
TORONTO

GENERAL METEOROLOGICAL REGISTER

FOR THE YEAR 1886.

GENERAL METEOROLOGICAL

MAGNETICAL OBSERVATORY,

Latitude 43° 39' .4 N. Longitude 5h. 17m. 34.6s. W. Elevation

	JAN.	FEB.	MAR.	APR.	MAY.	JUNE.	JULY.
Average Temperature.....	19.24	19.04	30.16	44.94	53.20	60.90	66.79
Difference from average (46 years)	- 3.26	- 3.59	+ 1.22	+ 4.29	+ 1.23	- 1.04	- 0.80
Thermic anomaly (lat. 43° 40')....	- 13.56	- 15.66	- 9.94	- 5.26	- 4.90	- 3.70	- 1.91
Highest temperature.....	47.3	41.7	53.9	74.5	78.5	81.1	89.5
Lowest temperature.....	- 13.8	- 22.8	- 7.3	20.2	35.1	41.3	47.5
Monthly and Annual Ranges....	61.1	64.5	61.2	54.3	43.4	39.8	42.0
Average maximum temperature	25.91	25.9	35.66	53.71	62.40	71.12	76.55
Average minimum temperature.	11.41	10.35	24.07	36.11	43.51	51.06	55.92
Average daily range.....	14.50	15.60	11.59	17.60	18.89	20.06	20.63
Greatest daily range.....	.....	.....	.....	.....	.....	.....	.....
Average height of Bar. at 32° Fah.	29.6267	29.6525	29.5400	29.7129	29.5328	29.5719	29.5586
Difference from average (45 years)	- .0276	+ .0173	- .0620	+ .1269	- .0458	+ .0041	- .0279
Highest barometer.....	30.283	30.205	30.088	30.098	29.931	29.840	29.849
Lowest barometer.....	28.811	28.783	28.752	29.010	29.051	29.096	29.364
Monthly and Annual Ranges....	1.472	1.422	1.336	1.088	0.877	0.744	0.545
Average humidity of the air.....	85	84	80	74	69	73	68
Average elasticity of aqueous vapour.	0.104	0.104	0.140	0.231	0.279	0.391	0.445
Average of cloudiness.....	0.75	0.67	0.72	0.59	0.50	0.53	0.51
Difference from average (32 years)	+ .01	- .02	+ .09	- .00	- .06	.00	+ .01
Resultant direction of wind.....	N 21° W	N 74° W	N 31° W	N 48° E	N 57° W	N 21° W	N 51° W
“ velocity of the wind.....	3.73	4.57	3.76	3.48	2.17	1.55	1.17
Average velocity (miles per hour)...	11.79	13.14	12.11	9.86	8.75	7.53	7.31
Difference from average (11 years)	+ 0.58	+ 2.37	+ 0.70	- 0.98	- 0.40	- 0.06	- 0.22
Total amount of rain.....	2.610	2.080	2.401	2.250	2.440	1.922	2.450
Difference from average (46 years)	+ 1.498	+ 1.179	+ 0.874	- 0.011	- 0.657	- 0.912	- 0.699
Number of days of rain.....	8	8	7	9	8	12	10
Total amount of snow.....	29.1	10.0	6.0	7.1	.....	.....	.....
Difference from average (43 years)	+ 12.36	- 7.17	- 7.46	+ 4.79	- 0.14	.....	.....
Number of days of snow.....	16	13	8	4	.....	.....	.....
Number of fair days.....	10	10	17	18	23	18	21
Number of Auroras observed.....	0	0	4	6	2	5	3
Possible to see Aurora (No. of nights)	9	10	10	17	22	19	17
Number of Thunderstorms.....	0	0	1	3	2	6	7
Number of Fogs.....	0	1	1	4	3	4	0
Number of hours Sunshine.....	56.7	101.0	141.6	180.2	261.9	270.8	277.9
No. of hours of possible sunshine	285.7	291.4	399.9	406.4	461.1	465.7	470.9

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9
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REGISTER FOR THE YEAR 1886.

TORONTO, ONTARIO.

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

AUG.	SEP.	OCT.	NOV.	DEC.	1886.	1885.	1884.	1883.	1882.	1881.	1880.
65.67	58.88	48.49	35.62	21.55	43.71	41.57	43.79	41.95	45.42	46.06	45.43
- 0.70	+ 0.37	+ 2.15	- 0.40	- 4.38	- 0.42	- 2.56	- 0.34	- 2.18	+ 1.29	+ 1.93	+ 1.30
- 2.83	- 2.62	- 5.31	- 7.58	- 14.45	- 7.31	- 9.45	- 7.23	- 9.07	- 5.60	- 4.96	- 5.59
87.9	83.9	71.1	62.0	44.1	89.5	88.6	89.6	83.4	89.9	92.7	89.9
46.3	40.1	24.4	14.5	0.2	22.8	16.1	13.3	10.5	17.4	15.1	8.3
41.6	43.8	44.7	47.5	43.9	112.3	104.7	102.9	93.9	107.3	107.6	98.2
74.77	67.84	56.42	42.02	27.67	....	....	....	....	....	....	....
56.45	49.69	40.14	28.98	13.98	....	....	....	....	....	....	....
18.32	18.15	16.24	13.04	13.69	16.53	16.85	17.05	17.07	15.70	16.61	15.96
.....	.....	.....	.....	.....	.....	39.2	34.8	33.4	36.0	40.9	30.8
29.5844	29.6834	29.7739	29.5698	29.7021	29.6255	29.5933	29.6273	29.6196	29.6515	29.6311	29.6359
- .0357	+ .0191	+ .1258	- .0534	+ .0541	+ .0081	- .0241	+ .0099	+ .0322	+ .0344	+ .0137	- .0185
29.915	30.053	30.182	30.089	30.272	30.283	30.390	30.412	30.365	30.447	30.461	30.323
29.236	29.255	28.913	28.764	28.935	28.752	28.714	28.807	28.803	28.781	28.911	28.800
0.679	0.798	1.269	1.325	1.337	1.531	1.586	1.605	1.562	1.606	1.550	1.523
74	79	81	75	81	77	77	76	77	74	75	77
0.467	0.402	0.287	0.163	0.105	0.260	0.249	0.261	0.249	0.265	0.283	0.260
0.52	0.49	0.69	0.72	0.72	0.61	0.61	0.63	0.64	0.63	0.62	0.62
+ .03	- .03	- .02	- .03	- .06	- 0.01	- 0.01	+ 0.01	+ 0.02	+ 0.01	0.00	0.00
S 82° W	S 37° W	N 59° W	S 86° W	N 79° W	N 56° W	N 62° W	N 55° W	N 77° W	N 47° W	N 50° W	S 80° W
0.85	0.76	1.88	5.59	3.99	2.13	2.60	3.39	2.39	2.11	2.70	2.86
7.51	8.17	8.14	11.95	10.56	9.73	9.95	10.29	10.08	10.42	9.91	10.54
- 0.02	- 0.35	- 0.98	+ 1.35	- 0.54	+ 0.12	+ 0.34	+ 0.68	+ 0.47	+ 0.81	+ 0.30	+ 0.93
2.630	3.830	2.503	2.165	0.353	27.726	26.351	20.592	25.734	20.587	21.138	30.922
- 0.212	+ 0.416	+ 0.265	+ 0.563	- 1.184	- 0.006	- 1.381	- 7.200	- 1.998	- 7.145	- 6.594	+ 3.190
9	17	13	8	3	112	103	123	124	110	123	140
....	....	S	4.8	16.5	73.5	65.6	80.2	84.0	42.5	57.6	44.0
....	....	- 0.78	+ 0.26	+ 1.72	+ 3.58	- 4.32	+ 10.28	+ 14.08	- 27.42	- 12.32	- 25.92
....	....	2	10	13	66	73	69	74	62	64	78
22	13	17	13	16	198	203	184	181	209	191	163
0	1	4	2	2	29	31	20	46	60	23	23
22	21	17	12	13	189	195	202	207	204	187	198
2	4	1	0	1	23	19	30	32	28	24	47
1	4	7	1	2	28	30	42	28	32	23	37
237.6	187.7	160.0	101.2	57.8	2034.4	2018.3	1931.8	2038.8	2169.5	....	....
434.5	376.3	340.2	286.9	274.3	4463.3	4463.3	4474.4	4463.3	4463.3	....	....

MEAN METEOROLOGICAL RESULTS.

TEMPERATURE.

	1886.	Average of 46 yrs.	EXTREMES.	
			°	°
Average temperature of the year.....	43.71	44.13	47.09 in '78.	40.77 in '73.
Warmest month	July.	July.	July 14, 1868.	Aug., 1860.
Average temperature of the warmest month	66.79	67.59	75.80	64.46
Coldest month	Feb.	Jan.	Feb., 1875.	Feb., 1848.
Average temperature of the coldest month	19.04.	22.51	10.16	26.00
Difference between the temperature of the warmest and the coldest month	47.75	45.09	..	..
Average of deviations of monthly means from their respective averages of 46 yrs., signs of deviation being disregarded.....	1.95	2.49	3.71 in '75	..
Month of greatest deviation, without regard to sign.	Dec.	Jan.	Feb., 1875.	..
Corresponding magnitude of deviation.....	4.38	3.86	12.47	..
Warmest day	July 6.	77.76	July 14, '68	July 31, '54.
Average temperature of the warmest day.....	76.58	77.76	84.50	72.75
Coldest day.....	Feb. 4.	..	Feb. 6, '55.	Dec. 22, '42.
Average temperature of the coldest day.....	-9.25	-1.95	Jan. 22, '59.	..
Date of the highest temperature.....	July 6.	..	-14.38	9.57
Highest temperature.....	89.5	90.77	Aug. 24, '51	Aug. 19, '40.
Date of the lowest temperature.....	Feb. 5.	..	90.2	82.4
Lowest temperature.....	-22.8	-12.11	Jan. 10, '59.	Jan. 2, '42.
Range of the year.....	112.3	102.9	-26.5	1.9
			118.2	87.0

BAROMETER.

	1886.	Average of 45 yrs.	EXTREMES.	
Average pressure of the year.....	29.6255	29.6171	{ 29.6776	29.5602
Month of the highest average pressure	Oct.	Sept.	{ in 1849	in 1864.
Highest monthly average pressure.....	29.7739	29.6643	Jan., 1849.	June, 1864.
Month of the lowest average pressure.....	May.	June.	29.8046	29.6525
Lowest monthly average pressure.....	29.5328	29.5678	March, '59.	Nov., 1849.
Date of the highest pressure in the year.....	Jan. 14.	..	29.4143	29.5886
Highest pressure	30.283	30.361	Jan. 8, '86.	Mar. 7, '78.
Date of the lowest pressure in the year.....	Mar. 21.	..	30.949	30.139
Lowest pressure	28.752	28.705	Jan. 2, '70.	Mar. 17, '45.
Range of the year.....	1.531	1.656	{ 28.169	28.939
			{ 2.133	1.303
			{ in 1866.	in 1845.

RELATIVE HUMIDITY.

	1886.	Average of 45 yrs.	EXTREMES.	
Average humidity of the year.....	77	77	82 in 1851.	73 in 1858.
Month of greatest humidity	Jan.	Jan.	Jan., 1857.	Dec., 1858.
Greatest average monthly humidity.....	85	83	89	81
Month of least humidity.....	July.	May.	Feb., 1843.	April, 1849.
Least average monthly humidity.....	48	67	58	76

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EXTENT OF SKY CLOUDED.

	1886.	Average of 33 years.	Extremes.	
Average cloudiness of the year	0.61	0.62	0.66 in '69	0.57 in 1856.
Most cloudy month	Jan.	Dec.	.....	.....
Greatest monthly average of cloudiness.....	0.75	0.78	0.89	0.73
Least cloudy month	Sept.	Aug.	.....	.....
Least monthly average of cloudiness	0.49	0.49	0.29	0.50

WIND.

	1886.	Average of 16 years*	Extremes.	
Resultant direction.....	N 56° W	N 62° W	.....	.....
Resultant velocity in miles.....	2.13	2.46	.....	.....
Ave. velocity without regard to direction.....	9.73	9.67	10.54 in '80.	8.32 in '78.
Month of greatest average velocity	Feb.	March.	April, '80.	Dec., 1875.
Greatest monthly average velocity	13.14	11.53	13.88	10.42
Month of least average velocity	July.	July.	July, 1878.	July, 1881.
Least monthly average velocity.....	7.31	7.53	5.93	8.43
Day of greatest average velocity.....	Mar. 23	.....	Nov. 7, '80.	Dec. 24, '78.
Greatest daily average velocity	27.71	28.78	41.67	24.38
Day of least average velocity	Aug. 24	.....	.....	.....
Least daily average velocity.....	2.08	.....	.....	.....
Hour of greatest absolute velocity.....	April 1, 10-11 a.m.	.....	Nov. 7, '80. 3 to 4 a.m.	May 2, '78. 11 am to noon
Greatest velocity.....	40.0	45.1	55.5	40.0

* The difference of instruments and elevation during the whole period considerably affecting the results, it was judged advisable to confine the comparison to the years 1875-1885, inclusive.

RAIN.

	1886.	Average of 46 years	Extremes.	
Total depth of rain in inches.....	27.726	27.732	43.555 in '43.	17.574 in '74
Number of days on which rain fell.....	112	112	132 in 1878.	80 in 1841
Month in which the greatest depth of rain fell.....	Sept.	Sept.	Sept., 1843.	Sept., '48.
Greatest depth of rain in one month.....	3.830	3.414	9.700	3.115
Month in which the days of rain were most frequent.....	Sept.	Oct.	Jan., '69.	May, 1841.
Greatest number of rainy days in one month.....	17	13	22	11
Day on which the greatest amount of rain fell.....	Jan. 4	.....	Sept. 14, '43.	Sept. 14, '48.
Greatest amount of rain in one day.....	1.300	1.917	3.455	1.000

MEAN METEOROLOGICAL RESULTS FOR 1886.

SNOW.

	1886.	Average of 31 years.	Extremes.	
Total depth of snow in inches.....	73.5	69.0	122.9 in '70.	38.4 in 1851.
Number of days in which snow fell.	66	65	87 in 1859.	33 in 1848.
Month in which the greatest depth of snow fell.....	January.	February	March, 1870.	Dec., 1851.
Greatest depth of snow in one month.	29.1	17.0	62.4	10.7
Month in which the days of snow were most frequent.....	January.	January.	Dec., 1872.	Feb., 1848.
Greatest number of days of snow in one month.....	16	14	24	8
Day in which the greatest amount of snow fell.....	Jan. 24.	—	Feb. 5, '63.	} Jan. 10, '57.
Greatest fall of snow in one day.....	13.8	9.2	Mar. 27, '70. 16 0		5.5

DIFFERENCES OF CERTAIN METEOROLOGICAL ELEMENTS FOR 1886
FROM THE NORMAL VALUES FOR EACH QUARTER, AND YEAR.

	Bar.	Tem.	Rain.	Days Rain.	Snow.	Days Snow.	Vel'ty of Wind	Cloud- ed Sky.
	inches		inches.		inches		Miles.	
Winter.....	-.0239	-1.87	+ 3.551	+ 7.43	- 2.27	+ 0.20	+ 1.22	+ 0.03
Spring.....	+.0291	+ 1.46	- 1.580	- 5.12	+ 4.65	- 0.05	- 0.48	- 0.02
Summer.....	-.0148	- 0.38	- 0.495	+ 2.34	—	—	- 0.20	0.00
Autumn.....	+.0422	- 0.88	- 1.482	- 4.71	+ .20	+ 1.34	- 0.06	- 0.04
Year.....	+.0081	- 0.42	- 0.006	- 0.06	+ 3.58	+ 1.09	+ 0.12	- 0.01

PERIODICAL OR OCCASIONAL EVENTS, 1886.

- January... 1. Rowboats on Bay. 8th, Buds swelling on bushes.
5. Rapid change of temperature in a few hours.
8. Bay frozen and crossed.
- February 3-4. Very cold. Coldest day since 23rd January, 1882, only four colder
days than the 4th (9.25 below zero) on record.
- March..... 17. Bay open.
18. Robins seen.
19. First Thunder storm of year.
24. Blue birds seen. 27th, Blackbirds. 28th, Golden worm seen.
30. Great Magnetic storm.
- April..... 6. Severe Storm from N. E. with heavy snow. Storm very destructive
on Lake front. Reports credit it as the worst storm in Toronto
since 1858.
7. Last Snow of season. 11th, Thin ice. 13th, Bees numerous.
14. Frogs heard. 16th, Swallows numerous. Wild geese flying N.
17. Butterflies. 21st, May beetles. 22nd, Dandelions in flower.
- May..... 1. Whip-poor-will heard. Cherry trees in flower.
3. Plum trees in flower. Flowering almond.
6-7-18. Well marked hoar frost.
28. Large Meteor from N. to E. at 9.27 p. m.
- June..... 4. Last Frost of Season.
10. Large and Brilliant Meteor at 9.33 p. m. N. to N. W.
- July..... 16. Severe thunder storm in evening, 0.72 in. of rain fell in 20 minutes.
17. Severe thunder storm with hail, some 1 in. by 1/2 in. Heavy rain 0.82
in. fell in a short time. Aug. 31, slight shock of earthquake.
- Sept..... 2. Hoar frost. 21st, First ice. 25th, Swallows still about. 27th, Gone.
- Oct..... 15. First snow of season. 24th, Last thunder storm of year.
- Dec..... 2. River Don frozen. 4th, Bay frozen.