TORONTO

GENERAL METEOROLOGICAL REGISTER

FOR THE YEAR 1891.

REMARKS ON THE METEOROLOGICAL RESULTS AT TORONTO FOR THE YEAR 1891.

——:o:——

TEMPERATURE.

The mean temperature of 1891 was 45°·87, being 1°·74 warmer than the average of the past half century, and 0°·67 warmer than 1890. This excess is mainly due to the high temperature of the winter and autumn, the summer being cool and slightly lower than the normal, bearing out the fact that Toronto presents great regularity in the annual temperature, combined with great variability in the course of the year. The mean temperature of the several months was in nine instances above, and in three instances below their proper normals, the average excess to the average defect being in the ratio of 2°·91 to 1°·77. On each of 207 days the mean temperature was above the normal temperature of that particular day, and below on 158 days. The mean temperature of each month, with the difference from the normal, was January, 24°·15 + 1°·67; February, 28°·02 + 5°·48; March, 28°·81 + 0°·11; April, 43°·24 + 2°·40; May, 51°·51 — 0°·59; June, 64°·34 + 2°·29; July, 63°·69 — 3°·98: August, 65°·56 — 0°·73; September, 62°·49 + 4°·04; October, 47°·91 + 1°·66; November, 37°·05 — 0°·96; December, 33°·64 + 7·56. Dividing the year into the ordinary seasons, we have for winter, 26°·99; spring, 53°·03; summer, 63°·91; autumn, 39°·53. The thermic anomalies differ from the normal temperature proper to the latitude. Winter, —8°·87; spring, —4°·60; summer, —2°·35; autumn, —4°·80. The only month during the year in which the observed temperature exceeded the normal value of the latitude was September, which was 0°·90 warmer. The mean daily range for the year was 16°·45, the greatest monthly average occurring in May (21°·12) and the least in March, 12°·49. The greatest range, 37°·8, occurred on the 30th April, and the least, 4°·5, on the 20th of January. The warmest month relatively was December, estimated by its excess (7°·56) above the normal temperature. The coldest absolutely was January (24°·15), but July was the coldest relatively, its mean (63°·69) being 3°·98 below its proper normal. The climatic difference was 41°·41. The warmest day was the 16th June, mean temperature 77°·62, and the coldest 16th January, with a mean temperature of 5°·13, but the warmest day relatively was the 25th September, it being 18°·80 above its proper normal, and the coldest the 29th November, which was 19°·7 below. The average temperature of the warmest and coldest days from former years was 77°·87, and 2°·28 below zero. The highest temperature of the year 91°·9 occurred on the 16th June; the lowest, 2°·0 below zero, on the 16th Junuary. The annual range was from these extremes 93°·9, being 1°·8 more than in 1890, and 9°·1 below the average range. There were thirty-three instances on which the temperature at the hour of observation was 20° above the normal, and only five when a defect of an equal amount occurred. The most striking deviations from the normal curve of temperature have been as follows:—

Jan.	1	mean deviation	+14°·57	Dec.	2 to 5	mean deviation	+11°·80
"	19 to 24	"	+10°·94	"	9 to 15	"	+12°·60
"	28 to 31	"	+11°·15	"	21 to 26	"	+14°·15
Feb.	16	"	+16°·75	"	29	"	+16°·55
"	23 to 25	"	+12°·37	Jan.	3	"	—14°·45
April	22	"	+17°·72	"	16	"	—16°·45
May	8 to 10	"	+11°·35	Feb.	4	"	—15°·25
June	15 to 16	"	+14°·27	May	16	"	—11°·13
Sep.	17 to 18	"	+12°·95	July	7 to 8	"	—10°·73
"	21 to 28	"	+13°·74	"	26 to 28	"	— 8°·65
Oct.	2 to 5	"	+15°·42	Nov.	28 to 29	"	—17°·74
Nov.	9 to 12	"	+11°·82	Dec.	17	"	—13°·10
"	21 to 23	"	+11°·41				

BAROMETRIC PRESSURE.

The mean height of the Barometer was 29·6385 inches, being 0·0198 inches in excess of the average. The month which showed the greatest deviation from the normal was May, 0·091 in excess. April showing the least 0·004, in defect. Average deviation without reference to sign was small, being only 0·037. The highest reading was 30·266 inches at 8 a.m. of October 12th, and the lowest 28·536 inches, at 4 p.m. of November 23rd, giving a range of pressure of 1·730 inches.

The number of days of large abnormal variations in which the average pressure differed by two tenths and upwards from the normal, was 118, the law of their distribution is well marked by their greater frequency in the winter than in the summer months, the greatest number (19) occurring in November, and the least (3) in August and September.

HUMIDITY.

The mean humidity of the year was 75, being 2 per cent. less than the average, the greatest monthly humidity was (85) in January, and the least (59) in May.

There were 32 cases of complete saturation at the hour of observation : 7 in January, 3 in February, 8 in March, 2 in April, 2 in September, 1 in October, 5 in November and 4 in December, the least humidity of the year at the hour of observation was 13 on the 1st of May at 4 p.m.

CLOUDS.

The extent of sky clouded was on the average of the year six-tenths of of the whole. September was the clearest month and November the most cloudy, during the year there were 60 days completely clouded, being 12 less than the average (1890·79), the greatest number (18) occurring in January, none being registered in July.

WIND.

The resultant direction of the wind was N 57° W. showing 9° more southing than 1890, and 4° more than the average of the 15 years to 1889.

The mean velocity of the wind without reference to direction was 7·33 miles. The most windy month was March with an average of 11·40 miles per hour, and the least windy was September with an average of 4·20 miles. The windiest day was the 8th of December, average velocity 39·96 miles per hour, and the day of least velocity 10th June, average velocity 0.70 miles per hour.

The highest velocity in one hour was 60·0 miles from 2 to 3 p.m. of the 17th November.

RAIN AND SNOW.

The total depth of rain that fell during the year was 26·735 inches, being 0·677 inches less than the average and upwards of 5 inches less than the rainfall of 1890. The depth of snow 47·8 inches was 22·0 inches less than the average, and 4·8 less than the snowfall of 1890. August is the most rainy month as to quantity (4·380 inches), and November with reference to the number of rainy days (14). May is the least rainy month less than half an inch having fallen about one-sixth of the usual q antity for that month.

The most rainy day was the 9th of August when 2·435 inches fell, there was only one other day during the year that over one inch fell, on the 16th of June when 1·28 inches fell in a little over an hour, but on the 11th of June 0·62 inches fell in 16 minutes betwixt 2 and 3 p.m.

The heaviest fall of snow in one day was 5·2 inches on the 11th of January. Rain fell on 125 days being 12 more than the average number and 20 less than in 1890. Snow fell on 70 days being 4 more than the average and 11 less than in 1890. There were 193 days on which neither rain or snow fell, in 1890 the number was 159.

The rain occupied 602 hours and the snow 301 hours, in its fall giving a total of 903 or upwards of 37 days 15 hours when rain or snow was actually falling.

THUNDER STORMS.

Of the 19 thunder storms occurring during the year, the first lightning was on the 18th April, and the latest on October 26th, 1 was recorded in May, 4 in June, 5 in July, 5 in August, 3 in September, 1 in October. The most severe storms were on the 11th and 16th of June ; 14th, 28th and 29th of July ; 9th, 11th and 26th of August: lightning alone was observed on 4 occasions.

AURORA.

Auroras were more numerous than in the previous year. Of the 18 observed 2 were of the second class, 7 of the third and 9 of the fourth class. There were 212 nights favourable for observation, the most brilliant displays occurring on the 7th and 12th of April, 28th of August and 8th, 9th, 10th and 11th September.

SUNSHINE.

The total duration of bright sunshine during the year was 2065·4 hours, number of hours the sun was above the horizon 4463·3. ratio of registered to possible 0·46 hours.

Frost occurred in every month but in June, July, August and September, the last frost in spring was on the 23rd of May, and the earliest in autumn on October 10th, ice first formed on October 12th, the last snow in spring was on the 3rd of May (0·3 inches), and the first in autumn on the 1st November (a few flakes only.)

Ice left the Bay on February 16th, reformed on March 1st, and people were skating on it. Bay clear of ice on March 20th. First schooner arrived on March 24th. First steamer arrived April 21st. Last schooner arrived on December 28th. Bay did not freeze over until 5th January, 1892.

GENERAL METEOROLOGICAL

MAGNETICAL OBSERVATORY,

Latitude 43° 39′·4 N. Longitude 5h. 17m. 34·65 W. Elevation

	Jan.	Feb.	Mar.	April.	May.	June.	July.
Average temperature	24°·15	28°·02	28°·81	43°·24	51°·51	64°·34	63°·69
Difference from average (51 years)	+ 1·67	+ 5·48	+ 0·11	+ 2·40	− 0·59	+ 2·29	− 3·98
Thermic anomaly (Lat. 43° 40′)	− 8·65	− 6·68	−11·29	− 6·96	− 6·59	− 0·26	− 5·01
Highest temperature	41·9	49·0	52·1	77·5	78·0	91·9	83·9
Lowest temperature	− 2·0	2·1	4·7	20·5	30·2	42·5	45·0
Monthly and annual ranges	43·9	46·9	47·4	57·0	47·8	49·4	38·9
Average maximum temperature	30·14	34·75	34·96	52·12	62·07	74·57	73·56
Average minimum temperature	16·60	20·75	22·47	34·75	40·95	54·26	54·70
Average daily range	13·54	14·01	12·49	17·37	21·12	20·31	18·86
Greatest daily range	34·9	28·4	24·2	37·8	34·7	34·3	27·7
Average height of bar. at 32° Fah.	29·6256	29·5959	29·6883	29·5919	29·6657	29·5902	29·5982
Difference from average (50 years)	−0·0273	−0·0433	+0·0855	−0·0042	+0·0909	+0·0209	+0·0116
Highest barometer	30·251	30·248	30·200	30·095	29·942	29·946	29·979
Lowest barometer	28·850	28·845	28·782	29·170	29·408	29·302	29·146
Monthly and annual ranges	1·401	1·403	1·418	0·925	0·534	0·644	0·833
Average humidity of the air	85	79	77	71	59	68	73
Difference from average	+ 2	− 2	− 1	0	−11	− 5	+ 1
Average elasticity of aqueous vapour	0·119	0·129	0·126	0·204	0·232	0·419	0·427
Average temperature of dew point	22·2	24·0	23·5	35·0	38·3	54·2	54·6
Average of cloudiness	0·74	0·66	0·67	0·54	0·61	0·51	0·53
Difference from average (37 years)	·00	− ·03	+ ·03	− ·05	+ ·05	− ·02	+ ·03
Resultant direction of wind	N 32° W	N 88° W	N 23° E	N 42° W	N 37° W	N 55° E	N 83° W
" velocity of the wind	3·33	3·67	3·42	3·34	3·54	1·98	1·94
Average velocity (miles per hour)	7·10	10·69	11·40	8·50	7·10	5·37	7·40
Difference from average (16 years)	....	....	....	....	....	....	....
Total amount of rain in inches	1·915	1·670	1·260	2·295	0·495	3·059	2·160
Difference from average (51 years)	+ 0·728	+ 0·774	− 0·193	+ 0·086	− 2·474	+ 0·134	− 0·882
Number of days of rain	7	9	7	12	11	11	12
Total amount of snow in inches	12·1	9·8	17·7	0·1	0·3	....	....
Difference from average (48 years)	− 5·14	− 7·41	+ 4·80	− 2·30	+ 0·16	....	....
Number of days of snow	17	14	17	3	1	....	....
Number of fair days	11	9	11	16	19	19	19
Number of days completely clouded	18	5	8	4	1	3	0
Number of auroras observed	0	2	1	3	0	0	0
Possible to see aurora (No. of nights)	9	13	14	18	14	19	24
Number of thunderstorms	0	0	0	0	1	4	5
Number of fogs	10	0	2	3	0	4	4
Number of hours of bright sunshine	69·6	104·3	141·0	195·3	236·0	242·4	247·7
Number of hours of possible sunshine	285·7	291·4	369·9	406·5	461·1	465·7	470·9

REGISTER FOR THE YEAR 1891.

TORONTO, ONTARIO.

above Lake Ontario, 108 feet. Elevation above the Sea, 350 feet.

AUG.	SEPT.	OCT.	NOV.	DEC.	1891.	1890.	1889.	1888.	1887.	1886.	1885.
65°56	62°49	47°91	37°05	33°64	45°87	45°02	45°44	42°70	44°14	43°71	41°57
− 0·73	+ 4·04	+ 1·66	+ 0·96	+ 7·56	+ 1·74	+ 0·89	+ 1·31	− 1·43	+ 0·01	−0·42	−2·56
− 2·94	+ 0·90	− 5·89	− 6·15	− 2·36	− 5·15	− 6·00	− 5·58	− 8·32	− 6·88	−7·31	−9·45
89·6	87·5	80·7	58·3	49·1	91·9	89·4	88·7	92·0	97·2	89·5	88·6
46·1	41·9	21·6	7·5	3·4	− 2·0	− 2·7	−11·3	−16·1	−16·6	−22·8	−16·1
43·5	45·6	69·1	50·8	45·7	93·9	92·1	100·0	108·1	113·8	112·3	104·7
75·02	72·53	56·08	42·99	40·00	....	....	....	....	....	....	....
57·11	53·45	39·08	30·27	26·99	....	....	....	....	....	....	....
17·91	19·09	17·00	12·72	13·01	16·45	16·22	15·55	16·55	17·12	16·53	16·85
28·3	28·5	25·4	24·2	26·2	37·8	36·0	42·8	37·7	34·0	32·6	39·2
29·5899	29·7206	29·6768	29·6463	29·6440	29·6385	29·6313	29·6177	29·6448	29·6329	29·6255	29·5933
−0·0301	+0·0634	+0·0307	+0·0253	+0·0142	+0·0198	+0·0126	−0·0010	+0·0261	+0·0142	+·0068	−·0254
29·830	30·076	30·266	30·181	30·253	30·266	30·334	30·365	30·432	30·607	30·283	30·300
29·137	29·417	29·303	28·536	29·081	28·536	28·762	28·582	28·793	28·704	28·752	28·714
0·693	0·659	0·963	1·545	1·172	1·730	1·572	1·783	1·639	1·903	1·531	1·586
78	80	74	76	78	75	78	77	74	75	77	77
+ 4	+ 3	− 5	− 4	− 4	− 2	+ 1	0	− 3	− 2	0	0
0·492	0·459	0·263	0·181	0·155	0·267	0·272	0·271	0·243	0·261	0·260	0·249
58·6	56·6	41·6	32·0	28·3	42·0	42·5	42·4	39·5	41·4	41·3	40·1
0·54	0·36	0·52	0·78	0·60	0·59	0·62	0·63	0·63	0·63	0·61	0·61
+ ·04	− ·15	− ·11	+ ·03	− ·17	− ·03	·00	+ ·01	+ ·01	+ ·01	− ·01	−·01
N 59° W	West.	N 45° W	S 57° W	S 65° W	N 57° W	N 48° W	N 63° W	N 59° W	N 46° W	N 56W	N 62W
0·78	0·09	0·91	3·07	3·48	1·63	1·80	2·04	2·67	1·92	2·13	2·60
5·50	4·20	5·80	6·42	8·60	7·33	9·19	9·08	9·71	9·88	9·73	9·95
....	....	....	....	....	....	− 0·45	− 0·56	+ 0·07	+ 0·24	+0·09	+0·31
4·830	1·705	1·705	3·190	2·460	26·735	32·110	24·575	22·819	17·969	27·726	26·351
+2·031	−1·617	−0·691	+0·491	+0·936	−0·677	+4·698	−2·837	−4·593	−0·443	+0·314	−1·061
13	8	11	14	10	125	145	127	133	106	112	103
....	....	0·0	3·6	4·2	47·8	52·6	66·5	34·6	77·9	73·5	65·6
....	....	− 0·71	− 1·05	−10·37	−22·02	−17·22	− 3·32	−35·22	+8·08	+ 3·68	− 4·22
....	....	0	19	8	70	81	60	83	78	66	73
18	23	20	11	17	193	159	187	175	203	196	203
1	1	3	7	9	60	68	79	58	76	74	65
4	5	2	0	1	18	7	6	21	25	20	31
23	25	22	10	21	212	188	169	183	180	189	195
5	3	1	0	0	19	21	24	23	22	26	19
2	8	2	2	5	38	43	34	26	39	29	30
220·5	251·7	173·5	77·5	105·9	2065·4	1977·6	1909·2	2043·3	2063·5	2034·4	2018·3
434·5	376·3	340·2	286·9	274·3	4463·3	4463·3	4463·3	4474·4	4463·3	4463·3	4463·3

TEMPERATURE.

	1891.	Average of 51 years.	Extremes.	
	°	°	°	°
Average temperature of the year	45·87	44·13	47·09 in 1878	40·77 in 1873
Warmest month	August	July	July, 1868	Aug., 1860
Average temperature of the warmest month	65·56	67·67	75·80	64·46
Coldest month	January	January	Feb. 1875	Feb. 1848
Average temperature of the coldest month	24·15	22·48	10·16	26·00
Difference between the temperature of the warmest and coldest month	41·41	45·19	....	....
Average of deviations of monthly means from their respective averages of 51 years, signs of deviation being disregarded	2·62	2·54	3·63	....
Month of greatest deviation without regard to sign	Dec.	January	Feb. 1875	....
Corresponding magnitude of deviation	7·56	4·02	12·27	....
Warmest day	16 June	....	July 14, '68	July 31, '54
Average temperature of the warmest day	77·62	77·87	84·50	72·75
Coldest day	16 Jan.	....	Feb. 6, 1855	Dec. 22, '42
Average temperature of the coldest day	5·13	−2·28	Jan. 22, '59 −14·38	9·57
Date of the highest temperature	16 June	....	Aug. 24, '54	Aug. 19, 40
Highest temperature	91·9	90·75	99·2	82·4
Date of lowest temperature	16 Jan.	....	Jan. 10, '59	Jan. 2, 1842
Lowest temperature	−2·0	−12·25	−26·5	1·9
Range of the year	93·9	103·00	118·2	87·0

BAROMETER.

	1891.	Average of 50 years.	Extremes.	
Average pressure of the year	29·6385	29·6187	28·6779 in 1849	29·5602 in 1864
Month of the highest average pressure	Sept.	Sept.	Jan 1849	June, 1864
Highest monthly average pressure	29·7296	29·6642	29·8046	29·6525
Month of the lowest average pressure	June	June	March, 1859	Nov., 1859
Lowest monthly average pressure	29·5992	29·5693	29·4143	29·5886
Date of the highest pressure in the year	Oct. 12	....	Jan. 8, 1866	March 7, '78
Highest pressure	30·266	30·365	30·940	30·139
Date of the lowest pressure in the year	Nov. 23	....	Jan. 2, 1870	March 7, '45
Lowest pressure	28·536	28·707	28·166	28·939
Range of the year	1·730	1·658	2·133 in 1866.	1·303 in 1845

RELATIVE HUMIDITY.

	1891.	Average of 50 years.	Extremes.	
Average humidity of the year	75	77	82 in 1851	73 in 1858
Month of greatest humidity	January	January	Jan., 1857	Dec., 1858
Greatest average monthly humidity	85	83	89	81
Month of least humidity	May	May	Feb., 1843	April, 1849
Least average monthly humidity	59	70	58	76

EXTENT OF SKY CLOUDED.

	1891.	Average of 38 Years.	Extremes.	
Average cloudiness of the year	0·59	0·62	0·66 in '69	0·57 in 1856.
Most cloudy month	Nov.	Dec.	.....	.....
Greatest monthly average of cloudiness	0·78	0·77	0·89	0·73
Least cloudy month	Sept.	July.	.....	.....
Least monthly average of cloudiness	0·36	0·50	0·29	0·50

WIND.

	1891.	Average of 15 Years.	Extremes.	
Resultant direction	N. 57° W.	N. 61° W.	.....	.....
Resultant velocity in miles	1·63	2·51	.....	.....
Average velocity without regard to direction	7·33	9·64	10·54 in '80.	8·32 in '78.
Month of greatest average velocity	March.	March.	April, '80.	Dec., 1875.
Greatest monthly average velocity	11·40	11·49	13·88	10·42
Month of least average velocity	Sept.	July.	July, '78.	July, 1881.
Least monthly average velocity	4·20	7·56	5·93	8·43
Day of greatest average velocity	Oct. 13.	.....	Nov. 17, '80.	Feb. 10, '85.
Greatest daily average velocity	28·21	28·12	41·67	22·79
Day of least average velocity	June 10.	.....	.....	.....
Least daily average velocity	0·07	.....	.....	.....
Hour of greatest absolute velocity	Nov. 17.	.....	Now 7, '80.	Jan. 17, '85.
	2·3 p. m.		3 to 4 a.m.	10 to 11 a.m.
Greatest velocity	60·0	43·77	55·5	39·0

NOTE—During the year 1891, the wind has been obtained from the records of the anemograph at the Island and the entries at observation hours, and no comparison has been made with the result of former years.

RAIN.

	1891.	Averave of 51 Years.	Extremes.	
Total depth of rain in inches	26·735	27·412	43·555 in '43.	17·574 in '74.
Number of days on which rain fell	125	113	145 in 1890.	80 in 1841.
Month on which the greatest depth of rain fell	Aug.	Sept.	Sept., 1843.	June, 1887.
Greatest depth of rain in one month	4·830	3·322	9·760	2·655
Month in which the days of rain were most frequent	Nov.	Oct.	Jan., '69. Oct., '90.	May, 1841.
Greatest number of rainy days in one month	14	13	23	11
Day on which the greatest amount of rain fell	Aug. 9.	.....	Sept. 14, '43	Sept. 14, '48
Greatest amount of rain in one day	2·435	1·888	3·455	1·000

SNOW.

	1891.	Average of 48 years.	Extremes.	
Total depth of snow in inches	47·8	69·8	122·9 in '70.	34·6 in '88.
Number of days in which snow fell	70	66	87 in 1859.	33 in '48.
Month in which the greatest depth of snow fell	March	January.	March, '70.	Dec., 1851.
Greatest depth of snow in one month	17·7	17·2	62·4	10·7
Month in which the days of snow were most frequent	Jan. & March	January.	Dec., 1872.	Feb., 1848.
Greatest number of days of snow in one month	17	14	24	8
Day in which the greatest amount of snow fell	11th Jan.	—	Feb. 5, '63. Mar. 27, '70.	4-6 Jan'88
Greatest fall of snow in one day	5·2	9·1	16·0	3·0

SUNSHINE.

	1891.	Average 1882 to 1890.
Total duration of bright sunshine in hours	2065·4	2021·3
Ratio to possible amount	0·46	0·45
Month of greatest relative amount	September.	July.
Ratio to possible amount	0·67	0·61
Month of least relative amount	January.	December.
Ratio to possible amount	0·24	0·19
Number of days completely clouded	60	72
Day of greatest relative amount	December 12	—
Ratio to possible amount	0·94	0·91

DIFFERENCES OF CERTAIN METEOROLOGICAL ELEMENTS FOR 1891 FROM THE NORMAL VALUES FOR EACH QUARTER AND YEAR.

	Bar.	Tem.	Rain.	Days Rain.	Snow.	Days Snow.	Clouded Sky.
	in.	°	in.		in.		p.c.
Winter	+ ·0050	+ 2·42	+ 1·309	+ 7·15	— 7·75	+ 10·10	0·00
Spring	+ ·0059	+ 1·37	— 2·254	+ 0·71	— 2·14	0·00	— 0·01
Summer	+ ·0150	— 0·22	— 0·468	— 0·61	—	—	— 0·03
Autumn	+ ·0234	+ 3·39	+ 0·736	+ 5·65	— 12·13	— 5·76	— 0·08
Year	+ ·0158	+ 1·74	— 0·677	+ 12·29	— 22·02	+ 4·34	— 0·03

PERIODICAL OR OCCASIONAL EVENTS, 1891.

January.	1.	Very mild, heavy rain. 2nd, rapid fall of temperature, by morning o 3rd a change of 41° had occurred. 16th, Coldest day of year, average 5°·13.
	18.	Robins numerous. 21st, Woodpeckers numerous. 27th, Black Cap Titmouse.
February	6.	Robins, Greybirds and Bluejays numerous.
March	26.	Robins and Crows numerous. 29th, Butterflies seen.
	30.	Greybirds, Hawks, Blackbirds and Bobolinks seen.
April	2.	Meadow Larks seen. 13th, Frogs heard. 22nd, Blackbirds numerous.
	18.	First lightning of year.
May	3.	Last snow of season. 6th, Gulls flying N. 7th, Fireflies seen.
	8.	Plum Trees and Pear Trees in bloom. 9th, Swallows seen; Humming Birds seen.
	10.	Whip-poor-Will seen.
	14.	Oriole seen. 15th, Thin ice. Last frost of season, 23rd
June	11.	Heavy thunderstorm; 0·62 in. of rain fell in 16 minutes, 2 to 3 p. m.
	16.	Warmest day of year; heavy thunderstorm; 1·28 in. of rain fell in a little over an hour.
August	9.	Almost constant succession of thunderstorms all day; 2·44 in. of rain fell.
October	10.	Hoar frost, first of season. 11th, Swallows last noted.
	13.	First ice noted. 26th, Last thunderstorm.
November	1.	First snow of season. 18th, First measurable snow.
	19.	River Don frozen.
December	9.	Large flock of small birds about.
	27.	Bluebird seen.