

# MEAN METEOROLOGICAL RESULTS AT TORONTO, DURING THE YEAR 1855.

BY PROFESSOR KINGSTON, M.A.

DIRECTOR OF THE PROVINCIAL MAGNETIC OBSERVATORY, TORONTO.

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The mean temperature of the year 1855 was 43°·98, or 0°·29, below the average of 16 years. This was caused by the great and continued depression in February, for which there was no adequate compensation during the rest of the year, notwithstanding that the mean temperature of every month was above the average, with the exception of February, March, June and August.

The hottest month in the year was July, and the coldest February. The climatic difference was 62°·5, which is 8°·8, above the average, and 1°·1, greater than in the preceding year.

The mean temperature of February was 15°·4, which is the lowest monthly temperature on record, except that of February 1843, when the temperature of the month was 14°·5.

The lowest temperature ever recorded, -25°·4, occurred on February 6th. The lowest that ever occurred before having been on January 17, 1840, when it fell to -18°·4.

The hottest day was July 10th, with a mean temperature 79°·45; and the coldest day February 6th, when the mean temperature of the day was -14°·38. It is to be noticed that the coldest day, February 6th, was also the day in which the lowest temperature occurred. The mean temperature of the day was nearly 10° lower than that of any day ever before experienced at the Observatory.

The greatest daily range was 39°·4, and occurred on May 24th. The range of the whole year from -25°·4, on February 6th, to 92°·8, on July 19th, was 118°·2; the greatest yearly range that occurred in past years having been 111°·3, in 1846.

There have been 42 instances in which the temperatures at the hours of observation have deviated more than 20° from the normal march of temperature, the most extreme instances being at 8 A.M. on February 6th, when the temperature was 45°·7, below the normal, and at 6 A.M. on January, when the temperature was 23°·7, above it.

The most remarkable periods of continued deviation are as follows:

February 3—9	when the mean deviation was	.....	-23°·1,
February 23—24	.....	.....	-20°·6,
February 26—28	.....	.....	-19°·3,
December 26—29	.....	.....	-14°·4,

The thermic anomalies, as given in the table, would make it appear that the mean temperature of every month was below that proper to the latitude of Toronto; but as the depression is, to the extent of 1°, due to the elevation of Toronto above the sea level, the temperature of each month should

be increased by 1°. Even with this modification the temperature of every month was below that dependent on geographical position excepting the temperature of July, which was, however, only 0°·25 in excess.

The highest reading of the barometer was 30°·552 in., at 6 A.M. of January 8th, and the lowest 28°·459 inches, at 2 P.M. of December 9th, giving a range 2°·093 inches, the greatest range on record. The minimum just given, 28°·459 inches, is the lowest ever registered at the Observatory.

The mean humidity of the year was 77; the greatest monthly humidity 82, having been that of January, and the least 65 that of May. Complete saturation occurred five times, viz.—on February 13th, at midnight; March 15th, at 6 A.M.; June 10th, at 6 A.M.; September 21st, at midnight; and November 17th, at 10 P.M. There were besides, five instances in which the humidity fell short one per cent. only of complete saturation—on January 12th, at 10 P.M.; February 13th, at 10 P.M.; February 14th, at 6 A.M.; March 13th, at midnight; and November 12th, at 10 P.M. The lowest humidity 19 was on April 27th, at 2 P.M.

The extent of sky clouded was on an average three-fifths of the whole; and for nine months the sky was on an average more than half overcast. Clouds were most prevalent in January and least so in August.

The mean direction of the wind has been W 28°N, with a mean velocity of 8·1 miles per hour, a velocity one-third greater than that of any other former year. This excess of mean velocity, when compared with that of former years is to be noticed, not only with respect to the year taken as a whole, but to each month also taken separately.

The depth of rain has been 31°·650 inches, which is 286 more than the average. By adding 9·9 inches, the equivalent corresponding to the 99 inches of snow that has fallen, we obtain a total fall of 41°·55 inches. The greatest quantity of rain fell in September, and the least in February. The rain was distributed over 103 days, and the snow over 64, so that there have been 198 days without either rain or snow.

Frost occurred in every month but July; the latest in spring having been on June 12th, and the earliest in autumn on August 16th. The last snow in spring was on May 8th, at noon; and the first snow in autumn on October 13th, at 8 A.M. The Indian Summer, which was not well marked, occurred from October 16th to October 26th. Toronto Bay was clear of ice on April 16th, and again crossed on foot on the 21st December.

There have been 38 thunder-storms in the year. Of these none occurred in January, February, March, November or December; 13 occurred in July; 12 were distributed through April, May, and June; 13 through August, September and October. The most violent were those of April 18th, May 15th, June 21st, July 12th, 13th, and 27th, August 16th and 31st, and September 1st, 9th, 7th, and 25th.

On 204 nights the atmosphere has been suitable for the display of any aurora which might have existed; and on 46 of them auroras have been actually seen. The most remarkable were those of August 23d and October 4th. That of October 4th was accompanied by considerable magnetic disturbance.