Comparing these figures with those derived from 25 years at four other stations, we see that the climate of Toronto as regards its annual mean is remarkably uniform.

	Toronto.	New Bedford, Mass.	Philadelphia.	New York.	Greenwich.
Average deviation, disregarding sign..........	0·62	0·78	0·85	1·00	1·06
Greatest Excess.............	2·18	1·20	1·40	3·40	2·40
Greatest Defect.............	2·00	2·80	4·40	3·80	2·20
Sum of Excess and Defect....	4·18	4·00	5·80	7·20	4·90

Annual Variation.

A comparison of table V. and VI. with VII. and VIII. will show that Isle Jesus is nearly 3° colder than Toronto, on the average of the year; that in its warmest month (July) it is more than 2° warmer, and in its coldest month (January) 12° colder than Toronto. The differences between the warmest and coldest months, or the mean annual ranges are 58°·67 at Isle Jesus and 44°·44 at Toronto.

Progressive Changes in the Annual Distribution of Temperature at Toronto.

According to the investigations of General Sabine, in the paper to which reference has already been made, the coldest day in the year (disregarding accidental irregularities) was February 14 (temp. 23°·4), and the warmest day July 28 (temp. 66°·9). The twelve years from January, 1841, to December, 1852, on which his conclusions were based gave a decided excess in the temperature of January over that of February. This also accords with the remarks of Dove, who represents the isothermals of January in North America as moving southwards in February.

An investigation similar to that of General Sabine, derived from the ten years 1859 to 1868, shows that the coldest day is January 6 (mean temp. 21°·2), and the warmest day July 22 (mean temp. 68°·5).

The progressive change in the occurrence of the lowest temperature will appear by comparing the means of January and February in groups of five years.

1841—45 Jan. warmer than Feb. by.. 2°·6   1856—60 Jan. colder than Feb. by 0°·3
46—50 .... 2°·6   61—65 .... 1°·5
61—55 .... 0°·9   66—69 .... 2°·1

The fact that January has latterly been colder than February is corroborated by the testimony of other stations.

At Isle Jesus 1853—62 January was colder than February by 3°·4
Quebec........60—67 .... 3°·6
St. John's N.B.61—68 .... 3°·6

And the difference is the same way at all the grammar school stations in Ontario.

If the quarterly means at Toronto in groups of several years be compared it will be seen that at Toronto the winters and springs are becoming colder and the summers and autumns warmer.

	Winter.	Spring.	Summer.	Autumn.
1841—50	25°·1	41°·0	64°·7	46°·4
61—68	23°·4	40°·3	65°·6	47°·4

Variability of Temperature at Toronto.

The *probable variability* of the annual mean temperature derived from 23 years is 0°·61; in other words the annual mean of a single year is as likely to differ from the annual normal mean by 0°·61 and *more* as it is to differ less than that amount.

The average probable variability of single monthly means is 1°·97; but the variabilities are greater in winter than in summer: for example, the variability is 3°·10 in January and 1°·14 in August. The quarterly averages are as follows:—

Winter.	Spring.	Summer.	Autumn.
2°·8	2°·0	1°·5	1°·6

The quarterly and annual averages of the probable variabilities of the *daily mean temperatures* from twelve years are:—

Winter.	Spring.	Summer.	Autumn.	Year.
6°·3	4°·6	3°·5	4°·2	4°·6

A rough measure of the variability of single observed temperatures is given by the average difference, without regard to sign, between the *actual* and the *normal* temperatures. The results given below for the four quarters and year, show that in winter the disturbances of temperature are nearly twice as great as in summer.

Winter.	Spring.	Summer.	Autumn.	Year.
9°·1	6°·1	5°·0	5°·8	6°·5

It has been also found that there is a diurnal period in the extent of temperature disturbances, the nature of which is modified by the seasons, and which may be briefly described by stating that the warm hours are more largely disturbed in the warm months and the cold hours in the cold months.

A rough measure of the rapidity with which changes of temperature occur is given by the average difference between the temperatures observed on consecutive days at the same hour, allowance being made for the change due to annual variation.

The following are the quarterly and annual averages:—

Winter.	Spring.	Summer.	Autumn.	Year.
7°·2	5°·7	5°·2	5°·2	5°·8