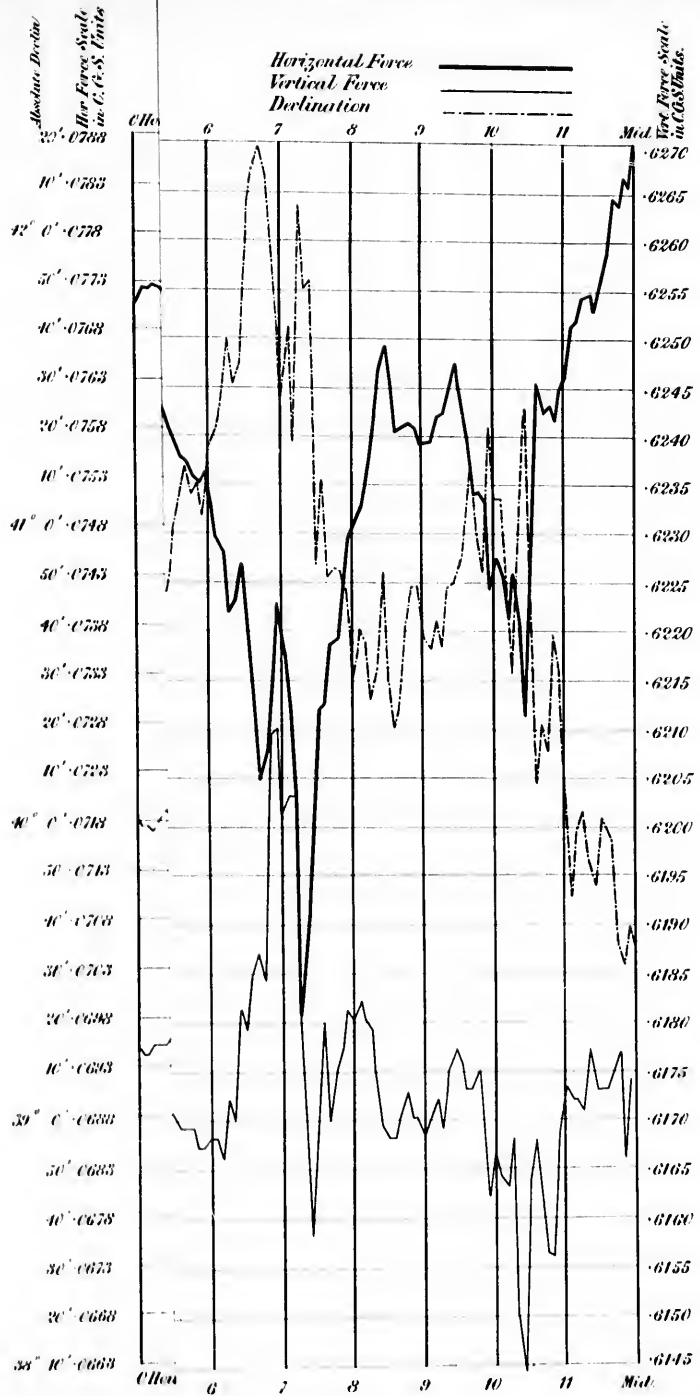
Observations.

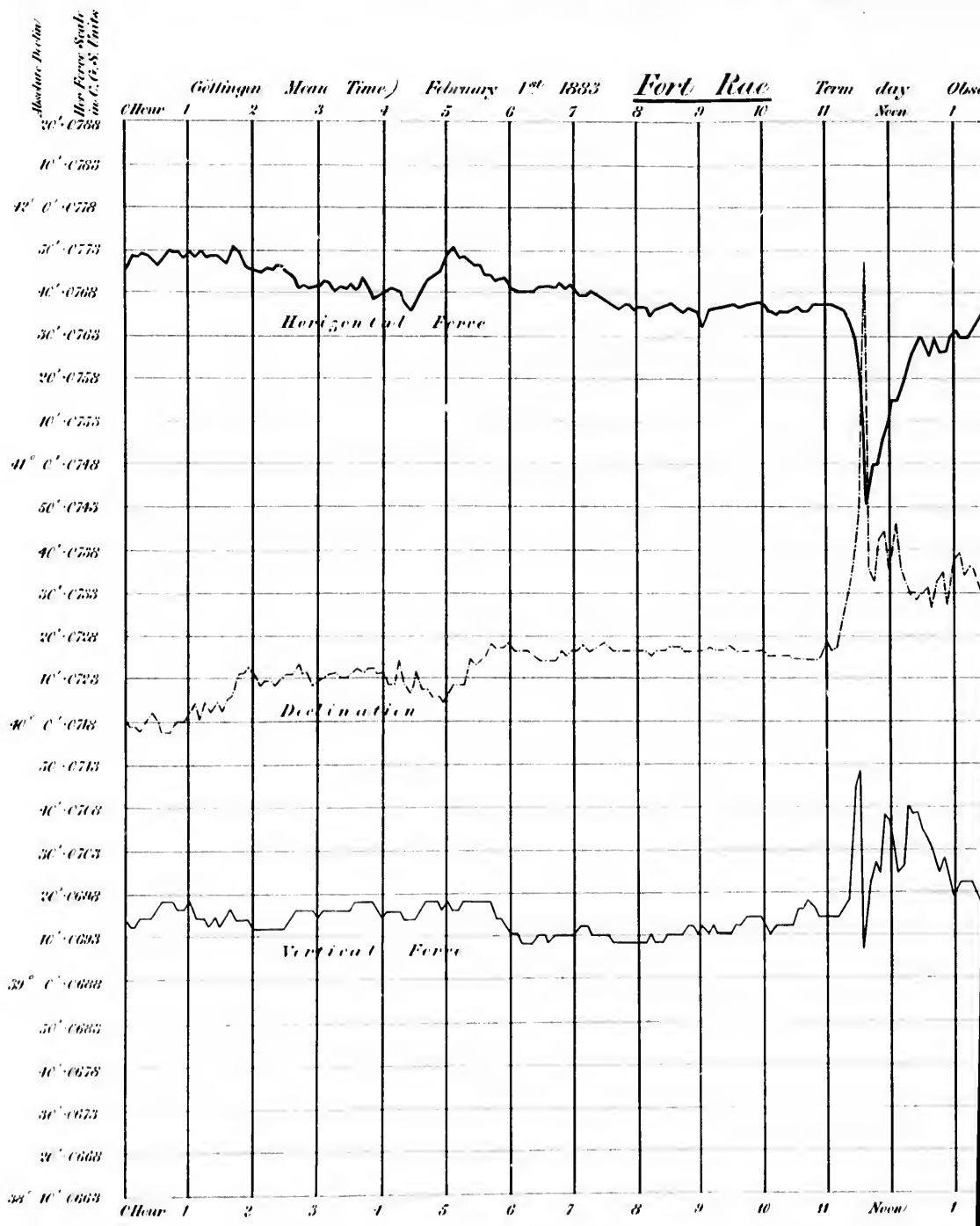
Horizontal Force ———
 Vertical Force ———
 Declination - - - - -

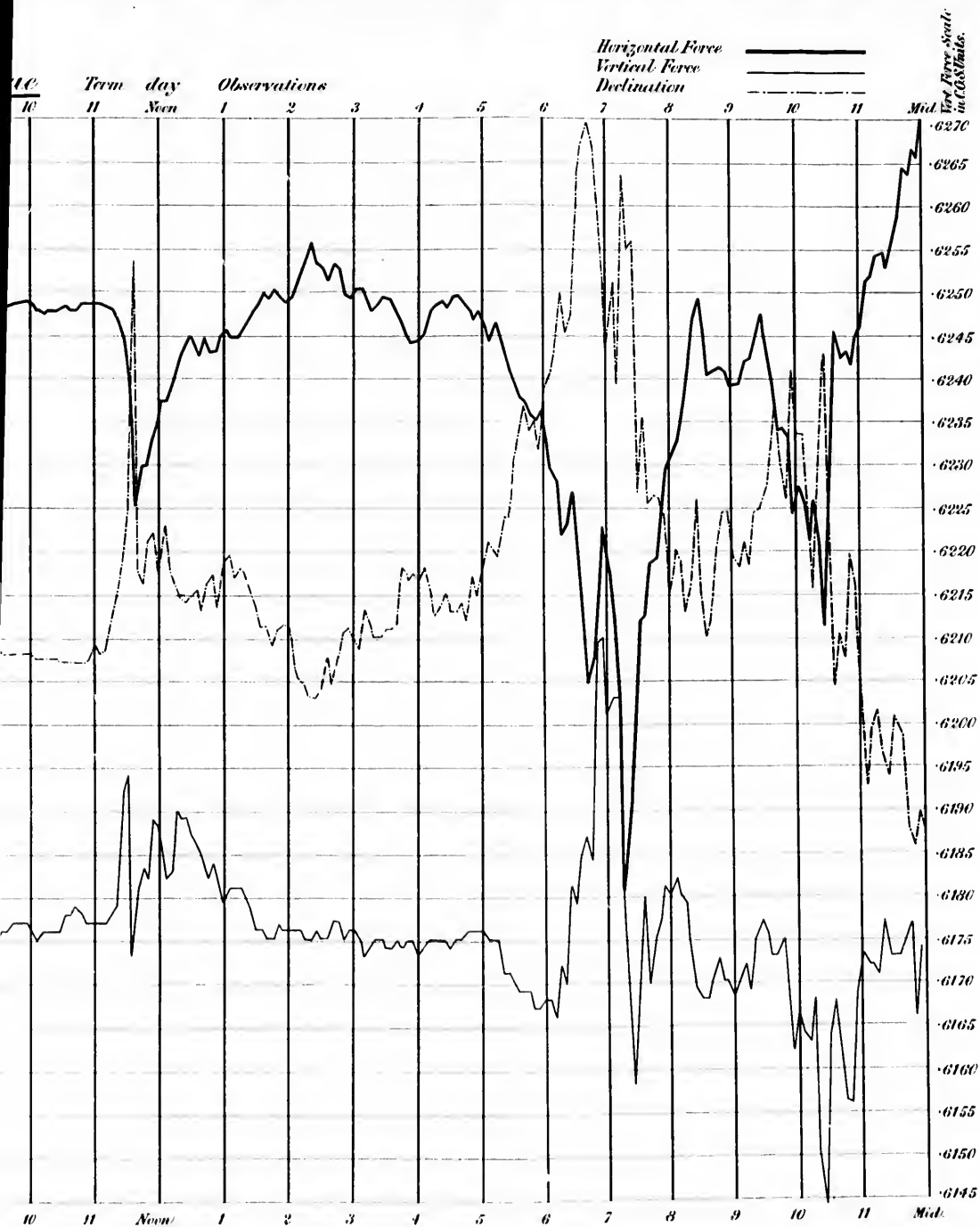
Vert. Force Scale
 in C.G.S. Units.







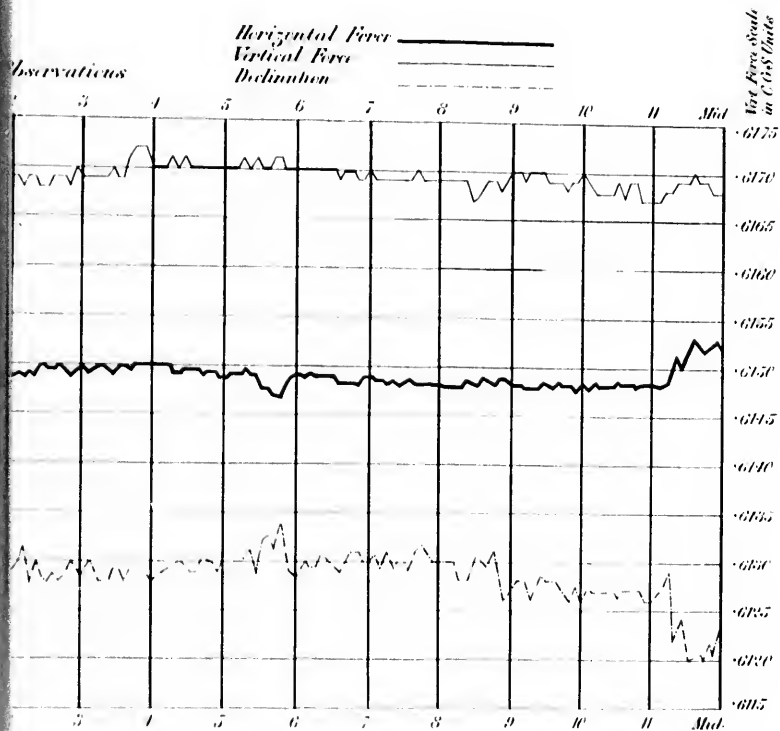




Force in CGS units.



Plate II.



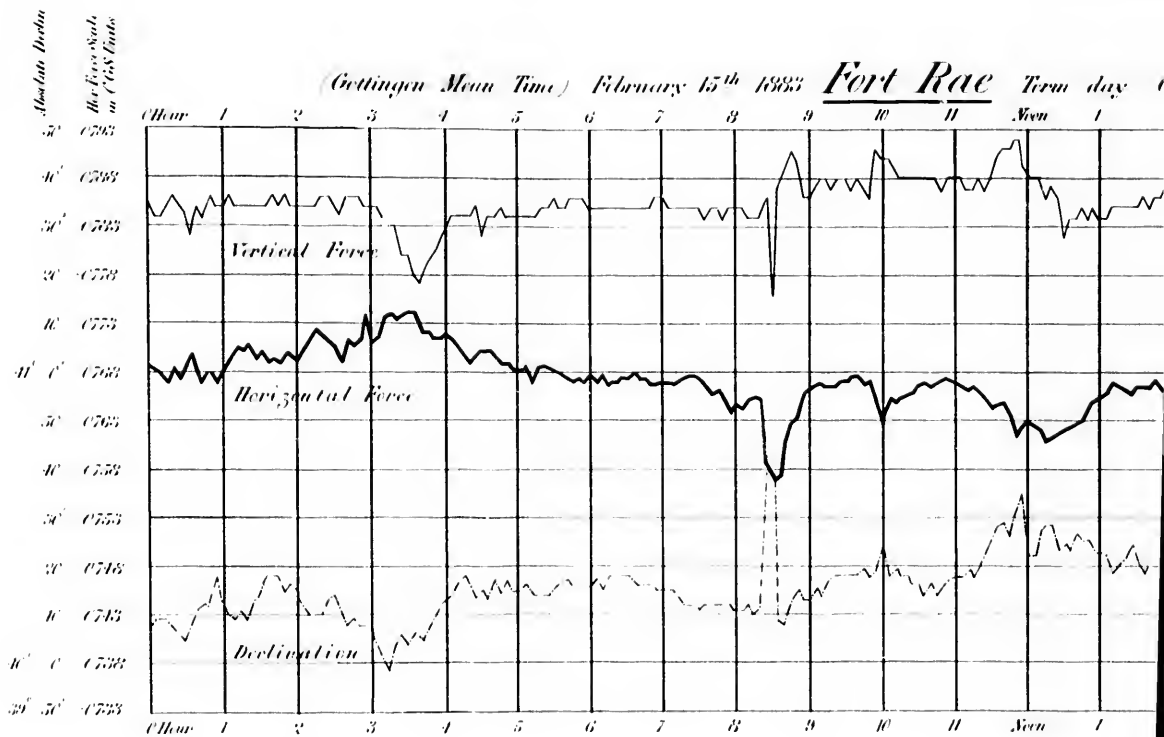
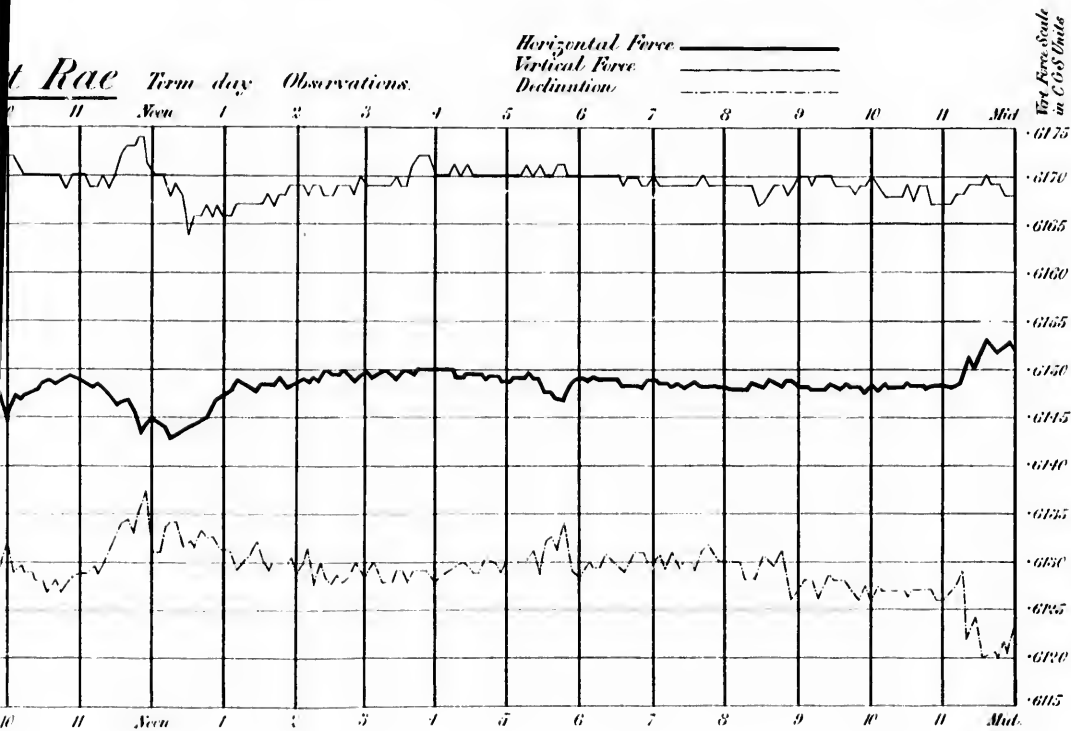
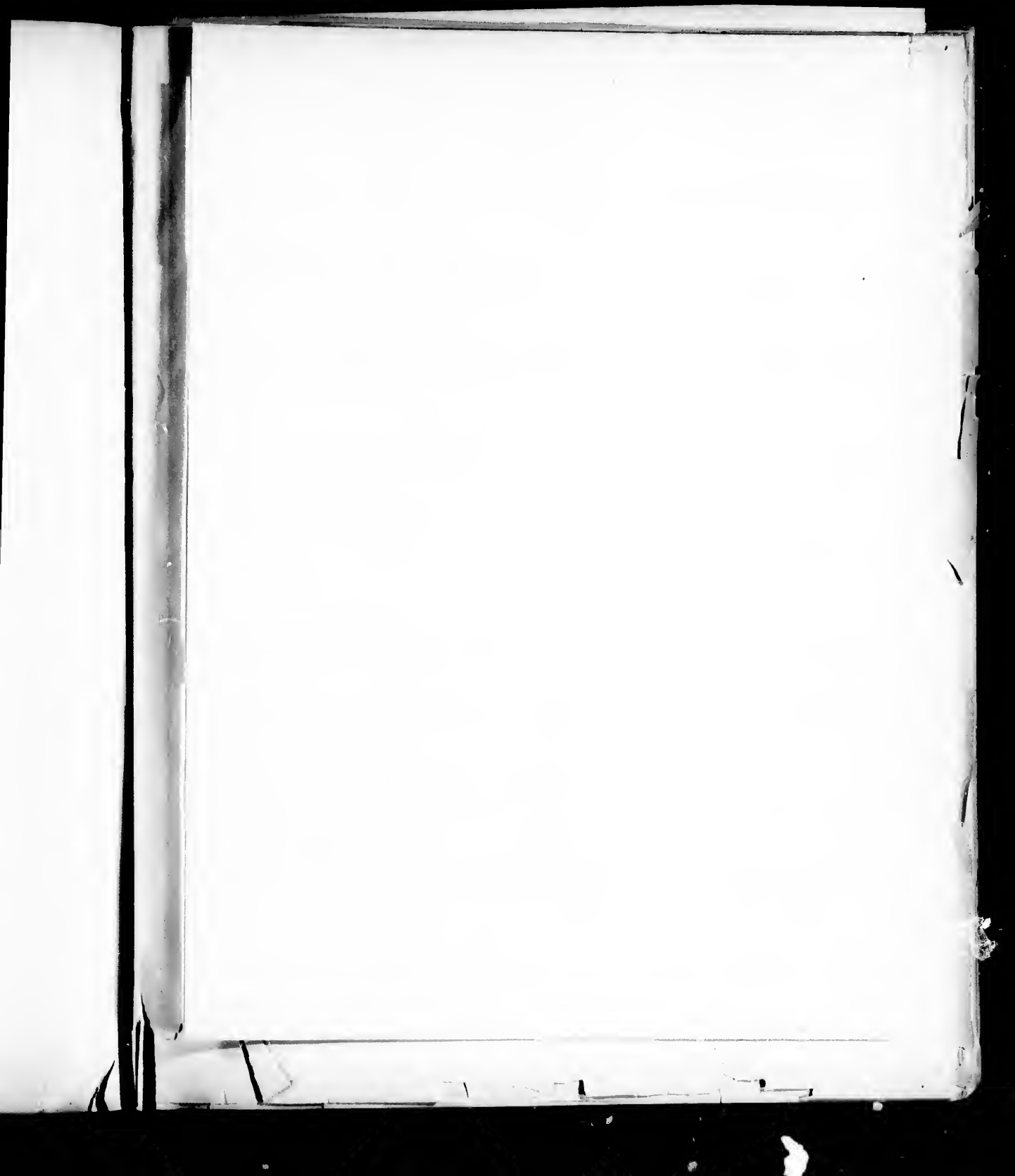


Plate II.





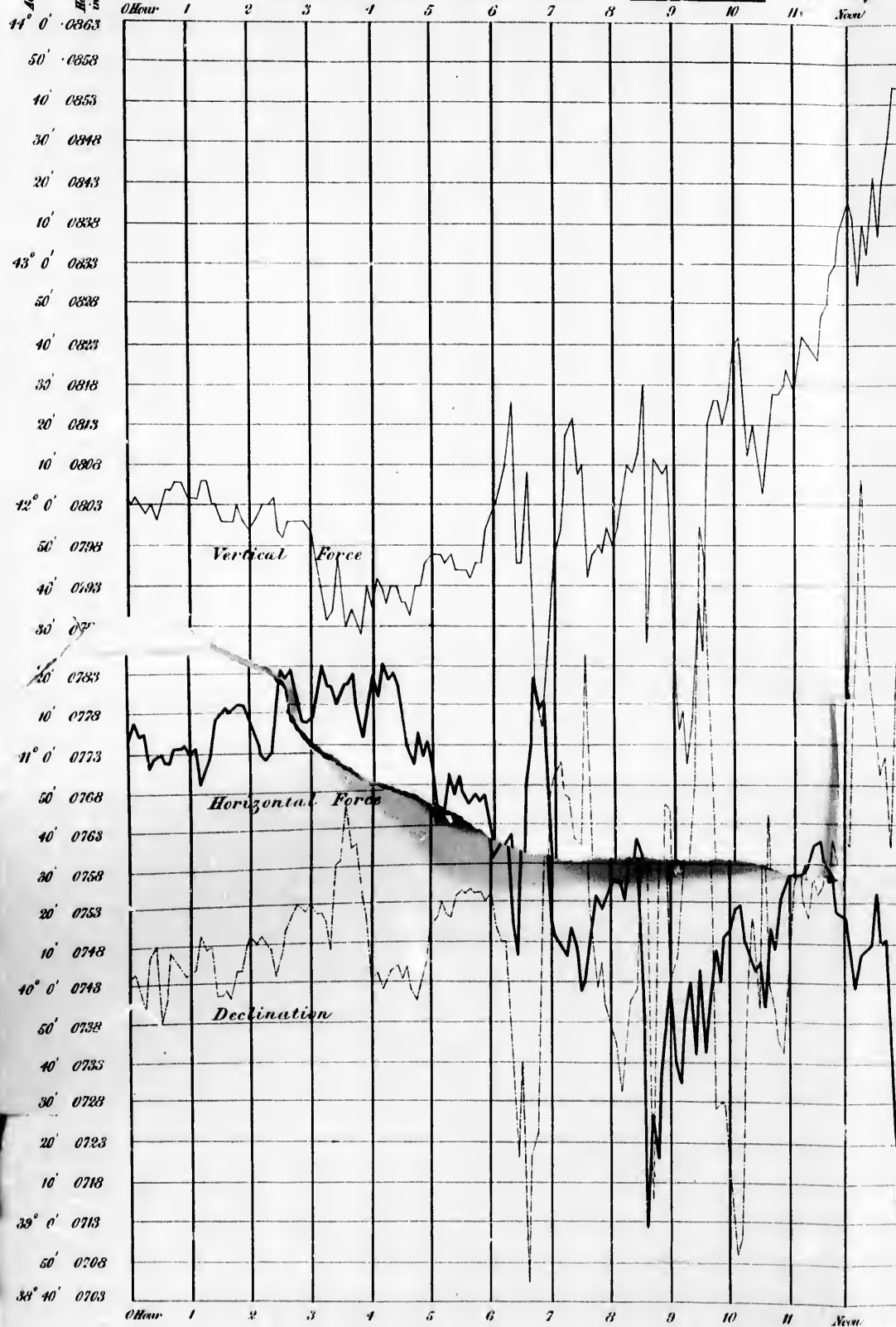


Absolute Declin
 Her Force scale
 in C. G. Scale

(Göttingen Mean Time) March 1st 1883

Fort Rae.

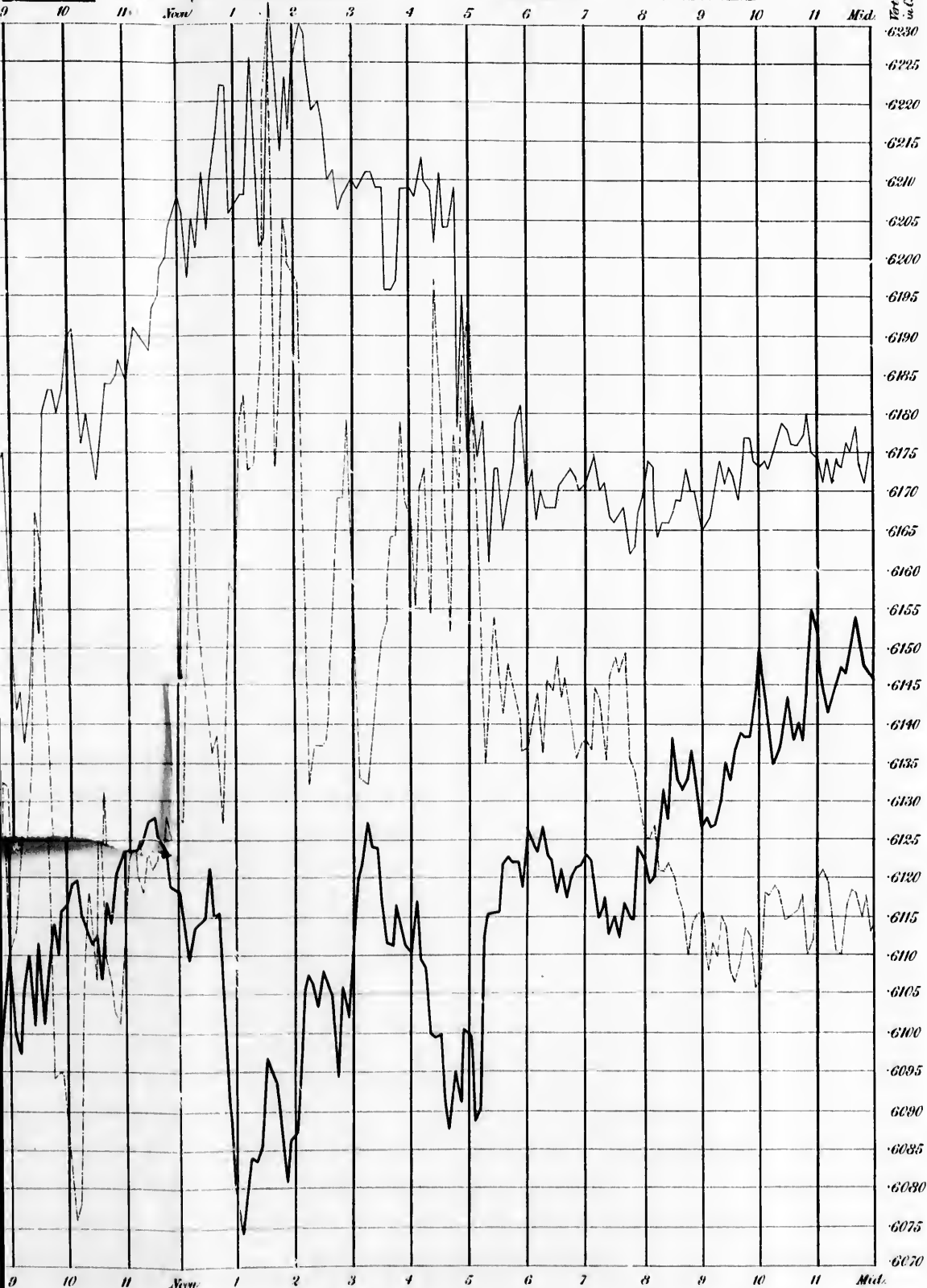
Term day.



Port Rae. Term day. Observations

Horizontal Force: _____
Vertical Force: _____
Declination: - - - - -

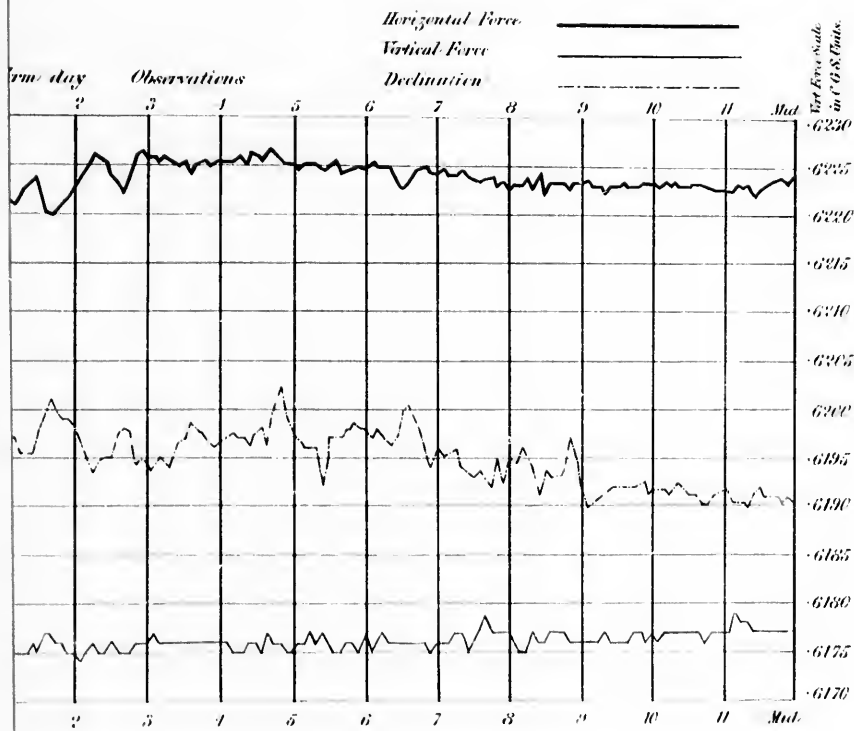
Port Rae Scale
in CGS Units



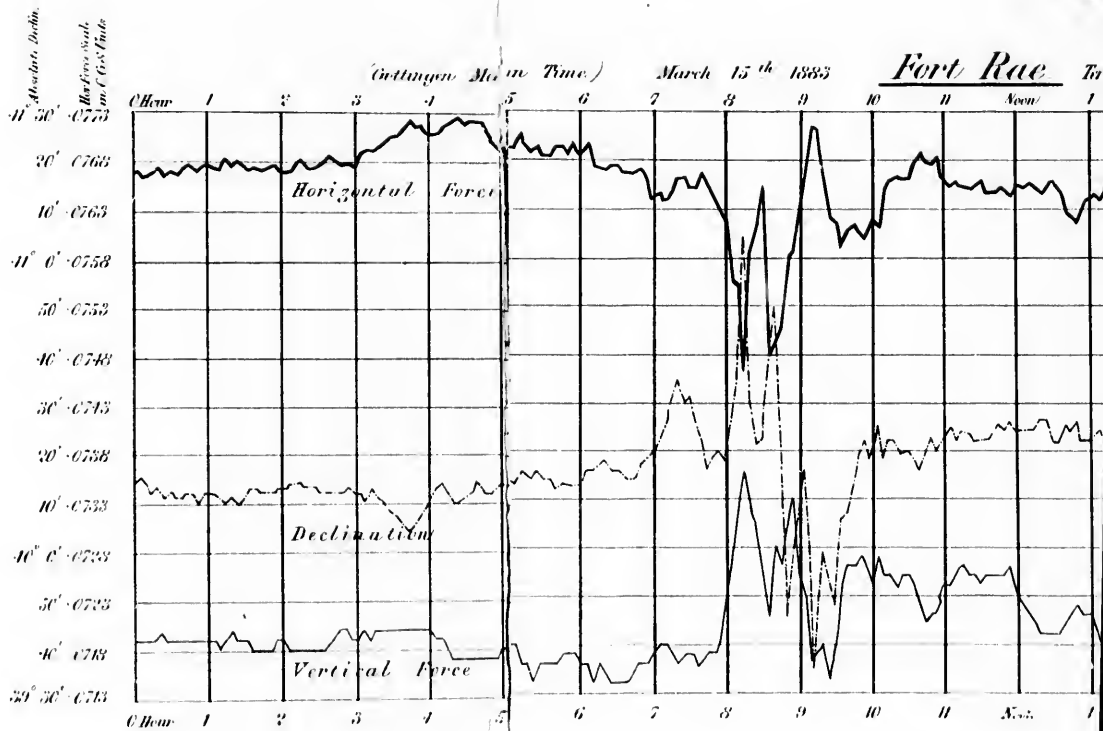
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Plate 13.



2000 1000



Horizontal Force _____
 Vertical Force _____
 Declination/ _____

Fort Rae.

Term: day

Observations

Bar Force scale
 in C. G. S. Units.

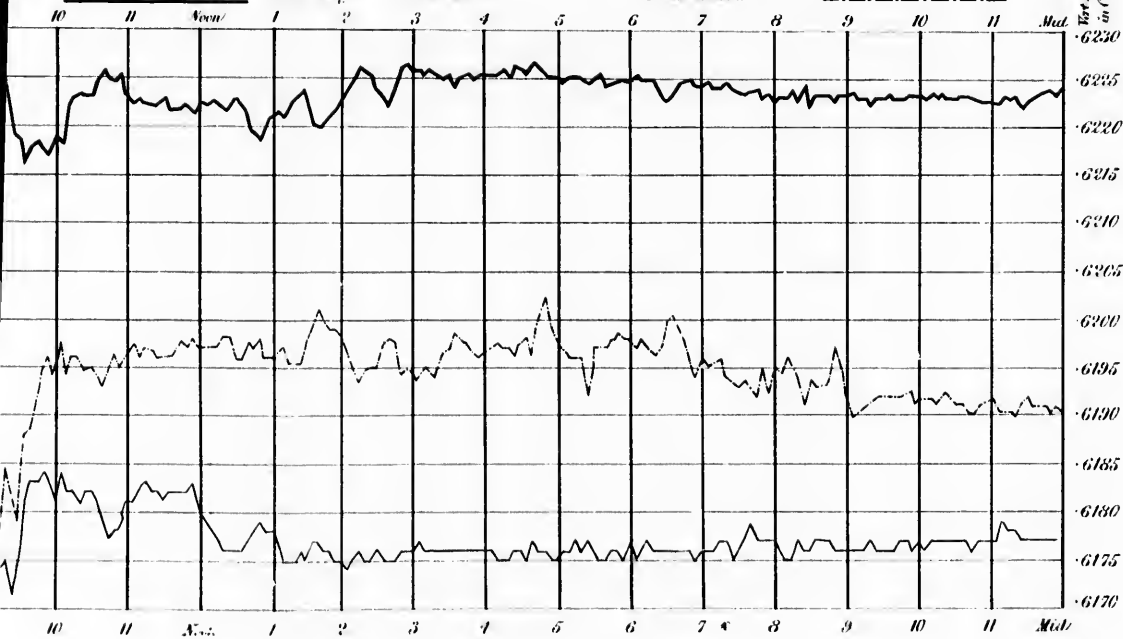
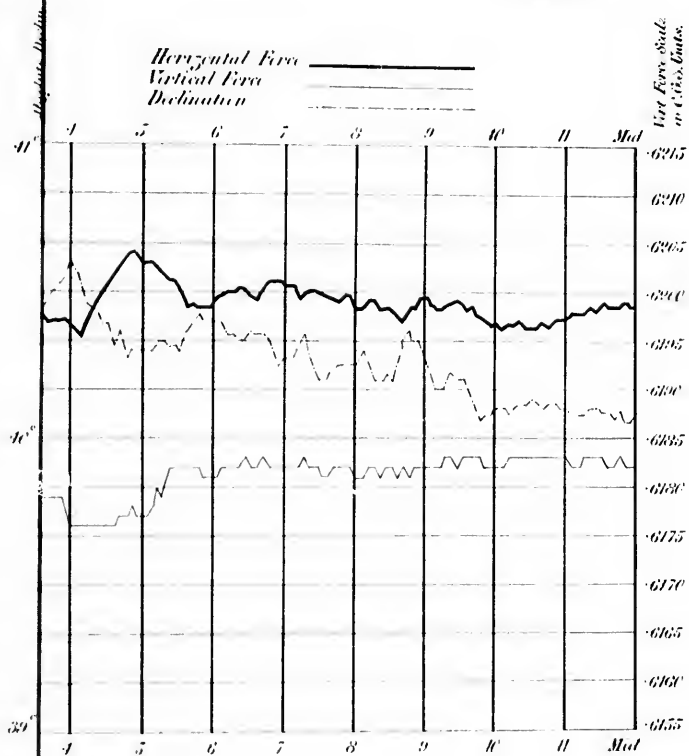




Plate 14.



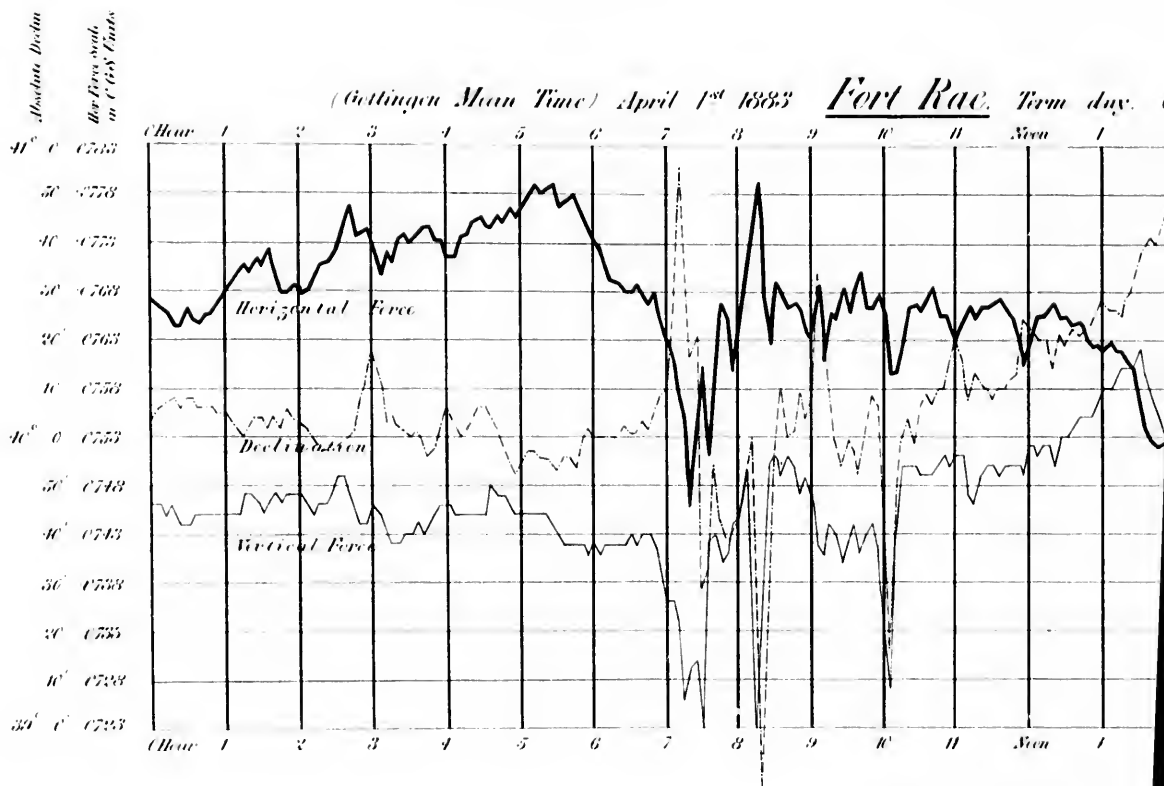


Plate 14.

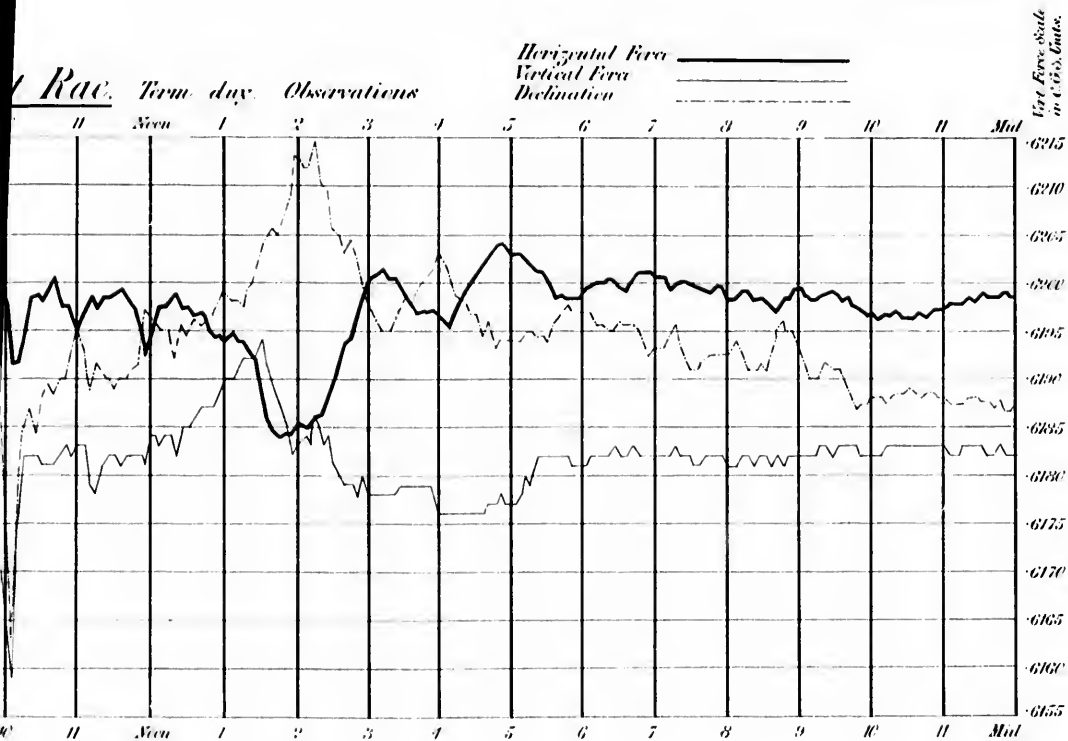
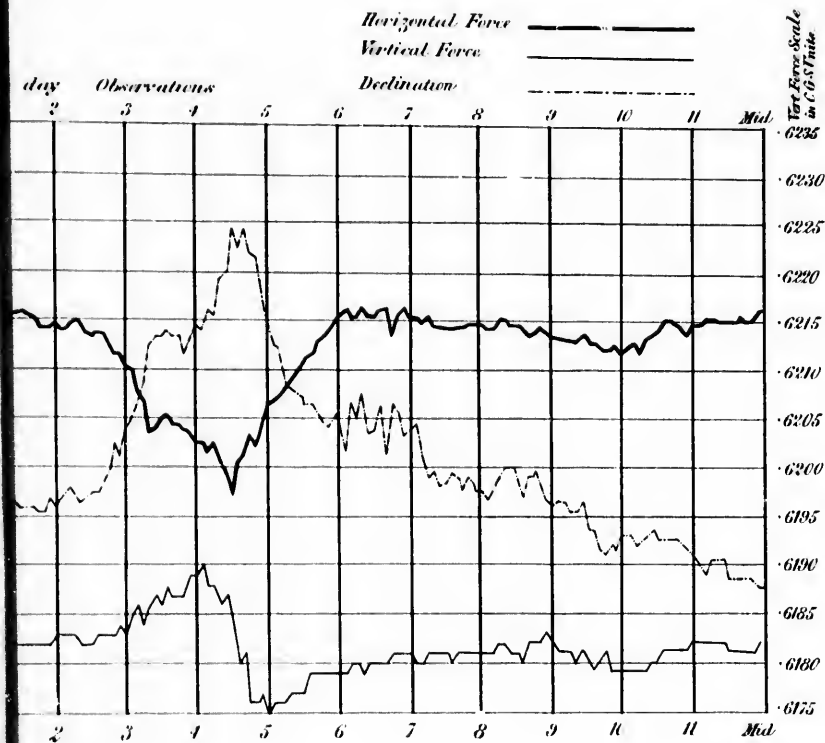


Plate 15.



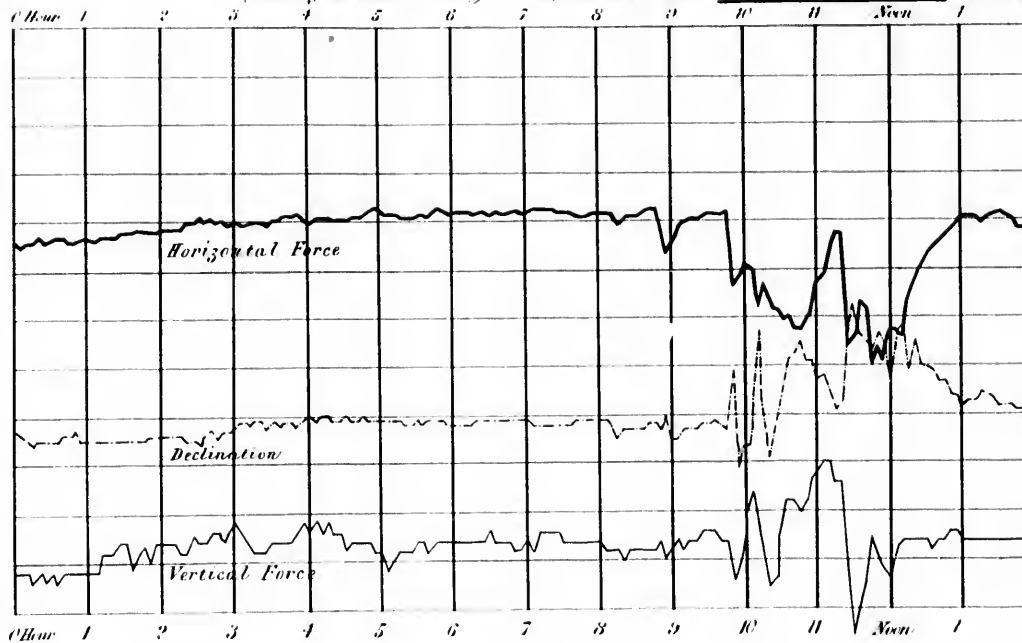
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Absolute D. in
 Air Force, in
 in C. S. Units

50' -07868
 40' -07833
 30' -07798
 20' -07763
 10' -07728
 0' -07693
 10' -07658
 20' -07623
 30' -07588
 40' -07553
 50' -07518
 60' -07483

(Göttingen Mean Time.) April 15th 1883

Fort Rae Tern day



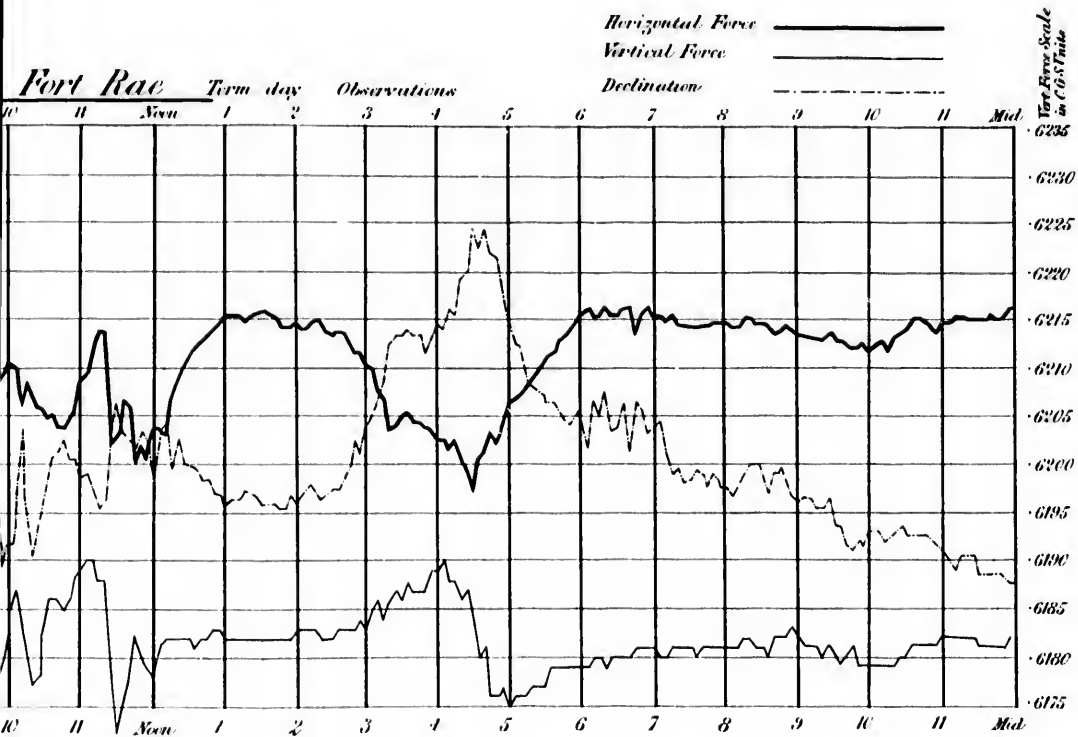
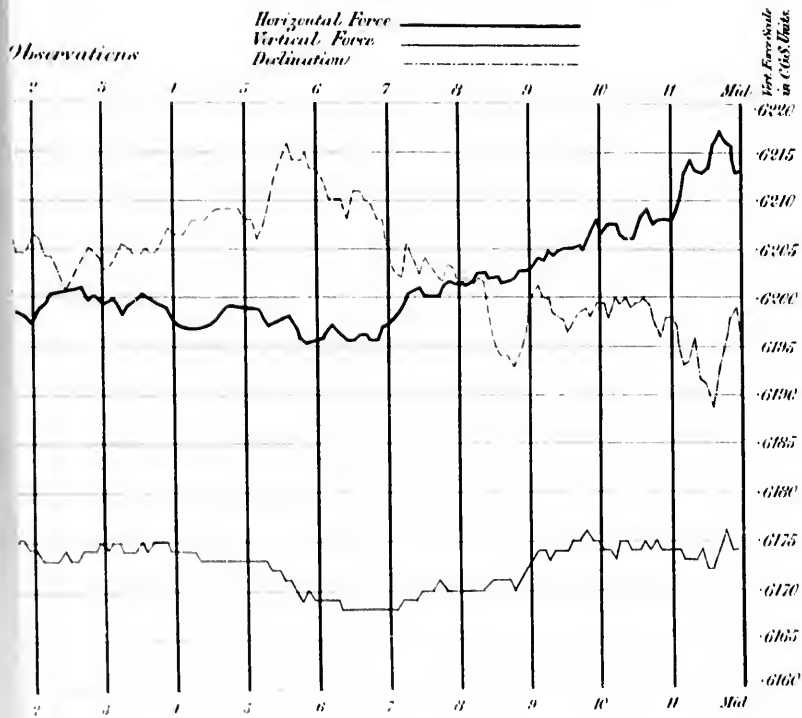




Plate 16.



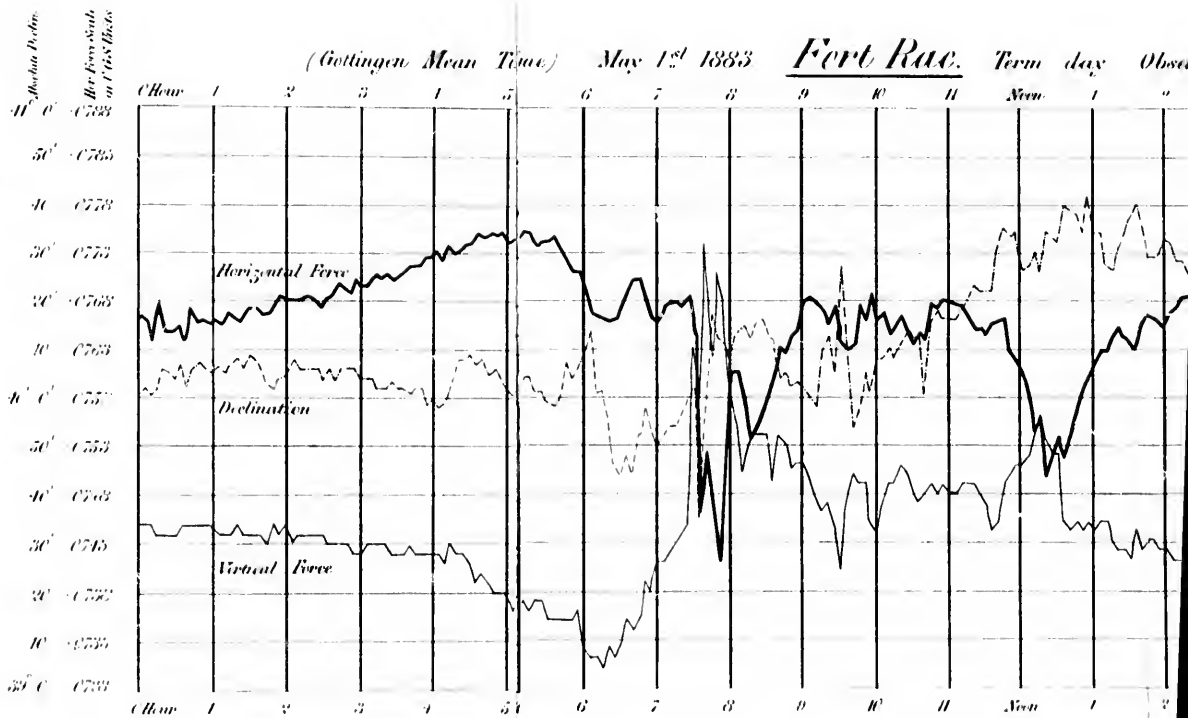


Plate 16.

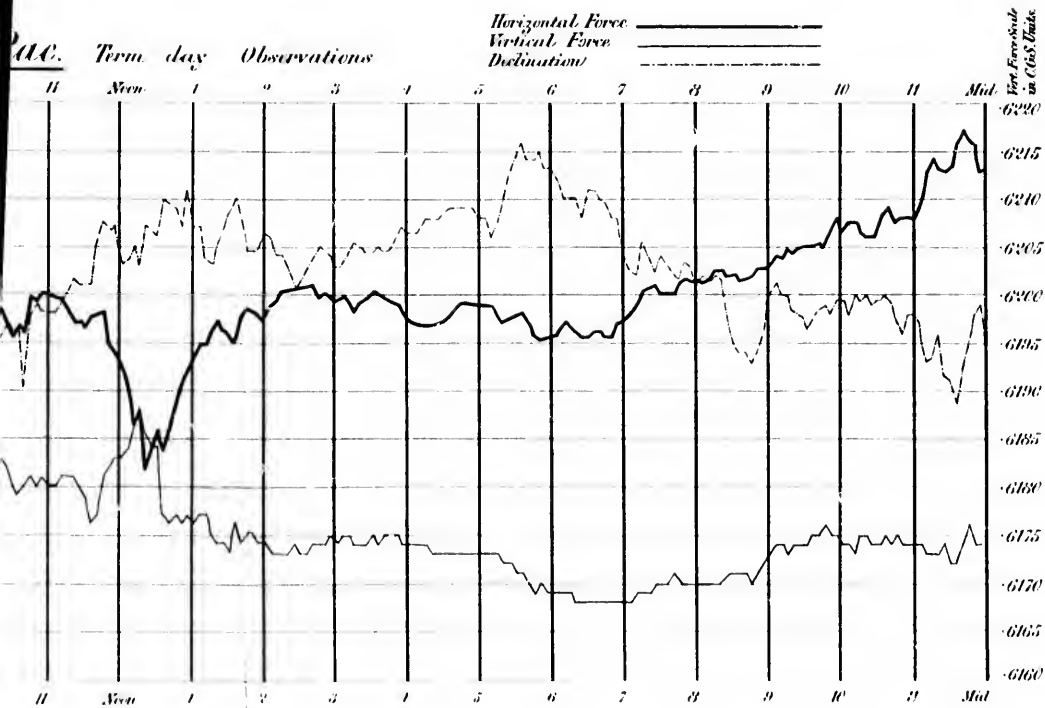
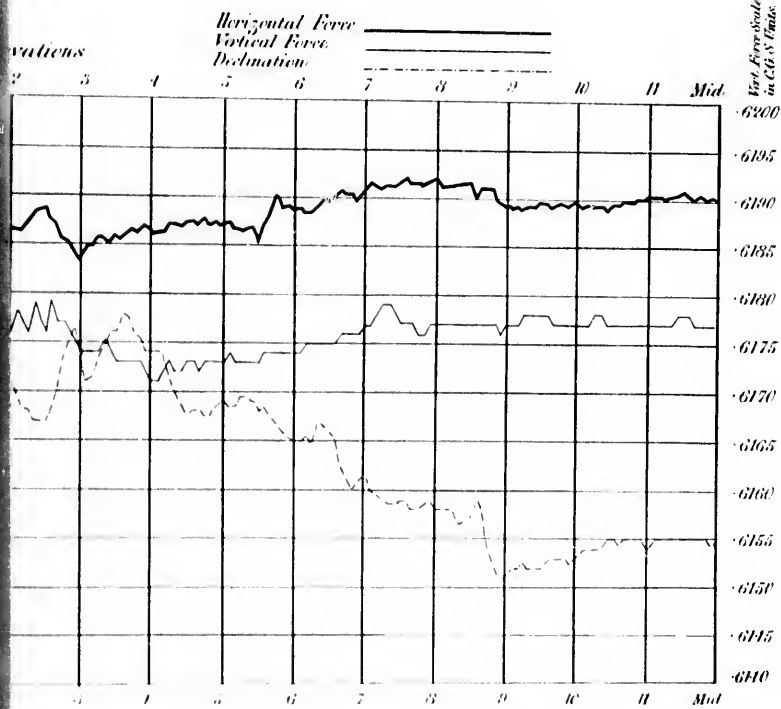
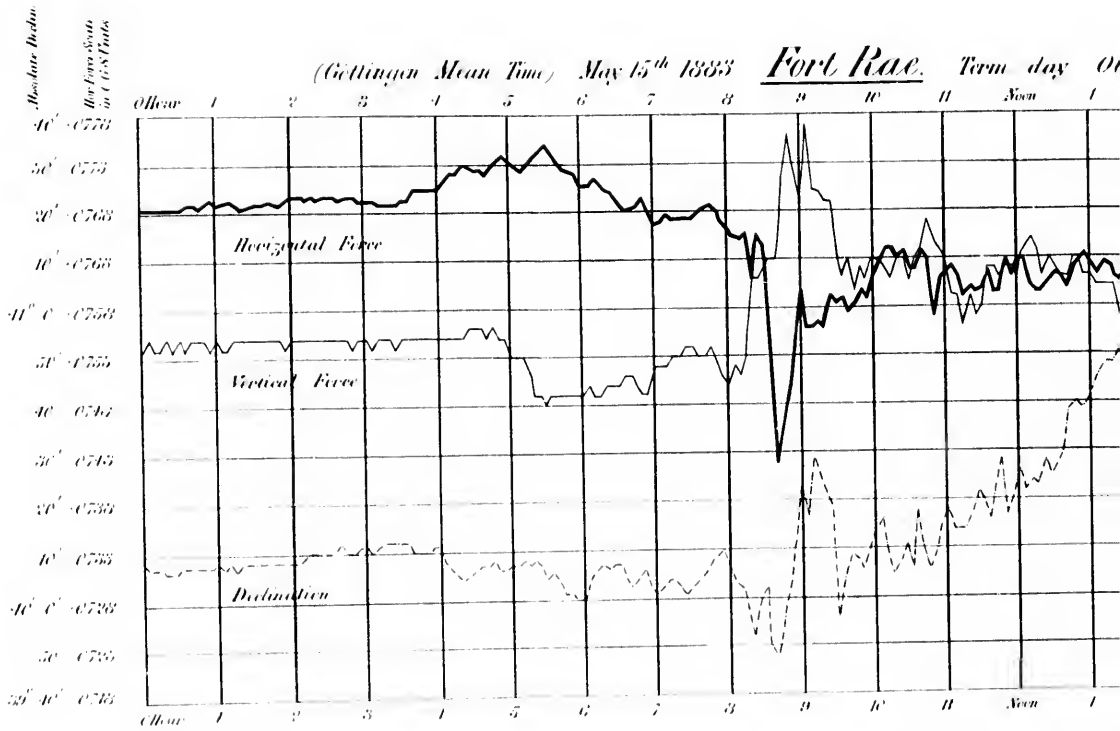




Plate 17.





Rae. Term day Observations

Horizontal Force _____
 Vertical Force _____
 Declination - - - - -

Vert. Force Scale
 in C.G.S. Units

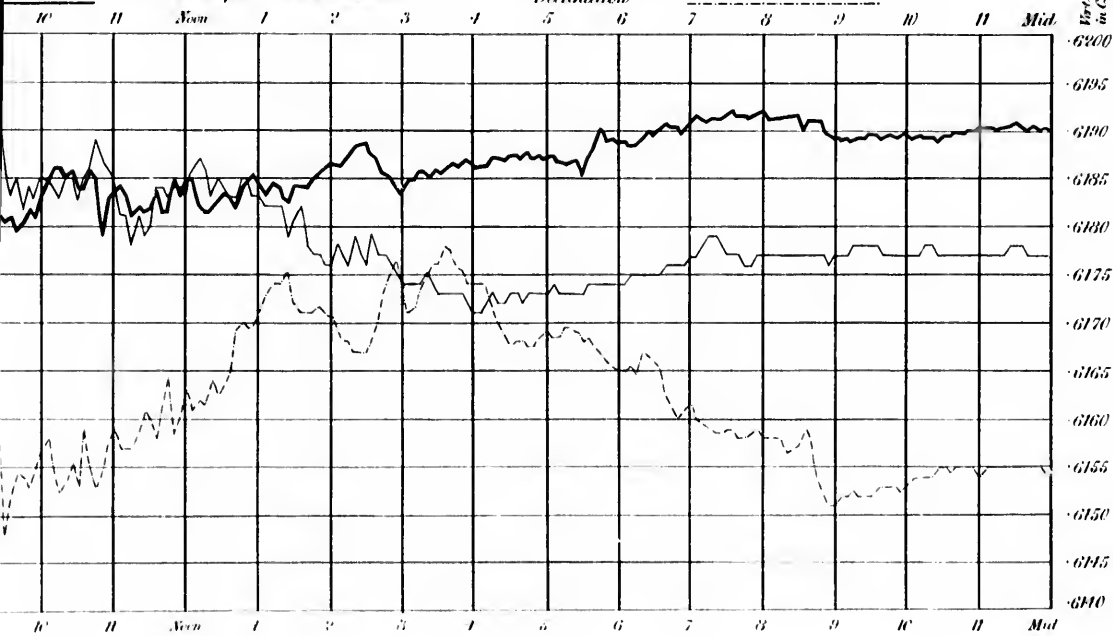
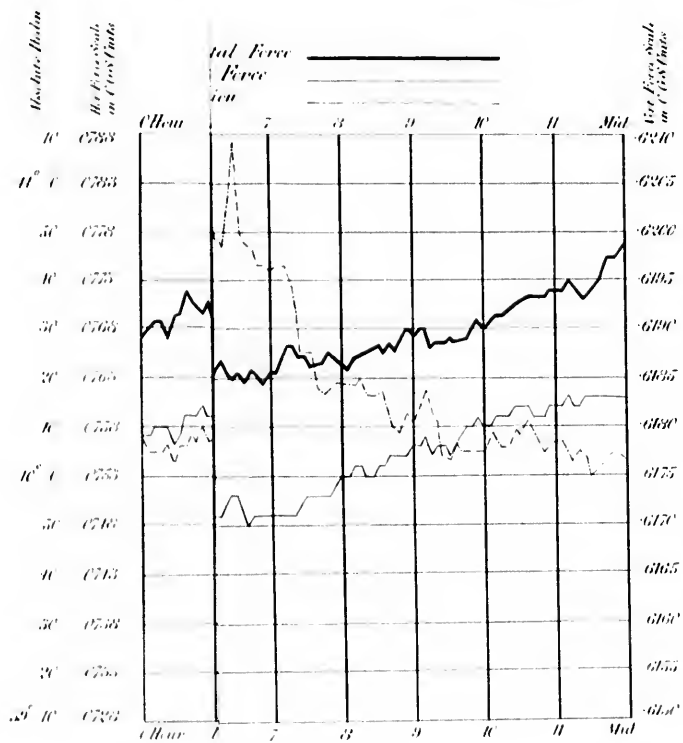
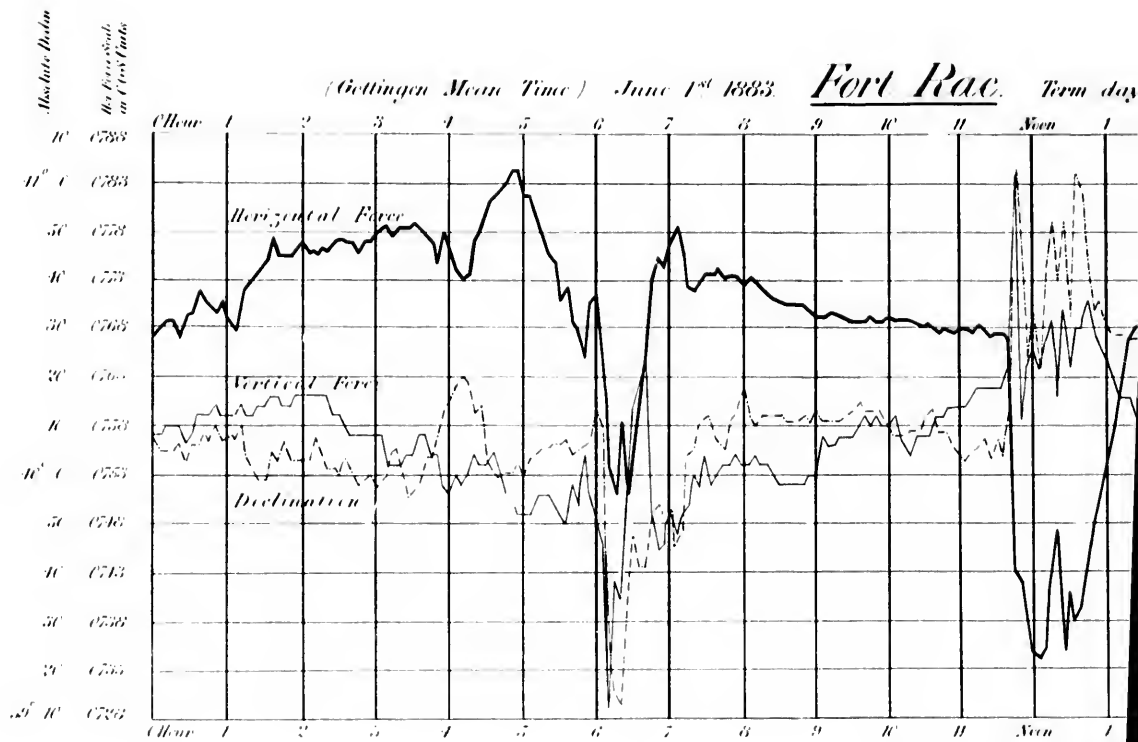




Plate 13.





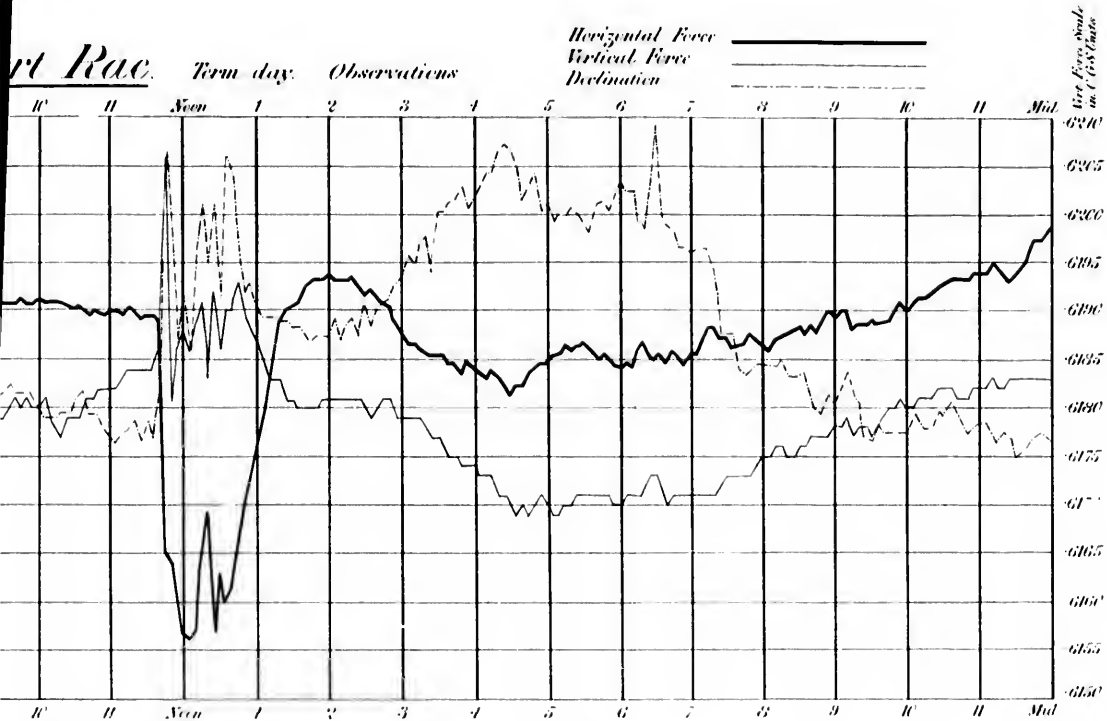
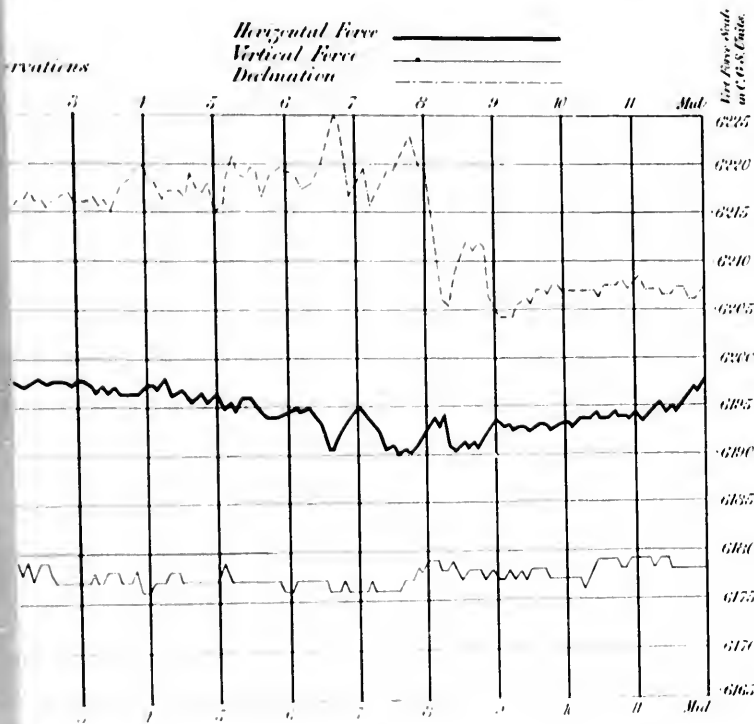




Plate 19.



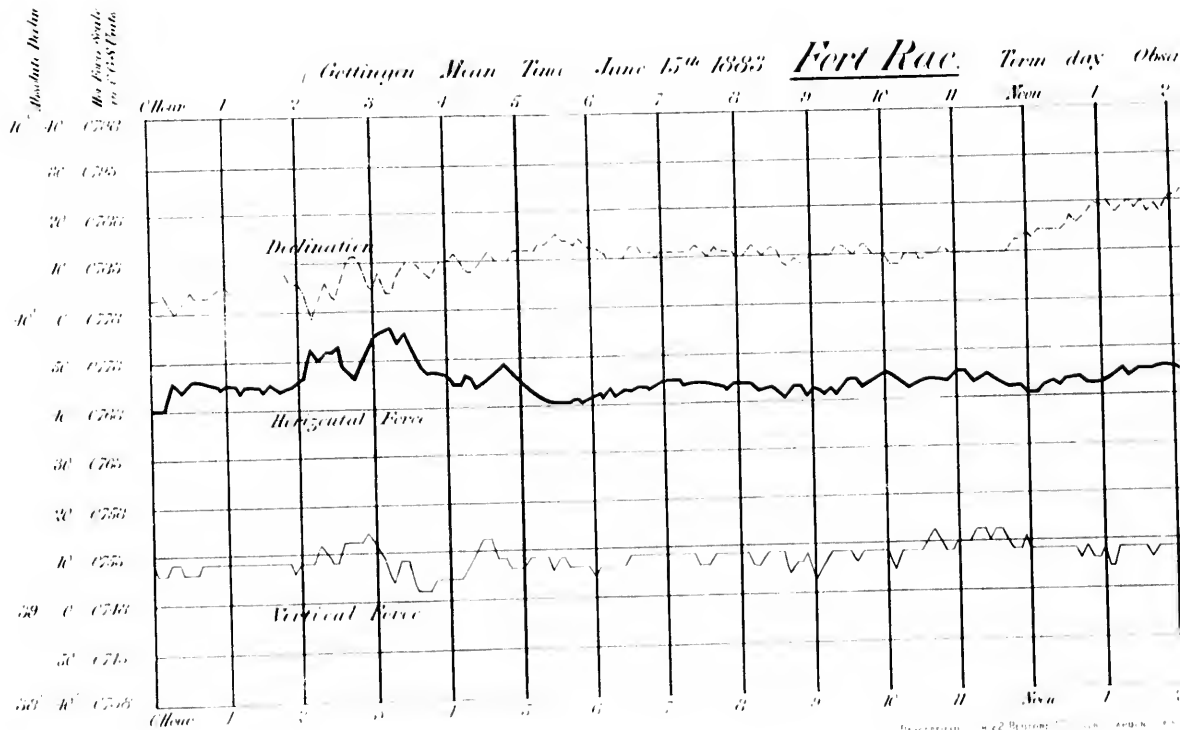
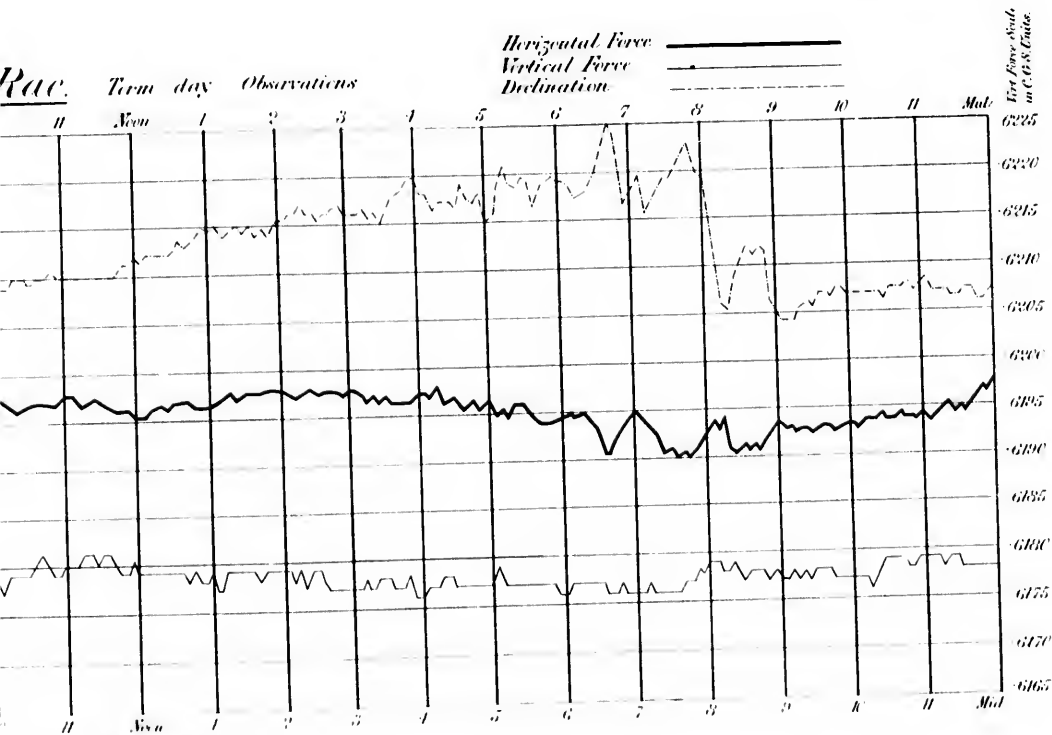
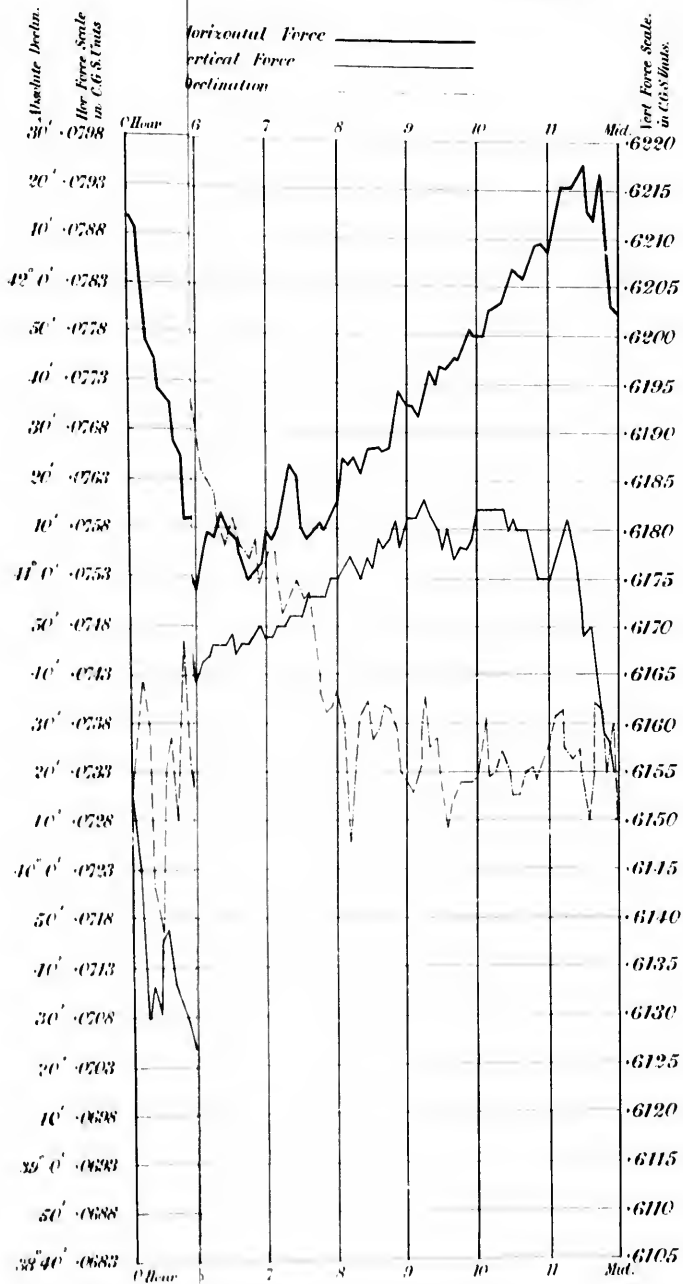


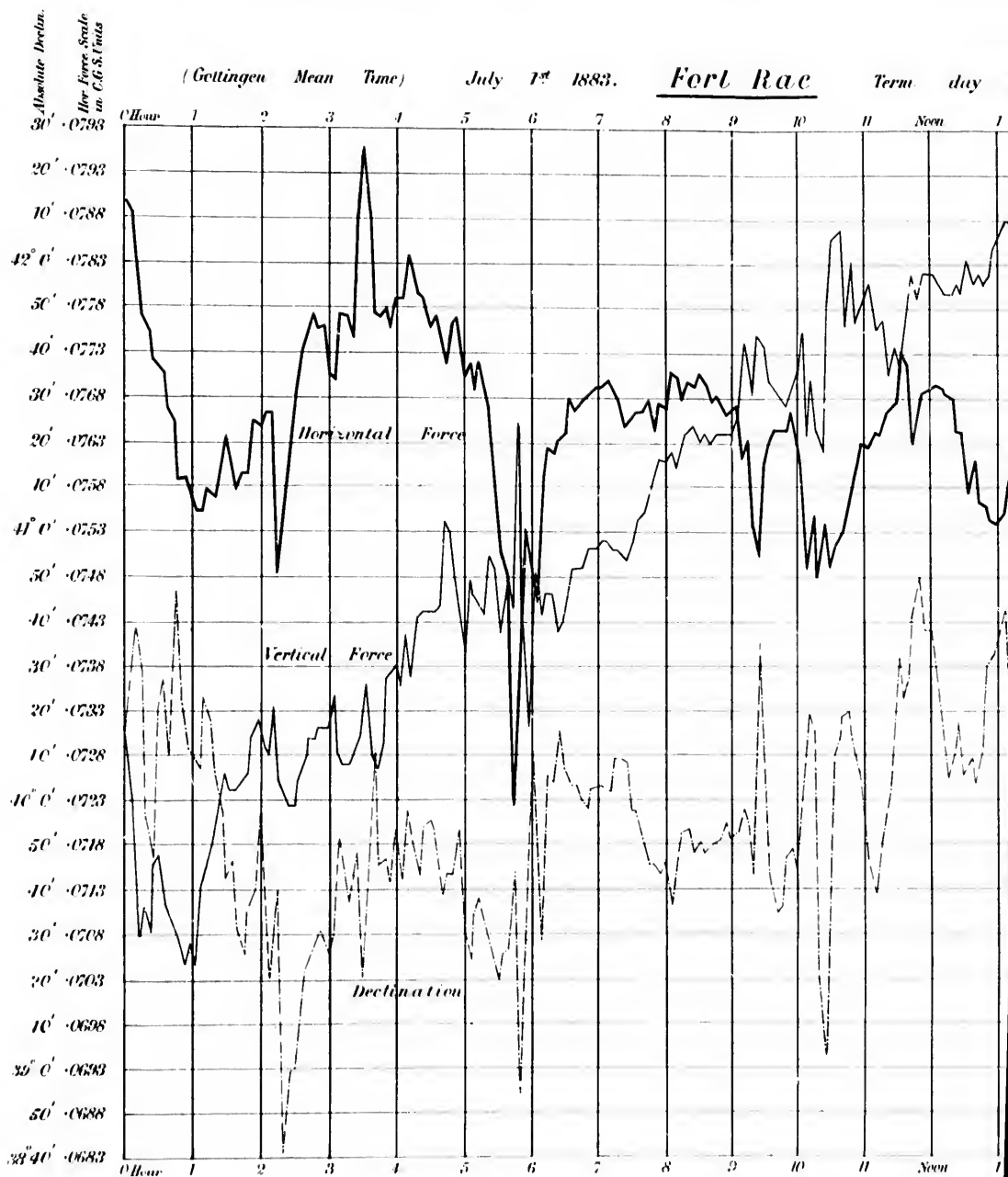
Plate 19.



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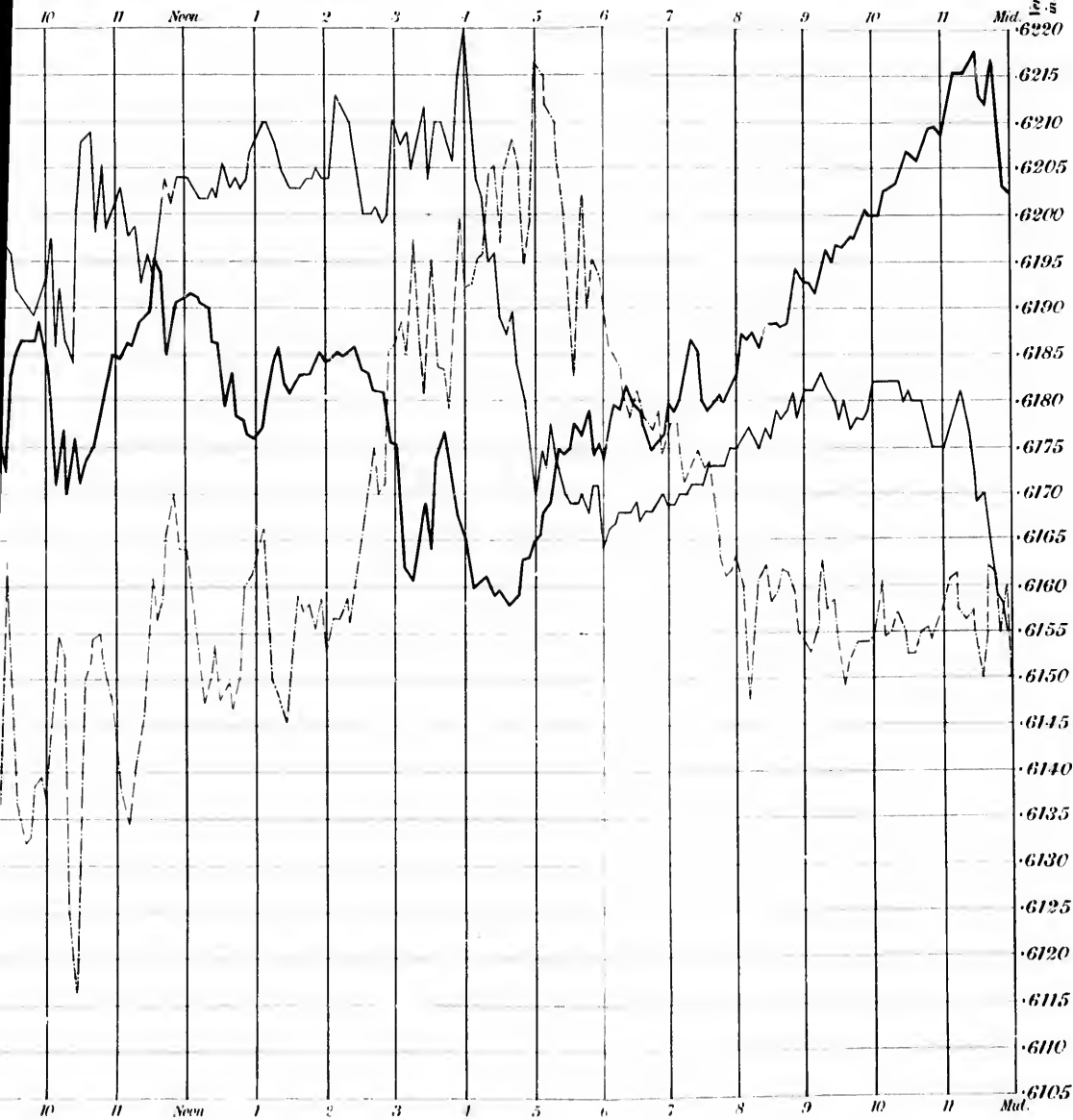


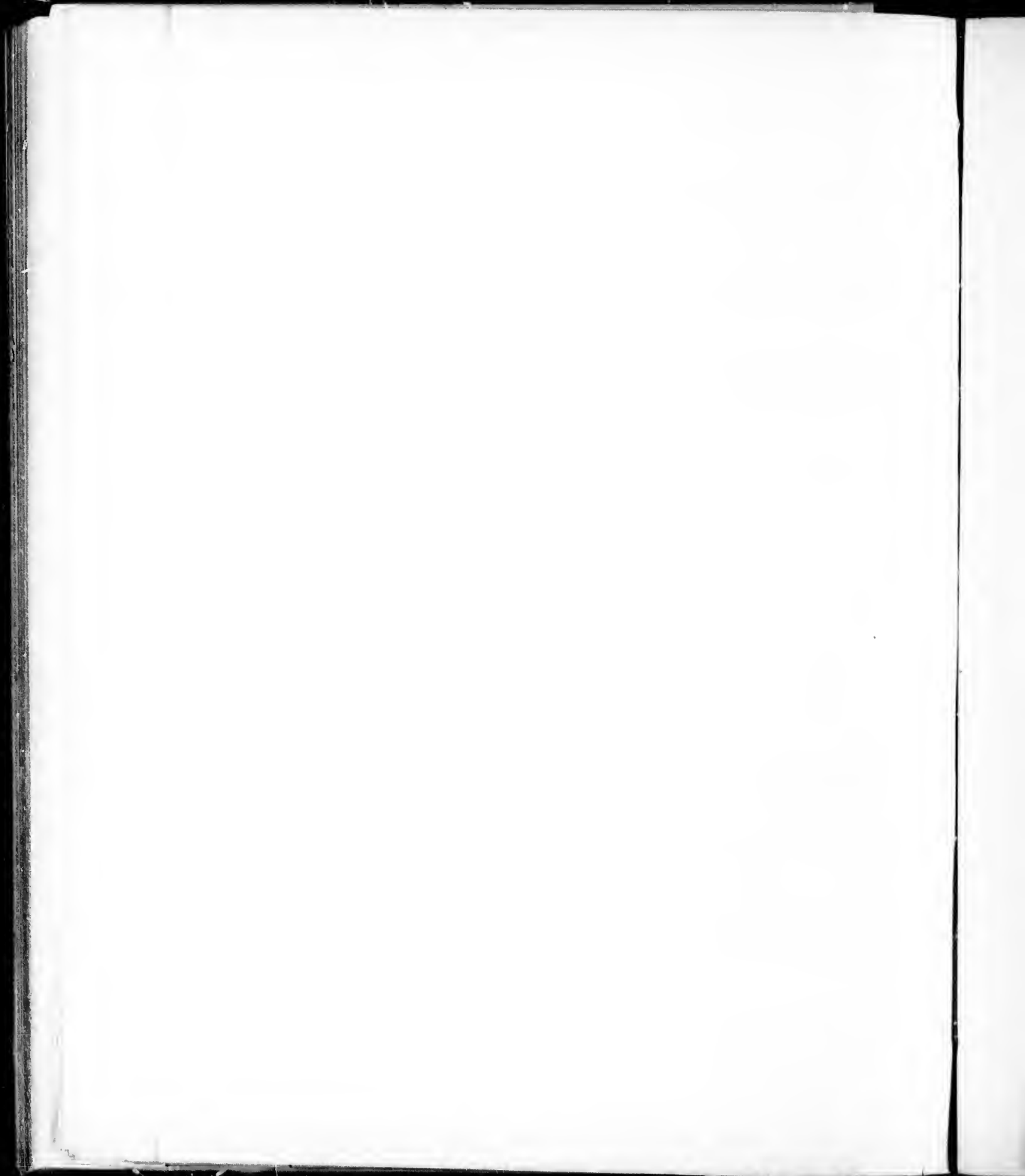
Q.C.

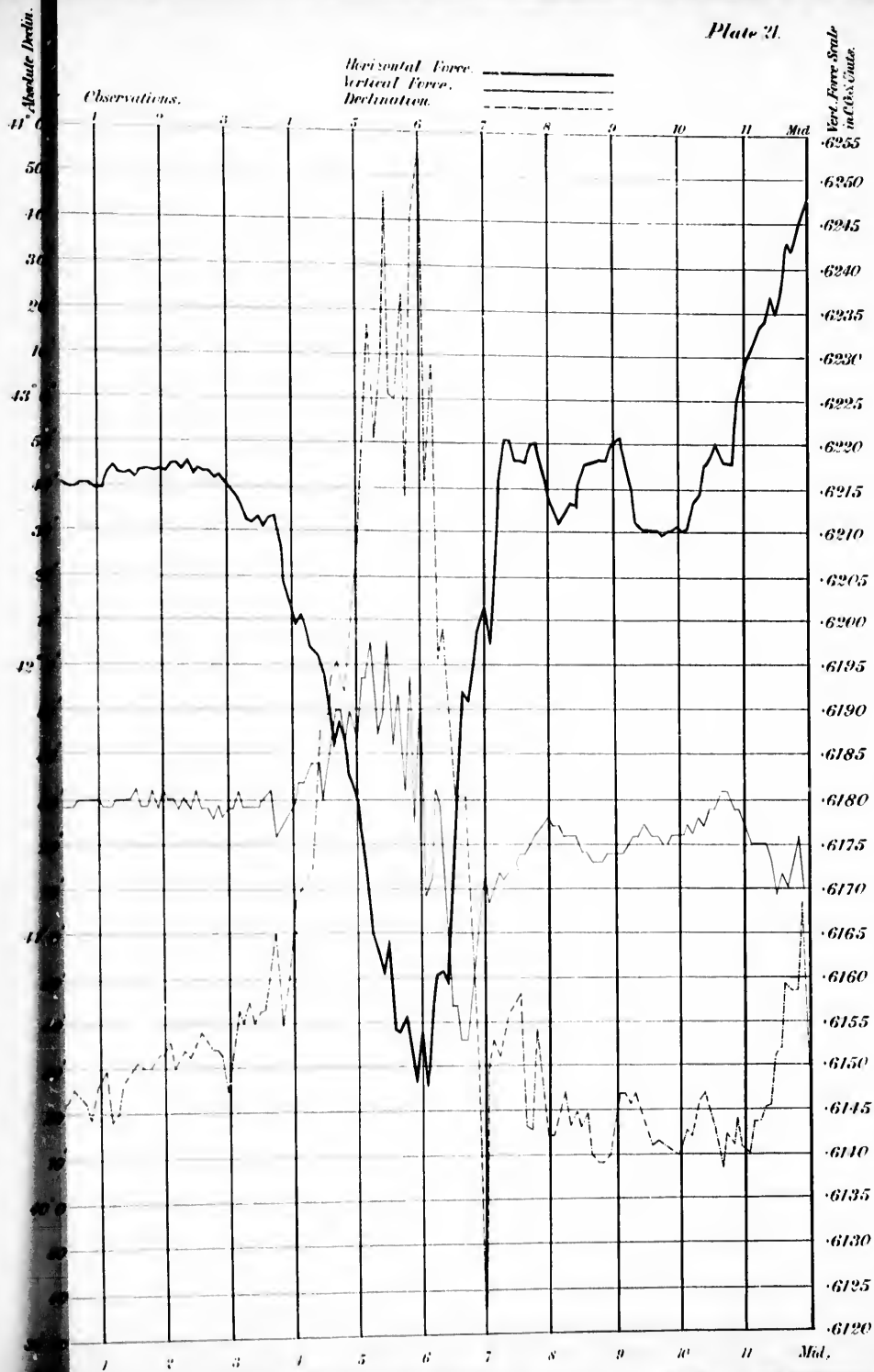
Term day Observations.

Horizontal Force _____
 Vertical Force _____
 Declination _____

Vert Force Scale
 in C.G.S. Units.



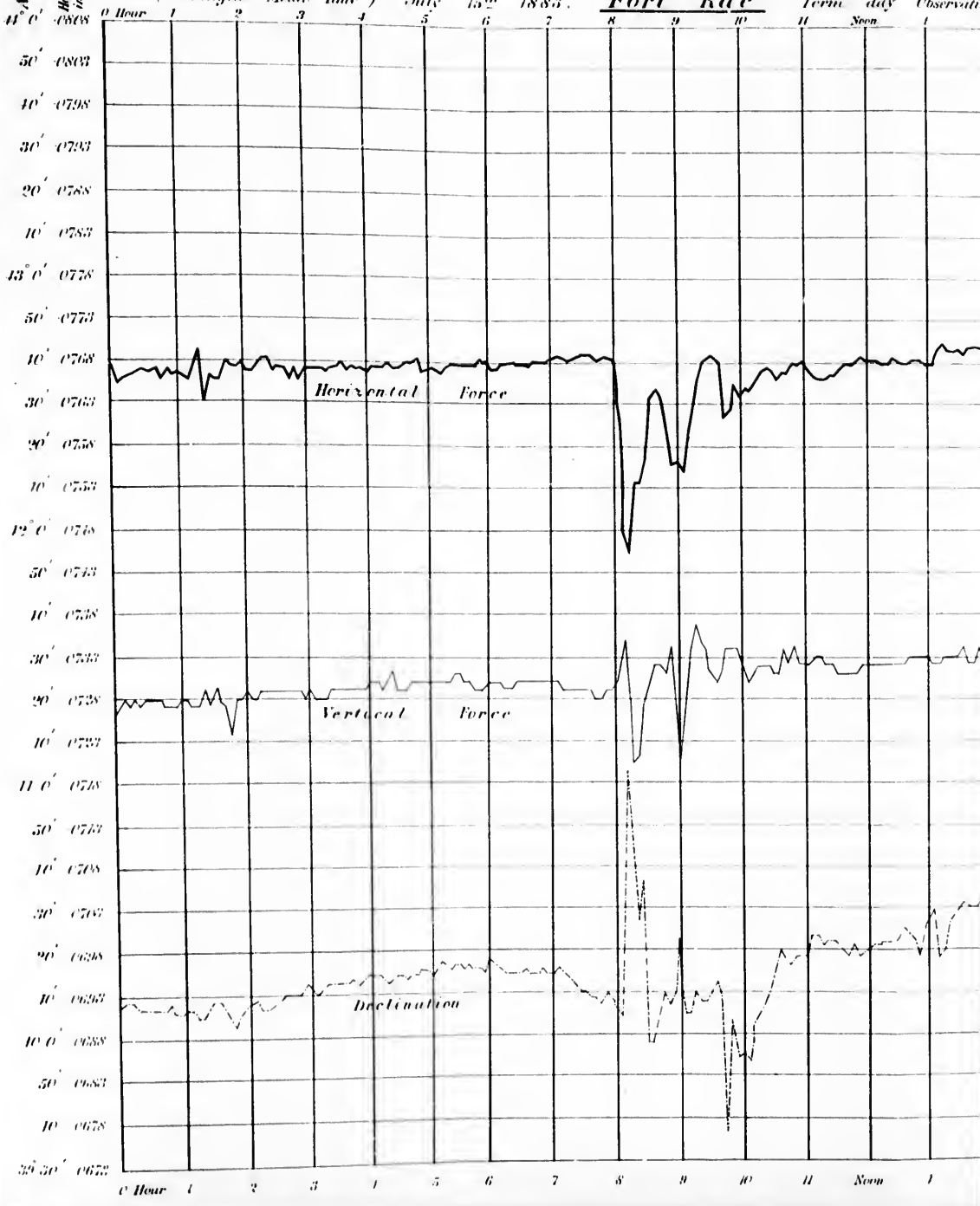


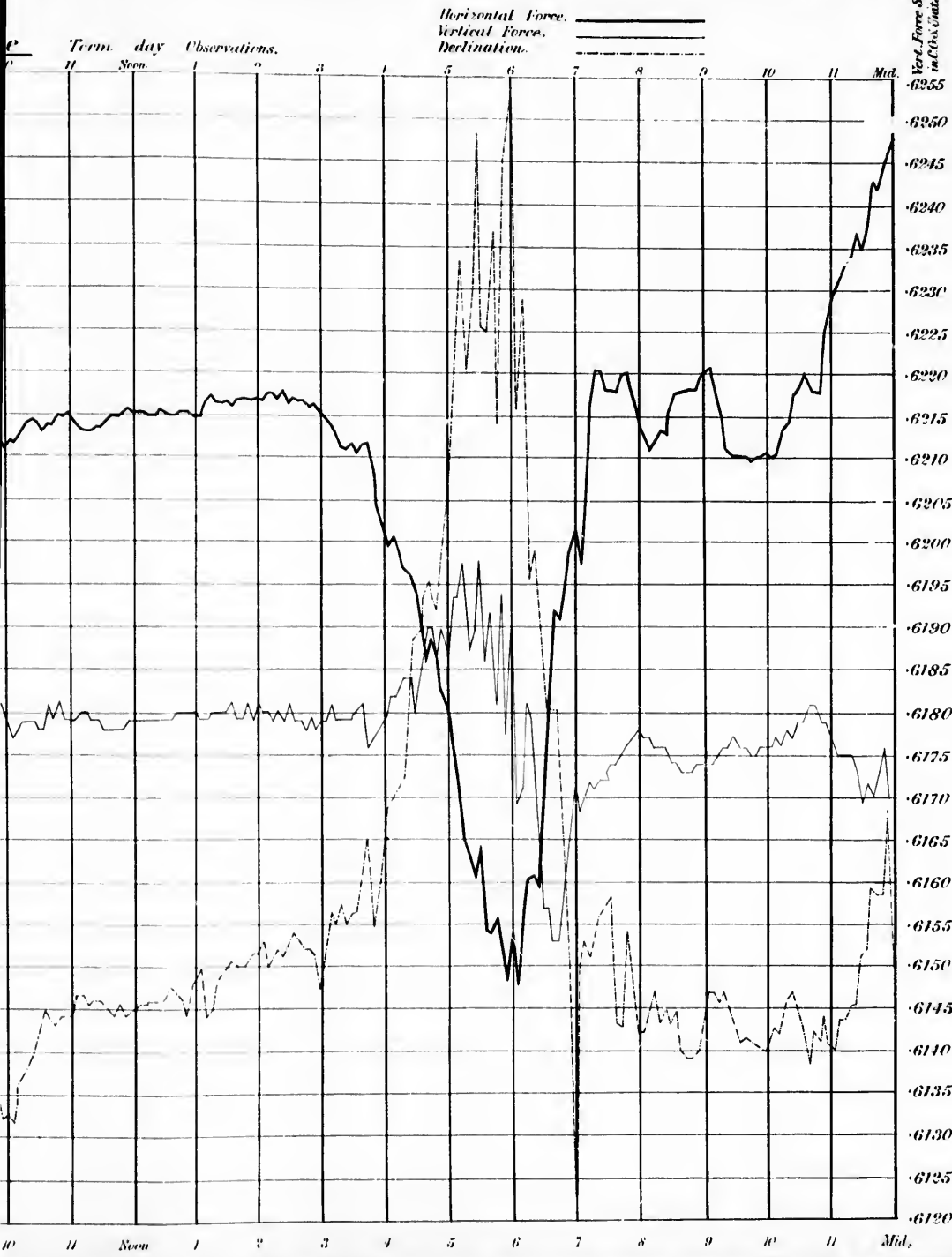


Absolute Declin.
 Hor. Force Scale
 in C.G.S. Units

(Göttingen Mean Time) July 15th 1883. Fort Rae

Term day Observati
 Seen l







Absolute Decline

10

43° 0'

50'

40'

30'

20'

10'

42°

1

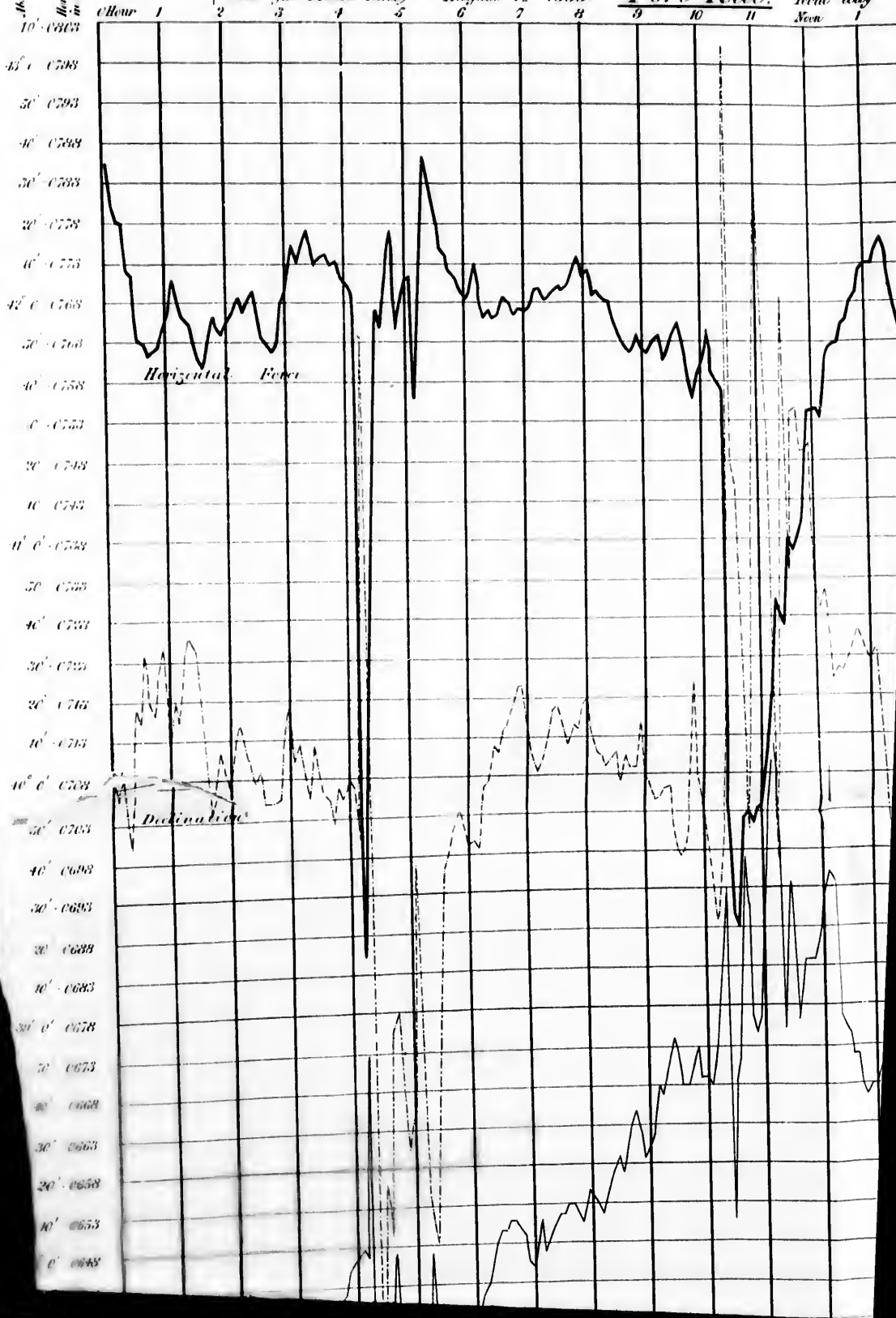
Absolute Declin
for Fort Raco
in 1883

(Gott's Mean Time)

August 1st 1883

Fort Raco

True day
Nov 1



Rac.

Term day
Nov 1

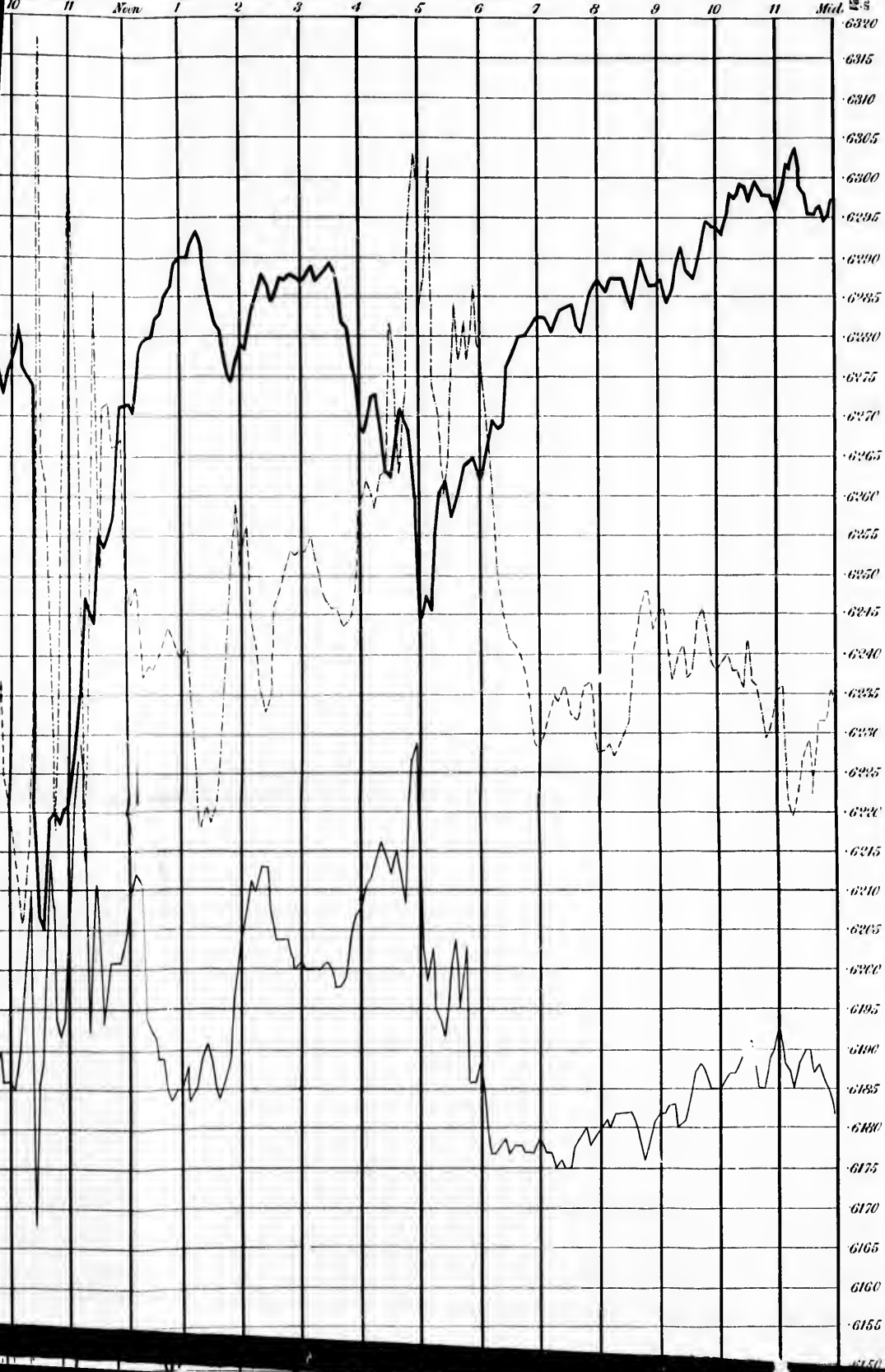
Observations.
2 3 4 5

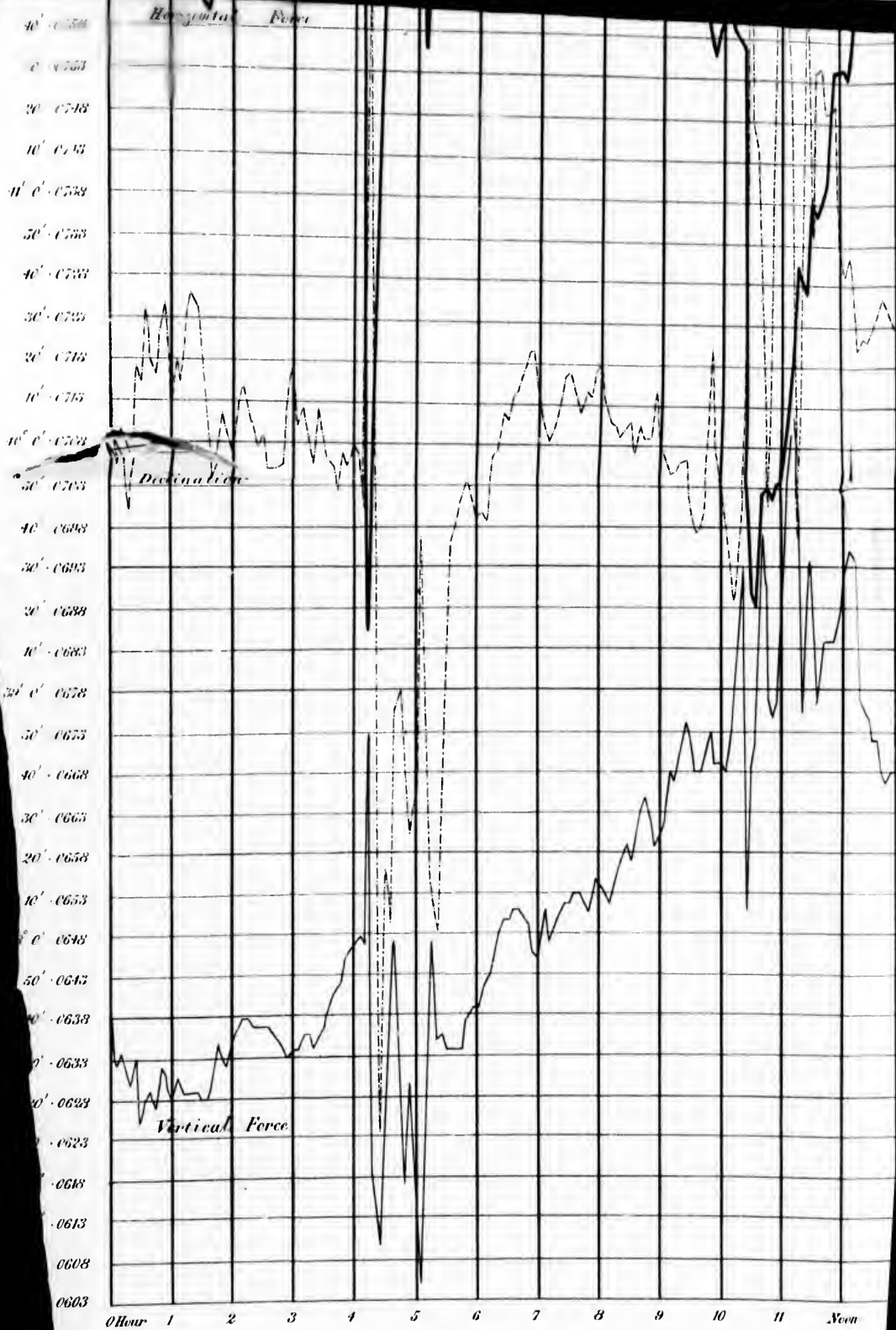
Horizontal Force. ————

Vertical Force. ————

Declination. - - - - -

Mag. Force scale
in C. G. S. Units.



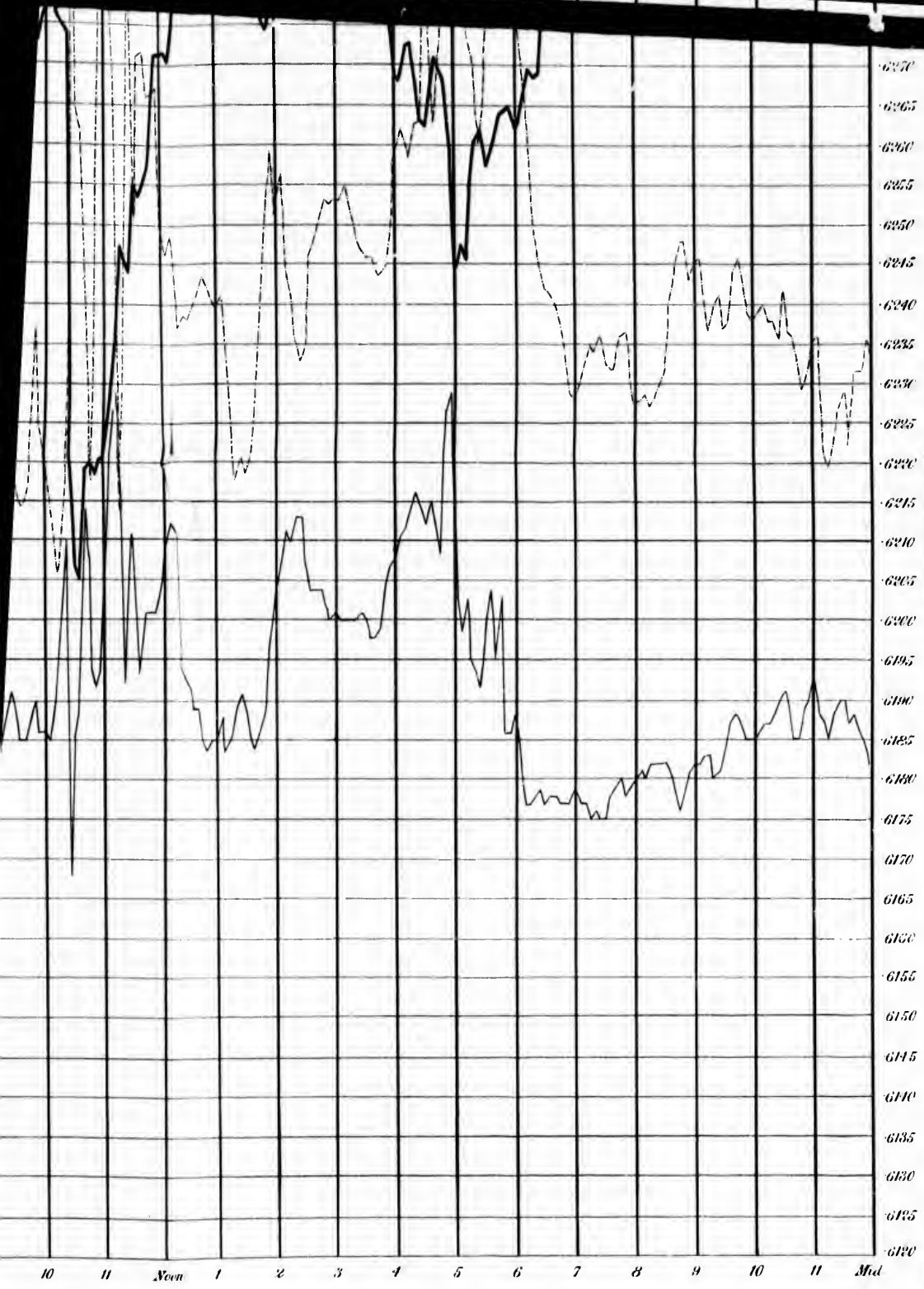


Horizontal Force

Disturbance

Vertical Force

0 Hour 1 2 3 4 5 6 7 8 9 10 11 Noon



DANGERFIELD LITH 22 BOSTON J. COVENT GARDEN 8/26 1870

1871


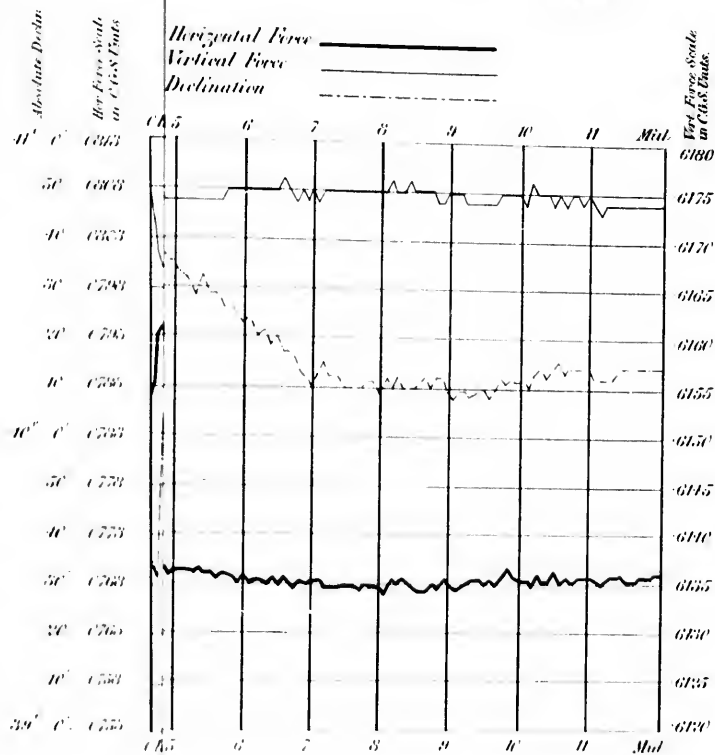


Plate 23.

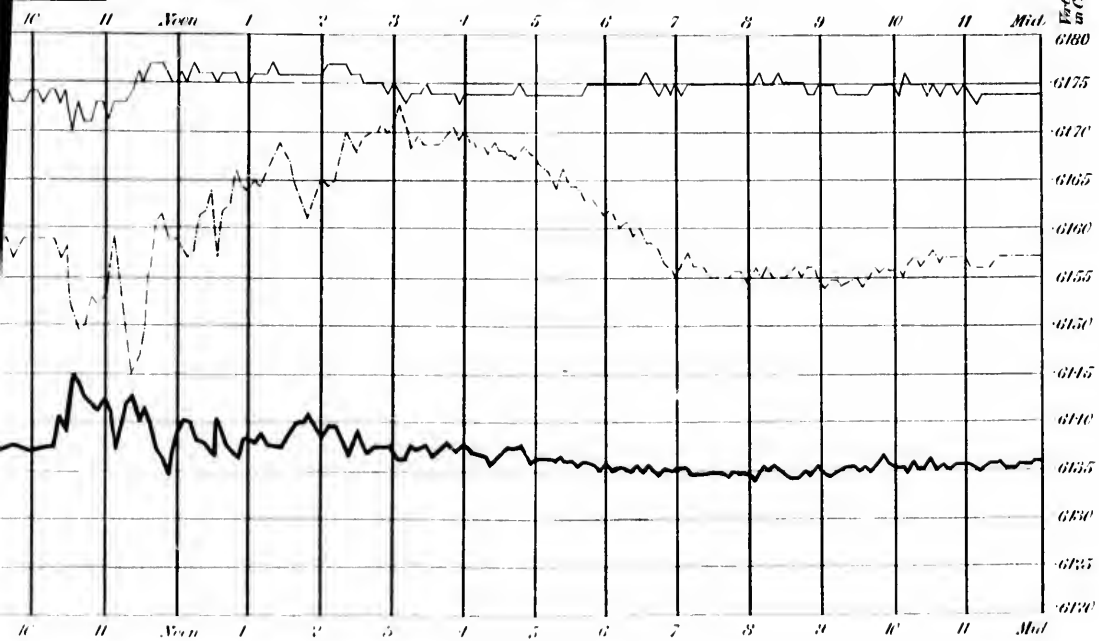




Rec. Term day Observations

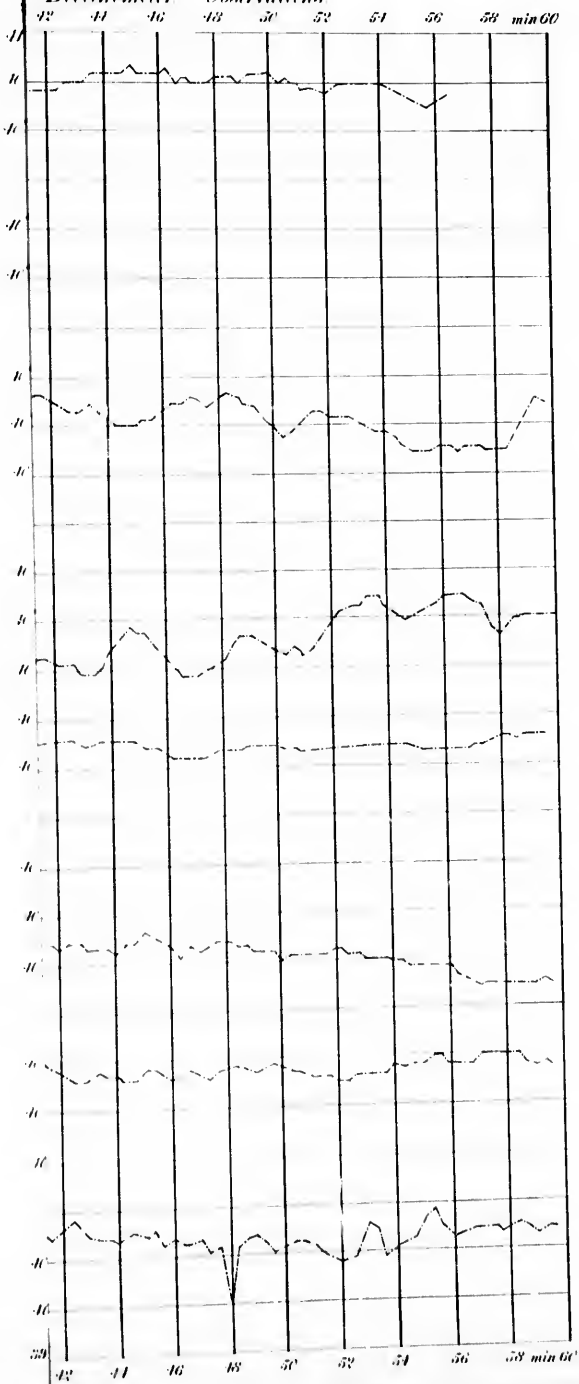
Horizontal Force _____
 Vertical Force _____
 Declination - - - - -

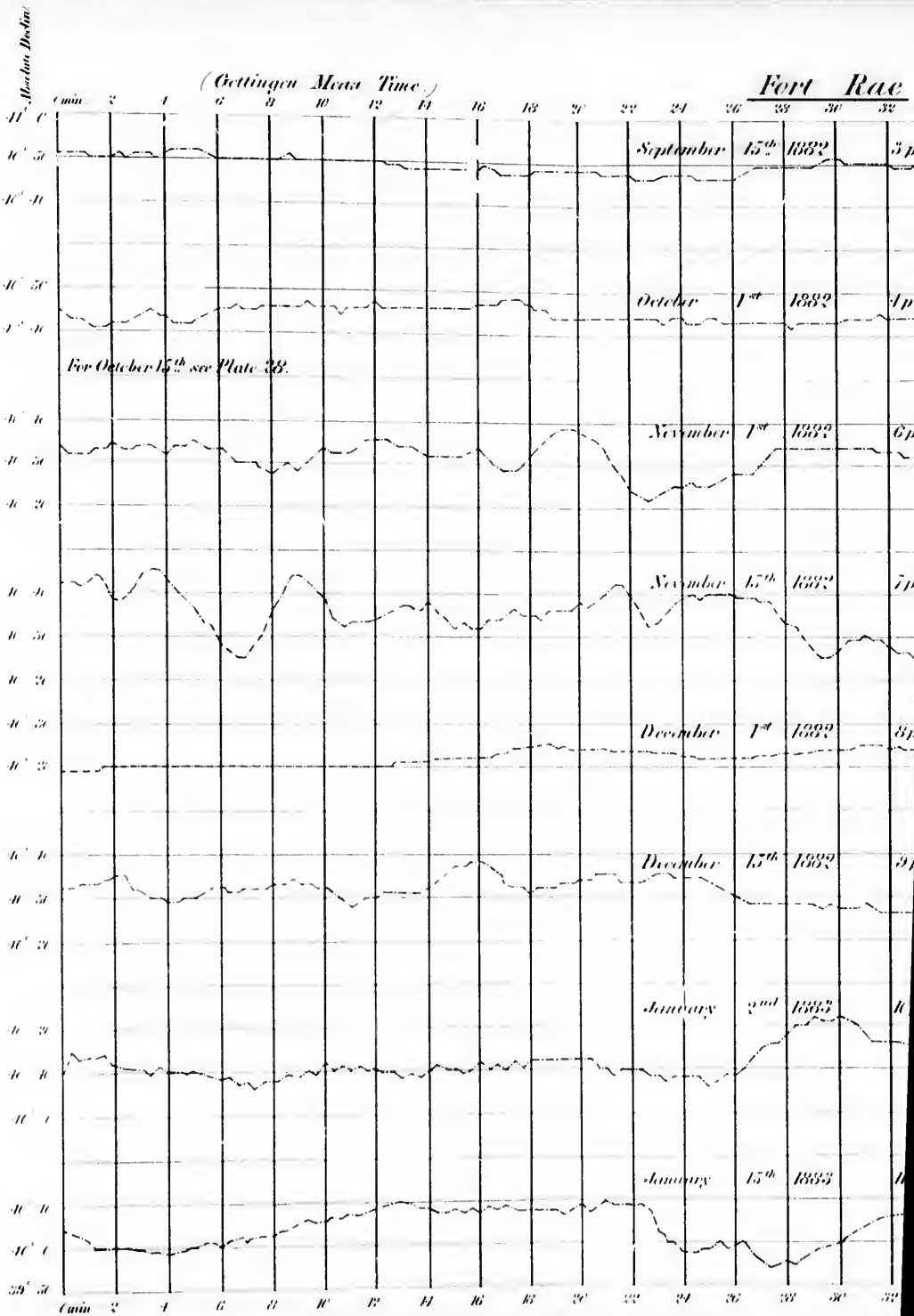
Fig. Force Scale
 in C.G.S. Units.



STANDARD ELECTRICITY COMPANY

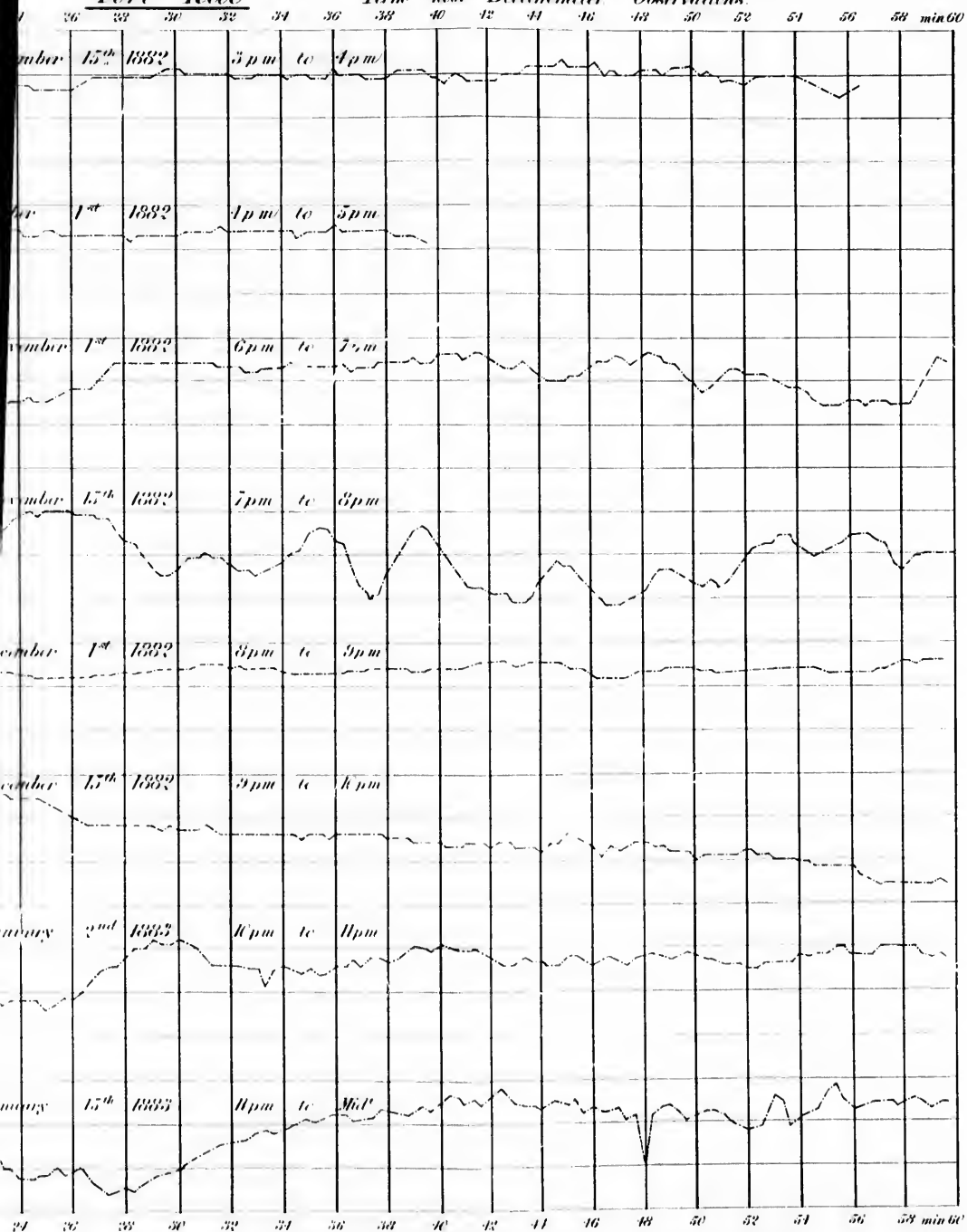
Declinometer Observations

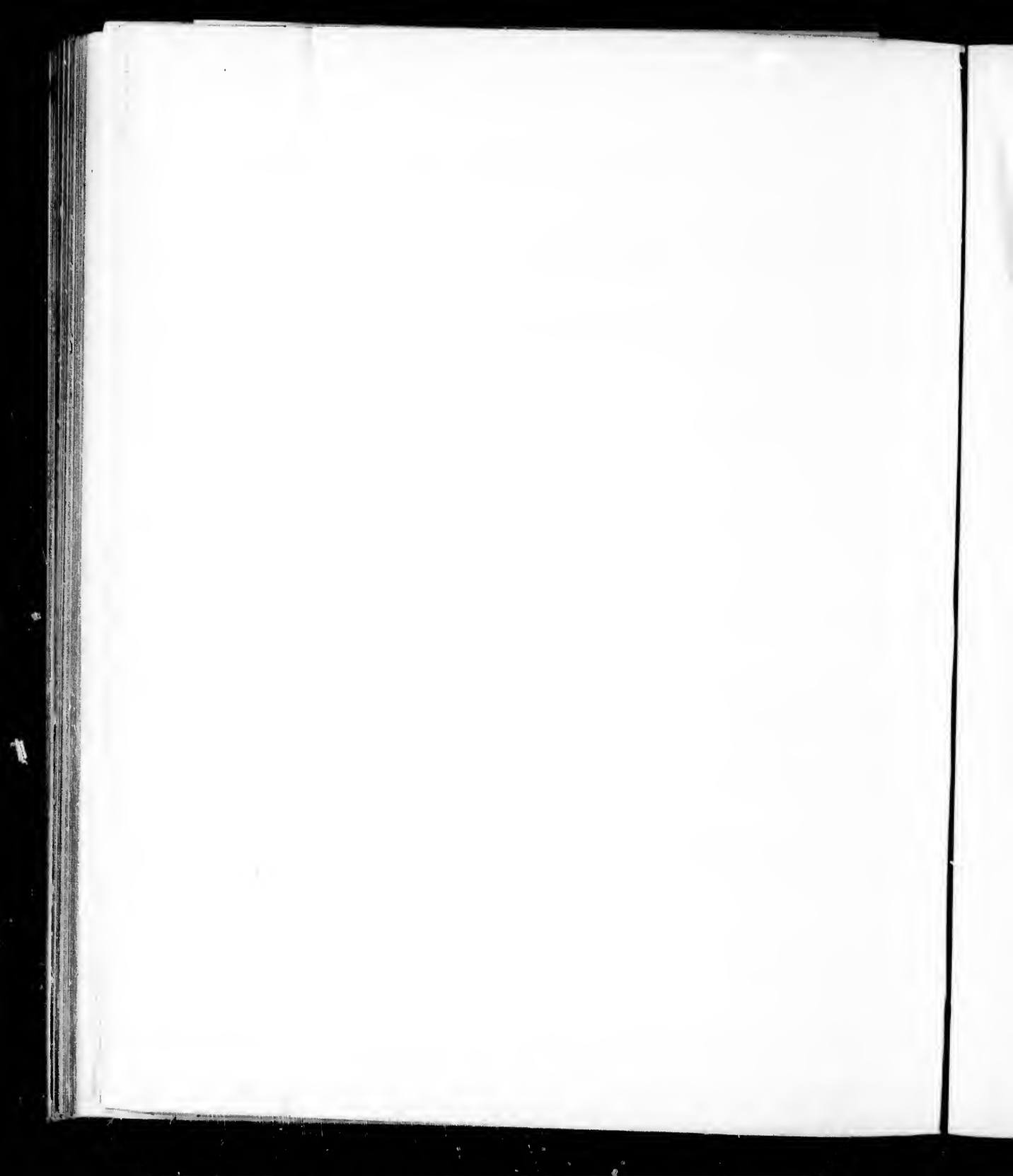


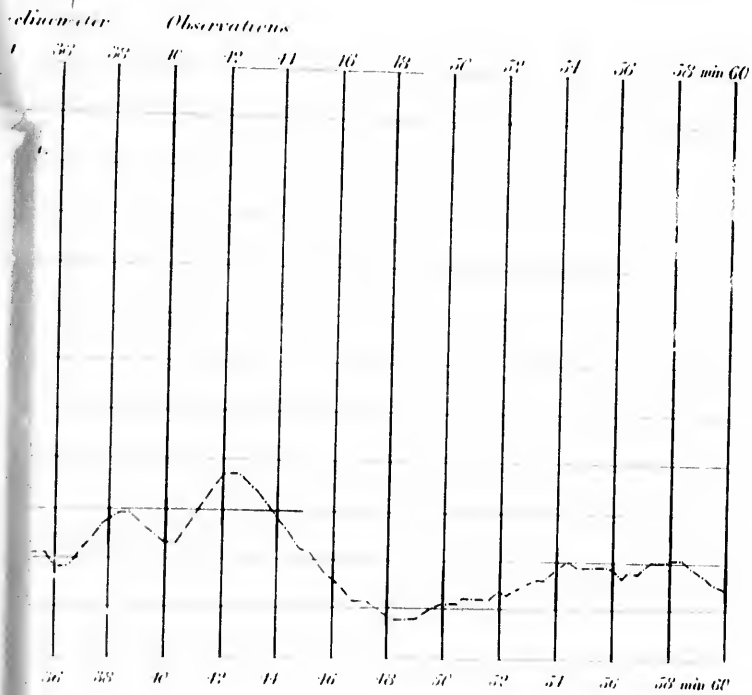


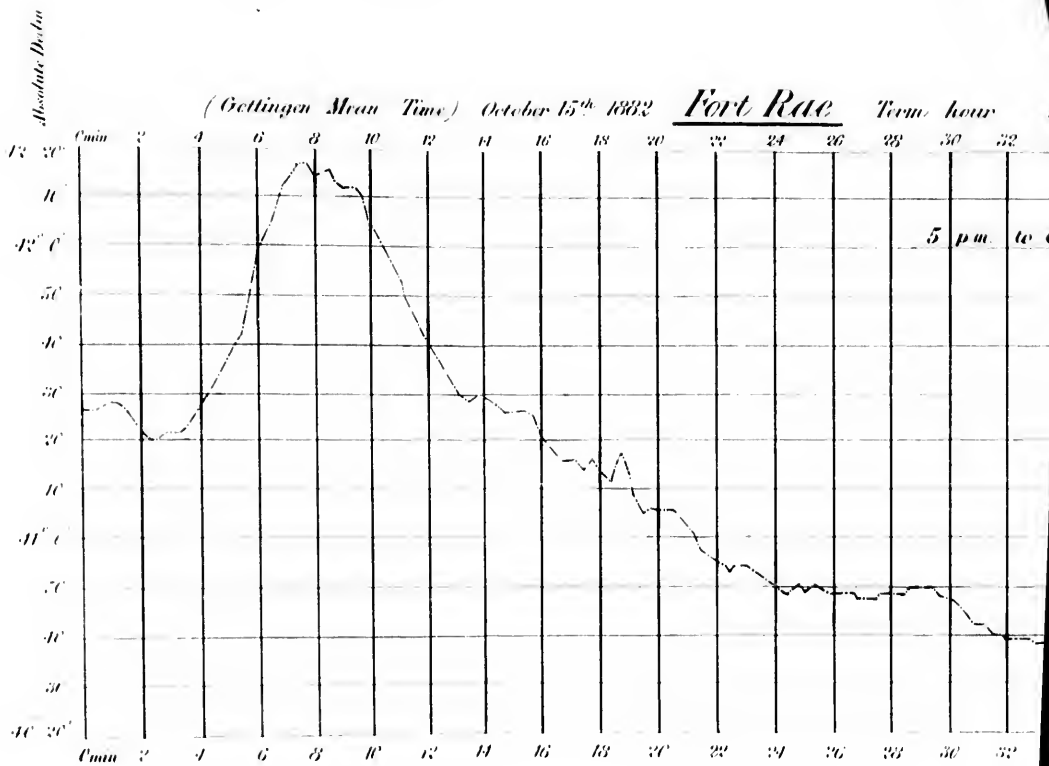
Fort Rae

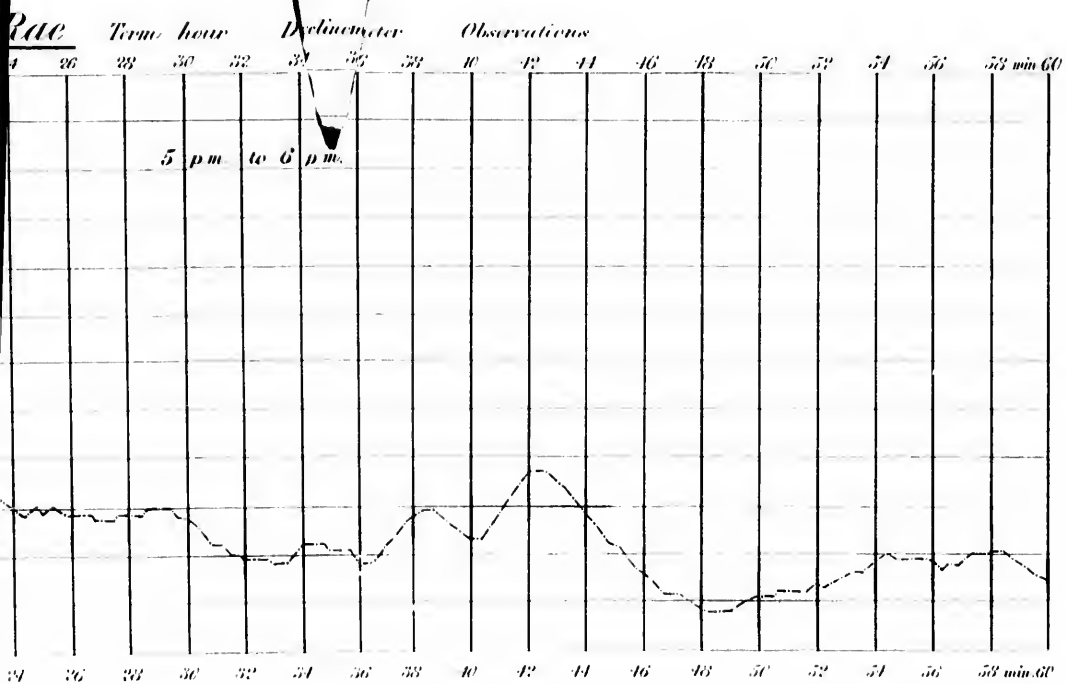
Term hour Declinometer Observations

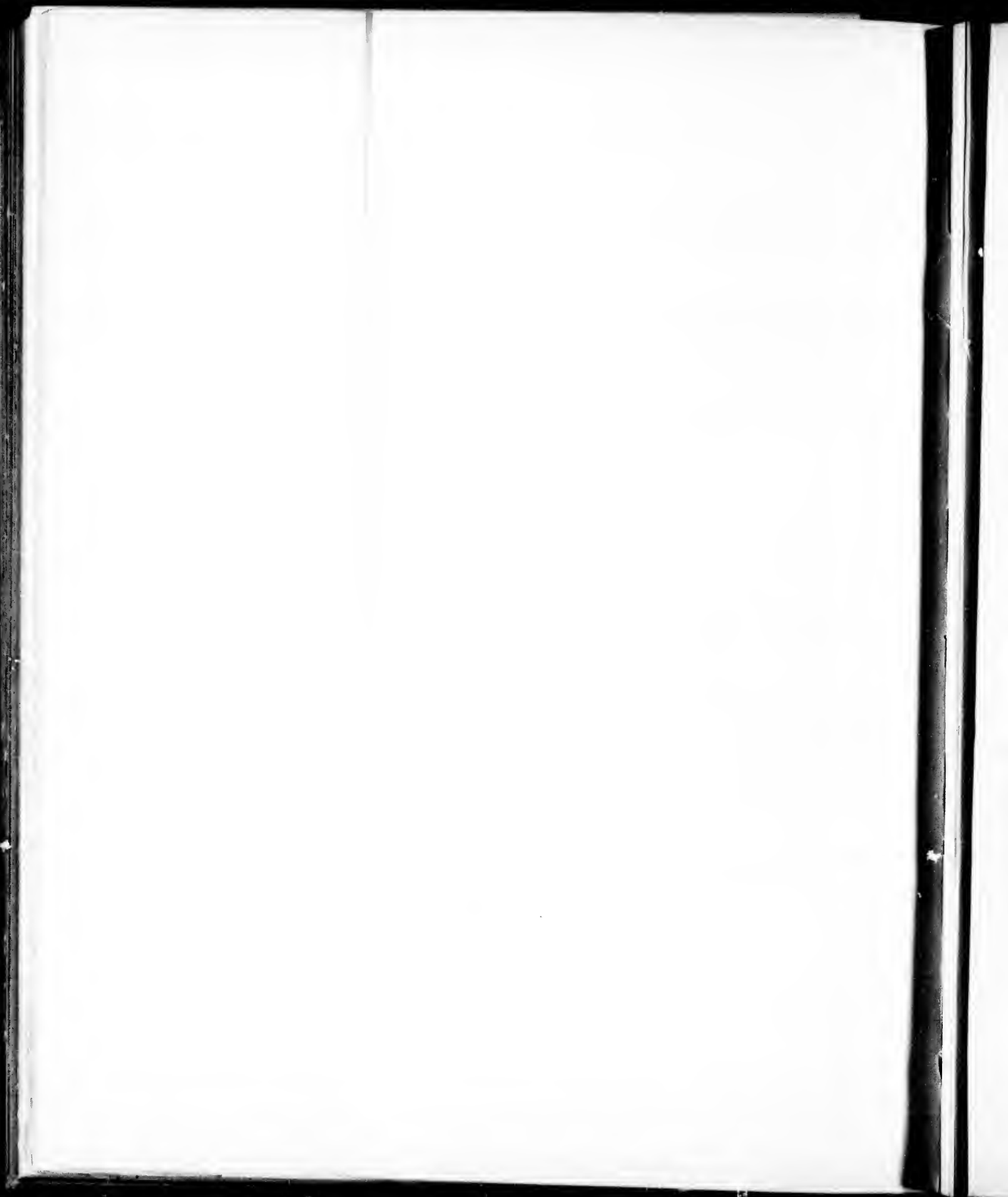


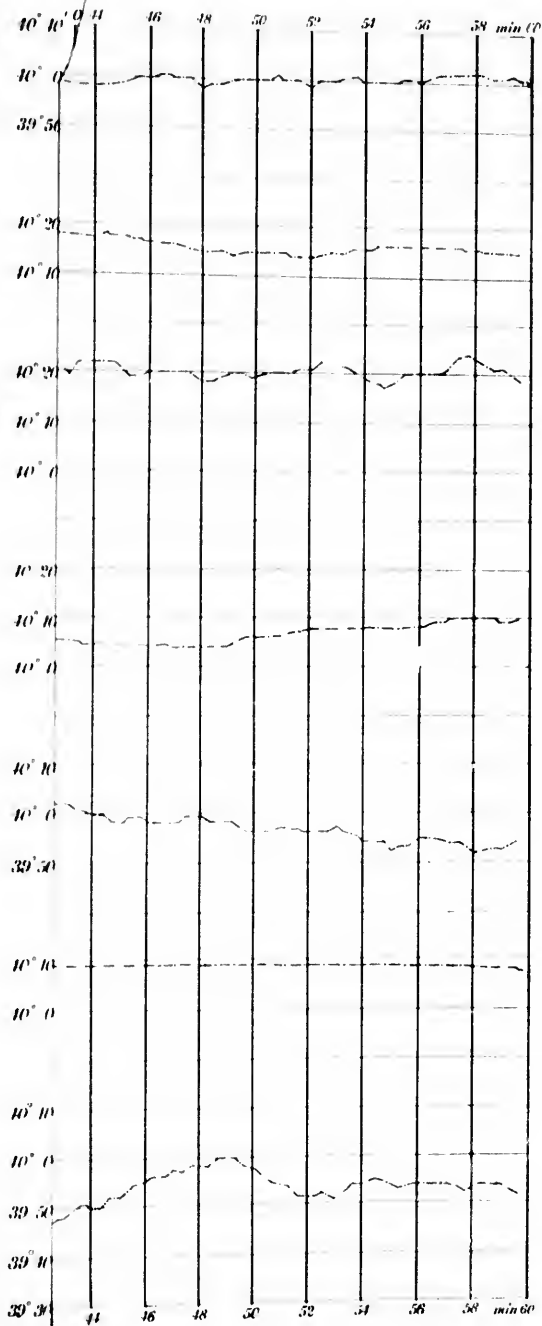






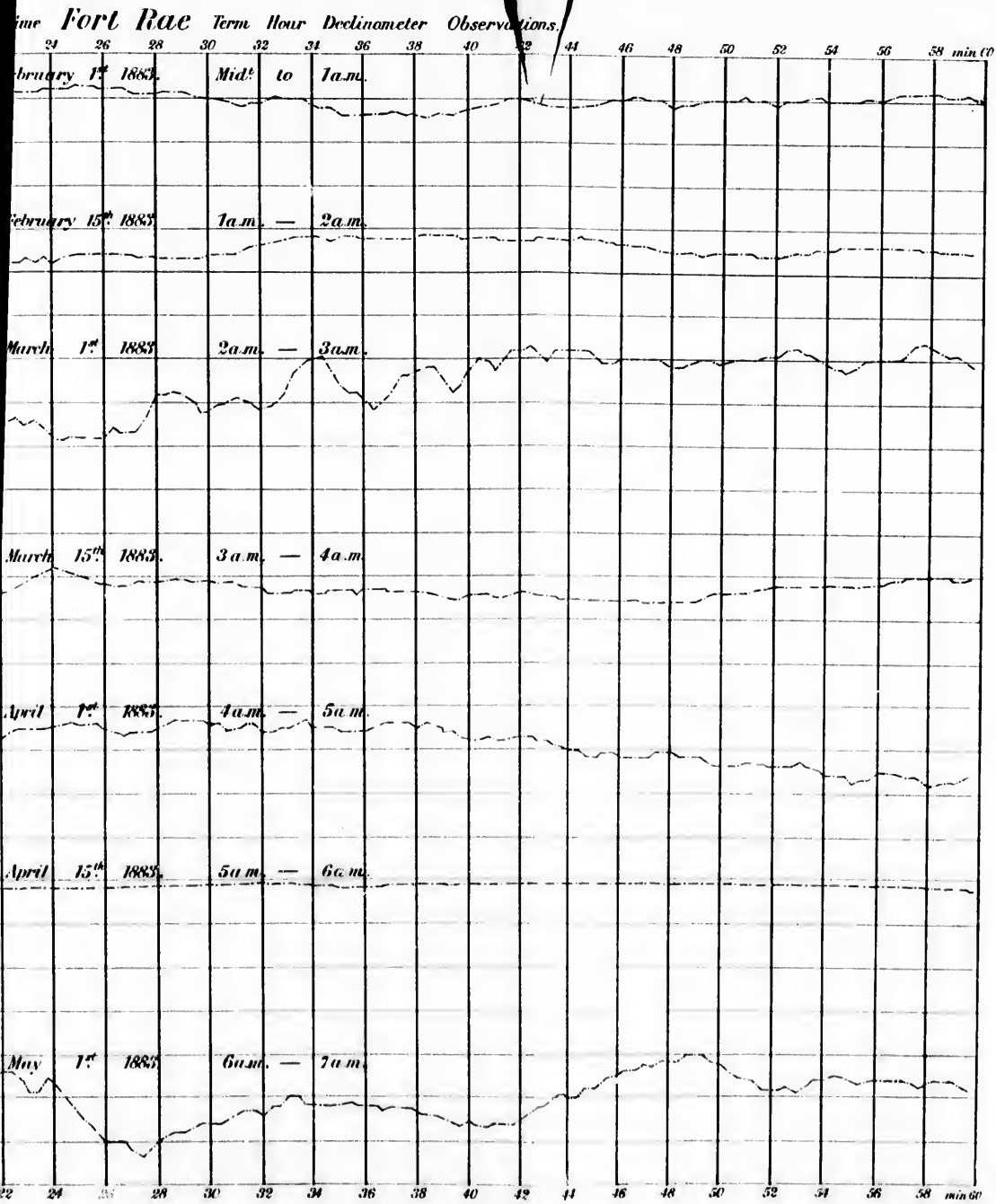


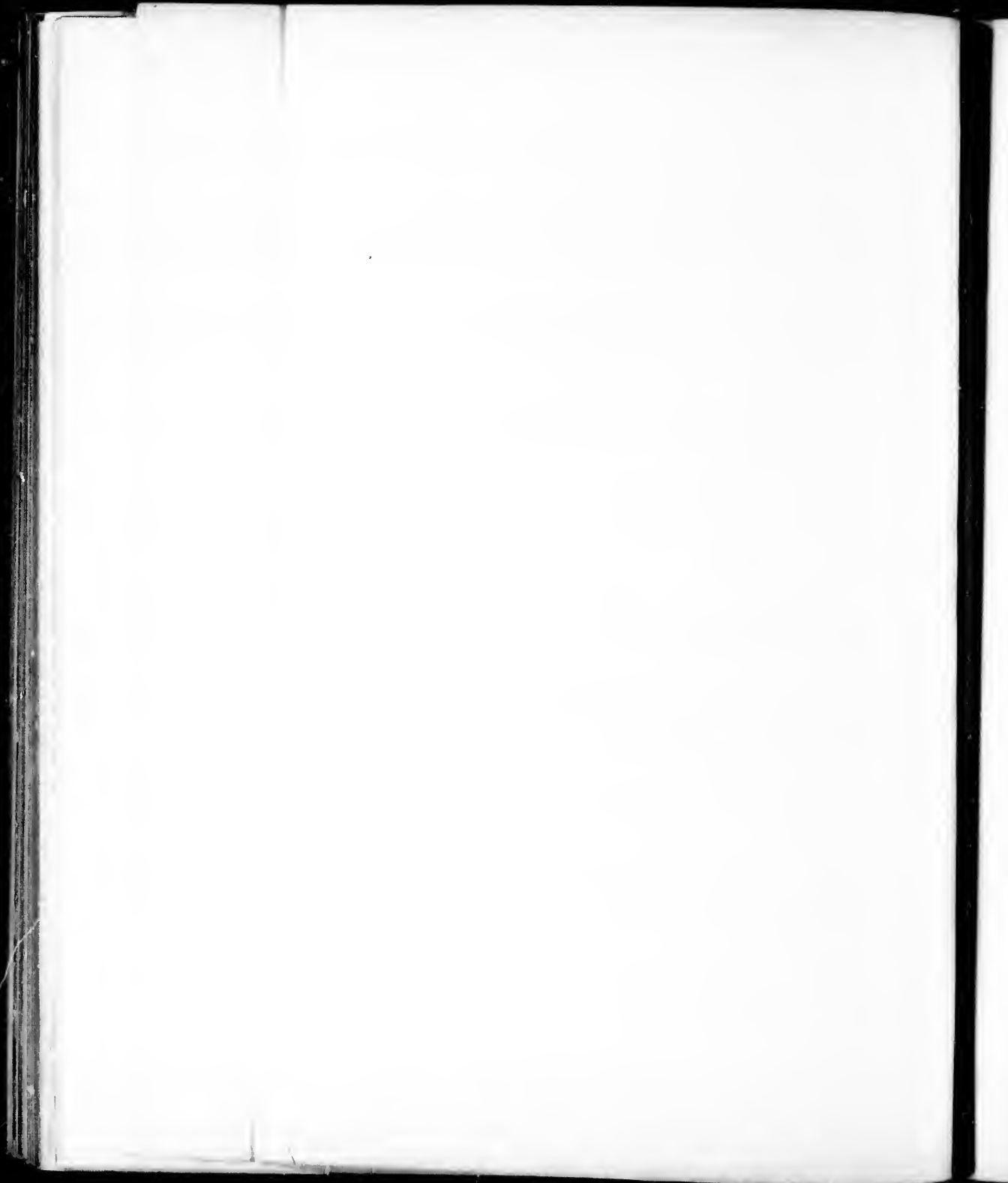


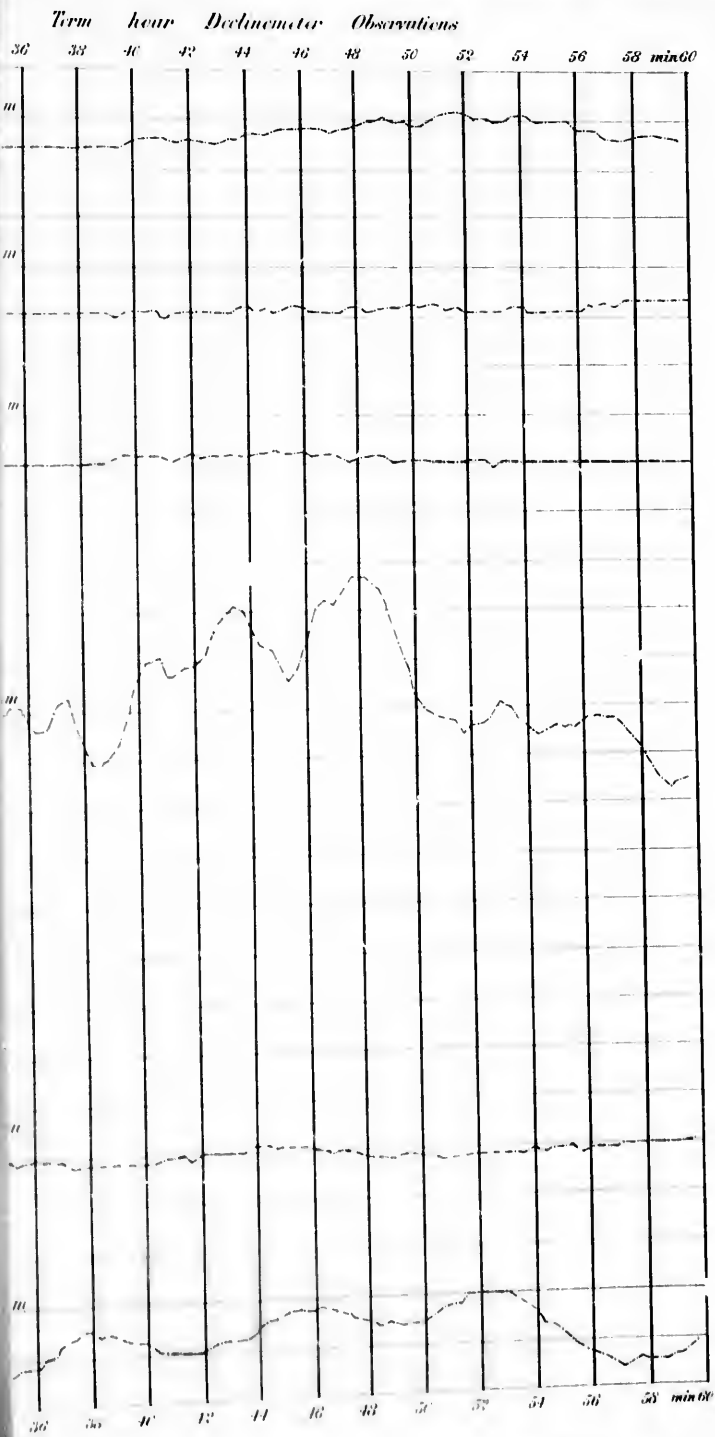


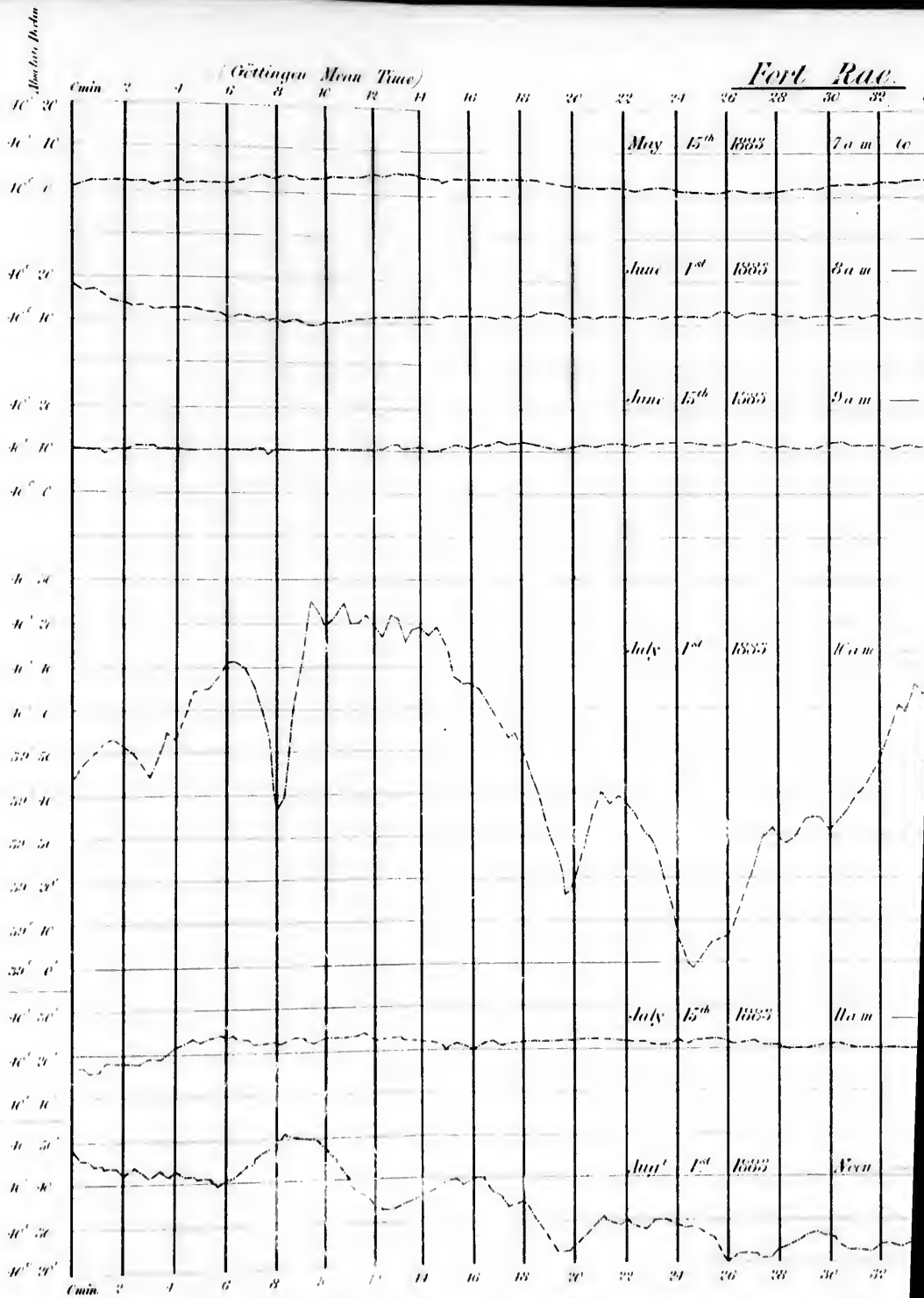
Göteborg Mean Time Fort Rae Term





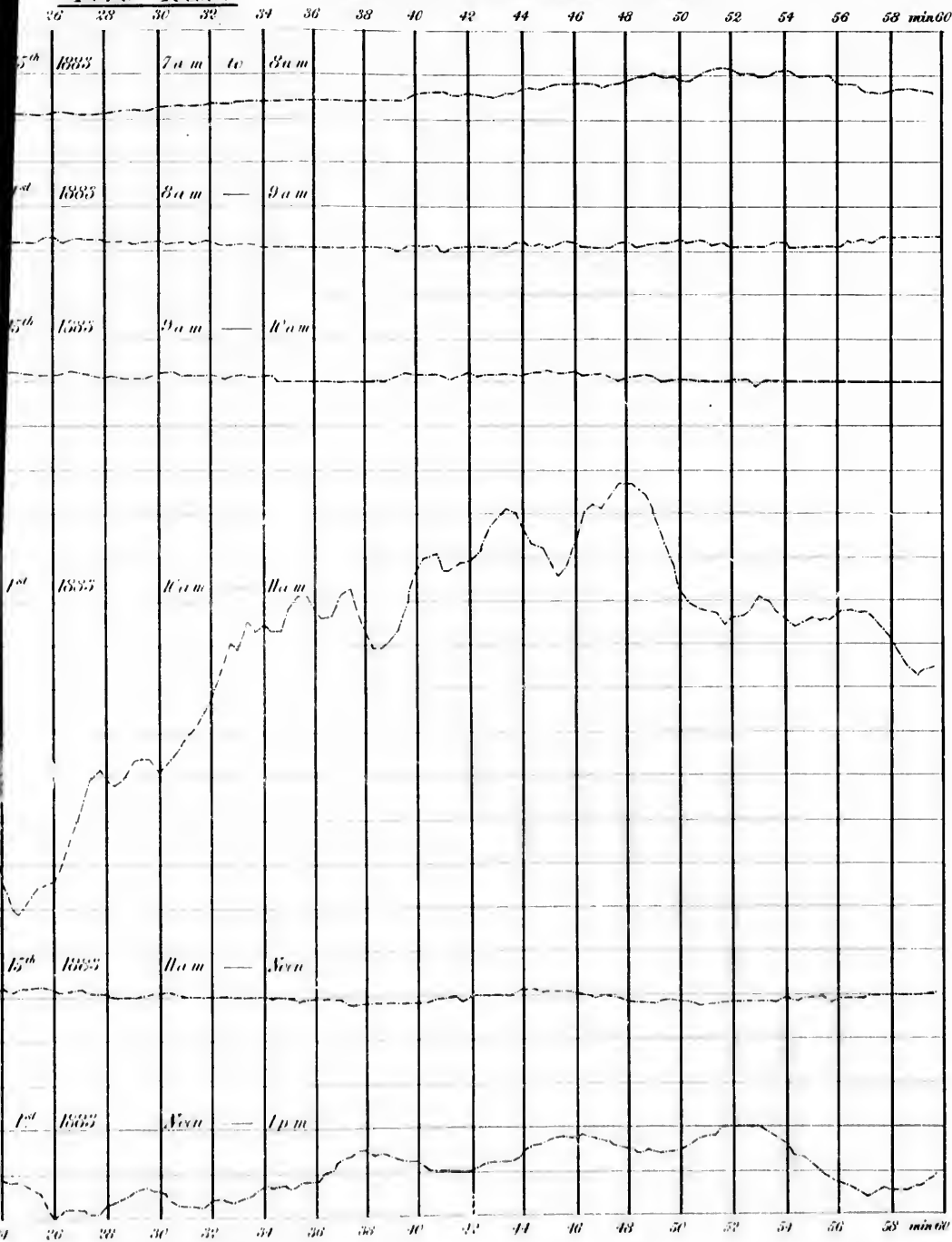






Fort Rae.

Term hour Declinometer Observations.



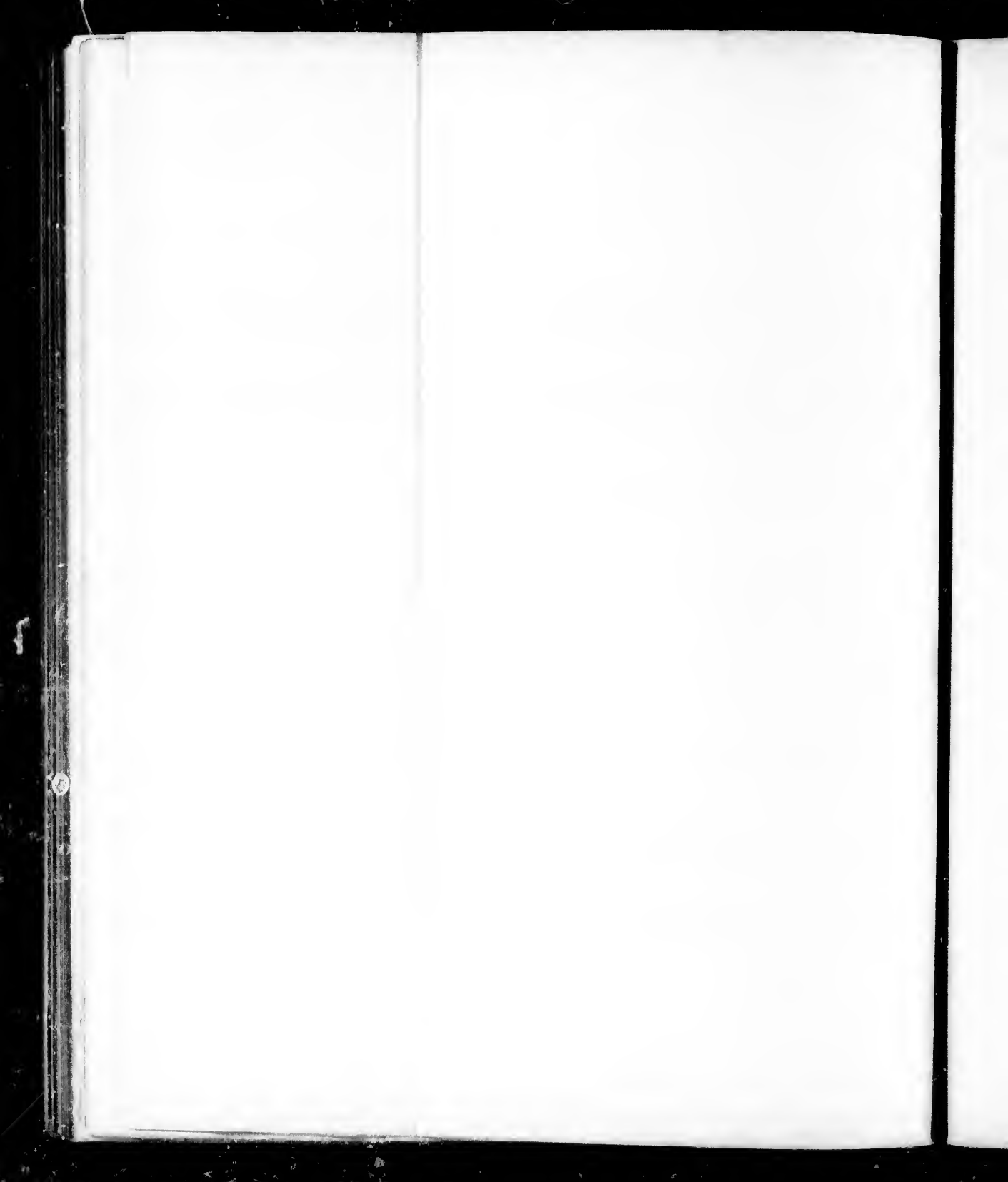
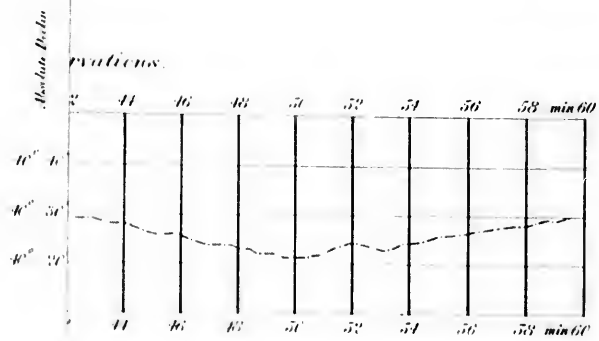
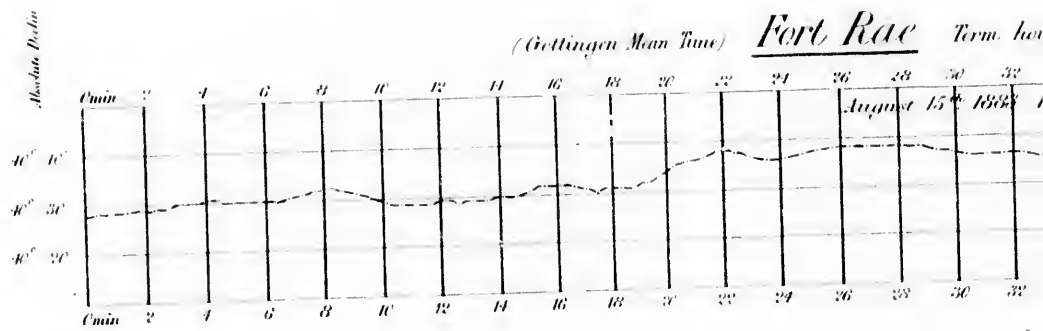


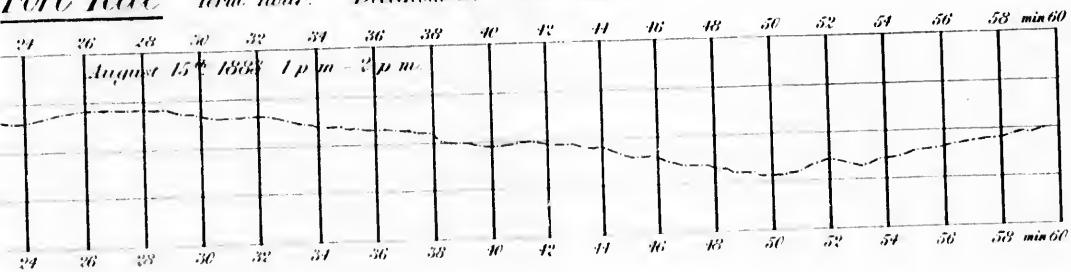
Plate 28.





DISCOVERED LITHO BY BROADWAY ST. COVERED CAP.

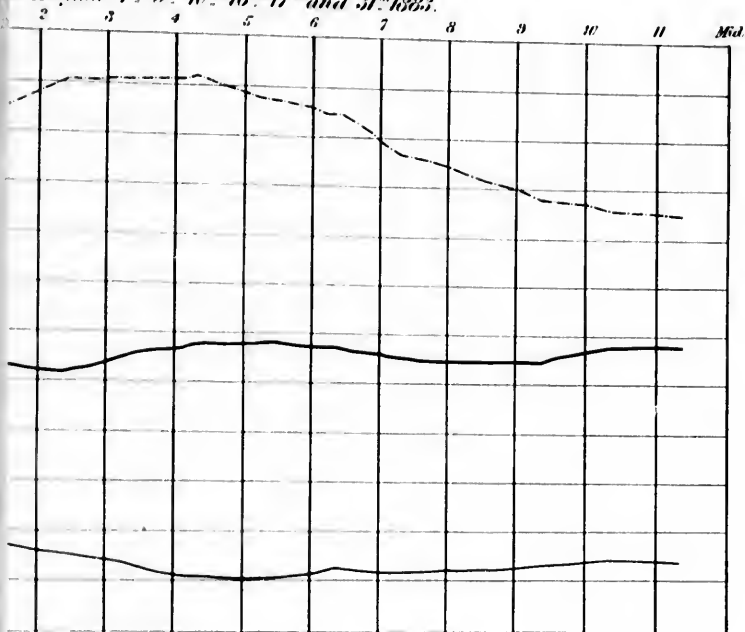
Fort Rae Term. hour. Declinometer Observations.



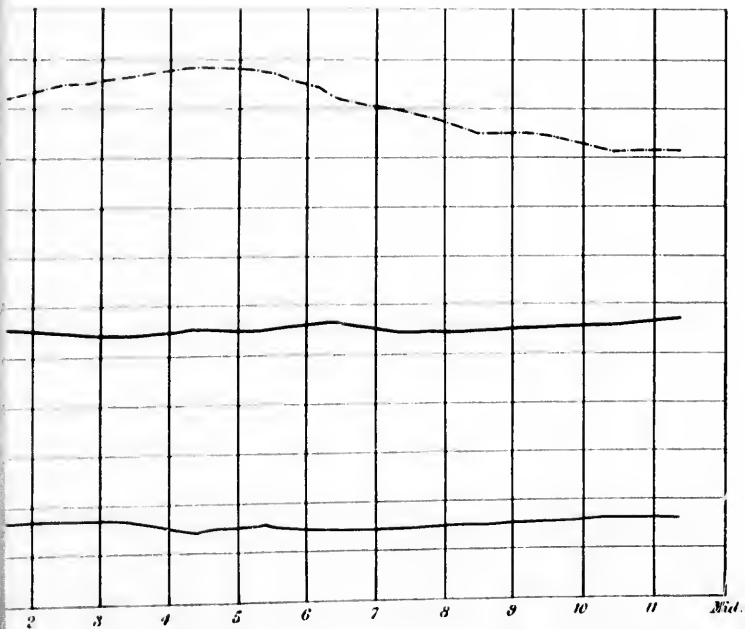


Magnetic Observations

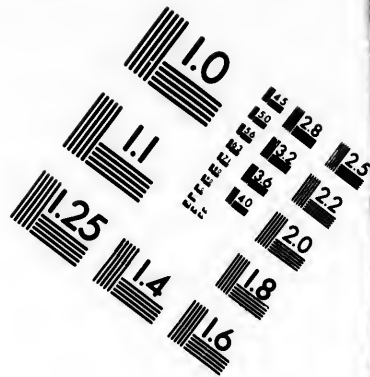
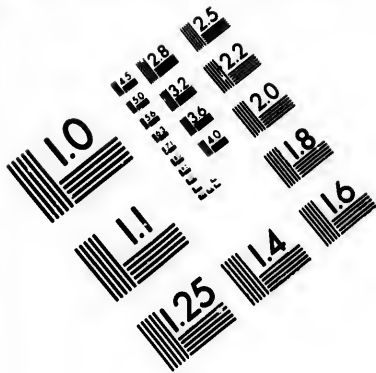
of the following undisturbed days
of August 1st 2nd 10th 16th 17th and 31st 1882.



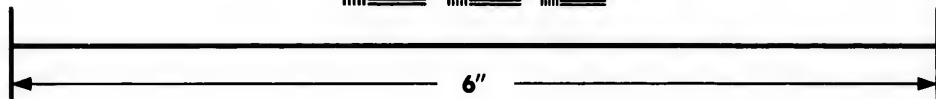
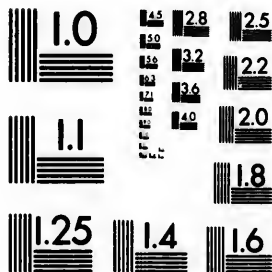
11th and 29th 1882







**IMAGE EVALUATION
TEST TARGET (MT-3)**

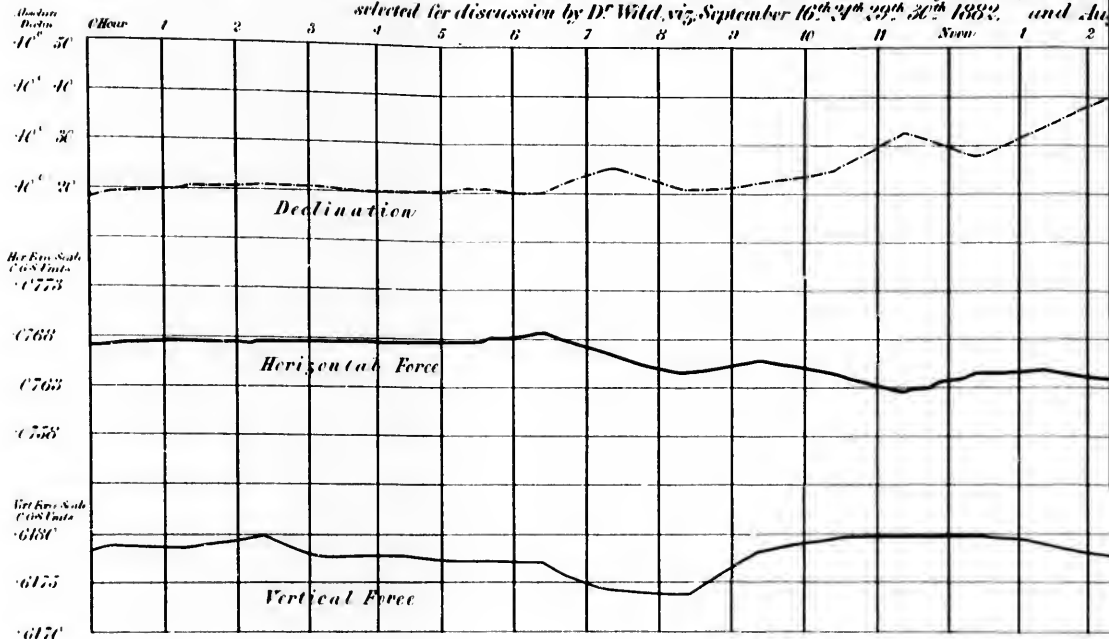


**Photographic
Sciences
Corporation**

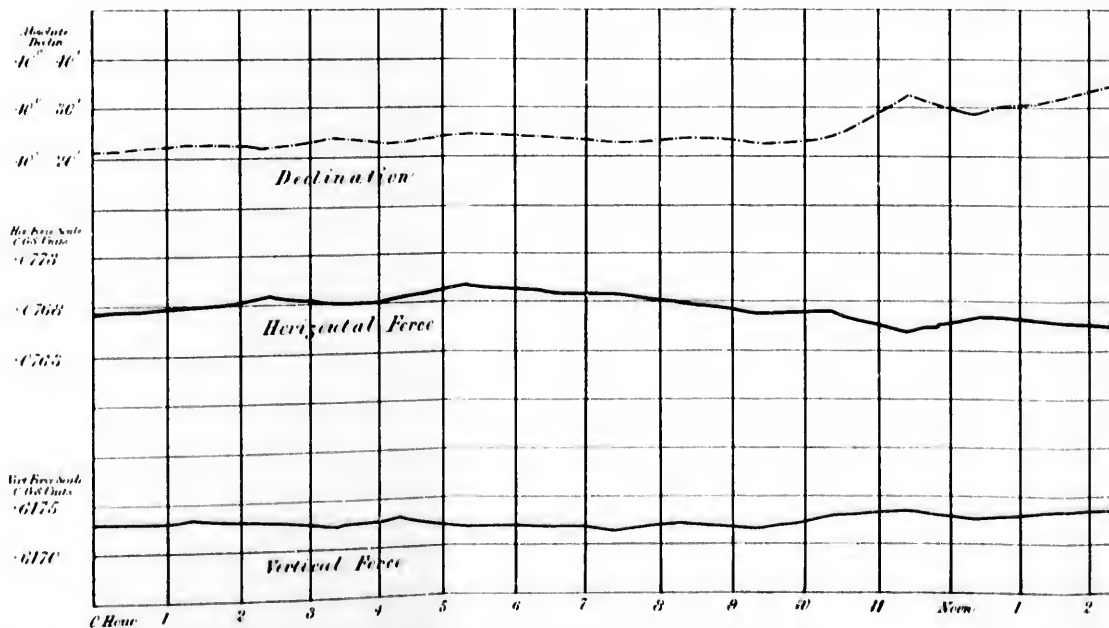
23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

Gettingen Mer. Time Fort Rae. Magn.

These curves are plotted from the means of hourly readings of the selected for discussion by Dr Wild, viz. September 16th, 19th, 20th, 22nd, 1882, and Au

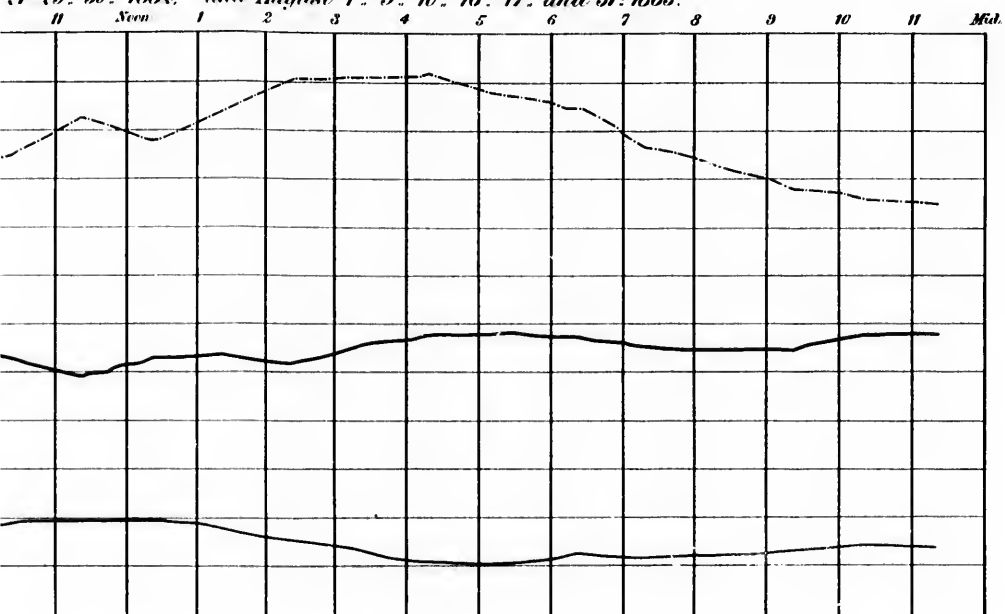


October 1st, 19th, 20th, 21st and November 4th, 10th, 11th

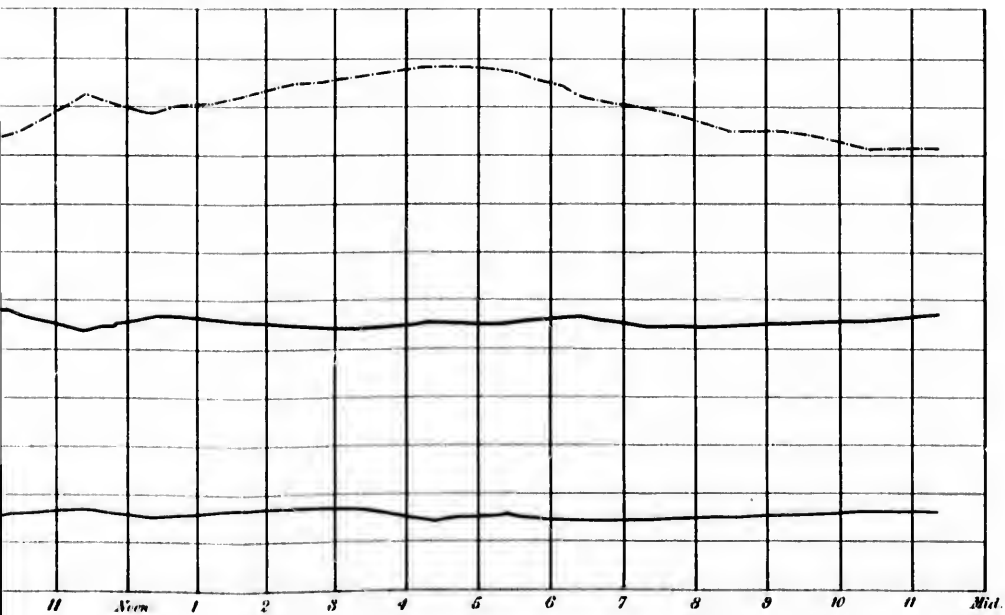


Fort Rae Magnetic Observations.

Series of hourly readings of the following undisturbed days
 July 29th 30th 1882, and August 1st 9th 10th 16th 17th and 31st 1883.

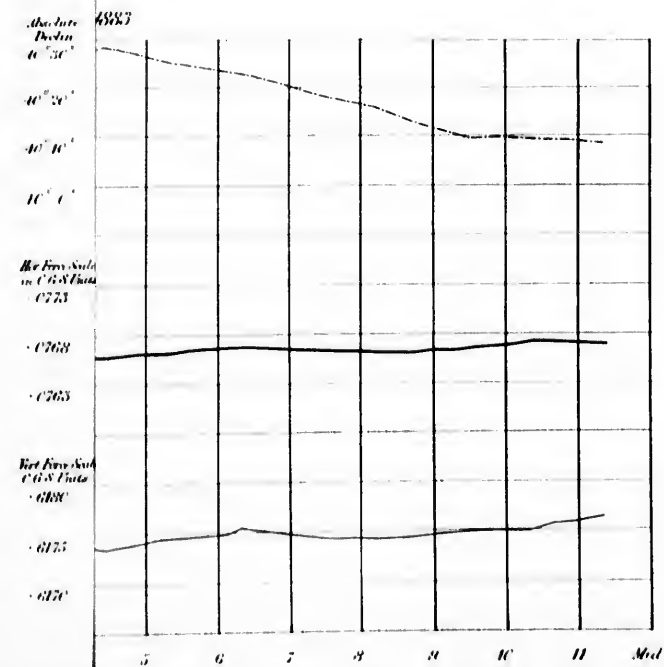
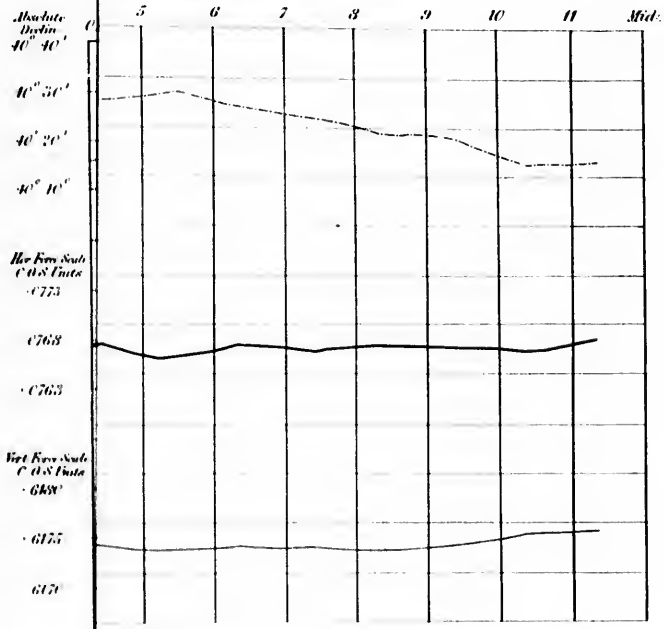


July 29th and November 1st 10th 11th and 29th 1882.



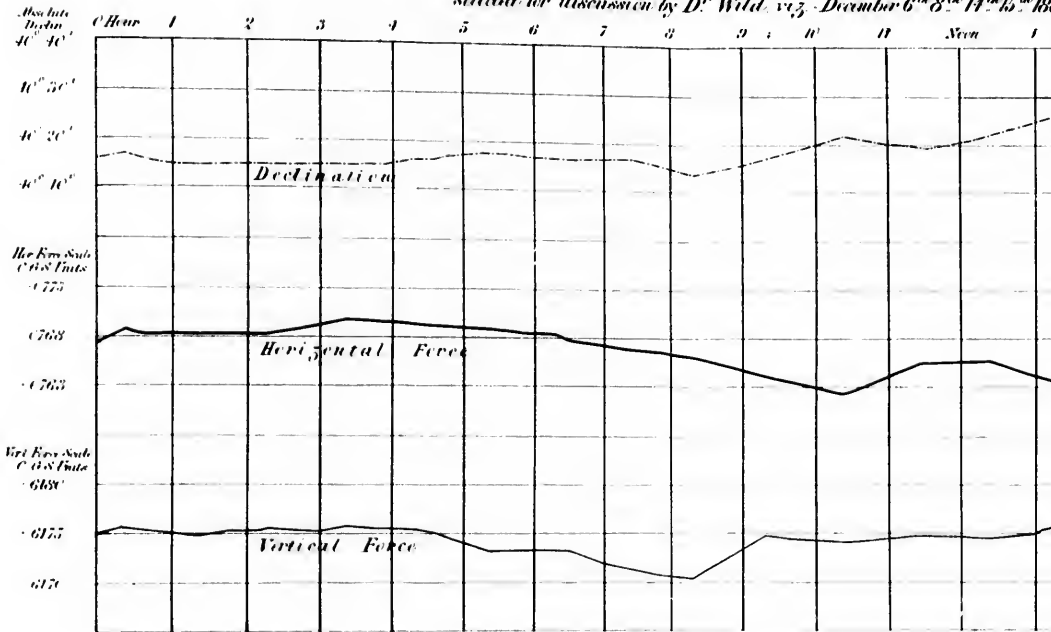


Disturbed days
 3rd 11th 13th and 23rd 1883

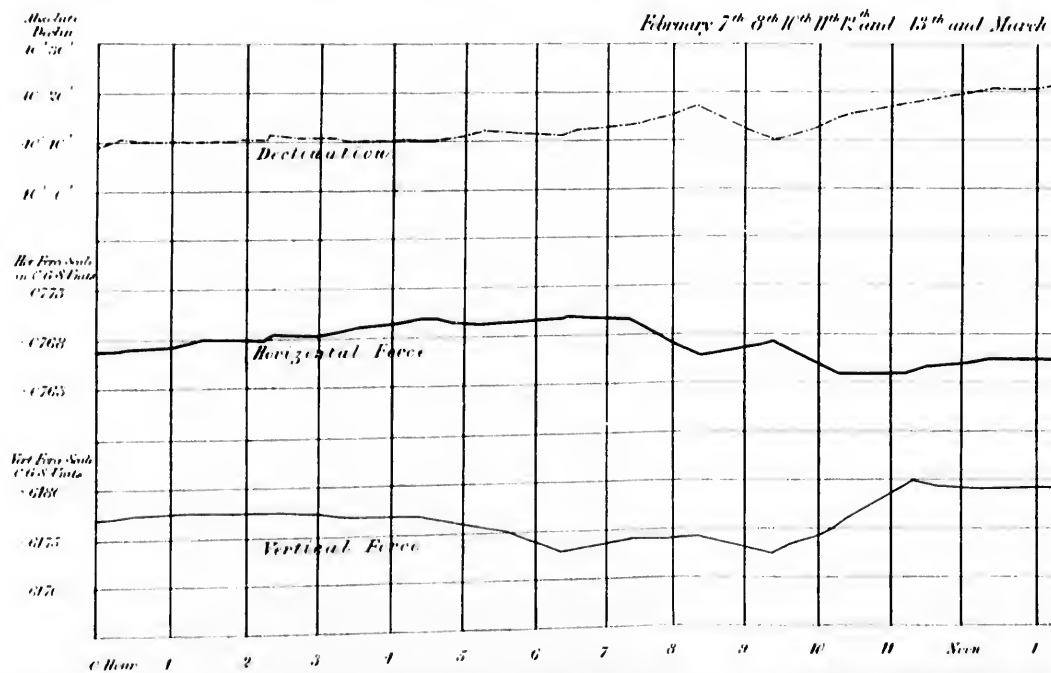


Cottington Mean Time Fort Rae May

These curves are plotted from the means of hourly readings of selected for discussion by Dr. Wild. viz. December 6th 8th 14th 15th 1892

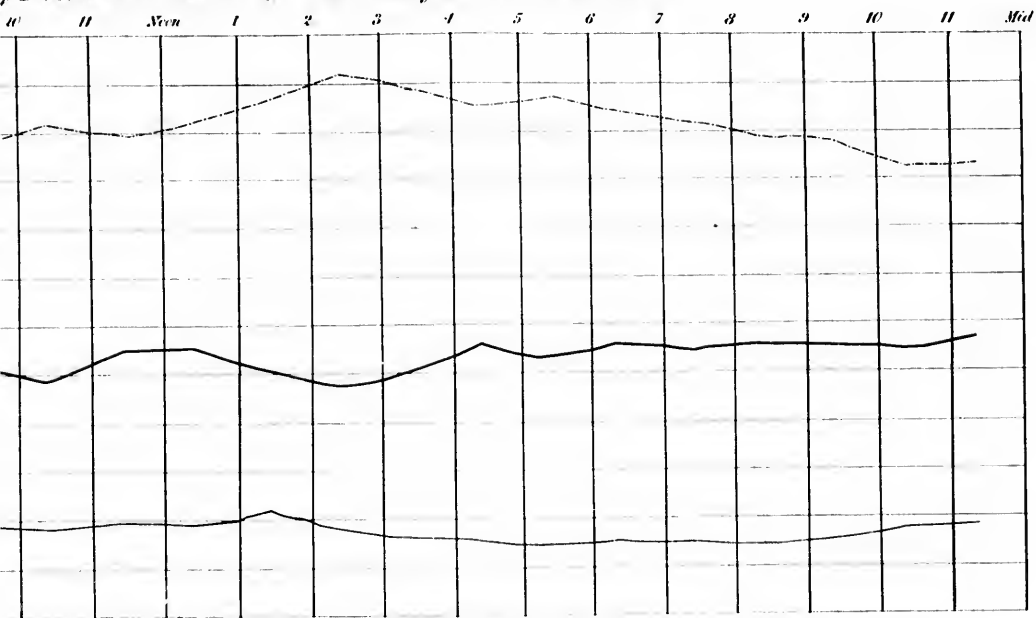


February 7th 8th 10th 11th 12th and 13th and March 11th



Fort Rae Magnetic Observations

means of hourly readings of the following undisturbed days
December 6th 8th 14th 15th 1892 and January 2nd 7th 11th 13th and 23rd 1893



February 11th 12th and 13th and March 11th 15th 17th 19th and 20th 1893

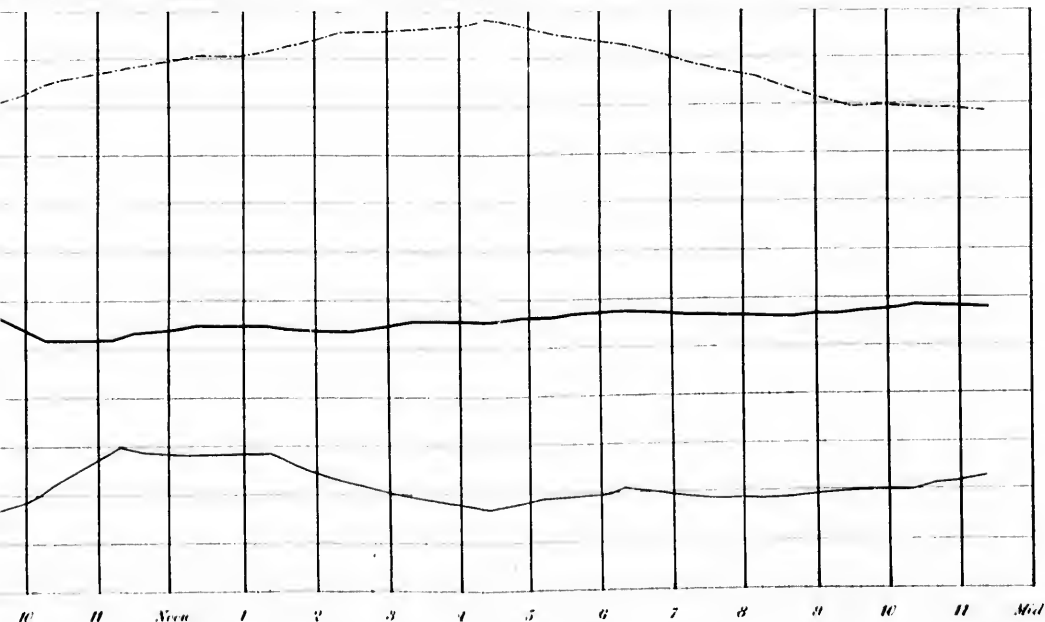
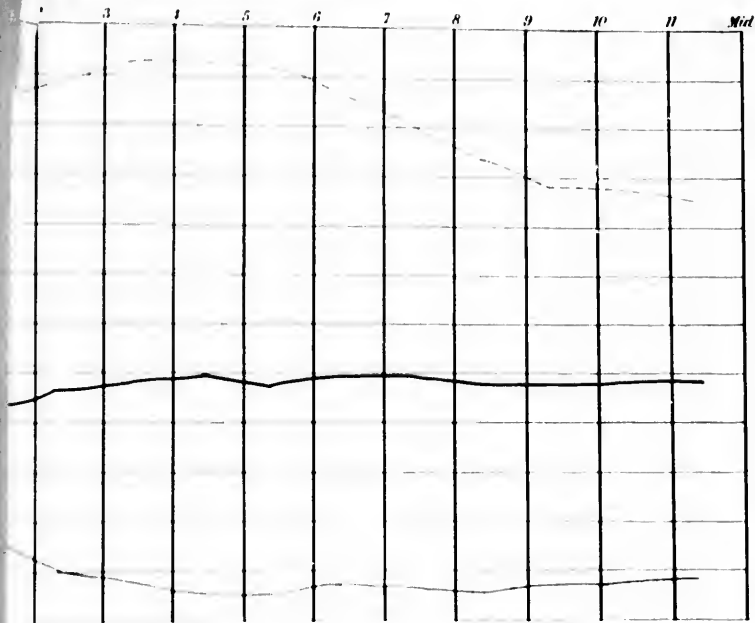




Fig. Observations
 following undisturbed days
 of May 9th 10th 11th 12th 13th and 15th 1883.



of 18th 19th 1883.

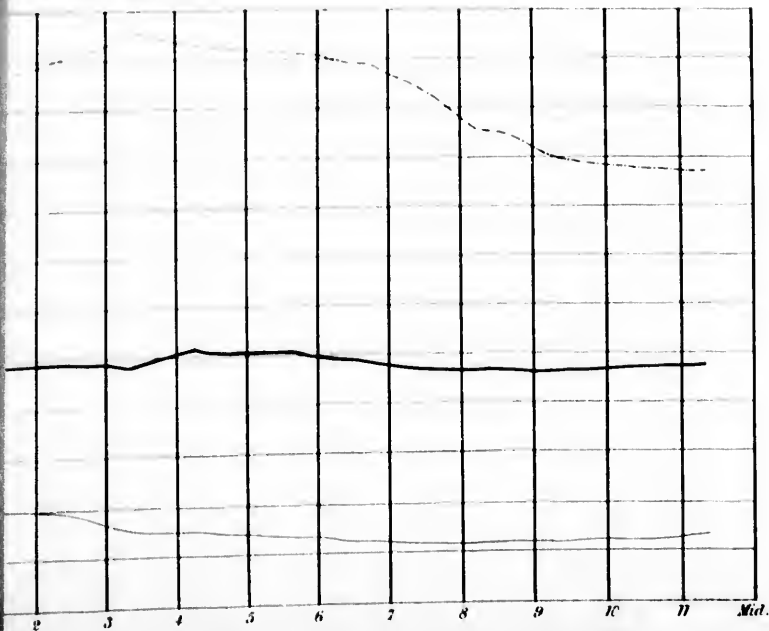
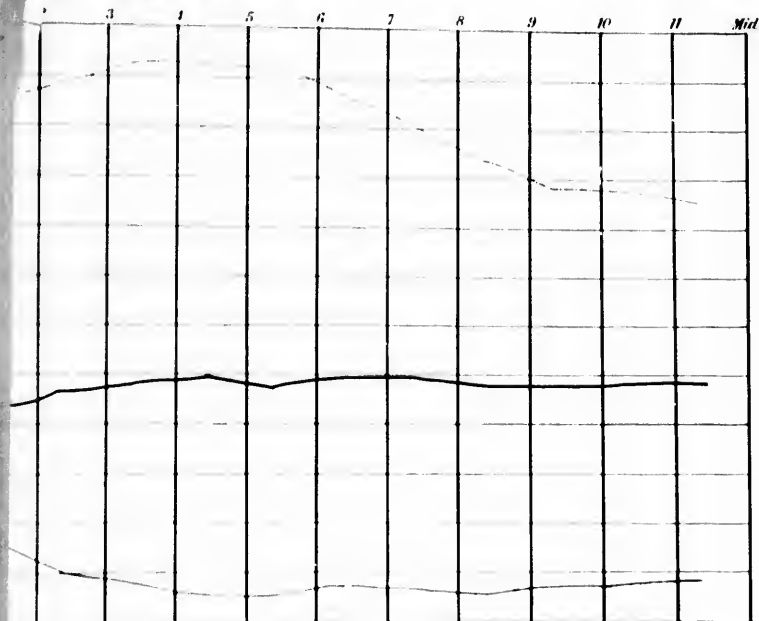
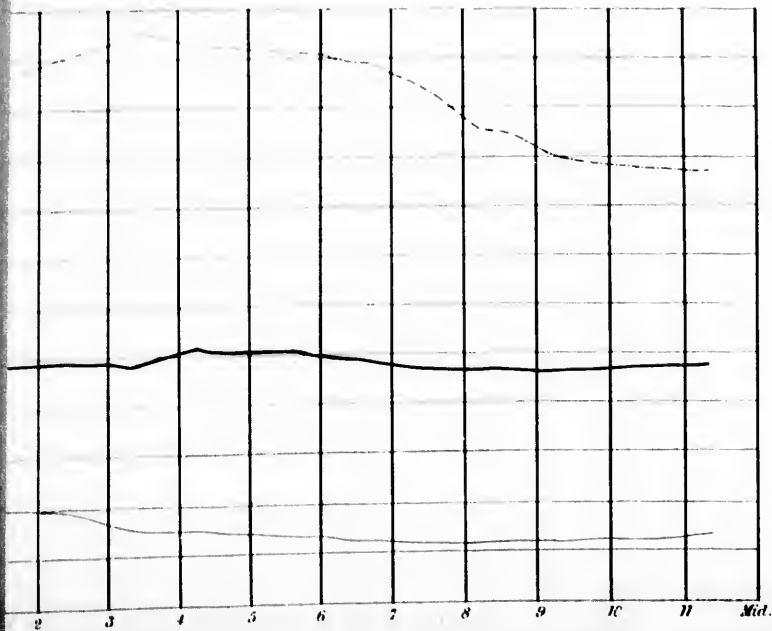


Fig. Observations.

Following undisturbed days
 May 9th 10th 11th 12th 13th and 15th 1883.

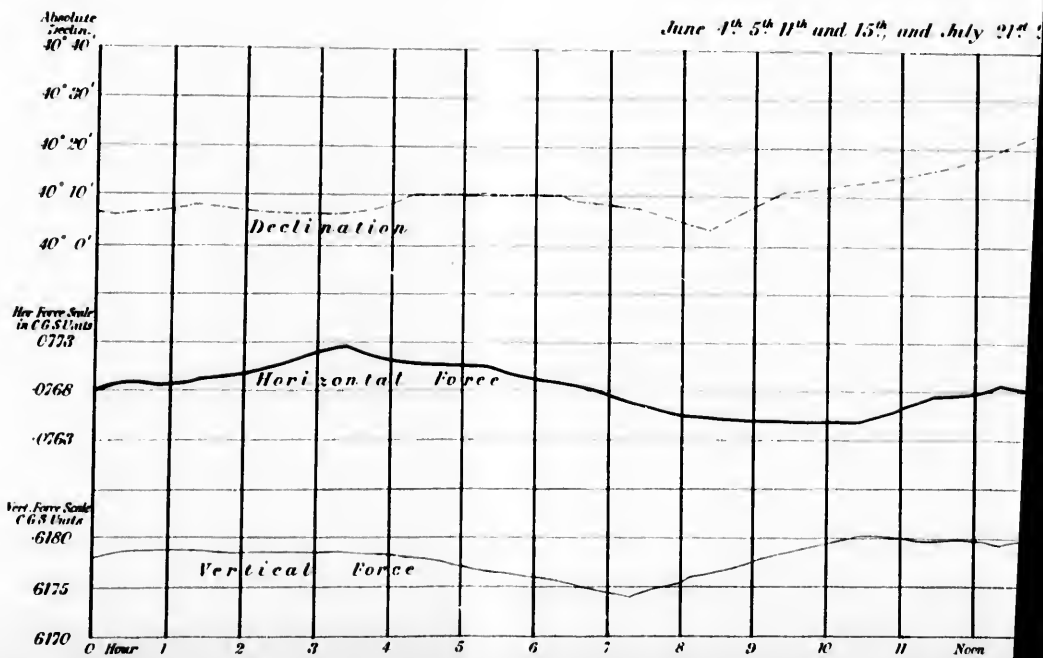
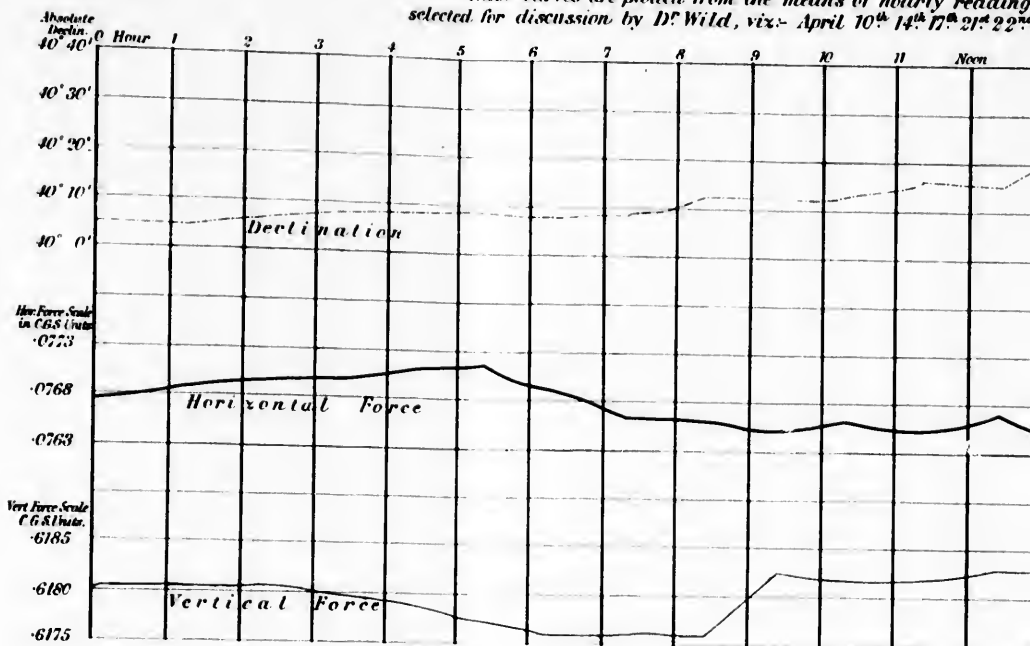


May 18th 19th 1883.

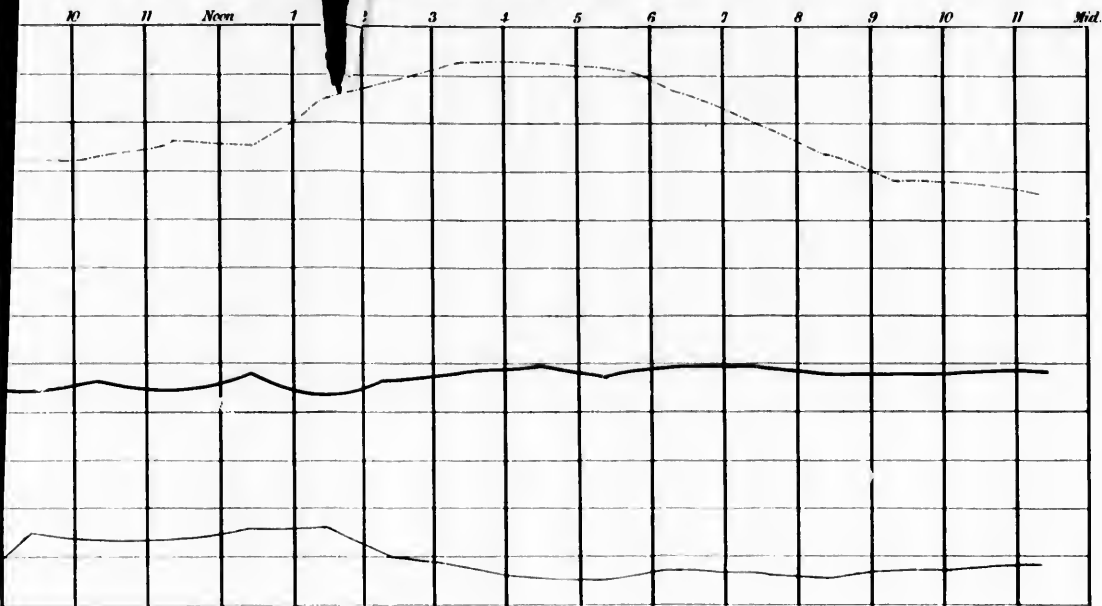


Göttingen Mean Time Fort Rae

These curves are plotted from the means of hourly readings selected for discussion by Dr Wild, viz: April 10th 14th 17th 21st 22nd



me Fort Rae M... Observations.
 means of hourly readings of ... wing undisturbed days
 - April 10th 14th 17th 21st 22nd 23rd ... May 9th 10th 11th 12th 13th and 15th 1883.



... 11th and 15th, and July 21st 22nd 23rd 28th 29th 1883.

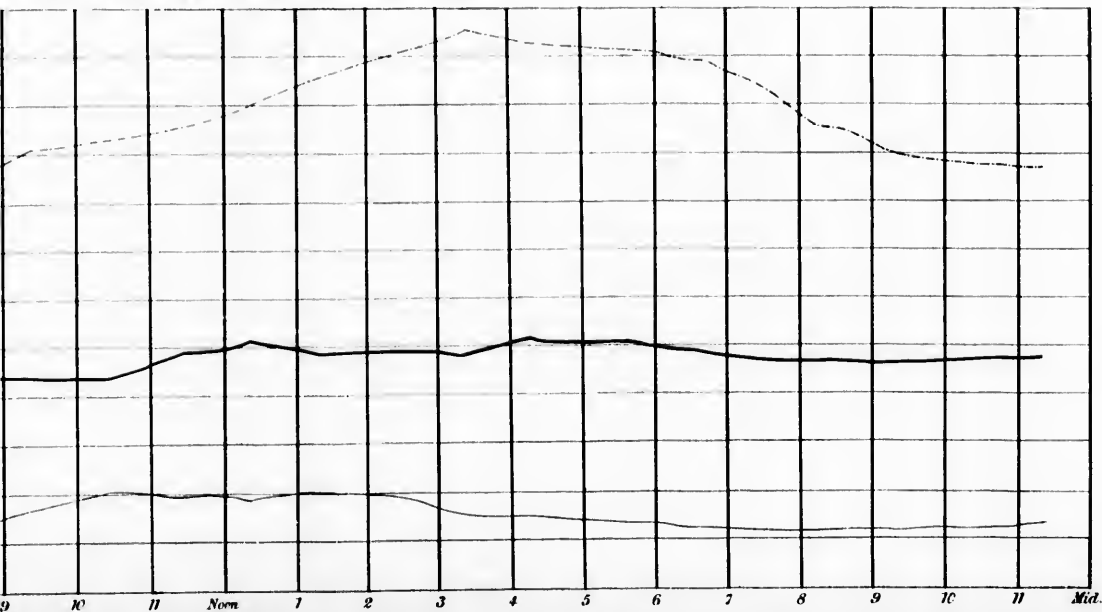
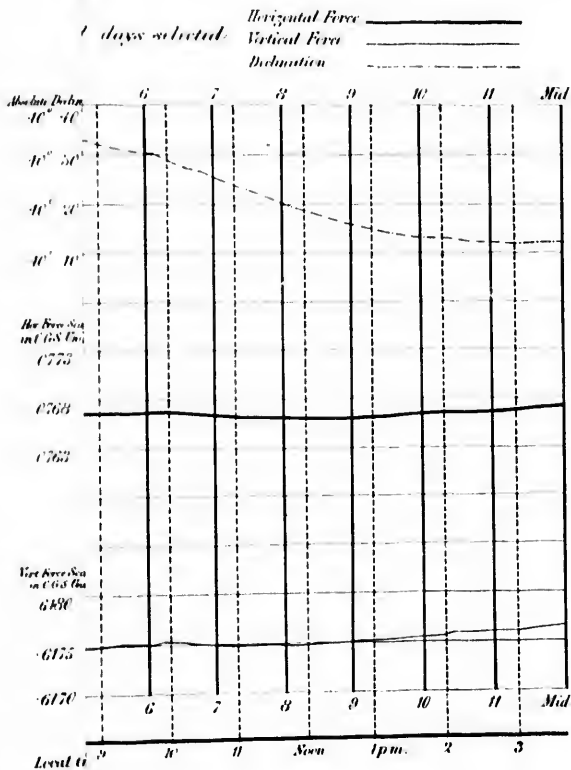


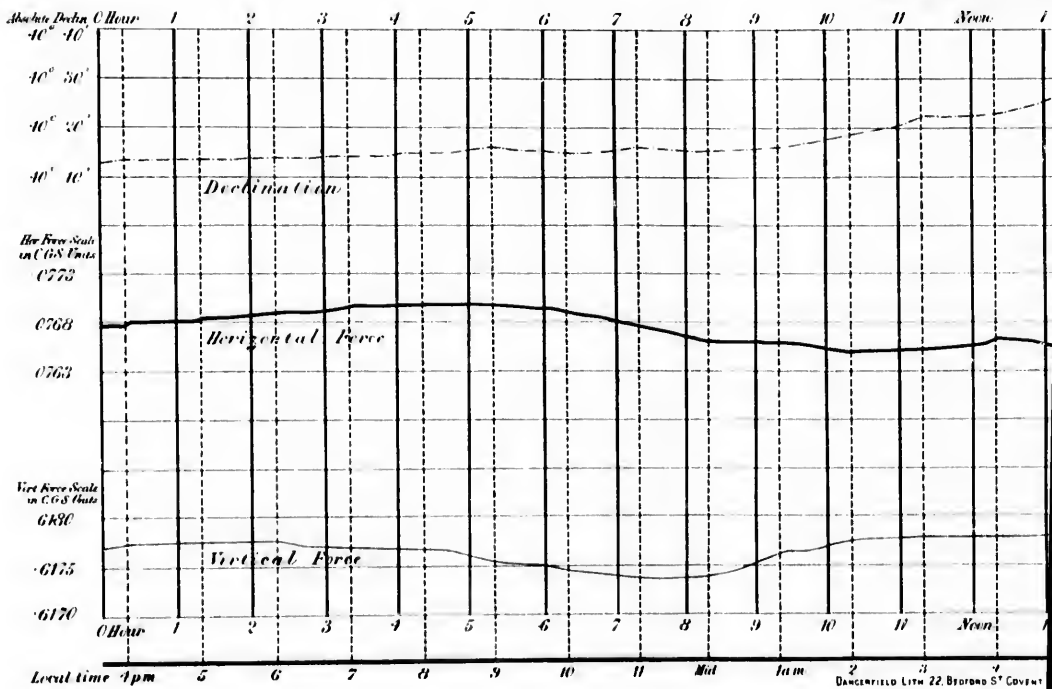


Plate 32.



(Göttingen Mean Time) Fort Rae

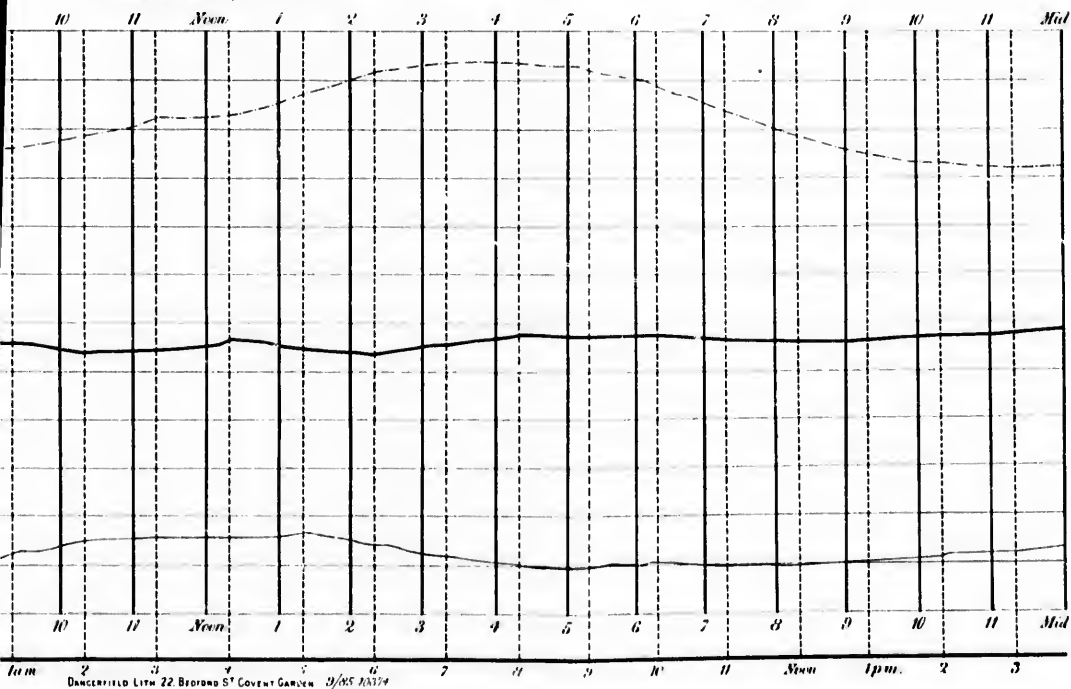
These curves are plotted from the means of the hourly readings of
for discussion by D^r



(in Time) Fort Rac. Magnetic Observations

Means of the hourly readings of the whole of the undisturbed days selected for discussion by Dr Wild.

Horizontal Force _____
 Vertical Force _____
 Declination _____



DUNGERFIELD LITH 22 BEDFORD ST COVENT GARDEN 3/85 73374

