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DEPARTMENT OF MARINE AND FISHERIES
DOMINION OF CANADA.

TORONTO OBSERVATORY

**Results of Meteorological, Magnetical
and Seismological Observations,
1917.**

Published under the Direction of
Sir Frederic Stupart, F.R.S.C.,
Director of the Meteorological Service, Toronto.

PRINTED BY THE OBSERVATORY PRESS,
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CONTENTS.

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Notes.....	IV
Monthly Weather Synopsis.....	V
Monthly Meteorological Tables	1
Yearly Meteorological Summary	25
Wind Summary	26
Absolute Extremes, during 78 years	27
Periodic Events	28
Sunshine—Total Amount.....	29
“ Monthly Tables	31
“ Summary	32
Seismograph Records.....	33
Temperature. Monthly and Annual Means, 1872-99....	39
“ “ “ “ 1900-17..	40
Magnetic Summary	41
Phenological Summary.....	42
Harbor Notes.....	43

TORONTO OBSERVATORY.

Lat. 43° 40' 0".8 N. Long. 5h. 17m. 35.6s. W. The observations are taken at 75th meridian time. Height of barometer cistern 379 feet above sea level. Height at the Old Observatory 350 feet.

BAROMETER—Readings given are taken from the photographic barograph, and are the means of the 24-hour readings of each day. A correction has been employed to reduce these readings to the original height of the standard barometer in the old Observatory building, so as to make them comparable with previous Toronto registers. Capillarity and gravity corrections have been omitted.

TEMPERATURE—Adopted means are taken from the max. and min. of the thermometers in the Stevenson Screen. Extremes are also from the same screen. The 24-hour means are taken from the photographic thermograph, where the tubes are four feet above the ground.

In tables on pages 39 and 40 the mean monthly temperatures are the means from the max. and min. In previous abstract of observations the means were from six-hour observations, viz., 6, 8, 14, 16, 22 and 24.

On January 1st, 1899, the thermometers were removed from the old shed and placed in a shelter entirely clear of the buildings. This shed had a double back and roof with louvre sides. The height of the thermometers varied little from the old position. Observations were taken at the same hours but at 75th meridian time. The thermometers in January 1907 were placed in the Stevenson shed and subsequent observations are from this shed. There is a suspicion that the mean temperature from 1899 onward may show a higher value than from the old shed, where a stone wall four feet away from the thermometers may have been a retarding influence. It is intended to more fully investigate this difference of exposure by using as a standard the Thermograph shed which was in operation some years prior to and after the removal.

HUMIDITY.—Means are taken from a Julien Friez Hygrometer and are from the 24 hour readings.

WIND—Direction and velocity are from the anemometer at the Eastern Gap on the Island, where the cups revolve at a height of 50 feet above the lake level.

GALE—A velocity of 30 miles and over.

CLEAR DAY—When the mean from six observations is below 0.2.

CLOUDY DAY—When the mean from six observations is above 0.8.

AURORA—Observations have been rendered doubtful owing to the large number of electric lights in the city.

Monthly Weather Synopsis, 1917.

JANUARY.—Mild weather prevailed during the first nine days, with a large percentage of cloud. It turned very cold on the 10th, and continued so to the 28th, with the exception of the 13th, 18th and 24th, the minimum falling to -9.0° on the 11th, and to -6.0° next morning. Readings were fairly high on the 29th and 30th, the maximum reaching 40° on the latter day. It became much colder on the 31st, with increasing northeast winds. Bright sunshine during the month varied little from normal.

Winds were unusually strong, chiefly from southwest and west, and gales were recorded on 11 days. The gale on the 21st caused considerable snowdrift, and with temperature averaging 13° the heavy wind made it piercingly cold.

Rain fell on four days; the heaviest was on the 5th, when 0.94 inches was recorded. Fifteen days snow totalled 18 inches, which is about the normal fall for January; 3.6 inches fell on the 14th, and 4.4 inches on the 21st. Sleighing was good throughout. At the end of the month there was seven inches of snow on the ground. Ice on Toronto bay measured 15 inches.

FEBRUARY.—A cold, bright month with a mean temperature 5° below normal, and bright sunshine 27 hours in excess. Excepting the 6th and 7th, the first 15 days were very cold, temperatures on the 2nd and 3rd falling to -8.4° and -4.1° respectively. On the 2nd and 12th the mean daily temperature showed a negative departure from normal of 25° , the minimum falling to -10.7° on the latter morning. Below zero temperatures were also recorded on the 10th, 11th and 13th. From the 16th to the end of the month temperatures fluctuated from 9° below normal on the 18th to 14° above on the 26th.

Winds were strong throughout the month, gales occurring on seven days. The heavy winds in the early part of the month added considerably to the intensity of the severe cold, notably so on the 3rd, when 44 miles southwest with a temperature of -2.0° was experienced. The snowfall was 10.5 inches below the usual. Three inches of snow on the ground at the end of the month, and thickness of ice at Hanlan's Point was 22 inches.

MARCH—Mean temperature was 3.4° above normal. The first six days were fairly cold, temperature falling to 6.8° on the morn-

ing of the 5th. The 13th, 18th and 19th were also cold, but for the balance of the month mild conditions were prevalent. The 26th was a perfect spring day, maximum temperature reaching 63° with bright weather. Robins were quite numerous. Sunshine for the month was somewhat above the normal.

There was a larger percentage of gales than usual. Those on the 23rd, 24th, 27th and 28th were particularly heavy, attending some rapid barometric changes. Relative humidity was below average as was also the rainfall. Snowfall varied little from normal; 8.9 inches fell on the 5th with a strong northeast wind, causing considerable drift. The ground was generally bare of snow after the 17th. First thunderstorm of the year occurred on the 23rd.

APRIL - Cloudy and wet. Comparatively mild to the night of the 4th; the wind then increased from northeast and temperature fell, continuing cold to the 17th, the minimum falling to 20° on the 9th. From the 18th to the 23rd, and also on the 30th, it was mild the intervening days being cold and unseasonable. The monthly mean varied little from normal. Bright sunshine was decidedly below average, and vegetation consequently was very backward at the end of the month.

Rain on 12 days totalled 3.1 inches, the heaviest falls being on the 1st, 2nd, 5th, 6th and 20th, whilst it rained almost every day from the 18th to the end of the month. Snow was measurable on four days. There were a large number of heavy north-east and west winds.

MAY.—The month was unusually cloudy and cool with a large number of strong, cold, northeast and northwest winds. Gales occurred on seven days, rather a large number for May. The highest velocity was on the 2nd, when the anemometer registered 38 miles from the west at 10 hours. Only on six days did the mean temperature exceed the normal, and then to a small extent. The highest temperature was 78° on the 18th, and the lowest 34° on the 8th. There was a decided lack of bright sunshine and vegetation at the end of the month was very backward. Trees did not put on leaves until quite late.

Snowflurries were noted on the 5th and 23rd. The rainfall was about average. An all day rain on the 31st totalled 0.57 inches. Relative humidity was 6% below normal. A low humidity reading of 11 was recorded on the 15th, during a strong northwest wind.

JUNE—Cool and wet, with northeast winds predominating and bright sunshine 36 hours below normal. Mean temperature on the first 13 days, with the exception of the 2nd, 3rd, 6th and 7th, was somewhat above average, also from the 16th to the 20th, temperature reaching a maximum of 83° on the 19th. During the remainder of the month cold conditions prevailed, the nights being chilly and generally clear, and the days cloudy. Fourteen days rain totalled five inches, eight thunderstorms materially contributing to the total fall. After the 4th it rained almost every day. In four instances the fall was over half an inch, and 1.65 inches was recorded during two thunderstorms on the 18th. The second of these was very severe and lasted from 13.10 to 17.00 hours, one of the longest and most continuous recorded for some time. Heavy hail also fell. A sudden shower of hail fell on the 7th, some stones measuring one-quarter inch in diameter. Vegetation was still very backward and it was not until the 29th that specimens of the Richmond rose opened into flower. This is two to three weeks late.

JULY—Excepting the 2nd and 15th, the first 17 days were cloudy and cool. Brighter and warmer weather set in on the 18th, continuing to the end of the month, the temperature frequently rising to 90°; 98° was recorded on the 29th and 30th, minimums on these days never falling below 76° and humidity being high during the morning and night hours made the heat physically trying. Bright sunshine 30 hours less than usual. Rain fell on 16 days. From the 7th to the 21st it rained every day but one, in five instances the fall being fairly large. The severest thunderstorms occurred during the afternoons of the 9th and 20th. Lightning was vivid, thunder loud and prolonged, attended by heavy rain. Dense fog prevailed on the 7th, 8th, 9th and 17th, chiefly during the night and morning hours. On the 8th it was so thick that the S. S. Kingston had to be towed into the harbor at 7 a.m.

Aurora Class II with streamers, was observed on the 21st from 21 to 23 hours.

AUGUST—A maximum of 92° was recorded on the 1st, and weather continued warm and humid till the 3rd, when an agreeable change to much cooler conditions set in. Temperature was generally above average from the 5th to the 24th, the maximum on the 20th being 90.4°, but from then to the end of the month, excepting the 27th, it was cool and cloudy, being quite chilly at

times, minimums of 46° being reported on the 28th and 31st. Sunshine was 23 hours below normal. Rain, fairly well distributed, exceeded average by 1.7 inches. Thunderstorms were numerous, those on the 16th and 20th being exceptionally heavy and continuous. Much damage was done by hail and wind during the storm of the 20th. Auroral displays were observed on five nights, the brightest being on the 9th from 21 to 23 hours, as Class II with orange streamers and arch.

SEPTEMBER—Monthly mean temperature was about average. From the 3rd to the 12th and from the 20th to the 24th, it was quite cool with minimums of 37° , 36° and 39° on the 10th, 11th and 23rd respectively. Warm, pleasant weather prevailed, with many bright days, for the remainder of the month, although the 30th was somewhat cooler. Temperatures reached 80° on the 19th and 76° on the 27th. Sunshine was 22 hours more than usual. Rain fell on nine days, chiefly as showers, the total being 2 inches below average. None fell from the 10th to the 17th or from the 21st to the 26th. Four thunderstorms were noted during the month.

OCTOBER—One of the most pleasant months, usually, but this year it was cloudy, cold and wet. Mean daily temperatures exceeded the normals on only seven days. Hoar frost was noticed on eight days, and on the 21st the minimum fell to 29° . Temperatures were fairly high from the 27th to the morning of the 30th, when cold weather with northwest winds set in, the temperature falling to 30° on the 31st. Trees were denuded of leaves by the 25th. Seventeen days rain totalled 4.76 inches, and in four instances the fall exceeded half an inch. Large hail fell on the 5th and 13th, and a marked snow squall on the 31st lasted one hour, the sky becoming very dark and temperature falling rapidly. Sunshine lacked 37 hours, and there were some rapid barometric changes during the month.

NOVEMBER—Bright, with sunshine 40 hours more than usual, and mean temperature 1.5° below normal. Winds were generally light, only one gale being recorded. For the first eight days temperature was generally below normal, but from then to the 18th, pleasant, warm weather prevailed, the maximum

reaching 55° on the 10th. On the 18th it became colder, temperature falling to 22° on the 19th. The 20th and 21st were somewhat above normal, but temperature again fell on the 22nd, continuing cold and wintry with occasional snow up to the 27th. A minimum of 10° was recorded on the 25th, and 14° on the 26th and 27th. The last two days of the month were much milder. Rain fell on six days and snow on five, the greater part of which fell after the 18th. Total precipitation was 1.7 inches below normal.

DECEMBER—A very cold, stormy month with a mean temperature 6.6° below normal, and snowfall 9 inches more than usual. Sunshine exceeded average by 23 hours. Predominating winds were northeast and southwest, highest velocities occurring on the 8th, 47 miles east; and from southwest on the morning of the 9th. During this storm the barometer fell to 28.706 inches. With a monthly mean of 19.5° , this is the coldest December since 1876, when average temperature was 17.1° . Other cold Decembers were in 1859 and 1872, with means of 18° and 17.3° . On only six days during the month did the mean daily temperatures exceed their respective normals. Cold weather prevailed from the 2nd to the 17th, and very much colder conditions from the 25th to the end of the month. Zero temperatures were recorded on the 11th and 15th, and the minimums on the 28th, 29th and 30th were respectively -4.3° , -17° and -10.7° . The minimum on the 29th was the lowest December temperature since 1871, whilst the mean daily temperature was -9.7° , the mercury never rising above -4° . An easterly blizzard on the 8th contributed 8 inches of snow to the total, and at the end of the month there were six inches on the ground. Light rain fell on three days. An intensely thick fog prevailed on the morning of the 18th. During the zero weather of the 28th a 30-mile wind added considerably to the intensity of the cold.

J. Y.

Meteorological Report.

JANUARY, 1917.

Results of Observations.

		Mean for 70 years.
Mean reading of barometer, 32 F. inches,	29.576	29.647
Highest " " on 15th at 10.10h	30.411	30.271
Lowest " " on 22nd at 3.24h	28.816	28.913
Range of barometer readings,	1.595	1.358
Highest temperature on the 30th	40.2	44.9
Lowest temperature on the 11th	-9.0	-6.8
Range for the month,	49.2	51.7
Mean of the highest readings,	30.0	29.1
Mean of the lowest readings,	15.2	15.2
Mean daily range,	14.8	13.9
Mean from max. and min. (1840-1898)*	22.6	*21.6
Mean from 24 hourly observations (1881-1908)*	22.3	*21.8
Mean humidity,	75	83
Highest solar (black bulb in vacuum) on 16th	102.3	
Lowest (radiation) on the 11th and 12th	-10.0	
Monthly range	112.3	
Total fall of rain	inches 1.18	1.14
Heaviest fall (5th) 5 to 14 hrs.	" 0.94	
Number of days on which rain fell,	4	4.9
Total fall of snow	inches 17.9	17.3
Heaviest fall (21st) 9.05 to 21.30 hrs.	" 4.0	
Number of days on which snow fell	15	14.2
Mean amount of cloud (0-10)	.67	.74

No. of hours in the month in which the wind was	N.	N.E.	E.	S.E.	S.	S. W.	W.	N. W.	C.
	54	76	34	32	70	242	195	41	0

Total miles registered	12,413
Mean velocity	17.0
Highest velocity (21st) at 20 hrs. from northeast	48
Highest daily average velocity (17th)	31.8
Lowest " " " (4th)	8.3
Days on which gales occurred	11

JANUARY, 1917.

Differences.

The signs + and - mean respectively above and below the monthly normal.

Mean barometric pressure	-0.071 inches
Monthly range	+0.237 inches
Mean temperature	+1.0°
Mean of highest temperatures	+0.9°
Mean of lowest " "	0°
Mean daily range	+0.9°
Total rainfall	+0.04 in.
Total snowfall	+0.6 in.
Mean amount of cloud	-.07

Rain fell on 3rd, 5th, 9th and 29th. Snow on 1st, 3rd, 5th, 9th, 10th, 13th, 14th, 18th, 19th, 20th, 21st, 22nd, 25th, 27th and 31st. Lunar Corona on the 4th. Lunar halo on 30th. Blizzard on 21st from northeast, and again on morning of 22nd from southwest. Fog on 29th. Clear days 4. Cloudy days 13.

Extreme Readings

DURING 78 YEARS.

Barometer—Highest reading, 1866 (8th)	30.940 inch.
" Lowest reading, 1870 (2nd)	28.166 "
Temperature—Highest, 1874 (4th), 1876 (1st)	57.5°
" Lowest, 1859 (10th)	-26.5°
" Highest monthly mean, 1880	32.7°
" Lowest monthly mean, 1857	12.8°
Rainfall—Greatest fall, 1843	4.30 in.
" Least fall, 1852 and 1856	0.00 "
" Greatest for 24 hours, 1843 (31st)	2.50 "
" Greatest number of days rain fell, 1890	14
" Least number of days, in 1852 and 1856	0
Snowfall—Greatest fall, 1871	43.6 in.
" Least fall, 1916	3.1 "
" Greatest for 24 hours, 1873	15.3 "
" Greatest number days snow fell, 1861-71-93	23
" Least " " 1847	5

FEBRUARY, 1917.

Results of Observations.		Mean for 70 years.	
Mean reading of barometer, 32 F. inches,	29.561	29.638	
Highest " " on 12th at 10.33h	30.253	30.226	
Lowest " " on 4th at 14.56h	28.921	28.945	
Range of barometer readings,	1.332	1.281	
Highest temperature on the 26th	45.4	44.3	
Lowest temperature on the 12th	-10.7	-7.1	
Range for the month,	56.1	51.4	
Mean of the highest readings,	25.4	29.2	
Mean of the lowest readings,	9.0	14.1	
Mean daily range,	16.5	15.1	
Mean from max. and min. (1840-1898)*	17.2	*22.5	
Mean from 24 hourly observations (1881-1908)*	16.7	*21.0	
Mean humidity,	71	81	
Highest solar (black bulb in vacuum) on 22nd	117.5		
Lowest (radiation) on the 12th	-13.4		
Monthly range	130.9		
Total fall of rain inches	0.30	0.93	
Heaviest fall (23rd) 8.30 to 12.30 "	0.21		
Number of days on which rain fell,	2	4.7	
Total fall of snow inches	6.0	16.5	
Heaviest fall (19th) at intervals "	1.5		
Number of days on which snow fell	12	12.4	
Mean amount of cloud (0-10)	.56	.76	

No. of hours in the month in which the wind was	N.	N.E.	E.	S.E.	S.	S. W.	W.	N. W.	C.
	44	28	35	19	16	160	301	69	0

Total miles registered	11,057
Mean velocity	16.5
Highest velocity (3rd) at 13 and 15 hrs. from southwest	44
Highest daily average velocity (3rd)	36.5
Lowest " " " (15th)	6.0
Days on which gales occurred	7

FEBRUARY, 1917.

Differences.

The signs + and - mean respectively above and below the monthly normal.

Mean barometric pressure	- 0.077 inches
Monthly range	+ 0.051 inches
Mean temperature	- 5.3°
Mean of highest temperatures	- 3.8°
Mean of lowest " "	- 5.1°
Mean daily range	+ 1.4°
Total rainfall	- 0.63 in.
Total snowfall	- 10.5 in.
Mean amount of cloud	- .20

Rain on 23rd and 26th. Snow on 1st, 4th, 5th, 6th, 7th, 8th, 13th, 16th, 19th, 20th, 22nd and 25th. Lunar halo on the 2nd. Clear days 4. Cloudy days 7.

Extreme Readings

DURING 78 YEARS.

Barometer—Highest reading, 1887 (4th)	30.522 inch.
" " Lowest reading, 1912 (22nd)	28.413 "
Temperature—Highest, 1890 (4th)	53.8°
" " Lowest, 1855 (5th)	- 25.4°
" " Highest monthly mean, 1882	30.3°
" " Lowest monthly mean, 1875	10.2°
Rainfall—Greatest fall, 1842	3.63 in.
" " Least fall, 1841-46-56-73-77-1901-16	0.00 "
" " Greatest for 24 hours, 1855 (13th)	1.71 "
" " Greatest number of days rain fell, 1857	11
Snowfall—Greatest fall, 1846	46.1 in.
" " Least fall, 1851	2.4 "
" " Greatest for 24 hours, 1863 (5th)	16.0 "
" " Greatest number of days snow fell, 1843	21
" " Least " " 1851	4

MARCH, 1917.

Results of Observations.		Mean for 70 years.
Mean reading of barometer, 32 F. inches,	29.612	29.609
Highest " " on 2nd at 8.33h	30.129	30.129
Lowest " " on 27th at 11.33h	28.918	28.919
Range of barometer readings,	1.211	1.210
Highest temperature on the 26th	62.6	52.1
Lowest temperature on the 6th	6.8	-2.6
Range for the month,	55.8	54.7
Mean of the highest readings,	39.0	36.3
Mean of the lowest readings,	25.3	21.9
Mean daily range,	13.7	14.4
Mean from max. and min. (1840-1893)*	32.1	*28.7
Mean from 24 hourly observations (1881-1908)*	31.9	*29.1
Mean humidity,	71	78
Highest solar (black bulb in vacuum) on 26th	118.2	
Lowest (radiation) on the 6th	-1.0	
Monthly range	119.2	
Total fall of rain inches	1.31	1.50
Heaviest fall (23rd) showers "	0.25	
Number of days on which rain fell,	11	6.7
Total fall of snow inches	10.2	11.5
Heaviest fall (5th) "	8.9	
Number of days on which snow fell	6	10.4
Mean amount of cloud (0-10)	.56	.67

No. of hours in the month in which the wind was	N.	N.E.	E.	S.E.	S.	S. W.	W.	N. W.	C.
	33	154	68	42	34	164	187	59	3

Total miles registered	11,921
Mean velocity	16.0
Highest velocity (28th) at 24 hrs. from southwest	45
Highest daily average velocity (28th and 29th)	26.6
Lowest " " " (3rd)	6.1
Days on which gales occurred	13

MARCH, 1917.

Differences.

The signs + and - mean respectively above and below the monthly normal.

Mean barometric pressure	+0.003 inches
Monthly range	+0.001 inches
Mean temperature	+3.4°
Mean of highest temperatures	+2.7°
Mean of lowest "	+3.4°
Mean daily range	-0.7°
Total rainfall	-0.19 in.
Total snowfall	-1.3 in.
Mean amount of cloud	-.11

Rain on 7th, 10th, 11th, 12th, 14th, 17th, 23rd, 27th, 28th, 29th and 31st. Snow on 4th, 5th, 8th, 10th, 14th and 17th. Lunar Corona on 2nd. Fog on 11th and 23rd. Light ground fog on 22nd. Thunder alone on 24th. Thunderstorm on 23rd. Clear days 7. Cloudy days 10.

Extreme Readings

DURING 78 YEARS.

Barometer—Highest reading, 1906 (24th)	30.508 inch.
" Lowest reading, 1859 (19th)	28.286 "
Temperature—Highest, 1910 (28th)	75.2°
" Lowest, 1868 (3rd)	-15.6°
" Highest monthly mean, 1903	38.9°
" Lowest monthly mean, 1885	18.5°
Rainfall—Greatest fall, 1895	4.05 in.
" Least fall, 1856	0.00 "
" Greatest for 24 hours, 1881 (19th)	1.72 "
" Greatest number of days rain fell, 1878	17
" Least number of days, in 1856 and 1889	0
Snowfall—Greatest fall, 1870	62.4 in.
" Least fall, 1858 and 1903	0.2 "
" Greatest for 24 hours, 1876 (28th)	16.2 "
" Greatest number of days snow fell, 1877	21
" Least " 1895 and 1898	1

APRIL, 1917.

Results of Observations.		Mean for 70 years.	
Mean reading of barometer, 32 F. inches,	29.594	29.600	
Highest " " on 4th at 8h	30.082	30.073	
Lowest " " on 6th at 5.02h	28.954	29.040	
Range of barometer readings,	1.128	1.033	
Highest temperature on the 18th	65.3	68.3	
Lowest temperature on the 9th	20.4	19.6	
Range for the month,	44.9	48.7	
Mean of the highest readings,	48.8	49.6	
Mean of the lowest readings,	33.4	33.3	
Mean daily range,	15.4	16.3	
Mean from max. and min. (1840-1898)*	41.1	*41.2	
Mean from 24 hourly observations (1881-1908)*	40.6	*42.1	
Mean humidity,	69	70	
Highest solar (black bulb in vacuum) on 22 & 29	119.0		
Lowest (radiation) on the 9th	17.2		
Monthly range	101.8		
Total fall of rain inches	3.14	2.15	
Heaviest fall (20th) showers "	0.56		
Number of days on which rain fell,	12	9.9	
Total fall of snow inches	2.3	2.5	
Heaviest fall (5th) 16.55 to 24 hrs "	1.5		
Number of days on which snow fell	4	3.5	
Mean amount of cloud (0-10)	.62	.58	

No. of hours in the month in which the wind was	N.	N.E.	E.	S.E.	S.	S. W.	W.	N. W.	C.
	46	182	49	33	30	90	160	130	0

Total miles registered	9,565
Mean velocity	13.3
Highest velocity (25th) at 17 hrs. from northeast	42
Highest daily average velocity (5th)	31.5
Lowest " " (17th)	4.7
Days on which gales occurred	4

APRIL, 1917.

Differences.

The signs + and - mean respectively above and below the monthly normal.

Mean barometric pressure	-0.006 inches
Monthly range	+0.095 inches
Mean temperature	-0.1°
Mean of highest temperatures	-0.8°
Mean of lowest " "	+0.1°
Mean daily range	-0.9°
Total rainfall	+0.99 in.
Total snowfall	-0.2 in.
Mean amount of cloud	+ .04
Rain on 1st, 2nd, 5th, 6th, 19th, 20th, 21st, 22nd, 23rd, 25th, 26th and 29th. Snow on 5th, 6th, 16th and 23rd. Fog on 1st, 2nd, 17th and 20th. Thunderstorms on 19th and 20th. Clear days 4. Cloudy days 9.	

Extreme Readings

DURING 78 YEARS.

Barometer—Highest reading, 1897 (20th)	30.308 inch.
" " Lowest reading, 1863 (2nd), 1887(28th)	28.704 "
Temperature—Highest, 1842 (22nd)	89.8°
" " Lowest, 1857 (2nd)	5.9°
" " Highest monthly mean, 1878	48.8°
" " Lowest monthly mean, 1874	34.2°
Rainfall—Greatest fall, 1910	4.90 in.
" " Least fall, 1881	0.08 "
" " Greatest for 24 hours, 1850 (3rd)	2.35 "
" " Greatest number of days rain fell, 1871	17
" " Least number of days, in 1841-81	3
Snowfall—Greatest fall, 1857	12.9 in.
" " Least fall, 1843-56-58-70-87-88-90-91	0.1 "
" " Greatest for 24 hours, 1901 (20th)	8.3 "
" " Greatest number of days snow fell, 1857	11
" " Least " " 1878-95-1900	0

MAY, 1917.

Results of Observations.		Mean for 70 years.
Mean reading of barometer, 32 F. inches,	29.478	29.577
Highest " " on 30th at 10.16h	29.820	29.967
Lowest " " on 23rd at 3.17h	28.876	29.153
Range of barometer readings,	0.944	0.814
Highest temperature on the 18th	77.8	77.9
Lowest temperature on the 8th	34.0	30.9
Range for the month,	43.8	47.0
Mean of the highest readings,	57.9	62.0
Mean of the lowest readings,	40.7	43.3
Mean daily range,	17.2	18.7
Mean from max. and min. (1840-1898)*	49.3	*52.4
Mean from 24 hourly observations (1881-1908)*	48.7	*53.4
Mean temperature of dew point	36	
Mean humidity,	64	70
Mean force of vapour	0.220	0.280
Highest solar (black bulb in vacuum) on 13th	133.4	
Lowest (radiation) on the 8th	28.9	
Monthly range	104.5	
Total fall of rain	inches 2.76	2.97
Heaviest fall (31st) showers	" 0.57	
Number of days on which rain fell,	13	12.4
Total fall of snow	inches 0	0.1
Number of days on which snow fell	0	0.4
Mean amount of cloud (0-10)	.59	.57

No. of hours in the month in which the wind was	N.	N.E.	E.	S.E.	S.	S. W.	W.	N. W.	C.
	53	210	42	43	33	101	88	171	3

Total miles registered	11,145
Mean velocity	15
Highest velocity (2nd) at 10 hrs. from west	38
Highest daily average velocity (2nd)	30.6
Lowest " " (7th)	4.4
Days on which gales occurred	7

MAY, 1917.

Differences.

The signs + and - mean respectively above and below the monthly normal.

Mean barometric pressure	- 0.099 inches
Monthly range	+ 0.130 inches
Mean temperature	- 3.1°
Mean of highest temperatures	- 4.1°
Mean of lowest "	- 2.6°
Mean daily range	- 1.5°
Total rainfall	- 0.21 in.
Total snowfall	- 0.1 in.
Mean amount of cloud	+ .02

Rain on the 1st, 5th, 6th, 9th, 16th, 19th, 21st, 22nd, 23rd, 24th, 28th, 29th and 31st. Heavy dew on 8th, 26th and 30th. Fog on 19th. Thunderstorms on 19th and 22nd. Very large Parhelia on 26th. Clear days 2. Cloudy days 9.

Extreme Readings

DURING 78 YEARS.

Barometer—Highest reading, 1849 (2nd)	30.241 inch.
" Lowest reading, 1861 (6th)	28.644 "
Temperature—Highest, 1895 (30th)	93.4°
" Lowest, 1867 (3rd)	24.6°
" Highest monthly mean, 1911	61.3°
" Lowest monthly mean, 1867	46.6°
Rainfall—Greatest fall, 1894	9.40 in.
" Least fall, 1891	0.50 "
" Greatest for 24 hours, 1894 (21st)	2.70 "
" Greatest number of days rain fell, 1890	23
" Least number of days, in 1843	5
Snowfall—Greatest fall, 1875	3.1 in.
" Least fall, 1910-13-14-15-16-17	0.0 "
" Greatest for 24 hours, 1875 (1st)	3.0 "
" Greatest number of days snow fell, 1905	5

JULY, 1917.

Results of Observations.		Mean for 70 years.
Mean reading of barometer, 32 F. inches,	29.544	29.585
Highest " " on 25th at 9.08h	29.811	29.889
Lowest " " on 12th at 5.47h	29.211	29.420
Range of barometer readings,	0.600	0.469
Highest temperature on the 30th	98.0	89.8
Lowest temperature on the 4th	49.0	47.5
Range for the month,	49.0	42.3
Mean of the highest readings,	80.3	77.9
Mean of the lowest readings,	60.8	58.2
Mean daily range,	19.5	19.7
Mean from max. and min. (1840-1898)*	70.5	*67.8
Mean from 24 hourly observations (1881-1908)*	69.8	*68.9
Mean temperature of dew point	62	
Mean humidity,	81	72
Mean force of vapour	0.571	0.488
Highest solar (black bulb in vacuum) on 29th	147.4	
Lowest (radiation) on the 4th	46.7	
Monthly range	100.7	
Total fall of rain inches	3.58	3.04
Heaviest fall (1st) showers "	1.13	
Number of days on which rain fell,	16	11.2
Mean amount of cloud(0-10)	.44	.49

No. of hours in the month in which the wind was	N.	N.E.	E.	S.E.	S.	S. W.	W.	N. W.	C.
	33	175	53	52	109	211	66	39	6

Total miles registered	6,292
Mean velocity	8.5
Highest velocity (1st) at 15 hrs from southwest	27
Highest daily average velocity (6th)	13.5
Lowest " " (16th)	4.7
Days on which gales occurred	0

JULY, 1917.

Differences.

The signs + and - mean respectively above and below the monthly normal.

Mean barometric pressure	- 0.041 inches
Monthly range	+ 0.131 inches
Mean temperature	+ 2.7°
Mean of highest temperatures	+ 2.4°
Mean of lowest "	+ 2.6°
Mean daily range	- 0.2°
Total rainfall	+ .54 in.
Mean amount of cloud	- .05

Rain on 1st, 4th, 7th, 8th, 9th, 10th, 12th, 13th, 14th, 15th, 17th, 18th, 20th, 21st, 26th and 29th. Thunderstorms on 1st, 7th, 9th and 20th. Heavy dew on 4th and 16th. Thunder alone on 14th, 17th, 19th and 26th. Fog on 4th, 7th, 8th, 9th, 17th, 18th and 31st. Aurora Class II. on 21st from 21 to 23 hrs. Clear days 6. Cloudy days 5.

Extreme Readings

DURING 78 YEARS.

Barometer—Highest reading, 1892 (7th)	30.192 inch.
" Lowest reading, 1911 (24th)	29.006 "
Temperature—Highest, 1911 (3rd)	103.2°
" Lowest, 1843 (12th)	38.7°
" Highest monthly mean, 1916	76.0°
" Lowest monthly mean, 1884	64.0°
Rainfall—Greatest fall, 1841	8.15 in.
" Least fall, 1916	0.36 "
" Greatest for 24 hours, 1897 (27th)	3.88 "
" Greatest number of days on which rain fell, 1861-66-70-80-1902-17	16
Least number of days, in 1849	1

AUGUST, 1917.

Results of Observations.		Mean for 70 years.
Mean reading of barometer, 32 F. inches,	29.612	29.617
Highest " " on 31st at 9.23h	29.933	29.909
Lowest " " on 24th at 4.00h	29.099	29.257
Range of barometer readings,	0.834	0.652
Highest temperature on the 1st	92.0	87.0
Lowest temperature on the 31st	45.6	45.7
Range for the month,	46.4	41.3
Mean of the highest readings,	77.7	76.1
Mean of the lowest readings,	57.7	57.1
Mean daily range,	20.0	19.0
Mean from max. and min. (1840-1898)*	67.7	*66.3
Mean from 24 hourly observations (1881-1908)*	66.5	*66.9
Mean temperature of dew point	58	
Mean humidity,	77	74
Mean force of vapour	0.500	0.483
Highest solar (black bulb in vacuum) on 2nd	141.8	
Lowest (radiation) on the 31st	40.2	
Monthly range	101.6	
Total fall of rain inches	4.45	2.77
Heaviest fall 15.15 to 17.30 on the 20th "	1.37	
Number of days on which rain fell,	12	10.9
Mean amount of cloud (0-10)	.51	.49

No. of hours in the month in which the wind was	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	C.
	58	147	73	44	77	183	87	72	3

Total miles registered	6,743
Mean velocity	9.1
Highest velocity at 17 hrs on 25th from west	25
Highest daily average velocity on the 3rd and 27th	13.0
Lowest " " " " 11th	3.3
Days on which gales occurred	0

AUGUST, 1917.

Differences.

The signs + and - mean respectively above and below the monthly normal.

Mean barometric pressure	- 0.005 inches
Monthly range	+ 0.182 inches
Mean temperature	+ 1.4°
Mean of highest temperatures	+ 1.6°
Mean of lowest "	+ 0.6°
Mean daily range	+ 1.0°
Total rainfall	+ 1.68 in.
Mean amount of cloud	+ 0.02

Rain on the 5th, 6th, 8th, 9th, 13th, 16th, 19th, 20th, 23rd, 27th, 28th and 29th. Thunder on the 14th and 27th. Thunderstorms on 1st, 5th, 8th, 13th, 16th, 20th and 22nd. Heavy dew on 5th, 10th, 15th, 16th, 18th, 20th, 22nd, 24th and 31st. Fog on 11th, 14th, and 16th. Hail on the 16th and 20th. Aurora Class IV. on 4th and 14th, Class III. on 20th and 21st, Class II. on 9th. Clear days 3. Cloudy days 6.

Extreme Readings

DURING 78 YEARS.

Barometer—Highest reading, 1880 (16th)	30.042 inch.
" " Lowest reading, 1912 (22nd)	29.028 "
Temperature—Highest, 1864 (24th)	99.2°
" " Lowest, 1855 (18th); 1870 (27th)	40.0°
" " Highest monthly mean, 1900	72.5°
" " Lowest monthly mean, 1866	60.8°
Rainfall—Greatest fall, 1915	8.14 in.
" " Least fall, 1874 and 1894	0.39 "
" " Greatest for 24 hours, 1905 (15th)	3.68 "
" " Greatest number of days on which rain fell, 1872	19
" " Least number of days, in 1876	0

SEPTEMBER, 1917.

Results of Observations.		Mean for 70 years.							
Mean reading of barometer, 32 F. inches,	29.741	29.667							
Highest " " on 23rd at 9h	30.048	30.037							
Lowest " " on 30th at 2.10h	29.204	29.187							
Range of barometer readings,	0.844	0.850							
Highest temperature on the 1st	80.8	82.7							
Lowest temperature on the 11th	36.2	35.7							
Range for the month,	44.6	47.0							
Mean of the highest readings,	69.3	68.2							
Mean of the lowest readings,	47.9	50.2							
Mean daily range,	21.4	18.0							
Mean from max. and min. (1840-1898)*	58.6	58.8							
Mean from 24 hourly observations (1881-1908)*	57.2	60.5							
Mean temperature of dew point	49	50							
Mean humidity,	76	78							
Mean force of vapour	0.380	0.393							
Highest solar (black bulb in vacuum) on 4th	131.4								
Lowest (radiation) on the 11th	30.7								
Monthly range	100.7								
Fall of rain	inches	0.65	3.18						
Heaviest fall on the 2nd	"	0.24							
Number of days on which rain fell,	9	11.4							
Mean amount of cloud (0-10)	.37	.50							
No. of hours in the month in which the wind was	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	C.
	77	157	37	48	56	131	80	131	3
Total miles registered	6,652								
Mean velocity	9.2								
Highest velocity at 15 hrs on 30th from west	25								
Highest daily average velocity on the 30th	16.7								
Lowest " " " " 25th	4.0								
Days on which gales occurred	6								

SEPTEMBER, 1917.

Differences.

The signs + and - mean respectively above and below the monthly normal.

Mean barometric pressure	+0.074 inches
Monthly range	-0.006 inches
Mean temperature	-0.2°
Mean of highest temperatures	+1.1°
Mean of lowest " "	-2.3°
Mean daily range	+3.4°
Total rainfall	-2.53 in.
Mean amount of cloud	-0.13

Rain on the 1st, 2nd, 5th, 6th, 18th, 20th, 27th, 28th and 30th.
Thunderstorms on 1st, 2nd, 6th and 20th. ~~Heavy frost on the 11th.~~
Thunder alone on 29th. Heavy dew on 8th, 9th, 12th, 13th, 15th, 17th, 18th, 19th, 23rd, 24th, 25th, 27th, 29th and 30th. Fog on 17th, 18th and 26th. Clear days 7. Cloudy days 1.

Extreme Readings

DURING 78 YEARS.

Barometer—Highest reading, 1904 (22nd)	30.243 inch.
" " Lowest reading, 1848 (29th)	28.863
Temperature—Highest, 1898 (2nd)	97.1°
" " Lowest, 1896 (23rd)	27.6°
" " Highest monthly mean, 1865	64.5°
" " Lowest monthly mean, 1848	53.4°
Rainfall—Greatest fall, 1843	9.76 in.
" " Least fall, 1867 1897	0.40 "
" " Greatest for 24 hours, 1843 (14th)	3.46 "
" " Greatest number of days on which rain fell, 1907	19
" " Least number of days, in 1840 and in 1844	4

OCTOBER, 1917.

Results of Observations.		Mean for 70 years.
Mean reading of barometer, 32 F. inches,	29.598	29.651
Highest " " on 17th at 9.35h	29.987	30.112
Lowest " " on 30th at 2.10h	28.851	29.066
Range of barometer readings,	1.136	1.046
Highest temperature on the 2nd	62.2	70.3
Lowest temperature on the 21st	29.0	25.5
Range for the month,	33.2	44.8
Mean of the highest readings,	52.2	54.9
Mean of the lowest readings,	36.9	39.1
Mean daily range,	15.3	15.8
Mean from max. and min. (1840-1898)*	44.6	*46.6
Mean from 24 hourly observations (1881-1908)*	43.7	*48.1
Mean temperature of dew point	37	
Mean humidity,	80	79
Mean force of vapour	0.230	0.258
Highest solar (black bulb in vacuum) on 15th	120.8	
Lowest (radiation) on the 21st	22.6	
Monthly range	98.2	
Total fall of rain inches	4.76	2.40
Heaviest fall 13.40 to mid. on the 24th "	0.88	
Number of days on which rain fell,	17	12.4
Fall of snow inches	0.2	0.6
Number of days on which snow fell	1	1.6
Mean amount of cloud (0-10)	.71	.61

No. of hours in the month in which the wind was	N.	N.E.	E.	S.E.	S.	S. W.	W.	N. W.	C.
	25	135	42	61	31	210	136	101	3

Total miles registered	10,114
Mean velocity	13.6
Highest velocity at 15 hrs on 12th from southwest	41
Highest daily average velocity on the 30th	28.1
Lowest " " " " 21st	7.0
Days on which gales occurred	4

OCTOBER, 1917.

Differences.

The signs + and - mean respectively above and below the monthly normal.

Mean barometric pressure	-0.053 inches
Monthly range	-0.090 inches
Mean temperature	-2.0°
Mean of highest temperatures	-2.7°
Mean of lowest "	-2.2°
Mean daily range	-0.5°
Total rainfall	+2.35 in.
Total snowfall	-0.4 in.
Mean amount of cloud	+1.0

Rain on the 2nd, 3rd, 4th, 5th, 7th, 12th, 14th, 18th, 19th, 23rd, 24th, 25th, 26th, 27th, 28th, 29th and 30th. Snow on 30th. Hoar frost on the 2nd, 9th, 10th, 16th, 17th, 20th, 21st and 26th. Heavy dew on 14th. Fog on 3rd. Hail on 5th. Graupel on 30th. Clear days 0. Cloudy days 11.

Extreme Readings

DURING 78 YEARS.

Barometer—Highest reading, 1847 (28th)	30.396 inch.
" Lowest reading, 1893 (14th)	28.227 "
Temperature—Highest, 1897 (15th)	85.7°
" Lowest, 1844 (31st)	15.9°
" Highest monthly mean, 1900	55.7°
" Lowest monthly mean, 1841	41.8°
Rainfall—Greatest fall, 1849	5.97 in.
" Least fall, 1901	0.56 "
" Greatest for 24 hours, 1849 (6th)	3.16 "
" Greatest number of days on which rain fell, 1864	22
" Least number of days, in 1841	6
Snowfall—Greatest fall, 1844	12.0 in.
" Least fall, 1916	0.0 "
" Greatest for 24 hours, 1875 (17th) -	3.3 "
" Greatest number of days snow fell, 1869	7

NOVEMBER, 1917.

Results of Observations.		Mean for 70 years.							
Mean reading of barometer, 32 F. inches,	29.748	29.627							
Highest " " on 4th at 11h	30.333	30.169							
Lowest " " on 22nd at 5.00h	28.855	28.975							
Range of barometer readings,	1.478	1.194							
Highest temperature on the 10th	54.5	57.9							
Lowest temperature on the 25th	10.1	13.5							
Range for the month,	44.4	44.4							
Mean of the highest readings,	41.8	42.5							
Mean of the lowest readings,	27.1	30.1							
Mean daily range,	14.7	12.4							
Mean from max. and min. (1840-1898)*	34.4	*36.0							
Mean from 24 hourly observations (1881-1908)*	33.5	*37.1							
Mean humidity,	81	80							
Highest solar (black bulb in vacuum) on 2nd	104.8								
Lowest (radiation) on the 25th	6.6								
Monthly range	98.2								
Total fall of rain inches	1.06	2.49							
Heaviest fall (22nd) 0h to 13.15h "	0.53								
Number of days on which rain fell,	6	10.3							
Total fall of snow inches	2.1	4.6							
Heaviest fall (19th) 20.40 to 24 hrs	0.7								
Number of days on which snow fell	5	7.3							
Mean amount of cloud (0-10)	.52	.74							
No. of hours in the month in which the wind was	N. 93	N.E. 82	E. 39	S.E. 64	S. 12	S. W. 158	W. 118	N. W. 152	C. 2
Total miles registered									7,543
Mean velocity									10.5
Highest velocity (22nd) at 8 hrs from northeast									30
Highest daily average velocity (22nd)									19.9
Lowest " " (5th)									4.7
Days on which gales occurred									1

NOVEMBER, 1917.

Differences.

The signs + and - mean respectively above and below the monthly normal.

Mean barometric pressure	+0.121 inches
Monthly range	+0.284 inches
Mean temperature	-1.6°
Mean of highest temperatures	-0.7°
Mean of lowest " "	-3.0°
Mean daily range	+2.3°
Total rainfall	-1.43 in.
Total snowfall	-2.5 in.
Mean amount of cloud	-22

Rain on 3rd, 15th, 18th, 21st, 22nd and 30th. Snow on 1st, 19th, 22nd, 28th and 29th. Heavy dew on 10th and 17th. Fog on 11th, 18th, 21st and 30th. Lunar halo on 26th. Clear days 9. Cloudy days 10.

Extreme Readings

DURING 78 YEARS.

Barometer—Highest reading, 1887 (30th)	30.592 inch.
" Lowest reading, 1913 (9th)	28.327 "
Temperature—Highest, 1903 (3rd)	70.2°
" Lowest, 1875 (30th)	-5.0°
" Highest monthly mean, 1902	42.9°
" Lowest monthly mean, 1873	27.6°
Rainfall—Greatest fall, 1846	5.80 in.
" Least fall, 1904	0.08 "
" Greatest for 24 hours, 1861 (2nd)	3.13 "
" Greatest number of days rain fell, 1877	16
" Least number of days, in 1904	4
Snowfall—Greatest fall, 1873	19.6 in.
" Least fall, 1847 and 1850	not measurable
" Greatest for 24 hours, 1873 (27th)	9.5 "
" Greatest number of days snow fell, 1869-73-92,	18
" Least " " " 1850-99	1

DECEMBER, 1917.

Results of Observations.		Mean for 70 years.
Mean reading of barometer, 32 F. inches,	29.811	29.644
Highest " " on 29th at 10.38h	30.333	30.226
Lowest " " on 8th at 22.57h	28.706	28.936
Range of barometer readings,	1.627	1.290
Highest temperature on the 24th	41.6	47.5
Lowest temperature on the 29th	-17.0	-2.3
Range for the month,	58.6	49.8
Mean of the highest readings,	26.8	32.5
Mean of the lowest readings,	12.4	20.0
Mean daily range,	14.4	12.5
Mean from max. and min. (1840-1898)*	19.6	*26.2
Mean from 24 hourly observations (1881-1908)*	18.8	*27.6
Mean humidity,	78	82
Highest solar (black bulb in vacuum) on 2nd	78.2	
Lowest (radiation) on the 29th	-20.2	
Monthly range	98.4	
Total fall of rain	inches 0.10	1.53
Heaviest fall (19th) showers	" 0.06	
Number of days on which rain fell,	3	6.3
Total fall of snow	inches 22.0	13.0
Heaviest fall (8th)	" 8.0	
Number of days on which snow fell	11	13.1
Mean amount of cloud (0-10)	.65	.77

No. of hours in the month in which the wind was	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	C.
	88	166	27	30	25	162	135	110	1

Total miles registered	10,316
Mean velocity	13.9
Highest velocity (8th) from east (9th) from southwest	47
Highest daily average velocity (9th)	34.6
Lowest " " (12th)	6.0
Days on which gales occurred	6

DECEMBER, 1917.

Differences.

The signs + and - mean respectively above and below the monthly normal.

Mean barometric pressure	+0.167 inches
Monthly range	+0.337 inches
Mean temperature	-6.6°
Mean of highest temperatures	-5.7°
Mean of lowest " "	-7.6°
Mean daily range	+1.9°
Total rainfall	-1.43 in.
Total snowfall	+9.0 in.
Mean amount of cloud	-.12

Rain on the 19th, 21st and 24th. Snow on 5th, 8th, 9th, 12th, 13th, 16th, 17th, 23rd, 26th, 27th and 31st. Fog on 13th, 18th, 19th and 20th. Lunar corona on 24th. Cloudy days 12. Clear days 3.

Extreme Readings

DURING 78 YEARS.

Barometer—Highest reading, 1887 (1st)	30.594 inch.
" Lowest reading, 1855 (9th), 1856 (14th)	28.459 "
Temperature—Highest, 1875 (31st)	61.0°
" Lowest, 1871 (21st)	-21.0°
" Highest monthly mean, 1889	34.3°
" Lowest monthly mean, 1876	17.2°
Rainfall—Greatest fall, 1841	6.60 in.
" Least fall, 1840 and 1845	0.00 "
" Greatest for 24 hours, 1870 (6th)	1.95 "
" Greatest number of days rain fell, 1889, 1911,	14
Least number of days, in 1876	0
Snowfall—Greatest fall, 1872	38.0 in.
" Least fall, 1877	0.3 "
" Greatest for 24 hours, 1898 (4-5)	16.0 "
" Greatest number of days snow fell, 1872	24
" Least " " " 1895	3

Summary of Observations, 1917.

READINGS OF BAROMETER IN INCHES.		Mean for 70 years
Mean of the year	29.623	29.619
Highest monthly mean, December	29.811	
Lowest " May	29.478	
Highest reading, January 15th	30.411	30.371
Lowest " December 8th	28.706	28.707
Range	1.705	1.664
THERMOMETER, FAHRENHEIT.		
Highest monthly mean temperature, July	70.5	
Lowest " " " February	17.2	
Highest temperature, July 30th	98.0	91.2
Lowest " December 29th	-17.0	-12.0
Range for the year	115.0	103.2
Mean from max. and min. (1840-1898)*	43.2	*44.2
Mean from 24 hourly obs. (1881-1908)*	42.5	*45.0
Mean humidity	75	77
Highest solar (black bulb in vacuum) July. 29th	147.4	
Lowest (radiation) on December 29th	-20.2	
Yearly range	167.6	
Total fall of rain	inches 28.29	26.86
Greatest monthly rainfall, June	" 5.00	
Least " " December	" 0.10	
Greatest rainfall in 24 hrs, June 18th	" 1.65	
Number of days rain fell	119	112.9
Total fall of snow	inches 60.7	66.0
Greatest monthly snowfall, December	" 22.0	
Greatest snowfall in 24 hrs., March 5th	" 8.9	
Number of days on which snow fell	54	62.9
Mean amount of cloud (0.10)	.56	.62

Wind Summary.

NUMBER OF MILES REGISTERED FROM EACH DIRECTION

Month	Total Miles	Total Hours	Calms.	N.	N.E.	E	S.E.	S.	S.W.	W.	N.W.
Jan.	12,413	744	0	584	1629	571	434	719	4976	2889	611
Feb.	11,057	672	0	408	407	659	208	181	3548	4650	996
Mar.	11,921	744	3	264	2069	1150	412	359	2906	3796	965
April	9,565	720	0	308	2898	534	203	244	1023	2108	2247
May	11,145	744	3	476	3330	364	282	270	1745	1632	3046
June	7,521	720	3	165	2171	404	255	825	1586	1420	695
July	6,292	744	6	170	1777	397	265	799	1973	532	379
Aug.	6,743	744	3	296	1609	504	299	606	1842	899	688
Sept.	6,652	720	3	523	1674	288	384	429	1135	786	1433
Oct.	10,114	744	3	262	1908	468	678	314	3247	1947	1290
Nov.	7,543	720	2	783	902	433	556	103	1768	1168	1830
Dec.	10,316	744	1	675	1794	807	447	288	2699	1980	1626
Year	111,282	8,760	27	4914	22168	6579	4423	5137	28448	23807	15806

Number of hours from each direction will be found in monthly results.

Total mileage for year	111,282
Greatest mileage in 24 hours (Dec. 9th)	831
Greatest mileage in 1 hour (Jan. 21st) from northeast	48
Number of gales	55
Average velocity for year	12.8
Prevailing direction, southwest. Mileage, 28,448. Total hours, 1,965.	

Absolute Extremes

DURING 78 YEARS

Readings of the barometer, in inches.

Highest yearly mean, 1849,	29.668
Lowest " " 1864,	29.560
Highest monthly mean, February, 1906,	29.819
Lowest " " March, 1859,	29.412
Greatest monthly range January, 1870,	2.046
Least " " " " June, 1841,	0.425
Highest reading, January 8th, 1866,	30.940
Lowest " January 2nd, 1870,	28.166
Extreme range	2.774

Temperatures.

Highest reading on July 3rd, 1911,	103.2
Lowest reading on January 10th, 1859,	- 26.5
Highest daily mean temperature, July 3rd, 1911,	90.8
Lowest " " " Jan. 13th, 1914,	- 16.5
Highest monthly mean, July, 1916,	76.0
Lowest " " February, 1875,	10.2
Highest yearly " 1913,	48.0
Lowest " " 1875,	40.8

Rainfall, in inches.

Greatest fall in 24 hours, July 27th, 1897,	3.88
Greatest rainfall in a month, September, 1843,	9.76
Greatest rainfall in a year, 1843,	43.56
Least " " " " 1874,	17.57
Greatest number of rainy days in a month, May, 1890,	23
Greatest number of rainy days in a year, 1890,	145
Least " " " " " " 1841,	80

Absolute Extremes

DURING 78 YEARS--(Continued)

Snowfall in Inches.

Greatest fall in 24 hours, March 28th, 1876,	16.2
Greatest fall in a month, March, 1870,	62.4
Greatest fall of snow in a year in 1870,	122.9
Least " " " " " " 1899,	31.8
Greatest fall in any winter, 1869-70,	123.5
Least fall in any winter, 1877-78 and 1905-06,	30.2
Greatest No. of days of snow in a month, Dec. 1870 and December 1872,	24
Greatest number of days of snow in a year, 1859,	87
Least " " " " " " " 1848,	33

Dates of Certain Periodic Events.

	EXTREME	1917
Latest snow.....	June 4, 1859	*May 23rd
Earliest snow.....	Sept. 25, 1860	Oct. 20th
Latest hoar frost.....	June 20, 1862	Apr. 29th
Earliest hoar frost.....	Aug. 26, 1863	Oct. 2nd
Earliest thunder & lightning	Jan. 12, 1898	March 23rd
Latest thunder and lightning	Dec. 23, 1871	Sept. 29th

*Flurries.

TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY—1917.

Month.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
January.	0	0	0	1.6	0	0.9	0	1.8	0	1.1	6.9	5.5	0	7.0	1.5	7.7	2.6
February.	5.0	7.2	5.3	0	4.3	5.7	0	0	7.7	8.7	8.1	9.4	0	7.5	6.3	3.1	3.7
March.	8.7	4.2	6.6	0	0	7.4	3.2	0.3	9.0	3.7	0	9.5	4.0	0	0.7	7.8	0.9
April.	0	0	6.5	8.2	0	0	11.6	11.8	11.7	11.9	8.6	3.6	7.3	0	0.1	1.4	8.7
May.	0.1	2.5	5.0	7.3	0	0.3	8.2	13.0	7.2	10.5	5.7	8.4	6.2	13.3	13.0	3.5	12.4
June.	10.7	5.4	3.3	11.7	1.6	2.0	3.1	2.2	8.5	1.0	14.1	11.1	11.9	7.4	4.3	8.5	14.2
July.	1.2	12.8	12.4	6.7	12.9	9.8	6.1	0.9	3.0	5.6	0	3.6	8.5	4.4	8.4	12.6	0.1
August.	11.1	11.6	10.1	12.5	12.0	8.2	7.8	3.9	0.6	12.0	6.0	12.1	2.1	6.9	8.6	7.5	6.4
September.	8.1	6.5	8.4	11.0	7.9	10.7	6.6	11.3	2.4	8.6	3.4	11.3	6.1	2.7	4.2	9.3	10.8
October.	5.5	6.1	0	5.5	4.2	1.3	3.8	3.4	7.2	6.2	7.9	0	2.8	2.8	4.4	9.7	5.6
November.	1.5	1.5	7.6	9.2	8.2	2.1	9.2	9.1	8.2	6.2	0.1	3.6	8.2	8.8	0	4.6	8.1
December.	2.4	8.0	0	7	3.4	1.6	6.2	0	3.7	5.7	3.1	5.6	0	3.7	7.9	0	1.8

TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY—1917, (Continued).

Month.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Monthly Total	Monthly Percentage.
January.	7	6.6	0	0	5.9	5.0	1.0	4.2	8.1	0	0.5	0	8.3	0	76.2	26
February.	8.1	0.3	4.4	8.1	8.9	0	5.5	0	0.4	9.3	8.1				135.1	46
March.	5.5	7.8	2.8	9.9	10.1	0	10.0	9.6	9.1	7	7.7	8.7	11.5	0.5	159.2	43
April.	2.8	4.6	4.4	1.0	10.5	10.4	11.2	7.0	4.0	1.7	6.6	5.7	4.9		166.2	41
May.	11.1	7.9	10.5	0.3	0.7	0	4.3	13.0	9.8	6.5	0	4.2	10.3	4.5	199.7	43
June.	3.3	11.3	8.0	11.4	10.4	3.8	3.7	10.8	2.5	14.0	4.6	5.6	13.3		223.7	48
July.	9.1	9.6	9.8	2.9	11.8	12.8	9.5	12.5	7.4	11.5	11.5	8.8	13.2	12.5	251.9	54
August.	10.1	7.8	7.3	4.5	6.8	0.3	8.2	0.9	10.5	9.5	0	0.9	11.7	11.5	229.4	53
September.	8.2	5.6	4.0	10.3	10.6	10.7	10.1	9.4	8.8	6.5	5.1	5.5	5.7		229.8	62
October.	1.5	0	1.0	0	5.5	0	0	5.1	5.1	4.7	8.8	0	3.8	0.1	112.0	32
November.	1.7	0.4	0	0	0	0	6.6	4.6	8.3	0	0.8	6.3	0		124.9	43
December.	4.0	0	0	0	6.4	0	0	5.3	3.5	0	2.2	6.7	6.9	0	88.1	32

MONTHLY TABLES FOR EACH HOUR OF RECORDED SUNSHINE—1917

HOURS ENDING. Local time	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
January.	0	0	0	0	0.2	3.7	7.8	8.7	10.0	11.0	10.0	10.8	10.2	3.8	0	0	0
February.	0	0	0	0	1.9	10.4	12.2	13.2	15.9	16.9	16.8	18.4	15.6	12.0	1.8	0	0
March.	0	0	0	0.3	9.6	16.6	16.8	18.6	17.3	17.3	17.8	14.5	13.6	12.6	4.0	0.2	0
April.	0	0	0.9	6.3	12.9	18.1	15.6	18.9	17.5	14.8	12.8	12.4	12.5	11.5	9.2	2.8	0
May.	0	0	4.7	10.9	12.7	14.8	17.7	20.1	17.3	16.5	13.7	14.8	15.0	13.7	14.9	11.0	1.9
June.	0	0.1	7.0	12.9	16.9	19.9	19.9	19.5	18.0	17.7	16.7	15.3	15.2	14.4	13.4	13.4	3.4
July.	0	0	5.0	13.4	16.3	19.1	18.8	19.1	19.7	20.7	23.1	22.6	21.8	18.9	16.6	13.5	3.3
August.	0	0	1.7	11.5	14.7	14.9	17.2	20.1	21.3	22.7	22.9	22.0	19.7	19.1	14.6	6.4	0.6
September.	0	0	0	5.1	16.0	23.1	24.4	24.1	24.6	25.2	23.5	19.8	16.6	15.8	10.2	1.4	0
October.	0	0	0	0.5	7.0	10.8	11.8	11.1	16.4	16.2	10.6	10.4	11.1	5.9	0.2	0	0
November.	0	0	0	0	3.7	10.5	13.1	14.6	15.7	16.0	16.3	17.4	14.5	3.1	0	0	0
December.	0	0	0	0	0	4.2	8.7	11.6	14.3	14.5	14.1	12.8	7.9	T	0	0	0
	0	0.1	19.3	60.9	111.9	166.1	184.0	199.6	208.0	209.5	198.3	191.2	173.7	130.8	84.9	48.7	9.2

SUMMARY OF SUNSHINE.

BRIGHT SUNSHINE RECORDED.

	1917			Mean from 1882 to 1910.		
	Number of days.	Number of hours	Percentage of sunshine.	Number of days.	Number of hours.	Percentage of sunshine.
January	18	76.2	26	20	77.9	27
February	22	135.1	46	22	108.1	37
March	25	159.2	43	25	150.0	40
April	25	166.2	41	25	190.7	47
May	28	199.7	43	29	218.9	48
June	30	223.7	48	29	260.0	56
July	30	251.9	54	30	282.2	60
August	30	229.4	53	30	252.7	60
September	30	229.8	62	28	207.8	55
October	24	112.0	32	28	149.3	44
November	23	124.9	43	22	85.3	29
December	19	88.1	32	20	65.2	24
Year	304	1996.2	45	308	2048.1	46

No of hours possible 4452.4.

EARTHQUAKE RECORDS BY MILNE SEISMOGRAPH.

P.T.—Preliminary Tremors. S.—Secondary Waves. L.W.—Large Waves. Time is Greenwich Civil Mean Time, and is given in hours, minutes, and decimals of minutes; 0 or 24h—Mid.

REGISTER FROM TORONTO, ONTARIO.

No.	Date 1917.	P.T. Commence		S. Commence		L.W. Commence		Max		End.		Max. Amplitude. MM.	REMARKS.
		H.	M.	H.	M.	H.	M.	H.	M.	H.	M.		
1673	Jan. 20	23	55.7?			0	9.1	0	37.5	1	37.5	0.3	Isle of Bali, Malay Archipelago. Many lives lost.
1674	" 24	.....				0	25.3	1	49.8	2	15.9	0.3
1675	" 26				5	46.7	5	51.5	6	9.5?	0.3	Marked thickenings. Decided marking at 2h 48.3m, whether local or not can't say. 7490 km.
1676	" 30	2	56.6	3	5.5	3	11.9	3	24.2			Over 35.0	
		2	58.8			3	14.0	3	28.3			0.5	} Possibly two separate quakes
		Repeat.				7	50.9	8	1.7	8	27.8	0.5	
1677	" 31				4	40.2			4	49.5	0.05	}
1678	" 31	4	55.6?	5	2.8	5	11.9	5	28.1	6	5.2?	0.3	
1679	Feb. 12				10	2.5	10	14.9	10	50.5?	1.3	P. not well defined.
1680	" 12	.....				11	20.3?			11	31.5	0.05
1681	" 14				5	40.1			6	2.5?	0.1	P. not defined. Very minute waves. Possibly West Indies
1682	" 15	0	59.6	1	8.5	1	26.3	1	44.9	3	22.0?	0.4	
1683	" 20	19	36.0?	19	39.4	19	42.4	19	44.5	21	50.0	Over 25.0	
1684	" 21				10	26.9			10	58.8	0.05	Thickenings at intervals.
1685	" 21	.....				15	10.8			15	19.5	0.1
1686	" 22	.....				9	33.9			10	53.6	0.2
1687	" 25	.....				10	6.7			7	18.7	0.05
1689	Mar 6				3	16.0	3	26.3	4	44.8?	1.2	Gradually increased, L.W. to M.
1690	" 15	0	37.5	0	49.8	3	25.3	1	11.8	2	25.0	0.8	
1691	" 16				10	42.0	10	44.8	10	50.6	0.2	Micros going on.
1692	" 26	.....				14	17.4			14	27.0	0.2
1693	" 29	2	21.0	2	25.7	2	27.4	2	31.3	2	59.6	0.3	
1694	April 3				2	30.3					0.2	Large disturbance, well defined.
1695	" 12	.....				14	14.1	14	17.3			0.05
1696	" 21				4	3.5			4	7.0	0.1	May be part of quake 1701.
		.....				0	46.3?			1	43.0	0.1
					1	7.2					0.05	Marked double maximum.
1697	" 23	.....				1	24.3?			1	47.7	0.05
1698	" 28				16	17.6			16	19.9	0.05	Marked disturbance. Possibly a dual quake.
1699	" 29	.....				12	38.3	12	42.9	13	23.0?	0.3
1700	May 1	18	42.1	18	53.4	19	3.1	19	31.8	0	51.9	over 27	
701	" 2				2	21.6	2	27.9	3	13.2	0.4	Marked disturbance. Possibly a dual quake.
702	" 2	.....				3	31.9?	4	12.4	5	6.4	0.4
703	" 2	.....				5	15.4?	5	29.3	7	19.2?	0.3
					5	26.5					0.05	Marked double maximum.
1704	" 2	.....				8	14.3?			8	18.0	0.05
1705	" 2				15	2.1	15	17.4	15	30.6	0.3	Marked double maximum.
1706	" 3	.....				13	5.0	13	6.3	13	30.4	0.2
1707	" 4	1	35.9?			1	44.3	1	50.1	3	35.1	0.7	Marked disturbance. Possibly a dual quake.
1708	" 6-7	.....				23	52.0	0	6.8	0	42.0	0.3
1709	" 7	.....				9	19.1?			9	24.5	0.05
1710	" 9				16	41.1	17	6.0	18	53.8	1.6	Marked disturbance. Possibly a dual quake.
1711	" 9	.....				20	34.0	20	37.5	A.C.		0.8
1712	" 14	.....				22	35.3?			A.C.		0.2
1713	" 24	.....				20	25.1	20	27.7	20	50.3?	0.1
1714	" 25	.....				14	58.5	15	1.2	15	5.2	0.1
1715	" 29	.....				6	59.8	7	12.5	7	48.2	0.9

No.	Date 1917	P. T.		S.		L. W.		Max.	End	Max. Amplitude.	REMARKS			
		Commence.		Commence.		Commence.								
1716	May 31	8	56.5	9	3.7	9	13.1	9	21.5	12	29.2	4.0	5,550km. Marked record. Alaska	
1717	" 31					19	53.6					0.05		
1718	June 3	19	48.8?			19	59.7	20	4.2	20	17.1	0.3	6,790 km.	
1719	" 4	1	36.6?	1	44.9	1	57.1	2	1.8	3	41.5?	1.9		
1720	" 4					8	30.1	8	31.6	8	35.1	0.2		
1721	" 6					5	1.5	5	8.8	5	35.0	0.2		
1722	" 6	16	35.5?	16	43.1	16	54.2	16	56.8	17	9.8	0.2		
1723	" 7					3	14.6	3	19.0	3	32.0	0.4		
1724	" 8			1	3.0	1	6.0	1	9.8	4	4.6	8.7		P. not recorded. 3792 km. Repeat 3h 17.9m. San Salvador. Paper off at first phases.
1725	" 9					1	7.0							
1726	" 10			4	45.3	4	52.0	4	54.6	5	39.8	1.8	9,400 km. Three maximum.	
1727	" 13	7	0.7?	7	11.2	7	42.0	7	48.3	10	30.3	4.8		
1728	" 16					16	8.7			16	23.9	0.05		
1729	" 16					16	35.1			16	52.1	0.05		
1730	" 22					5	59.0	6	0.4	6	18.9	0.2		
1731	" 24	20	7.3?	20	13.8	20	16.7	20	18.2	22	17.2	0.3	4,780 km. S. well defined. 9,650 km. Duration 4h 47.3m. P. and S. large. Repeat 8h 20.6m	
1732	" 26	6	4.3	6	15.0	6	32.4	6	51.1	10	51.6	20.0?		
1733	" 27					6	42.0						Some phases lost attending instrument. P. not recorded. S. doubtful. P. lost att'g inst.	
1734	" 27	12	39.4	12	43.4	12	46.4	12	48.4	13	47.6	1.4		
1735	" 28					14	48.3					0.4?		
1736	" 29			16	19.4	16	26.0	16	26.7	17	13.0	0.4	P. not recorded. S. doubtful. P. lost att'g inst.	
1737	" 30			18	1.6	18	9.5	18	11.5	19	16.4	0.8		
1738	July 1	13	27.8?	13	34.7?	13	38.8	13	39.1	13	53.2	0.2	Felt at Graham Island, Q.C.I. Distant quake.	
1739	" 4			1	4.5	1	12.1	1	38.3	2	44.2	0.4		
1740	" 4	6	29.4			1	25.2						Dist. quake. P. may be S. waves	
1741	July 9					6	39.8	6	54.0	7	14.5	0.2		
1742	" 11					0	17.8					0.05	Samoa Islands. Repeat 5h 01.6m. [quake. 2990 km. F. merged into another 10740? km. Repeat 4h 54.5m Chile 3810 km.	
1743	" 12					0	55.5					0.3		
1744	" 12					23	34.6	23	43.0	24	5.5	0.3		
1745	" 13	5	27.5?			12	46.1	12	56.5	13	19.1	0.05		
1746	" 15	Earthquake lost when clock stopped				13	57.9	5	35.3	5	42.4	0.05		
1747	" 25	3	24.2	3	35.7	3	47.1	3	51.6	5	18.6	1.8		
1748	" 25	22	42.7	22	52.9?	23	1.7	23	4.4	23	31.4?	0.3		
1749	" 27	1	6.9	1	11.6	1	13.4	1	21.1			9.3		
1750	" 27	3	1.7?	3	13.2	3	25.5	3	48.0	5	36.2	0.8		
1751	" 27	16	20.4	16	26.0	16	28.4	16	28.8	17	14.2	0.3		
1752	" 28					0	40.1			1	6.5	0.05		
1753	" 28					0	47.9			1	57.8	0.2	Possibly two quakes overlapping	
1754	" 29	14	51.9	15	8.6?	15	21.8	15	28.6	16	53.3	1.6		
1755	" 29	14	55.9										Repeat 23h 56.0m.	
1756	" 30	22	11.7?	22	23.6	22	35.6	23	8.8	A.C.		4.3		
1757	" 31					17	31.0					0.05	Strong micros going on. 7380 km? Reported from North Is. N.Z.	
1758	Aug. 5	0	21.1?	0	29.0?	0	41.2	0	58.2	A.C.		0.9		
1759	" 9	3	25.2?	3	34.0	3	45.8	3	46.0	A.C.		0.4		
1760	" 17	16	8.3	16	21.9	16	52.4	17	1.6	Lost.		2.0		
1761	" 21	16	11.3										7260 km? P. doubtful, end merged into next quake.	
1762	" 21					16	29.8			16	54.1	0.05		
1763	" 30					16	32.3	6	0.4	0	38.4	0.2	Dual quake. Repeat 13h 30.2m. 4250 km. S. waves large. Colombia	
1764	" 30					0	4.6							
1765	" 31					11	7.5	11	12.1	11	31.4	0.1		
1766	" 31	22	2.0?	22	10.7	22	21.3	22	23.3	22	41.7	0.2		
1767	" 31	3	33.7	3	38.3	3	41.4	4	2.7			0.2		
1768	" 31	4	21.3	4	32.3	4	40.5	5	37.4	7	7.6	1.3		
1769	" 31	11	44.1	11	50.2	11	59.3	12	5.6	14	19.7	5.3		
1770	" 31					12	3.1							

No.	Date 1917	P.T. Commence.	S. Commence.	L.W. Commence.	Max.	End.	Max. Amplitude.	REMARKS.
1766	Sept. 18	22 4.5?		22 20.8 22 26.1	22 33.8	23 11.9	0.3	P. doubtful.
1767	" 20	.....		3 54.9 3 57.0	4 0.4	5 16.7?	1.2	
1768	" 24	.....		20 34.5 20 35.7				A. C. going on.
1769	Oct. 7	.....		15 26.7? 15 45.2	A. C.	A. C.	0.3?	
1770	" 13	.....		5 0.3		5 6.6	0.05	
1771	" 19	16 39.8 16 42.7	16 46.7 16 49.3	16 51.6	16 57.0	A. C.	1.3	P. and S. very doubtful.
1772	" 20	.....		18 35.6? 18 44.3?			0.2	A. C. going on.
1773	" 22	.....	7 33.2?	7 36.4	7 37.6	8 24.4	0.8	
1774	" 23	.....		8 4.3?			0.05	A. C. going on.
1775	" 28	.....		13 40.6	13 46.6	14 10.5	0.8	
1776	" 28	.....		17 52.2				Phases lost attending instrument
1777	" 29	.....		21 41.5? 21 47.3	21 51.7	22 58.3	0.3	
1778	Nov. 4	.....		13 4.9 13 19.8	13 49.1	14 57.5?	0.3	
1779	" 7	.....		1 49.8	1 51.0	A. C.	0.3	
1780	" 8	.....		6 4.8			0.1	A. C. going on.
1781	" 14	.....		9 51.8 9 57.3	9 58.0	10 31.7	0.3	
1782	" 15	.....		1 58.2	1 58.5		0.2	Doubtful as to being seismic
1783	" 16	3 38.6	3 49.8 3 50.5	4 9.6 4 23.2	4 25.6	7 1.0?	9.2	10.310 km. S. waves well defined
1784	" 16	.....		23 21.2 23 41.3		23 56.9	0.1	(Pillar inclination to Oct. 22nd 1 mm = 0.50')
1785	" 18	.....		3 36.5		3 42.4	0.05	
1786	" 18	.....		4 1.1 4 10.8	4 21.6	5 02.1	0.2	
1787	" 24	.....		12 11.4 12 16.6			0.05	A. C. going on.
1788	" 29	.....		22 56.3? 23 3.9?			0.05	
1789	" 30	.....		18 5.1 18 8.5		18 25.6?	0.05	
1790	Dec 20	.....		2 56.0	2 57.6	3 28.4	0.3	Gradual thickening.
1791	" 21	Attend'g instr'm't		18 10.3 18 18.6	18 24.2	20 5.5?	6.0	Alaska. L. may be S. phases.
1792	" 21	.....	21 9.0	21 16.6	21 22.5		0.8	A. C., P. masked.
1793	" 23	.....		14 38.8		14 42.9	0.05	
1794	" 23	.....		16 6.6		16 9.9	0.05	
1795	" 26	.....		4 46.7 4 47.2	4 48.0	5 19.5	0.5	Guatemala quake.
1796	" 26	.....		5 37.1 5 38.1	5 38.5	5 55.1	0.7	" "
1797	" 26	.....		6 36.5	6 36.8	6 48.2	0.3	" "
1798	" 26	.....		13 55.7 13 59.4	13 59.8	14 17.7	0.2	" "
1799	" 28	.....	21 30.1?	21 38.0 21 41.1	21 44.5	23 43.7	2.3	May be dual earthquake.
1800	" 29	.....		20 27.9 20 29.8	20 30.1	20 49.4	0.3	Thickening.
1801	" 29	22 57.0	23 2.6 23 4.4?	23 9.8	23 15.9	2 3.6	4.1	Guatemala. Disastrous quake.
1802	" 31	.....		16 31.1 16 35.5	16 41.4	16 55.8	0.2	Thickening.

Period of boom 18 seconds. Pillar inclination 1 mm. = 0'45".

Monthly and Annual means of temperature of the air derived from the max. and min.,
1872-1917 inclusive.

YEAR	JAN.	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	Mean Annual Temp.	Difference from Average.
1872	20.8	20.9	21.1	40.7	51.7	62.6	70.1	69.9	59.6	45.6	33.9	17.3	42.8	-1.4
1873	17.0	18.6	26.1	39.4	51.6	63.0	67.8	66.5	56.5	45.6	27.6	28.1	42.3	-1.9
1874	24.1	22.0	29.3	33.4	52.5	62.7	67.0	67.7	61.0	47.0	34.9	25.1	43.9	-0.3
1875	15.5	9.3	23.1	36.5	51.6	61.0	66.5	65.6	55.8	43.4	31.8	26.8	40.6	-3.6
1876	29.7	23.1	26.1	38.7	51.1	65.3	68.5	70.0	57.6	42.5	37.1	17.1	43.9	-0.3
1877	16.3	28.5	25.5	43.5	53.4	62.0	69.9	69.5	61.7	49.7	37.3	34.1	45.9	+1.8
1878	24.0	26.7	37.6	49.2	52.6	62.4	72.2	68.8	61.3	49.2	36.4	24.5	47.1	+2.9
1879	19.5	17.4	28.9	39.4	53.5	61.7	68.7	65.2	55.7	54.7	35.4	26.2	43.9	-0.3
1880	32.7	22.4	28.9	41.4	58.2	65.5	67.4	66.5	60.3	45.0	29.9	21.1	44.9	+0.8
1881	15.8	19.1	30.1	39.6	58.0	59.3	70.5	69.9	68.0	49.5	37.0	33.7	45.9	+1.7
1882	22.9	30.3	31.8	40.2	48.9	61.4	66.9	67.6	61.5	51.6	35.5	25.4	46.2	+2.0
1883	17.2	19.4	21.5	38.2	49.2	61.9	65.3	63.5	54.5	44.9	37.1	25.8	41.5	-2.7
1884	15.4	23.2	27.8	40.8	50.9	64.7	64.0	65.3	61.6	48.3	33.9	25.2	43.4	-0.8
1885	17.2	10.6	18.1	37.2	51.8	59.9	67.7	63.1	56.8	45.6	38.2	27.5	41.1	-3.1
1886	18.7	18.2	29.9	44.9	53.0	61.1	66.2	65.6	58.8	48.3	35.5	20.8	43.4	-0.8
1887	17.6	21.4	24.8	39.4	58.3	63.4	73.1	66.2	56.5	43.8	34.8	27.8	43.9	-0.3
1888	14.7	21.4	22.3	39.2	50.9	64.4	66.2	66.3	56.6	43.2	37.6	29.4	42.7	-1.5
1889	27.6	17.0	32.9	43.3	53.9	60.3	69.1	65.8	60.1	42.7	38.6	34.2	45.5	+1.3
1890	29.6	27.6	27.8	42.2	50.0	65.7	67.6	64.5	57.6	48.5	37.0	22.5	45.1	+0.9
1891	23.4	27.8	28.7	43.4	51.5	64.4	64.1	66.1	63.0	47.6	36.6	33.5	45.8	+1.7
1892	19.4	24.3	27.9	41.4	52.3	65.5	68.2	67.6	60.1	47.7	35.1	25.7	44.6	+0.4
1893	14.0	18.5	28.9	39.7	51.9	66.7	68.3	66.7	57.4	48.6	37.3	23.6	43.5	-0.7
1894	28.3	20.2	35.7	44.4	52.4	66.6	69.1	65.6	62.6	50.3	34.1	31.4	46.7	+2.5
1895	21.1	16.4	24.1	43.4	55.4	67.8	66.3	65.9	60.7	43.1	36.9	29.6	44.2	+0.0
1896	21.6	22.1	23.3	46.4	60.2	64.6	69.3	67.6	57.4	44.9	39.7	27.6	45.4	+1.2
1897	22.9	24.9	31.5	42.9	52.5	61.4	72.5	65.4	61.3	50.9	38.6	28.0	45.9	+1.7
1898	25.2	24.5	37.1	43.8	55.8	65.9	71.2	70.4	64.0	50.5	35.6	26.5	47.5	+3.4
*1899	23.0	19.3	28.3	44.8	55.3	65.3	68.7	69.8	57.2	50.7	40.4	28.7	46.9	+1.5
1900	25.9	20.0	23.4	45.4	55.2	65.1	69.1	72.5	64.3	56.2	38.5	29.0	47.1	+1.5
1901	23.6	16.6	29.9	46.3	54.4	65.5	73.1	69.3	61.9	48.7	34.4	26.6	45.9	+1.5
1902	23.0	21.1	37.2	44.0	53.4	60.0	68.9	65.5	60.3	48.7	42.9	24.4	45.8	+1.5
1903	23.1	25.7	39.6	43.9	55.9	61.8	69.1	63.7	61.0	50.8	35.0	22.9	46.0	+1.5
1904	16.0	13.3	28.7	39.2	55.7	63.1	67.5	64.8	58.7	46.0	35.9	22.3	42.6	+1.5
1905	17.9	16.5	30.6	42.2	52.7	63.6	69.7	67.5	62.3	48.8	36.9	31.3	45.0	+1.5
1906	31.0	22.3	27.0	44.7	54.2	65.6	70.1	71.8	64.8	49.1	37.4	23.3	46.8	+1.5
+1907	22.1	18.5	33.8	38.4	48.1	63.8	69.3	65.3	61.7	45.0	36.9	29.5	44.4	+1.5
1908	24.3	19.3	31.4	41.8	56.2	66.2	70.7	66.9	63.7	51.4	39.6	29.1	46.7	+1.5
1909	26.4	26.7	29.9	40.9	53.7	65.5	67.7	69.1	60.3	46.2	40.6	25.9	46.1	+1.5
1910	25.5	21.0	38.8	46.8	52.5	64.7	71.1	67.6	59.9	51.2	36.0	21.1	46.4	+1.5
1911	25.9	25.5	30.1	43.3	61.2	65.6	71.6	69.2	60.5	49.5	35.9	33.9	47.7	+1.5
1912	13.9	19.0	25.7	41.8	55.3	62.2	69.6	63.9	62.7	50.6	40.4	32.6	44.8	+1.5
1913	31.3	20.4	33.3	46.3	54.3	64.8	70.2	68.7	58.4	51.6	42.2	33.4	47.9	+1.5
1914	25.6	15.5	30.7	41.5	58.6	64.4	70.4	68.1	61.0	52.8	38.1	25.7	46.0	+1.5
1915	23.6	26.0	29.9	49.8	52.1	62.2	68.4	66.3	63.3	51.9	40.7	27.6	46.8	+1.5
1916	30.1	18.9	25.4	44.4	54.3	60.2	76.0	72.0	61.2	49.6	37.6	26.9	46.4	+1.5
1917	22.6	17.2	32.1	41.1	49.3	60.8	70.5	67.7	58.6	44.6	34.4	19.6	43.2	+1.5
MEANS														
1872-98	21.19	21.33	27.81	41.21	53.00	63.38	68.29	66.77	59.56	47.13	35.66	26.61	44.36	
1840-98	21.85	22.47	28.69	41.17	52.40	62.35	67.83	66.34	58.79	46.55	35.96	26.19	44.19	
1899-06	22.94	19.35	30.59	43.81	54.60	63.75	69.58	68.11	61.31	49.85	37.65	26.06	45.63	
1907-17	24.66	20.73	31.01	43.28	54.15	63.67	70.50	67.71	61.03	49.49	38.40	27.75	46.03	
1881-08**	21.81	21.04	29.08	42.06	53.42	63.96	68.88	66.85	60.48	48.10	37.14	27.59	45.03	

*Thermometer placed in West Shelter and observations taken at Standard time.

†Stevenson Shed adopted.

**Mean from 24 hourly readings Thermograph Shed.

MAGNETIC SUMMARY FOR 1917

Toronto (Agincourt) Observatory. Latitude 43° 47' N. Longitude 79° 16' W.
 Mean values are from hourly measures of the photographic D, H and Z curves. H and Z are given in
 C. G. S. units.

1917	MEANS.							EXTREMES.						
	D. West		H.		Z		I	D West		H		Z		
	Mean	Daily range	Mean	Daily range	Mean	Daily range	Mean	Max.	Min.	Max.	Min.	Max.	Min.	
January	6 35.5	9.0	.15960	.00049	.58508	.00016	74	44.5	7 16.0	5 52.5	.16325	.15778	.58744	.58432
February	35.4	9.7	.15963	36	.58496		8	44.2	6 53.6	6 04.6	.16007	.15855	.58560	.58455
March	35.6	14.1	.15961	50	.58486		8	44.1	6 53.7	6 04.3	.16005	.15841	.58514	.58447
April	35.9	13.0	.15961	50	.58462		15	43.8	7 01.3	6 06.4	.16051	.15748	.58528	.58290
May	35.7	14.1	.15963	51	.58448		20	43.4	7 05.5	6 08.5	.16109	.15811	.58543	.58319
June	34.9	15.8	.15963	59	.58436		21	43.3	7 18.1	5 11.6	.16121	.15780	.58548	.58342
July	35.4	14.5	.15956	52	.58422		26	43.5	6 59.2	6 12.2	.16053	.15803	.58596	.58298
August	36.6	17.1	.15932	97	.58441		51	45.0	8 48.7	5 26.2	.16416	.15428	.58753	.57517
September	36.5	15.0	.15939	64	.58426		25	44.4	7 12.8	6 11.8	.16088	.15740	.58600	.58173
October	37.0	10.6	.15934	43	.58411		23	44.5	7 24.5	5 52.5	.16051	.15615	.58554	.58238
		8.8	.15937	41	.58422		9	44.5	7 00.6	6 15.8	.15990	.15807	.58473	.58341
		7.2	.15936	38	.58433		19	44.7	7 17.9	5 46.2	.16167	.15647	.58645	.58207

Phenological Observations, 1917.

PLANTS AND BIRDS, WHEN FIRST SEEN.

Alder, Shedding pollen...	April 4	Robins.....	Mar. 21
Hepatica (flowering)...	April 22	Meadow Larks.....	Mar. 24
Marsh Marigold " ..	May 14	Blue Birds.....	Mar. 25
Dutchman's Pipe " ..	May 14	Flickers or Golden Wood-	
Dogwood " ..	May 19	peckers.....	Apr. 17
Trailing Arbutus " ..	Apr. 28	Song Sparrows.....	April 23
Dandelion, " ..	May 6	Swallows.....	April 30
Violet, Blue " ...	May 14	Juncoes.....	April 23
Violet, White " ..	May 14	Orioles	May 16
Columbine " ..	June 4	King Birds	June 1
Trees, green " ..	May 25	Humming Birds	May 27
Red Clover, " ..	June 25	Grackles	Mar. 29
Wild Raspberry " ..	June 20	Plover	Mar. 30
White Clover " ...	June 20	Brown Thrasher.....	April 30
Cultivat'd Currant " ..	May 18	Chipping Sparrow.....	May 1
Wild Rose, " ..	June 25	Warblers.....	May 1
Trillium, " ..	May 15	Night Hawks	May 3
Anemone. "	May 14	Frogs Piping	Mar. 3
Maple, " ..	April 7	Frost out of ground....	April 1
Strawberry Wild " ..	May 14	Lakes open.....	Mar. 2
Strawberry Wild, Ripe	June 25	Rivers open	Mar, 1
Lilac. (flowering) ..	June 8	Ploughing	April
Apple, " ..	June 1	Sowing.....	April ?
Crocus, cultivat'd " ..	April 9	Hay Cutting	July 1
Plum " " ..	May 31	Grain Cutting	Aug.
Cherry, " " ..	May 28	Potato Planting	May
Cherry, wild, " ..	May 28		
Buttercup, " ..	May 31		
Blue eyed Grass, " ..	June 24		
Golden Rod, " ..	Aug. 4		

Harbor Notes.

The following table gives the dates on which the ice formed
and left Toronto harbor for the past thirty years.

(This table has been kindly furnished by the Toronto Harbor Master.)

Winter	Frozen over	Clear of ice	No. of days
1887-88	December 24th	April 11th	109
1888-89	" 20th	March 15th	85
1889-90	March 1st	" 15th	14
1890-91	January 4th	" 20th	75
1891-92	" 5th	" 31st	86
1892-93	December 22nd	April 7th	106
1893-94	" 30th	March 11th	71
1894-95	" 23rd	April 7th	105
1895-96	" 9th	March 28th	110
1896-97	" 22nd	" 11th	79
1897-98	" 24th	" 16th	82
1898-99	" 13th	April 8th	116
1899-00	" 28th	" 8th	101
1900-01	" 14th	" 6th	113
1901-02	" 6th	March 20th	104
1902-03	" 15th	" 15th	90
1903-04	" 14th	April 22nd	130
1904-05	" 11th	" 5th	115
1905-06	January 8th	" 1st	83
1906-07	December 8th	March 28th	110
1907-08	January 28th	" 29th	61
1908-09	" 7th	" 31st	83
1909-10	December 29th	" 20th	81
1910-11	" 10th	" 31st	111
1911-12	January 6th	April 16th	101
1912-13	" 9th	March 20th	70
1913-14	" 14th	April 2nd	78
1914-15	December 15th	" 2nd	108
1915-16	" 27th	" 3rd	98
1916-17	" 11th	March 28th	107
Longest time frozen, 1831-32		Nov. 10th to Apr. 15th,	162 days
Shortest " " 1889-90		March 1st to 15th.	14 "