

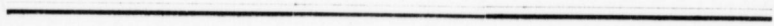
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TORONTO

GENERAL METEOROLOGICAL REGISTER

FOR THE YEAR 1892.



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## REMARKS ON THE METEOROLOGICAL RESULTS AT TORONTO FOR THE YEAR 1892.

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### TEMPERATURE.

The mean temperature of 1892 was  $44^{\circ}61$ , being  $0^{\circ}45$  warmer than the average of the previous 52 years, and  $1^{\circ}26$  colder than 1891. The mean temperature of the several months were in seven instances above and in five below the averages for their respective months, the average excess to the average defect being in the ratio of  $1^{\circ}46$  to  $1^{\circ}06$ . On each of 107 days the mean temperature was above the normal of that particular day and below on 169 days. The mean temperature of each month, with the difference from the normal was, January,  $20^{\circ}55 - 1^{\circ}06$ ; February,  $25^{\circ}25 + 2^{\circ}61$ ; March,  $27^{\circ}58 - 1^{\circ}12$ ; April,  $40^{\circ}98 + 0^{\circ}09$ ; May,  $51^{\circ}35 - 0^{\circ}74$ ; June,  $65^{\circ}04 + 2^{\circ}07$ ; July,  $68^{\circ}11 + 0^{\circ}51$ ; August,  $67^{\circ}36 + 1^{\circ}09$ ; September,  $60^{\circ}10 + 1^{\circ}57$ ; October,  $47^{\circ}66 + 13^{\circ}38$ ; November,  $35^{\circ}35 - 0^{\circ}76$ ; December,  $26^{\circ}01 - 0^{\circ}21$ . Dividing the year into the ordinary seasons, we have for winter,  $24^{\circ}46$ ; spring,  $52^{\circ}46$ ; summer,  $65^{\circ}19$ ; autumn,  $36^{\circ}24$ . The thermic anomalies differ from the normal temperatures proper to the latitude. Winter,  $-11^{\circ}41$ ; spring,  $-5^{\circ}18$ ; summer,  $-1^{\circ}04$ ; autumn,  $-8^{\circ}00$ . The only month during the year in which the observed temperature exceeded the normal value of the latitude was June, which was  $0^{\circ}44$  warmer. The mean daily range for the year was  $15^{\circ}58$ , the greatest monthly average occurring in July, ( $21^{\circ}21$ ) and the least in November, ( $10^{\circ}44$ ). The greatest range,  $38^{\circ}6$ , occurred on the 25th January, and the least, ( $3^{\circ}9$ ), on the 21st of April. The warmest month relatively was June, estimated by its excess ( $2^{\circ}07$ ) above the normal temperature. The coldest absolutely was January ( $20^{\circ}55$ ) it was also the coldest relatively, its mean being  $1^{\circ}06$  below its proper normal. The climatic difference was  $47^{\circ}56$ . The warmest day was the 28th July, mean temperature  $79^{\circ}67$ , and the coldest the 19th January, with a mean temperature of  $1^{\circ}68$ , but the warmest day relatively was the 1st January, it being  $19^{\circ}28$  above its proper normal, and the coldest also occurred in January, on the 26th, which was  $20^{\circ}42$  below the normal. The average temperature of the warmest and coldest days from former years was  $77^{\circ}86$  and  $2^{\circ}14$  below zero. The highest temperature of the year  $93^{\circ}5$  occurred on the 28th July, the lowest,  $10^{\circ}2$  below zero, on the 20th January. The annual range from the extremes was  $103^{\circ}7$ , being  $9^{\circ}8$  more than 1891, and  $0^{\circ}9$  above the average annual range. There were twelve instances on which the temperature at the hour of observation was  $20^{\circ}$  above the normal, and seventeen when a defect of an equal amount occurred. The most striking deviation from the normal curves of temperature have been as follows:—

#### IN EXCESS.

January	1st mean deviation	19 <sup>o</sup> 28	April	5th mean deviation	18 <sup>o</sup> 72
April	2nd	16 <sup>o</sup> 35	June	13th	14 <sup>o</sup> 35
"	3rd	16 <sup>o</sup> 87			

#### IN DEFECT.

January	19th mean deviation	20 <sup>o</sup> 07	March	13th mean deviation	14 <sup>o</sup> 79
"	20th	14 <sup>o</sup> 93	April	24th	17 <sup>o</sup> 62
"	26th	20 <sup>o</sup> 42	Nov'er	23rd	15 <sup>o</sup> 13
February	12th	15 <sup>o</sup> 35	Dec'mber	26th	18 <sup>o</sup> 15
"	13th	17 <sup>o</sup> 15			

## BAROMETRIC PRESSURE.

The mean height of the Barometer was 29.6325 inches, being 0.0134 inches in excess of the average. The month which showed the greatest deviation from the normal was February, 0.086 in excess. May showing the least 0.031 in defect. Average deviation without reference to sign was small, being only 0.039. The highest reading was 30.356 inches at 8 a.m. of February 27th, and the lowest 28.846 at 8 a.m. of February 12th, giving a range of pressure of 1.510 inches.

The number of days of large abnormal variation in which the average pressure differed by two tenths and upwards from the normal, was 125, the law of their distribution is well marked by their greater frequency in the winter than in the summer months, the greatest number (18) occurring in February, and least (1) in August.

## HUMIDITY.

The mean humidity of the year was 77 being equal to the average, the greatest monthly humidity was 86 in February, and the least 63 in April.

There were 24 cases of complete saturation at the hour of observation: 1 in January, 7 in February, 2 in March, 2 in April, 6 in May, 1 in July, 3 in September, 1 in November and 1 in December. The least humidity of the year at the hour of observation was 21 on the 23rd of April at 2 p.m.

## CLOUDS.

The extent of the sky clouded was on the average of the year six-tenths of the whole. July was the clearest month and November the most cloudy, during the year there were 57 days completely clouded, being 14 less than the average (1891-79), the greatest number (12) occurring in November, none being registered in September.

## WIND.

The resultant direction of the wind was N 54° W showing 3° more northing than 1891, and 7° more southing than the 15 years to 1889. The mean velocity of the wind without reference to direction was 8.17 miles. The most windy month was December, with an average of 10.20 miles per hour, and the least windy was July, with an average of 5.50 miles. The windiest day was January 21st, average velocity 33.37 miles per hour, and the day of least velocity October 13th, average velocity 0.00 per hour. The highest velocity in one hour was 44 miles 10 to 11 a.m. of the 1st of November.

## RAIN AND SNOW.

The total depth of rain that fell during the year was 25.285 inches, being 2.110 inches less than the average and 1.450 less than the rainfall of 1891. The depth of snow 42.2 inches was 27.2 inches less than the average, and 5.6 inches less than the snowfall of 1891. June is the most rainy month as to quantity (5.810), and May and June with reference to the number of rainy days. January is the least rainy month less than two-tenths of an inch having fallen, about one-sixth of the usual quantity for that month.

The most rainy day was the 19th of June when 2.420 inches fell. There was only two other days during the year that over one inch fell, the 25th of August when 1.06 inches fell, and the 13th of September when 1.820 inches fell.

The heaviest fall of Snow in one day was 6.2 inches on the 2nd of February. Rain fell on 134 days, being 21 more than the average number and 9 more than in 1891. Snow fell on 83 days being 17 more than the average and 13 more than 1891. There were 165 days in which neither rain nor snow fell, in 1891 the number was 193. The rain occupied 509 hours and the snow 332 hours, in its fall giving a total of 841 hours or 35 days and 1 hour, when rain or snow was actually falling.

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## THUNDER STORMS.

Of the 40 thunder storms occurring during the year, the first was on the 7th of February, and the latest on October 3rd, 1 was recorded in February, 2 in May, 10 in June, 12 in July, 8 in August, 6 in September and 1 in October. The most severe storms were on the 8th and 19th of June, 12th, 15th, 23rd and 25th of July, 9th and 19th of August.

Lightning alone was observe on 3 occasions.

## AURORA.

Auroral displays were more numerous than in the previous year. Of the 33 observed 5 were of the first class, 3 of the second class, 9 of the third class and 16 of the fourth class. There were 195 nights favourable for observation, the most brilliant displays occurring on the 29th of January, 13th of February, 25th of April, 18th of May and 16th of July.

## SUNSHINE.

The total duration of bright sunshine during the year was 2054.4 hours, number of hours the sun was above the horizon 4474.4 ratio of registered to possible, 0.46 hours.

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 .....	20°55	25°25	27°58	40°98	51°35	65°04	68°11
Difference from average (52 years)...	-1.96	+2.61	-1.12	+0.09	-0.74	+2.97	+0.51
Thermic anomaly (Lat. 43° 40').....	-12.25	-9.45	-12.52	-9.22	-6.75	+0.44	-0.59
Highest temperature .....	46.1	39.1	43.6	71.6	75.0	85.9	93.5
Lowest temperature .....	-10.2	-6.2	5.3	20.2	35.1	48.1	44.0
Monthly and annual ranges .....	56.3	45.3	38.3	51.4	39.9	37.8	49.5
Average maximum temperature .....	27.55	30.99	34.16	50.38	59.65	74.17	78.80
Average minimum temperature.....	11.26	17.54	21.71	32.42	44.92	56.74	57.69
Average daily range .....	16.24	13.45	12.45	17.96	14.74	17.43	21.21
Greatest daily range .....	38.6	21.3	21.4	31.5	27.6	31.8	27.2
Average height of bar, at 32° Fah.....	29.6002	29.7243	29.6409	29.6599	29.5472	29.5599	29.6610
Difference from average (51 years)...	-0.0522	+0.0859	+0.0364	+0.0649	-0.0305	-0.0188	+0.0741
Highest barometer .....	30.174	30.356	30.112	30.291	30.030	29.847	30.192
Lowest barometer .....	29.000	28.846	28.937	29.160	29.198	29.082	29.272
Monthly and annual ranges .....	1.174	1.510	1.175	1.041	0.832	0.765	0.920
Average humidity of the air.....	83	86	74	63	74	78	73
Difference from average.....	0	+5	-4	-8	+4	+5	+1
Average elasticity of aqueous vapour	0.100	0.123	0.115	0.164	0.284	0.483	0.512
Average temp. of the dew point,....	18.4	23.5	21.4	29.6	43.6	58.0	59.7
Average of cloudiness .....	0.71	0.74	0.51	0.49	0.68	0.63	0.39
Difference from average (38 years)...	-0.03	+0.05	-0.13	-0.10	+0.12	+0.10	-0.11
Resultant direction of wind.....	N 86° W	N 7° E	N 17° W	N 62° W	N 18° E	S 63° E	S 49° W
" velocity of wind .....	2.92	2.34	3.77	3.22	1.03	0.62	0.91
Average velocity (miles per hour)....	8.40	9.20	9.60	9.81	7.62	6.10	5.50
Difference from average (16 years)...	.....	.....	.....	.....	.....	.....	.....
Total amount of rain in inches.....	0.195	0.620	0.530	1.225	3.480	5.810	2.590
Difference from average (52 years)...	-1.007	-0.285	-0.919	-0.985	+0.559	+2.891	-0.520
Number of days of rain.....	3	6	6	10	18	18	14
Total amount of snow in inches.....	13.5	16.5	2.4	0.3	0.0	.....	.....
Difference from average (49 years)...	-3.63	-0.56	-1.59	-2.05	-0.14	.....	.....
Number of days of snow.....	18	14	14	3	0	.....	.....
Number of fair days .....	11	14	15	18	13	12	17
Number of days completely clouded.	10	10	3	1	7	2	1
Number of auroras observed .....	1	2	8	6	4	2	4
Possible to see aurora (No. of nights)	14	9	19	16	13	17	25
Number of thunderstorms .....	0	1	0	0	2	10	12
Number of fogs.....	0	5	0	2	9	4	1
Number of hours of bright sunshine..	89.5	109.8	181.0	224.8	162.9	217.5	313.5
Number of hours of possible sunshine.	285.7	322.5	369.9	405.5	461.1	465.7	470.9

REGISTER

TORONTO, ON  
above Lake Onta

AUG.	SEPT.
67.36	60.10
+1.09	+1.57
-1.14	-1.40
91.5	79.7
50.1	41.6
41.4	38.1
76.5	69.29
58.61	50.98
17.89	18.31
27.4	35.0
29.6136	29.7637
-0.0058	+0.0363
29.807	30.027
29.332	28.994
0.475	1.033
76	78
+2	+1
0.511	0.412
59.6	53.6
0.53	0.42
+0.03	-0.09
N 32° W	S 77° W
1.09	0.81
6.40	8.50
.....	.....
3.990	3.120
+1.152	-0.170
16	10
.....	.....
.....	.....
.....	.....
15	20
1	0
3	1
21	23
8	6
3	4
234.2	248.0
434.5	376.3

REGISTER FOR THE YEAR 1892.

TORONTO, ONTARIO.

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

	AUG.	SEPT.	OCT.	NOV.	DEC.	1892.	1891.	1890.	1889.	1888.	1887.	1886.
	67°36	60°10	47°66	35°35	26°01	44°61	45°87	45°02	45°44	42°70	44°14	43°71
	+ 1°09	+ 1°57	+ 1°38	- 0°76	- 0°21	+ 0°45	+ 1°71	+ 0°86	+ 1°28	- 1°46	- 0°02	- 0°45
	- 1°14	- 1°40	- 6°14	- 7°85	- 9°99	- 6°41	- 5°15	- 6°00	- 5°58	- 8°32	- 6°88	- 7°31
	91°5	79°7	73°1	52°4	42°4	93°5	91°9	89°4	88°7	92°0	97°2	89°5
	50°1	41°6	29°9	14°3	8°4	10°2	2°0	2°7	11°3	16°1	16°6	22°8
	41°4	38°1	43°2	38°1	50°8	103°7	93°9	92°1	100°0	108°1	113°8	112°3
	76°5	69°29	55°81	40°29	31°00	.....	.....	.....	.....	.....	.....	.....
	58°61	50°98	39°56	29°85	20°44	.....	.....	.....	.....	.....	.....	.....
	17°89	18°31	16°25	10°44	10°56	15°58	16°45	16°22	15°55	16°55	17°12	16°33
	27°4	36°0	28°3	20°2	29°5	38°6	37°8	36°0	42°8	37°7	34°0	32°6
	29°6136	29°7037	29°6015	29°6398	29°6479	29°6325	29°6385	29°6313	29°6177	29°6448	29°6329	29°6255
	-0°0058	+0°0363	-0°0452	+0°0183	-0°0022	+0°0134	+0°0194	+0°0122	-0°0014	+0°0257	+0°0138	+0°0064
	29°807	30°027	30°078	30°101	30°126	30°356	30°266	30°334	30°365	30°432	30°607	30°283
	29°332	18°994	28°880	29°022	29°071	28°846	28°536	28°762	28°582	28°793	28°704	28°752
	0°475	1°033	1°198	1°079	1°055	1°510	1°730	1°572	1°783	1°639	1°903	1°531
	76	78	77	80	80	77	75	78	77	74	75	77
	+ 2	+ 1	- 2	0	- 2	0	- 2	+ 1	0	- 3	- 2	0
	0°511	0°412	0°258	0°173	0°120	0°272	0°267	0°272	0°271	0°243	0°261	0°260
	59°6	53°6	41°1	30°9	22°4	42°5	42°0	42°5	42°4	39°5	41°4	41°3
	0°53	0°42	0°61	0°89	0°74	0°61	0°59	0°62	0°63	0°63	0°63	0°61
	+°03	-°09	-°02	+°14	-°03	-°01	-°03	+°00	+°01	+°01	+°01	-°01
	N 32° W	S 77° W	N 60° W	N 56° W	N 83° W	N 54° W	N 37° W	N 48° W	N 63° W	N 59° W	N 46° W	N 56° W
	1°09	0°81	3°49	2°30	4°03	1°81	1°63	1°80	2°04	2°67	1°92	2°13
	6°40	8°50	7°20	9°56	10°20	8°17	7°33	9°19	9°08	9°71	9°88	9°73
	.....	.....	.....	.....	.....	.....	.....	-0°45	0°56	+0°07	+0°24	+0°09
	3°990	3°120	1°350	1°545	0°920	25°285	26°735	32°110	24°575	22°819	17°969	27°726
	+ 1°152	- 0°170	- 1°033	- 1°164	- 0°622	- 2°119	- 0°669	+ 4°706	- 2°829	- 4°585	- 9°435	+ 0°322
	16	10	14	11	8	134	125	145	127	133	106	112
	.....	.....	0°0	6°3	3°2	42°2	47°8	52°6	66°5	34°6	77°9	73°5
	.....	.....	-0°70	+ 1°67	-11°16	-27°16	-21°56	-16°76	-2°86	-34°76	+ 8°54	+ 4°14
	.....	.....	0	18	16	83	70	81	60	83	78	66
	15	20	17	3	10	165	193	159	187	175	203	196
	1	0	1	12	9	57	60	68	79	58	76	74
	3	1	0	0	1	33	18	7	6	21	25	29
	21	23	15	11	12	195	212	186	169	183	180	189
	8	6	1	0	0	40	19	21	24	23	22	26
	3	4	4	1	3	36	38	43	34	26	39	29
	234°2	248°0	162°5	46°2	64°5	2054°4	2065°4	1977°6	1909°2	2043°3	2063°5	2034°4
	434°5	376°3	340°2	286°9	274°3	4474°4	4463°3	4463°3	4463°3	4474°4	4463°3	4463°3

JULY.  
 63°11  
 + 0°51  
 - 0°59  
 93°5  
 44°0  
 49°5  
 78°80  
 57°60  
 21°21  
 27°2  
 29°610  
 +0°0741  
 30°192  
 29°272  
 0°920  
 73  
 + 1  
 0°512  
 59°7  
 0°30  
 -°11  
 S 49° W  
 0°91  
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 .....  
 2°50  
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TEMPERATURE.

	1892.	Average of 52 years.	EXTREMES.	
			o	o
Average temperature of the year.....	44.61	44.16	47.09 in 1878	40.77 in 1873
Warmest month.....	July	July	July, 1868	Aug., 1860
Average temperature of the warmest month....	68.11	67.60	75.80	64.46
Coldest month.....	January	January	Feb., 1875	Feb., 1848
Average temperature of the coldest month....	20.55	22.51	10.16	26.00
Difference between the temperature of the warmest and coldest month.....	47.56	45.09	....	....
Average of deviations of monthly means from their respective averages of 51 years, signs of deviations being disregarded.....	1.25	2.56	3.64	....
Month of greatest deviation without regard to sign.....	June	January	Feb., 1875	....
Corresponding magnitude of deviation.....	2.97	4.03	12.48	....
Warmest day.....	28 July	....	July 14, '68	July 31, '44
Average temperature of the warmest day.....	79.67	77.86	84.50	72.75
Coldest day.....	19 Jan.	....	Feb. 6, 1855	Dec., 2, '42
Average temperature of the coldest day.....	1.68	-2.14	-14.38	9.57
Date of the highest temperature.....	28 July	....	Aug. 24, '54	Aug. 19, '40
Highest temperature.....	93.5	90.77	99.2	82.4
Date of lowest temperature.....	20 Jan.	....	Jan. 10, '59	Jan. 2, 1842
Lowest temperature.....	-10.2	-12.04	-26.5	1.9
Range of the year.....	103.7	102.86	118.2	87.0

BAROMETER.

	1892.	Average of 51 years.	EXTREMES.	
			o	o
Average pressure of the year.....	29.6325	29.6191	29.6779 in 1849	29.5602 in 1864
Month of the highest average pressure.....	February	Sept.	Jan., 1849	June, 1864
Highest monthly average pressure.....	29.7243	29.6674	29.8046	29.6525
Month of the lowest average pressure.....	May	June	March, 1859	Nov., 1859.
Lowest monthly average pressure.....	29.5472	29.5697	29.4143	29.5886
Date of the highest pressure in the year.....	27 Feb.	....	Jan. 8, 1866	March 7.78
Highest pressure.....	30.356	30.357	30.940	30.139
Date of the lowest pressure in the year.....	11 Feb.	....	Jan. 2, 1870	March 7.45
Lowest pressure.....	28.846	28.690	28.166	28.939
Range of the year.....	1.510	1.667	2.133 in 1866	1.303 in 1845

RELATIVE HUMIDITY.

	1892.	Average of 51 years.	EXTREMES.	
			o	o
Average humidity of the year.....	77	77	82 in 1851	73 in 1858
Month of greatest humidity.....	February	January	Jan., 1857	Dec., 1858
Greatest average monthly humidity.....	86	83	89	81
Month of least humidity.....	April	May	Feb., 1843	April, 1849
Least average monthly humidity.....	63	70	58	76

Average of  
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Greatest m  
Least cloud  
Least month

Resultant  
Resultant  
Average v  
Month of a  
Greatest u  
Month of l  
Least mon  
Day of gre  
Greatest o  
Day of lea  
Least dail

Hour of gr  
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EXTENT OF SKY CLOUDED.

	1892.	Average of 39 Years.	EXTREMES.	
Average cloudiness of the year.....	0.61	0.62	0.66 in '69	0.57 in 1856.
Most cloudy month.....	Nov.	Dec.	.....	.....
Greatest monthly average of cloudiness.....	0.89	0.77	0.89	0.73
Least cloudy month.....	July.	July.	.....	.....
Least monthly average of cloudiness.....	0.39	0.50	0.29	0.50

WIND.

	1892.	Average of 16 Years.	EXTREMES.	
Resultant direction.....	N. 54° W.	N 61° W.	.....	.....
Resultant velocity in miles.....	1.81	2.51	.....	.....
Average velocity without regard to direction.....	8.17	9.64	10.54 in '80.	8.32 in '78.
Month of greatest average velocity.....	Dec.	March.	April, '80.	Dec., 1875.
Greatest monthly average velocity.....	10.20	11.49	13.88	10.42
Month of least average velocity.....	July.	July.	July, '78.	July, 1881.
Least monthly average velocity.....	5.50	7.56	5.93	8.43
Day of greatest average velocity.....	Jan. 21.	.....	Nov. 17, '80.	Feb. 10, '85.
Greatest daily average velocity.....	33.37	28.12	41.67	22.79
Day of least average velocity.....	Oct. 13	.....	.....	.....
Least daily average velocity.....	0.00	.....	.....	.....
Hour of greatest absolute velocity.....	Nov. 1. } 10 to 11 } a.m. }	..... } ..... } ..... }	Nov. 7, '80. } 3 to 4 a.m. }	Jan. 17, '85. } 10 to 11 a.m. }
Greatest velocity.....	44.0	43.77	55.5	39.0

NOTE.—During the year 1892, 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.

	1892.	Average of 52 Years.	EXTREMES.	
Total depth of rain in inches.....	25.285	27.404	43.555 in '43.	17.574 in '74.
Number of days on which rain fell.....	134	113	145 in 1890.	80 in 1841.
Month on which the greatest depth of rain fell.....	June.	Sept.	Sept., 1843.	June, 1887.
Greatest depth of rain in one month.....	5.810	3.290	9.760	2.655
Month in which the days of rain were most frequent.....	May & } June. }	Oct.	{ Jan., '69. { Oct., '90.	{ May, 1841
Greatest number of rainy days in one month.....	18	13	23	11
Day on which the greatest amount of rain fell.....	June 19.	.....	Sept., 14, '43	Sept., 14, '84
Greatest amount of rain in one day.....	2.420*	1.897	3.455	1.000

\*Nearly the whole amount fell in 25 minutes.

## SNOW.

	1892.	Average of 49 years.	EXTREMES.	
Total depth of snow in inches.....	42.2	6.4	122.9 in '70.	34.6 in '88.
Number of days on which snow fell.....	83	66	87 in 1859.	33 in '48.
Month in which the greatest depth of snow fell.....	Feb.	January.	March, '70.	Dec., 1851.
Greatest depth of snow in one month.....	16.5	17.1	62.4	19.7
Month in which the days of snow were most frequent.....	Jan. & Nov.	January.	Dec., 1872.	Feb., 1848.
Greatest number of days of snow in one month.....	18	14	24	8
Day in which the greatest amount of snow fell.....	2nd Feb.	—	Feb. 5, '63 Mar. 27, '70.	4.6 Jan '88
Greatest fall of snow in one day.....	6.2	9.0	16.0	3.0

## SUNSHINE.

	1892.	Average 1882 to 1891.
Total duration of bright sunshine in hours.....	2054.4	2021.3
Ratio to possible amount.....	0.46	0.45
Month of greatest relative amount.....	July.	July.
Ratio to possible amount.....	0.67	0.61
Month of least relative amount.....	November.	December.
Ratio to possible amount.....	0.16	0.19
Number of days completely clouded.....	57	71
Day of greatest relative amount.....	Sept. 28—Oct. 1	—
Ratio to possible amount.....	0.92	0.91

DIFFERENCES OF CERTAIN METEOROLOGICAL ELEMENTS FOR 1892 FROM  
THE NORMAL VALUES FOR EACH QUARTER AND YEAR.

	Bar.	Tem.	Rain.	Days Rain.	Snow.	Days Snow.	Cloud- ed Sky.
	in.	°	in.		in.		p. c.
Winter.....	+ .0234	- 0.16	- 2.221	- 0.98	- 14.78	+ 7.91	- 0.04
Spring.....	+ .0048	+ 0.77	+ 2.465	+ 12.09	- 2.19	- 1.00	+ 0.04
Summer.....	+ .0349	+ 1.09	+ 0.456	+ 6.41	—	—	- 0.06
Autumn.....	- .0097	+ 0.14	- 2.819	+ 3.59	- 10.19	+ 19.34	- 0.03
Year.....	+ .0134	+ 0.45	- 2.119	+ 21.06	- 27.16	+ 17.25	- 0.01

## PERIODICAL OR OCCASIONAL EVENTS, 1892.

- January..... 1. Warm and unseasonable; sailing and row boats on bay; more like May weather. 3rd. Bay frozen over. 19th. Coldest day of year; average, 1°68.
- February..... 4. Crows numerous and noisy. 7th. First thunderstorm of year.  
15. Brilliant aurora before daybreak and after sunset. 17th. Robins seen.  
19. Immense flocks of ducks on lake. 22nd. Crows and Mosquitoes.
- March..... 3. Robins again about.  
26. Robins and Song sparrows numerous; first Butterfly seen; Blue bird.  
28. Gray birds numerous; Schooner went out eastern gap; Hawk seen.  
29. Geese flying N.W.; Schooner White Oak arrived.  
31. Gulls passing N.
- April..... 1. Bronze grackle seen. 3rd. Butterflies numerous; Juncos seen; Highholder seen. 5th. Frogs piping; Lightning.  
6. House sparrows building.  
10. Last snow of season. 12th. Phoebe birds seen; Arbutus in bloom.  
14. Meadow lark. 18th. Large hawk seen; Golden crested kinglet.  
18. House wren, Hairy woodpecker, Kingfisher.  
23. Swallows. 26th. Thin ice.  
30. Last frost of season.
- May..... 7. Sandpiper seen. 10th. Water in bay 26 in. lower than last year. 14th. Humming birds, Oriole.  
16. First trip of Cibola to Niagara. 17th. Scarlet tanager seen.  
19. May beetles and Yellow birds seen; Plum trees in blossom.  
28. Peach in blossom. 30th. Apples in blossom.  
31. Flowering almond; Lilac and Japonica in flower.
- June..... 13. Fireflies seen.
- August..... 23. Robins very numerous.
- September..... 29. First frost noted.
- October..... 3. Last thunder of season.  
7. Large flocks of small birds.
- November..... 2. Woodpeckers numerous. 5th. Earliest ice.  
4. First snow. 7th. First measurable snow.
- December..... 20. Thin ice on bay. 23rd. Bay frozen over.



loud-  
ed  
Sky.

p. c.  
0.04  
0.04  
0.06  
0.03  
0.01