

SUPPLEMENT TO THE CANADIAN JOURNAL, FOR OCTOBER.

Monthly Meteorological Register, at the Provincial Magnetic Observatory, Toronto, Canada West.—September, 1853.

Latitude 43 deg. 39' 10" N. Longitude, 79 deg. 21' 10" W. Elevation above Lake Ontario: 103 feet.

Magnet.	Day.	Barom. at tem. of 32 deg.				Temperature of the air.				Tension of Vapour.				Humidity of Air.				Wind.				Rain & Snow	
		6 A.M.	2 P.M.	10 P.M.	MEAN.	6 A.M.	2 P.M.	10 P.M.	MEAN.	6 A.M.	2 P.M.	10 P.M.	MEAN.	6 A.M.	2 P.M.	10 P.M.	MEAN.	6 A.M.	2 P.M.	10 P.M.	MEAN.	in	in
																						Inch.	Inch.
a	1	29.771	29.780	29.790	29.783	60.7	73.3	60.1	65.97	0.460	0.498	0.412	0.461	89	63	80	75	N b E	E S E	N E b E		4.27	-
c	2	814	712	707	732	60.8	71.8	67.6	69.87	366	691	453	628	69	72	69	73	N b E	S E b E	Calm		2.31	-
c	3	722	697	689	711	65.0	80.8	65.9	70.97	515	726	518	620	91	71	88	81	Calm	S b E	Calm		1.96	-
c	4	672	609			61.1	80.1			487	570			92	57			Calm	S E b S			2.18	-
b	5	633	577	514	579	66.1	85.4	73.9	75.22	576	690	571	629	93	58	70	71	E b N	S	Calm		4.51	insp.
d	6	571	462	465	502	69.8	78.1	62.8	70.35	619	815	461	633	88	88	83	85	Calm	S E b E	N		4.57	1.920
d	7	510	400	714	617	60.5	66.2	51.7	59.49	156	311	230	358	83	55	77	72	N N W	N N W	N N W		6.70	-
c	8	791	811	811	816	53.1	69.0	58.0	60.65	322	423	325	358	82	62	69	70	N N W	S E	N b E		4.18	-
c	9	832	730	618	737	53.5	70.7	49.8	63.37	315	445	317	425	86	61	78	76	N E b N	S E	S S W		5.55	insp.
c	10	758	755	857	796	55.3	69.2	61.1	51.85	258	317	249	277	83	51	78	68	Calm	W b N	Calm		4.26	-
b	11	570	573			59.3	62.9			212	298			70	51			N N W	S b W			1.65	-
b	12	801	813	762	830	59.9	61.9	51.5	55.93	179	318	298	305	73	58	69	63	Calm	S b S	Calm		1.43	-
a	13	717	625	569	621	59.0	66.2	61.9	60.87	228	437	315	404	81	70	77	78	Calm	S b W	Calm		2.35	0.250
a	14	494	283	682	577	61.1	61.1	58.7	59.80	422	493	489	468	92	91	92	92	N E	E b E	N N E		9.80	1.825
d	15	274	353	512	411	58.1	67.1	56.0	61.28	435	401	327	396	92	62	72	76	N W b W	N W	Calm		6.61	-
b	16	632	610	516	579	59.4	66.4	61.5	61.22	303	514	331	460	81	82	91	85	Calm	E	E S E		2.41	0.10
a	17	498	451	107	478	58.8	71.3	70.6	67.52	430	751	655	589	83	82	80	87	Calm	S E	Calm		1.66	insp.
c	18	593	482			67.2	75.7			587	679			91	79			E b N	S E			3.70	insp.
c	19	398	472	558	475	69.8	64.0	60.3	61.52	611	517	481	545	87	94	95	91	S	SW b W	Calm		4.52	0.359
c	20	629	556	552	573	59.3	65.2	51.0	56.08	317	473	314	382	89	78	94	87	SSW	S E	W		3.09	0.115
b	21	558	587	630	593	59.2	58.1	52.8	53.92	302	390	323	310	88	83	82	83	W b N	N W	N W		7.67	-
d	22	651	639	642	639	49.5	56.0	47.2	59.47	292	272	268	275	83	62	81	77	N N W	N N E	S b W		2.63	-
b	23	625	589	551	555	47.2	66.6	57.8	57.43	278	463	420	391	87	73	90	84	Calm	S b E	S W b S		2.33	-
b	24	322	575	591	614	50.5	62.1	46.4	53.62	446	376	214	310	87	61	68	69	S W b S	N W	N W b N		8.42	-
b	25	903	905			37.8	51.2			172	229			76	70			Calm	S b W			3.02	-
b	26	933	787	723	801	47.1	59.4	51.0	53.32	252	310	321	313	79	69	87	87	N E b N	E	E N E		5.94	insp.
b	27	720	590	493	599	48.1	48.3	42.7	45.52	291	307	271	294	88	92	100	91	E N E	E b N	N N E		7.77	0.560
a	28	551	605	561	705	42.3	53.5	11.6	45.92	232	197	193	206	94	49	75	69	N	N b W	N N W		8.42	-
b	29	975	943	999	993	37.4	51.1	33.1	42.30	195	227	184	188	74	62	87	71	N W b N	S S E	E b N		2.91	-
b	30	830	707	599	691	37.0	52.6	42.7	45.77	207	270	214	230	95	69	79	78	N N E	E	N N E		2.10	-
M		29.661	29.632	29.641	29.612	55.40	65.68	55.80	58.81	0.363	0.447	0.382	0.399	86	70	82	79	MP+3.30	MP+6.43	MP+3.26		4.30	5.140

Sum of the Atmospheric Current, in miles, resolved into the four Cardinal directions.

North, 1513.11; West, 804.37; South, 755.52; East, 872.38.

Mean direction of the wind, North.

Mean velocity of the wind - 4.30 miles per hour.

Maximum velocity - 20.7 miles per hour, from 10 to 11 p.m. on 14th.

Most windy day - 14th: Mean velocity, 9.80 miles per hour.

Least windy day - 12th: Mean velocity, 1.43 ditto.

Raining 47.9 hours on 12 days.

14th.—The velocity of the Wind from 10h. 0m. to 10h. 10m. p.m., was at the rate of 40.2 miles per hour, and from 10h. 10m. to 10h. 20m. p.m., at the rate of 46.8 miles per hour, being the greatest velocity ever recorded at this Observatory.

Highest Barometer - 29.933, at 8 A.M., on 29th. } Monthly range:

Lowest Barometer - 28.945, at 10.2 P.M., on 14th. } 1.033 inches.

Highest regist'd Temp. - 85.5, at - P.M., on 5th. } Monthly range:

Lowest regist'd Temp. - 33.9, at - A.M., on 30th. } 51.6

Mean Maximum Temperature - 67.57 } Mean daily range:

Mean Minimum Thermometer - 49.45 } 18.42

Greatest daily range - 32.2 from P. M. 21th to A. M. of 25th.

Warmest day - 5th - Mean Temperature - 75.22 } Difference

Cooldest day - 23th - Mean Temperature - 42.30 } 32.92

The "Means" are derived from six observations daily, viz., at 6 and 8 A.M., and 2, 4, 10 and 12, P.M.

Aurora observed on 7 nights. Possible to see Aurora on 19 nights. Impossible to see Aurora on 11 nights.

The column headed "Magnet?" is an attempt to distinguish the character of each day, as regards the frequency or extent of the fluctuations of the Magnetic declination, indicated by the self-registering instruments at Toronto.

The classification is, to some extent, arbitrary, and may require future modification, but has been found tolerably definite as far as applied. It is as follows:

(a) A marked absence of Magnetic disturbance.

(b) Unimportant movements, not to be called disturbance.

METEOROLOGICAL OBSERVATIONS.

During the Storm of 14th August, 1853.

Magnetic Observatory, Toronto.

The Barometer has been falling gradually from 29.922 inches on the 12th, at 8 a.m., to 29.052 at 10 p.m., on the 14th. The wind on the 12th and 13th had been mostly calm, or W. and S.W., the action of the clouds being from W. and S.W., and increasing in extent till 8 a.m. on the 13th, when the sky was overcast, and continued so, the humidity, also, increasing till it reached .93 at 10 p.m. on the 13th. The wind changed on the morning of the 14th, about midnight, to N.N.E., and rain fell during the night.

The 14th was densely clouded, and there was steady rain all day, the wind creeping round to the N., and the velocity increasing from 1.6 miles at 6 a.m. to 22.0 at 10 p.m. At this time the violence of the storm increased the wind N.N.E., Barometer, 29.032, Thermometer, 58.7°, Humidity 99 at 10.12 p.m.

(c) Marked disturbance—whether shown by frequency or amount of deviation from the normal curve—but of no great importance.

(d) A greater degree of disturbance—but not of long continuance.

(e) Considerable disturbance—lasting more or less the whole day.

(f) A Magnetic disturbance of the first class.

The day is reckoned from noon to noon. If two letters are placed, the first applies to the earlier, the latter to the later part of the trace. Although the Declination is particularly referred to, it rarely happens that the same terms are not applicable to the changes of the Horizontal Force also.

Comparative Table for September.

Year.	Temperature.				Rain. Dys	Snow. Dys/Inch.	Wind Mean Velocity
	Mean.	Max. observed	Min. observed	Range.			
	°	°	°	°			Miles.
1810	54.0	70.2	29.4	40.8	4	1.350	0 --
1811	61.3	79.9	37.6	42.4	9	3.310	0 --
1812	57.7	83.5	28.3	55.2	12	6.169	0 --
1813	59.1	87.8	33.1	54.7	10	9.760	0 -- 0.57h
1814	55.6	81.5	29.6	51.9	4	imperfect	0 -- 0.26h
1815	59.0	78.8	35.3	43.5	16	6.215	0 -- 0.34h
1816	63.6	81.0	39.0	45.9	11	4.565	0 -- 0.33h
1817	55.6	71.8	38.1	38.7	15	6.665	0 -- 0.33h
1818	54.2	80.9	22.5	51.4	11	3.115	0 -- 5.81m
1819	58.2	80.6	33.5	47.1	9	1.480	0 -- 4.23m
1820	55.5	76.0	31.7	44.3	11	1.735	0 -- 4.78m
1821	60.0	86.3	33.1	52.9	9	2.665	0 -- 5.15m
1822	57.5	81.8	38.1	47.7	10	3.639	0 -- 4.69m
1823	53.8	85.4	34.1	49.3	12	5.140	0 -- 4.39m
Mean	57.79	80.82	33.61	47.21	10.2	4.391	0 -- 4.66 M

Barometer 29.922; from 10 h. to 10 h. 10 m., the wind had traversed 6.7 miles, or at the rate of 40.2 miles per hour; in the previous half hour its rate was 13.4 miles per hour.

At 10h. 20m. Barometer 29.916, from 10h. 10m. to 10h. 20m., the wind had traversed 7.5 miles, being at the rate of 46.8 miles per hour. A sudden lull now took place the Barometer beginning to rise.

At 10h. 30m. Barometer 29.923, rate of wind for this 10m, being 65. miles per hour. The wind now gradually veered round by S., and at 11 p.m. it had got round to N.W. by N., having changed through 1/2 of the circle.

At 11h. Barometer 29.112 velocity of wind from 10h. 30m. to 11 p.m. was 10.6 miles per hour, at 10h. 11m. rain ceased, and the storm was over, the Barometer continued to rise steadily.

The quantity of rain which fell during the day was 1.835 inches on the surface.