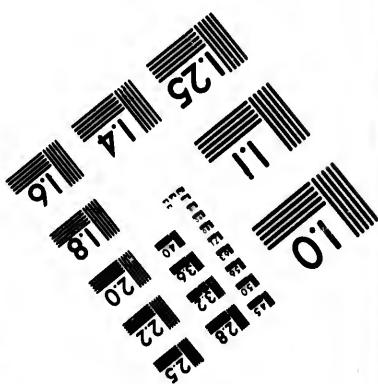
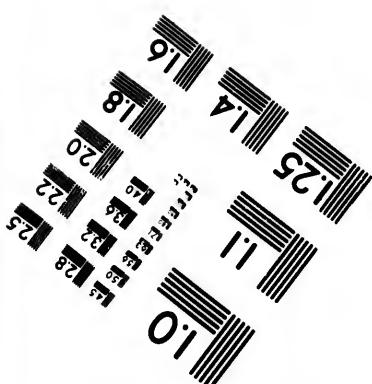
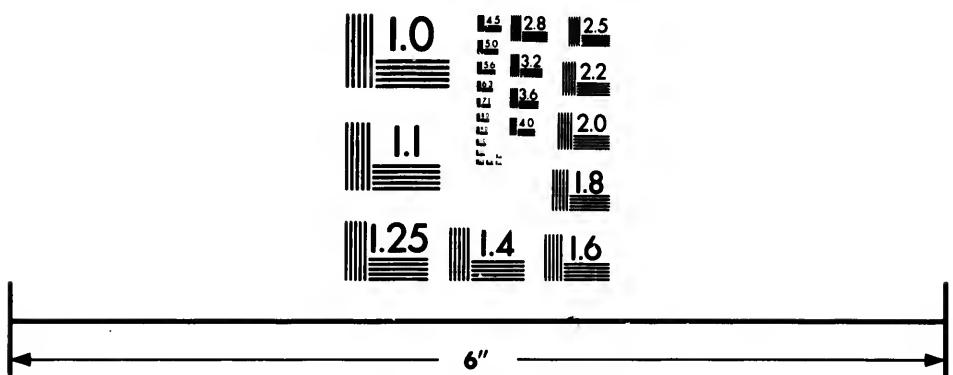


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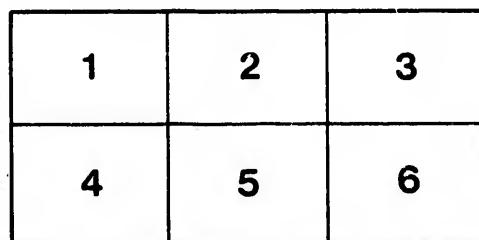
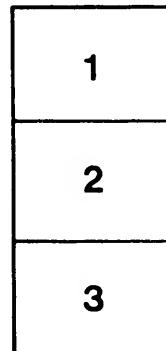
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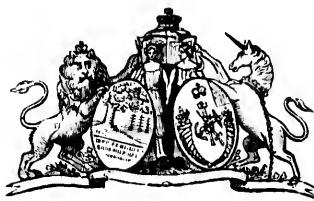
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MADE AT THE

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CANADA WEST,

DURING THE YEARS 1854 TO 1859, INCLUSIVE.



TORONTO:  
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## INTRODUCTION.

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The Toronto Magnetic and Meteorological Observatory is situated in the grounds of the University of Toronto, in Latitude  $43^{\circ} 39'.4$  N., Longitude\*  $5^{\circ} 17' 39''$  W., 108 feet above Lake Ontario, and approximately 342 feet above the level of the sea.

The early history of the Observatory, including the circumstances which led to its establishment by the British Government in 1839-40, are given in detail in the introduction to the 1st Volume of the Observations, published under the superintendence of General Sabine, R. A., which, together with the 2nd and 3rd volumes, contain the magnetical and meteorological observations, from 1840 to 1848 inclusive.

The operations of the Observatory as an imperial establishment were brought to a close in the early part of the year 1853. The magnetical observations, which had ceased preparatory to the removal of the instruments, were resumed under the authority of the Provincial Government in July of the same year, while the meteorological observations were continued without intermission. The non-commissioned officers of the Royal Artillery, Messrs. Walker, Menzies and Stewart, who had acted as observers under Captain Lefroy, R. A., and other officers of the Royal Artillery, were permitted by the indulgence of the Military authorities to continue in the same capacity till they became permanently attached to the Observatory on their retirement from the army in 1855.† The general supervision was committed to the Professor of Natural Philosophy‡ in University College, Toronto, till the appointment of the present director, G. T. Kingston, M.A. in August, 1855.

In the Autumn of 1853 a new building was commenced, to take the place of the old Observatory. The principal part of the present structure is in form rectangular, about 54 feet from North to South, in the direction of the magnetic meridian, 44 feet from East to West, and 16 feet in height, exclusive of the roof. Its western portion is occupied by the entrance, the two offices, and the dark room, which communicate towards the east with the principal room containing the magnetical differential instruments, mounted on their original stone pedestals, which latter, during the progress of the work, were boxed over for protection.

In the north-west corner, and included in the same horizontal dimensions, is a square tower, side 16 feet and height 43 feet, including a balustrade  $2\frac{1}{2}$  feet high.

\* Determined by electric telegraph with Boston in January, 1857. It accords with the result of chronometric comparison with Boston in 1840, see *Toronto Observations*, p. 17, Vol. I. The heights 108 feet and 342 feet refer to the level of the mercury in the cistern of the barometer.

† The staff of observers was increased in January, 1857, by the appointment of Mr. W. F. Davidson.

‡ J. B. Cherriman, M.A., late Fellow of St. John's College, Cambridge.

The whole of the main building, together with the tower, are of stone, whose freedom from magnetism had been carefully ascertained, prior to its employment in the construction. The nails and other fastenings are either copper or zinc.

From the southern face of the chief room extends a passage  $4\frac{1}{2}$  feet wide, which communicates at its southern extremity with a room 20 feet by 18, appropriated to the observations of absolute magnetic intensity. On the east and west of the passage, and communicating with it by a second transverse passage, are two small rooms, the former for observing transits, and the latter for the observations of absolute declination. The three rooms with their connecting passages form a cross 72 feet from north to south, 73 feet from east to west, and  $8\frac{1}{2}$  feet in height. The extreme length of the whole building is thus 126 feet, and its greatest width 73 feet.

The three small rooms are built of stone, the passages being of lath and plaster on stone foundations. These buildings, which were the first erected, were used as offices during the demolition of the old observatory and the erection of the large room and tower, which latter work was commenced in June, 1854 and completed in June 1855.

The meteorological observations for the years 1854 to 1859, the results of which are given in this volume, were made with the following instruments:—

The Standard Barometer, by Newman, is described on page lxxiii. of the 1st volume of the Toronto observations. The interior diameter of the tube is 0.6 inches. In conformity with the practice in the preceding observations, the corrections for capillarity amounting only to .002 inches, have not been applied.

The Standard Thermometer is the instrument described on pp. xvii. and xviii. of the 2nd volume of the Toronto observations. It is by Fastré of Paris, and is graduated *& l'échelle arbitraire*.

All the observations on the temperature of the air were made by this thermometer, excepting when the temperature fell lower than the limits of the scale, (about  $-8^{\circ}$ ) when the thermometer employed was one supplied from the Kew Observatory.

The wet bulb thermometer is also by Fastré, and is graduated according to an arbitrary scale.

The position occupied by the thermometers till June 24, 1854, was on the outside and near the middle of the north wall of the principal room in the old building. They were protected above by a double projecting roof, and on the east and west and north by double venetian shutters descending to about 4 feet from the ground. The thermometers were attached to horizontal strips of wood extending east and west, and were read from an aperture in the wall made for that purpose, and fitted with a shutter and sliding window. The bulbs, which were perfectly free, were about  $4\frac{1}{2}$  feet from the ground.

On June 24, 1854, the thermometer shed was removed from the wall, and placed against the south fence of the Observatory enclosure. The thermometers remained under the shed in this position till the completion of the new Observatory. On June 15, 1855, at 3 p.m., they were moved to the new thermometer shed on the outside of the north wall of the tower. The projecting roof above, and Venetian or rather Louvre shutters of the new shed are single and painted white, instead of being double and green as in the old shed.

The interior length of the new shed, from east to west, is  $13\frac{1}{2}$  feet, the distance of the northern shutter from the northern wall of the Observatory 5 feet, and the height, exclusive of the slope of the

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roof, 9½ feet. The shutters extend down to a distance of 2 feet from the ground. The thermometers are attached to horizontal strips of wood extending east and west, their bulbs, which are perfectly free, being 4½ feet from the ground, and 14 inches from the inside of the shutters. The shed is entered by a door communicating with the interior of the building, but the thermometers can also be read through a window by the aid of a telescope.

The self-registering thermometers, for recording the extremes of temperature in the shade, are attached to the same horizontal strip of wood with the standard and wet bulb thermometers.

The anemometer (Robinson's) prior to June 1854, was mounted over a temporary shed attached to the N. W. corner of the old Observatory. The floor of this shed, its roof and the horizontal plane in which the cups revolved were respectively 6 feet, 12 feet and 20 feet above the floor of the Observatory.

On June 26th, 1854, the anemometer was moved to the top of a conical wooden tower standing at a distance of about 20 feet N.W. from the N.W. corner of the main building. This tower, originally built for Osler's anemometer, was about 30 feet in height. The anemometer continued in operation in this latter position from June 28th, 1854, till June 4th, 1855, when it was mounted on the tower of the new Observatory. The centres of the cups in the present position of the anemometer revolve in a horizontal plane 4½ feet above the balustrade. The clockwork and pipes for recording the direction and velocity of the wind are supported by a platform immediately under the dark roof of the tower.

The Rain Gauge in use is simply a rectangular vessel with an aperture of 10 inches by 20 inches, placed 7 feet above the ground, and communicating by a pipe with a receiver beneath. The volume of water received is measured by a glass graduated to one-eighth inches and parts of an inch.

The frame supporting the rain gauge stands in the enclosure surrounding the Observatory, and at a distance from other objects sufficient to secure it from the effect of eddy winds.

The barometer, standard thermometer and wet bulb thermometer were read six times each day, namely, at 6 A.M., 8 A.M., 2 P.M., 4 P.M., 10 P.M., and midnight, excepting on Sundays, Christmas Day, and Good Friday, when these instruments were read at 6 A.M. and 2 P.M. only. These latter readings, though recorded in the daily registers, are not included in the hourly means for those hours. From the temperature of the air and of evaporation, the pressure of vapour and the relative humidity were deduced by hygrometric tables. Prior to the 1st January, 1858, Kupffer's hygrometric tables were in use, but after that date the tables employed were those calculated by Professor Collin, of Lafayette College, Pennsylvania, from the more recent experiments of Regnault.

The differences between the barometric pressure and the pressure of vapour were recorded at each observation, in conformity with ordinary usage, as the *Pressure of Dry Air*.

At the same six observation hours, a record was also made of the direction and velocity of the wind, with the general appearance of the sky, including the class, distribution, and motions of the clouds.

The meteorological day having been regarded since the establishment of the Observatory as beginning at 6 A.M., local civil time of the day of date, the custom was introduced in January, 1856, of reading and setting both the maximum and minimum self-registering thermometers at 6 A.M., terminating the day of date, with the view of ascertaining the highest and lowest temperatures that occurred within each successive space of twenty-four hours.

## INTRODUCTION.

As the reading the minimum thermometer at 6 A.M., from the proximity of that hour to the time of minimum temperature, necessarily led to the loss of many of the true minima, and to the record as such of other lower temperatures which were in fact not true minima; and since the aggregate of the temperatures recorded as minima was consequently lower than the aggregate of the true minima, the hour of reading the minimum thermometer was changed, January 1, 1858, from 6 A.M. to 2 P.M., the temperature being recorded as the minimum of the day that included the hour of reading. By thus reading the minimum thermometer at an hour near to the ordinary time of maximum, no minimum could be lost, excepting when the temperature at 2 P.M. was lower than any that had occurred during the previous twenty-four hours. The maximum thermometer continued to be read as before, at 6 A.M., the temperature that it indicated being recorded as the maximum of the twenty-four hours just terminated.

From Robinson's Anemometer a record was made of the general direction of the wind during each hour of every day (Sundays and other holidays *included*), and the mean velocity or number of miles travelled by the wind during the same hour, the space of each hour being designated by the hour with which it commenced. For each of the six observation hours, the instantaneous direction and approximate velocity at the hour was also recorded, such velocity being the number of miles travelled by the wind during the half hour preceding and the half hour following the hour of observation.

The resultant direction and resultant velocity for any day or other group of consecutive hours, or for a group consisting of like hours on different days, were calculated from the directions and velocities in the several hours composing the group by the formulae

$$\tan \bar{\theta} = \frac{\sum (V \sin \theta)}{\sum (V \cos \theta)}; \bar{V} = \frac{\sum (V \cos \theta)}{n \cos \bar{\theta}}$$

Where  $\theta$  represents the angular distance to the right of north of the point from which the wind blew during the hour,  $V$  the corresponding velocity,  $\bar{\theta}$  and  $\bar{V}$  the values of  $\theta$  and  $V$  corresponding to the resultant, and  $n$  the number of hours in the group under consideration.

The depth of the rain or snow recorded as having fallen during any day was measured at 9 A.M. of the following day, prior to January 1, 1856; but after that date the time was changed to 6 A.M., the termination of the meteorological day as regards the other elements.

In the general monthly abstracts in pp. 2 to 73, the numbers given in the six columns headed "*daily means*" are the daily averages of the observations made at the six observation hours, and are uncorrected for diurnal variation. The resultant directions and velocities and the mean velocities of the wind are derived from the twenty-four hourly directions and velocities.

The numbers at the bases of the columns of daily means, as well as those of the mean velocity of the wind, and of the extremes of temperature, are the averages of the numbers under which they stand, Sundays being excluded only in the first six columns. Under the columns containing the daily resultant directions and resultant velocities of the wind are entered the monthly resultant directions and velocities; and under the columns for the rain and snow are entered the sums of the numbers which those columns respectively contain. In the rain or snow columns, the occurrence of a star (\*) indicates that the amount was inappreciable, or the duration less than half an hour. Where rain and melted snow are combined, ten inches of snow are reckoned as equivalent to one inch of rain.

## REMARKS ON THE TABLES.

The normals to which reference is made in the temperature tables (Tables I. to XVIII.) are the normal temperatures proper to Toronto in its actual circumstances, and not those proper to the parallel of latitude on which Toronto stands. They have been deduced from the table of twenty-four-hour daily means (*a*) given by General Sabine in his paper on "the periodic and non-periodic variations of temperature at Toronto," by applying the diurnal variations (*b*) contained (though with contrary signs) in a table given in the same paper.

The normals thus computed have been tabulated, and are kept as standards to which the actual temperatures are referred; the abnormal variations, with their proper signs, being entered in the daily register side by side with each observed temperature.

Table I. gives the monthly means of the temperature of the air at each of the six observation hours in the years 1854 to 1859 inclusive. The numbers in the last column on the right are the means of the numbers in the six preceding columns, and are uncorrected for diurnal variation.

The final columns for the several months in Table I. are exhibited at one view in Table II., which contains the monthly and annual means of temperature, furnished by six daily observations, in each of the years 1854 to 1859 inclusive, as well as for the period consisting of the same six years.

In Table III. the monthly means of temperature given by Table II. are compared with the corresponding normal means, namely, those derived from the normals proper to the six observation hours. It will be seen that on the average of the six years the temperatures have been in excess of the normals in the summer and autumn months, and in defect throughout the winter and spring, the mean of the whole year being  $0^{\circ}.36$  in defect.

The numbers at the foot of each of the several monthly parts of Table I. are collected in Table IV. which shews, on the average of the six years, 1854 to 1859, the monthly means of temperature for each month, at each of the six observation hours.

In Table V. the hourly means in Table IV. are compared with the corresponding normals.

The extent of the oscillations of temperature above and below the normals proper to the day and hour are shewn by Table VI. which contains the average abnormal variations or digressions of temperature, without regard to sign, for every month and for the mean of the twelve months in each of the six years of observation. From the final column we learn, that taking one month with another, the temperature on the average of the whole series made oscillations to the extent of  $6^{\circ}.7$  above or below the normal proper to the time of observation, and that their mean amplitudes in different years never differed by more than  $0^{\circ}.5$  from the average ( $6^{\circ}.7$ ). The progression from month to month in the monthly mean digressions is not perfectly continuous, but the general character of the annual period is shewn by the quarterly averages of the six-year means at the foot of the table, which are  $6^{\circ}.2$  in spring,  $5^{\circ}.2$  in summer,  $5^{\circ}.9$  in autumn, and  $9^{\circ}.4$  in winter.

In Table VII. a comparison is made for each month between the abnormal digressions of temperature, without regard to sign, at each of the six observation hours.

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(*a*) Philosophical Transactions for 1853, pp. 154-159.  
 (*b*) " " " pp. 145, 146.

If the annual means alone be regarded, there is nothing to warrant the belief that one hour is, to any great extent, more subject than another to thermic disturbances; but if the numbers in the columns for 10h., 12h., 18h. and 20h. be compared with those for 2h. and 4h., it will be seen that in the six winter months (October to March) the former group are in nearly every case, number for number, greater than the latter group, and that exactly the reverse takes place in the other six months. The winter half-yearly means are in every case greater, and the summer half-yearly means less at each of the hours, 10h., 12h., 18h. and 20h. than at 2h. and 4h.. The half-yearly means for the two groups, each taken collectively, are as follows:

$$\begin{array}{lllll} \text{At } 10\text{h., 12h., 18h. and 20h., winter half-year, } & 8^{\circ}.25 : \text{summer, } & 5^{\circ}.13 ; \\ \text{“ } 2\text{h. and 4h., “ “ } & 7^{\circ}.18 ; & “ & 5^{\circ}.90 ; \end{array}$$

From this it appears that in the winter half-year there is on the average a greater steadiness of temperature at 2h. and at 4h. than at the other observation hours, and also that this is reversed in the summer half-year, the greater steadiness of the temperature being then at the hours of the night and morning.

The mean abnormal digressions, while they shew the *extent* of the temperature oscillations, do not afford any measure of their *duration*, nor do they indicate whether the temperature passes gradually or suddenly from one abnormal condition to another.

The rate per day at which the temperature changes, irrespective of diurnal and annual variation, will be found by taking the algebraical differences between the abnormal digressions at the same hour of consecutive days. These differences being taken for 2 p.m., their monthly averages without regard to sign have been collected in Table VIII. From inspecting the table it will be seen that one day with another through the year, the average difference in the temperature at 2 p.m. on consecutive days was  $5^{\circ}.83$ ; the maximum  $7^{\circ}.38$  occurring in January, and the minimum  $4^{\circ}.73$  in August; while the quarterly means were  $7^{\circ}.17$  for winter,  $5^{\circ}.70$  for spring,  $5^{\circ}.24$  for summer, and  $5^{\circ}.21$  for autumn.\*

The ratios at the foot of the table, which express the means of each month in terms of the mean for the year, exhibit the comparative changeableness of temperature in the different months.

In Table VIII. no distinction is made between the increasing and the decreasing changes of temperature, and it does not appear whether the changes of one sign are numerous and of small magnitude and those of the opposite sign few and abrupt, or whether the changes in either direction are on the average equal in number and magnitude. These points are considered in Table IX. The numbers in the first line are each obtained by dividing 100 times the number of all the *increasing* changes that occurred in the group of months of the same name by the *total* number of changes in the same group of months. The numbers in the third line are the quotients arising from the division of the *sum* of all the increasing changes in the group of months of the same name by the *number* of increasing changes. The numbers in the fifth line are derived in an analogous manner. It appears from the table that in eight months in the year there is a preponderance in the number of increasing changes of temperature, the mean percentage in the year being 54, that the average value of an increasing change is  $5^{\circ}.14$ , and

\* The differences were subsequently taken between the temperatures at 6 A.M. on consecutive days, for the purpose of forming Tables XIV. to XVI., in which the differences are connected with the daily resultant winds. The quarterly and annual means thence derived are  $5^{\circ}.11$  for the winter,  $5^{\circ}.21$  for the spring,  $5^{\circ}.99$  for the summer,  $6^{\circ}.75$  for the autumn, and  $6^{\circ}.25$  for the year.

The fact stated with reference to Table VII., namely, that the temperature at 2 p.m. is systematically more irregular in summer and less irregular in winter than at 6 A.M., will explain why the summer mean is less and the winter mean greater when the differences are taken between 6 A.M. That the annual mean is also greater in the latter case is owing to the circumstance that the temperature at 6 A.M. is more irregular on the average of the year than at 2 p.m.

of a decreasing change  $6^{\circ}.34$ . For the different seasons the average percentage of the numbers of increasing changes of temperature, and the average values\* of the changes are as follows:

	Percentage.	Average Increase.	Average Decrease.
Winter.....	51	$6.95$	$7.49$
Spring.....	55	$5.16$	$6.38$
Summer.....	55	$4.73$	$5.87$
Autumn.....	54	$4.92$	$5.61$

Hence it appears that the descending changes of temperature are systematically more sudden at all seasons than the ascending changes.

In Table X. the abnormal variations of the temperature with their proper signs are arranged according to the different directions of the wind at the six ordinary hours of observation. Regarding each point in the table as including an angular space of  $11^{\circ} 15'$  on each side of it, it appears that the temperature was above or below the normal at the time of observation, according as the wind blew from a point lying to the south or to the north of a line drawn from N.E. by E. to S.W. by W. The greatest depression of temperature  $3^{\circ}.58$ , accompanied a wind from N.N.W., and the greatest elevation  $3^{\circ}.61$  occurred with a S.S.W. wind, giving a range of  $7^{\circ}.19$ .

In Table X. the dependence of the actual temperature on the actual direction of the wind is considered, but no regard has been had to the duration of the wind in its actual direction, cases being embraced in which the wind had just begun to blow from a given direction, as well as those in which it was about to shift. If it be admitted that in the long run the epoch of observation may be considered as occurring at the middle of the space of time in which the proposed wind was blowing, the mean observed effect on the temperature, corresponding to a given direction, will be a combination of the effect due to the actual wind during half the time of its action, and that due to the preceding winds. To escape from the difficulty which these considerations involve, instead of employing as a standard of reference the normal temperature of the day and hour, which includes the joint effect of all the winds, it would seem better to refer the actual temperature to that which existed when the actual wind began to blow. Where hourly observations both of temperature and of wind are recorded, the question might be investigated, though with some labour, as to the rate of change per hour in the temperature effected by a given wind; but in the absence of hourly observations of temperature, the effect of a certain wind may be approximately known by arranging the changes of temperature after consecutive intervals of twenty-four hours, according to the resultant direction of the wind during the interval. The resultant direction of the wind having been computed at Toronto for every day, commencing and ending at 6 A.M., at which hour the temperature is recorded every day, Sunday included, the differences between the temperatures at 6 A.M. on consecutive days throughout the series 1854 to 1859 have been arranged in separate months, and in eight groups corresponding to the eight principal points of the compass, each difference or change of temperature being placed in the group most nearly corresponding to the resultant direction of the wind during the day in which the change occurred. The algebraical sum of the changes of temperature that accompanied a given resultant wind during a group of months of the same name, being divided by the number of times that this resultant wind occurred in the same month, the quotient will be the number in Table XI. corresponding to that month and wind.

\* The quarterly averages are found independently of the separate months, by dividing the quarterly sums of the increasing or decreasing changes by the corresponding numbers.

In tracing the connection between a change in the value of any meteorological element and the direction of the wind during the interval of time in which the change occurred, the practice of referring the change to the *resultant* wind is admissible, provided that the direction undergoes no great change during the interval; but if the change of the wind's direction be great, the resultant computed in the ordinary way, although geometrically equivalent to the several component winds, in the direction with which they reach the anemometer, may possibly be far from equivalent in physical effect, and should it be from a direction for which the resultants are comparatively few, errors may thus be introduced sufficient possibly to disguise the true character of the relation sought, unless the errors be subdivided and thus rendered inappreciable by the combination of a series of sufficient length. From these considerations, the results arrived at, where the series, as in the present instance, comprises only six years, will possibly demand modification when combined with the observations of future years, and particularly with regard to the conclusions relative to single months.

It will be seen on examining Table XI. that in every month with a resultant wind from N., N.W. and W. the temperature was lowered; in every month with a resultant wind from S.W., S., S.E. and E. the temperature was raised; and that with a resultant wind from N.E. the temperature was raised in some months and depressed in others, the collective effect in the whole year being a rise of temperature with a resultant wind from the N.E. Taking the average of the year, with the wind from any point between N.E. through East and South to S.W. inclusive the temperature was raised, and with the wind from any point between West and North both inclusive the temperature was lowered. The S.E. wind accompanied the greatest rise, and the N.W. wind the greatest depression, the opposite effects being nearly equal, and the range  $9^{\circ}.1$ .

The greatest ascent of temperature occurred with the S.E. wind in seven months; but in January, March, July, November and December, a south wind corresponded to the greatest rise. The greatest depression of temperature occurred with a N.W. wind in all months but March, when the most cold producing wind was from the west, and August and October, when the North wind accompanied the greatest depression.

Table XII. gives for each resultant direction—for each month and for each year, the number of days that an increase of temperature occurred out of a hundred days, in which the resultant wind was from the same direction in the same month.

Cases of a rise of temperature exceed the number of falls with the resultant wind from N.E., E., S.E., S., and S.W., in all months, with three exceptions for N.E. and one exception for each of the points East, South and S.W.

The temperature fell more frequently than it rose in all months with the resultant wind from W., N.W. and N. Taking the year round, the number of cases in which the temperature rose exceeded those in which it fell, with the wind from N.E., E., S.E., S., and S.W., the mean percentage being 69, while with the wind from W., N.W., and N. the number of increasing changes fell short of the depressions, the mean percentage being 34.

In Table XIII. we have for each month and for the year the relative *amount* of the ascending change of temperature with each wind, as compared with the whole amount of ascending and descending changes with the same wind.

In Table XIV. are given, for each month and for the year, the means (without regard to sign) of the changes of temperature in twenty-four hours that accompany different resultant winds. The

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In Table XV, the effects of different winds in the same month are compared by aid of the ratios of the numbers in table XIV, to the arithmetic means over which they severally stand. For the most part the South wind would seem to be most productive of change in the colder months, and the N.W. wind in the summer months, while for the whole year the effects of the cold winds seem to be greater, and those of the warm winds less than the average effect of all winds.

In Table XVI, the effects of the same wind in different months are compared. It has been already seen from Table VIII, that the average change of temperature in twenty-four hours, irrespective of the direction of the wind, is least in the warmer months and greatest in the colder months. Table XVI, shews that this holds also for each wind taken separately, the greatest contrasts between the effects in cold and hot months being those presented by the north and south winds, the effect produced by the north winds in January being more than four times its effect in July, and the effect of the south wind in January and December being at least five times that produced in June.†

Table XVII, gives the monthly means of the daily maxima, minima, and ranges of temperature, and Table XVIII, the absolute maxima, minima, and ranges for each month and for the year, in each of the years 1854 to 1859, and on the average of the six years.

#### BAROMETRIC TABLES.

The means or approximate normals employed as standards of comparison in the barometric tables (Tables XIX. to XXXV. inclusive), are the hourly means in each month, derived from the observations of seven years for the first nine months, and from the observations of six years for the rest of the year.

Table XIX. gives the monthly means of the height of the barometer, corrected to temp. 32° Fahrenheit, at each of the six observation hours in the years 1854 to 1859. The numbers in the last column are simply the monthly six-hour means, or the means of the numbers in the six preceding columns.

The final columns for the several months in Table XIX. are exhibited in one view in Table XX, which contains the monthly and annual means of barometric pressure furnished by six daily observations in each of the years 1854 to 1859, as well as for the period consisting of the same six years.

In Table XXI, the monthly means of the barometer given by Table XX, are compared with the corresponding approximate normal means.

The numbers at the foot of each of the several monthly parts of Table XIX. are collected in Table XXII, which shews, on the average of the six years, the monthly means of barometric pressure, for each month, at each of the six observation hours.

\* These means are of course not the same as those from which the quarterly averages are derived, that are given in the foot note to the remarks on Table VIII.

† Tables XIV. to XVI. were formed for the purpose of tracing the connection (should such connection exist) between the resultant directions of the wind and the monthly movements generally, without reference to the directions or signs of those movements. As the computations were made, the tables have been given, though the results do not indicate anything very definite. A combination with a few additional years, might possibly lead to more satisfactory conclusions.

In Table XXIII. the hourly means in Table XXII. are compared with the corresponding assumed normals.

Table XXIV. is designed to shew the monthly averages of the extent of the barometric abnormal oscillations. The numbers whose averages are tabulated are the differences between the actual heights of the barometer and the assumed normal heights proper to the month and hour.

The annual distribution of these mean abnormal variations of the barometer resembles in its general character the corresponding distribution in the abnormal variations of temperature. The maximum is 0.219 in January, the minimum 0.119 in August, and the mean 0.183. The quarterly means of the abnormal digressions are 0.230 for the winter, 0.190 for the spring, 0.122 for the summer, and 0.191 for the autumn.

Table XXV. shews the distribution of the abnormal variations of the barometer at the different hours. The diurnal progression, unlike that shewn in the corresponding table for temperature, is well marked on the average of the twelve months. The greatest digression, which took place at 8 A.M. on the average of the year, maintained the same hour in every month but February and December. The minimum digression occurred on the average of the year at 10 P.M., and at either 10 P.M. or midnight in every month but November, when it took place at 4 P.M.

The numbers in Table XXVI. are obtained by dividing the monthly sums of the differences between the corrected readings of the barometer at 2 P.M. on consecutive days by the number of the days in the month. The average change in the whole year was 0.195, the maximum, 0.232, being in December, and the minimum, 0.123, in July; while the quarterly means were 0.267 for winter, 0.210 for spring, 0.125 for summer, and 0.182 for autumn.\* The ratios at the foot of the table exhibit the relative rate of the diurnal change in the barometer in the different months.

From Table XXVII. it is seen that on the whole the barometric pressure passed from one condition to another by gradations, of which those in which the pressure increased are nearly equal in number and in magnitude to those in which the pressure diminished, the average magnitudes of the ascending and descending changes being respectively 0.194 and 0.197.

Table XXVIII. gives the mean abnormal variations of the barometer, with their proper signs, arranged according to the actual direction of the wind at the six ordinary observation hours. According to the table the barometer was above the normal when the wind was blowing from any point between east and south, both inclusive, and below the normal with the wind from any point between S.S.W. through west to N.W.

The change in the state of the barometer dependent on the direction of the wind has been sought by a method similar to that employed in the temperature tables, namely, by collecting in Table XIX. the monthly and yearly means of the differences between the corrected readings of the barometer at 6 A.M. of consecutive days, arranged according to the resultant direction of the wind.

From this table we learn that the barometer rose during the twenty-four hours when the resultant wind was from West, N.W. and North, in all months; that it fell with a wind from N.E., E., S.E. and S. in all months, and that with a wind from S.W. it rose in some months and fell in others. Taking

\* The quarterly means given in the text are nearly identical with those obtained from the differences taken between 6 A.M. and 6 A.M. on consecutive days, namely, 0.269 for winter, 0.211 for spring, 0.121 for summer, 0.189 for autumn, and 0.198 for the whole year. In connection with this subject, it may be noticed that the annual mean abnormal variations given in Table XXV. for 6 A.M. and 2 P.M. are nearly identical.

the year collectively, the barometer rose with a wind from W., N.W., and N., and fell with a wind from N.E., E., S.E., S., and S.W.

From Table XXX. it appears that a rise of the barometer was more frequent than a fall in all months with a resultant wind from W., N.W., and N., that a fall was more frequent than a rise in all months with a wind from E., S.E., and S., and that with a wind from N.E. and S.W. the number of ascents of the barometer exceeded the number of descents in some months and fell short of it in others, the number of months in which the number of descents preponderated being greater in both cases than the number of months in which the number of ascents preponderated. Taking the year collectively the barometer rose more frequently than it fell with a resultant wind from W., N.W., and N., and it fell more frequently than it rose with a resultant wind from N.E., E., S.E., S., and S.W., the mean percentage in the number of ascents being 78 for the first group of winds and 27 for the latter group.

In Table XXXI. a comparison is made between the *amounts* of the ascending and of the descending changes of the barometric pressure corresponding to the different resultant winds. The joint amount of the change of both signs for each wind and month being represented by 100, the number in this table will of course exceed or fall short of 50, according as the signs in Table XXIX. are positive or negative.\*

Table XXXII. gives for each month and for the year the mean changes in the height of the barometer, irrespective of sign, between 6 A.M. and 6 A.M. on consecutive days, arranged according to the resultant direction of the wind.

In Table XXXIII. the relative influence of each of the several winds is compared for each month separately, as well as for the year, by expressing the numbers in Table XXXII. in terms of the monthly and annual arithmetic means for all winds. Taking the year collectively, it will be found that the N.W., S.E. and E. winds were most productive of barometric change, and that the least change accompanied the South wind. The greatest change corresponded to the N.W. wind in May, June, July, and October, and to either the E. or S.E. winds in the other months. The least change corresponded to either the South or S.W. winds in seven months, and to other winds in the remaining five months.

In Table XXXIV. a comparison is made of the relative influence of the same wind in different months, by expressing the twelve monthly numbers for each wind in Table XXXII. in terms of the arithmetic means of the same monthly numbers. The table shews that for each wind separately, as well as for all winds collectively, (as shewn by Table XXVI.) the minimum change of barometric pressure in twenty-four hours took place in one of the cold months, occurring in January for four directions in December for two directions, in February for one, and in March for one. For each wind also, the minimum change of barometer occurred in June or July, excepting that the minimum for the N.E. wind was approximately the same in October as it was in July. †

Table XXXV. gives the highest and lowest readings of the barometer recorded each month in the several years 1854 to 1859, and their differences or the monthly ranges. The final column in the table of ranges gives the difference between the highest and lowest readings in each year. On the average of the six years, the greatest monthly range occurred in December and the least in July. The mean monthly range for all months was 1.035, being 0.793 for the six months, April to September, and 1.277 for the remaining six months.

\* In January and August, although the number of ascending changes that accompanied a S.E. wind were respectively .20 and .08 of the number of all the changes in these months for the S.E. wind, the amounts of increasing changes were in each case less than .006 of the whole change, and are therefore represented as (0) in Table XXXI.

† See note to remarks on Tables XIV. to XVI.

The monthly and annual means at each observation hour for the separate years, 1854 to 1859, and for the period embracing these years, are given in Tables XXXVI. to XLVII., inclusive, for the following elements, namely, pressure of dry air, pressure of vapour, relative humidity and extent of sky clouded.

From Table XLVI. it appears that 0.59 was the average amount of cloudiness in the year, December and August being, respectively, the most cloudy and the least cloudy months.

Table XLVII. shews that, among the six observation hours, 2 p.m., on the average of the year, was the most cloudy hour, and midnight the hour most free from clouds.

In Table XLVIII. the numbers expressing the extent of sky clouded are classified according to the sixteen principal directions of the wind. If the sixteen points be arranged in four groups, each embracing four contiguous points, and the mean cloudiness for each point be treated as though it were of equal weight, it appears that the means of cloudiness during winds from directions included within the four quadrants, with their respective differences from the general mean, 0.59, were as follows :

Centres of groups, N.E.b.E.	S.E.b S.	S.W.b.W.	N.W.b.N.
0.72	0.54	0.61	0.51
+0.13	-0.05	+0.02	-0.08

From this we gather that the sky was most cloudy on the average during winds from N.E.b.E., and most clear with winds from N.W.b.N., and that there was a second maximum for winds from S.W.b.W. and a second minimum for winds from S.E.b S.

In forming Tables XLIX. and L., that give a comparative view of the annual and diurnal variations of certain meteorological elements, as derived from the series 1842-48, and from the series 1854-59, the monthly and annual means of temperature as given by six daily observations have been reduced to the twenty-four-hour means by applying corrections derived from the table on pp. exxi-vii. of the introduction to the second volume of the Toronto observations. The independence of the annual variations of temperature for 1854-59 will therefore be affected to the extent of the differences between the monthly and annual values of these correction-differences which in no case exceed 0°.11.

The independence of the diurnal variations of temperature for 1854-59 will be affected by the annual mean value of the correction, a quantity amounting only to 0°.02.

#### RESULTANT DIRECTIONS OF THE WIND IN THE DIFFERENT MONTHS.

The comparison of the monthly resultants derived from the period 1854 to 1859, and given in Table LI., shews that the general direction of the atmospheric current is considerably more from the westward in the winter than in the summer months, the monthly resultants oscillating about N. 43° W. from April to September, inclusive, and about N. 72° W. during the remaining six months.

There is a much nearer approach to uniformity of direction in the different years for some months than for others; thus taking the angular difference between a monthly partial resultant on a particular year, and the corresponding monthly resultant for the six years, as a rough measure of the irregularity of the partial resultant, it is found that the averages of these differences are 7° for January, and about 75° for June and July. The quarterly averages of the differences are, for winter (commencing December 1st) 20°, for summer 53°, for spring 29°, and for autumn 27°; their half-yearly averages being 46° from April to September, and 19° during the rest of the year.

**RESULTANT VELOCITIES AND M. V VELOCITIES IN THE DIFFERENT MONTHS.**

The resultant velocities and mean velocities have each their maximum in March and their minimum in July. The change from month to month is regular in both, with the exception of a small interruption of continuity in August and another in December.

**RESULTANT DIRECTIONS OF THE WIND IN THE DIFFERENT HOURS.**

Confining our attention in the first instance to the annual resultants given in Table LII, we find that during the hour commencing noon the resultant wind is from N.  $103^{\circ}$  W., its extreme distance left of North. From this point at which the wind is nearly steady during the three hours commencing at noon, it draws round towards the north regularly and continuously till it makes its nearest approach to the North (N.  $39^{\circ}$  W.) at 5 A.M. About this point it remains nearly steady from midnight to 7 A.M. and then rapidly recedes again to the westward.

The extreme recession of the resultant direction from the north takes place during the first three hours after noon in all months excepting November, when it occurs between 11 A.M. and noon, and in December, when it is between 3 P.M. and 5 P.M. It occurs in May between 1 P.M. and 2 P.M., but in a contrary direction to that of all other months, being  $108^{\circ}$  to the east of north.

The hours of nearest approach to the north are not so well marked, and are included within wider limits. In most months they are found between midnight and sunrise, but in May, June, and November, they occur in the early part of the night. The angular diurnal range in the direction of the resultant is  $180^{\circ}$  in July (its maximum), and  $15^{\circ}$  in November (its minimum). The quarterly averages of the diurnal ranges are  $25^{\circ}$  from December to February,  $85^{\circ}$  from March to May,  $152^{\circ}$  from June to August, and  $65^{\circ}$  from September to November. The half yearly averages are  $135^{\circ}$  from April to September, and  $29^{\circ}$  from October to March.

**MEAN RESULTANT VELOCITIES OF WIND IN THE DIFFERENT HOURS.**

By Table LIII, it is seen that the maximum resultant velocity for the whole year occurs during the hour commencing 1 P.M., and the minimum during the two hours between 4 A.M. and 6 A.M.; the progression being continuous from the maximum to the minimum and to the maximum again, if the second place of decimals be disregarded.

The maximum takes place in one of the three hours commencing noon in every month but April and May, when it is found in the hours commencing respectively at 9 P.M. and 7 A.M. The hours of minimum are not well marked; and in July, August, and September there is a double progression.

**MEAN VELOCITY OF THE WIND IN THE DIFFERENT HOURS.**

On the average of the year as shewn in Table LIV, the maximum velocity is from 1 P.M. to 2 P.M. and the minimum from 1 A.M. to 2 A.M. The maximum occurs in every month during one of the four hours commencing noon, and the minimum in most months within three hours of midnight, a prominent exception being December, when the minimum is at 7 A.M.

**MEAN VELOCITIES OF THE WIND IN DIFFERENT DIRECTIONS.**

From Table LV., which includes only winds at the six observation hours, we learn that the wind has a maximum velocity of 10.90 miles per hour when it blows from N.W., and a minimum velocity

of 5·22 miles per hour when it blows from S.E. There is an interruption to the continuity of the progression amounting to a second minimum at about N.N.E., and a second maximum at about E.N.E.

## ANNUAL DISTRIBUTION OF THE DIFFERENT WINDS WITH RESPECT TO DURATION.

The results given in Table LI. to LIV. depend on the *velocities* as well as on the *durations* of the different winds, and as the average velocities in some directions are much greater than in others, these tables convey but indirect information us to the comparative prevalence of the different winds with respect to their duration. Tables LVI. to LIX., which are given to supply this want, were computed in the following manner:—From the monthly abstracts which give the direction of the wind during each hour of each day, tables were formed for each month in the seven years 1853 to 1859, containing the number of times during like hours that the wind blew from the sixteen principal points, as well as the number of absolute calms in each group of like hours. By combining these tables the two following auxillary tables were then prepared.

Table A giving the absolute duration in hours of the different winds and of the calms for the several months, each month embracing the observations of seven years.

Table B. giving the absolute duration of the different winds and calms for each of the twenty-four hours, each hour including all the winds recorded for that hour in the seven years.

Table LVI is derived from table (A) by expressing the absolute durations of each wind in each month and in the year, in terms of the monthly and annual mean durations for all winds. It is designed to give, for each month separately, and for the year collectively, a comparative view of the durations of the different winds.

It appears from this table that winds from between S.S.W., through West to North, have a more than average duration as compared with other winds, taking the whole year collectively: but it is only those from N.N.W. that have a duration exceeding the average in each separate month.

Winds from E.N.E. and E. are above the average on the whole year as well as in each separate month, but December, January, February, and August. The North wind is above the average on the whole year and is above the average in some months and below it in others, but without any perceptible annual period.

The South wind is below the average on the whole year collectively, and in each separate month but May, June, July, and August.

The wind of maximum duration for the whole year collectively is N.N.W., and the wind of minimum duration S.E., with a second maximum at East and a second minimum at N.N.E.

The principal maximum is found at some point between W.S.W. and N.N.W. in seven months; but in April, May, and June, East winds are the most frequent, and in July and September the most frequent wind is from S.S.W.

The wind of least duration is from S.E., S.S.E. or South in seven months; but in May, July, August and September† the least frequent wind is from W.S.W., and in June it is from N.N.E.

\* The space of the hour has been always designated by the point of time with which it commences, thus, the winds for noon are those between noon and 1 P.M.

† In September the duration of the E.S.E. wind is nearly identical with that of the W.S.W. wind.

In Table LVII. the durations of the same wind in different months are compared. As the months are of different lengths, instead of comparing the absolute durations, which for the longer months would be unduly great, this table is obtained by expressing the numbers of table LVI. in terms of the annual arithmetic means for the several winds.

The change in duration from month to month, exhibited by this table, is for most winds very irregular, the only instance of a distinct period being in the case of the South wind, which decreases in duration regularly from its maximum in June to its minimum in December; the maximum being to the minimum nearly in the ratio of 8 to 1.

If  $N_3$  be taken to denote the ratio which the duration of the winds, from the three points N.N.W., North, and N.N.E. in the six winter months (October to March), bears to the duration of the winds from the same points in the summer half year, and  $N_7$  the corresponding ratio when the winds from North are associated with those from the three points on either side of it, from W.N.W. to E.N.E.; the ratio for the analogous combinations about the three other cardinal points being represented by  $S_3$ ,  $S_7$ ,  $E_3$ ,  $E_7$ ,  $W_3$ ,  $W_7$ ; it will be found that

$$\begin{aligned}N_3 &= 0.91; \quad S_3 = 0.49; \quad E_3 = 0.65; \quad W_3 = 2.24 \\N_7 &= 1.01; \quad S_7 = 0.91; \quad E_7 = 0.70; \quad W_7 = 1.39\end{aligned}$$

Again if the durations of the winds in the Northern and in the Western groups be compared with those of the groups diametrically opposite, and  $\left(\frac{N}{S}\right)_3$  be employed to denote the ratio whose first term is the duration of the winds from the three points about North, the ratios between other groups being expressed in an analogous manner; we have

$$\text{In Winter } \left(\frac{N}{S}\right)_3 = 1.94; \quad \left(\frac{N}{S}\right)_7 = 1.36; \quad \left(\frac{W}{E}\right)_3 = 2.18; \quad \left(\frac{W}{E}\right)_7 = 2.25.$$

$$\text{In Summer} \dots \dots = 1.04; \quad \dots \dots = 1.22; \quad \dots \dots = 0.63; \quad \dots \dots = 1.13$$

$$\text{Year} \dots \dots = 1.34 \quad \dots \dots = 1.30 \quad \dots \dots = 1.25 \quad \dots \dots = 1.59$$

#### DIURNAL DISTRIBUTION OF THE DIFFERENT WINDS WITH RESPECT TO DURATION.

The comparative duration, for each hour, of the sixteen winds and the calms are obtained by dividing the absolute duration of each wind in the hour by the average duration of all winds, including calms, in the same hour. From Table LVIII., in which the results are given, the following facts may be gathered.

- I. The durations of the winds from W.S.W. to N.N.W. inclusive, for each hour separately as well as for all hours collectively, are above the average duration of all winds.
- II. The durations of winds from E. and E.N.E., taking the twenty-four hours collectively, are above the average; and one or other or both of these winds are above the average at all hours, excepting from 2 A.M. to 3 A.M.
- III. The durations of the North winds are above the average for the whole day collectively and have a marked diurnal period, their duration being above the average duration of all winds from 9 P.M. to 9 A.M., and below the average from 9 A.M. to 9 P.M.
- IV. The South winds have a duration less than the average, taking one hour with another, and they also have a diurnal period, their durations being above the average duration of all winds from 10 A.M. to 6 P.M., and below the average during the rest of the twenty-four hours.

The principal maximum occurs with the wind from S.S.W. from 11 A.M. to 4 P.M., that is to say, during a portion of the time when the duration of the South wind is above the average, and it occurs with the N.N.W. and North wind mostly at the hours when the duration of the North wind is above the average; a second maximum vibrating from East to E.N.E. during the whole of the day and night. From 9 A.M. to 11 A.M. and from 4 P.M. to 7 P.M., namely, when the North and South winds respectively are near their average as compared with other winds, and when the winds in the N.W. quadrant are more equally distributed among its several points, the easterly or second maximum surpasses in value the westerly or principal maximum.

The character of the diurnal periodicity of the different winds is better seen by Table LX., in which the duration of each wind at each hour is expressed in terms of the average duration of that wind in the twenty-four hours.

If the columns corresponding to the four cardinal points be examined, it is found that the West wind during the night is mostly above the twenty-four-hour average, and below the average during several hours of the day; but the range is small, the maximum being to the minimum in the ratio of 1.36 to 1.

The East wind from 8 A.M. to 9 P.M. is above the average of twenty-four hours for that wind, and is below the average from 9 P.M. to 8 A.M.; its diurnal range, or the ratio of the maximum to the minimum being 2.40 to 1.

The North wind is above the average from 10 P.M. to 9 A.M., and below the average from 9 P.M. to 10 P.M., the range being 3.44 to 1.

The South wind is above the average from 10 A.M. to 7 P.M., and below it from 7 P.M. to 10 A.M., and its range is 4.82 to 1.

Calms occur eight times as often between midnight and 1 A.M. as they do between 1 P.M. and 2 P.M. The hours of maximum and minimum frequency of calms are very nearly the same as the hours of minimum and maximum mean velocity, a correspondence, which, as appears from Table LVII., does not hold in the case of the *annual* distribution of calms.

#### RAIN AND SNOW.

The approximate durations of rain and snow forming parts of Tables LX., LXI., and LXII. are found by the addition of the durations in hours recorded on each day from *estimation*. The numbers given are probably not far from the truth, but must not be regarded as strictly accurate.

The monthly average number of days in which rain fell, as given by the six years terminating with 1859, are month for month, with one exception, either equal to or greater than the corresponding monthly averages for the series of 15 years terminating also with 1859, the excess on the whole year being 12 days in favour of the shorter series. The same remark applies, and without any exception, to the monthly averages of the number of days of snow as well as to those of rain and snow, where the two are regarded indiscriminately; the number of days of either rain or snow for the whole year, given in the shorter series, being 24 days in excess of the number given by the series of 15 years.

With respect to the *quantity* of rain the case is reversed, the average annual depth in the six-years series being less than that in the fifteen-years series by about 0.6 of an inch, but this deficiency in the

amount of rain is in part made up by a greater amount of snow; so that in combining together the rain and snow, the average amount generally of aqueous precipitation in the year differs only by little more than a tenth of an inch in the two series; and this difference would disappear if eight inches of snow instead of ten inches were taken as equivalent to one inch of water.

## RELATION BETWEEN RAIN AND SNOW AND THE DIRECTION OF THE WIND.

As no instrument was in use during the years 1853 to 1859 for recording the hours in which rain fell, an attempt has been made to trace the connection between the fall of rain and the direction of the wind by means of the ratios which express the duration of each wind, on the days in any part of which rain fell, in terms of the whole duration of the same wind during the same series of years. The method employed will be understood by referring to Table LXIII.

Column (1) contains the number of hours that each wind blew during the days on which rain fell, in the years 1853 to 1859. Column (2) contains the corresponding numbers for snow, and column (3) the numbers for rain or snow. The latter are not accurately the sums of the numbers in columns (1) and (2) from the fact that when both rain and snow fell on the same day, the duration of each wind on that day is reckoned twice, namely, in both of the columns (1) and (2), whereas it is reckoned once only in column (3).

If each wind blew an equal number of hours through the year, the numbers in column (1) or rather the ratios that they severally bear to their mean for all winds, would exhibit the comparative frequency of the different winds during rainy days; but as the numbers of hours during which the different winds blew were not equal, it is necessary that the numbers in column (1) should be divided by the numbers in column (4) that express the *whole* duration of the corresponding wind during the years 1853 to 1859. From the quotients, which are given in column (5), we learn that of 1000 hours in which the wind blew from E.N.E. as many as 515 hours were comprised in days during some part of which rain fell, but that of 1000 hours of North wind, only 248 hours belonged to days of rain.

Similarly from column (6), 330 hours in 1000 hours of West winds, and only 86 hours in 1000 hours of South winds were included in days in which snow fell; also from column (7), 637 hours in 1000 hours of winds from E.N.E., and 112 hours in 1000 hours of South winds were included in days in which a fall occurred of either rain or snow.

Column (8) contains the numbers in (5) expressed in terms of their arithmetic mean for all winds, and columns (9) and (10) are derived in a similar manner from columns (6) and (7).

From column (9) it appears that during days of rain, winds from N.E. through South to S.W. are above or not below the average duration of all winds, and that winds from N.N.E. through North to W.S.W. are below the same average; also, that the most rainy wind is from E.N.E. and the winds for which rain is most rare are from North and N.N.W.

In the case of the snow the winds whose durations are above the average of all winds are from N.E. through North and West to W.S.W., and the winds that have a less than average duration are from E.N.E. through South to S.S.W., the greatest number of winds relatively that occurred during days of snow being from the West with a second maximum at N.E., and the least number being from South and S.S.W.

The two sets of ratios in (8) and (9) produce by their superposition a double progression in column

(10), the chief maximum being at E.N.E., with a second maximum at West ; the winds that are least frequently accompanied by rain or snow being those from the north and south points.

During the years 1857 to 1859 a record was made each day of the *hours* during any part of which rain or snow was seen to fall, or was believed to have fallen, from the best evidence that could be procured at the time when the entries were made. The want of any suitable instrument during that period precluded any more certain mode of procuring the requisite facts ; but although the entries do not claim the same confidence as those made at the observation hours, or by self-registering instruments, it is believed that they furnish very fair data for determining approximately the relative frequency of the winds that blew during the same hours with rain or snow.

The distribution of the winds that blew during the same hours with rain or snow is given in Table LXIV.

Column (1) gives the number of hours during any part of which rain fell during the years 1857 to 1859, arranged according to the direction of the wind during the same hour. Column (2) gives the corresponding numbers for snow ; and column (3) those for rain or snow. For a reason already explained, the numbers in (3) are frequently less than the sum of those in (1) and (2).

Column (4) contains the whole number of hours that each wind blew during the years 1857 to 1859. The quotients arising from the division of the numbers in (1) by those in (4), and which are contained in column (5), are measures of the frequency of rain for each wind. Thus, it rained during some part of each of 219 hours out of 1000 hours in which the wind was from E.N.E., and 39 hours only out of 1000 hours of N.W. wind.

Similarly from column (6), derived in a like manner from (2) and (4), it is seen that snow was falling during part of each of 140 hours in 1000 hours of N.E. wind, and only 18 hours in 1000 hours of South wind.

Column (7) shews that of 1000 hours of E.N.E. winds (and the same is true for N.N.E. winds), it rained or snowed during parts of each of 282 hours, whereas it rained or snowed only 84 hours in 1000 hours of N.W. wind.

Columns (8), (9) and (10) give the ratios of the numbers in (5), (6) and (7) to their respective means for all winds.

From (8) it appears that during rain, winds from N.N.E. through East to S.S.W., with an interruption at South, have a duration above the average for all winds, and that winds from North through West to S.W. have a duration below the same average.

The most rainy wind is from E.N.E. ; and the N.W. wind is that which is least frequently accompanied by rain.

During snow, winds from North to E.N.E. are decidedly above the average, the wind of greatest frequency being that from N.E. Winds from the remaining points of the compass do not follow any regular progression. They are for the most part below the average ; but there is a trace of a second maximum between W.N.W. and W.S.W.

In column (10) the second maximum is obliterated by the superposition of the two sets of ratios ; the progression becomes single and is uninterrupted, excepting that at the South point the winds are slightly less numerous than at either S.S.E. and S.S.W., and that the ratio at N.E. is rather less than at either of the contiguous points. During precipitation generally, making no distinction between rain

and snow, the winds whose relative durations are above the average, are limited to N.N.E., N.E., E.N.E., East, and E.S.E.; the relative durations of other winds being all less than the average.

Comparing the ratios in Table LXIV, with those from Table LXIII., which have been placed side by side with them for that purpose, it may be noticed that the range is much greater in the former than in the latter table; and also that during snow, the west wind, instead of being, as in Table LXIII., the wind of greatest frequency, now touches or is slightly below the average, the principal maximum being transferred in Table LXIV to N.E.; at which point the wind is two and a half times as frequent as the west wind during the *actual fall* of snow, although during days of snow, the west wind blows for more hours than the N.E. wind.

RELATION BETWEEN RAIN AND THE DIRECTION OF THE WIND WHEN THE LIGHTER AND THE HEAVIER FALLS ARE EXAMINED SEPARATELY.

As it is probable that in the enquiries that have been made with reference to the distribution of the different winds during rainy days and during hours of rain, the lighter showers may have given by their number a greater prominence to certain winds than is their due, and have diminished also in some degree the preponderance of those which are properly the rainy winds; tables LXIII. (*bis.*) and LXIV. (*bis.*) have been formed, for the purpose of shewing the distribution of the winds among the several points of the compass, under different circumstances as regards the amount of rain in the day.

The ratios in these tables are obtained in a manner precisely similar to that employed in computing the final columns of tables LXIII. and LXIV.

Table LXIII. (*bis.*) contains the ratios which express the relative\* durations of each wind during days of rain, in terms of the mean of the relative durations of all winds during days of rain; (1) when the rain that falls in a day is less than half an inch; (2) when the rain is not less than half an inch; and (3) when light and heavy rain are taken together.

When the rain that falls in the day is less than half an inch, it is shewn by column (1) that the points for which the relative duration of the wind is above the average, as well as the points of the greatest and least relative duration, are the same as when the heavy and light rain are taken together; the range also is very nearly the same, being slightly less than 2 to 1.

When the heavy rains only are taken into account, the winds whose relative durations are above the average, are limited to the six points from N.E. to S.S.E.; the wind of maximum relative duration remains as before at E.N.E., but the minimum is transferred to W.S.W., and the range greatly increases; the E.N.E. winds having a relative duration nearly nine times that of the W.S.W. winds. The increase in the relative durations of the winds from the six points N.E. to S.S.E. inclusive, as compared with those of the other ten winds, is shewn by the averages of the corresponding ratios in columns (1), (2), and (3).

	(1.)	(2.)	(3.)
Averages of ratios for the six points, N.E. to S.S.E. ....	1.18	1.75	1.25
Averages for remaining ten points.....	0.89	0.59	0.85

The ratios in table LXIV. (*bis.*) express the relative duration of each wind during the hours, in

\*The term *relative duration* is here employed to denote the ratio of the absolute duration of a given wind during rainy days, or during hours of rain, to the whole absolute duration of the same wind, with and without rain, during the same period.

any part of which rain fell, in terms of the mean of the relative durations of all winds during hours of rain.

When rain under half an inch is taken alone, the winds of more than an average duration, if we except an interruption that occurs at N.E., are the same as when no account is taken of the amount that fell in the day; the wind of least duration is still from N.W., but that of the greatest duration is no longer so decidedly at E.N.E.

When rains amounting to less than half an inch are omitted, the most rainy and least rainy winds are still from E.N.E. and N.W.; but the relative duration of the E.N.E. wind is eighteen times as great as that of the N.W. wind. The winds also whose relative durations are above the average, are limited to the four points N.N.E., N.E., E.N.E., and East.

TABLE LXIII.—(Bis.)

RATIOS comparing the relative durations of the several winds during days in any part of which rain fell, from observations in the years 1853 to 1859 inclusive, the falls under half an inch in the day, those of half an inch and upwards, and rain generally, without reference to its amount, being considered separately.

Direction of the wind.	Rain under half an inch. (1)	Rain half an inch and upwards. (2)	Rain generally. (3)
N.	0.73	0.64	0.72
N.N.E.	0.76	0.88	0.77
N.E.	1.01	1.40	1.06
E.N.E.	1.41	2.71	1.58
E.	1.36	2.43	1.50
E.S.E.	1.17	1.61	1.23
S.E.	1.06	1.12	1.07
S.S.E.	1.07	1.20	1.09
S.	1.04	0.73	1.00
S.S.W.	1.14	0.89	1.11
S.W.	1.07	0.80	1.03
W.S.W.	0.94	0.30	0.85
W.	0.86	0.34	0.79
W.N.W.	0.80	0.47	0.76
N.W.	0.81	0.43	0.76
N.N.W.	0.77	0.45	0.72
Calm.	1.00	0.62	0.95

TABLE LXIV.—(Bis.)

RATIOS comparing the relative durations of the several winds during the hours in any part of which rain fell, from observations in the years 1857 to 1859, the falls under half an inch, those of half an inch and upwards, and rain in general, without reference to its amount, being considered separately.

Direction of the wind.	Rain under half an inch. (1)	Rain half an inch and upwards. (2)	Rain generally. (3)
N.	0.68	0.67	0.68
N.N.E.	1.49	2.18	1.68
N.E.	0.93	1.55	1.10
E.N.E.	1.65	4.37	2.41
E.	1.34	1.71	1.44
E.S.E.	1.68	0.83	1.45
S.E.	1.29	0.67	1.12
S.S.E.	1.17	0.75	1.05
S.	1.00	0.60	0.89
S.S.W.	1.20	0.67	1.05
S.W.	0.79	0.83	0.80
W.S.W.	0.64	0.43	0.58
W.	0.68	0.36	0.59
W.N.W.	0.58	0.28	0.49
N.W.	0.50	0.24	0.43
N.N.W.	0.64	0.39	0.57
Calm.	0.74	0.48	0.67

RELATION BETWEEN SNOW AND THE DIRECTION OF THE WIND WHEN THE SNOW STORMS ARE DIVIDED INTO CLASSES ACCORDING TO THE QUANTITY THAT FELL DURING THE TWENTY-FOUR HOURS.

In Tables LXIII. and LXIV., which contain the ratios that exhibit the comparative frequency of the different winds during days of snow or during the actual fall of snow, no distinction is made between snow storms of different magnitude; light falls, lasting for a few minutes, and the heaviest

storms being ranked together indiscriminately. With a view of examining whether the distribution of the winds found to prevail during snow generally, is maintained in the case of the heavy falls, the methods employed in computing Tables LXIII. and LXIV. have been applied to the following four classes of snow storms:—

Class I. including every instance where snow was recorded.

Class II. limited to those cases in which the snow in twenty-four hours was equal to or exceeded one inch.

Class III. limited to falls of three inches and upwards.

Class IV. limited to falls of six inches and upwards.

In Table LXV. is shewn the distribution of the winds during *days of snow*, arranged in the above-named four classes, and in Table LXVI. the distribution of the winds during the *hours* in any part of which snow fell, the falls of snow by this method also being arranged in the same four classes.

On comparing the four final columns of Table LXV., we find that the second maximum at N.E. in column (10) becomes very decidedly the principal maximum in column (11) wherein snow amounting to less than an inch in the day is excluded, and increases greatly as the storms become more heavy. The West wind also, which was the principal maximum when light snow was included, is now decidedly below the average, and rapidly decreases in frequency in columns (12) and (13). The North wind maintains a more than average frequency till the falls of snow are limited to those of six inches and upwards.

The progressive increase in the predominance of winds from the five points, N.N.E. through East to E.S.E. in passing from Class I. to Class IV., and the diminished frequency of other winds, are made apparent by the averages of the ratios for the former five points, and of the remaining eleven points. The averages are as follows:—

	AVERAGE RATIOS.			
	Class I.	Class II.	Class III.	Class IV.
Five winds from N.N.E. to E.S.E. ....	1.00 ..	1.70 ..	2.10 ..	2.55
Eleven remaining winds .....	1.04 ..	0.74 ..	0.57 ..	0.35

On turning to Table LXVI. we find that the principal maximum at N.E., in column (10), increases rapidly in the higher classes, and that the second maximum at or near West in column (10) disappears when the snow amounts to one inch. The North wind continues above the average during falls of snow whereof all less than an inch are excluded, but is below the average when falls of less than three inches are excluded, and is wholly absent when the storms included are only those of six inches and upwards.

It appears further, with reference to the heaviest snow storms, that although during some part of the day in which the storm takes place, the wind may blow more or less from any point of the compass, during the actual fall of snow the directions of the wind are limited to the four points N.N.E., N.E., E.N.E., and East.

The increasing frequency in the easterly group of winds from N.N.E. through East to E.S.E., *during the actual fall of snow*, as more and more of the lighter falls are excluded, and the diminishing frequency of all other winds, are shewn by the averages of the corresponding ratios in the manner already employed with reference to table LXV.

The averages are the following :—

	Class I.	Class II.	Class III.	Class IV.
Five winds from N.N.E. to E.S.E. ....	1.41 ..	2.16 ..	2.59 ..	3.22
Eleven remaining winds .....	0.84 ..	0.52 ..	0.33 ..	0.00

The distribution of the winds among the several points of the compass during falls of snow in which the amount in the day falls short of one inch, will be found by subtracting the relative durations in column (7) from those in column (6). The progression in the resulting series, omitting minor irregularities, becomes single; the maximum is decidedly between the three points W.N.W., West, and W.S.W.; and the minimum is in the S.E. quadrant, the winds from N.E. being well below the average.

IV.

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## TORONTO

### METEOROLOGICAL OBSERVATIONS.

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## TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT—JANUARY, 1854.

DAYS.	DAILY MEANS.		WIND.		EXTREME OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW		
	Temperature of the Air.	Pressure of Vapor.	Barometer.	Humidity.	Wind.	Difference.	Wind.	Difference.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.	
1	16.90	0.081	29.717	29.635	0.8	S 74° W	26.4	13.2	0.2	3.0	0.020	3.0	
2	25.88	.120	88	.646	.626	1.0 S 12 E	2.36	10.2	13.0	27.2	...	...	
4	30.42	.210	86	.635	.325	0.8 S 8 W	3.89	46.4	28.8	17.6	...	...	
5	34.35	.183	91	.576	.393	1.0 N 85 E	3.50	7.38	11.0	25.2	15.8	25.5	
6	20.60	.086	75	.757	.751	0.7 N 57 W	6.67	7.96	27.5	13.0	10.5	10.5	
7	17.60	.082	81	.765	.703	1.0 S 74 W	6.75	6.84	20.5	12.4	8.1	8.1	
8	11.80	.076	83	.659	.583	0.7 S 49 W	3.37	4.12	20.2	20.0	...	...	
10	29.60	.116	88	.535	.378	0.8 N 89 E	1.11	1.81	37.5	21.5	16.0	16.0	
11	30.75	.156	86	.551	.395	1.0 N 61 E	6.92	7.10	40.6	20.2	12.0	12.0	
12	39.40	.229	95	.25	.889	1.0 S 70 W	4.11	7.33	41.2	30.5	13.7	13.7	
13	30.42	.151	88	.29	.100	28.919	1.0 S 71 W	9.70	10.21	35.4	12.2	7.0	7.0
14	25.23	.117	84	.668	.29	.552	1.0 S 15 W	4.95	5.29	25.2	23.2	...	...
15	31.78	.156	86	.569	.353	1.0 S 63 E	3.57	4.57	35.2	21.0	14.2	14.2	
16	22.10	.093	76	.569	.4710	1.0 S 78 W	3.72	3.76	36.1	19.4	17.0	17.0	
18	19.85	.045	85	.857	.762	1.0 S 12 E	5.95	6.06	26.4	17.3	8.7	8.7	
19	26.90	.133	89	.77	.616	1.0 S 57 E	6.24	7.41	21.6	9.4	...	...	
20	30.43	.161	91	.063	.28	.930	1.0 S 59 E	1.23	3.46	37.3	22.8	14.7	14.7
21	21.65	.086	83	.414	.29	.355	0.6 S 57 W	15.77	15.83	15.2	-1.0	16.2	16.2
22	23	.018	75	.30	.001	.053	0.5 S 55 W	7.61	7.41	2.0	2.5	...	...
24	6.32	.014	71	.29	.919	.905	0.2 S 16 W	4.39	7.56	11.2	-5.4	9.7	9.7
25	11.92	.071	77	.919	.816	0.9 S 75 E	6.39	7.50	36.2	3.1	39.6	39.6	
26	32.70	.160	89	.364	.195	0.5 S 62 W	7.21	8.21	40.0	15.8	24.2	24.2	
27	17.47	.082	79	.608	.526	0.5 N 63 W	7.13	8.70	22.5	-3.0	25.8	25.8	
28	1.58	.038	76	.26	.131	30.063	0.1 N 21 E	5.15	5.32	5.6	-2.6	8.2	8.2
29	33.18	.161	86	.29	.589	.29	1.0 S 73 E	5.11	5.48	27.4	9.5	17.6	17.6
31	35.47	.189	92	.210	.021	1.0 S 63 W	2.35	2.51	35.9	31.4	1.5	1.5	
	23.57	0.122	84	29.607	29.185	0.8 N 77 W	2.41	6.91	2.1	31.13	15.78	4.270	
												39.5	
												7.5	
												42.2	
												220	
												81.7	

• Imprecise.

GENERAL METEOROLOGICAL ABSTRACT,—FEBRUARY, 1854.

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—MARCH, 1854.

Days.	DAILY MEANS.			WIND.			Extremes of TEMPERATURE.			RAIN.			SNOW.			RAIN AND MELTED SNOW			
	Pressure of the Air.	Relative Pressure of Vapor.	Barometric Height.	Pressure of Vapor.	Relative Pressure of Vapor.	Barometric Height.	Direction of Resultant Wind.	Velocity of Resultant Wind.	Maximum Velocity.	Minimum Velocity.	Duration in hours.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.	Depth in inches.	
1	30.72	0.148	65	29.896	.29	735	0.2	S 24° W	2.75	3.50	37.5	20.5	17.0	14.5	14.5	14.5	14.5	14.5	
2	33.98	.185	94	.551	.396	10.87	1.0	N 10.66	39.0	32.0	7.0	0.87	15	14.5	14.5	14.5	14.5	14.5	
3	39.07	.260	89	.383	.095	0.2	S 53° W	8.39	8.79	42.0	30.0	11.8	14.5	14.5	14.5	14.5	14.5	14.5	
4	35.12	.160	80	.389	.228	0.4	N 81° W	7.45	9.65	42.8	25.5	17.3	14.5	14.5	14.5	14.5	14.5	14.5	
5	29.75	.141	85	.871	.730	1.0	S 70° W	6.57	7.04	33.7	22.4	11.3	14.5	14.5	14.5	14.5	14.5	14.5	
6	31.90	.184	91	.624	.310	1.0	S 34° E	1.34	3.01	33.8	25.2	8.6	14.5	14.5	14.5	14.5	14.5	14.5	
7	35.02	.187	93	.135	.28	9.98	1.0	N 61° E	3.19	5.03	37.4	31.0	6.4	2.40	4.0	4.0	4.0	4.0	4.0
8	32.67	.177	96	.286	.259	20.26	1.0	N 82° E	4.54	5.12	35.6	30.0	5.6	19.0	19.0	19.0	19.0	19.0	19.0
9	34.68	.187	93	.387	.200	0.8	N 34° W	6.33	6.73	36.6	28.0	8.6	10.0	12.4	12.4	12.4	12.4	12.4	
10	33.70	.165	85	.784	.616	0.2	S 80° W	5.20	7.39	40.2	27.0	13.2	14.5	14.5	14.5	14.5	14.5	14.5	
11	44.00	.242	84	.595	.353	0.8	S 39° W	4.91	4.96	33.8	32.8	11.0	14.5	14.5	14.5	14.5	14.5	14.5	
12	41.50	.245	93	.487	.242	1.0	S 82° E	3.12	4.32	55.0	35.0	20.0	0.40	2.5	2.5	2.5	2.5	2.5	
13	41.67	.237	90	.219	.28	4982	0.8	S 89° W	3.25	4.98	50.1	32.0	18.1	9.45	1.0	1.0	1.0	1.0	1.0
14	43.38	.241	85	.052	.28	812	0.1	N 68° W	10.22	10.60	55.1	28.0	10.0	14.5	14.5	14.5	14.5	14.5	14.5
15	37.15	.188	89	.097	.28	961	0.7	N 61° W	10.23	13.03	34.2	10.0	21.2	14.5	14.5	14.5	14.5	14.5	
16	18.05	.081	79	.624	.29	543	0.8	N 57° W	14.43	14.68	21.2	16.0	5.2	14.5	14.5	14.5	14.5	14.5	14.5
17	17.47	.085	84	.316	.29	231	0.7	N 44° W	10.17	11.14	30.2	13.0	17.2	14.5	14.5	14.5	14.5	14.5	14.5
18	18.58	.080	75	.949	.869	0.4	N 20° W	5.41	6.48	24.5	12.4	12.4	14.5	14.5	14.5	14.5	14.5	14.5	
19	26.43	.120	82	.901	.781	0.3	S 56° E	4.10	5.08	31.4	21.2	10.2	14.5	14.5	14.5	14.5	14.5	14.5	
20	32.80	.168	90	.267	.089	0.8	S 73° E	6.86	7.50	36.8	26.0	7.8	10.0	10.0	10.0	10.0	10.0	10.0	
21	33.37	.153	80	.131	.28	984	0.9	N 62° W	12.26	12.94	41.4	15.2	26.2	14.5	14.5	14.5	14.5	14.5	14.5
22	29.55	.184	84	.316	.28	624	0.7	N 44° W	11.03	11.38	22.5	11.8	10.7	14.5	14.5	14.5	14.5	14.5	14.5
23	20.05	.090	78	.376	.286	0.7	N 46° W	14.83	14.89	26.0	14.0	12.0	14.5	14.5	14.5	14.5	14.5	14.5	
24	17.53	.085	82	.737	.652	0.3	N 49° W	11.02	11.17	30.0	13.5	16.5	14.5	14.5	14.5	14.5	14.5	14.5	
25	17.17	.063	61	.949	.886	0.1	N 31° W	8.13	8.37	25.5	8.2	17.3	14.5	14.5	14.5	14.5	14.5	14.5	
26	21.83	.085	70	.30	.013	0.0	S 31° W	1.55	4.91	29.8	13.4	16.4	14.5	14.5	14.5	14.5	14.5	14.5	
27	29.42	.139	84	.29	.755	.618	0.4	S 88° E	9.04	9.18	34.2	27.0	7.2	14.5	14.5	14.5	14.5	14.5	14.5
28	38.22	.205	89	.394	.190	1.0	N 80° E	3.70	6.30	45.0	32.2	12.8	16.0	2.0	2.0	2.0	2.0	2.0	2.0
	30.68	0.156	85	29.555	29.369	0.6	N 53° W	3.39	8.03	36.32	22.94	13.8	2.125	62.9	2.8	10.2	2.705	73.1	

30.68	0.156	85	29.525	29.369	0.6	N 53 W	3.39	5.03	36.32	22.94	13.82	125	62.9	2.8	10.2	2.705	73.1
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## GENERAL METEOROLOGICAL ABSTRACT,—APRIL, 1854.

Date.	DAILY MEANS.			WIND.			EXTREMES OF TEMPERATURE.			RAIN.			SNOW.			RAYS AND MELTED SNOW.			
	Pressure of Air.	Humidity.	Barometer.	Pressure of Vapor.	Clouded Sky.	Sunny.	Maxim.	Minim.	Difference.	Maxim.	Minim.	Difference.	Maxim.	Minim.	Difference.	Maxim.	Minim.		
1	32.50	0.155	83	29.448	29.293	0.8	N 62 W	11.95	12.5	36.8	20.2	18.6	...	...	0.2	1.0	0.020	1.0	
2	33.03	.158	78	30.062	.904	0.5	N 75 W	6.17	33.2	22.2	11.0	...	...	...	...	...	...	...	
3	34.02	.204	62	29.877	.673	0.4	S 21 W	6.56	6.75	39.8	27.8	12.0	...	...	...	...	...	...	
4	40.27	.446	59	35.088	.704	0.7	S 13 E	2.66	3.10	51.0	29.0	22.0	...	...	...	...	...	...	
5	44.65	.259	58	35.415	.407	0.7	S 35 W	3.48	3.66	55.2	35.4	19.8	...	...	...	...	...	...	
6	47.00	.250	77	35.407	.158	0.7	S 69 W	6.95	11.78	60.2	21.8	35.4	0.040	0.3	...	...	0.40	0.3	
7	33.53	.162	83	.892	.730	0.6	S 57 E	2.51	5.48	40.6	24.4	16.2	...	...	...	...	...	...	
8	41.83	.283	87	.674	.441	0.9	S 81 E	5.88	6.12	47.8	33.2	14.6	1.85	1.2	...	...	...	...	
9	37.32	.198	90	.394	.195	0.7	S 72 E	6.58	7.29	43.4	34.0	9.4	.840	10.0	...	...	...	...	
10	36.20	.170	81	.720	.550	0.0	S 24 W	2.41	4.98	13.5	2.5	15.3	...	2.5	...	...	...	...	
11	43.72	.206	74	.719	.512	0.3	S 71 W	0.71	5.27	54.0	31.5	22.5	...	...	...	...	...	...	
12	33.37	.160	84	.977	.817	0.4	S 88 E	5.16	5.33	41.7	25.0	16.7	...	...	...	...	...	...	
13	35.12	.151	74	.674	.523	0.9	S 74 E	9.82	10.21	33.8	27.2	6.6	...	...	...	...	...	...	
14	35.35	.218	76	.633	.466	0.5	S 70 E	10.05	10.61	39.5	29.0	10.5	...	...	...	...	...	...	
15	37.10	.166	76	.633	.428	0.5	S 89 W	1.40	4.29	54.8	22.8	10.0	...	...	...	...	...	...	
16	44.07	.158	56	.586	.253	0.9	S 40 E	1.14	3.67	51.3	35.40	16.3	.670	1.0	...	...	...	...	
17	37.40	.166	76	.633	.466	0.1	S 55 E	2.25	3.65	51.5	30.2	21.3	...	...	...	...	...	...	
18	44.07	.158	56	.586	.253	0.3	S 86 E	5.05	5.10	61.0	40.4	20.6	.020	1.0	...	...	...	...	
19	43.30	.223	83	.676	.448	0.5	S 6 E	6.06	6.67	53.5	10.0	13.5	1.85	12.0	...	...	...	...	
20	43.60	.223	80	.676	.448	1.0	S 6 E	7.91	8.06	61.8	31.2	30.6	...	...	...	...	...	...	
21	48.35	.218	76	.554	.306	1.0	S 16 E	6.06	6.67	53.5	10.0	13.5	1.85	12.0	...	...	...	...	
22	46.12	.288	92	.359	.076	1.0	S 6 E	7.91	8.06	61.8	31.2	30.6	...	...	...	...	...	...	
23	30.98	.217	67	.640	.393	0.2	S 35 E	1.75	2.69	59.0	41.40	18.0	...	...	...	...	...	...	
24	54.15	.292	73	.426	.134	0.7	S 33 E	2.92	3.56	61.5	40.0	24.5	.630	2.6	...	...	...	...	
25	54.15	.292	71	.173	.28.816	1.0	S 25 E	5.71	7.30	60.2	30.5	29.7	.375	2.2	...	...	...	...	
26	50.23	.327	87	.581	.20.415	1.0	S 27 E	11.28	11.35	36.0	25.8	10.2	...	0.5	3.0	...	...	...	
27	33.63	.165	87	.595	.881	0.4	S 20 E	9.88	9.97	13.8	30.5	13.3	...	...	...	...	...	...	
28	36.18	.114	68	.869	.674	1.0	S 35 E	7.67	8.00	10.8	32.2	8.6	.070	6.0	...	2.3	...	...	
29	37.32	.194	85	...	...	...	S 12 W	3.15	4.30	46.4	36.0	10.4	1.05	2.0	...	...	...	...	
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
32	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
33	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
34	41.04	0.207	80	29.638	29.130	0.6	N 50 E	2.57	6.81	17.2	52.30	6.917	17.13	2.685	41.8	2.7	8.9	2.955	50.7

## TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT,—MAY, 1854.

DAYS.	DAILY MEANS.		WIND.		RAINFALL.		SNOW.		RAIN AND MELTED SNOW.	
	Temperature of the Air.	Vapour.	Pressure of Barometric.	Clouded.	Sky.	Wind.	Extreme of Temperature.	Rain.	Snow.	Approximate depth in inches.
1	16.75	0.216	75	.29	.15	29.21	0.6	S 17 E	59.0	24.5
2	17.52	.289	75	.105	.116	0.9	S 31 E	2.09	3.36	.265
3	16.62	.205	55	.506	.210	0.5	N 3 W	6.90	7.15	.025
4	16.53	.261	71	.519	.258	0.1	S 16 E	1.82	3.46	1.0
5	16.78	.291	71	.476	.215	0.5	N 15 W	10.60	10.75	33.8
6	13.63	.119	63	.638	.519	0.2	N 20 W	11.37	11.91	.252
7	17.50	.196	65	.601	.106	0.1	S 22 W	9.37	9.40	.27
8	17.80	.211	69	.393	.182	0.7	S 35 W	2.79	1.29	.213
9	15.83	.211	55	.314	.203	0.7	S 73 E	3.45	3.93	.585
10	15.53	.261	73	.505	.29	0.3	S 45 E	3.38	4.06	.202
11	16.72	.263	62	.713	.479	0.0	S 84 E	5.06	6.71	31.8
12	15.07	.264	62	.713	.479	0.4	S 32 E	4.19	5.25	43.3
13	16.43	.334	69	.606	.312	0.4	S 82 W	7.98	8.17	.213
14	15.56	.317	76	.557	.211	0.5	S 49 E	1.16	3.42	.352
15	16.70	.317	76	.557	.280	0.2	S 75 W	2.78	6.62	.352
16	15.72	.316	76	.506	.281	0.3	S 89 E	6.32	7.38	64.8
17	15.13	.401	52	.833	.281	0.3	S 48 W	3.00	4.25	68.8
18	15.38	.318	76	.333	.2035	0.5	S 35 W	7.97	8.38	.392
19	16.12	.288	80	.515	.227	0.3	S 11 E	3.51	5.35	61.4
20	15.03	.257	53	.367	.280	0.6	S 43 W	2.81	3.92	.288
21	15.22	.257	53	.367	.227	0.6	S 66 W	2.11	1.92	10.7
22	15.28	.257	51	.876	.619	0.3	S 66 W	1.37	3.63	.355
23	15.38	.260	73	.917	.657	0.1	S 41 E	3.71	3.93	26.6
24	16.15	.439	57	.484	.022	0.3	S 69 E	2.59	3.55	21.4
25	15.62	.382	80	.605	.273	0.6	S 12 W	2.02	4.1	.765
26	15.63	.382	80	.605	.312	0.0	S 72 W	1.14	3.59	8.0
27	15.93	.344	69	.657	.657	0.1	S 73 E	2.58	2.63	.315
28	15.28	.331	65	.601	.270	0.6	S 56 E	1.04	1.37	29.8
29	16.88	.331	51	.586	.352	0.2	S 73 E	4.85	5.86	.358
30	15.55	.184	51	.585	.674	0.0	S 74 E	4.15	4.65	33.0
31	14.03	.184	51	.585	.674	0.0				
	52.20	0.288	71	29.565	29.278	0.4	East	0.10	5.38	37.90

52.20	0.288	71	29.566	29.278	0.4	East	0.46	5.38	61	\$2.37	90.23	42.5	630	39.7
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

GENERAL METEOROLOGICAL ABSTRACT,—JUNE, 1854.

Days.	DAILY MEANS.			WIND.			EXTREMES OF TEMPERATURE.			RAIN.			SNOW.			RAIN AND MELTED SNOW		
	Temperature of the Air.	Pressure of Vapor.	Relative Humidity.	Bromometer.	Barometer.	Pressure of Dewy Air.	Clouded Sky.	Dew-point.	Maximum.	Minimum.	Difference.	Hours.	Depth in inches.	Approximate duration in hours.	Depths in inches.	Approximate duration in hours.	Depths in inches.	Approximate duration in hours.
1	54.25	0.299	66	28.919	29.650	0.2	S 33 E	1.69	2.45	63.8	35.2	28.6	...	...	...	...	...	...
2	58.55	.289	60	.513	.339	0.0	S 42 W	1.64	2.55	69.0	40.8	28.2	...	...	...	...	...	...
3	62.28	.370	69	.709	.551	0.0	S 1 W	1.40	1.70	74.6	44.0	30.6	...	...	...	...	...	...
4	67.38	.434	68	.511	.077	0.6	S 23 E	1.53	2.69	78.0	45.8	32.2	...	...	...	...	...	...
5	60.67	.378	73	.427	.049	0.6	N 40 W	1.00	2.15	79.0	49.8	29.2	...	...	...	...	...	...
6	60.05	.402	86	.384	.28.982	0.9	N 81 E	5.59	5.81	70.9	49.8	20.2	0.05	1.5	...	...	...	...
7	53.60	.380	94	.308	.28.928	1.0	S 9 E	1.69	2.69	72.4	44.8	27.6	-0.05	2.0	...	...	...	...
8	56.08	.411	92	.436	.29.025	1.0	S 88 W	2.22	3.85	61.0	41.4	19.6	-0.05	2.0	...	...	...	...
9	59.55	.430	86	.703	.27.73	0.7	S 47 W	3.33	4.07	70.0	49.2	20.8	...	...	...	...	...	...
10	63.92	.453	75	.535	.082	0.4	N 85 E	2.15	3.88	65.6	49.0	17.6	...	...	...	...	...	...
11	66.80	.459	73	.490	.080	0.3	S 65 W	1.86	2.55	79.8	52.8	27.4	20.4	...	...	...	...	...
12	67.92	.439	66	.507	.067	0.4	S 72 W	2.03	3.63	78.0	50.2	27.8	.020	1.0	...	...	...	...
13	70.62	.514	70	.539	.025	0.4	S 15 W	3.59	4.94	82.0	54.4	30.6	...	...	...	...	...	...
14	59.87	.347	69	.750	.403	0.3	S 54 E	2.20	3.62	69.8	39.4	20.4	...	...	...	...	...	...
15	58.50	.301	64	.738	.437	0.7	N 84 E	3.98	4.45	68.5	44.0	24.5	...	...	...	...	...	...
16	71.45	.546	72	.604	.055	0.2	S 65 E	0.84	1.65	76.4	54.0	22.4	...	...	...	...	...	...
17	61.83	.447	83	.166	.29.019	0.6	S 15 W	2.86	4.86	73.6	47.2	26.4	...	...	...	...	...	...
18	67.32	.462	70	.467	.434	0.4	S 37 W	2.14	3.12	71.2	57.2	24.4	...	...	...	...	...	...
19	65.97	.451	79	.467	.28.983	0.1	S 86 E	4.82	5.21	73.5	55.0	18.5	...	...	...	...	...	...
20	65.92	.462	71	.454	.28.983	0.3	S 69 W	2.62	3.04	77.8	54.2	23.6	.000	1.0	...	...	...	...
21	66.35	.417	87	.449	.465	0.2	S 21 W	5.92	6.20	71.5	51.4	20.4	-2.5	2.2	...	...	...	...
22	63.97	.460	79	.467	.29.007	1.0	S 88 E	1.51	1.57	76.0	58.0	18.0	.130	1.0	...	...	...	...
23	68.57	.417	83	.449	.449	0.2	S 21 W	10.26	10.43	78.4	54.6	23.8	...	...	...	...	...	...
24	64.12	0.434	71	29.554	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	73.67	.673	77	.457	.28.784	0.4	...	...	...	...	...	...	...	...	...	...	...	
26	70.33	.514	75	.530	.28.986	0.1	...	...	...	...	...	...	...	...	...	...	...	
27	73.00	.498	67	.484	.28.983	0.7	S 19 W	6.90	9.87	82.4	60.0	22.4	...	...	...	...	...	...
28	63.97	.460	79	.467	.29.007	1.0	S 88 E	1.51	1.57	76.0	47.4	H.S.	...	...	...	...	...	...
29	68.57	.414	67	.449	.449	0.2	S 21 W	10.26	10.43	78.4	54.6	23.8	...	...	...	...	...	...
30	65.57	.414	67	.449	.449	...	...	...	...	...	...	...	...	...	...	...	...	...
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Note. On the 24th, 25th, and 27th, the observations were imperfect, in consequence of the removal of the instruments, or partially to the demolition of the old Observatory building.

TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT, JULY, 1854.

## TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT,—AUGUST, 1834.

DAYS.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		APPROXIMATE DURATION IN HOURS.		APPROXIMATE DURATION IN HOURS.		APPROXIMATE DURATION IN HOURS.		APPROXIMATE DURATION IN HOURS.	
	Pressure of Air	Temperature	Wind	Wind	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1	77.12	0.733	N	29.510	28.	77.6	0.5	S N <sup>2</sup> W	30.4	60.5	28.9	.025	1.0	...	...	...	...	
2	70.10	.448	E	.606	29.	157	0.2	N 15 W	6.35	6.72	4.0	.48	.6	35.4	...	...	...	
3	65.15	.470	77	.559	.089	0.8	Calm	0.00	0.00	77.6	.55.5	21.5	...	...	...	...	...	
4	67.85	.351	S	.475	28.	925	0.9	N 67 W	1.30	2.13	78.2	.56.0	22.2	...	...	...	...	
5	67.23	.504	78	.557	.29	.053	0.4	S 22 W	1.85	2.07	80.2	.57.4	22.5	...	...	...	...	
6	70.45	.255	S	.720	.166	0.1	N 73 W	10.30	10.73	78.4	15.0	30.1	...	...	...	...		
7	63.15	.412	70	.896	.124	0.0	N 57 W	9.60	9.71	71.8	18.8	23.0	...	...	...	...		
8	64.22	.382	67	.773	.381	0.7	N 69 E	3.44	3.42	74.5	.46.4	28.1	...	...	...	...		
9	67.92	.462	71	.645	.183	0.0	N 65 E	3.65	3.92	74.2	.52.5	24.5	...	...	...	...		
10	60.07	.550	S	.596	.046	0.7	N 60 E	1.43	1.41	75.2	.62.0	16.2	...	...	...	...		
11	71.65	.582	S	.526	25.944	0.7	S 21 E	1.10	1.58	81.4	63.0	18.4	...	...	...	...		
12	66.25	.423	70	.633	.210	0.0	S 1 E	2.09	2.28	82.2	51.5	27.7	...	...	...	...		
13	62.45	.314	63	.739	.293	0.3	S 1 E	0.65	3.17	71.5	.49.5	25.0	...	...	...	...		
14	62.98	.380	70	.496	.116	0.7	N 65 W	7.81	8.26	73.8	.47.2	28.6	...	...	...	...		
15	64.45	.351	63	.630	.276	0.4	S 1 W	9.07	9.36	78.2	.52.5	25.4	...	...	...	...		
16	58.69	.331	S	.689	.355	0.3	S 61 W	2.19	4.10	74.4	.45.6	28.5	...	...	...	...		
17	64.83	.368	64	.779	.110	0.3	S 57 W	2.53	2.85	81.4	19.5	31.6	...	...	...	...		
18	66.25	.423	70	.633	.210	0.0	S 1 E	2.09	2.28	82.2	51.5	27.7	...	...	...	...		
19	74.87	.550	66	.334	.084	0.0	N 26 W	6.87	7.04	80.4	.52.6	33.8	...	...	...	...		
20	77.67	.561	62	.658	.097	0.4	S 54 W	3.93	5.02	88.5	.55.4	33.1	...	...	...	...		
21	62.40	.414	S	.748	.304	0.9	S 72 E	2.20	2.29	63.8	.57.0	12.8	...	...	...	...		
22	60.13	.590	64	.572	.25.942	0.3	S 80 W	5.78	8.79	99.2	60.5	38.4	...	...	...	...		
23	69.22	.463	68	.646	.29.183	0.4	S 71 E	2.08	2.76	76.4	.58.4	18.0	.040	.03	...	...		
24	73.45	.583	73	.547	.28.964	0.3	S 64 W	4.06	4.80	80.4	.54.0	35.4	...	...	...	...		
25	65.65	.413	70	.786	.29.373	0.2	S 51 E	1.22	1.98	72.2	.54.4	17.8	...	...	...	...		
26	67.42	.630	S	.713	.183	0.2	S 60 E	1.64	1.80	74.2	.54.2	24.0	...	...	...	...		
27	74.87	.619	75	.620	.28.971	0.6	S 52 E	2.15	2.81	63.0	.18.4	...	...	...	...	...		
28	67.20	.565	S	.736	.29.290	1.0	S 13 W	2.81	3.66	67.0	.24.8	.075	.05	...	...	...		
29	68.03	0.478	72	.29.618	29.170	0.5	N 61 W	1.76	4.1	55.2	.25.46	0.455	5.3	...	...	...		

TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT, - SEPTEMBER, 1854.

## TORONTO METEOROLOGICAL OBSERVATIONS.

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## GENERAL METEOROLOGICAL ABSTRACT—OCTOBER, 1854.

DAy	DAILY MEANS		WIND		EXTREMS. OF TEMPERATURE.		RAIN.		SNOW.		RINS AND MELTED SNOW	
	Max.	Min.	Dir.	Spd.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	51.35	40.251	E	29.153	29.202	0.2	S 58 W	3.59	5.15	61.2	39.0	25.2
2	55.77	36.05	S 28.885	25.519	6.9	S 34 W	1.57	2.53	63.2	51.8	21.1	2.5
3	47.35	32.11	N 29.313	29.089	0.5	N 72 W	10.67	16.16	63.8	14.0	19.8	4.65
4	45.33	32.29	S 78	36.026	0.5	S 88 W	2.37	2.72	29.8	27.4	22.2	
5	51.05	42.85	E 69	53.57	0.9	S 38 W	1.27	1.31	77.0	31.0	23.0	
6	61.48	40.41	E 77	58.10	0.3	S 65 W	1.36	1.58	75.1	14.2	20.8	
7	45.47	32.37	S 77	35.5	0.5	S 87 E	1.37	1.54	75.2	22.2	.005	0.4
8	57.48	37.0	S 60	42.20	259	S 67 E	6.76	7.21	70.9	18.6	22.3	0.35
9	50.05	36.64	S 57	71.8	43.8	S 71 E	5.26	5.35	52.8	16.6	6.2	2.35
10	56.52	33.87	S 55	51.0	1162	S 39 W	2.17	2.55	69.0	17.2	21.8	3.5
11	56.10	33.87	S 56	52.4	1357	S 21 W	3.80	5.03	65.0	41.1	23.6	0.15
12	46.67	25.22	S 61	7.15	465	S 70 E	3.16	3.59	51.5	10.2	11.3	.205
13	45.47	23.77	S 77	35.5	116	S 45 E	10.18	10.62	15.7	29.0	20.0	
14	35.78	14.19	S 70	7.13	321	S 15 H	6.72	7.25	52.6	35.5	17.4	.010
15	10.73	2.12	S 51	5.80	368	S 25 W	2.48	3.57	52.0	31.8	30.2	
16	36.60	1.19	S 70	7.13	594	S 35 W	9.19	9.46	13.2	26.1	16.8	
17	35.78	1.158	S 76	20.639	1	S 73 E	4.17	5.23	15.5	26.1	15.3	
18	13.85	2.11	S 74	20.019	808	S 57 E	0.97	2.08	35.0	35.4	17.6	
19	11.50	2.02	S 71	20.395	763	S 15 E	3.61	4.31	56.6	39.6	17.0	
20	13.32	2.22	S 71	20.087	739	S 14 E	3.61	4.31	51.2	41.3	9.9	.055
21	18.72	2.87	S 64	30.036	719	S 65 E	6.75	7.13	53.4	35.6	18.0	
22	16.22	2.89	S 62	26.912	653	S 56 E	0.25	0.29	57.1	37.1	20.8	
23	51.30	29.22	S 75	5.860	398	S 32 E	1.00	1.00	60.8	15.2	15.6	.015
24	52.77	31.11	S 90	5.975	661	S 32 E	0.11	0.80	63.8	14.8	19.0	
25	33.32	32.28	S 61	36.087	739	S 73 E	1.02	1.02	62.0	16.2	20.8	
26	18.72	2.87	S 64	30.036	719	S 66 E	0.91	1.76	61.0	10.2	20.8	
27	16.22	2.89	S 62	26.912	653	S 56 E	0.25	0.29	57.1	37.1	20.0	.010
28	50.90	32.27	S 89	5.839	512	S 7 E	1.00	2.31	60.8	15.2	15.6	.015
29	58.62	40.01	S 74	5.771	173	S 58 E	2.19	2.30	57.8	33.6	4.2	.050
30	53.42	37.1	S 92	311	28.910	S 73 E	0.58	0.84	55.0	10.4	0.35	1.0
31	49.32	2.87	S 90	29.636	29.408	S 64 W	8.27	10.40	61.8	45.7	16.1	.035

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—NOVEMBER, 1854.

Days.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW.	
	Temperature of the Air.	Pressure of the Air.	Windward.	Leeward.	Minimum.	Maximum.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.
1	45.52	0.227	76	29.428	29.201	0.1 S 57 W	9.42 9.70	53.0 31.0	19.0 0.005	0.7	0.005	0.7
2	47.35	.217	69	.535	.318	0.6 S 55 W	10.23 13.77	55.4 34.0	21.4 .005	0.1	.005	0.1
3	37.57	.156	69	.844	.489	0.6 N 32 W	7.82 8.77	12.2 27.8	14.4	*	*	*
4	24.33	.089	66	.304	.30.054	0.7 S 2 E	7.13 8.60	14.0 14.9	29.1	*	*	0.1
5	41.45	.223	77	29.230	29.007	1.0 S 40 W	8.87 9.54	18.2 29.8	18.4	.140	.140	3.7
6	37.52	.175	77	.465	.068	0.6 N 45 W	5.77 6.71	17.8 28.0	.029	0.6	.020	0.6
8	31.10	.115	73	.605	.460	0.6 N 46 W	6.19 6.72	13.4 23.6	19.8	*	*	*
9	34.08	.155	50	.825	.670	0.8 N 75 E	5.37 5.70	37.8 30.2	7.6	*	*	*
10	44.50	.265	56	.501	.246	1.0 S 57 E	3.01 3.75	50.2 35.2	15.0	.150	.150	6.0
11	42.82	.224	51	.517	.293	0.4 N 72 W	3.59 4.29	46.4 27.6	20.8	*	*	*
12	37.00	.179	83	.435	.256	0.7 S 59 W	10.27 10.41	44.2 30.8	13.4	*	*	*
13	35.33	.178	56	.396	.218	0.9 S 54 W	8.32 8.81	39.4 33.9	6.4	.010	.024	*
15	38.83	.207	89	.186	.2979	1.0 N 3 E	2.20 2.41	12.2	34.0	*	5.0	.015
16	34.38	.160	81	.370	.29.210	1.0 N 51 W	4.53 5.35	38.5 30.0	8.8	.040	3.0	*
17	37.92	.184	81	.28.917	.28.733	0.7 S 15 W	5.63 5.71	10.2 27.6	12.6	.035	3.0	*
18	34.05	.161	82	.29.161	.28.990	0.6 N 65 W	3.98 4.28	12.5 30.8	12.0	*	*	*
19	48.06	.297	90	.28.900	.28.563	0.7 N 29 W	5.25 5.30	36.1 28.0	8.4	*	*	*
20	31.30	.153	87	.29.513	.29.391	0.6 N 34 W	1.80 1.92	35.2 18.6	16.6	*	0.1	2.5
21	30.75	.119	85	.616	.467	1.0 N 85 E	3.77 4.18	36.2 22.2	14.0	*	0.2	3.0
22	34.10	.172	88	.504	.352	1.0 N 41 W	0.07 0.07	38.2 31.0	7.2	*	0.8	6.0
23	42.72	.233	86	.380	.097	1.0 S 61 E	1.27 1.50	18.6 37.4	11.2	.090	1.5	*
24	45.06	.297	90	.28.900	.28.563	0.9 S 49 E	4.35 6.10	51.5 39.2	12.3	13.5	*	*
25	38.98	.188	80	.28.825	.28.637	0.7 S 47 W	9.96 10.22	42.2 33.0	9.2	.005	0.5	.005
26	27	.33.37	.154	.80	.29.562	0.8 S 68 W	12.77 13.87	36.6 26.3	10.3	*	*	*
28	32.37	.117	80	.657	.29.108	0.8 S 82 W	9.36 10.40	39.8 27.2	12.6	*	*	*
29	34.93	.162	78	.523	.510	0.7 S 19 W	10.57 10.90	36.0 27.0	9.0	*	*	*
30	20.77	.085	73	.733	.361	0.7 N 68 W	9.18 12.78	39.6 19.8	19.8	*	*	*
36.84	0 180	80	23.439	29.259	0.8	West.	3.44 7.54 12.08 25.13 13.94	1.115 34.1	1.3	16.5	1.245	50.6

**GENERAL METEOROLOGICAL ABSTRACT,—DECEMBER, 1854.**

DAYS.	DAILY MEANS		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW.		
	Pressure of Air. Inches.	Temperature of Air. Fahrenheit.	Wind.	Wind.	Minimum.	Maximum.	Difference.	Depth, in hours.	Depth, in hours.	Depth, in hours.	Approximate duration in hours.	Approximate duration in hours.	
36.84	0	180	80	26.439	29.259	0.8	West.	3.41	7.54	12.08	25.13	13.94	
37.77	1	25.70	6.129	70	29.498	29.369	0.5	N 70 W	9.48	11.50	34.0	10.0	
38.58	2	20.88	6.079	66	26.456	27.578	0.9	N 70 E	9.17	7.11	27.6	13.5	
39.35	3	15.25	.064	70	.24	.177	1.0	N 16 E	13.76	17.67	25.2	14.6	
40.13	4	17.85	.080	77	.226	.116	1.0	N 32 W	22.10	25.87	19.2	4.5	
40.92	5	21.78	.120	87	.28	.954	28.834	1.0	N 57 W	14.24	15.73	22.8	10.0
41.72	6	11.32	.052	66	.29	.377	29.325	0.7	N 76 W	11.22	13.21	28.6	13.5
42.50	7	8.63	.059	81	.919	.860	0.4	N 33 W	14.96	15.19	14.8	—2.8	
43.28	8	26.60	.133	89	.587	.754	1.0	S 12 W	3.71	4.04	33.8	19.5	
44.06	9	14	.35	163	.80	.684	.321	1.0	S 79 W	6.75	7.32	39.0	28.8
44.84	10	35.32	.28	208	.91	.323	.114	1.0	S 66 W	9.02	9.47	32.0	16.9
45.62	11	24.75	.111	73	.760	.619	.0.8	S 84 W	7.40	10.60	34.8	18.8	
46.40	12	23.23	.098	76	.708	.610	.0.8	S 31 E	7.30	7.67	12.4	—2.4	
47.18	13	37.52	.181	81	.402	.221	1.0	S 74 W	6.71	7.11	41.0	27.0	
47.96	14	35.33	.163	80	.684	.321	1.0	S 46 W	4.73	5.39	40.9	21.9	
48.74	15	38.28	.208	91	.591	.318	1.0	S 54 W	3.15	5.66	44.8	27.5	
49.52	16	24.57	.101	74	.529	.428	0.5	N 4 E	9.78	10.88	29.2	10.0	
50.30	17	16	.47	.650	.79	.694	.614	0.6	N 31 E	3.99	4.23	31.8	4.8
51.08	18	2.02	.046	88	.779	.732	0.2	N 32 W	3.19	3.65	11.2	—7.0	
51.86	19	26.77	.092	79	.481	.389	1.0	S 62 W	8.53	8.73	25.4	13.3	
52.64	20	14.58	.673	79	.591	.518	0.6	N 55 W	10.56	11.08	28.0	—2.0	
53.42	21	31.27	.016	81	.30	.084	30.038	1.0	S 27 E	5.59	6.20	18.6	—2.0
54.20	22	21.83	.102	81	.30	.054	29.952	1.0	S 56 E	3.75	7.10	35.6	18.0
54.98	23	19.20	.008	82	.752	.651	0.8	S 50 W	5.31	5.41	4.5	—4.8	
55.76	24	19.20	.008	82	.752	.651	0.8	S 50 W	3.13	3.23	39.2	34.8	
56.54	25	37.23	.204	92	.29	.534	.390	1.0	S 70 E	5.10	5.69	36.6	33.5
57.32	26	36.80	.190	88	.588	.323	.0.9	S 7 E	1.9	2.81	31.4	8.6	
58.10	27	34.48	.179	87	.323	.114	0.9	S 45 W	10.45	11.36	39.1	15.0	
58.88	28	12.47	.061	74	.780	.710	0.3	S 33 W	11.35	12.10	19.1	2.3	
59.66	29	19.20	.008	82	.752	.651	0.8	S 5 E	0.15	0.52	26.8	20.3	
60.44	30	19.20	.008	82	.752	.651	0.8	S 75 E	4.12	4.17	33.0	27.0	
61.22	31	19.20	.008	82	.752	.651	0.8	S 75 E	4.12	4.17	33.0	27.0	

## TORONTO METEOROLOGICAL OBSERVATIONS

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—JANUARY, 1855.

DAILY MEANS.	WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW.	
	Wind.	Wind.	Max. Temp.	Min. Temp.	Wind.	Wind.	Wind.	Wind.	Wind.	Wind.
1 28.40 0.129	82	30.911	29.881	1.0	N 78 E	9.10	31.0	25.4	5.6	"
2 33.65 .118	77	30.011	.862	0.4	N 80 E	1.81	1.35	11.2	12.2	"
3 38.63 .184	80	29.963	.780	0.5	S 78 E	1.17	1.19	15.8	31.0	11.5
4 38.15 .210	88	30.024	.814	1.0	N 50 W	2.80	3.04	18.2	23.0	25.2
5 28.17 .182	84	30.274	.30.138	0.9	N 81 E	10.65	10.65	39.1	22.2	17.2
6 41.57 .235	89	29.881	.29.616	1.0	S 29 E	3.03	3.91	19.0	37.0	12.0
7					S 82 W	8.61	8.72	18.2	20.2	28.0
8 37.58 .123	80	30.394	.30.270	0.1	S 68 E	0.16	0.15	31.6	20.5	14.1
9 31.73 .131	73	30.067	.29.936	0.2	N 71 W	4.33	5.11	10.8	19.0	21.8
10 23.23 .108	84	30.127	.30.019	0.6	S 69 W	3.7	4.11	28.2	18.8	9.1
11 30.60 .150	90	29.127	.29.227	1.0	S 21 W	1.31	1.40	36.5	26.2	10.3
12 37.28 .199	90	.231	.0632	1.0	S 73 W	0.13	0.13	42.8	25.0	13.8
13 21.85 .096	75	.164	.308	0.6	N 15 W	17.36	17.57	29.6	5.1	35.0
14					S 36 W	6.38	6.61	25.2	-4.2	"
15 26.12 .115	78	.539	.424	1.0	N 60 W	1.52	1.52	20.4	16.2	13.2
16 22.35 .106	55	.691	.585	1.0	S 83 E	3.55	3.57	32.0	16.0	16.0
17 33.55 .165	46	.650	.585	0.9	S 64 E	0.92	1.05	39.8	20.6	10.2
18 31.10 .137	75	.169	.332	1.0	N 66 W	7.29	7.09	37.2	21.0	13.2
19 25.33 .109	75	.504	.395	0.9	N 10 W	4.86	4.96	28.1	20.0	8.1
20 36.60 .131	80	.389	.258	1.0	S 86 W	3.85	3.85	30.2	21.5	5.7
21					N 81 E	6.23	11.76	35.4	11.6	36.0
22 24.02 .107	59	.067	.28.990	0.6	S 62 W	16.11	16.30	3.9	21.5	4.0
23 9.95 .060	61	.633	.29.573	0.7	S 78 W	6.13	6.24	17.2	2.8	14.1
24 10.37 .051	67	.687	.636	0.2	S 69 W	2.63	2.65	21.1	2.1	"
25 16.50 .086	63	.482	.396	0.7	S 29 E	5.76	7.87	23.3	3.1	19.9
26 16.97 .087	65	.075	.28.988	1.0	N 18 W	11.61	15.96	24.2	9.8	11.1
27 16.10 .074	76	.234	.29.160	0.9	N 75 W	12.35	12.76	21.8	11.0	10.8
28					N 61 E	8.25	10.11	28.5	12.5	15.7
29 23.28 .117	91	.083	.28.963	1.0	S 16 W	15.46	16.51	29.0	16.2	12.8
30 19.77 .092	93	.196	.29.399	1.0	S 61 W	13.59	13.76	21.0	16.4	7.6
31 20.88 .096	81	.730	.631	0.9	N 13 W	4.26	6.26	28.4	11.6	13.8
									0.4	4.0
									0.2	6.0
										6.6

25.95 0.123 .82 29.639 .49.511 0.8 N 73 W 1.91 7.26 32.83 17.54 15.29 0.525 9.8 23.3 70.1 2.855 79.9

GENERAL METEOROLOGICAL ABSTRACT,—FEBRUARY, 1855.

DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.									
DAYS.	DEGREES AT THE AIR TEMPERATURE, PRESSURE, HUMIDITY, PRESSURE OF GASES,	WIND, PRESSURE, DIRECTION, VELOCITY, ANGLE OF DEFLECTION,	WIND, PRESSURE, DIRECTION, VELOCITY, ANGLE OF DEFLECTION,	MAXIMUM TEMPERATURE, MINIMUM TEMPERATURE, DIFFERENCE IN TEMPERATURE, APPROXIMATE DURATION IN HOURS,													
1	12.27	0.070	78	21.521	0.5	8.5	8.53	W	6.44	7.17	28.2	2.4	30.6	0.5	4.5	0.050	4.5
2	17.08	0.680	80	25.60	0.9	18.0	10.71	11.16	23.1	33.2	20.2	0.4	4.0	0.10	4.0	0.10	4.0
3	8.12	0.652	75	25.50	0.5	29.8	0.5	N 47° W	11.79	13.57	15.46	-4.45	30.4	0.5	3.0	0.50	3.0
4	5	7.62	0.25	66	1.57	0.4	5.8	N 3 E	1.09	1.33	4.2	-13.32	17.4	0.3	5.0	0.50	5.0
5	-11.38	0.233	65	7.533	0.730	0.7	5.26	E	9.13	9.19	6.12	-25.40	18.8	2.5	10.0	0.50	10.0
6	7	-0.25	0.13	85	.516	.503	1.0	N 38° E	13.12	13.21	6.8	-7.2	11.0	2.5	15.0	0.50	15.0
7	8	11.12	0.663	80	.884	.824	1.0	N 4 E	6.02	6.29	6.1	-7.0	9.4	0.1	0.10	1.0	1.0
8	9	9.28	0.671	84	.591	.527	0.6	N 10° W	3.29	3.52	1.5	-1.5	21.9	*	3.0	*	3.0
9	10	17.67	0.682	80	.631	.609	1.0	N 36° W	5.71	6.06	25.2	10.8	16.4	4.0	9.0	.400	9.0
11	12	21.18	0.57	75	.759	.611	0.9	N 78° E	10.81	11.11	33.0	15.0	18.0	5.0	9.0	.500	9.0
13	33.50	1.75	92	.571	.386	1.0	N 53° E	12.01	12.36	37.4	34.5	5.9	1.7	17.5	.705	17.5	
14	31.83	1.93	96	.180	.287	1.0	N 71° E	2.49	2.41	38.4	50.5	7.9	0.65	3.0	.005	3.0	
15	33.07	1.71	91	.473	.302	0.9	N 60° E	6.0	6.65	39.0	35.7	12.0	1.0	17.0	.00	17.0	
16	25.60	1.43	90	.423	.280	1.0	S 53° W	4.47	4.86	35.1	21.8	11.6	1.5	12.0	.150	12.0	
17	26.80	1.30	87	.567	.137	1.0	S 78° W	5.25	5.5	33.6	24.2	9.4	0.2	1.0	.020	1.0	
18	19	23.90	1.11	86	.719	.603	1.0	S 29° W	11.15	11.36	31.4	17.5	12.4	3.0	9.0	*	9.0
20	23.15	1.00	75	.910	.810	0.5	S 29° W	5.70	5.83	28.8	19.2	9.6	0.2	1.0	.020	1.0	
21	20.75	.496	75	.436	.75	0.4	S 13° W	1.81	1.95	31.2	11.1	25.2	1.0	17.0	*	17.0	
22	26.17	1.12	86	.712	.586	0.9	S 31° W	9.82	1.76	27.2	1.2	23.0	1.0	17.0	*	17.0	
23	4.63	.011	69	.812	.801	0.2	S 18° W	7.57	7.77	12.2	-8.0	20.2	1.0	17.0	*	17.0	
24	2.25	.012	75	.797	.753	0.1	S 69° W	6.77	6.90	16.6	-12.4	20.0	1.0	17.0	*	17.0	
25	23	11.70	.058	73	.433	.377	1.0	S 56° W	12.47	12.66	11.1	2.2	12.2	1.0	17.0	*	17.0
26	27	11.30	.059	75	.705	.616	0.4	S 34° W	8.75	8.87	19.0	0.9	18.1	1.0	17.0	*	17.0
28	28	11.40	.051	67	.30.011	.265	0.1	S 30° W	2.01	2.65	21.1	-33.6	25.0	1.0	17.0	*	17.0

## TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT, MARCH, 1855.

DAILY MEANS.	EXTREMES OF TEMPERATURE.		RAIN.	SNOW.	RAINS AND MELTED SNOW
	MAXIMUM.	MINIMUM.			
Dates.	Pressure of Air.	Humidity.	Barometric Pressure.	Relative Air.	Temperature of the Air.
Pressure.	Relative.	Humidity.	Barometric.	Dry Air.	WIND.
19-22	0.097	.82	30.001	29.904	0.5 S 55 W
2	29.65	.151	90	29.798	6.47 S 52 W
3	33.32	.170	90	32.625	6.45 S 52 W
4	37.65	.192	85	38.182	4.77 S 57 W
5	26.50	.126	85	48.2	5.27 S 55 W
6	23.35	.111	85	58.4	5.75 S 52 W
7	24.13	.117	84	59.1	5.56 S 57 W
8	19.38	.092	80	50.1	13.57 S 55 W
9	21.42	.116	84	50.1	15.1 S 55 W
10	21.42	.116	84	58.0	13.57 S 55 W
11	27.95	.120	79	726	1.65 S 29 E
12	28.17	.139	88	552	2.10 S 29 E
13	36.57	.179	83	344	2.14 S 42 W
14	36.10	.181	86	310	1.42 W 19.70
15	31.13	.185	78	730	1.42 W 19.70
16	35.38	.159	79	.323	1.22 W 19.70
17	35.38	.159	79	.164	1.22 W 19.70
18	28.50	.129	77	.506	1.41 W 19.70
19	23.73	.098	76	.613	1.41 W 19.70
20	24.03	.114	46	.634	1.42 W 19.70
21	25.13	.067	69	.652	1.42 W 19.70
22	29.57	.133	79	.28.984	1.42 W 19.70
23	24	.17.15	.076	.29.266	1.42 W 19.70
24	25	.27.82	.134	.113	1.47 W 19.70
25	23.12	.109	.85	.129	1.44 W 11.63
26	24.77	.102	.75	.559	1.44 W 11.63
27	33.17	.131	.69	.624	1.44 W 11.63
28	37.55	.160	.72	.540	1.44 W 11.63
29	30	.19.4	.308	.380	1.44 W 11.63
30	30.82	.19.4	.81	.114	1.44 W 11.63
31					

28.46 0.132 .91 29.513 29.384 0.7 N 55° W 1.76 9.05 36.32 19.63 16.89 1.485 20.0 18.4 44.2 3.295 64.2

### GENERAL METEOROLOGICAL ABSTRACT,—APRIL, 1855.

Days.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW.	
	Max.	Min.	Wind.	Wind.	Max.	Min.	Wind.	Wind.	Max.	Min.	Wind.	Wind.
1	22.10	0.076	63	29.529	29.453	.5	N 52° W 20.29.40	26.6	10.7	15.9	...	0.1
2	27.62	.112	72	.875	.763	0.2	N 46° W 21.77.22.10	32.4	16.2	16.2	...	2.0
3	33.27	.132	71	.872	.710	0.3	N 29° W 1.40	2.90	38.4	20.5	17.9	...
4	35.10	.182	81	.483	.301	0.4	S 27 E 1.38	1.18	16.4	27.0	19.4	...
5	32.10	.134	73	.508	.377	0.1	S 26 E 1.59	3.03	18.8	30.6	18.2	...
6	22.10	.197	77	.516	.319	0.3	N 37° W 10.88	12.25	45.4	20.0	25.4	*
7	47.30	.242	78	.442	.200	0.7	S 5 W 4.69	5.16	41.6	27.4	14.2	...
8	9.42	.63	79	.506	.343	0.9	S 64 W 6.50	8.83	55.8	32.2	23.6	.035
9	36.17	.163	79	.506	.348	0.9	S 70 W 7.00	4.96	6.95	54.5	32.8	.015
10	37.47	.160	74	.608	.808	0.9	S 64 W 11.52	14.53	19.2	27.0	22.2	.015
11	40.37	.146	62	.914	.768	0.4	S 26 W 21.04	21.09	45.1	28.5	16.9	.50
12	36.70	.181	84	.687	.506	0.9	N 17 W 7.61	7.98	52.2	32.4	19.8	...
13	47.30	.242	78	.442	.200	0.7	S 77 W 3.97	4.88	41.8	34.5	7.3	.655
14	55.02	.336	80	.467	.131	0.9	N 46 W 5.57	7.01	69.4	32.2	37.2	...
15	45.62	.221	72	.750	.529	0.0	S 8 W 2.03	2.17	65.3	35.0	30.3	...
16	50.52	.265	75	.592	.326	0.7	S 26 W 1.69	1.78	64.8	44.5	20.3	.095
17	53.60	.349	86	.473	.124	0.7	S 83 W 3.49	4.27	63.8	45.0	18.8	.025
18	54.98	.301	71	.639	.392	0.5	N 17 W 1.17	1.74	64.2	42.0	22.2	*
19	49.02	.247	73	.639	.392	0.3	S 6 W 2.87	4.91	61.0	30.4	30.6	...
20	48.25	.233	71	.707	.474	0.3	S 12 W 0.73	1.27	63.6	39.8	23.8	...
21	45.83	.269	88	.713	.444	1.0	S 15 W 9.04	9.29	62.8	35.0	27.9	...
22	45.35	.228	76	.695	.367	0.6	S 53 E 0.51	0.61	63.1	35.5	21.8	...
23	49.68	.239	68	.757	.518	0.2	S 32 W 1.88	3.60	66.2	44.2	21.8	...
24	54.98	.301	71	.637	.236	0.4	S 61 E 5.15	6.54	49.0	40.0	9.0	.695
25	45.83	.269	88	.713	.444	1.0	S 55 W 13.98	14.43	66.2	29.8	36.4	...
26	42.72	.135	52	.950	.815	0.1	S 35 W 10.37	1.29	55.2	29.4	35.8	...
27	37.00	.158	73	.903	.745	0.9	S 55 E 7.83	8.11	43.0	33.5	9.5	*
28	47.00	.283	89	.470	.187	1.0	S 82 E 6.61	6.65	42.2	36.5	5.7	.440
29	47.00	.283	89	.470	.187	1.0	S 64 E 1.20	2.79	57.2	39.0	18.2	.070
30	42.43	0.208	75	29.654	29.446	0.5	N 36 W 3.99	7.57	52.93	32.06	20.57	1.6

GENERAL METEOROLOGICAL ABSTRACT—MAY, 1855.

## TORONTO METEOROLOGICAL OBSERVATIONS.

DAILY MEANS.		WIND.		ESTIMATES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW.	
Days.	Pressure of Air	Temperature	Wind Velocity	Max. Min.	Average	Max. Min.	Average	Max. Min.	Average	Max. Min.	Average
1	37.35	30.350	76	29.313	29.313	0.4	29.20	29.12	24.12	63.0	63.0
2	51.72	25.1	68	73.65	54.1	0.5	57.71	9.12	9.37	59.9	11.8
3	52.20	21.0	55	57.63	51.1	0.3	51.51	5.39	7.57	63.6	11.2
4	52.05	18.8	51	78.84	59.6	0.0	51.15	11.80	11.98	63.1	39.0
5	53.25	22.1	57	76.61	54.0	0.0	51.15	9.72	10.72	57.6	25.2
6	57.07	20.0	63	52.21	52.21	0.5	51.17	11.70	11.63	57.0	27.0
7	37.68	20.0	90	47.76	27.1	0.2	51.17	11.58	11.58	63.0	10.0
8	45.38	18.2	58	61	57.70	0.9	51.20	7.58	7.58	33.0	16.0
9	50.12	20.1	58	51.00	61.5	0.1	51.20	5.69	7.49	33.2	10.0
10	51.97	20.0	54	63.51	65.1	0.1	51.20	1.85	3.88	62.2	25.2
11	54.33	21.0	71	51.00	52.81	0.6	51.12	11.96	11.96	67.5	11.5
12	53.13	23.0	75	60.67	57.77	0.7	51.12	11.42	11.42	71.2	13.1
13	59.85	23.0	79	38.80	28.984	0.7	51.12	6.25	6.25	67.2	22.2
14	56.17	23.0	75	46.67	42.20	0.7	51.12	6.96	6.96	60.2	22.2
15	53.62	21.6	74	42.56	29.210	0.4	51.12	8.13	8.13	66.4	20.7
16	53.82	21.5	54	47.50	53.35	0.1	51.12	19.19	19.19	67.2	25.5
17	55.00	23.2	56	61.95	61.95	0.6	51.12	6.79	6.79	65.0	18.1
18	53.13	30.3	76	41.82	1.82	1.0	51.12	6.79	6.79	65.0	18.1
19	53.13	23.0	68	51.00	52.20	0.1	51.12	7.27	7.27	77.5	13.5
20	53.25	23.1	60	52.96	52.96	0.1	51.23	0.59	1.66	62.6	32.6
21	56.53	25.1	57	51.12	26.61	0.6	51.00	0.55	0.89	65.7	13.4
22	56.17	29.5	68	52.25	23.22	0.4	51.12	1.19	3.03	65.0	22.3
23	57.72	31.1	71	51.00	51.00	0.5	51.18	2.07	4.84	76.0	39.1
24	51.40	26.1	62	50.01	51.00	0.0	51.18	11.68	11.68	65.2	10.2
25	53.22	18.1	48	53.33	61.19	0.0	51.20	11.20	11.20	61.8	10.2
26	57.97	26.8	60	50.05	50.05	1.0	51.04	1.04	1.04	68.6	36.4
27	56.00	26.1	58	57.54	48.6	0.4	51.18	1.10	1.10	73.2	30.9
28	57.72	31.1	71	51.00	51.00	0.5	51.18	2.56	2.56	72.6	25.6
29	56.25	14.0	75	53.33	53.33	0.9	51.18	6.01	72.0	57.0	15.0
30	57.72	31.1	71	51.00	51.00	0.5	51.18	11.6	11.6	48.0	11.6
31	60.25	14.0	75	53.33	53.33	0.9	51.18	11.6	11.6	48.0	11.6

## GENERAL METEOROLOGICAL ABSTRACT, - JUNE, 1855.

## TORONTO METEOROLOGICAL OBSERVATIONS.

CLIMATOLOGICAL ABSTRACT, —JULY, 1855.									
DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.	
Days	Pressure of Air, mm.	Wind Velocity, Miles per hour.	Wind Direction.	Maximum Temperature, °C.	Minimum Temperature, °C.	Hours of Rain.	Quantity of Rain, mm.	Hours of Snow.	Quantity of Snow, mm.
1	65.32	0.433	75	29.529	29.096	8.14	62.2	19.2	..
2	65.32	0.433	75	29.529	29.096	8.14	62.2	19.2	..
3	65.20	0.431	75	29.529	29.096	8.14	62.2	19.2	..
4	65.23	0.511	76	47.74	28.961	8.10	8.79	65.4	51.8
5	62.32	0.413	76	47.75	28.961	6.75	8.79	65.4	51.8
6	64.25	0.422	71	48.66	29.321	0.1	8.19	4.08	27.0
7	59.93	0.386	67	57.85	29.321	0.2	8.42	4.15	20.6
8	68.00	0.485	73	57.50	33.33	0.3	8.34	5.92	71.4
9	64.90	0.471	79	61.66	32.27	0.5	8.62	6.12	57.0
10	68.65	0.496	73	57.50	33.33	0.5	8.25	6.12	55.2
11	62.88	0.459	52	44.90	28.990	0.9	8.15	1.52	19.8
12	68.38	0.534	52	44.90	28.990	0.9	8.33	7.77	60.8
13	64.50	0.363	62	61.94	29.281	0.2	8.41	2.29	50.2
14	64.50	0.363	62	61.94	29.281	0.2	8.92	4.09	22.4
15	66.05	0.675	78	7.42	..	0.1	8.26	7.58	14.0
16	66.05	0.675	78	7.42	..	0.1	8.26	7.58	14.0
17	78.75	65.88	74	61.6	28.998	0.3	8.78	4.59	65.0
18	76.50	71.13	81	61.6	28.993	0.4	8.19	8.41	55.6
19	79.35	66.75	70	61.92	28.817	0.6	8.62	9.34	59.8
20	60.20	60.60	83	52.23	29.295	1.0	8.28	5.76	61.6
21	60.65	0.396	77	7.08	..	0.5	8.55	6.17	61.2
22	61.85	..	51	8.72	..	0.5	8.74	6.19	67.0
23	64.92	0.533	89	7.12	..	1.0	8.88	4.55	60.0
24	64.92	0.533	89	7.12	..	1.0	8.69	3.37	73.0
25	68.68	0.592	87	6.61	..	1.0	8.40	1.21	62.0
26	70.35	0.662	92	5.40	28.878	0.7	8.31	1.05	73.2
27	73.35	0.600	86	4.54	28.784	0.6	8.43	2.49	80.0
28	72.97	0.605	85	4.59	28.795	0.5	8.88	4.02	63.0
29	70.20	0.622	87	6.12	28.990	0.6	8.66	2.11	4.23
30	71.55	0.598	79	6.72	29.071	0.8	8.70	5.33	1.14
31	67.95	0.530	79	29.611	29.081	0.6	8.19	6.17	36.6

## TORONTO METEOROLOGICAL OBSERVATIONS.

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## GENERAL METEOROLOGICAL ABSTRACT,—AUGUST, 1855.

DAYS.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		R. IN.	SNOW.	RAINS AND MELTED SNOW.	
	Pressure of the Atmosphere in millibars.	Humidity of the Air in per cent.	Wind Velocity in miles per hour.	Wind Direction.	Min. Max.	Min. Max.				
1	70.88	0.663	83	20.686	0.5	N 64° E 2.77	70.8 1.42	65.6 14.2	...	
2	71.77	.627	83	.715	.088	0.1 N 77° E 3.35	71.5 1.75	64.0 17.5	...	
3	74.67	.605	81	.685	.020	0.3 S 15° W 3.58	71.7 1.71	63.5 14.7	.015 0.5	
4	72.75	.681	87	.593	.912	0.7 S 10° E 4.15	71.8 1.78	63.2 18.6	.380 0.7	
5	68.77	.469	70	.575	.206	0.3 N 17° E 3.78	6.11 1.11	76.0 60.0	...	
6	65.28	.134	72	.673	.238	0.4 N 18° W 1.61	6.82 0.82	77.6 71.6	51.2 23.4	
7	65.55	.500	83	.501	.392	1.0 S 75° E 6.37	7.88 1.42	77.0 72.6	60.0 63.8	
8	69.78	.510	73	.704	.694	0.4 S 55° W 6.17	7.95 1.42	79.2 73.0	53.0 26.2	
9	69.10	.320	62	.502	.482	0.2 S 51° W 6.17	8.21 1.42	79.5 71.5	50.0 20.5	
10	62.68	.132	77	.655	.226	0.4 S 79° E 5.66	6.79 1.42	72.2 72.2	56.5 15.4	
11	12	18.0	12	18.0	.614	S 79° W 1.81	6.39 1.42	79.2 71.2	61.2 4.5	
13	66.13	.108	63	.786	.378	0.2 N 40° W 5.49	6.67 1.42	77.2 72.2	52.5 24.4	
14	67.10	.385	67	.733	.398	0.6 N 9° W 2.80	5.27 1.42	71.0 71.0	33.0 18.0	
15	67.78	.517	75	.533	.016	0.6 S 17° E 2.73	5.13 1.42	76.8 76.8	61.6 12.2	
16	69.10	.407	71	.377	.580	1.0 N 73° W 1.73	9.06 1.42	52.0 52.0	* 31.2 * 17.5	
17	56.33	.260	59	.560	.300	0.6 W 1.20	15.45 1.42	67.8 67.8	25.0 12.5	
18	53.92	.263	66	.575	.614	0.3 N 55° W 5.97	8.39 1.42	66.2 66.2	40.0 26.2	
19	20	61.75	.409	.76	.816	.387	0.0 S 15° E 2.73	4.15 1.42	71.6 71.6	21.6 15.6
21	66.17	.493	79	.730	.237	0.3 S 18° W 2.73	4.31 1.42	71.2 71.2	51.8 22.4	
22	65.60	.513	84	.610	.127	0.9 S 52° W 2.73	6.29 1.42	76.8 76.8	58.5 19.4	
23	64.85	.507	84	.491	.984	0.7 N 14° W 1.90	3.88 1.42	70.0 70.0	26.0 26.0	
24	61.58	.420	72	.581	.161	0.4 S 10° W 3.51	5.41 1.42	70.4 70.4	55.2 21.2	
25	63.57	.487	81	.665	.177	0.5 S 79° E 2.73	3.61 1.42	76.0 76.0	58.4 17.6	
26	52.93	.256	65	.745	.619	0.0 N 11° W 1.66	9.91 1.42	74.5 74.5	16.4 16.4	
27	55.18	.290	69	.758	.468	0.0 S 12° E 1.95	4.62 1.42	72.8 72.8	13.2 13.2	
28	60.56	.395	75	.566	.171	0.6 S 55° W 6.89	11.83 1.42	67.2 67.2	22.4 11.8	
29	51.23	.274	67	.807	.623	0.6 N 6° W 3.69	7.51 1.42	75.4 75.4	20.1 14.4	
30	56.13	.352	79	.865	.513	0.6 N 75° E 1.06	4.64 1.42	70.0 70.0	23.0 19.4	
31	56.13	.352	79	.865	.513	0.6 N 75° E 1.04	4.64 1.42	70.0 70.0	23.0 19.4	

61.06 0.414 74 29.653 29.209 0.4 N 63° W 1.04 6.97 74.61 54.09 20.52 1.455 8.1

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—SEPTEMBER, 1855.

DAILY MEANS.	WIND.	EXTREMES OF TEMPERATURE.		RAIN. <sup>AM.</sup> MELTED SNOW	RAIN. <sup>AM.</sup> MELTED SNOW
		RAIN.	SNOW.		
1 71.23 0.563	76 29.629	20.006	0.6 N 32 W	7.15 11.43	.21.6 .00.0 22.6 0.125 1.5
2 55.60 .352	51 .772	.121	0.7 N 49 E	6.76 10.35	.71.2 .56.0 18.2 .035 1.5
3 55.60 .352	51 .772	.121	6.13 7.81	61.2 18.0	.13.2 .51.5 .07.0 .51.5 15.5
4 55.25 .336	73 .875	.539	0.0 5.91	5.49 7.50	.07.0 .51.5 .07.0 .51.5 .07.0
5 61.23 .338	75 .912	.516	0.0 N 63 E	6.24 7.01	.70.8 .52.5 18.0 .07.0 .51.5 .07.0
6 61.50 .333	72 .938	.565	0.0 N 65 E	7.19 7.53	.71.0 .19.2 .24.5 .07.0 .51.5 .07.0
7 63.97 .457	54 .843	.356	0.5 3.56	1.91 3.56	.74.6 .58.5 .15.5 .07.0 .51.5 .07.0
8 71.48 .585	75 .660	.075	0.5 N 32 W	5.72 6.36	.81.2 .66.8 .11.4 .18.5 .2.0 .07.0
9 61.52 .411	75 .667	.256	0.1 N 29 W	0.79 10.77	.92.4 .54.2 .28.2 .07.0 .51.5 .07.0
10 70.22 .589	51 .667	.018	0.1 N 59 E	2.45 3.81	.71.5 .51.0 .33.5 .07.0 .51.5 .07.0
11 73.65 .626	50 .517	.26	0.8 N 66 W	7.03 12.54	.81.8 .57.5 .24.0 .07.0 .51.5 .07.0
12 73.65 .626	50 .517	.26	0.8 N 66 W	14.18 11.48	.91.2 .53.0 .23.5 .07.0 .51.5 .07.0
13 58.93 .311	65 .785	.29.175	0.4 N 43 E	6.36 6.56	.96.5 .56.2 .17.3 .07.0 .51.5 .07.0
14 54.67 .301	72 .777	.476	0.3 N 56 E	7.19 .79	.93.5 .50.0 .18.8 .07.0 .51.5 .07.0
15 58.02 .391	52 .610	.249	0.1 N 75 E	1.77	.51.0 .51.0 .51.0 .51.0 .51.0 .51.0
16 .	.	.	0.1 N 54 W	2.48	.6.33 .75.8 .58.2 .14.0 .2.35 .13.0
17 66.25 .570	61 .525	.28.957	0.8 N 25 E	0.56 0.59	.72.2 .58.2 .14.0 .2.35 .13.0
18 63.35 .329	77 .682	.29.363	0.8 N 25 E	0.69 0.65	.61.5 .36.0 .25.5 .27.5 .4.0 .07.0
19 44.12 .206	72 .30.016	.811	0.0 N 63 E	5.32 5.76	.51.5 .36.5 .15.0 .07.0 .51.5 .07.0
20 50.83 .250	69 .583	.633	0.1 N 74 E	5.56 5.51	.56.8 .45.2 .10.6 .07.0 .51.5 .07.0
21 54.75 .391	93 .613	.252	1.0 N 27 E	1.86 2.52	.58.2 .47.0 .12.2 .010 .2.0 .07.0
22 55.50 .336	79 .779	.102	0.7 N 14 W	0.63 0.65	.00.8 .16.1 .11.1 .00.8 .16.1 .11.1
23 .	.	.	0.8 N 69 E	6.08 7.51	.63.2 .51.5 .14.7 .55.0 .6.0 .07.0
24 62.15 .157	51 .806	.319	0.6 N 19 E	1.46 1.57	.60.2 .53.5 .13.7 .55.0 .6.0 .07.0
25 65.23 .516	90 .570	.021	0.5 N 34 E	3.79 5.29	.70.6 .55.5 .15.1 .86.5 .1.2 .07.0
26 61.02 .128	76 .326	.28.808	0.5 N 31 W	0.49 1.10	.73.8 .15.0 .28.8 .00.5 .0.1 .07.0
27 47.52 .223	69 .615	.29.142	0.4 N 33 W	12.19 12.17	.54.8 .33.0 .21.5 .00.5 .0.1 .07.0
28 46.84 .511	90 .838	.581	0.1 N 75 E	2.31 1.59	.56.0 .33.0 .17.0 .38.5 .1.5 .07.0
29 55.06 .352	52 .656	.304	0.7 N 52 E	5.84 7.23	.61.2 .17.0 .14.2 .015 .2.5 .07.0
30 .	.	.	N 75 W	1.13 9.42	.61.8 .50.0 .11.8 .015 .2.5 .07.0

<sup>0</sup> 50.49 0.406 79 29.721 29.315 0.1 N 20 E 1.29 7.61 6.8 11.49 0.1 S 51 5.585 13.6

50.49 0.406 79 29.721 29.315 0.4 N 20 E 1:29 7.61 68 11 43.91 8.51 5.585 13.6

### GENERAL METEOROLOGICAL ABSTRACT—OCTOBER, 1855.

DAYS.	DAILY MEANS.		WIND.		EXCESS OF TEMPERATURE.		RAIN.		SNOW.		RAINS AND MELTING SNOW.	
	MAX.	MIN.	DIR.	SPD.	MAX.	MIN.	AMOUNT.	DEPTH.	AMOUNT.	DEPTH.	AMOUNT.	DEPTH.
1	56.465	0.401	N	29.412	29.012	0.5	N 55 W	1.00	4.55	65.6	50.0	15.6 0.285
2	55.422	.380	S	.300	28.320	0.4	N 66 W	2.20	1.12	61.6	18.8	12.5 .020
3	53.412	.305	77	.275	28.373	0.6	N 43 W	9.32	10.32	60.6	38.0	22.6
4	53.73	.335	S2	.356	29.020	0.6	N 60 W	1.0	1.0	61.6	15.0	19.6 *
5	53.83	.347	S9	.365	28.908	1.0	N 60 W	1.0	1.0	68.0	18.2	43.0 6.0
6	46.03	.261	S1	.310	29.049	0.8	N 60 W	1.0	1.0	51.0	36.0	15.0 1.60
7	42.07	.227	S5	.552	22.25	0.7	N 55 W	1.0	1.0	51.1	36.4	15.0 *
8	50.25	.304	S3	.618	31.14	0.5	S 69 W	2.85	7.15	61.8	38.2	23.6
9	48.72	.289	S5	.800	.510	0.4	N 71 E	7.20	7.55	55.0	40.8	14.2 .015
10	48.70	.246	S2	.51	.525	0.5	S 80 W	12.75	13.97	55.8	22.6	33.2 1.5
11	36.22	.166	T0	.700	.554	0.6	S 72 W	10.32	10.67	41.0	25.8	16.2 *
12	36.62	.183	S4	.502	.318	1.0	S 72 W	14.31	14.47	13.0	27.5	6.0 0.8
13	46.12	.263	S4	.560	.297	0.6	N 10 W	4.39	5.22	48.2	36.8	11.4 .030
14	46.12	.263	S4	.560	.286	0.6	West	5.38	7.71	54.8	28.8	26.0
15	40.90	.203	S9	.776	.573	0.7	S 69 W	8.11	8.27	45.6	25.0	20.6
16	49.90	.289	S2	.578	.580	0.3	S 15 E	4.87	6.32	49.2	25.8	1.0 .020
17	51.97	.310	S0	.570	.260	0.5	S 26 E	5.65	5.47	59.5	36.8	22.7
18	51.97	.310	S0	.570	.312	0.7	S 13 E	5.69	7.95	63.6	15.0	18.6
19	53.57	.304	S6	.616	.312	0.7	S 17 W	9.55	9.91	61.2	15.0	17.0
20	53.57	.304	S6	.616	.312	0.7	S 70 W	2.80	16.93	55.7	34.4	21.1 .510
21	40.40	.178	S2	.506	.418	0.6	S 59 W	8.11	9.45	10.4	28.6	20.8
22	34.83	.166	S2	.617	.417	0.9	S 58 W	6.25	6.48	37.4	23.8	13.6 .047
23	34.98	.135	S7	.630	.465	0.8	S 36 W	13.80	14.09	36.8	24.4	9.4
24	31.87	.150	S5	.571	.421	0.8	S 75 W	11.11	12.57	39.4	27.4	12.0
25	31.87	.150	S5	.571	.421	1.0	S 25 W	15.20	16.99	15.6	32.2	13.4 .015
26	11.40	.171	S6	.442	.261	1.0	S 25 W	12.85	15.16	10.8	35.0	14.8 .015
27	13.87	.244	S5	.250	.066	0.9	S 74 W	11.38	15.67	18.6	28.0	6.0 .250
28	11.03	.222	S7	.580	.325	0.8	S 32 W	6.03	8.68	52.1	31.0	20.6 *
29	13.57	.118	S1	.751	.583	0.3	S 66 W	10.62	11.8	53.0	30.1	22.6 .045
30	41.25	.236	S4	.730	.493	1.0	S 60 E	5.13	7.92	52.6	36.6	16.0 .120
31	41.25	.236	S4	.730	.493	1.0	S 60 E	5.13	7.92	52.6	36.6	16.0 .120
32	45.39	0.247	S8	29.551	29.304	0.7	N 32 W	1.91	9.88	52.60	34.55	18.5 0.8

### TORONTO METEOROLOGICAL OBSERVATIONS.

## TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT,—NOVEMBER, 1855.

DAYS	DAILY MEANS.		WIND.	EXTREMES OF TEMPERATURE.		RAIN.	SNOW.	RAINS AND MELTED SNOW
	Max. Temp.	Min. Temp.		Max. Wind.	Min. Wind.			
1	46.92	0.237	73	29.616	20.378	0.6	N 14 W	8.26 10.21 54.0 33.2 20.8 *
2	40.03	.163	67	.805	.612	0.1	S 30 E	6.81 7.21 15.8 26.4 19.4
3	35.13	.157	77	.829	.672	0.1	N 21 E	6.75 7.28 B.2 23.6 19.6
4	46.63	.25	82	.760	.504	0.9	N 70 E	3.10 5.60 14.5 26.8 17.7
5	49.62	.245	84	.602	.307	0.9	S 78 E	11.10 11.89 5.0 39.0 13.0
6	49.58	.328	93	.556	.228	1.0	S 88 E	7.79 7.81 52.8 B.0 9.8 1.030 15.0
7	43.15	.214	77	.894	.680	0.1	S 20 W	2.87 6.01 53.1 33.8 19.6 1.005 11.0
8	40.95	.163	76	.30.53	.866	0.1	S 38 W	1.09 6.02 10.5 27.8 22.0
9	41.53	.223	50	.790	.557	0.9	S 6 E	3.87 6.35 46.0 32.0 11.0
10	41.53	.223	50	.790	.557	0.9	S 6 E	3.87 6.35 46.0 32.0 11.0
11	30.13	.344	95	.590	.249	0.7	S 16 E	3.14 8.87 51.4 39.0 15.1 1.126 10.0
12	35.77	.205	68	.828	.623	0.0	S 54 W	8.73 9.05 53.2 31.0 21.2
13	43.97	.166	68	.872	.676	0.3	S 37 W	2.08 3.15 34.6 31.6 23.0
14	47.02	.269	81	.610	.311	1.0	S 14 E	2.00 3.97 50.2 11.0 18.2 1.130 2.0
15	38.35	.184	74	.631	.433	0.7	S 32 W	13.80 16.07 66.1 23.2 23.2
16	30.70	.117	84	.574	.427	0.9	S 70 E	11.08 17.08 37.0 23.4 13.6 1.180 4.0
17	37.78	.163	72	.321	.158	0.9	S 84 W	18.52 23.21 B.0 19.8 23.2 .005 0.2
18	28.35	.126	80	.793	.667	0.1	S 72 W	9.48 10.27 37.6 20.0 17.6
19	28.30	.180	80	.886	.755	0.6	S 82 W	12.39 12.91 32.4 19.2 13.2
20	29.20	.146	89	.906	.760	0.8	S 44 E	5.16 6.88 10.0 22.0 18.0
21	34.53	.152	73	.503	.350	1.0	S 64 W	15.38 19.88 H.2 21.0 20.2
22	27.55	.120	73	.946	.826	0.8	S 88 W	11.9.30 38.0 20.0 18.0
23	37.78	.163	72	.321	.158	0.9	S 84 W	18.52 23.21 B.0 19.8 23.2 .005 0.2
24	28.35	.126	80	.793	.667	0.1	S 72 W	9.48 10.27 37.6 20.0 17.6
25	35.92	.160	76	.425	.265	0.7	S 51 W	8.42 11.43 15.2 34.4 10.8 .100 3.0
26	39.52	.157	65	.226	.069	0.5	S 83 W	13.07 14.61 B.2 25.8 14.1 *
27	34.13	.125	68	.137	.012	0.7	S 39 W	13.77 13.86 6.0 30.2 15.8
28	24.80	.105	77	.526	.422	0.1	S 29 W	15.18 10.0 12.0 15.5 26.5
29	32.68	.137	73	.586	.419	0.1	S 70 W	10.28 10.48 30.0 21.0 9.0
30	32.68	.137	73	.586	.419	0.1	S 14 W	10.87 11.38 39.8 32.2 7.6

38.58 0.190 77 29.661 29.175 0.6 N 66° W 3.18 10.81 15.50 25.74 16.76 1.590 57.2 3.0 11.0 4.890 68.2

38.58 0.190 77 29.664 29.175 0.6 N 66° W 3.18 10.81 5 50.28 71.16 76.1 59.0 57.2 3.0 11.0 4.890 68.2

### GENERAL METEOROLOGICAL ABSTRACT,—DECEMBER, 1855.

DAILY MEANS.	WIND.		EXTREME OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW.		
	Days.	Pressure of Air	Humidity.	Barometer.	Min. & Max.	Velocity of Wind.	Direction.	Depth in inches.	Duration in hours.	Depth in inches.	Duration in hours.
1 41.78 0.194	76	29.268	29.074	0.6	S 31 W 10.02 10.31	46.4	35.0	11.4	1.5	0.145	1.5
2 32.33 .146	75	.380	.234	0.3	S 77 W 13.15 14.23	46.2	30.8	15.4	0.145	* *	*
3 34.33 .144	74	.654	.510	0.4	S 62 W 9.69 10.05	40.0	26.4	12.6	..	..	..
4 37.32 .167	75	.608	.531	0.1	S 35 W 6.69 6.91	45.6	29.2	16.4	..	..	..
5 37.33 .179	79	.697	.518	0.6	West.	6.60	9.02	14.5	29.5	15.0	1.5
6 32.32 .144	78	.992	.848	0.4	N 6 W 5.02 7.00	42.8	25.8	17.0	..	* *	*
7 35.97 .175	82	.578	.403	1.0	S 69 E 11.75 11.78	38.2	31.4	6.8	1.030	13.5	..
8 23.98 .103	76	.029	.28.926	1.0	S 56 W 10.09 17.84	47.0	26.0	21.0	.140	1.1	..
9 21.30 .074	63	.786	.29.711	0.3	N 61 W 15.85 19.30	28.4	15.6	12.8	* *	* *	*
10 24.70 .109	80	30.102	.993	0.7	S 88 E 3.02 6.82	26.8	15.4	11.1	..	..	..
11 25.68 .120	84	30.097	.839	1.0	N 1 W 5.39 5.57	29.2	17.0	12.2	..	..	..
12 30.30 .152	87	29.926	.774	1.0	S 89 W 13.23 14.15	38.8	23.6	15.0	..	..	..
13 38.42 .195	84	.626	.431	1.0	S 40 W 2.17 4.29	12.0	30.2	11.8	.015	0.2	..
14 31.30 .133	73	.177	.345	0.7	S 56 W 1.07 6.73	39.8	30.0	9.8	..	..	..
15 22.05 .081	67	.825	.744	0.7	S 88 W 10.44 10.66	25.8	17.4	8.1	..	..	..
16 22.12 .003	76	.924	.831	0.4	N 41 W 2.65 3.54	27.8	14.0	13.8	..	..	..
17 23.35 .131	80	.866	.735	0.8	S 33 W 6.35 6.73	37.0	16.5	20.5	..	..	..
18 38.67 .166	72	.355	.267	1.0	S 35 W 6.91 9.69	42.5	31.8	10.7	..	..	..
19 32.90 .165	80	.312	.147	1.0	N 36 E 7.42 11.03	31.2	22.4	11.8	..	..	..
20 16.90 .075	76	.985	.910	0.7	S 76 W 12.46 14.23	36.2	21.4	14.8	..	..	..
21 11.12 .057	74	.775	.718	0.4	S 80 W 15.82 16.54	16.6	5.8	10.8	..	..	..
22 12.25 .064	75	30.017	.553	0.6	S 74 W 16.45 16.59	18.9	5.6	13.3	..	..	..
23 6.60 .052	78	29.598	.834	1.0	S 49 W 6.44 9.28	20.4	—5.2	25.6	..	..	..
24 17.73 .082	79	.608	.556	1.0	S 29 E 14.82 16.28	10.8	—2.2	13.0	..	..	..
25 11.12 .057	74	.686	.604	0.4	S 6 W 16.37 16.56	25.0	1.8	21.2	..	..	..
26 12.28 .064	75	.608	.556	1.0	S 68 W 12.29 12.13	22.0	10.6	11.1	..	..	..
27 17.73 .082	77	29.702	.579	0.7	S 88 W 5.29 11.38	32.9	18.75	11.16	1.845	28.8	29.5
28 11.12 .057	75	.608	.556	1.0	S 68 W 12.29 12.13	22.0	10.6	11.1	..	..	..
29 6.60 .052	77	.608	.556	1.0	S 68 W 12.29 12.13	22.0	10.6	11.1	..	..	..
30 17.73 .082	79	.686	.604	0.4	S 68 W 12.29 12.13	22.0	10.6	11.1	..	..	..
31 11.12 .057	74	.686	.604	0.4	S 68 W 12.29 12.13	22.0	10.6	11.1	..	..	..

GENERAL METEOROLOGICAL ABSTRACT,—JANUARY, 1856.

## TORONTO METEOROLOGICAL OBSERVATIONS.

## TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT,—FEBRUARY, 1856.

Days.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW.	
	Temperature of Air.	Relative Humidity.	Barometric Pressure.	Wind Velocity.	Minimum.	Maximum.	Difference.	Depth in inches.	Hours.	Depth in inches.	Hours.	Approximate duration in hours.
1	21.50	0.104	.94	.29.171	.29.067	0.5	S 74 W 12.84 14.12	.0	4.6	25.9	0.4	6.3
2	2.10	.012	.77	.356	.314	0.3	N 85 W 15.05 15.17	16.8	-7.0	33.8	.040	6.3
3	8.20	.046	.69	.515	.468	0.6	S 85 W 11.83 12.59	10.2	-5.8	16.0	...	...
4	9.27	.054	.69	.880	.826	0.4	S 79 W 18.35 18.44	12.0	3.0	9.0	...	...
5	9.55	.057	.76	.929	.872	0.9	S 73 W 13.03 13.08	16.0	-1.5	17.5	...	...
6	25.33	.119	.85	.450	.331	0.8	S 54 W 2.68 7.01	25.2	0.2	25.0	1.6	7.0
7	6.73	.017	.74	.610	.563	0.4	N 67 W 7.35 11.00	30.6	4.0	26.6	0.3	3.0
8	9.30	.054	.73	.584	.530	0.6	S 25 W 5.09 5.94	16.0	-2.0	18.0	...	...
9	10.28	.027	.74	.612	.563	0.4	S 88 W 6.84 7.08	19.2	-1.8	21.0	*	2.3
10	28.90	.145	.90	.175	.130	0.1	N 13 W 7.95 11.64	20.5	9.4	20.1	5.0	17.0
11	12.10	.032	.62	.312	.310	0.1	N 65 W 18.21 18.59	10.0	-18.7	8.0	...	...
12	6.88	.027	.77	.832	.805	0.1	N 88 W 6.13 6.47	5.8	-18.7	24.5	...	...
13	1.82	.035	.66	.664	.629	0.2	S 75 W 10.22 10.46	12.2	-10.8	23.0	...	...
14	19.00	.091	.83	.129	.038	1.0	S 46 W 13.65 13.83	26.4	9.2	17.2	0.3	6.5
15	21.17	.099	.82	.28.897	.28.798	0.8	S 52 W 12.88 15.37	31.8	5.5	26.3	2.0	20.0
16	3.80	.038	.68	.29.600	.29.562	0.0	N 65 W 13.40 14.37	12.5	-0.5	13.0	0.1	0.5
17	19.32	.069	.70	.721	.651	0.5	S 50 W 14.56 15.67	11.2	-1.0	12.2	...	...
18	29.87	.110	.78	.400	.280	0.9	N 88 W 11.98 12.40	31.8	14.5	20.3	...	...
19	25.33	.116	.81	.369	.290	0.4	S 38 W 4.31 5.10	37.8	13.6	24.2	...	...
20	27.08	.110	.73	.229	.253	0.6	S 33 W 0.28 3.21	36.8	12.2	24.6	...	...
21	19.30	.082	.75	.371	.289	0.5	N 42 W 13.13 14.23	36.3	10.5	25.8	...	...
22	18.65	.077	.72	.582	.505	0.1	S 70 W 4.45 6.17	29.0	6.2	22.5	...	...
23	21.05	.089	.75	.563	.474	0.6	N 31 W 2.92 6.28	29.5	6.2	23.3	...	...
24	22.60	.097	.76	.657	.560	0.6	N 32 E 9.01 10.81	29.1	10.5	18.6	...	...
25	25.57	.114	.80	.772	.658	1.0	N 37 W 2.86 5.37	32.8	12.8	17.2	...	...
26	15.60	0.080	.76	.29.458	.29.409	0.6	N 81 W 7.70 10.71	24.22	3.57	20.65	...	9.7
27	21.05	0.089	.75	...	...	...	...	...	...	...	50.6	0.4970
28	22.60	0.097	.76	...	...	...	...	...	...	...	50.6	0.4970
29	25.57	0.114	.80	...	...	...	...	...	...	...	50.6	0.4970

GENERAL METEOROLOGICAL ABSTRACT—MARCH, 1856.

DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.	
Days.	Pressure of Atmosphere.	Wind.	Wind.	Min.	Max.	Depths in inches.	Difference in hours.	Depths in inches.	Approximation in hours.
1	21.15	0.113	.84	20.591	20.178	1.0	28.2	20.40	8.2
2	19.57	.081	.73	.609	.528	.4	28.6	11.16	17.0
3	21.72	.111	.92	.411	.303	.5	8.5	.80	11.01
4	22.22	.090	.73	.460	.370	.7	55.5	12.41	13.20
5	16.40	.071	.72	.425	.351	.4	64.0	11.93	15.35
6	15.02	.076	.79	.446	.370	.5	70.0	11.45	11.21
7	11.03	.035	.69	.694	.659	.1	67.0	14.01	14.38
8	9.0	.055	.65	.652	.575	.1	59.0	7.46	8.71
9	11.28	.071	.69	.463	.392	.6	72.0	18.75	19.15
10	12.25	.058	.76	.362	.304	.3	69.0	11.36	18.52
11	13.90	.085	.71	.724	.638	.5	34.0	6.61	7.83
12	26.00	.102	.70	.721	.619	.6	37.0	6.27	8.61
13	28.77	.120	.75	.718	.567	.9	90.0	8.66	9.88
14	31.90	.132	.86	.445	.392	.5	62.0	5.25	5.66
15	31.80	.126	.75	.382	.256	.1	69.0	8.92	9.92
16	31.90	.128	.72	.525	.397	.1	19.0	5.36	5.46
17	30.65	.115	.68	.797	.682	.3	86.0	4.35	4.55
18	28.55	.118	.74	.709	.651	.4	61.0	3.27	3.63
19	31.80	.132	.86	.445	.263	1.0	26.0	1.52	1.49
20	29.82	.126	.75	.382	.256	0.6	69.0	2.92	3.19
21	22.22	.091	.73	.525	.397	0.1	19.0	5.36	5.46
22	21.68	.072	.60	.660	.588	0.1	49.0	2.21	4.48
23	20.90	.075	.61	.3022	.947	0.0	63.0	15.65	15.91
24	23.06	.069	.74	20.559	20.460	0.5	35.0	11.38	17.60
25	33.18	.146	.77	.542	.396	0.5	58.0	10.65	11.79
26	30.50	.182	.78	.466	.334	0.7	71.0	15.81	15.50
27	23.88	.096	.65	.392	.306	0.7	35.0	24.24	21.95
28	20.50	.091	.73	.507	.416	1.0	49.0	17.17	18.53
29	21.68	.072	.60	.660	.588	0.1	63.0	15.15	15.0
30	20.90	.075	.61	30.022	.947	0.0	35.0	11.15	12.12
31	23.06	.069	.74	20.559	20.460	0.5	35.0	11.38	17.60

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—APRIL, 1856.

GENERAL METEOROLOGICAL ABSTRACT,—APRIL, 1856.											
DAILY MEANS.				WIND.				EXTREMES OF TEMPERATURE.			
Days.	Temperature of Air.	Pressure of Air.	Humidity.	Pressure of Barometer.	Dewy Air.	Sky.	Resultant Wind.	Velocity.	Maximum.	Minimum.	Difference.
1	27.35	0.124	.80	29.961	29.837	.0.1	.8	.76 E	.1.75 W	.35.8 W	.1.4.2
2	34.92	.172	.85	.431	.259	.0.9	.8	.76 E	.4.50 E	.37.3 W	.32.0
3	37.95	.106	.86	.250	.474	1.0	.8	.42 W	.6.17 E	.43.2 W	.33.5
4	34.45	.163	.82	.474	.311	1.0	.8	.43 W	.6.35 E	.29.8 W	.17.5
5	36.72	.163	.76	.636	.473	0.7	.X	.39 W	.5.81 E	.45.0 W	.13.5
6	41.72	.171	.69	.709	.538	0.4	.S	.37 W	.1.07 E	.45.8 W	.15.6
7	45.07	.206	.69	.635	.463	0.1	.S	.60 E	.1.31 E	.51.2 W	.20.7
8	35.75	.129	.62	.944	.815	0.4	.X	.34 W	.5.25 H	.58.8 W	.29.4
9	39.95	.200	.83	.501	.296	1.0	.S	.65 E	.2.51 E	.42 W	.17.4
10	41.15	.219	.87	.496	.217	0.5	.S	.56 E	.1.75 E	.46.0 W	.28.6
11	36.67	.183	.83	.325	.142	0.8	.S	.6 W	.12.87 N	.23.9 W	.16.4
12	46.03	.244	.80	.391	.147	0.4	.S	.45 W	.2.72 E	.34.8 W	.12.0
13	44.20	.183	.64	.645	.462	1.0	.S	.2 W	.0.81 E	.40.5 W	.33.2
14	43.35	.227	.81	.466	.239	0.9	.N	.59 E	.15.31 E	.43.2 W	.7.3
15	37.22	.202	.91	.237	.035	0.7	.N	.84 E	.5.25 E	.53.5 W	.15.7
16	46.27	.257	.82	.427	.170	1.0	.S	.65 W	.0.88 E	.55.1 W	.15.6
17	46.03	.244	.80	.391	.147	0.9	.S	.65 W	.2.15 E	.53.1 W	.13.8
18	44.20	.183	.64	.645	.462	0.3	.N	.33 E	.6.00 E	.50.5 W	.32.2
19	43.35	.227	.81	.466	.239	1.0	.N	.18 E	.13.88 E	.31.5 W	.16.3
20	37.22	.202	.91	.237	.035	0.7	.N	.46 E	.1.45 E	.51.2 W	.31.5
21	41.25	.209	.81	.417	.208	0.1	.S	.81 E	.2.03 E	.52.8 W	.20.1
22	43.35	.233	.83	.535	.302	0.5	.S	.2 W	.1.35 E	.54.4 W	.18.2
23	52.02	.251	.66	.798	.518	0.0	.S	.61 E	.1.31 E	.63.2 W	.39.0
24	52.55	.269	.69	.758	.480	0.3	.S	.56 E	.4.22 E	.63.5 W	.21.9
25	59.83	.271	.56	.461	.190	0.5	.S	.67 W	.7.67 W	.65.2 W	.14.8
26	53.10	.249	.61	.628	.370	0.2	.S	.28 W	.3.46 E	.67.1 W	.26.7
27	47.75	.212	.65	.817	.635	0.7	.S	.83 E	.13.84 E	.54.6 W	.42.2
28	39.83	.271	.56	.461	.190	0.5	.S	.67 W	.7.70 W	.72.2 W	.12.4
29	33.10	.249	.61	.628	.370	0.2	.S	.28 W	.3.46 E	.67.1 W	.28.4
30	47.75	.212	.65	.817	.635	0.7	.S	.83 E	.13.84 E	.54.6 W	.42.2

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT, -MAY, 1856.

GENERAL METEOROLOGICAL ABSTRACT, JUNE, 1856.

# GENERAL METEOROLOGICAL ABSTRACT, -JUNE, 1856.

DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW	
Dates.	Temperature of the Air.	Pressure of Vapor.	Relative Humidity.	Broadhurst's Barometer.	Pressure of Dry Air.	Clouded Skies.	Scattered Clouds.	Altitude Velocity.	Wind. Direction.	Approximate Depth, in Inches.	Approximate Duration in hours.
1	54.80	0.364	86	29.651	29.287	0.6	5.39	70.0	.42	0	28.00
2	61.02	.47	89	.599	.129	1.0	5.22	63.2	.49	.3	.035
3	57.33	.354	78	.731	.377	1.0	5.77	5.29	.70	.51	1.5
4	57.17	.396	87	.699	.303	0.8	5.64	4.97	.61	.47	.015
5	53.97	.372	90	.513	.141	0.9	5.59	5.21	.61	.50	4.0
6	61.13	.61	81	.501	.050	0.2	5.76	5.39	.60	.50	12.8
7	61.57	.425	80	.505	.080	0.0	5.66	6.34	.67	.57	...
8	59.08	.419	86	.431	.012	0.7	5.10	6.39	.47	.52	...
9	59.10	.383	78	.349	.28.966	0.6	5.35	6.70	.55	.50	...
10	55.18	.357	84	.401	29.044	1.0	5.36	6.73	.72	.58	...
11	58.15	.348	74	.661	.313	0.1	5.19	6.19	.26	.26	...
12	60.45	.352	68	.606	.254	0.6	5.89	5.91	.57	.52	...
13	60.43	.430	83	.524	.094	0.4	5.78	5.06	.45	.40	...
14	65.35	.487	80	.564	.077	0.0	5.27	5.64	.61	.50	...
15	70.13	.566	77	.598	.032	0.3	5.36	6.28	.60	.50	...
16	74.57	.575	70	.677	.102	0.1	5.34	6.43	.47	.45	...
17	59.12	.355	74	.750	.386	0.3	5.31	5.11	.47	.47	...
18	60.45	.376	74	.569	.133	0.7	5.84	5.91	.92	.81	...
19	66.22	.344	74	.493	.28.949	0.5	5.50	5.52	.75	.75	...
20	69.18	.534	76	.488	.28.951	0.3	5.43	2.85	.42	.35	...
21	64.42	.360	62	.623	.29.263	0.1	5.35	6.71	.73	.58	...
22	73.08	.582	73	.351	.28.769	0.1	5.35	6.39	.45	.45	...
23	59.12	.364	73	.750	.386	0.3	5.61	5.91	.85	.83	...
24	60.45	.376	74	.569	.133	0.7	5.84	5.91	.92	.81	...
25	66.22	.344	74	.493	.28.949	0.5	5.50	5.52	.75	.75	...
26	69.18	.534	76	.488	.28.951	0.3	5.43	2.85	.42	.35	...
27	73.08	.582	73	.351	.28.769	0.1	5.35	6.39	.45	.45	...
28	67.82	.469	71	28.975	.444	0.3	5.65	6.65	.55	.55	...
29	67.82	.469	71	28.975	.444	0.3	5.65	6.65	.55	.55	...
30	67.82	.469	71	28.975	.444	0.3	5.65	6.65	.55	.55	...

## TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT, -JULY, 1856.

DAILY MEANS.		WIND.		EXTREME OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW.	
DATA.	PRESSURE AT 4 P.M.	WIND DIRECTION.	VELOCITY.	MAXIMUM.	MINIMUM.	DURATION IN HOURS.	DEPTH IN FEET.	APPROXIMATE IN HOURS.	DEPTH IN FEET.	APPROXIMATE IN HOURS.	APPROXIMATE IN HOURS.
1	60.03	0.354	70	29.818	29.464	0.1	S 64 E .16	3.94	67.4	51.0	16.4
2	(60.18)	.312	68	.660	.318	0.5	S 65 E 1.72	2.39	70.2	52.4	17.8
3	73.32	.505	63	.421	.917	0.3	S 72 E 3.57	.70	87.0	60.0	27.0
4	(63.80)	.394	68	.515	.291	1.4	S 16 E 1.6	3.05	71.4	49.5	21.9
5	66.82	.139	69	.415	.006	0.4	S 69 W 1.2	6.26	7.83	51.2	34.4
6	77.78	.318	67	.611	.323	0.3	S 18 W 7.76	6.16	65.0	50.0	15.4
7	63.73	.394	68	.612	.248	0.3	S 76 E 7.66	8.10	70.6	57.2	13.4
8	63.83	.456	79	.660	.204	0.2	S 86 E 20.0	3.86	5.41	72.0	57.0
9	67.33	.511	79	.631	.120	0.0	S 20 E 2.22	1.81	77.0	58.0	19.0
10	70.57	.538	74	.458	.2920	0.2	S 33 E 3.81	4.01	78.8	62.2	16.6
11	71.70	.57	79	.471	.285	0.6	S 92 E 2.62	3.14	75.4	62.0	13.4
12	68.93	.560	82	.284	.284	0.6	S 31 W 2.54	3.07	81.4	61.4	20.0
13	73.73	.631	79	.528	.287	0.9	S 33 W 3.12	4.05	81.8	67.0	18.8
14	73.32	.516	67	.686	.29.070	0.3	S 29 W 5.21	5.52	84.6	57.6	27.0
15	76.50	.589	67	.631	.012	0.2	S 23 W 5.11	5.52	86.0	63.0	23.0
16	71.77	.691	68	.471	.28.57	0.4	S 51 W 7.40	7.40	86.6	69.6	21.6
17	71.60	.423	57	.448	.29.024	0.6	S 53 W 13.85	15.86	83.4	58.5	24.9
18	73.32	.585	72	.778	.236	0.5	S 10 W 10.0	9.97	84.2	61.0	23.2
19	65.90	.415	66	.579	.164	0.5	S 26 W 14.56	14.85	76.4	55.5	20.9
20	66.07	.412	66	.505	.393	0.5	S 12 W 5.6	9.26	10.03	55.8	35.8
21	69.90	.395	58	.804	.409	0.1	S 45 W 3.75	4.41	78.0	54.0	24.0
22	73.32	.538	52	.512	.236	0.5	S 10 W 10.0	9.97	82.6	57.0	25.0
23	75.32	.585	64	.759	.230	0.1	S 37 W 3.74	4.28	87.6	63.5	11.5
24	76.75	.548	63	.662	.114	0.0	S 30 W 5.0	4.12	55.7	64.0	24.4
25	79.80	.537	57	.617	.080	0.7	S 50 W 5.56	2.77	4.11	90.2	68.2
26	74.70	.607	74	.614	.007	0.6	S 51 W 3.48	3.00	57.0	67.6	19.4
27	70.97	.641	87	.432	.28.791	0.6	S 12 W 48.9 W	7.58	5.83	86.5	67.0
28	73.27	.487	63	.471	.28.984	0.5	S 54 E 2.01	4.03	80.0	57.0	28.7
29	67.97	.440	68	.603	.29.163	0.7	S 54 E 2.01	4.03	80.0	57.0	23.0
30	69.90	0.489	69	29.591	29.102	0.4	N 70 W N 70 W	1.57	5.84	30.36	30.42
31										1.20	9.8

## TORONTO METEOROLOGICAL OBSERVATIONS.

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## GENERAL METEOROLOGICAL ABSTRACT,—AUGUST, 1856.

DATE.	DAILY MEANS.			WIND.			EXTREMES OF TEMPERATURE.			RAIN.			SNOW.			RAINS AND MELTED SNOW.		
	Temperature of Air.	Pressure of Vapor.	Relative Humidity.	Barometer.	Dry Air.	Pressure of Vapor.	Relative Humidity.	Direction.	Velocity.	Minim.	Maxim.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.	Depth in inches.
1	71.20	0.485	.67	29.639	.29	29.154	0.2	S 70° E	5.00	82° 2'	57° 6'	24.6	...	...	...	...	...	
2	72.60	.559	.73	.484	28.925	0.6	N 80° E	0.97	6.42	82° 7'	63.0	19.7	1.45	2.0	...	...	...	
3	67.17	.454	.71	.616	.29	.162	0.4	S 14 E	3.50	5.69	78.8	58.0	20.8	...	...	...	...	
4	70.63	.454	.61	.646	.192	0.1	N 62 W	1.67	5.94	80.0	60.8	19.2	...	...	...	...	...	
5	70.58	.459	.64	.608	.149	0.2	N 12 W	2.67	7.36	79.6	57.0	22.6	...	...	...	...	...	
6	66.50	.486	.77	.436	.28	.350	0.7	N 83 W	3.43	5.63	73.2	59.0	14.2	.090	2.0	...	...	
7	63.82	.444	.77	.448	.29	.005	0.9	S 75 W	5.96	7.01	72.0	58.8	13.2	.035	0.2	...	...	
8	64.77	.472	.78	.562	.090	0.6	N 56 W	6.54	7.61	76.0	55.3	20.7	...	...	...	...	...	
9	63.52	.379	.61	.412	.033	0.3	N 80 W	7.16	7.81	81.0	55.5	25.5	* .020	1.0	...	...	...	
10	63.67	.450	.78	.376	.28	.926	0.6	N 80 W	5.81	7.57	78.0	46.5	31.5	.040	0.5	...	...	...
11	63.67	.418	.74	.405	.28	.987	0.3	S 49 W	1.49	4.65	75.2	52.8	22.4	...	...	...	...	...
12	63.10	.360	.66	.29	.165	0.1	N 59 W	5.76	9.31	78.4	50.2	25.2	...	...	...	...	...	
13	63.10	.360	.66	.29	.165	0.1	N 48 W	6.15	8.39	71.0	49.0	22.0	.050	1.0	...	...	...	
14	59.88	.383	.76	.625	.242	0.3	N 31 W	5.56	7.75	70.2	51.6	18.6	.085	0.5	...	...	...	
15	60.73	.361	.71	.707	.346	0.4	S 33 W	3.18	5.00	74.6	55.0	19.6	...	...	...	...	...	
16	62.17	.419	.77	.509	.090	0.8	S 86 E	5.81	6.65	69.0	56.4	12.6	...	...	...	...	...	
17	61.13	.462	.88	.204	.28	.742	1.0	S 87 E	5.75	7.26	64.8	56.5	8.3	.405	12.2	...	...	
18	62.57	.436	.77	.218	.28	.975	0.7	N 34 W	16.22	15.92	74.2	57.0	15.5	...	...	...	...	...
19	65.18	.466	.78	.528	.29	.062	0.5	N 3 W	5.11	6.16	68.5	53.0	15.5	...	...	...	...	...
20	66.45	.516	.82	.450	.28	.934	0.7	S 28 W	2.56	4.90	75.4	56.2	19.2	.735	3.0	...	...	...
21	62.52	.436	.79	.411	.28	.975	0.4	N 82 W	6.14	8.63	79.4	58.5	20.9	...	...	...	...	...
22	65.58	.249	.68	.743	.444	0.4	S 29 W	2.77	3.41	66.5	44.8	21.7	...	...	...	...	...	
23	59.17	.374	.77	.707	.333	0.3	S 1 W	2.32	2.80	71.5	45.0	26.5	...	...	...	...	...	
24	63.88	.423	.74	.505	.082	1.0	S 87 W	3.08	5.47	74.8	52.2	22.6	.055	0.2	...	...	...	
25	57.73	.328	.71	.501	.173	0.6	N 65 W	8.57	8.78	63.5	45.0	18.8	...	...	...	...	...	
26	57.50	.304	.66	.639	.335	0.0	N 68 W	4.13	6.60	68.0	45.0	23.0	...	...	...	...	...	
27	57.50	...	...	...	...	...	N 1 E	8.32	8.62	68.2	43.4	24.8	...	...	...	...	...	
28	57.50	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
29	57.50	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
30	57.50	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
31	57.50	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	63.59	0.419	73	29.521	29.102	0.5	N 50° W	2.88	7.03	73.74	52.95	20.79	1.680	23.6	...	...	...	

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—SEPTEMBER, 1856.

DAILY MEANS.	WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW.													
	Pressure of Air.	Temperature of the Air.	Pressure of Vapor.	Relative Humidity.	Pressure of Vapor.	Relative Humidity.	Pressure of Vapor.	Relative Humidity.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.		
1 32.87 0.295	74	29.959	29.164	0.0	East	-.16	6.222	63.2	41.5	24.7	..	..	..	..	..	..	..	..	..	..	..	
2 56.37 .298	63	.903	.635	0.1	S 59 E	2.17	5.33	72.0	45.0	27.0	..	..	..	..	..	..	..	..	..	..	..	
3 58.73 .335	70	.815	.480	0.2	S 69 E	3.91	4.46	69.0	46.2	22.5	..	..	..	..	..	..	..	..	..	..	..	
4 63.47 .402	72	.820	.418	0.0	S 70 E	2.47	3.82	76.5	48.0	28.5	..	..	..	..	..	..	..	..	..	..	..	
5 63.10 .493	87	.778	.284	1.0	S 20 E	1.61	3.07	70.0	55.0	15.0	0.240	8.7	..	..	..	..	..	..	..	..	..	..
6 68.55 .595	88	.721	.126	1.0	S 27 W	2.82	5.86	75.4	61.2	14.2	..	..	..	..	..	..	..	..	..	..	..	
7																						
8 63.35 .451	81	.714	.260	0.1	S 52 W	6.72	8.70	64.0	54.0	10.0	.565	7.5	..	..	..	..	..	..	..	..	..	..
9 66.35 .435	69	.603	.225	0.1	S 8 W	3.28	3.72	76.4	53.5	22.9	..	..	..	..	..	..	..	..	..	..	..	
10 71.83 .616	86	.445	.28	75.9	1.0	S 64 W	9.71	10.69	78.2	63.5	14.7	.725	2.6	..	..	..	..	..	..	..	..	..
11 64.70 .357	61	.445	.29.118	0.2	S 20 N	12.11	13.10	73.5	44.0	29.5	..	..	..	..	..	..	..	..	..	..	..	
12 57.50 .357	77	.521	.161	0.6	S 18 E	3.52	6.25	64.8	46.2	18.6	.225	3.0	..	..	..	..	..	..	..	..	..	..
13 59.53 .359	73	.485	.126	0.2	S 62 W	12.33	12.50	69.6	44.0	25.6	.020	0.3	..	..	..	..	..	..	..	..	..	..
14																						
15 60.82 .377	72	.561	.187	0.3	S 56 W	8.39	9.75	76.6	48.8	27.8	..	..	..	..	..	..	..	..	..	..	..	
16 57.22 .330	72	.736	.106	0.6	S 57 W	1.21	5.35	65.6	17.4	18.2	..	..	..	..	..	..	..	..	..	..	..	
17 60.62 .429	53	.543	.114	1.0	S 79 E	4.14	5.78	71.0	44.0	17.0	.610	3.2	..	..	..	..	..	..	..	..	..	..
18 60.27 .368	72	.401	.036	0.7	S 12 W	8.15	11.83	76.6	51.2	25.4	.050	2.0	..	..	..	..	..	..	..	..	..	..
19 57.28 .250	56	.557	.307	0.3	S 60 W	9.10	10.26	66.4	41.2	25.2	..	..	..	..	..	..	..	..	..	..	..	
20 52.43 .218	66	.691	.443	0.4	S 62 W	6.28	6.72	62.0	38.0	23.6	..	..	..	..	..	..	..	..	..	..	..	
21																						
22 47.67 .210	74	.636	.396	0.4	S 33 W	1.15	1.12	56.9	35.0	21.9	..	..	..	..	..	..	..	..	..	..	..	
23 47.37 .232	73	.536	.304	0.8	S 32 W	4.33	5.74	56.0	37.5	18.5	..	..	..	..	..	..	..	..	..	..	..	
24 44.43 .218	75	.452	.255	0.2	S 18 W	6.26	6.59	53.2	37.0	16.2	.015	0.5	..	..	..	..	..	..	..	..	..	
25 48.17 .260	77	.381	.121	0.6	S 35 W	6.41	6.33	57.0	39.0	18.8	* 0.1	..	..	..	..	..	..	..	..	..	..	
26 52.65 .290	75	.477	.187	0.3	S 79 W	4.82	5.15	67.0	40.0	27.0	..	..	..	..	..	..	..	..	..	..	..	
27 52.32 .285	74	.665	.380	0.7	S 18 E	1.52	1.31	61.1	41.2	20.2	..	..	..	..	..	..	..	..	..	..	..	
28																						
29 49.90 .307	57	.165	.165	1.0	S 30 W	1.57	1.57	54.0	32.0	12.0	1.195	13.9	..	..	..	..	..	..	..	..	..	..
30 16.98 .287	90	.265	.28.918	1.0	S 84 W	5.05	5.38	53.1	38.0	15.1	.455	12.0	..	..	..	..	..	..	..	..	..	..
31																						
32																						
33																						
34																						
35																						

GENERAL METEOROLOGICAL ABSTRACT, -OCTOBER, 1856.

GENERAL METEOROLOGICAL ABSTRACT, - OCTOBER, 1890.

DAILY MEANS.		WIND.		EXTREME OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW	
Date.	Pressure of Air.	Latitude.	Altitude.	Pressure of Air.	Wind Velocity.	Min. Temp.	Max. Temp.	Hours.	Depth in hours.	Approximate hours.	Duration in hours.
1	44.63	2.212	73	29.281	.20	.0067	.06	S 58° W	53.0	.37-.6	15.4
2	47.47	.217	68	.441	.221	.06	S 50° W	8.21	9.59	55.0	.35-.0
3	48.53	.217	66	.738	.521	.02	S 47° E	3.65	1.79	59.5	.22-.7
4	50.95	.235	75	.783	.499	.02	S 47° E	2.83	3.04	59.0	.10-.0
5							S 58° W	2.52	4.11	66.0	.38-.4
6	54.78	.282	69	.869	.527	.02	S 20° W	7.24	7.48	63.2	.39-.4
7	57.47	.249	51	.936	.659	.01	S 73° E	2.37	2.73	53.2	.35-.2
8	49.67	.295	54	.849	.659	.03	S 32° E	0.58	2.76	61.0	.24-.0
9	56.72	.335	75	.815	.475	.01	S 62° E	0.59	0.82	71.4	.13-.2
10	54.83	.314	76	.767	.453	.03	S 19° W	0.15	0.51	69.2	.10-.0
11	56.42	.281	65	.799	.518	.04	N 19° W	7.96	9.13	67.4	.23-.5
12							S 79° E	0.86	1.08	58.2	.12-.8
13	48.07	.223	65	.696	.473	.05	S 20° W	12.49	13.51	59.5	.31-.0
14	36.32	.119	55	.30120	.901	.02	N 10° E	9.74	9.96	11.4	.26-.0
15	35.17	.140	69	.30.132	.982	.00	S 43° W	0.22	2.50	15.5	.25-.5
16	35.57	.177	75	.29.962	.758	.00	S 53° W	1.19	3.48	49.5	.24-.5
17	44.90	.245	83	.790	.512	.08	N 49° E	5.52	6.16	50.0	.33-.5
18	47.05	.291	91	.644	.333	.10	N 32° W	3.47	4.16	48.8	.12-.4
19							S 60° W	0.72	0.77	54.2	.35-.0
20	46.70	.267	93	.917	.450	.06	S 33° W	0.04	0.01	54.6	.35-.6
21	55.17	.366	89	.789	.506	.04	N 66° W	0.13	0.11	51.6	.35-.4
22							N 25° W	4.40	4.63	61.2	.18-.2
23	40.97	.167	61	.755	.588	.03	N 33° W	9.82	10.40	46.0	.23-.0
24	31.52	.121	69	.951	.830	.03	N 33° W	2.82	4.36	39.2	.33-.8
25	40.60	.167	67	.741	.573	.06	S 52° E	7.64	7.68	44.7	.33-.0
26							S 32° W	1.85	2.15	53.0	.35-.0
27	45.47	.281	93	.420	.139	.10	S 54° W	5.35	5.80	47.2	.10-.5
28	41.90	.176	68	.384	.208	.06	S 73° W	15.12	15.17	47.2	.35-.9
29	45.45	.233	78	.405	.172	.10	S 38° W	9.33	11.15	51.4	.38-.5
30	38.22	.166	72	.302	.136	.08	S 76° W	13.99	14.17	13.2	.28-.8
31	34.13	.132	65	.397	.265	.07	S 75° W	13.99	14.89	40.8	.28-.5

GENERAL METEOROLOGICAL ABSTRACT,—NOVEMBER, 1856.

## TORONTO METEOROLOGICAL OBSERVATIONS.

DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.				
Data.	Pressure of Air.	Pressure of Air.	Wind Velocity.	Minimum.	Maximum.	Difference.	Depth in Hours.	Approximate Duration in hours.	Depth in Hours.			
1	44.05	0.200	69	29.191	28.991	0.7	8.54 W 9.42 W 8.40 W 8.38 E	10.75 56.0 52.5 37.4 3.93	38.2 17.8 40.2 53.0 56.4	12.3 0.175 0.205 7.0	6.0	
2	48.98	.314	92	418	29.174	1.0	8.40 W 8.78 W 8.78 S 8.78 S	14.96 20.93 16.57 16.57	45.0 53.0 52.4 51.8	7.0	7.0	
3	44.02	.256	76	.178	28.922	0.8	8.55 W 8.55 W 8.55 W 8.55 W	10.49 10.49 10.49 10.49	41.0 56.4 51.8 51.4	12.0	12.0	
4	55.27	.098	64	.822	.724	0.6	8.55 W 8.56 W 8.56 W 8.56 W	10.49 10.77 10.77 10.76	43.0 53.0 52.8 53.0	11.8	11.8	
5	46.92	.157	75	.75	.768	0.7	8.55 W 8.56 W 8.56 W 8.56 W	8.17 6.17 6.17 6.17	43.0 53.0 52.8 53.0	11.8	11.8	
6	35.43	.157	75	.694	.443	1.0	8.55 W 8.56 W 8.56 W 8.56 W	10.77 10.77 10.77 10.76	43.0 53.0 52.8 53.0	11.8	11.8	
7	47.72	.551	77	.694	.427	0.6	8.55 W 8.56 W 8.56 W 8.56 W	5.38 5.38 5.38 5.38	33.0 33.0 33.0 33.0	11.8	11.8	
8	39.32	.204	78	.631	.740	1.0	8.55 W 8.56 W 8.56 W 8.56 W	5.38 5.38 5.38 5.38	34.0 34.0 34.0 34.0	9.0	9.0	
9	10	33.16	133	.70	.874	0.7	8.55 W 8.56 W 8.56 W 8.56 W	5.38 5.38 5.38 5.38	40.0 40.0 40.0 40.0	16.5	16.5	
10	11	40.45	187	.76	.781	1.0	8.55 W 8.56 W 8.56 W 8.56 W	5.38 5.38 5.38 5.38	34.0 34.0 34.0 34.0	16.5	16.5	
11	12	38.70	173	.661	.690	0.9	8.56 W 8.56 W 8.56 W 8.56 W	5.82 5.82 5.82 5.82	9.0	14.6	14.6	
12	13	36.03	187	.89	.602	1.0	8.56 W 8.56 W 8.56 W 8.56 W	3.00 3.00 3.00 3.00	5.48 5.48 5.48 5.48	30.0	30.0	
13	14	35.67	171	.83	.719	0.9	8.56 W 8.56 W 8.56 W 8.56 W	6.74 6.74 6.74 6.74	10.75 10.75 10.75 10.75	39.2	39.2	
14	15	37.70	153	.78	.558	0.5	8.56 W 8.56 W 8.56 W 8.56 W	6.61 6.61 6.61 6.61	8.22 8.22 8.22 8.22	22.0	22.0	
15	16	31.77	133	.81	.512	0.7	8.56 W 8.56 W 8.56 W 8.56 W	6.59 6.59 6.59 6.59	9.73 9.73 9.73 9.73	10.58 10.58 10.58 10.58	18.3	18.3
16	17	32.35	143	.76	.622	0.9	8.56 W 8.56 W 8.56 W 8.56 W	6.73 6.73 6.73 6.73	10.91 10.91 10.91 10.91	11.08 11.08 11.08 11.08	37.0	37.0
17	18	32.03	136	.76	.888	0.5	8.56 W 8.56 W 8.56 W 8.56 W	5.73 5.73 5.73 5.73	9.12 9.12 9.12 9.12	42.0	42.0	
18	19	34.85	20	.70	.972	1.0	8.56 W 8.56 W 8.56 W 8.56 W	6.55 6.55 6.55 6.55	16.54 16.54 16.54 16.54	34.0	34.0	
19	20	41.55	21	.521	.219	0.6	8.56 W 8.56 W 8.56 W 8.56 W	6.53 6.53 6.53 6.53	49.2 49.2 49.2 49.2	34.0	34.0	
20	21	39.68	22	.171	.683	0.7	8.56 W 8.56 W 8.56 W 8.56 W	6.62 6.62 6.62 6.62	10.06 10.06 10.06 10.06	15.0	15.0	
21	22	39.68	23	.171	.70	0.7	8.56 W 8.56 W 8.56 W 8.56 W	6.67 6.67 6.67 6.67	4.33 4.33 4.33 4.33	32.0	32.0	
22	23	39.52	24	.192	.705	0.8	8.56 W 8.56 W 8.56 W 8.56 W	4.89 4.89 4.89 4.89	42.4 42.4 42.4 42.4	12.2	12.2	
23	24	40.58	25	.228	.91	1.0	8.56 W 8.56 W 8.56 W 8.56 W	5.75 5.75 5.75 5.75	1.07 1.07 1.07 1.07	31.0	31.0	
24	25	41.87	26	.191	.75	0.5	8.56 W 8.56 W 8.56 W 8.56 W	5.43 5.43 5.43 5.43	3.52 3.52 3.52 3.52	8.2	8.2	
25	26	35.27	27	.27	.556	0.5	8.56 W 8.56 W 8.56 W 8.56 W	13.09 13.09 13.09 13.09	13.18 13.18 13.18 13.18	35.0	35.0	
26	27	35.27	28	.136	.67	0.5	8.56 W 8.56 W 8.56 W 8.56 W	10.16 10.16 10.16 10.16	29.40 29.40 29.40 29.40	14.0	14.0	
27	28	33.13	29	.148	.75	0.5	8.56 W 8.56 W 8.56 W 8.56 W	7.69 7.69 7.69 7.69	9.17 9.17 9.17 9.17	10.1	10.1	
28	29	36.57	30	.130	.88	0.5	8.56 W 8.56 W 8.56 W 8.56 W	6.02 6.02 6.02 6.02	29.43 29.43 29.43 29.43	14.0	14.0	
29	30	...	31	...	...	0.5	8.56 W 8.56 W 8.56 W 8.56 W	7.32 7.32 7.32 7.32	8.71 8.71 8.71 8.71	14.0	14.0	

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—DECEMBER, 1856.

DAYS.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAINS AND MELTING SNOW.	
	Temperature of Air.	Pressure of Air.	Wind Velocity.	Direction.	Maximum.	Minimum.	Depth in hours.	Approximate duration in hours.	Depth in hours.	Approximate duration in hours.	Depth in hours.	Approximate duration in hours.
1	38.57	0.130	.81	20.765	29.035	0.8 N 23 E	5.25 6.57	34.5 17.5	17.0	..	1.0	4.0 0.100
2	26.72	.122	.83	.511	.389	1.0 N 52 E	14.48 17.60	36.0 20.2	15.8	..	5.8	9.5 .580
3	30.43	.139	.79	.25.910	.25.771	0.9 S 70 W	16.56 21.91	37.5 21.0	16.8	* 0.2	1.5	2.0 .020
4	26.55	.113	.74	.29.616	.29.563	1.0 N 76 W	10.25 10.91	34.5 21.0	13.5	* ..	..	* ..
5	24.93	.104	.71	.818	.714	0.5 S 66 W	9.33 9.66	30.8 14.8	16.0	..	..	..
6	23.45	.100	.76	.814	.714	0.4 S 71 W	14.27 14.28	29.7 19.4	10.3	..	..	..
7	20.40	.096	.63	.584	.578	0.6 N 45 W	8.11 9.91	27.6 13.0	14.6	..	0.3	4.0 .030
8	25.73	.115	.81	.30.120	.30.014	0.8 S 56 E	3.21 4.42	32.2 13.4	11.8	..	0.1	3.0 .010
9	31.47	.135	.76	.29.882	.29.717	0.3 S 82 E	6.75 7.41	30.0 17.8	12.2	..	..	..
10	37.80	.206	.91	.229	.023	1.0 S 33 W	11.13 18.57	42.5 22.6	9.6	.380	1.5 ..	
11	33.38	.145	.76	.548	.443	0.9 S 55 W	10.15 10.62	36.2 28.5	7.7	.855	9.3 ..	
12	34.05	.155	.80	.731	.576	1.0 S 56 E	3.14 3.91	31.0 14.9	1.9	* 0.5	0.5 ..	
13	24.00	.112	.82	.21.885	.20.773	1.0 S 70 W	12.76 26.06	10.0 19.7	20.5	.465	5.0 ..	
14	19.35	.083	.76	.615	.533	0.8 S 75 W	8.57 9.67	21.0 17.7	3.3	..	..	
15	18.00	.080	.76	.740	.660	0.8 S 84 W	5.61 10.20	21.0 5.5	16.4	..	0.3 1.2 ..	
16	18.45	.018	.84	.30.097	.30.019	0.4 N 15 W	8.17 8.37	9.2 8.5	18.0	* ..	* ..	
17	2.08	.010	.86	.30.419	.30.379	0.4 N 52 E	7.41 9.1	5.4 9.1	21.6	..	3.0 1.00 ..	
18	24.00	.112	.82	.21.885	.20.773	1.0 S 67 E	13.82 14.72	38.0 15.4	22.6	.080	4.0 2.0 ..	
19	29.55	.153	.85	.392	.239	0.6 S 59 W	19.03 19.96	39.2 13.7	25.5	.060	5.0 1.5 ..	
20	18.45	.095	.89	.492	.397	1.0 S 48 W	10.49 11.87	34.2 13.2	11.0	* ..	* ..	
21	23.87	.057	.83	.778	.721	0.2 N 75 E	5.18 8.18	22.0 5.0	17.9	..	3.0 13.8 ..	
22	13.12	.070	.83	.652	.482	0.5 N 62 W	16.19 16.34	18.0 6.0	12.0	..	.. ..	
23	25.60	.122	.87	.677	.555	1.0 N 55 W	15.13 15.78	23.5 14.0	9.5	* 1.0	0.1 1.0 ..	
24	19.43	.094	.87	.499	.397	0.9 N 67 E	8.37 9.42	24.2 14.9	9.3	* 0.5	3.0 ..	
25	26.33	.123	.84	.622	.499	1.0 N 62 W	2.27 10.49	32.0 19.0	13.0	* 0.1	1.0 1.0 ..	
26	30.21	.113	.85	.730	.617	1.0 S 75 W	2.96 3.13	26.2 21.0	5.2	* 0.6	3.5 3.5 ..	
27	23.92	.117	.89	.886	.769	0.9 North	5.22 6.70	27.0 19.0	8.0	* ..	* ..	
28	22.88	.110	.82	.29.711	.29.601	0.8 S 87 W	4.62 11.56	28.74 15.55	13.19 1.790	26.3 16.3	62.0 3.420	

## TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT.—JANUARY, 1857.

DAILY MEANS.		WIND		RAIN.		SNOW.		RAINS AND MELTED SNOW		
Date.	Temperature of Air.	Pressure of Atmosphere.	Barometric Pressure.	Wind Velocity.	Wind Direction.	Velocity.	Direction.	Velocity.	Direction.	
1	21.37	0.121	92	29.963	29.889	0.9	N 35° E	8.06	S 31°	
2	28.92	0.115	89	4635	.400	1.0	S 57° W	9.23	S 56°	
3	28.77	0.113	87	3555	.217	1.0	N 11° W	11.41	N 45°	
4	10.33	0.106	85	3448	.914	0.7	N 74° W	10.12	N 37°	
5	1.42	0.103	80	30.019	30.006	0.5	N 49° W	7.65	N 75°	
6	7	1.10	.012	81	29.912	29.560	0.6	N 63° W	12.56	S 61°
7	14.42	.014	.87	30.010	30.026	0.4	N 75° W	5.51	N 75°	
8	9	17.08	.008	88	29.593	29.505	1.0	N 16° W	11.80	S 13°
9	10	20.38	.015	92	.280	1.0	N 13° W	7.11	S 17°	
11	12	13.37	.007	90	.775	0.5	S 62° W	10.15	N 52°	
13	18.10	.006	.90	.536	.440	1.0	S 71° W	6.65	S 75°	
14	15.42	.012	.86	.539	.457	0.9	S 16° W	9.32	N 35°	
15	15	23.32	.016	.86	.961	.41	N 51° W	5.35	S 30°	
21	22	13.72	.025	.98	.734	0.9	S 58° W	14.12	N 36°	
23	9.18	.028	.87	.822	.788	0.3	S 36° W	13.38	N 47°	
19	9.78	.072	.93	.665	.503	0.7	N 4° W	9.31	N 50°	
20	16.43	.084	.86	.431	.317	0.5	S 38° W	14.18	N 61°	
21	22	-13.28	.025	.98	.709	0.7	S 83° W	13.66	N 57°	
23	24	5.07	.051	.91	.690	0.1	S 22° W	9.93	N 22°	
25	16.82	.101	.94	.844	.738	1.0	S 21° E	3.20	S 70°	
27	25.27	.131	.89	.885	.754	0.4	S 33° W	9.18	S 56°	
28	16.45	.089	.88	.30.046	.985	0.6	S 27° E	4.49	S 52°	
29	19.27	.094	.86	.29.904	.810	0.3	S 52° W	1.36	S 32°	
30	18.83	.099	.91	.906	.807	1.0	S 80° W	15.28	N 61°	
31	28.28	.150	.94	.291	.111	0.8	S 10° W	6.12	N 75°	

12.75 .083 89 29.736 | 29.653 0.7 N 70°W 4.96 10.31 13.16 0.85 18.64 \* 6.5 21.8 87.8 2.180 94.3

TORONTO METEOROLOGICAL OBSERVATIONS.

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GENERAL METEOROLOGICAL ABSTRACT.—FEBRUARY, 1857.

Days.	DAILY MEANS.			WIND.			EXTREMES OF TEMPERATURE.			RAIN.			SNOW.			RAIN AND MELTED SNOW.				
	Pressure of Air at Sea-level. Millibars.	Relative Humidity. Percent.	Barometric Pressure. Millibars.	Wind Direction. Miles.	Wind Velocity. Miles.	Wind Direction. Miles.	Min. Max.	Difference in Hours.	Depth in Inches.	Min. Max.	Difference in Hours.	Depth in Inches.	Min. Max.	Difference in Hours.	Depth in Inches.	Approximate Duration in Hours.	Approximate Duration in Hours.			
1	10.0	75.0	29.812	N 71°W	11.00	11.29	11.5	-1.0	12.5	11.0	-1.0	1.0	1.5	-1.0	1.0	...	...			
2	3.72	0.016	N 2°	29.812	20.766	0.3	N 71°W	7.51	7.92	12.0	-5.9	17.9	...	...	...	...	...			
3	17.62	.089	S 1°	.810	.721	0.8	S 66°E	5.40	7.01	33.1	1.1	32.0	...	...	1.0	*	1.0			
4	31.43	.153	S 6°	.758	.606	1.0	N 20°E	6.19	8.61	38.2	26.0	12.2	...	...	2.0	4.5	2.00			
5	30.93	.171	S 6°	.668	.197	1.0	N 76°E	6.23	7.08	13.0	25.6	17.4	0.750	14.8	0.2	0.7	15.5			
6	29.95	.222	S 1°	.691	.169	1.0	N 71°E	2.39	3.07	43.8	36.0	7.8	.020	0.6	...	0.20	0.6			
7	47.68	.239	S 5°	.436	.197	0.4	S 7°E	5.17	8.75	51.3	10.2	11.1	.080	4.0	...	.080	4.0			
8	9	.213	S 8°	.77	.30	.021	71	30.109	16.28	17.80	25.2	14.4	13.8	...	1.5	4.5	...			
10	6.72	.063	S 1°	.81	.30	.166	30.113	0.1	N 76°W	18.79	20.57	15.0	-2.0	17.0	...	0.5	1.0	.050	1.0	
11	4.38	.050	S 5°	.317	.30	.267	6.7	70°W	3.48	5.79	11.0	-1.5	14.5	...	1.0	*	1.0	*	*	
12	22.15	.112	S 6°	.967	.20	.955	0.9	S 58°E	5.57	11.50	37.2	8.4	28.5	...	...	...	...	...	...	
13	36.02	.152	S 2°	.72	.29	.787	.635	0.4	S 75°W	9.08	11.50	13.3	23.0	20.3	...	...	...	...	...	
14	31.83	.170	S 3°	.93	.775	.665	0.7	S 80°E	4.76	8.90	11.0	21.0	20.0	.035	2.4	...	.055	2.4		
15	16	.40	S 35°	.97	.572	.321	1.0	S 7°E	0.15	3.35	3.0	11.2	1.620	21.5	...	...	1.620	21.5		
17	41.35	.277	S 5°	.95	.528	.251	0.8	S 72°W	1.76	4.76	52.1	35.0	9.8	.210	10.0	...	.210	10.0		
18	38.02	.197	S 1°	.87	.661	.167	0.9	S 10°W	7.11	8.06	13.2	26.5	16.7	.115	5.7	...	.005	0.1		
19	28.17	.136	S 7°	.786	.650	1.0	N 32°E	2.47	2.67	30.3	26.0	4.3	...	2.2	4.2	...	.325	9.9		
20	28.93	.113	S 8°	.550	.407	1.0	N 38°E	10.58	11.35	32.5	25.0	7.5	.070	8.0	...	1.5	13.5	.150	13.5	
21	31.35	.118	S 4°	.680	.534	0.7	S 72°W	6.40	7.69	37.8	27.2	10.6	...	5.0	5.4	...	.550	13.4	...	
22	35.98	.179	S 6°	.86	.500	.321	0.5	S 30°W	12.18	12.63	35.5	31.5	4.0	...	...	...	...	...	...	
23	12.77	.219	S 0°	.80	.293	.071	0.8	S 14°W	4.91	5.23	15.0	30.5	14.5	...	3.0	...	...	...	...	
24	35.85	.165	S 7°	.619	.461	0.3	S 55°W	17.83	18.31	12.0	21.8	20.2	...	...	...	...	...	...	...	
25	21.77	.088	S 2°	.72	.30	.015	.957	0.6	S 33°W	11.42	15.32	27.5	16.8	10.7	...	...	...	...	...	...
26	22.72	.106	S 1°	.84	.20	.676	.570	0.9	S 37°W	3.33	9.21	20.8	15.5	11.3	...	0.3	1.5	...	...	...
27	22.57	.068	S 71	.358	.270	0.2	S 84°W	11.02	12.22	31.3	13.0	18.5	...	...	...	...	...	...	...	

28 0.117 S 4 29.589 0.7 S 78 W 3.68 9.82 35.66 20.42 15.25 3.050 73.1 11.7 34.3 4.220 107.4

## GENERAL METEOROLOGICAL ABSTRACT,—MARCH, 1857.

## TORONTO METEOROLOGICAL OBSERVATIONS.

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—APRIL, 1857.

DAYS.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW	
	Pressure of Air, Barometer, of the Atmosphere and Relative Humidity, Percent.	Temperature of the Air, Degree Fahrenheit.	Wind, Clouded	Wind, Clear	Minimum, Maximum	Wind, Velocity, Miles per hour.	Wind, Velocity, Miles per hour.	Depth in inches,	Approximate duration in hours.	Depth in inches,	Approximate duration in hours.	Depth in inches, in melting snow.
1	26.68	0.118	77	29.491	29.372	0.6	N 26 W 22 Miles	12.5	10.0	32.5	*	3.0 0.030 4.0
2	20.35	.073	65	.933	.861	0.1	S 32 W 9.11 Miles	9.25	5.9	25.3	...	...
3	28.23	.117	73	.781	.667	0.4	S 51 E 3.12 Miles	5.61	36.8	18.5	18.3	...
4	43.40	.217	78	.548	.330	0.6	N 48 W 1.89 Miles	5.72	51.9	31.9	17.0	.020 *
5	26.90	.121	81	.179	.058	...	S 77 W 3.65 Miles	9.44	17.0	31.0	16.0	.390 14.0
6	27.05	.113	73	.632	.519	0.5	S 72 W 12.77 Miles	13.74	22.2	17.7	14.5	...
7	35.60	.178	86	.008	.430	1.0	S 21 W 0.94 Miles	6.39	12.0	30.2	11.8	*
8	34.82	.159	79	.735	.576	0.8	S 85 E 0.84 Miles	3.88	41.0	28.8	12.2	...
9	36.00	.168	79	.405	.298	0.7	N 36 E 3.01 Miles	7.27	42.5	30.2	12.6	...
10	36.00	.152	72	.322	.271	0.4	N 43 W 5.26 Miles	7.87	41.2	29.8	11.4	...
11	36.43	.156	73	.594	.438	0.5	S 48 W 3.87 Miles	5.27	44.2	26.2	18.0	...
12	36.43	.156	73	.594	.438	0.5	N 65 E 4.20 Miles	5.55	44.4	27.5	16.9	...
13	38.55	.189	82	.533	.014	0.6	S 67 W 6.02 Miles	11.93	16.0	33.5	12.5	*
14	34.17	.161	82	.28.996	.28.835	0.6	S 62 W 14.80 Miles	15.48	37.8	28.8	9.0	...
15	33.55	.158	83	.29.372	.29.114	0.8	S 54 W 8.75 Miles	10.11	38.6	27.4	11.4	...
16	33.17	.122	65	.593	.471	0.2	S 55 W 6.03 Miles	10.53	40.6	26.0	11.6	...
17	35.83	.152	72	.322	.271	0.9	N 73 E 7.36 Miles	8.20	10.5	27.2	13.3	*
18	35.17	.117	73	.189	.312	1.0	N 53 W 2.36 Miles	7.51	37.8	27.8	10.0	.565 9.0 1.8
19	38.45	.194	84	.362	.168	0.7	N 9 W 6.67 Miles	8.11	47.4	32.6	14.8	.095 2.0 0.2
20	42.58	.163	61	.462	.298	0.2	N 21 W 12.61 Miles	12.53	51.0	33.0	18.0	...
21	39.15	.165	70	.337	.372	0.6	N 30 W 12.38 Miles	12.61	48.6	32.2	16.1	...
22	40.10	.171	69	.588	.417	0.4	N 76 W 3.68 Miles	6.57	49.8	29.0	20.8	...
23	39.55	.159	66	.614	.455	0.2	N 32 W 9.30 Miles	9.53	52.0	27.5	24.5	...
24	39.55	.159	66	.614	.455	0.2	N 86 W 5.07 Miles	7.83	44.5	32.0	12.5	.070 9.0 1.5
25	39.55	.159	66	.614	.455	0.2	S 86 W 5.86 Miles	15.84	19.09	44.6	32.2	12.4 .015 1.5
26	39.27	.196	83	.221	.025	0.9	N 62 W 11.77 Miles	12.14	48.0	27.2	20.8	...
27	37.93	.166	73	.606	.500	0.1	N 85 W 0.87 Miles	6.49	50.0	30.2	19.8	...
28	39.50	.172	69	.840	.639	0.2	N 80 E 10.28 Miles	10.60	47.5	33.2	14.3	...
29	40.55	.158	64	.881	.726	0.3	N 80 E 10.28 Miles	10.60	47.5	33.2	14.3	...
30	35.36	0.156	74	29.530	29.374	0.5	N 60 W 4.15 Miles	10.24	43.36	27.34	16.12	1.755 39.6 12.9 41.9 3.045 81.5

GENERAL METEOROLOGICAL ABSTRACT, -MAY, 1857.

## TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT,—MAY, 1857.									
DAILY MEANS.					WIND.				
					EXTREMES OF TEMPERATURE.		RAIN.		
Temperature of Air, &c., Pressure of Atmosphere, &c., Wind, Rain, &c.,									
Days.	Pressure of Atmosphere.	Temperature of Air.	Pressure of Atmosphere.	Relative Humidity.	Wind.	Wind.	Rain.	Snow.	Rain and Melted Snow.
1	31.42	62.31	33	29.566	20.325	1.0	8.75	W	9.6; 3.15
2	41.23	.226	55	189	.263	1.0	8.75	E	13.8
3									
4	41.62	.226	57	166	.239	1.0	8.75	E	7.0
5	43.75	.226	54	225	.020	1.0	8.75	E	11.1
6	43.82	.210	54	520	.310	1.0	8.75	W	15.2
7	13.52	.227	51	685	.461	0.5	8.9	E	11.7
8	16.48	.216	60	475	.569	0.3	8.5	E	18.6
9	.25.73	.329	75	.446	.417	0.9	16.8	W	14.1
10									
11	31.95	134	74	.820	.656	0.6	8.65	W	12.0
12	39.72	161	65	.849	.688	0.2	8.26	E	19.9
13	45.10	.475	60	.749	.571	0.2	8.70	E	11.3
14	16.25	.220	71	.553	.133	1.6	8.68	W	25.0
15	15.57	.251	84	.304	.050	1.0	8.75	E	7.0
16	13.22	.216	77	.525	.312	0.6	8.75	W	30.5
17									
18	47.35	.235	73	.776	.541	0.2	8.53	E	7.0
19	52.37	.227	65	.690	.163	0.7	8.42	E	15.0
20	18.65	.212	65	.623	.111	0.5	8.12	E	11.0
21	59.68	.227	55	.457	.275	0.3	8.35	W	26.5
22	26.25	.325	74	.487	.150	0.5	8.25	W	19.8
23	60.18	.293	57	.491	.198	0.2	8.18	W	22.2
24									
25	63.85	.360	63	.464	.101	0.2	8.22	E	19.5
26	59.83	.371	73	.455	.084	0.4	8.77	E	5.0
27	55.15	.331	77	.365	.031	0.6	8.10	W	19.3
28	58.15	.312	72	.281	.285	0.6	8.75	W	29.5
29	54.12	.275	74	.367	.249	0.9	8.75	W	1.0
30	54.75	.292	70	.533	.241	0.6	8.60	E	29.5
31									
8.82	0.254	74	20.335	20.222	1.14	8.13	N 23 W	94.8	* 0.5

## GENERAL METEOROLOGICAL ABSTRACT,—JUNE, 1857.

DAILY MEANS.		WIND.		EXAGGERATED TEMPERATURE.		RAIN AND MELTED SNOW.	
Days.	Pressure of Air.	Relative Pressure of Vapour.	Humidity.	Pressure.	Clouded Sky.	Resultant Velocity.	Wind Velocity.
1	57.62	0.391	84	29.237	.28-.316	0.7	8.9 W
2	62.83	0.284	72	25.8	.28-.371	1.0	8.6 W
3	55.02	0.319	81	29.2	.25-.373	0.9	8.65 W
4	49.35	0.220	64	.516	.29-.326	0.8	8.88 W
5	55.43	0.215	64	.584	.366	0.1	7.77 W
6	55.43	0.260	63	.463	.143	0.9	7.29 W
7	55.35	0.380	58	.419	.039	1.0	8.77 E
8	55.05	0.397	93	.528	.131	1.0	8.79 E
9	55.05	0.419	57	.509	.25-.960	0.5	8.80 E
10	60.45	0.57-32	363	.315	.022-.630	0.7	8.89 W
11	57.12	0.47-15	79	.413	.28-.780	0.7	8.9 W
12	57.12	0.38-15	79	.330	.25-.908	0.3	8.75 W
13	60.97	0.322	65	.330	.29-.367	1.6	8.80 W
14	51.15	0.55-55	60	.655	.150	1.0	8.75 W
15	52.07	0.322	53	.472	.013	0.9	8.65 E
16	51.54	0.38-53	50	.395	.28-.551	0.4	8.6 W
17	55.43	0.395	91	.339	.29-.498	0.5	8.70 E
18	55.83	0.363	91	.339	.29-.051	1.0	8.75 E
19	55.83	0.363	91	.339	.013	0.9	8.75 E
20	52.58	0.362	90	.396	.013	0.5	8.80 W
21	55.25	0.372	57	.411	.463	1.0	8.71 W
22	55.25	0.372	57	.401	.031	0.3	8.12 W
23	56.83	0.316	71	.617	.401	0.4	7.75 W
24	58.98	0.338	69	.661	.323	0.4	7.52 W
25	64.32	0.385	68	.637	.212	0.3	6.69 W
26	68.12	0.422	63	.633	.210	0.1	8.20 W
27	66.47	.501	80	.595	.091	0.6	8.72 W
28	64.52	.457	77	.391	.28-.957	0.6	8.67 E
29	56.43	.307	69	.381	.29-.071	0.6	8.36 W
30	56.43	.307	69	.381	.29-.071	0.6	8.82 W

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,--JULY, 1857.

DAILY MEANS.	WIND.		ESTIMATES OF TEMPERATURE.		RAIN.	SNOW.	RAINS AND MELTED SNOW.	
	Wind.	Wind.	Dry Air.	Pressure of Air.			Depth in hours.	Approximate duration in hours.
1. 51°.65 0.360	.86	25.496	29.337	1.0	N 66° E	13.42 14.08	66.7 51.0	9.7 0.030
2. 56.45 .329	.74	.704	.375	0.6	N 76° E	16.96 16.15	62.5 47.9	15.5 *
3. 61.68 .359	.67	.640	.284	0.3	S 53° W	1.45 1.93	32.8 53.2	16.6 ***
4. 63.82 .151	.78	.687	.236	0.1	S 74° W	2.73 2.45	75.8 50.8	24.4 ***
5. 64.12 .403	.70	.701	.299	0.3	S 30° W	1.81 3.41	73.0 51.0	19.0 *
6. 67.78 .537	.82	.601	.067	0.9	S 69° E	2.64 2.63	73.3 56.0	17.4 ***
7. 64.92 .324	.70	.735	.311	0.4	S 27° W	1.41 1.71	72.2 53.4	22.5 ***
8. 66.12 .370	.59	.823	.453	0.0	N 57° E	3.97 5.15	75.2 58.0	17.2 ***
9. 68.50 .463	.68	.814	.352	0.0	S 44° E	1.91 2.65	78.0 58.0	20.4 ***
10. 72.77 .596	.77	.767	.171	0.3	S 13° W	1.76 2.43	81.2 63.5	19.7 ***
11. 75.13 .619	.74	.611	.295	0.9	S 26° W	1.59 2.45	80.2 61.3	21.7 ***
12. 75.05 .629	.75	.536	.296	0.2	S 25° E	2.88 3.05	86.6 64.4	22.2 ***
13. 73.83 .609	.76	.526	.917	0.5	S 74° E	2.10 2.85	83.0 65.0	18.0 *
14. 71.15 .618	.84	.546	.292	0.6	S 65° E	0.37 1.57	82.0 63.2	16.8 .515
15. 72.90 .657	.81	.510	.2883	0.5	S 70° E	1.36 1.50	86.8 61.7	16.1 *
16. 76.25 .679	.78	.467	.28788	0.5	S 44° W	2.65 2.93	83.4 65.0	20.4 ***
17. 67.10 .533	.82	.292	.2879	0.7	S 31° W	1.75 2.52	75.0 52.5	22.2 ***
18. 61.77 .475	.80	.308	.28833	0.5	S 81° W	2.52 3.07	78.4 59.2	19.0 .353
19. 65.50 .488	.80	.437	.28919	0.7	S 26° E	3.26 5.94	73.0 59.0	14.0 .065
20. 65.38 .633	.86	.350	.29017	1.0	S 26° E	1.22 1.22	74.5 59.0	14.5 ***
21. 65.38 .651	.91	.553	.002	0.7	S 9° W	1.51 3.38	71.4 57.2	14.2 .115
22. 60.73 .605	.85	.719	.114	0.1	S 10° E	3.05 3.25	78.5 61.0	17.5 ***
23. 60.73 .605	.85	.719	.114	0.1	S 61° E	2.75 3.29	81.5 62.0	19.5 ***
24. 65.22 .551	.91	.553	.002	0.5	S 21° W	8.07 8.61	84.5 68.0	16.5 ***
25. 60.73 .605	.85	.719	.114	0.1	S 48° W	8.35 9.05	74.2 55.0	21.6 ***
26. 76.15 .700	.81	.567	.28867	0.6	S 79° E	3.12 4.37	73.0 67.9	12.1 ***
27. 68.33 .523	.77	.710	.233	0.5	S 57° W	4.58 4.74	73.5 62.0	11.5 ***
28. 67.37 .477	.73	.577	.064	0.7	S 79° E	2.93 4.66	75.8 54.0	24.8 1.260
29. 67.25 .512	.79	.445	.28924	0.3	S 57° W	2.93 4.66	75.8 54.0	24.8 1.260
30. 65.27 .521	.86	.445	.28924	0.3	S 57° W	2.93 4.66	75.8 54.0	24.8 1.260
31. 65.27 .521	.86	.445	.28924	0.3	S 57° W	2.93 4.66	75.8 54.0	24.8 1.260
	67.76 0.520	.78	29.588	0.5	S 68° E	0.81 4.74	76.79 56.32	17.7 3.475

## TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT,—AUGUST, 1857.

DAYS.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		R. IN.		SNOW.		RAIN AND MELTED SNOW.		
	Temperature of the Air.	Humidity.	Pressure of Vapor.	Humidity.	Pressure of Vapor.	Wind.	Velocity.	Direction.	Velocity.	Direction.	Velocity.	Quantity.	
1	65.60	0.437	.72	.29	.487	29.050	0.3	N 76 W	5.62	73.8	35.0	20.8	
2	68.20	.453	.73	.621	.138	0.2	8.31	4.74	78.4	54.8	23.6	...	
3	68.60	.555	.82	.532	.28.977	0.8	S 57 W	2.27	4.35	76.5	57.0	19.8	...
4	66.85	.395	.64	.503	.29.198	0.22	N 14 W	5.19	6.70	77.2	59.8	15.4	...
5	66.55	.468	.74	.725	.257	0.0	N 15 W	4.02	7.82	77.4	54.5	.020	1.0
6	69.80	.519	.75	.756	.237	0.4	N 63 E	1.96	2.87	76.6	57.5	10.1	...
7	73.05	.530	.67	.724	.204	0.4	S 64 E	2.51	2.85	80.0	57.5	22.5	...
8	67.43	.511	.77	.362	.28.850	0.7	S 83 W	5.04	7.91	55.2	62.2	23.0	*
9	65.30	.307	.61	.457	.29.059	0.3	N 25 W	3.39	4.97	53.2	53.8	15.4	...
10	63.25	.512	.89	.575	.29.033	1.0	N 35 W	6.60	7.17	74.4	58.5	15.9	...
11	76.35	.698	.80	.462	.25.761	0.5	S 61 E	2.44	2.44	72.0	52.0	25.2	...
12	70.17	.601	.82	.482	.28.884	0.9	S 12 W	9.30	9.57	88.2	69.0	19.2	...
13	62.75	.402	.71	.628	.20.226	0.4	N 73 W	1.45	6.80	83.0	53.0	28.0	\$10.1.5
14	61.48	.476	.82	.445	.21.900	0.0	N 14 W	4.81	7.58	71.4	51.6	19.8	...
15	63.95	.476	.82	.337	.28.851	0.9	N 70 E	7.66	8.11	65.2	56.0	11.2	1.110
16	61.92	.392	.73	.678	.28.861	0.3	S 22 E	5.78	6.23	62.2	55.5	7.2	...
17	61.63	.454	.84	.615	.192	0.6	S 46 E	2.11	4.42	68.3	53.4	12.7	2.75
18	62.97	.347	.61	.753	.406	0.1	S 76 W	6.05	7.07	71.0	52.5	18.3	4.3
19	61.48	.406	.77	.731	.325	0.6	S 41 W	7.52	7.87	71.5	47.2	24.3	...
20	65.62	.476	.82	.337	.28.851	0.9	S 5 W	5.46	5.51	7.21	60.2	48.8	3.0
21	60.18	.396	.78	.509	.29.113	0.6	N 75 W	10.63	12.92	71.0	46.0	25.0	4.5
22	57.33	.353	.76	.701	.29.318	0.0	S 67 W	4.33	5.467	70.8	48.8	22.0	...
23	63.45	.448	.79	.829	.381	0.2	S 25 W	5.71	5.87	73.2	52.4	20.8	...
24	64.33	.436	.76	.767	.331	0.2	East	2.96	3.52	75.0	52.8	22.2	...
25	67.52	.568	.87	.391	.28.823	0.9	S 23 E	3.84	4.73	75.0	61.0	14.0	10.1
26	65.62	.492	.91	.294	.28.802	0.7	S 63 W	5.31	6.27	76.5	56.5	20.0	.500
27	60.18	.396	.78	.509	.29.113	0.6	N 36 W	8.25	8.48	69.2	48.0	21.2	...
28	63.55	.454	.80	.803	.319	0.0	S 42 W	4.17	4.30	74.6	53.5	21.1	...
29	65.31	0.467	.77	29.594	29.127	0.5	N 77 W	1.51	6.36	73.45	54.95	19.50	67.3

## TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT, SEPTEMBER, 1857.

58	64	0.393	78	29.319	0.4	N 68 W	1.61	5.55	67.18	11.19	31.9
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GENERAL METEOROLOGICAL ABSTRACT,—OCTOBER, 1857.

DAYS.	DAILY MEANS.		WIND.	EXTREMES OF TEMPERATURE.		RAIN.	SNOW.	RAIN AND MELTED SNOW.									
	Dry Air Pressure of the Atmosphere.	Humidity.		Pressure of Atmosphere.	Velocity.	Direction.	Depth in hours.	Approximate duration in hours.	Depth in hours.	Approximate duration in hours.							
1	.46	0.273	87	29.150	.507	1.10	S 12 E	3.93	5.01	31.8	.39	12.6	0.080	7.0	0.080	7.0	
2	13.98	.475	62	.856	.681	0.5	S 49 E	5.77	6.28	51.2	38.8	12.4	...	...	...	...	
3	47.17	.266	52	.917	.681	1.0	S 61 E	2.97	3.09	32.2	38.2	14.0	...	...	...	...	
4	53.03	.319	57	.855	.506	0.7	S 51 E	1.32	1.38	36.2	19.2	7.0	...	...	...	...	
5	54.20	.310	63	.710	.400	0.2	S 25 E	0.79	0.95	60.2	11.0	16.2	...	...	...	...	
6	54.48	.274	52	.739	.465	0.0	S 16 W	1.27	2.16	38.2	37.8	20.4	...	...	...	...	
7	48.17	.274	52	.611	.393	0.1	S 51 W	1.79	2.62	67.8	37.6	25.2	...	...	...	...	
8	52.13	.311	51	.732	.378	0.9	S 32 E	1.33	1.36	60.2	15.0	15.2	...	...	...	...	
9	54.42	.354	55	.732	.513	0.0	S 72 E	5.90	6.09	51.8	10.0	14.8	...	...	...	...	
10	59.97	.268	76	.811	.466	0.4	S 55 E	3.10	3.42	58.0	62.0	16.0	...	...	...	...	
11	57.03	.411	59	.692	.284	0.9	S 11 E	2.43	3.73	60.8	19.5	11.3	.385	.385	.385	.385	
12	55.53	.353	51	.766	.413	0.1	S 37 E	2.72	1.25	61.8	40.0	21.5	.010	.15	...	...	
13	50.17	.277	77	.744	.437	0.7	S 41 E	3.17	4.13	37.0	43.0	8.0	...	...	...	...	
14	50.63	.294	51	.414	.120	1.0	S 3 W	6.28	6.19	53.0	15.0	8.0	* 0.5	* 0.5	...	...	
15	46.18	.211	65	.374	.163	0.5	S 40 W	10.67	10.9	52.0	31.2	20.8	...	...	...	...	
16	45.03	.204	69	.616	.412	0.5	S 61 W	5.38	6.26	52.0	35.8	6.6	...	...	...	...	
17	46.17	.236	71	.466	.230	0.7	S 46 W	2.50	4.16	19.5	40.0	9.5	.210	.50	...	...	
18	32.82	.422	66	.726	.604	0.5	S 61 W	13.11	13.82	32.2	31.2	21.4	.055	.10	...	...	
19	35.60	.143	71	.894	.750	0.4	S 75 W	6.55	6.61	15.0	26.5	13.2	...	...	...	...	
20	38.12	.192	52	.933	.711	0.5	S 79 E	2.50	4.10	16.8	27.4	19.4	...	...	...	...	
21	33.50	.236	53	.824	.588	0.5	S 57 E	2.60	3.59	51.0	38.2	12.8	...	...	...	...	
22	46.37	.283	91	.608	.325	1.0	S 63 E	1.33	1.41	19.6	11.2	8.1	.235	.50	...	...	
23	38.77	.160	66	.178	.618	0.5	S 11 W	13.08	13.60	19.6	38.6	11.0	.020	.35	...	...	
24	37.67	.128	57	.578	.419	0.4	S 14 W	27.06	27.08	16.2	30.0	16.2	...	...	...	...	
25	36.13	.150	72	.539	.388	1.0	S 25 W	6.78	9.83	11.2	30.0	17.2	...	...	...	...	
26	36.17	.183	55	.152	.269	1.0	S 35 E	3.32	3.76	39.3	32.2	7.1	0.2	6.0	...	...	
27	38.15	.182	79	.138	.256	0.7	S 8 W	0.61	1.62	38.8	30.0	8.0	* 5.0	* 5.0	...	...	
28	40.20	.192	78	.396	.304	0.9	S 38 W	5.18	6.55	35.8	9.7	1.5	.015	1.5	...	...	
29	45.12	0.213	78	29.667	29.424	0.6	S 19 W	2.93	6.21	53.37	17.1	.45	1.010	1.2	0.2	11.0	1.060

TORONTO METEOROLOGICAL OBSERVATIONS.

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—NOVEMBER, 1857.

DAILY MEANS.	WIND.	EXTREMES OF TEMPERATURE.	RAIN.		SNOW.		RAIN AND MELTED SNOW.	
			Hours.	Depth in inches.	Hours.	Depth in inches.	Hours.	Depth in inches.
1								
2	.39-.92	.0-.180	.74	.29-.257	.29-.077	.0-.4	.8-.12 W	.8-.17 S
3	.38-.22	.160	.70	.535	.375	.0-.6	.77 W	.12-.07 12.51
4	.39-.15	.190	.79	.675	.485	.0-.5	West	.9-.57 9.93
5	.16-.57	.275	.90	.296	.321	.0-.8	.69 E	.1-.59 5.43
6	.49-.92	.290	.57	.268	.067	.0-.7	.61 E	.3-.11 10.08
7	.42-.70	.218	.81	.483	.276	.0-.9	.64 W	.7-.38 7.38
8								
9	.45-.05	.275	.91	.410	.135	.1-.0	.85 E	.9-.35 10.08
10	.37-.72	.114	.64	.634	.690	.0-.3	.67 W	.4-.17 8.3
11	.37-.08	.111	.67	.30-.032	.888	.0-.7	.55 W	.9-.58 9.82
12	.39-.75	.198	.81	.29-.602	.404	.1-.0	.67 W	.6-.79 6.50
13	.35-.22	.139	.67	.517	.408	.0-.8	.77 W	.9-.11 11.88
14	.25-.03	.091	.65	.913	.852	.0-.1	.32 W	.5-.03 7.25
15								
16	.33-.02	.164	.57	.504	.310	.0-.8	.55 W	.4-.20 4.43
17	.34-.97	.159	.78	.131	.28-.732	.0-.7	.32 W	.3-.06 3.19
18	.37-.10	.148	.67	.28-.671	.25-.503	.0-.8	.15 W	.16-.18 19.50
19	.33-.53	.168	.84	.28-.933	.28-.833	.0-.6	.21 W	.42-.4 16.15
20	.22-.68	.101	.80	.29-.165	.29-.038	.1-.0	.36 W	.39-.0 12.15
21	.27-.75	.127	.82	.29-.165	.29-.038	.1-.0	.44 W	.17-.69 18.90
22								
23	.24-.03	.109	.81	.215	.136	.0-.6	.73 W	.7-.42 9.59
24	.14-.25	.071	.78	.579	.508	.0-.7	.75 W	.8-.60 11.13
25	.11-.00	.062	.76	.30-.156	.30-.094	.0-.7	.75 W	.9-.00 9.33
26	.20-.43	.086	.76	.30-.191	.30-.105	.0-.4	.64 W	.6-.89 6.99
27	.27-.82	.121	.77	.30-.075	.29-.954	.0-.3	.42 W	.3-.88 4.00
28	.34-.45	.151	.75	.30-.015	.864	.0-.4	.26 W	.1-.60 1.98
29								
30	.12-.07	.218	.91	.29-.639	.391	.1-.0	.67 E	.7-.22 7.44

33.54 0.157 77 29.524 29.367 0.7

s 61 W 5.45 9.25 35.94 26.55 13.39 3.235

76.6 6.9 43.2 3.925 119.5

## GENERAL METEOROLOGICAL ABSTRACT,—DECEMBER, 1857.

## TORONTO METEOROLOGICAL OBSERVATIONS.

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Date.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW.												
	Temperature of the Air.	Humidity.	Pressure of Vapour.	Dry Air.	Barometer.	Clouded	Sky.	Velocity of Wind.	Direction	Distance	Depth in Inches.	Approximate Duration in Hours.	Depth in Inches.	Approximate Duration in Hours.	Depth in Inches.	Approximate Duration in Hours.	Depth in Inches.	Approximate Duration in Hours.	Depth in Inches.	Approximate Duration in Hours.	Depth in Inches.	Approximate Duration in Hours.	Depth in Inches.
1	36.35	0.168	78	29.729	29.561	0.7	S 52° W	3.65	N 65°	3.06	38.6	30.0	8.6	...	...	...	...	...	...	...	...	...	...
2	37.55	.167	74	.572	.405	0.8	S 64° W	7.68	S 63°	9.13	41.5	30.2	11.3	...	...	...	...	...	...	...	...	...	...
3	30.40	.116	68	.766	.650	0.8	S 55° W	12.14	S 29°	32.3	24.8	7.5	...	*	2.0	*	...	...	...	...	...	...	...
4	29.47	.121	74	.784	.663	0.6	S 76° E	0.64	S 76°	42.4	24.0	8.4	...	...	0.4	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	28.95	.134	83	.696	.562	1.0	S 77° E	12.23	S 12°	39	33.9	26.5	7.4	...	0.5	2.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
6	7	37.22	.178	.81	.611	.433	S 78° E	3.73	S 7.7	99	40.5	32.5	8.0	.825	12.0	...	...	...	...	...	...	...	...
8	39.75	.180	73	.677	.497	0.7	S 61° W	3.13	S 4.15	43.5	33.5	10.3	.165	5.0	...	...	...	...	...	...	...	...	...
9	40.37	.229	88	.266	.046	0.9	S 63° W	1.63	S 11.65	42.5	35.0	10.8	.190	3.5	...	...	...	...	...	...	...	...	...
10	32.46	.135	72	.489	.355	0.8	S 88° W	11.81	S 13.16	37.2	20.8	16.4	...	1.5	4.8	...	...	...	...	...	...	...	...
11	23.92	.163	78	30.014	.911	0.3	S 25° W	1.97	S 2.11	30.0	14.5	15.5	...	...	...	...	...	...	...	...	...	...	...
12	23.33	.107	83	30.179	30.072	0.1	S 74° W	1.74	S 1.92	30.7	15.0	15.7	...	...	...	...	...	...	...	...	...	...	...
13	35.60	.182	86	.308	.126	1.0	S 45° W	9.32	S 9.56	40.8	24.5	16.3	...	...	...	...	...	...	...	...	...	...	...
14	37.68	.181	81	29.739	29.618	0.2	S 72° W	1.44	S 2.18	44.0	30.0	14.0	...	...	...	...	...	...	...	...	...	...	...
15	36.85	.191	88	.913	.723	1.0	S 77° E	3.02	S 2.25	38.5	32.2	6.3	...	...	...	...	...	...	...	...	...	...	...
16	33.87	.183	95	.838	.655	1.0	S 56° E	0.12	S 0.13	35.5	29.4	9.1	...	...	...	...	...	...	...	...	...	...	...
17	35.15	.191	94	.608	.417	1.0	S 61° E	5.19	S 5.36	39.3	30.3	9.3	.530	8.2	...	...	...	...	...	...	...	...	...
18	35.60	.182	86	.308	.126	1.0	S 54° W	13.12	S 7.42	40.5	25.8	14.7	.405	10.5	*	0.6	.405	11.1	*	*	*	*	*
19	24.97	.104	76	.938	.834	0.9	S 52° W	7.63	S 7.70	27.0	21.2	5.8	...	...	...	...	...	...	...	...	...	...	...
20	...	...	...	...	...	...	S 36° W	1.44	S 1.56	31.0	24.0	7.0	...	...	...	...	...	...	...	...	...	...	...
21	31.03	.116	83	.694	.548	0.7	S 46° E	2.24	S 2.96	37.0	23.0	14.0	...	...	...	...	...	...	...	...	...	...	...
22	31.43	.143	80	.293	.150	0.8	S 76° W	10.0	S 11.76	34.5	22.5	12.0	...	...	...	...	...	...	...	...	...	...	...
23	29.07	.118	72	.155	.036	0.8	S 74° E	15.69	S 16.52	33.4	23.2	10.2	...	...	...	...	...	...	...	...	...	...	...
24	22.92	.091	71	.673	.582	0.7	S 58° W	6.55	S 6.96	29.8	10.2	19.6	...	...	...	...	...	...	...	...	...	...	...
25	...	...	...	...	...	...	S 82° E	2.24	S 3.57	22.0	18.5	3.5	...	...	...	...	...	...	...	...	...	...	...
26	20.47	.085	73	.550	.465	1.0	S 18° W	4.11	S 5.29	23.2	18.4	4.8	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	S 17° W	9.35	S 11.54	34.5	4.7	29.8	...	...	...	...	...	...	...	...	...	...	...
28	33.12	...	150	.79	.567	0.6	S 58° W	2.31	S 2.46	38.4	21.2	17.2	...	...	...	...	...	...	...	...	...	...	...
29	28.25	.125	79	.248	.508	0.6	S 13° E	2.45	S 3.28	34.6	22.0	12.6	...	...	...	...	...	...	...	...	...	...	...
30	35.50	.197	95	.051	1.0	S 50° E	0.41	S 0.51	37.0	32.2	4.8	.535	9.5	0.5	6.0	...	...	...	...	...	...	...	...
31	32.57	.156	84	.088	.25.932	0.6	S 74° W	8.91	S 9.76	35.0	25.8	6.2	...	0.5	4.0	...	...	...	...	...	...	...	...
	31.86	0.149	80	29.619	29.470	0.7	S 80° W	2.51	6.84	35.75	21.20	11.55	3.205	64.2	9.0	52.2	4.105	116.4					

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT.—JANUARY, 1858.

DAILY MEANS.	WIND.			EXTREMES OF TEMPERATURE.			RAIN.			SNOW.			RAINS AND MELTED SNOW.				
	Pressure of Air.	Humidity.	Temperature.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.		
1 29.48	0.125	.77	29.535	29.410	0.5	N 51 W	1.40	5.17	35.1	21.2	1.2	...	0.1	2.5	0.010		
2 .27.77	.105	.71	.694	.589	0.1	S 64 W	7.11	7.27	35.4	20.0	15.4	...	...	...	...		
3 .35.82	.170	.68	.499	.424	0.4	S 53 W	13.65	13.96	10.0	19.2	20.5	...	...	...	...		
4 .40.18	.29.97	.78	.483	.365	0.7	S 50 W	7.08	7.17	14.4	31.0	10.4	...	...	...	...		
5 .30.53	.089	.82	.365	.416	0.7	S 39 W	2.26	4.77	39.2	15.6	13.6	...	2.0	6.5	.200		
6 .20.37	.078	.71	.30.055	.977	0.3	S 55 W	8.08	8.29	24.2	18.5	5.7	...	...	...	...		
7 .21.25	.084	.73	.30.213	.30.129	0.8	S 10 E	3.82	4.83	35.0	11.6	33.4	...	...	...	...		
8 .32.70	.121	.65	.29.712	.29.591	0.4	S 63 W	7.13	7.67	38.2	21.0	17.2	...	...	...	...		
9 .41.05	.205	.59	.153	.28.948	0.5	S 55 E	8.60	8.74	39.7	14.2	25.5	0.517	7.5	7.5	.517		
10 .33.77	.129	.68	.825	.29.696	0.3	S 69 W	12.50	15.87	16.2	31.6	11.6	0.00	5.0	5.0	.000		
11 .35.82	.148	.70	.669	.521	0.2	S 81 W	5.41	9.12	32.5	12.0	28.5	...	...	...	...		
12 .31.90	.152	.84	.831	.779	0.4	East	3.75	5.88	38.5	26.2	12.3	...	...	...	...		
13 .36.05	.175	.82	.506	.331	1.0	S 83 E	8.42	8.58	38.2	31.0	7.2	...	...	...	...		
14 .32.32	.160	.86	.314	.154	1.0	S 56 W	15.50	15.98	30.4	32.5	6.6	...	...	...	...		
15 .27.97	.126	.82	.30.091	.29.965	0.5	S 71 W	3.65	4.24	28.2	21.2	7.0	...	0.2	7.0	.020		
16 .28.98	.138	.86	.678	.540	1.0	N 68 W	2.75	3.86	32.5	24.0	5.5	...	...	...	...		
17 .27.27	.116	.79	.734	.618	0.5	S 16 E	1.36	2.31	33.2	23.6	9.6	...	0.3	6.0	.030		
18 .29.17	.132	.81	.807	.675	0.2	S 47 W	4.13	4.15	34.4	21.2	3.2	...	...	...	...		
19 .33.90	.143	.74	.859	.716	0.0	S 50 W	2.46	5.10	12.4	25.0	17.4	...	...	...	...		
20 .21.30	.094	.81	.30.250	.30.157	0.8	S 66 E	10.49	10.87	25.2	18.0	7.2	...	...	...	...		
21 .23.55	.106	.84	.455	.346	1.0	N 14 W	5.10	6.16	26.2	18.0	8.2	...	...	...	...		
22 .24.67	.101	.76	.631	.1.0 N 25 W	12.03	12.89	25.8	23.2	2.6	...	...	...	*	*	1.5	1.5	
23 .17.37	.075	.76	.706	.631	0.6	N 39 W	13.01	13.16	25.8	15.5	10.3	...	*	*	3.0	3.0	
24 .30.03	0.134	.78	.29.675	.29.541	0.6	N 71 W	2.33	7.40	35.27	23.73	11.54	1.452	33.3	4.0	45.2	1.552	
25 .41.80	.246	.93	.29.755	.569	1.0	S 76 E	1.77	1.85	38.8	27.0	11.8	.125	7.0	7.0	.125	7.0	
26 .42.82	.210	.73	.385	.175	0.8	S 62 W	9.75	10.77	45.0	35.5	9.5	.075	3.5	3.5	.075	3.5	
27 .29.02	.121	.75	.502	.381	0.8	S 32 W	7.53	7.72	33.4	29.8	6.6	.015	2.5	2.5	.015	2.5	
28 .23.55	.106	.84	.455	.346	1.0	N 14 W	5.10	6.16	26.2	18.0	8.2	...	...	...	...	...	
29 .24.67	.101	.76	.631	.1.0 N 25 W	12.03	12.89	25.8	23.2	2.6	...	...	...	*	*	*	*	*
30 .17.37	.075	.76	.706	.631	0.6	N 39 W	13.01	13.16	25.8	15.5	10.3	...	*	*	3.0	3.0	
31 ....	...	...	...	...	0.9	E	0.70	1.43	24.4	6.5	17.9	...	2.0	2.0	2.0	2.0	

<sup>o</sup> 30.03 0.134 78 29.675 29.541 0.6 N 71 W 2.33 7.40 35.27 23.73 11.54 1.452 33.3 4.0 45.2 1.552 78.5

30.03	0.134	78	29.675	29.541	0.6 N 71 W	2.33 7.40 35.27 33.73 11.54 1.152	33.3	4.0	45.2	1.352	78.5
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GENERAL METEOROLOGICAL ABSTRACT,—FEBRUARY, 1858.

Date.	DAILY MEANS.			WIND.			EXTREMES OF TEMPERATURE.			RAIN.			SNOW.			RAIN AND MELTED SNOW.				
	Dry Air Pressure.	Relative Humidity.	Barometer.	Pressure of the Atmosphere.	Temperature of the Atmosphere.	Apparatus.	Clouded.	Sky.	Visibility.	Maximum.	Minimum.	Difference.	Hours.	Depth in inches.	Approximate duration in hours.	Hours.	Depth in inches.	Approximate duration in hours.	Hours.	Depth in inches.
1	27.63	0.120	78	29.577	29.457	0.9	N 80 E	15.63	16.08	32.5	16.016.5	0.5	0.5	6.0	8.0	0.600	8.0	0.5	4.5	.050
2	31.97	.156	86	-137	28.381	1.0	S 70 W	7.49	9.35	31.2	26.2	*	*	0.5	0.5	4.5	.050	5.0	1.0	.050
3	27.52	.129	82	.612	29.483	0.5	S 69 W	11.67	12.00	33.0	28.4	4.6	4.6	0.5	1.0	4.5	.050	1.0	..	..
4	15.40	.063	71	.743	.680	0.3	S 70 W	4.21	4.29	29.5	9.815.7	..	..	..	..	..	..	..	..	..
5	13.65	.058	64	.696	.635	0.9	S 75 W	8.19	8.30	24.2	0.533.7	..	..	..	..	..	..	..	..	..
6	24.57	.100	81	.697	.585	1.0	S 30 W	8.46	9.75	32.2	15.017.2	..	..	..	..	..	..	..	..	..
7	..	..	..	..	..	..	S 32 W	11.91	12.83	32.5	24.87.7	..	..	..	..	..	..	..	..	..
8	20.10	.083	77	.508	.725	1.0	N 16 W	1.88	2.03	24.0	18.06.0	..	..	..	..	..	..	..	..	..
9	24.37	.118	89	.197	.079	1.0	S 72 E	0.67	8.40	32.2	15.217.0	..	..	..	..	..	..	..	..	..
10	11.58	.062	52	.310	.275	0.7	S 66 W	21.21	21.80	23.0	9.813.2	..	..	..	..	..	..	..	..	..
11	2.77	.013	58	.753	.710	0.7	S 76 W	4.35	4.63	6.5	0.55.7	..	..	..	..	..	..	..	..	..
12	11.80	.057	77	.867	.509	0.2	S 12 W	2.57	5.57	21.4	-4.225.6	..	..	..	..	..	..	..	..	..
13	9.47	.052	72	.504	.752	1.0	S 58 E	16.68	17.28	15.2	3.212.0	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	S 8 E	6.00	6.96	13.5	7.85.7	..	..	..	..	..	..	..	..	..
15	15.67	.067	76	.869	.802	0.4	S 66 W	4.48	5.16	19.8	7.412.4	..	..	..	..	..	..	..	..	..
16	7.32	.047	75	.843	.796	0.2	S 39 W	12.10	12.26	14.2	11.03.2	..	..	..	..	..	..	..	..	..
17	1.60	.037	73	.982	.982	0.5	N 3 E	6.93	7.37	11.0	-0.811.5	..	..	..	..	..	..	..	..	..
18	6.15	.039	67	.856	.847	0.8	N 44 E	16.66	16.30	12.0	4.511.5	..	..	..	..	..	..	..	..	..
19	6.75	.050	84	.715	.634	0.9	S 81 W	2.79	6.70	21.0	8.013.0	..	..	..	..	..	..	..	..	..
20	13.38	.068	84	.512	.414	0.5	S 90 W	9.79	15.97	25.2	8.818.4	..	..	..	..	..	..	..	..	..
21	12.48	..	..	..	..	..	S 10 W	3.10	3.64	20.4	19.29.9	..	..	..	..	..	..	..	..	..
22	11.56	.059	77	.892	.892	0.8	S 69 W	2.34	3.52	19.0	0.019.0	..	..	..	..	..	..	..	..	..
23	20.55	.069	77	.901	.901	0.6	S 45 W	9.04	9.61	27.5	4.533.0	..	..	..	..	..	..	..	..	..
24	..	.084	74	.598	.514	0.8	S 60 W	6.44	7.18	32.4	19.213.2	..	..	..	..	..	..	..	..	..
25	26.48	.103	73	.520	.417	0.9	S 26 W	11.19	11.28	33.2	11.521.7	..	..	..	..	..	..	..	..	..
26	26.53	.109	73	.545	.436	0.2	S 70 W	4.54	9.18	42.4	29.512.9	..	..	..	..	..	..	..	..	..
27	38.07	.152	66	.302	.150	0.7	S 25 W	7.14	7.55	34.2	30.04.2	..	..	..	..	..	..	..	..	..
28	..	..	..	..	..	..	N 72 W	3.22	9.1224°	10.85	13.26	*	0.5	26.7	96.0	2.670	96.5	..		

TORONTO METEOROLOGICAL OBSERVATIONS.

## TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT.—MARCH, 1858.

Days.	DAILY MEANS.			WIND.			EXTREMES OF TEMPERATURE.			RAIN.			SNOW.			RAIN AND MELTED SNOW			
	Humidity.	Pressure of Air.	Bromometer.	Pressure of Vapor.	Temperature.	Clouded.	Resultant.	Kinetic.	Velocity.	Mean.	Maximum.	Difference.	Depth in inches.	Difference in hours.	Approximate duration in hours.	Depth in inches.	Difference in hours.	Approximate duration in hours.	Depth in inches.
1	.18.28	.0.074	74	.29.420	.29.416	0.9	N 44° W	12.93	(3.25)	25.5	21.0	.4.5	...	...	...	...	...	...	
2	.7.92	.0.043	70	.518	.475	0.4	N 60° W	8.34	8.50	15.8	5.2	10.6	...	...	...	...	...	...	
3	.7.07	.0.50	79	.669	.619	0.5	N 69° W	6.76	7.22	17.8	0.5	17.3	...	...	...	0.2	3.0	3.0	
4	.5.98	.0.38	69	.915	.877	0.3	N 25° W	5.55	5.49	12.4	—4.8	17.2	...	...	...	...	...	...	
5	.2.12	.0.37	75	.918	.881	0.0	N 41° W	20.69	20.88	7.8	—5.5	13.3	...	...	...	...	...	...	
6	.9.73	.0.43	62	.631	.558	0.4	N 36° W	5.85	6.11	19.8	1.9	17.9	...	...	...	...	...	...	
7																			
8	.14.95	.0.62	73	.264	.202	0.5	N 53° W	4.21	4.41	25.2	0.8	20.5	...	...	...	...	...	...	
9	.17.32	.0.67	71	.173	.106	0.9	N 61° W	4.28	5.04	23.0	2.5	20.5	...	...	...	1.0	...	...	
10	.29.83	.11.9	72	.287	.152	0.5	S 22° W	5.65	6.83	39.3	16.8	22.5	0.015	1.8	...	...	6.0	...	
11	.33.60	.137	68	.387	.249	0.5	S 77° W	16.92	17.12	39.3	9.3	20.4	...	...	...	...	...	...	
12	.29.47	.0.90	57	.832	.752	0.3	S 88° W	6.58	10.09	42.2	16.8	25.4	...	...	...	...	...	...	
13	.28.58	.11.5	72	.30.011	.896	0.7	S 72° E	3.34	3.96	32.9	2.1	11.5	.012	1.0	...	...	...	.012	1.0
14																		.305	2.0
15	.37.00	.213	96	.29.750	.537	1.0	N 80° E	1.72	1.72	39.2	37.0	2.2	...	...	...	...	...	...	...
16	.41.77	.253	95	.637	.284	1.0	N 81° E	0.01	0.01	48.2	34.0	14.2	...	...	...	...	...	...	...
17	.46.70	.275	86	.28.907	.0.8	0.8	S 23° E	8.23	9.47	55.4	38.5	16.9	.078	2.0	...	...	...	...	...
18	.43.12	.188	66	.549	.29.361	0.6	N 96° W	14.35	14.60	47.8	42.2	5.6	...	...	...	...	...	...	...
19	.34.88	.161	79	.970	.809	0.0	S 35° E	2.84	5.33	39.8	33.0	6.8	...	...	...	...	...	...	...
20	.36.42	.163	76	.553	.389	0.7	S 84° E	6.62	7.55	46.0	29.0	17.0	...	...	...	...	...	...	...
21																		.125	8.0
22	.32.07	.104	57	.636	.562	0.5	N 43° W	10.77	12.14	37.0	31.2	5.8	...	...	...	*	1.5	...	...
23	.29.07	.112	70	.736	.624	0.1	S 74° E	3.66	3.67	34.8	18.4	16.4	...	...	...	*	0.5	0.5	...
24	.33.78	.113	59	.720	.607	0.7	S 8 W	1.14	1.37	42.0	24.4	17.6	...	...	...	...	...	...	...
25	.39.22	.142	62	.458	.316	0.8	N 62° W	12.91	13.8	19.8	31.0	18.8	.002	1.4	...	...	...	...	...
26	.32.37	.0.86	49	.686	.660	0.2	N 25° W	10.84	0.97	41.2	26.2	15.0	...	...	...	...	...	...	...
27	.30.17	.117	69	.517	.400	0.9	N 33° E	3.78	4.61	41.0	27.7	13.3	...	...	...	*	0.5	0.5	...
28																			...
29	.41.32	.162	63	.735	.573	0.1	N 31° W	8.47	8.91	17.2	29.0	18.2	...	...	...	...	...	...	...
30	.42.60	.115	41	.815	.760	0.0	N 23° W	5.57	9.65	53.2	34.8	18.4	...	...	...	...	...	...	...
31	.43.27	.130	46	.798	.668	0.2	N 77° E	6.90	7.36	50.3	31.5	19.4	...	...	...	...	...	...	...

28.44 0.119 69 29.620 29.501 0.5 N 58 W 5.45 8.56 37.01 21.93 2.08 0.917 1.5 0.2 11.0 | 0.937 42.5

	9	8	7	6	5	4	3	2	1	0							
28.44	0.119	69	29.620	29.501	0.5	N 58 W	5.45	8.56	37.01	21.93	15.08	0.917	1.5	0.2	11.0	0.987	42.5

## GENERAL METEOROLOGICAL ABSTRACT,—APRIL, 1858.

## TORONTO METEOROLOGICAL OBSERVATIONS.

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Date.	DAILY MEANS.		WIND.		Extremes of Temperature.		RAIN.		SNOW.		RAIN AND MELTED SNOW.	
	Temperature of Air.	Pressure of Vapor.	Clouded Sky.	Dry Air.	Pressure of Brinomeric.	Relative Humidity.	Resultant Wind.	Mean Velocity.	Maximum.	Minimum.	Difference.	Hours.
1	45.78	0.181	60	29.695	29.514	0.7	N 86 E	3.95 Miles.	4.25	54.0	35.5	18.5
2	48.48	.200	59	.530	.330	0.6	S 46 E	1.71 Miles.	5.70	6.19	24.8	...
3	42.37	.147	54	.419	.272	0.7	S 78 E	5.70 Miles.	6.16	57.0	33.8	23.2
4	30.83	.103	61	.792	.689	0.6	S 23 E	12.42 Miles.	5.57	61.6	43.0	18.6
5	36.73	.092	53	.917	.825	0.1	S 50 W	13.40 Miles.	13.85	35.4	32.2	3.2
6	31.07	.174	79	.529	.355	0.7	S 77 W	16.02 Miles.	14.73	40.0	21.8	18.2
7	48.53	.213	63	.271	.056	1.0	S 83 W	9.42 Miles.	11.49	57.2	34.0	13.0
8	42.52	.172	63	.673	.501	0.4	N 11 W	7.32 Miles.	11.79	47.2	40.0	2.0
9	39.08	.172	75	.366	.191	1.0	N 76 E	11.86 Miles.	12.04	38.0	7.2	...
10	35.27	.229	93	.117	.28.888	1.0	N 64 E	22.55 Miles.	22.57	38.6	34.2	4.4
11	44.42	.254	87	.138	.28.884	0.7	S 12 W	2.29 Miles.	4.82	42.2	36.0	6.2
12	45.77	.223	73	.239	.29.075	0.8	S 65 W	6.75 Miles.	16.0	50.8	36.8	14.0
13	39.80	.174	73	.474	.315	0.2	S 66 W	6.32 Miles.	9.0	53.0	38.2	13.8
14	42.27	.229	53	.117	.654	0.0	S 56 E	2.76 Miles.	5.53	47.6	28.5	19.1
15	38.65	.172	51	.117	.141	0.5	S 50 E	2.24 Miles.	4.74	47.6	19.8	...
16	40.53	.236	91	.533	.633	1.0	S 40 E	4.76 Miles.	17.51	42.2	36.0	5.4
17	46.18	.204	74	.335	.132	1.0	S 46 E	6.67 Miles.	11.85	44.0	38.2	5.8
18	50.45	.270	74	.244	.29.974	0.9	S 44 W	9.79 Miles.	10.00	51.0	39.0	12.0
19	40.25	.142	56	.450	.29.309	0.6	S 20 E	2.38 Miles.	9.62	58.8	40.6	18.2
20	40.38	.128	70	.601	.473	1.0	S 94 W	15.51 Miles.	15.55	44.2	39.8	4.4
21	45.18	.204	68	.660	.692	1.0	S 39 W	12.51 Miles.	13.33	38.1	7.1	...
22	42.27	.270	74	.421	.335	0.1	S 34 W	4.83 Miles.	6.06	38.0	27.5	10.5
23	40.25	.142	56	.450	.29.309	1.0	S 54 W	2.96 Miles.	4.50	45.2	26.5	14.7
24	32.40	.128	70	.601	.473	0.1	S 1 E	6.50 Miles.	7.31	28.5	17.7	...
25	35.10	.121	60	.860	.739	0.3	S 51 W	3.15 Miles.	8.92	16.2	35.0	...
26	38.10	.113	50	.751	.638	0.1	S 59 W	6.81 Miles.	10.16	55.0	33.4	21.3
27	34.20	.148	54	.624	.456	1.0	S 8 E	4.08 Miles.	4.85	49.8	36.4	13.4
28	43.15	.178	64	.363	.185	0.6	S 43 W	7.31 Miles.	8.23	65.2	41.0	24.2
29	32.13	.304	78	.253	.28.949	0.6	S 43 W	4.69 Miles.	4.85	49.8	36.4	13.4
30	30.8	1.0	78	.253	.28.949	0.6	S 43 W	7.31 Miles.	8.23	65.2	41.0	24.2

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—MAY, 1858.

DAYS.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW.	
	Temperature of Air.	Humidity.	Barometer.	Pressure of Vapor.	Direction.	Velocity.	Wind.	Difference in hours.	Depth in inches.	Duration in hours.	Depth in inches.	Approximate duration in hours.
1	44.72	0.199	67	29.773	29.574	0.6	N 22° W 14.31	6.74	53.0	39.0	14.0	...
2	44.30	.110	39	30.029	.919	0.8	S 77° E 11.52	3.02	47.4	31.2	13.2	...
3	50.30	.253	69	29.617	.394	0.9	N 76 E 11.55	11.63	48.6	35.5	13.1	...
4	51.68	.310	83	.439	.129	0.7	N 72 E 11.62	7.09	56.0	42.6	13.4	0.05
5	57.15	.228	51	.451	.222	0.5	N 54 E 11.73	7.41	58.0	46.0	12.0	0.5
6	55.12	.227	33	.640	.413	0.1	North 1.52	3.21	63.0	50.8	12.2	...
7	53.52	.265	66	.581	.315	0.9	S 13 E 5.50	2.04	2.54	64.2	42.2	*
8	44.87	.168	33	.652	.494	1.0	N 68 W 10.66	13.16	69.8	50.9	19.8	0.055
9	43.97	.213	94	.213	.28.970	1.0	N 73 E 15.24	19.63	47.5	43.4	4.1	1.5
10	44.87	.168	33	.652	.494	1.0	S 84 E 10.66	13.16	38.1	51.0	12.9	...
11	45.78	.234	76	.353	.29.119	0.7	N 76 W 11.84	12.07	51.8	40.0	11.8	...
12	45.78	.236	64	.747	.511	0.2	N 70 E 11.18	8.16	58.4	37.8	20.6	0.5
13	48.72	.226	63	.572	.346	0.5	N 67 E 8.28	9.03	53.4	43.0	10.4	...
14	50.15	.188	51	.591	.403	0.4	N 42 E 12.65	14.40	63.2	42.5	20.7	...
15	49.28	.170	54	.705	.55	0.1	S 8 W 2.69	5.86	49.8	31.0	18.8	...
16	49.92	.217	85	.506	.289	1.0	N 69 E 11.37	11.97	42.8	36.8	6.0	1.540
17	44.28	.232	80	.623	.391	0.7	N 65 W 6.51	6.69	51.0	38.0	13.0	...
18	47.33	.208	64	.627	.419	0.8	N 15 W 3.30	6.53	51.4	31.0	17.4	0.10
19	46.52	.211	79	.552	.311	0.7	N 65 W 10.13	10.57	55.0	39.0	16.0	0.040
20	46.28	.170	54	.705	.535	0.3	N 49 W 13.08	13.55	55.0	37.5	17.5	0.5
21	49.15	.218	61	.837	.619	0.1	S 5 W 3.02	5.00	58.5	38.0	20.5	...
22	49.15	.218	61	.837	.619	0.1	N 46 W 1.84	8.29	63.5	38.5	25.0	0.160
23	55.63	.309	70	.399	.030	0.9	N 31 W 3.46	7.59	60.2	45.0	15.2	...
24	50.78	.277	75	.442	.165	1.0	N 76 E 18.18	18.19	54.0	48.5	10.50	14.5
25	45.38	.282	93	.331	.049	1.0	N 67 E 13.13	13.15	47.5	41.8	2.7	1.190
26	49.15	.281	81	.635	.354	1.0	N 70 E 10.00	10.08	52.8	42.0	10.8	*
27	50.70	.257	70	.780	.523	0.6	N 83 E 11.31	11.46	56.4	45.0	11.4	...
28	50.10	.255	71	.632	.378	0.8	East 11.08	11.37	53.5	45.8	8.0	.310
29	56.77	.389	83	.420	.031	0.7	S 21 W 2.65	7.01	68.0	50.0	18.0	1.0
30	56.77	.389	83	.420	.031	0.7	S 21 W 2.65	7.01	68.0	50.0	18.0	...
31	48.90	0.239	69	29.584	29.345	0.7	N 42 E 3.33	9.30	55.74	41.68	14.06	6.367

48.90	0.239	69	29.584	29.345	0.7	N <sup>42</sup>	E	3.33	9.30	55.74	41.68	14.06	6.307	103.7	...	...	...
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## GENERAL METEOROLOGICAL ABSTRACT.—JUNE, 1858.

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—JULY, 1858.

DAILY MEANS.	WIND.		RAIN.		SNOW.		RAIN AND MELTED SNOW.	
	Difference.	Minimum.	Difference.	Maximum.	Difference.	Maximum.	Difference.	Maximum.
1 62.10 0.3216	.58	.29	.633	.29	.308	0.9	N 67° E 7.87 Miles	67.5 60.9
2 66.45 .448	.69	.169	.021	0.1	N 83° E 4.12 Miles	71.2 60.2	11.0 .087	7.5 * 1.0
3 73.78 .614	.79	.346	.702	.07	N 56° W 7.56 Miles	84.8 63.1	21.7 .013	2.0 2.0
4 63.45 .336	.58	.574	.29	.538	0.0 N 27° W 10.39 Miles	10.90 80.8	65.5 15.0	... ...
5 67.32 .454	.68	.633	.050	.1	S 66° E 4.05 Miles	6.64 70.2	58.7 11.3	... ...
6 75.45 .583	.67	.633	.502	.28	S 88° E 1.42 Miles	2.84 76.0	52.0 24.6	... ...
7 73.78 .633	.73	.587	.28	.996	0.5 N 66° E 2.61 Miles	2.67 76.0	65.6 10.4	... ...
8 69.73 .591	.81	.563	.28	.573	0.8 N 76° W 3.52 Miles	6.67 66.2	16.6 .265	1.2 1.2
9 75.13 .690	.79	.563	.29	.100	0.9 N 39° W 9.39 Miles	9.66 65.6	63.5 21.1	15.0 .065
10 58.25 .426	.98	.525	.29	.100	0.9 N 14° E 5.88 Miles	6.25 61.4	55.8 5.6	14.7 5.5
11 63.90 .465	.78	.610	.145	.6	S 71° W 2.03 Miles	3.38 73.2	55.6 17.6	... ...
12 67.63 .474	.71	.767	.293	.0.4	S 47° E 1.50 Miles	3.32 76.4	60.0 16.4	... ...
13 69.43 .521	.74	.758	.237	.0.3	S 47° E 2.11 Miles	2.15 78.4	50.0 19.4	... ...
14 71.38 .616	.81	.666	.050	.2	S 32° W 3.45 Miles	4.47 77.8	61.2 10.6	* .75 0.6
15 68.70 .523	.74	.725	.202	0.8	N 32° W 2.31 Miles	5.35 73.0	67.3 5.7	... ...
16 62.53 .360	.64	.725	.365	0.1	S 81° E 3.57 Miles	4.81 72.4	60.4 12.0	... ...
17 67.40 .389	.59	.841	.452	0.1	S 78° E 2.56 Miles	4.14 76.2	56.0 20.2	... ...
18 67.70 .428	.64	.591	.163	0.5	S 53° E 1.08 Miles	1.65 76.5	57.0 19.5	... ...
19 67.57 .494	.72	.378	.28	.884	0.4 N 72° W 5.41 Miles	8.82 82.6	59.3 23.3	.060 0.2
20 66.85 .326	.52	.481	.29	.155	0.2 N 35° W 8.12 Miles	8.26 77.5	62.0 15.5	... ...
21 63.63 .310	.55	.355	.245	0.1	N 13° W 7.99 Miles	8.38 72.6	55.7 16.9	... ...
22 62.53 .360	.64	.725	.365	0.3	S 56° E 3.54 Miles	5.44 70.9	54.6 15.4	... ...
23 72.70 .581	.73	.539	.25	.958	0.6 S 75° E 4.97 Miles	5.17 69.5	54.2 16.3	... ...
24 70.90 .321	.44	.582	.29	.261	0.7 N 26° W 5.27 Miles	7.29 79.6	56.4 23.2	... ...
25 64.17 .445	.74	.708	.264	1.0	N 76° W 10.96 Miles	11.10 82.2	64.6 17.6	... ...
26 68.82 .596	.83	.440	.28	.844	0.8 S 83° E 3.65 Miles	4.27 69.4	53.7 16.7	... ...
27 63.85 .507	.86	.456	.28	.940	0.8 S 42° E 1.50 Miles	3.32 70.0	60.5 17.9	* 0.2 0.2
28 67.50 .471	.69	.547	.29	.077	0.4 N 60° W 1.74 Miles	4.13 75.4	59.8 15.6	1.5 ...
29 67.86 0.481	70	29.465	29.125	0.5	N 15° E 5.76 Miles	7.44 59.98	5.45 3.072	31.4 ...

## TORONTO METEOROLOGICAL OBSERVATIONS.

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GENERAL METEOROLOGICAL ABSTRACT,—AUGUST, 1858.

DAILY MEANS.	WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAINS AND MELTED SNOW	
	Pressure of Air	Velocity of Wind	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1 69.60 .0.527	.73	29.579	29.452	30.8	N 83 E	10.98 11.17	73.4	59.8	15.6	..
2 71.22 .603	.80	.405	28.802	0.5	S 26 W	4.94 7.75	62.2	11.8	1.010	4.9
3 72.98 .516	.70	.439	28.843	0.1	S 73 W	5.86 6.78	80.4	16.4	.330	5.5
4 72.47 .471	.61	.582	29.111	0.2	S 67 W	8.19 8.36	81.8	16.6	.420	2.2
5 72.75 .433	.53	.662	.209	0.0	S 26 W	10.51 10.76	83.6	14.2	.19.1	..
6 70.65 .543	.73	.739	.196	0.4	S 9 W	1.17 1.38	78.2	61.9	16.3	..
7 70.65 .543	.73	.739	.196	0.4	S 9 W	1.17 1.38	78.2	61.9	16.3	..
8 75.72 .631	.71	.658	.027	0.3	S 82 E	1.32 1.51	64.1	17.6	11.8	..
9 77.07 .657	.71	.591	28.934	0.2	S 5 E	0.19 3.47	84.0	63.7	17.3	..
10 72.18 .612	.75	.577	28.965	0.6	S 24 W	4.90 5.22	83.8	63.2	20.6	..
11 72.20 .550	.69	.739	29.219	0.0	S 74 E	2.60 5.39	79.4	63.8	12.6	* 1.0
12 72.20 .550	.69	.739	29.219	0.0	S 74 E	2.60 5.39	78.5	67.6	10.9	..
13 69.95 .493	.67	.919	.126	0.9	S 75 E	1.62 5.25	76.0	61.3	14.7	..
14 73.00 .565	.70	.717	.182	0.1	S 35 E	2.56 3.92	80.8	63.8	17.0	..
15 68.38 .509	.73	.756	.217	0.1	S 22 W	4.16 6.35	82.2	61.6	20.6	* 4
16 73.05 .561	.70	.687	.073	0.2	S 75 E	1.82 1.98	75.4	62.8	12.6	..
17 65.47 .479	.71	.176	.017	0.2	S 11 E	1.72 5.36	70.7	60.5	9.2	..
18 65.47 .479	.71	.176	.017	0.5	N 17 W	7.19 10.54	78.4	63.0	10.4	.20.5
19 56.40 .283	.62	.578	.035	0.5	S 25 W	4.15 4.28	63.4	51.0	9.4	1.5
20 65.15 .314	.57	.500	.153	0.4	S 40 W	5.81 8.65	75.8	63.8	10.6	..
21 66.32 .335	.51	.630	.295	0.4	S 63 W	8.97 9.90	76.0	2.1	14.6	* 1.0
22 55.90 .251	.58	.895	.583	0.0	S 42 W	11.35 15.36	65.4	5.2	15.2	..
23 60.32 .275	.56	.788	.513	0.2	S 9 E	6.06 6.67	75.2	61.0	31.2	..
24 61.47 .356	.66	.880	.524	0.3	S 50 E	5.12 5.13	72.1	15.3	36.9	..
25 64.03 .881	.51	.672	.119	1.0	S 51 E	6.11 7.50	72.1	53.8	18.6	.535
26 67.93 .545	.80	.374	.26.810	0.9	S 4 A	7.93 8.73	71.0	59.8	11.2	..
27 61.50 .487	.89	.291	28.864	1.0	S 60 W	3.19 8.12	67.2	60.8	6.41 1.015	17.5
28 60.02 .467	.90	.416	.28.749	1.0	S 70 W	7.16 7.18	58.4	53.8	2.1	.27.0 11.5
29 61.07 .412	.76	.586	29.173	0.6	S 55 W	2.11 4.05	61.2	53.8	10.4	.105
30 67.61 0.178	.70	.20.619	29.042	0.4	N 69 W	1.5	6.50 75.38 59.2	16.17 3.890	56.4	..

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT, SEPTEMBER, 1858.

Days.	DAILY MEANS.		WIND.	INSTRUMENTS OF TEMPERATURE.		RAIN.	SNOW.	RAIN AND MELTED SNOW.
	Temperature of Air.	Vapour of Air.		Wind.	Direction.			
1	61.42	0.430	79	29.639	29.269	0.3	S 12 E	2.46 3.14
2	63.43	.496	85	31.164	28.968	0.5	S 70 E	69.0 54.2
3	61.52	.487	79	31.388	28.901	0.6	S 38 W	3.88 61.5
4	63.77	.429	73	33.555	28.926	0.7	S 17 W	6.29 6.16
5	62.58	.46	77	31.741	29.308	0.6	S 78 W	7.32 7.79
6	67.48	.486	73	71.717	29.263	0.0	S 1 E	2.84 3.65
7	70.33	.527	73	70.666	.400 S	0.0	S 1 W	3.38 3.52
8	70.98	.509	79	70.606	.461 S	0.4	S 23 W	5.63 5.65
9	67.33	.549	81	65.151	28.902	0.5	S 17 W	3.95 4.16
10	59.27	.326	67	51.13	29.187	0.4	S 42 W	7.33 9.58
11	55.83	.298	67	56.59	.571	0.5	S 68 W	7.42 8.54
12	50.35	.380	75	57.758	.378	0.1	S 78 E	2.89 4.33
13	63.13	.415	77	64.468	.423	0.4	S 89 E	4.05 5.02
14	57.88	.305	61	52.217	28.912	0.6	S 53 W	12.36 13.12
15	52.32	.260	67	49.416	0.4	S 74 W	10.38 10.67	
16	52.35	.321	84	.917	.626	0.4	S 37 W	0.82 2.73
17	66.23	.484	76	.440	.219	0.3	S 81 E	4.06 4.23
18	56.45	.344	77	.691	.317	0.7	S 24 W	3.86 3.95
19	46.32	.173	71	.853	.682	0.4	S 36 W	11.25 11.84
20	47.58	.221	68	.247	.775	0.7	S 25 W	6.76 6.88
21	50.98	.256	68	.711	.455	0.6	S 11 W	5.22 3.99
22	49.03	.247	71	.775	.528	0.7	S 14 W	57.5 56.1
23	49.03	.247	71	.775	.528	0.7	S 11 W	57.5 56.1
24	50.98	.256	68	.711	.455	0.6	S 3 W	6.55 6.62
25	47.58	.221	67	.965	.744	0.1	S 61 E	1.46 2.85
26	52.87	.302	73	.497	.695	0.1	S 87 E	0.97 3.00
27	55.18	.367	84	.766	.399	0.9	S 87 E	2.60 2.78
28	64.37	.425	78	.423	28.948	0.7	S 77 E	1.56 1.62
29	55.65	.359	81	.450	29.091	0.8	S 27 W	3.22 3.30
30	55.65	.359	81	.450	29.091	0.8	S 15 E	2.86 3.61
31	59.11	0.384	74	29.650	29.266	0.1	S 74 W	1.52 5.69

Approximate hours.

GENERAL METEOROLOGICAL ABSTRACT, OCTOBER, 1855.

TORONTO METEOROLOGICAL OBSERVATIONS.

GENERAL METEOROLOGICAL ABSTRACT.—NOVEMBER, 1858.

34.0	0.162	79	29.627	29.464	0.8	N 25° W	3.14	8.57	37.90	30.03	7.87	3.879	84.9	4.0	48.0	4.278	132.9
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GENERAL METEOROLOGICAL ABSTRACT,—DECEMBER, 1858.

TORONTO METEOROLOGICAL OBSERVATIONS.

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DAYS.	DAILY MEANS.			WIND.			EXCURSIONS OF TEMPERATURE.			RAIN.			SNOW.			FROST AND MELTED SNOW.		
	MAX.	MEAN	MIN.	MAX.	MEAN	MIN.	MAX.	MEAN	MIN.	MAX.	MEAN	MAX.	MEAN	MIN.	MAX.	MEAN	MAX.	MEAN
1	24.20	0.110	30	29.463	29.833	0.6	7.62	9.66	37.1	9.5	27.3	10.0	0.5	3.0	0.050	3.0	3.0	
2	35.13	.153	69	.695	.542	3.8	4.42	25.9	13.3	..	..	1.5	8.0	1.50	8.0	..	..	
3	26.93	.129	87	.735	.666	1.0	N 9 W	5.61	6.35	32.2	26.4	..	..	1.2	10.5	1.20	10.5	
4	21.57	.097	84	.697	.600	1.0	N 44 E	10.97	11.35	27.1	17.1	10.0	..	..	..	..	..	..
5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	31.03	.131	76	.817	.716	0.9	S 29 E	7.48	8.45	34.5	30.49	3.6	..	0.1	1.0	.450	1.0	..
7	35.33	.161	71	.502	.341	0.8	S 70 W	4.30	9.76	40.1	26.7	13.7	..	..	..	..	..	..
8	20.93	.082	71	.685	.603	0.6	S 86 W	10.36	19.54	26.0	23.8	2.2	..	..	..	..	..	..
9	16.53	.066	71	30.057	.991	0.5	S 77 W	15.08	15.42	20.5	10.7	10.1	..	..	..	..	..	..
10	26.55	.114	76	29.817	.703	1.0	S 56 W	14.14	14.80	33.5	13.5	20.0	..	..	..	..	..	..
11	25.62	.101	74	.869	.768	0.6	S 29 E	5.07	6.92	32.1	25.9	1.1	..	..	..	..	..	..
12	..	..	..	..	..	..	N 75 E	16.16	17.02	35.6	16.2	22.4	0.15	..	..	..	..	..
13	40.08	.236	95	.485	.218	0.8	S 6 E	2.71	4.51	E 0	25.1	17.9	2.00	5.5	..	..	..	..
14	40.63	.236	92	.367	.071	1.0	S 21 W	3.90	4.65	15.4	38.0	7.1	.215	12.5	..	..	..	..
15	31.58	.150	83	.196	.316	0.7	S 33 W	4.08	4.17	31.4	31.2	3.2	..	0.2	..	..	..	..
16	29.32	.134	82	.717	.583	0.7	S 67 W	6.33	8.68	32.5	22.6	9.9	..	0.5	1.6	..	..	..
17	19.10	.081	75	.963	.882	0.8	S 9 E	1.91	5.12	23.2	18.0	4.2	..	..	..	..	..	..
18	11.98	.067	89	30.090	30.023	1.0	S 58 E	8.97	10.27	25.4	5.7	19.7	..	0.2	0.8	..	..	..
19	..	..	..	..	..	..	S 30 W	2.33	5.87	37.0	12.1	2.9	.670	1.5	..	..	..	..
20	33.88	.118	84	29.532	29.371	0.7	N 39 E	7.67	8.17	35.0	30.1	4.6	..	..	..	..	..	..
21	33.05	.164	87	.138	.289	0.9	S 97 W	11.17	13.76	31.6	32.8	1.5	..	..	..	..	..	..
22	26.23	.109	76	.627	.20.518	0.7	S 56 W	10.11	11.82	30.2	26.6	3.6	..	..	..	..	..	..
23	19.98	.092	84	.524	.432	1.0	S 39 E	7.58	8.95	28.0	17.2	10.5	..	0.5	1.0	11.0	..	..
24	11.27	.061	81	30.111	30.050	0.3	S 26 W	4.65	3.7	22.0	9.1	12.9	..	..	..	..	..	..
25	..	..	..	..	..	..	S 30 A	0.31	0.31	28.1	1.2	23.9	..	..	..	..	..	..
26	..	..	..	..	..	..	S 58 W	5.61	6.50	36.1	19.1	17.0	.057	1.5	..	..	..	..
27	35.25	.151	73	29.732	.20.581	0.7	S 33 W	3.55	3.59	37.2	32.2	5.0	..	..	..	..	..	..
28	29.12	.123	75	.809	.4686	1.0	N 51 E	6.6	7.36	33.2	28.6	1.6	..	..	..	..	..	..
29	19.13	.085	85	.651	.563	1.0	N 62 E	17.17	17.26	33.6	23.6	11.9	..	..	..	..	..	..
30	28.45	.117	83	.518	.400	1.0	S 51 W	6.6	7.7	38.0	28.8	9.2	.030	1.5	..	..	..	..
31	35.13	.176	82	.395	.219	1.0	S 51 W	6.6	7.7	38.0	28.8	9.2	.030	1.5	..	..	..	..
	27.40	0.128	81	29.694	29.567	0.8	S 18 W	1.66	9.36	33.19	21.37	1.82	1.657	44.0	10.4	74.4	2.97	118.4

GENERAL METEOROLOGICAL ABSTRACT—JANUARY, 1859.

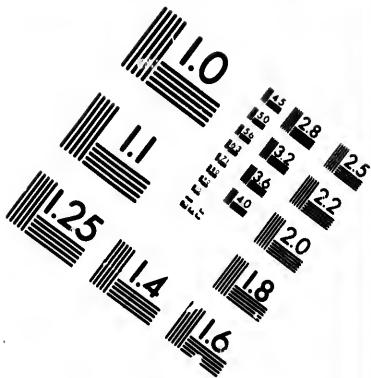
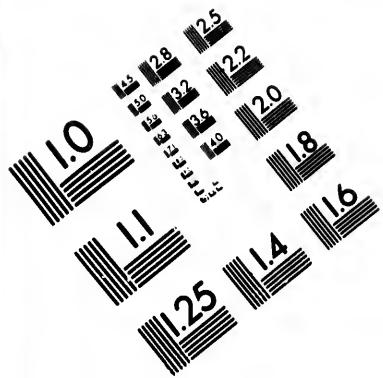
## TORONTO METEOROLOGICAL OBSERVATIONS.

DAILY MEANS.		WIND.		FAUNTS OF TEMPERATURE.		RAIN.		SNOW.	
Dates	Avg. Temp.	Dir.	Spd.	Avg. Temp.	Max.	Avg. Temp.	Max.	Avg. Temp.	Max.
1	31.52	0.152	S5	29.663	29.510	0.8	0.62	N	5.57
2	33.73	.150	78	.630	.630	0.8	0.63	E	5.57
3	4.32	.150	81	.638	.488	1.0	0.83	E	5.54
4	31.47	.153	78	.550	.417	0.7	0.82	W	5.70
5	21.83	.143	56	.636	.563	0.9	0.77	S22	2.46
6	24.00	.122	S5	.475	.563	0.7	0.60	W	14.06
7	6.13	.015	77	.571	.526	0.4	0.60	W	8.18
8	10.45	.015	79	.30	.115	0.6	0.53	E	7.66
9	11.15	.072	S5	.20	.655	1.0	0.50	E	5.07
10	19.67	.003	S6	.513	.450	1.0	0.51	E	3.43
11	33.15	.171	90	.639	.368	1.0	0.12	E	2.42
12	34.95	.192	95	.233	.041	1.0	0.65	S6	7.57
13	31.14	.153	S6	.110	.28	0.557	1.0	S6	11.41
14	17.47	.006	S9	.806	.29	0.7	0.45	W	6.45
15	18.17	.080	S0	.903	.014	0.5	0.50	W	6.71
16	32.67	.155	S3	.713	.588	0.3	0.52	W	5.55
17	20.35	.194	S4	.478	.284	0.7	0.39	W	7.52
18	31.95	.135	S2	.502	.307	1.0	0.64	W	6.30
19	13.02	.060	S5	.881	.821	0.5	0.70	W	8.76
20	27.27	.337	164	.75	.501	0.7	0.50	W	12.01
21	30.20	.125	74	.729	.604	1.0	0.57	W	13.88
22	28.23	.111	71	.977	.866	0.2	0.50	W	13.08
23	32.72	.135	74	.868	.722	0.7	0.30	W	13.16
24	32.15	.134	73	.987	.852	0.3	0.12	E	12.51
25	20.30	.335	164	.85	.601	0.7	0.77	E	15.89
26	28.28	.307	164	.75	.337	0.7	0.63	W	13.92
27	29.30	.125	74	.729	.604	1.0	0.57	W	13.75
28	30.30	.106	72	.996	.890	0.7	0.43	W	14.21
29	31.20	.125	74	.996	.890	0.7	0.43	W	14.32
30	27.20	.106	72	.996	.890	0.7	0.43	W	14.21
31	26.44	0.126	81	29.677	29.551	0.7	0.51	S W	16.4

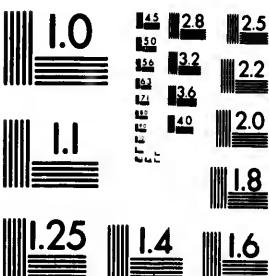
## GENERAL METEOROLOGICAL ABSTRACT,—FEBRUARY, 1859.

DATE.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.	
	Pressure of Air in millibars.	Temperature of the Air in degrees Fahrenheit.	Wind. Direction and Strength.	Wind. Direction and Strength.	Min. Temp. in Fahr.	Max. Temp. in Fahr.	Depth in hours.	Approximate duration in hours.	Rain and Melted Snow.	Depth in hours.
1	31.22	0.123	70 29.781	29.658	1.0 N 72 E	4.41 34.0	—	—	0.4 6.2	0.040 6.2
2	19.23	.081	77 58.4	.502	1.0 N 49 E	10.78 11.11	22.3	—	2.0 15.0	.200 15.0
3	15.20	.077	89 .287	.210	0.9 N 10 E	3.35 3.79	18.2	—	0.5 0.5	.020 0.5
4	19.43	.079	76 .419	.310	0.8 N 68 W	8.83 8.91	23.5	—	2.5 11.0	.250 11.0
5	20.33	.089	82 .826	.737	1.0 N 19 W	1.15 6.42	23.2	—	0.4 1.5	.010 1.5
6	20.38	.092	81 .870	.775	0.8 N 20 W	9.15 9.28	25.2	16	0.2 4.0	.020 4.0
7	20.38	.092	81 .870	.775	0.8 N 55 E	3.79 6.31	27.0	10.3	16.1	0.50 1.5
8	30.95	.187	78 .557	.420	0.7 S 1 E	3.66 3.78	35.8	21.8	14.0	.050 1.5
9	26.42	.111	71 .433	.322	0.8 N 30 W	12.07 13.45	35.0	28.8	6.2	.050 3.0
10	9.27	.057	84 .826	.769	0.7 N 34 W	5.56 6.13	11.4	5.0	9.4	.050 3.0
11	17.07	.070	75 .925	.835	1.0 N 10 W	2.07 2.33	21.5	17.5	1.5	.020 2.5
12	15.07	.069	82 .883	.814	0.6 N 11 W	3.91 4.03	21.0	13.1	7.9	—
13	12.00	.070	86 .853	.814	0.8 N 51 W	5.61 8.01	21.0	21.0	21.0	—
14	26.10	.120	84 .657	.538	0.9 N 33 W	5.90 6.03	35.7	15.9	15.8	.035 3.5
15	35.87	.196	93 .316	.150	1.0 S 55 W	1.81 2.13	38.0	24.5	13.5	.035 3.5
16	31.08	.126	73 .698	.572	0.9 N 85 W	1.30 2.56	38.8	27.1	11.7	—
17	33.05	.157	83 .681	.524	1.0 S 81 E	1.18 5.15	38.0	24.0	14.0	.075 4.0
18	35.13	.187	85 .624	.437	0.3 S 30 W	2.65 2.87	14.5	33.8	10.7	—
19	35.25	.179	86 .379	.200	0.8 N 55 E	3.96 4.19	12.6	25.5	17.1	.290 5.0
20	25.57	.003	67 .632	.510	0.5 N 65 W	17.08 17.33	28.0	22.8	7.2	—
21	31.53	.110	77 .620	.480	0.8 S 18 W	1.36 2.76	38.5	20.1	18.1	.020 1.0
22	35.55	.171	76 .533	.362	0.5 N 44 W	5.55 6.64	16.0	31.0	12.0	.055 3.5
23	25.83	.103	73 .817	.714	0.3 N 2 E	12.52 14.76	31.12	25.2	8.0	—
24	29.43	.073	61 .715	.673	0.5 N 31 E	20.60 21.23	28.5	13.9	1.0	.100 5.5
25	30.48	.117	85 .368	.221	0.7 S 46 W	7.15 10.63	35.8	22.0	13	.050 7.5
26	29.55	.117	85 .368	.221	0.7 S 55 W	6.82 9.73	10.0	18.9	21.3	.050 7.5
27	29.5	.131	79 .676	.546	0.6 N 65 W	12.59 14.11	31.1	13.5	0.2	.020 2.0

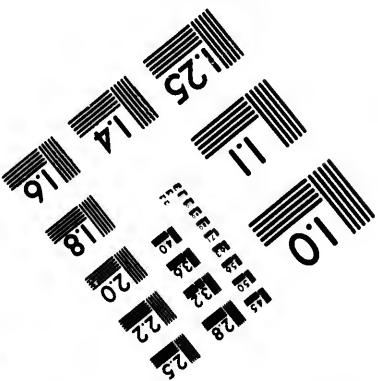
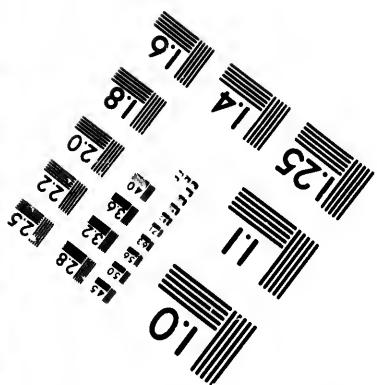
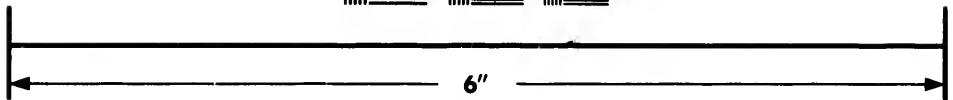




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## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—MARCH, 1859.

DAILY MEANS.	WIND.		RAIN.		SNOW.	
	EXTREMES OF TEMPERATURE.					
1 18.32 0.060	62	30.092	0.2	N 11 W	25.0	15.1
2 21.33 .079	67	30.120	30.041	N 81 E	20.2	9.8
3 33.12 .173	90	29.322	29.150	S 3 E	22.5	14.5
4 35.57 .186	88	28.460	28.774	S 10 W	31.2	465
5 36.50 .165	76	29.406	29.241	N 78 W	39.2	0.010
6 7 36.33 .177	82	.475	.298	S 11 W	42.0	1.0
8 36.17 .188	88	.317	.129	N 73 E	33.4	..
9 35.50 .158	76	.683	.525	N 74 E	38.2	..
10 36.77 .152	70	.685	.533	N 69 E	32.3	..
11 42.47 .205	71	.394	.189	N 67 E	30.0	..
12 40.47 .198	79	.455	.257	N 47 W	35.8	..
13 41.52 .223	81	.378	.155	N 11 W	44.2	..
14 41.45 .165	69	.272	.117	N 73 E	32.8	..
15 36.40 .156	73	.799	.613	N 78 W	30.4	..
17 41.37 .166	65	.05	.405	S 61 W	30.5	..
18 46.03 .304	95	28.787	28.486	S 60 E	31.2	..
19 31.73 128	70	28.592	28.764	N 12 W	38.2	..
20 32.70 133	72	29.667	29.534	S 9 W	36.5	..
21 37.68 .203	90	.465	.262	N 41 W	30.2	..
23 40.55 .159	63	.564	.405	S 71 E	27.7	..
24 46.45 .252	80	.154	.28902	S 37 W	30.9	..
25 37.22 .165	73	.257	.29.092	1.0 West	29.5	..
26 30.98 .112	65	.447	.335	S 80 W	34.2	..
27 38.78 .208	87	.150	.28.912	N 77 E	37.6	..
29 44.57 .184	67	.28.888	.28.704	N 73 E	30.0	..
30 34.47 .119	61	24.337	29.218	S 64 W	35.5	..
31 33.33 .131	63	.587	.456	S 75 W	30.4	..
				N 89 W	38.5	..
				N 14 W	30.3	..
						..
36.34 0.168	75	24.413	24.215	0.7	N 64 W	1.96
						42.10.30.48
						11.62
						4.064
						76.1
						1.0
						13.0
						4.154
						89.1

## TORONTO METEOROLOGICAL OBSERVATIONS.

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## GENERAL METEOROLOGICAL ABSTRACT,—APRIL, 1859.

DAYS.	TEMPERATURE.	WIND.		EXTREMES OF RAIN.		SNOW.		RAIN AND MELTED SNOW
		Dry Air.	Pressure of Atmosphere.	Minim.	Difference.	Maxim.	Difference.	
1	34.70	0.150	.75	29.887	29.887	0.2	N 49° E	4.68 Miles
2	35.35	.126	.61	.587	.461	0.8	S 75° W	16.03 16.13
3	30.27	.101	.59	.338	.237	1.0	N 73° W	19.83 20.75
4	39.13	.103	.64	.418	.316	0.5	N 75° W	16.91 17.07
5	34.22	.116	.64	.515	.399	0.7	N 55° W	13.90 14.32
6	37.38	.171	.76	.455	.284	0.7	S 88° W	9.08 11.12
7	31.50	.108	.61	.730	.622	0.5	N 45° W	14.64 15.13
8	31.86	.112	.63	.666	.844	0.5	S 71° E	4.60 5.35
9	10.2	41.20	.238	.92	.132	28.894	S 78° E	21.28 21.30
10	45.25	.189	.66	.658	.29	.328	N 65° E	7.09 9.37
11	41.88	.179	.67	.631	.452	1.0	N 66° W	5.28 8.91
12	42.92	.179	.62	.172	.28.993	0.5	S 77° E	14.21 14.32
13	39.08	.157	.65	.128	.28.971	0.9	S 49° W	11.65 13.85
14	37.68	.132	.58	.356	.29.224	0.6	N 87° W	11.70 12.06
15	40.65	.147	.58	.683	.536	0.4	S 56° W	3.59 7.19
16	40.90	.190	.75	.614	.423	0.7	S 27° W	4.47 7.31
17	42.93	.180	.63	.451	.271	0.7	S 67° E	0.99 1.51
18	37.55	.147	.67	.138	.28.991	1.0	N 70° E	3.98 4.66
19	39.82	.175	.73	.598	.29.424	0.8	N 38° W	22.57 21.15
20	32.28	.192	.68	.510	.318	0.6	N 70° W	11.79 12.49
21	33.78	.180	.63	.451	.271	1.0	N 28° W	1.75 5.56
22	37.55	.147	.67	.138	.28.991	0.8	S 30° E	2.67 3.97
23	39.82	.175	.73	.598	.29.424	0.8	S 30° E	2.67 3.97
24	39.82	.175	.73	.598	.29.424	0.8	S 30° E	2.67 3.97
25	32.28	.192	.68	.510	.318	0.6	N 73° E	1.75 5.56
26	37.65	.126	.57	.720	.594	0.1	N 65° E	5.60 7.78
27	44.00	.086	.31	.845	.759	0.0	N 88° E	4.57 5.21
28	31.23	.173	.46	.744	.570	0.1	N 66° E	2.20 3.57
29	34.67	.180	.42	.705	.526	0.0	N 84° E	4.16 5.18
30	38.53	0.154	.63	29.535	29.381	0.6	N 36° W	2.38 10.79

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—MAY, 1859.

D A Y S .	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		R A I N .		S N O W .		R A I N A N D MELTED SNOW.	
	Temperature of Air.	Pressure of Barometer.	Direction of Wind.	Force of Wind.	Maximum Velocity.	Minimum Velocity.	Difference in Velocity.	Hours.	Depth in inches.	Hours.	Depth in inches.	Approximate duration in hours.
1	52.33	0.155	40	29	.863	29.708	0.1	N 6 E	59.0	44.4	11.6	...
2	49.82	.156	44	.938	.782	0.1	N S2 E	7.50	58.0	40.0	18.0	...
3	55.75	.266	59	.818	.572	0.3	N 83 E	3.88	5.05	64.0	46.9	17.1 *
4	58.65	.321	67	.758	.437	0.5	S 54 E	2.29	3.28	71.4	50.5	20.9
5	64.47	.385	65	.674	.289	0.3	S 46 E	1.81	2.57	75.1	51.8	23.3
6	65.92	.434	71	.529	.095	0.3	S 28 W	3.47	4.52	76.4	51.8	24.6
7	52.33	0.155	40	29	.863	0.1	N 35 W	2.15	5.13	79.6	54.2	25.4 0.215
8	45.48	.263	86	.511	.219	1.0	N 58 E	5.01	5.83	49.4	45.0	4.4 .585
9	49.55	.182	51	.630	.448	0.6	S 75 E	6.32	7.50	56.0	42.5	13.5
10	50.75	.263	70	.713	.450	0.3	N 85 E	8.18	8.22	56.5	39.1	...
11	55.67	.350	79	.706	.357	0.4	S 88 E	4.92	4.98	63.0	41.0	19.0
12	56.22	.278	58	.792	.514	0.7	N 30 W	7.38	9.36	71.8	51.8	20.0
13	50.22	.158	43	.949	.791	0.3	N 29 E	0.90	5.31	57.6	40.0	17.6
14	50.22	.291	70	.514	.223	0.7	S 15 E	1.35	5.30	60.0	42.2	18.0
15	53.63	.291	70	.303	.28.926	0.4	S 77 E	3.47	6.65	60.0	44.8	15.2 .945
16	55.05	.577	87	.363	.28.912	0.5	S 39 E	2.64	3.65	64.8	51.0	13.8
17	59.07	.421	83	.363	.29.334	0.4	N 8 W	1.03	1.61	63.2	50.0	13.2
18	53.47	.297	71	.331	.410	0.2	N 62 W	4.17	4.28	59.0	47.2	11.8
19	54.00	.294	70	.704	.425	0.8	N 62 W	1.61	2.78	64.8	49.2	15.6 .595
20	55.15	.376	85	.767	.523	0.0	S 26 E	2.43	2.63	60.4	43.0	17.4
21	52.10	.245	63	.767	.466	0.1	S 89 E	2.79	2.87	64.0	43.2	20.8
22	56.23	.250	62	.746	.48	0.7	S 88 E	1.61	2.70	69.8	51.0	18.8 .050
23	62.27	.384	69	.732	.418	0.6	S 83 E	0.21	2.05	72.6	57.0	15.6 .035
24	64.73	.466	75	.614	.28.897	0.9	S 39 W	11.69	13.16	66.0	59.2	6.8 .215
25	58.38	.392	81	.28.897	.28.897	0.6	S 79 W	6.64	8.63	61.4	49.2	15.2 .735
26	55.00	.301	72	.462	.29.161	0.1	N 43 W	7.36	8.92	61.9	49.8	12.1 *
27	58.50	.160	48	.918	.758	0.1	N 83 E	3.67	3.96	55.2	41.5	13.7
28	51.58	.263	68	.782	.519	0.5	N 68 E	6.08	6.37	58.4	42.6	15.8
29	55.16	0.298	67	29.660	29.361	0.4	N 72 E	1.59	5.70	63.40	47.13	16.26
30	51.58	0.263	68	29.361	29.361	0.4	N 72 E	1.59	5.70	63.40	47.13	16.26
31	55.16	0.298	67	50.6	50.6	...	...	...	...	...	...	...

55°.16	0.298	67	29.660	29.361	0.4	N 72° E	1.59	5.70	63°.40°	13°.16°	26°.34°	10°.50°	... ...
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GENERAL METEOROLOGICAL ABSTRACT,—JUNE, 1859.

Days.	DAILY MEANS.			WIND.			EXTREMES OF TEMPERATURE.			RAIN.			SNOW.			RAIN AND MELTED SNOW.		
	Temperature of the Air.	Pressure of the Air.	Humidity.	Pressure of the Air.	Wind.	Velocity.	Maximum.	Minimum.	Difference.	Velocity.	Maximum.	Minimum.	Hours.	Depth in inches.	Approximate duration in hours.	Depth in inches.	Approximate duration in hours.	Depth in inches.
1	56.35	0.399	.57	29.396	29.297	0.5	S 76° E	3.83	.02	63.0	48.8	14.2	0.320	3.3	...	...	0.320	3.3
2	64.23	.388	.68	.532	.144	0.5	S 67° W	7.87	8.23	76.5	63.7	22.8	.035	0.5	.035	0.5	...	...
3	52.22	.233	.62	.608	.416	0.6	N 52° W	15.79	17.81	63.2	54.5	8.4	*	1.0	*	1.0	*	1.0
4	38.13	.142	.62	.930	.788	0.5	N 53° W	4.76	8.10	47.4	36.4	11.0	...	...	...	...	...	...
5	53.27	.218	.56	.857	.011	0.6	S 65° W	2.21	5.67	60.0	32.2	27.8	...	...	...	...	...	...
6	77.77	.311	.65	.614	.333	0.6	S 1° E	4.46	6.02	63.2	43.5	19.7	.135	3.5	...	...	.135	3.5
7	55.50	.324	.73	.477	.153	0.6	N 63° W	11.63	14.34	72.0	56.3	15.7	.090	0.4	...	...	.090	0.4
8	54.32	.291	.68	.628	.559	0.6	S 63° W	4.36	8.78	63.0	42.6	20.4	.050	2.5	...	...	.080	1.0
9	44.85	.160	.55	.719	.559	0.6	N 48° W	11.71	12.27	52.4	43.0	9.4	.030	1.0	...	...	...	...
10	45.62	.200	.66	.916	.716	0.1	S 10° E	4.38	7.01	54.5	31.0	20.5	...	...	...	...	...	...
11	59.27	.236	.47	.569	.009	0.8	S 82° W	3.38	7.06	72.0	53.4	18.6	.175	5.6	...	...	.203	5.5
12	61.90	.504	.90	.513	.009	0.8	S 38° W	7.06	7.57	68.5	47.8	20.7	...	...	...	...	...	...
13	46.33	.399	.88	.658	.258	0.8	N 86° E	4.01	4.75	61.2	52.3	8.9	...	...	...	...	...	...
14	62.37	.468	.81	.360	.28.592	0.8	S 71° W	3.06	7.02	52.1	21.3	.965	1.8	...	...	...	.965	1.8
15	54.62	.285	.66	.550	.29.265	0.6	N 35° W	4.86	5.58	63.5	53.8	9.7	...	...	...	...	...	...
16	54.27	.273	.64	.548	.275	0.8	N 24° E	4.36	6.74	60.8	46.2	14.6	...	...	...	...	...	...
17	59.27	.236	.47	.569	.333	0.2	N 39° W	4.82	7.57	68.5	47.8	20.7	...	...	...	...	...	...
18	57.72	.413	.85	.359	.28.947	0.9	S 70° E	2.79	4.07	64.8	53.7	11.1	.422	5.7	...	...	.422	5.7
19	57.40	.385	.81	.358	.28.973	0.4	S 87° W	4.36	5.32	66.0	54.5	11.5	...	...	...	...	...	...
20	60.67	.387	.73	.498	.29.111	0.5	N 55° W	3.66	6.25	68.4	57.0	21.4	*	0.2	...	...	*	0.2
21	62.10	.347	.62	.705	.355	0.2	N 13° W	1.69	4.16	69.4	51.8	17.6	...	...	...	...	...	...
22	63.12	.390	.66	.705	.315	0.4	N 11° E	1.06	1.58	70.2	51.9	15.3	...	...	...	...	...	...
23	66.03	.372	.59	.706	.333	0.6	N 31° W	2.10	4.52	75.0	57.2	17.8	...	...	...	...	...	...
24	55.8	.385	.81	.612	.032	0.4	S 9° W	5.92	7.32	51.4	62.7	18.7	.015	0.5	...	...	.015	0.5
25	71.03	.674	.78	.627	.28.493	0.5	S 28° W	6.33	6.59	50.8	69.0	11.8	.060	0.3	...	...	.060	0.3
26	75.03	.533	.63	.512	.25.979	0.6	N 71° W	13.86	17.83	56.4	70.0	16.4	.015	0.3	...	...	.045	0.3
27	73.05	.286	.65	.764	.29.475	0.0	S 71° W	2.08	5.56	64.5	50.0	14.5	...	...	...	...	...	...
28	58.30	0.355	69	29.620	29.265	0.5	N 77° W	1.95	7.19	66.93	49.82	17.11	4.085	28.6	*	2.0	4.085	30.6

## GENERAL METEOROLOGICAL ABSTRACT, -JULY, 1859.

GENERAL METEOROLOGICAL ABSTRACT,—JULY, 1859.									
DAILY MEANS.		W. AND.		Extremes of TEMPERATURE.		RAIN.		SNOW.	
Days.	Temperature of Air.	Pressure of Mercury.	Wind.	Wind.	Max. & Min.	Difference.	Depth in Inches.	Duration in hours.	Depth in Inches.
1	60.93	.3391	73	29.575	29.184	0.7	.29 E. S. 80 W.	69.5	.24-3.0
2	70.25	.604	82	26.66	28.662	0.6	N 2.32° S. 36 W.	70.04-10.72	.471
3	55.08	.2669	62	30.024	29.754	0.9	S 2.73° N 35 W.	81.4	11.0
4	60.52	.3233	62	30.048	27.725	0.3	S 1.1 E. S. 33 W.	60.4	3.5
5	59.37	.398	79	29.468	.633	1.0	S 1.17 E. S. 35 W.	64.8	1.5
6	62.27	.452	81	.883	.336	0.9	S 1.19 E. S. 36 W.	68.2	* 1.5
7	66.58	.473	72	.807	.334	0.4	S 1.22 E. S. 35 W.	62.8	1.5
8	68.65	.306	53	.890	.495	0.0	S 1.24 E. S. 35 W.	59.2	1.5
9	71.47	.637	81	.541	.285	0.5	S 1.26 E. S. 37 W.	78.6	1.5
10	75.05	.632	73	.721	.059	0.7	S 1.33 E. S. 36 W.	75.3	1.5
11	73.08	.683	84	.507	.28.824	0.7	S 1.36 E. S. 37 W.	84.2	1.5
12	73.88	.637	63	.702	.065	0.2	S 1.49 E. S. 30 W.	88.0	1.5
13	77.63	.678	72	.706	.028	0.5	S 1.10 E. S. 27 W.	64.5	1.5
14	73.13	.501	61	.705	.205	0.5	S 1.12 E. S. 26 W.	78.5	1.5
15	70.33	.628	85	.517	.28.889	0.7	S 1.12 E. S. 27 W.	81.0	1.5
16	74.47	.637	81	.541	.285	0.5	S 1.32 E. S. 39 W.	81.0	1.5
17	75.43	.675	77	.360	.28.685	0.7	S 1.35 E. S. 36 W.	79.8	1.5
18	67.33	.509	57	.370	.499	0.2	S 1.39 E. S. 29 W.	80.2	1.5
19	65.15	.453	73	.368	.339	0.0	S 1.46 E. S. 27 W.	74.2	1.5
20	68.27	.368	52	.339	.28.971	0.1	S 1.27 E. S. 22 W.	71.4	1.5
21	62.22	.317	61	.317	.545	0.2	S 1.35 E. S. 32 W.	77.6	1.5
22	61.10	.317	59	.317	.29.228	0.2	S 1.61 E. S. 61 W.	62.8	1.5
23	61.10	.317	59	.317	.545	0.2	S 1.61 E. S. 61 W.	67.70	1.5
24	61.85	.321	85	.538	.017	0.6	S 2 E. S. 57 W.	74.5	1.5
25	61.85	.312	64	.516	.204	0.6	S 1.14 E. S. 68 W.	74.5	1.5
26	58.65	.312	64	.516	.257	0.2	S 1.07 E. S. 40 W.	62.8	1.5
27	60.27	.608	60	.535	.592	0.9	S 1.41 E. S. 44 W.	67.0	1.5
28	62.27	.372	67	.453	.280	0.9	S 1.51 E. S. 44 W.	74.1	1.5
29	63.65	.382	67	.772	.380	0.1	S 1.13 E. S. 27 W.	73.0	1.5
30	61.18	.412	68	.731	.322	0.0	S 1.24 E. S. 31 W.	53.8	1.5
31	...	...	...	...	...	...	S 34 E.	53.8	1.5

## GENERAL METEOROLOGICAL ABSTRACT,—AUGUST, 1859.

Days.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW	
	Temperature of Air.	Barometer.	Direction.	Velocity.	Maximum.	Minimum.	Difference.	Depth.	Hours.	Depthes.	Hours.	Approximate duration in hours.
1	67.92	0.461	69	29.509	.29.048	0.4	N 83 W	2.37	77.4	64.0	13.4	...
2	66.40	.381	69	.610	.229	0.3	N 84 E	4.05	4.40	53.8	55.6	18.2
3	67.88	.511	79	.558	.018	0.8	N 67 E	2.85	3.87	76.2	60.6	15.6
4	67.92	.539	79	.424	.28.884	0.5	N 56 W	4.11	6.26	75.8	63.1	12.7
5	64.10	.306	62	.551	.29.155	0.4	N 59 W	6.21	74.5	38.6	15.9	.035
6	64.80	.410	67	.508	.188	0.3	S 45 W	4.20	4.82	74.2	51.8	22.4
7	65.37	.408	65	.701	.293	0.3	N 40 W	7.24	8.01	82.2	61.7	20.5
8	68.03	.497	72	.769	.273	0.0	N 69 E	2.05	2.60	55.5	18.5	...
9	70.63	.523	69	.698	.175	0.1	S 78 E	2.22	3.37	78.2	58.8	19.4
10	69.80	.588	80	.594	.006	0.7	S 70 E	2.51	2.79	78.4	62.1	16.3
11	69.98	.614	81	.556	.28.942	0.8	N 50 E	0.91	2.99	80.2	64.6	15.6
12	69.98	.577	79	.586	.29.009	0.4	N 70 E	4.47	4.81	74.0	64.2	.080
13	69.57	.305	52	.629	.324	0.1	S 19 E	2.16	2.91	75.4	67.0	8.4
14	72.40	.590	73	.617	.026	0.4	N 80 W	0.94	4.48	82.0	63.5	18.5
15	72.02	.558	72	.680	.132	0.3	N 77 E	4.03	4.97	80.4	68.1	* 0.5
16	72.23	.558	76	.715	.128	0.2	S 79 E	5.03	5.30	77.2	68.0	9.2
17	68.38	.319	74	.652	.033	0.6	S 71 E	3.07	3.88	80.4	65.0	15.4
18	64.83	.305	52	.629	.324	0.1	S 62 W	5.53	9.69	80.0	64.1	.180
19	65.07	.550	86	.483	.25.913	0.5	S 17 W	10.16	10.35	75.2	56.6	18.6
20	66.50	.360	57	.738	.378	0.0	S 5 E	3.60	4.43	75.2	56.1	19.1
21	69.78	.497	49	.631	.134	0.6	S 88 E	3.48	4.00	75.4	54.5	20.9
22	66.85	.545	83	.685	.040	1.0	S 69 W	6.99	8.05	74.2	58.9	15.3
23	65.07	.550	86	.483	.25.913	0.5	S 13 W	7.06	8.18	70.8	65.6	.15.0
24	65.65	.435	70	.628	.29.093	0.2	S 68 W	6.85	6.94	74.2	58.0	.316
25	68.42	.482	70	.530	.048	0.5	N 79 W	4.65	6.95	78.2	56.8	16.2
26	60.15	.333	65	.612	.278	0.1	N 39 W	11.04	11.35	68.0	56.8	* 0.2
27	56.28	.218	52	.717	.499	0.2	N 34 W	11.53	11.60	63.2	49.8	13.4
28	59.15	.317	65	.518	.201	0.9	S 85 W	6.57	6.71	68.0	47.2	20.8
29	56.63	.298	65	.495	.197	0.4	N 68 W	9.21	9.50	70.5	45.8	.040
30	56.63	.298	65	.495	.197	0.4	N 36 W	1.02	5.96	75.01	38.15	1.6
31	56.63	.298	65	.495	.197	0.4	N 36 W	1.02	5.96	75.01	38.15	1.0

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT,—SEPTEMBER, 1859.

DAYS.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.	
	Pressure of Air.	Temperature.	Wind.	Wind.	Min.	Max.	Min.	Max.	Min.	Max.
1	.56-.52	0.323	70	29.110	.29	.433	65.5	63.0	22.8	2.0
2	.54-.53	.256	61	.555	.299	.58	7.70	8.77	61.8	15.0
3	.58-.45	.370	75	.431	.061	.07	N 61 W	6.00	6.35	1.4
4							S 76 W	3.84	4.77	
5	.51-.07	.289	77	.890	.600	.6	N 67 W	2.0	4.79	.117
6	.52-.97	.260	65	.30.004	.714	.02	N 67 W	1.82	3.68	.5
7	.53-.43	.286	70	29.981	.695	.03	S 77 W	1.84	2.14	18.4
8	.54-.23	.279	67	.976	.697	.1	S E	1.84	2.14	16.2
9	.59-.19	.317	65	.898	.582	.05	East	3.41	3.81	21.3
10	.63-.27	.551	94	.622	.071	1.0	S 26 W	4.39	4.80	.665
11							S 87 W	12.40	13.31	2.0
12	.63-.02	.367	65	.143	.28.776	.07	S 64 W	10.67	12.03	16.0
13	.50-.52	.211	57	.284	29.073	0.5	N 67 W	16.76	18.00	52.7
14	.43-.17	.130	50	.695	.565	.03	N 55 W	12.94	13.82	4.6
15	.43-.08	.138	50	.996	.858	.07	N 74 E	5.24	5.65	*
16	.51-.12	.298	70	.748	.479	1.0	N 63 W	8.30	8.46	43.0
17	.53-.33	.362	86	.742	.265	0.6	N 79 E	1.86	2.62	62.0
18							S 66 E	2.88	3.15	52.3
19	.57-.97	.422	87	.378	.28.956	.07	N 14 E	3.50	5.02	60.8
20	.52-.07	.294	75	.603	29.309	4.0	N 37 E	7.02	7.18	49.6
21	.51-.90	.352	90	.574	.222	1.0	N 64 E	13.56	13.80	50.0
22	.56-.82	.425	92	.556	.132	0.8	N 78 E	3.61	3.69	62.0
23	.58-.68	.424	86	.666	.242	0.9	S 35 W	0.15	0.15	52.5
24	.60-.70	.447	85	.644	.197	0.8	N 16 E	1.25	2.61	12.5
25							S 43 W	0.40	0.65	65.2
26	.58-.87	.428	86	.598	.170	1.0	S 44 W	1.60	1.76	56.6
27	.61-.07	.477	87	.557	.080	1.0	N 21 W	5.30	7.62	13.8
28	.57-.47	.393	83	.830	.437	0.2	N 2 E	3.48	5.88	.015
29	.51-.23	.290	77	.958	.669	0.4	N 56 E	4.08	4.25	1.7
30	.58-.62	.413	83	.735	.322	0.5	S 88 E	3.16	7.02	64.9
										0.8
										*.8
										36.4
										*
										*
										*

55.18

0.337

75

20.669

29.331

0.7

N 44 W

1.60

6.36

62.68

49.32

13.36

3.525

36.4

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## GENERAL METEOROLOGICAL ABSTRACT,—OCTOBER, 1859.

## TORONTO METEOROLOGICAL OBSERVATIONS.

71

DAYS.	DAILY MEANS.		WIND.		TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW									
	Pressure of Air. Inches.	Humidity. Percent.	Barometer. Inches.	Pressure of Mercury. Inches.	Dry Air. F.	Relative Humidity. Percent.	Wind. Miles.	Wind. Miles.	Minimun. F.	Maximun. F.	Depth in Inches.	Approximate duration in hours.	Depth in Inches.	Approximate duration in hours.	Depth in Inches.	Approximate duration in hours.	Depth in Inches.	Approximate duration in hours.	Depth in Inches.	Approximate duration in hours.
1	36.95	0.388	.84	29.049	29	261	0.7	S 37° W	6.61	6.93	.60	.5	.55	.2	3.3	..	0.2	..	0.2	..
2	36.33	..	.73	.506	.231	..	..	N 75° W	10.57	10.97	60.5	50.8	9.7	*	0.2	..	*	..	*	..
3	36.33	..	.73	.506	.231	0.0	S 30° W	7.46	7.70	63.5	37.5	26.0	..	..	..	..	..	..	..	..
4	39.40	.408	.78	.546	.138	0.0	S 30° W	4.14	4.29	69.8	55.5	14.3	..	..	..	..	..	..	..	..
5	33.70	.333	.84	.337	.204	0.1	N 80° W	8.08	11.72	68.5	51.4	17.1	..	..	..	..	..	..	..	..
6	44.35	.217	.74	.702	.485	0.6	S 06° W	8.06	8.41	63.2	36.5	16.7	*	0.2	..	*	0.2	..	..	..
7	44.35	.235	.78	.612	.407	1.0	N 2° E	4.82	5.99	57.0	36.5	20.5	..	..	..	..	..	..	..	..
8	39.88	.178	.72	.690	.512	0.7	N 22° E	7.05	8.53	44.7	37.0	7.7	.050	3.0	..	..	..	..	..	..
9	44.07	.208	.71	.730	.531	0.2	S 21° W	0.81	4.53	46.4	31.0	15.4	..	..	..	..	..	..	..	..
10	44.07	.208	.71	.868	.618	0.7	N 34° W	3.58	4.56	67.4	39.2	18.2	..	..	..	..	..	..	..	..
11	47.50	.220	.67	.823	.572	0.7	N 72° E	2.19	2.88	52.2	36.4	15.5	..	..	..	..	..	..	..	..
12	46.35	.251	.77	.823	.498	..	N 77° W	8.48	10.09	63.8	48.5	15.8	.357	2.2	..	..	..	..	..	..
13	37.12	.367	.75	.505	.127	0.8	S 32° W	6.48	10.09	63.8	48.5	15.8	.357	2.2	..	..	..	..	..	..
14	30.73	.246	.68	.595	.260	0.4	N 77° W	10.98	11.37	61.2	51.9	9.3	..	..	..	..	..	..	..	..
15	38.92	.178	.76	.732	.614	0.5	N 57° W	4.35	4.58	53.0	37.0	16.0	*	0.1	..	*	0.1	..	..	..
16	..	..	..	..	..	..	N 71° E	5.15	5.65	50.9	33.2	17.7	*	0.2	..	*	0.2	..	..	..
17	46.37	.198	.59	.413	.316	1.0	S 40° W	6.18	7.31	61.2	15.5	31.8	..	..	..	..	..	..	..	..
18	46.37	.198	.59	.413	.316	0.7	N 84° W	20.40	20.73	58.8	13.8	15.0	.010	1.0	..	..	..	..	..	..
19	37.13	.158	.71	.565	.407	1.0	S 36° W	6.56	7.43	43.4	31.7	8.7	.010	4.0	..	*	0.5	..	..	..
20	32.12	.103	.59	.652	.467	0.4	N 36° W	18.63	18.90	38.0	28.8	9.2	..	..	..	*	0.5	..	..	..
21	31.82	.119	.70	.618	.528	0.2	S 49° W	11.88	12.25	39.2	26.0	13.2	..	..	..	*	* *	..	..	..
22	33.75	.163	.83	.525	.362	1.0	N 73° W	1.73	1.73	35.0	26.8	11.2	..	..	..	*	* *	..	..	..
23	32.73	.223	.81	.612	..	..	S 55° W	4.22	4.73	43.5	27.0	16.5	..	..	..	..	..	..	..	..
24	32.73	.223	.81	.612	..	1.0	N 55° W	5.95	7.13	46.5	31.4	11.1	.010	0.9	..	*	3.0	.010	3.9	..
25	37.18	.131	.59	.495	.364	0.7	N 23° W	10.61	11.31	41.5	36.8	4.7	..	..	..	..	..	..	..	..
26	27.87	.111	.72	.399	..	0.9	N 8° E	3.23	4.11	31.0	22.6	8.4	..	..	..	..	..	..	..	..
27	32.37	.128	.69	.370	.213	0.1	S 62° W	10.68	11.27	35.2	22.3	15.9	..	..	..	..	..	..	..	..
28	37.52	.139	.63	.483	.314	0.9	N 33° W	12.33	12.73	41.8	30.6	14.2	..	..	..	..	..	..	..	..
29	36.52	.116	.65	.746	.660	0.9	N 11° W	8.36	8.51	40.6	33.6	7.0	..	..	..	..	..	..	..	..
30	37.25	.169	.77	.822	.653	0.5	N 77° W	6.22	6.30	10.7	31.6	6.1	..	..	..	..	..	..	..	..
31	37.25	.169	.77	.822	.653	0.5	N 77° W	6.22	6.30	10.7	31.6	6.1	..	..	..	..	..	..	..	..
	0	12.99	0.211	.72	29.615	29.400	0.6	N 65° W	5.01	S 12° W	50.38	37.05	13.33	0.940	25.8	*	4.0	0.940	29.8	

## TORONTO METEOROLOGICAL OBSERVATIONS.

## GENERAL METEOROLOGICAL ABSTRACT.—NOVEMBER, 1859.

Date.	DAILY MEANS.			WIND.			EXTREMES OF TEMPERATURE.			RAIN.			SNOW.			RAIN AND MELTED SNOW.									
	Temperature of Air.	Exposure of Barometer.	Relative Humidity.	Pressure of Barometer.	Dry Adm.	Clouded	Pressure of Barometer.	Relative Humidity.	Vapor.	Min.	Max.	Difference.	Min.	Max.	Difference.	Min.	Max.	Approximate Depth in inches.	Duration in hours.	Approximate Depth in inches.	Duration in hours.	Approximate Depth in inches.	Duration in hours.	Approximate Depth in inches.	Duration in hours.
1	37.27	0.159	72	29.733	29.574	0.9	N 55° W	6.72	7.21	41.0	31.8	9.2	...	...	...	0.1	*	0.1	...	...	...	...	...	...	
2	35.03	.145	73	.788	.643	0.5	S 71° W	8.68	8.95	18.0	31.0	17.0	...	...	...	0.2	*	0.2	...	...	...	...	...	...	
3	35.00	.167	73	30.026	.659	0.3	S 74° E	12.0	12.5	27.0	16.0	11.0	...	...	...	...	...	...	...	...	...	...	...	...	
4	51.15	.279	72	29.671	.392	0.9	S 41° W	7.21	7.41	61.5	27.5	24.0	...	...	...	...	...	...	...	...	...	...	...	...	
5	49.07	.170	49	.837	.668	0.2	N 65° W	10.37	11.08	62.6	50.8	11.8	...	...	...	...	...	...	...	...	...	...	...	...	
6	7	41.05	.194	.73	.963	.769	1.0	N 80° E	3.13	3.11	45.4	35.8	9.6	*	0.5	...	...	...	...	...	...	...	...		
8	44.90	.242	81	.791	.549	1.0	S 78° E	2.40	2.47	32.0	35.0	17.0	...	...	...	...	...	...	...	...	...	...	...	...	
9	45.90	.249	80	.657	.408	1.0	N 1° W	6.49	7.07	49.8	44.5	5.3	360	11.3	...	...	...	...	...	...	...	...	...	...	
10	35.72	.191	91	.352	.161	0.9	N 14° W	6.61	8.55	39.2	36.8	2.4	405	13.5	0.2	2.7	...	...	...	...	...	...	...	...	
11	30.80	.134	78	.681	.547	0.9	...	...	...	36.0	28.5	7.5	...	...	...	0.2	1.3	...	...	...	...	...	...	...	
12	41.82	.250	93	.231	.28.981	1.0	...	...	...	45.5	28.4	20.1	1.135	20.5	...	...	...	...	...	...	...	...	...	...	
13	14	29.83	.123	.71	.641	.29.518	0.8	S 72° W	18.31	18.50	36.5	29.0	7.8	*	1.0	0.1	4.0	...	...	...	...	...	...	...	
15	33.70	.151	80	.916	.761	0.6	S 59° E	1.82	2.77	36.4	27.7	8.7	...	...	...	0.5	*	0.5	...	...	...	...	...	...	
16	41.73	.186	73	.816	.621	0.7	S 43° E	1.69	1.82	45.1	41.1	4.0	...	...	...	...	...	...	...	...	...	...	...	...	
17	45.23	.238	78	.742	.504	1.0	S 20° W	4.11	4.15	48.5	39.5	9.3	...	...	...	...	...	...	...	...	...	...	...	...	
18	46.62	.269	83	.639	.370	0.9	N 33° E	7.67	9.16	51.0	39.2	11.8	1.170	10.2	...	...	...	...	...	...	...	...	...	...	...
19	30.82	.222	86	.224	.002	1.0	N 29° W	17.38	18.79	47.6	42.5	5.1	135	13.0	*	2.0	...	...	...	...	...	...	...	...	...
20	21	33.14	.173	.90	.727	.554	1.0	N 10° W	7.52	9.15	39.0	26.0	13.0	...	...	...	...	...	...	...	...	...	...	...	
22	41.95	.220	83	.499	.279	1.0	East	15.60	17.28	43.6	21.8	21.8	...	...	...	...	...	...	...	...	...	...	...	...	
23	34.73	.163	80	.903	.740	0.7	S 80° W	12.85	13.43	44.5	32.4	12.1	...	...	...	2.5	...	...	...	...	...	...	...	...	
24	27.37	.127	84	30.156	.30.029	0.7	N 60° W	12.93	11.81	10.0	35.8	4.2	...	...	...	...	...	...	...	...	...	...	...	...	
25	36.35	.196	89	29.463	.29.267	1.0	S 42° E	7.33	17.36	49.4	21.0	25.4	...	...	...	...	...	...	...	...	...	...	...	...	
26	40.12	.172	69	.360	.188	0.9	S 77° W	17.31	17.50	42.2	33.0	9.2	*	0.2	...	...	...	...	...	...	...	...	...	...	
27	32.30	.131	72	.589	.458	0.6	S 75° W	9.07	9.49	37.5	30.2	7.3	...	...	...	...	...	...	...	...	...	...	...	...	
28	36.30	.161	74	.594	.433	1.0	S 86° W	12.09	12.32	37.0	28.8	8.2	...	...	...	...	...	...	...	...	...	...	...	...	
29	42.43	.218	80	.539	.321	0.7	S 51° W	6.16	6.30	48.2	38.0	10.2	...	...	...	...	...	...	...	...	...	...	...	...	
30	38.90	0.190	78	29.675	29.481	0.8	N S 1° W	3.39	9.65	13.95	32.77	11.19	5.193	94.1	0.6	12.8	5.253	106.9	...	...	...	...	...	...	...

## GENERAL METEOROLOGICAL ABSTRACT,—DECEMBER, 1859.

## TORONTO METEOROLOGICAL OBSERVATIONS.

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DAYS.	DAILY MEANS.		WIND.		EXTREMES OF TEMPERATURE.		RAIN.		SNOW.		RAIN AND MELTED SNOW.	
	Pressure of Air. of the Air.	Relative Humidity.	Pressure of Dry Air. Barometric.	Clouded	Wind Velocity.	Wind Direction.	Min. Max.	Min. Max.	Depth.	Duration in hours.	Depth.	Approximate duration in hours.
1	44.37	0.281	90	29.448	29.167	1.0	N 79 W 10.23	54.8	40.8	14.0	0.255	10.5
2	47.27	.082	84	.927	.845	1.0	S 37 W 12.51	13.02	23.5	17.5	6.3	2.5
3	6.80	.049	81	30.272	30.223	0.8	N 12 E 14.00	14.51	17.0	0.8	16.2	..
4	34.23	.184	92	29.817	.29.633	1.0	S 22 E 12.30	13.24	25.0	8.0	20.0	..
5	38.08	.218	94	.624	.306	1.0	N 66 E 3.39	3.67	35.2	23.5	14.7	* 5.0
6	7	15.38	.080	.96	.745	.665	S 68 W 4.73	10.51	42.0	34.2	7.8	* 5.0
8	9.60	.056	.52	.946	.890	0.1	S 88 W 5.88	8.59	22.0	19.8	2.2	3.5
9	22.25	.107	.88	.674	.567	0.7	S 70 W 5.58	5.66	18.8	4.0	14.5	..
10	15.60	.082	.87	.904	.822	0.6	S 66 W 13.49	18.46	27.0	6.8	20.2	..
11	8.35	.053	.54	.543	.490	0.4	S 74 W 15.29	17.94	37.2	10.5	26.7	..
12	13.65	.069	.84	.869	.800	0.8	S 68 W 5.01	5.70	14.4	1.0	13.4	..
14	16.80	.080	.90	.828	.748	0.5	S 55 E 5.51	6.02	20.0	3.8	16.2	..
15	17.48	.080	.82	.816	.736	0.5	S 49 W 1.61	1.67	26.5	9.4	17.5	..
16	26.60	.124	.85	.798	.674	0.7	S 16 E 3.36	4.07	32.2	10.4	21.8	..
17	29.63	.150	.93	.543	.393	1.0	S 73 W 20.23	20.49	32.0	22.2	4.5	..
18	32.97	.164	.87	.424	.260	1.0	S 69 E 4.21	11.0	33.0	28.5	4.5	..
19	20	.96	.151	.92	.293	1.42	S 63 W 8.05	8.06	31.0	4.0	4.0	..
21	21.68	.069	.85	.642	.443	1.0	S 40 W 5.34	5.51	32.2	29.8	2.4	..
22	17.02	.085	.89	.545	.461	0.7	S 88 W 6.78	6.82	21.0	15.8	5.2	..
23	14.12	.071	.86	.408	.337	0.6	S 88 W 13.59	14.88	18.3	14.0	4.3	..
24	7.78	.057	.90	.640	.583	0.7	S 89 W 9.84	10.10	14.2	1.9	16.1	..
25	..	..	..	..	..	S 77 W 4.56	4.59	30.3	7.3	23.0	..	..
26	..	..	..	..	..	S 48 W 10.77	12.21	31.3	23.2	8.1	..	..
27	6.07	.050	84	30.035	.985	0.2	N 18 E 11.65	12.18	14.9	5.6	9.3	..
28	-0.53	.038	88	30.073	30.035	1.0	N 45 E 18.18	18.18	2.5	-3.0	5.5	..
29	7.02	.055	89	29.599	.29.544	1.0	N 48 E 13.57	14.07	14.0	-1.5	15.5	..
30	16.05	.074	88	.439	.365	0.6	S 73 W 13.69	13.90	25.0	6.6	18.4	..
31	-1.08	.035	85	.785	.750	0.1	S 75 W 14.64	14.71	3.0	-6.0	9.0	..
	17.89	0.099	87	29.709	29.610	0.7	N 58 W 4.29	10.77	25.26	12.94	12.32	1.035
										28.5	37.4	163.4
											4.75	191.9

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE I.

MONTHLY MEANS OF THE TEMPERATURE OF THE AIR AT EACH OF THE SIX OBSERVATION HOURS, FROM 1854 TO 1859 INCLUSIVE.

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
JANUARY	1854	20.18	25.43	22.04	22.49	22.23	22.17	23.57
	1855	30.06	28.46	25.01	24.61	23.73	23.80	25.95
	1856	20.67	20.43	14.60	13.83	13.19	13.42	16.02
	1857	16.04	15.75	12.64	11.66	10.34	10.07	12.75
	1858	33.35	32.56	28.47	28.22	29.00	28.60	30.03
	1859	28.75	28.35	26.20	25.87	24.54	24.93	26.44
	Means.	25.84	25.10	21.04	21.11	20.51	20.50	22.46

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
FEBRUARY	1854	25.00	25.49	20.01	19.00	17.39	17.75	21.00
	1855	21.89	20.34	13.91	12.49	11.57	12.24	15.41
	1856	21.82	21.77	14.65	12.84	11.10	11.97	15.69
	1857	31.41	30.97	28.63	28.88	25.28	25.00	28.53
	1858	20.92	21.02	16.54	16.08	13.42	13.92	16.98
	1859	29.12	29.09	25.82	25.23	23.67	23.28	26.04
	Means.	25.03	24.78	20.08	19.25	17.07	17.63	20.62

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
MARCH	1854	34.96	34.99	29.14	28.45	27.28	29.23	30.68
	1855	34.11	32.94	28.02	27.18	23.05	25.47	28.46
	1856	28.49	28.15	22.49	21.43	17.77	20.03	23.06
	1857	32.98	33.09	27.40	26.36	22.62	24.46	27.82
	1858	33.54	33.46	27.19	26.13	24.09	26.21	28.44
	1859	39.14	39.68	36.32	35.53	33.10	34.25	36.34
	Means.	33.87	33.72	28.43	27.51	24.65	26.61	29.13

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE I.—(Continued.)

MONTHLY MEANS OF THE TEMPERATURE OF THE AIR AT EACH OF THE SIX OBSERVATION HOURS, FROM  
1854 TO 1859 INCLUSIVE.

Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
APRIL	1854	46.05	47.07	38.82	37.77	38.29	39.62	41.04
	1855	51.20	49.23	39.39	38.69	35.75	40.34	42.41
	1856	47.81	47.33	40.53	39.31	37.57	41.05	42.27
	1857	40.86	40.62	33.27	32.24	30.90	34.25	35.30
	1858	46.44	46.01	39.72	38.84	37.07	40.66	41.46
	1859	44.04	43.73	38.20	36.84	35.52	38.86	39.53
	Means.	46.17	45.66	38.32	37.20	35.52	39.13	40.35

Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
MAY.	1854	58.07	58.12	48.41	48.74	47.93	53.33	52.20
	1855	61.54	60.30	48.11	46.52	48.78	53.06	53.07
	1856	64.06	54.77	48.95	47.17	46.82	50.49	50.52
	1857	53.77	53.37	47.14	45.51	44.45	48.98	48.87
	1858	53.31	52.88	47.15	46.07	45.86	48.12	48.90
	1859	60.70	60.80	52.72	51.16	50.37	55.23	55.16
	Means.	57.10	56.72	48.75	47.19	47.37	51.54	51.45

Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
JUNE	1854	71.70	70.78	59.39	58.23	59.86	64.78	64.12
	1855	66.66	65.82	56.43	55.13	55.81	59.75	59.93
	1856	67.76	67.73	59.36	57.69	58.07	62.02	62.11
	1857	61.86	61.60	54.84	53.24	53.52	56.47	56.92
	1858	72.28	71.52	63.53	61.88	61.87	65.84	66.15
	1859	64.26	63.83	55.81	53.17	54.31	58.44	58.30
	Means.	67.42	66.88	58.23	56.56	57.24	61.21	61.26

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE I.—(*Continued.*)

MONTHLY MEANS OF THE TEMPERATURE OF THE AIR AT EACH OF THE SIX OBSERVATION HOURS, FROM 1854 TO 1859 INCLUSIVE.

Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.	
JULY.	1854	81.86	80.25	67.10	65.50	67.09	72.99	72.47
	1855	73.78	73.57	64.67	62.98	64.70	67.97	67.95
	1856	77.46	77.08	66.30	64.65	64.27	69.62	69.90
	1857	73.76	72.50	64.69	63.40	63.71	68.53	67.76
	1858	73.55	73.57	65.23	63.80	63.32	67.67	67.86
	1859	72.39	72.05	63.80	62.79	62.70	67.47	66.87
	Means.	75.47	74.84	65.30	63.85	64.30	69.04	68.80

Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.	
AUGUST.	1854	78.24	76.24	63.46	61.84	61.24	67.16	68.03
	1855	71.21	70.76	60.97	58.87	58.21	64.34	64.06
	1856	70.58	70.51	60.48	58.82	57.90	63.27	63.59
	1857	71.96	71.63	62.75	61.29	59.40	64.85	65.31
	1858	73.97	74.20	65.37	63.38	61.62	67.14	67.61
	1859	72.96	73.18	63.71	62.34	60.87	66.60	66.61
	Means.	73.15	72.75	62.79	61.09	59.87	65.56	65.87

Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.	
SEPTEMBER.	1854	70.34	67.79	57.98	56.14	53.73	60.28	61.04
	1855	65.23	65.11	57.13	55.68	55.01	58.80	59.49
	1856	64.33	63.26	54.59	53.61	50.80	56.28	57.15
	1857	65.51	65.07	55.70	54.63	53.13	57.80	58.04
	1858	65.95	65.17	57.15	55.39	52.60	58.38	59.11
	1859	60.18	59.87	53.88	52.60	50.35	54.20	55.18
	Means.	65.26	64.38	56.07	54.67	52.60	57.62	58.43

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE I.—(Continued.)

MONTHLY MEANS OF THE TEMPERATURE OF THE AIR AT EACH OF THE SIX OBSERVATION HOURS, FROM 1854 TO 1859 INCLUSIVE.

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
OCTOBER.	1854	57.38	54.77	46.80	45.73	44.33	48.04	49.52
	1855	50.58	49.76	44.36	43.06	40.93	43.66	45.39
	1856	51.20	50.54	43.44	42.20	40.83	43.84	45.34
	1857	50.93	50.07	43.88	43.17	41.21	43.28	45.42
	1858	53.78	52.87	47.48	46.06	45.05	47.52	48.79
	1859	48.86	47.44	41.27	40.24	38.78	41.34	42.99
	Means.	52.12	50.91	44.56	43.41	41.85	44.61	46.24

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
NOVEMBER.	1854	40.56	39.48	36.60	34.39	35.43	35.50	36.84
	1855	42.68	41.52	37.66	36.41	36.35	36.86	38.58
	1856	40.46	39.38	36.54	36.02	35.58	36.35	37.39
	1857	36.99	36.07	32.82	31.57	31.20	31.97	33.54
	1858	36.58	35.95	33.95	33.58	32.30	32.62	34.16
	1859	42.17	41.10	38.63	38.01	36.43	36.95	38.90
	Means.	39.91	39.03	35.88	35.00	34.55	35.04	36.57

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
DECEMBER.	1854	25.78	24.43	20.30	21.18	19.04	19.88	21.88
	1855	30.46	29.41	26.30	25.28	24.77	24.73	26.83
	1856	25.35	24.94	22.09	21.85	21.56	21.52	22.88
	1857	34.97	34.34	30.52	30.08	30.60	30.63	31.86
	1858	29.29	29.00	26.47	26.04	27.12	26.46	27.40
	1859	21.03	20.71	17.23	15.74	16.52	16.12	17.89
	Means.	27.81	27.14	23.93	23.36	23.27	23.22	24.79

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE II.

MONTHLY AND ANNUAL MEANS OF THE TEMPERATURE OF THE AIR FURNISHED BY SIX DAILY OBSERVATIONS,  
FROM 1854 TO 1859 INCLUSIVE.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
1854	23.57	21.09	30.68	41.04	52.20	64.12	72.47	68.03	61.04	49.52	36.84	21.88	40.21
1855	25.95	15.41	28.46	42.43	53.07	59.93	67.95	64.06	59.49	45.39	38.68	20.83	43.00
1856	16.02	15.60	23.06	42.27	50.52	62.11	69.90	63.59	57.15	45.34	37.39	22.88	42.16
1857	12.75	28.53	27.82	35.36	48.87	56.92	67.76	65.31	58.64	45.42	33.54	21.86	42.73
1858	30.03	16.98	28.44	41.46	48.90	66.15	67.86	67.61	59.11	48.79	34.16	27.40	44.74
1859	26.44	26.04	36.34	39.53	55.16	58.30	66.87	66.61	55.18	42.99	38.00	17.80	44.19
Means	22.46	20.62	29.13	40.35	51.45	61.26	68.80	65.87	58.43	46.24	36.57	21.70	43.83

TABLE III.

DIFFERENCE OF THE MONTHLY AND ANNUAL MEANS OF THE TEMPERATURE OF THE AIR FROM 1854 TO 1859  
INCLUSIVE, IN EXCESS OR DEFECT FROM THE NORMAL MONTHLY AND ANNUAL MEANS, BOTH BEING  
DERIVED FROM SIX DAILY OBSERVATIONS.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
1854	- 1.28	- 2.60	+ 0.45	- 0.18	+ 0.65	- 3.03	+ 0.14	+ 2.31	+ 3.62	+ 4.53	+ 0.70	- 6.18	+ 1.02
1855	+ 1.10	- 8.28	- 1.77	+ 1.21	+ 1.52	- 1.16	+ 1.62	- 1.66	+ 2.07	+ 0.40	+ 2.44	- 0.23	- 0.23
1856	- 8.83	- 8.00	- 7.17	+ 1.05	- 1.03	+ 1.02	+ 3.57	- 2.13	- 0.27	+ 0.35	+ 1.25	- 4.18	- 2.03
1857	- 12.10	+ 4.84	- 2.41	- 5.86	- 2.68	- 4.17	+ 1.43	- 0.41	+ 1.22	+ 0.43	- 2.60	+ 4.80	- 1.46
1858	+ 5.18	- 6.71	- 1.79	+ 0.24	- 2.65	+ 5.06	+ 1.53	+ 1.89	+ 1.69	+ 3.80	- 1.98	+ 0.34	+ 0.66
1859	+ 1.59	+ 2.35	+ 6.11	- 1.69	+ 3.61	- 2.79	+ 0.54	+ 0.89	- 2.24	- 2.00	+ 2.76	- 9.17	0.00
Means	- 2.39	- 3.07	- 1.10	- 0.87	- 0.10	+ 0.17	+ 2.47	+ 0.15	+ 1.01	+ 1.25	+ 0.43	- 2.27	- 0.36

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE IV.

MONTHLY MEANS OF THE TEMPERATURE OF THE AIR AT EACH OF THE SIX OBSERVATION HOURS, FOR THE PERIOD 1854 TO 1859 INCLUSIVE.

Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
January .....	25°.84	25°.16	21°.64	21°.11	20°.51	20°.50	22°.46
February .....	25.03	24.78	20.08	19.25	17.07	17.53	20.62
March .....	33.87	33.72	28.43	27.51	24.65	26.61	29.13
April .....	46.17	45.66	38.32	37.29	35.52	39.13	40.35
May .....	57.16	56.72	48.75	47.19	47.37	51.54	51.45
June .....	67.42	66.88	58.23	56.56	57.24	61.21	61.26
July .....	75.47	74.84	65.30	63.85	64.30	69.04	68.80
August .....	73.15	72.75	62.79	61.09	59.87	65.56	65.87
September .....	65.26	64.38	56.07	54.67	52.60	57.62	58.43
October .....	52.12	50.91	44.55	43.41	41.85	44.61	46.24
November .....	39.91	39.03	35.88	35.00	34.55	35.04	36.57
December .....	27.81	27.14	23.93	23.36	23.27	23.22	24.79
Means.....	49.10	48.50	42.00	40.86	39.90	42.63	43.83

TABLE V.

DIFFERENCES OF THE MEAN MONTHLY TEMPERATURE AT EACH OBSERVATION HOUR IN EXCESS OR DEFECT FROM THE NORMAL MEAN MONTHLY TEMPERATURE OF THE SAME HOUR, TOGETHER WITH THE MEANS OF THE SIX HOURLY DIFFERENCES.

Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Means.
January.....	-2°.35	-2.48	-2°.57	-2°.16	-2°.28	-2°.49	-2.39
February .....	-3.78	-3.45	-2.55	-2.73	-2.72	-3.17	-3.07
March .....	-1.97	-1.48	-0.15	-0.42	-0.90	-1.69	-1.10
April .....	-1.34	-1.53	-0.34	-0.62	-0.27	-1.13	-0.87
May .....	-1.41	-1.93	+0.52	+0.63	+1.27	+0.33	-0.10
June .....	-0.76	-1.87	+1.00	+0.95	+1.47	+0.21	+0.17
July .....	+0.73	-0.15	+3.31	+4.02	+4.19	+2.74	+2.47
August .....	-0.45	-1.01	+0.84	+0.73	+0.66	+0.11	+0.15
September .....	+0.85	+0.21	+1.55	+1.20	+1.26	+1.02	+1.01
October .....	+1.18	+0.89	+1.47	+1.57	+1.33	+1.05	+1.25
November .....	-0.15	+0.02	+0.59	+0.67	+1.05	+0.41	+0.43
December .....	-2.60	-2.36	-2.69	-2.71	-1.45	-1.81	-2.27
Means.....	-1.00	-1.26	+0.08	+0.09	+0.30	-0.37	-0.36

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE VI.

MONTHLY MEAN DIFFERENCES WITHOUT REGARD TO SIGN BETWEEN THE NORMAL TEMPERATURE OF THE DAY AND HOUR AND THE OBSERVED TEMPERATURE OF THE SAME DAY AND HOUR, FOR EACH MONTH OF THE YEARS 1854 TO 1859 INCLUSIVE.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Mean of the Year.
1854	9.2	9.0	9.6	5.5	4.7	4.9	7.4	5.4	6.9	7.1	5.2	10.8	7.1
1855	7.1	12.4	6.2	6.2	4.7	5.8	5.0	4.9	6.5	6.2	6.5	7.8	6.6
1856	9.8	10.4	7.7	4.9	4.9	4.2	5.6	4.3	4.7	5.5	5.4	7.5	6.2
1857	13.5	11.5	7.0	6.6	5.7	5.4	4.9	3.7	5.6	5.1	6.6	6.4	6.8
1858	7.5	10.0	9.0	5.7	5.3	7.3	4.4	5.4	5.1	5.6	5.0	7.7	6.5
1859	9.4	7.4	7.7	4.2	5.6	6.6	5.9	3.5	6.5	6.7	6.2	12.4	6.8
Means	9.4	10.1	7.9	5.5	5.1	5.7	5.5	4.5	5.9	6.0	5.8	8.8	6.7

TABLE VII.

MONTHLY MEAN DIFFERENCES WITHOUT REGARD TO SIGN BETWEEN THE NORMAL TEMPERATURE OF THE DAY AND HOUR AND THE OBSERVED TEMPERATURE AT EACH OF THE SIX OBSERVATION HOURS, FOR THE PERIOD 1854 TO 1859 INCLUSIVE.

Toronto Astronomical Time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
January .....	9.0	8.9	9.2	9.5	9.8	9.9	9.4
February .....	9.1	8.9	10.3	10.5	11.0	10.7	10.1
March .....	7.3	7.3	7.5	7.8	8.9	8.4	7.9
April .....	6.9	6.7	4.8	4.9	4.7	5.2	5.5
May.....	6.1	5.9	4.7	4.7	4.5	5.0	5.1
June .....	6.4	6.6	5.3	5.3	5.0	5.4	5.7
July.....	5.8	5.7	5.4	5.6	5.5	5.2	5.5
August .....	4.3	4.3	4.5	4.9	4.8	4.4	4.5
September .....	6.2	5.9	5.9	5.9	6.0	5.4	5.9
October .....	6.1	5.6	5.9	6.0	6.5	6.0	6.0
November .....	5.6	5.3	5.8	6.1	6.2	6.0	5.8
December .....	8.3	8.3	8.7	8.8	9.3	9.3	8.8
Means.....	6.8	6.6	6.5	6.7	6.9	6.7	6.7

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE VIII.

MEAN DIFFERENCES WITHOUT REGARD TO SIGN BETWEEN THE TEMPERATURES OBSERVED AT 2 P.M. ON CONSECUTIVE DAYS, FOR EACH MONTH IN THE YEARS 1854 TO 1859 INCLUSIVE, THE EFFECT OF ANNUAL VARIATION BEING ELIMINATED.

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
1854	8.48	9.92	6.83	7.44	7.76	6.09	6.42	7.18	6.89	6.68	6.61	7.73	6.84
1855	6.70	5.14	4.62	6.91	6.01	5.80	4.92	4.61	6.41	5.59	4.88	5.54	5.50
1856	7.16	7.89	3.67	5.29	7.49	5.33	5.55	4.85	5.21	5.04	5.80	5.46	5.73
1857	7.92	8.39	7.54	4.50	5.56	5.14	3.48	4.08	6.33	3.47	4.22	4.35	5.42
1858	6.35	6.09	6.45	6.10	6.10	4.54	6.10	4.44	3.94	5.19	3.30	7.92	5.54
1859	7.07	5.96	4.22	5.35	4.96	6.04	5.61	3.23	3.94	5.49	6.71	10.36	5.87
Means.	7.38	7.24	5.37	5.91	5.82	5.64	5.35	4.73	5.45	5.08	5.09	6.89	5.83
Ratio to Mean of Year.	1.27	1.24	0.92	1.01	1.00	0.97	0.92	0.81	0.93	0.87	0.87	1.18	

TABLE IX.

SHEWING FOR EACH MONTH (FOR THE PERIOD 1854 TO 1859 INCLUSIVE) THE NUMBER OF CASES IN A HUNDRED WHEN THE CHANGE OF TEMPERATURE OBSERVED AT 2 P.M. ON CONSECUTIVE DAYS WAS INCREASING, WITH THE AVERAGE VALUES OF THE INCREASING AND OF THE DECREASING CHANGES.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Number in a hundred.	48	57	56	53	56	55	56	55	59	54	48	49
Ratio to mean of year.	0.89	1.06	1.04	0.98	1.04	1.02	1.04	1.02	1.09	1.00	0.89	0.91
Average increase . . . .	7.58	6.39	4.79	5.58	5.10	5.22	4.76	4.22	4.77	4.74	5.27	6.91
Ratio to mean of year.	1.39	1.17	0.88	1.03	0.94	0.96	0.87	0.78	0.88	0.87	0.97	1.27
Average decrease.....	7.20	8.36	6.12	6.29	6.72	6.15	6.10	5.35	6.43	5.47	4.92	6.88
Ratio to mean of year.	1.13	1.32	0.97	0.99	1.06	0.97	0.96	0.84	1.01	0.86	0.78	1.09

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE X.

GIVING FOR EACH OF THE SIXTEEN POINTS OF THE WIND'S DIRECTION, THE MEAN DIFFERENCE OF THE TEMPERATURE OF THE AIR FROM THE NORMAL AT THE HOUR OF OBSERVATION, WITH THE NUMBER OF OBSERVATIONS FROM WHICH THE MEANS ARE DERIVED, FOR THE YEARS 1853-59 INCLUSIVE.

The sign (+) indicates that the observed temperature was in excess, and (-) that it was in defect of the normal.

Years.	N.		N.N.E.		N.E.		E.N.E.		E.		E.S.E.		S.E.		S.S.E.	
	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.
1853	142	-1.32	148	-1.33	108	+0.47	93	+0.56	90	+2.67	46	+2.54	64	+3.32	64	+2.67
1854	113	-3.32	77	-2.33	87	-2.05	87	+3.65	145	+3.71	103	+1.56	48	+2.31	56	+3.24
1855	168	-2.70	79	-5.65	69	-5.58	74	+2.26	136	+1.70	95	+1.59	42	+2.45	54	+2.54
1856	127	-4.39	61	-4.74	65	-0.67	68	-0.06	123	+0.64	69	-1.48	42	-1.31	39	+1.51
1857	102	-4.55	39	-0.21	60	-0.67	126	-0.41	108	-0.27	57	+0.40	46	+1.56	54	+1.41
1858	120	-0.18	57	-3.18	76	-1.44	175	-0.07	156	+1.90	49	+3.92	45	+1.73	60	+2.03
1859	104	-3.80	68	-5.62	75	-3.66	160	+3.62	179	+1.47	65	+0.42	35	+1.63	47	+2.27
1853-59	576	-2.80	529	-3.18	540	-1.81	783	+1.37	937	+1.73	484	+1.18	322	+1.79	374	+2.28

Years.	S.		S.S.W.		S.W.		W.S.W.		W.		W.N.W.		N.W.		N.N.W.		Calm.	
	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.
1853	123	+4.13	129	+3.79	68	+4.19	95	+0.66	102	-1.28	76	-2.39	115	-3.38	156	-4.02	356	+1.73
1854	79	-3.80	112	-4.90	111	+6.38	109	+1.55	103	+2.10	125	-0.99	112	-3.88	163	-3.57	333	+2.23
1855	74	+3.05	118	+4.59	124	+3.78	137	+0.25	168	-2.76	132	-3.40	134	-1.50	146	-2.27	223	+0.65
1856	69	+2.13	122	+1.93	131	+1.23	191	-3.01	174	-4.91	170	-5.22	121	-4.35	144	-4.69	254	-0.25
1857	71	+2.04	139	+0.98	154	+0.03	169	-3.55	136	-4.74	129	-3.87	149	-4.25	165	-4.62	275	+0.93
1858	83	+3.31	93	-4.66	64	+7.06	111	+1.43	132	-0.29	144	-1.83	147	-3.35	150	-2.43	367	+2.02
1859	75	+0.73	144	+4.95	104	+5.03	123	+0.33	156	-1.79	137	-3.35	130	-4.15	145	-3.33	223	+1.13
1853-59	574	+2.89	857	+3.61	756	+3.45	926	-0.73	971	-2.18	913	-3.17	908	-3.54	1069	-3.58	1971	+1.33

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE XI.

MONTHLY AND YEARLY MEANS OF THE DIURNAL CHANGE OF TEMPERATURE (EXCLUSIVE OF THAT DUE TO ANNUAL VARIATION) FROM 6 A. M. TO 6 A. M. FOR THE PERIOD 1854 TO 1859 INCLUSIVE, ARRANGED ACCORDING TO THE DAILY RESULTANT DIRECTION OF THE WIND.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
N.	-5.1	-4.6	-0.8	-2.7	-2.0	-2.3	-1.6	-4.0	-3.7	-6.2	-3.8	-1.7	-3.3
N.E.	+3.3	+1.4	0.0	+2.2	+0.6	+0.7	-0.5	+3.2	+0.2	+1.2	-1.7	+4.3	+1.5
E.	+10.5	+9.0	+5.6	+2.9	+1.8	+0.3	+1.5	+1.7	+3.8	+3.4	+4.1	+4.8	+3.5
S.E.	+6.0	-17.8	+7.0	+1.8	+2.5	+2.8	+2.1	+3.7	+5.3	+5.4	+4.3	+10.2	+4.6
S.	+11.7	+1.6	+9.2	+2.1	+0.6	+1.6	+2.5	+1.8	+5.1	+3.7	+9.9	+18.0	+3.9
S.W.	+3.1	+7.4	+4.4	+0.4	+0.8	+1.5	+0.8	+2.6	+1.6	+3.0	+0.7	+0.1	+2.2
W.	-4.1	-1.8	-3.8	-2.4	-1.7	-0.4	-3.4	-2.0	-4.4	-3.0	-2.9	-3.4	-2.9
N.W.	-8.9	-7.1	-3.6	-3.4	-3.6	-3.6	-4.2	-3.4	-5.4	-2.4	-4.2	-4.5	-4.5

TABLE XII.

FREQUENCY OF INCREASING CHANGES OF TEMPERATURE—THE TOTAL NUMBER IN EACH MONTH AND DIRECTION BEING EXPRESSED BY 100.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
N.	36	41	33	40	32	22	29	13	33	29	36	48	34
N.E.	67	55	25	71	53	56	30	70	65	55	30	70	57
E.	92	81	93	80	71	50	67	68	74	66	90	84	75
S.E.	100	100	83	85	79	73	70	69	71	75	67	100	77
S.	86	40	87	64	63	75	78	68	83	62	83	100	74
S.W.	68	79	58	50	53	69	68	78	65	66	59	50	63
W.	36	42	30	33	42	48	31	39	32	44	40	31	37
N.W.	25	26	33	42	33	36	26	21	26	36	42	31	31

TABLE XIII.

AGGREGATE OF INCREASING CHANGES FOR EACH DIRECTION, THE JOINT AGGREGATE OF INCREASING AND DECREASING CHANGES FOR ANY ONE MONTH AND DIRECTION BEING EXPRESSED BY 100.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
N.	28	21	44	30	25	15	19	4	15	5	22	40	25
N.E.	74	57	50	71	58	61	34	83	52	61	37	76	63
E.	99	93	97	83	74	55	72	73	85	76	85	85	83
S.E.	100	100	94	91	84	80	84	94	87	85	75	100	88
S.	84	65	94	80	58	74	81	72	90	76	89	100	82
S.W.	67	84	79	55	58	74	62	79	63	71	55	51	67
W.	26	41	21	21	29	46	12	25	20	31	31	31	30
N.W.	13	15	21	22	18	14	8	10	8	30	20	26	18

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XIV.

MONTHLY AND YEARLY MEANS OF THE DIURNAL CHANGE OF TEMPERATURE, WITHOUT REGARD TO SIGN AND EXCLUDING THAT DUE TO ANNUAL VARIATION, FROM 6 A.M. TO 6 P.M. FOR THE PERIOD 1854 TO 1859, ARRANGED ACCORDING TO THE DAILY RESULTANT DIRECTION OF THE WIND.

	January	February	March	April	May	June	July	August	September	October	November	December	Year
N.	11.73	8.02	6.87	6.79	4.04	3.39	2.54	4.43	5.38	6.89	6.61	9.17	6.58
N.E.	6.80	10.44	5.58	5.29	3.82	3.06	1.63	4.75	6.05	5.15	6.68	6.17	5.75
E.	10.75	10.50	5.92	4.30	3.85	3.51	3.48	3.77	5.36	6.40	5.82	6.98	5.32
S.E.	6.00	17.80	7.98	5.92	3.61	4.55	3.10	4.21	7.06	7.79	8.50	10.20	5.93
S.	17.29	5.42	10.50	3.39	3.69	3.43	4.01	4.06	6.35	7.20	12.72	17.98	5.95
S.W.	9.18	10.85	7.69	4.31	4.95	3.01	3.49	4.54	6.41	7.24	7.14	5.21	6.36
W.	8.56	10.09	6.48	4.26	3.99	4.57	4.49	4.04	7.40	8.06	7.53	8.97	7.06
N.W.	12.03	9.95	6.33	5.90	5.67	5.06	5.02	4.21	6.49	6.22	7.00	9.33	6.99
Means	10.28	10.38	7.17	5.02	4.20	3.82	3.47	4.25	6.31	6.87	7.75	9.50	6.24

TABLE XV.

COMPARATIVE CHANGES OF TEMPERATURE IN THE SAME MONTH THAT ARE DUE TO DIFFERENT WINDS, BEING THE NUMBERS IN TABLE XIV. EXPRESSED IN TERMS OF THE ARITHMETIC MEAN CHANGE IN THAT MONTH FOR ALL WINDS.

	January	February	March	April	May	June	July	August	September	October	November	December	Year
N.	1.14	0.77	0.96	1.35	0.96	0.89	0.73	1.04	0.85	1.00	0.85	0.97	1.05
N.E.	0.66	1.01	0.78	1.05	0.91	0.80	0.47	1.12	0.96	0.75	0.86	0.86	0.92
E.	1.05	1.01	0.83	0.86	0.92	1.00	0.89	0.85	0.93	0.75	0.73	0.85	
S.E.	0.58	1.71	1.11	1.18	0.86	1.19	0.89	0.99	1.12	1.13	1.10	1.07	0.95
S.	1.67	0.52	1.46	0.68	0.88	0.90	1.16	0.96	1.01	1.05	1.61	1.89	0.95
S.W.	0.89	1.05	1.07	0.86	1.18	0.79	1.01	1.07	1.02	1.05	0.92	0.55	1.02
W.	0.83	0.97	0.99	0.85	0.95	1.20	1.29	0.95	1.17	1.17	0.97	0.94	1.13
N.W.	1.17	0.96	0.88	1.18	1.35	1.32	1.45	0.99	1.03	0.91	0.90	0.98	1.12

TABLE XVI.

COMPARATIVE DIURNAL CHANGES OF TEMPERATURE THAT ARE DUE IN DIFFERENT MONTHS TO THE SAME WIND, BEING THE NUMBERS IN TABLE XIV. EXPRESSED IN TERMS OF THE ANNUAL ARITHMETIC MEAN FOR THAT WIND.

	January	February	March	April	May	June	July	August	September	October	November	December
N.	1.56	1.27	1.09	1.07	0.64	0.54	0.40	0.70	0.55	1.09	1.05	1.45
N.E.	1.21	1.86	0.99	0.94	0.68	0.55	0.29	0.85	1.08	0.92	1.19	1.45
E.	1.83	1.78	1.01	0.73	0.65	0.60	0.59	0.64	0.91	1.09	0.99	1.19
S.E.	0.83	2.46	1.10	0.82	0.50	0.63	0.43	0.58	0.98	1.08	1.18	1.41
S.	2.15	0.68	1.31	0.42	0.46	0.43	0.50	0.51	0.79	0.90	1.59	2.25
S.W.	1.49	1.76	1.25	0.70	0.80	0.49	0.57	0.74	1.04	1.17	1.16	0.84
W.	1.31	1.54	0.99	0.65	0.61	0.70	0.69	0.62	1.13	1.23	1.15	1.37
N.W.	1.74	1.44	0.91	0.85	0.82	0.73	0.72	0.61	0.94	0.90	1.01	1.35

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE XVII.

MONTHLY MEANS OF THE DAILY MAXIMA, MINIMA, AND RANGES OF TEMPERATURE FOR THE YEARS  
1854 TO 1859 INCLUSIVE.

## MAXIMA.

Year	Month	January	February	March	April	May	June	July	August	September	October	November	December
6.58	1854	29.31	29.63	30.40	37.82	61.82	71.53	84.79	80.72	72.63	58.97	42.08	29.46
5.32	1855	32.83	23.19	36.52	52.93	65.40	68.89	76.75	74.61	68.44	52.60	45.50	32.91
5.93	1856	22.65	24.22	30.47	50.47	50.56	71.59	80.36	73.74	66.69	54.04	43.02	28.74
5.95	1857	19.46	35.66	35.25	43.36	57.17	65.48	76.79	74.45	67.48	51.93	39.94	35.75
6.36	1858	35.27	24.11	37.01	48.32	55.74	73.94	75.44	75.38	67.52	55.79	37.90	33.19
7.06	1859	30.46	31.85	42.10	46.54	63.40	66.93	74.65	75.01	62.68	50.38	43.95	25.26
6.24	Means.	28.33	28.11	36.29	48.24	60.51	70.23	78.13	75.65	67.57	53.95	42.07	30.88

## MINIMA.

Year	Month	January	February	March	April	May	June	July	August	September	October	November	December
1.05	1854	13.53	9.15	22.94	30.69	37.90	49.84	58.46	55.26	49.09	41.32	28.13	14.38
0.92	1855	17.54	4.81	19.63	32.06	41.42	50.68	60.05	54.09	49.94	34.55	28.74	18.75
0.85	1856	6.02	3.57	12.87	33.39	40.63	52.39	59.04	52.95	45.66	35.22	28.74	15.55
0.95	1857	0.85	20.42	17.79	27.24	40.24	48.99	59.92	54.95	48.14	37.47	26.55	24.20
1.02	1858	23.73	10.85	21.93	34.15	41.68	56.41	59.98	50.21	50.79	43.41	30.03	21.37
1.12	1859	18.55	19.71	30.48	32.92	47.13	49.82	59.20	59.38	49.32	37.05	32.77	12.04
1.02	Means.	13.37	11.42	20.94	31.74	41.50	51.35	59.34	55.97	48.82	38.17	29.16	17.87

## RANGES.

Year	Month	January	February	March	April	May	June	July	August	September	October	November	December
1854	15.78	20.47	13.38	17.13	23.92	24.69	26.33	25.46	23.59	17.65	13.94	15.08	
1855	15.29	18.38	16.89	20.87	23.98	18.21	16.70	20.52	18.51	18.05	16.76	14.16	
1856	16.63	20.65	17.60	17.08	18.93	19.20	21.32	20.79	21.03	18.82	14.27	13.19	
1857	18.61	15.25	17.46	16.12	16.94	16.49	17.47	19.50	19.34	14.45	13.39	11.55	
1858	11.54	13.26	15.08	14.16	14.06	17.54	15.45	16.17	16.73	12.37	7.87	11.82	
1859	11.91	12.15	11.62	13.62	16.26	17.11	15.45	15.63	13.36	13.33	11.19	12.32	
1.13	Means.	14.96	16.69	15.34	16.50	19.02	18.87	18.79	19.68	18.75	15.78	12.90	13.20

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XVIII.

HIGHEST AND LOWEST TEMPERATURES IN EACH MONTH, AND MONTHLY RANGES OF TEMPERATURE FOR THE YEARS 1854 TO 1859 INCLUSIVE.

## MAXIMA.

Months.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
													Tempr.
1854	46.4	42.8	55.1	64.5	71.4	92.5	98.0	99.2	93.6	75.4	55.4	44.8	99.2 24th Aug.
1855	49.0	39.0	49.4	69.4	77.5	91.5	92.8	83.5	82.6	68.0	59.2	47.0	92.8 19th July.
1856	34.4	37.8	41.4	72.2	82.2	89.2	96.6	82.7	78.4	71.4	50.4	42.2	96.6 17th July.
1857	37.2	52.4	57.6	74.8	76.0	86.6	88.2	82.0	82.0	64.0	58.2	46.0	88.2 13th Aug.
1858	47.4	42.4	55.4	65.2	79.8	90.2	85.0	84.0	81.4	76.3	53.0	45.4	90.2 26th June
1859	43.2	46.2	54.2	64.8	79.6	86.4	88.0	82.2	75.4	69.8	62.6	54.8	88.0 12th July.
Means.	42.9	43.4	52.2	64.7	75.9	87.6	91.2	86.6	82.2	70.8	57.5	46.7	92.5 24th July.

## MINIMA.

1854	-5.4	-10.8	7.4	20.2	25.2	35.3	42.5	45.6	35.8	26.4	13.8	-2.0	-10.8 24th Jan.
1855	-5.4	-25.4	-2.0	10.7	33.0	36.2	49.2	40.0	33.0	22.6	15.5	-5.2	-25.4 5th Feb.
1856	-12.0	-18.7	-14.0	14.2	31.2	42.0	49.5	41.5	35.0	23.0	18.8	-9.1	-18.7 12th Feb.
1857	-20.1	-5.9	-5.5	5.9	26.0	35.0	47.0	46.0	34.1	26.5	-3.5	4.7	-20.1 22nd Jan.
1858	6.5	7.3	5.5	21.8	31.0	42.5	52.0	41.0	35.6	31.5	15.3	4.2	7.3 17th Feb.
1859	-26.5	-2.1	9.8	22.6	39.5	32.2	44.7	45.8	35.7	22.3	21.8	-6.0	-26.5 10th Jan.
Means.	-10.5	-11.0	-1.8	15.9	31.0	37.2	47.5	43.8	34.9	25.4	13.6	-3.1	-18.1 31st Jan.

## MONTHLY RANGES.

1854	51.8	53.6	47.7	44.3	46.2	57.3	53.5	53.6	57.8	49.0	41.6	51.8	110.0
1855	54.4	64.4	52.3	58.7	44.5	55.3	43.6	43.5	49.6	45.4	43.7	52.2	118.2
1856	46.4	56.5	55.4	58.0	51.0	47.2	47.1	41.2	43.4	48.4	37.6	51.3	115.3
1857	57.3	58.3	63.1	46.1	48.8	41.0	39.6	42.2	47.9	37.5	61.7	41.3	108.3
1858	40.9	49.7	60.9	43.4	38.8	47.7	33.0	40.0	45.8	44.8	37.7	41.2	97.5
1859	69.7	44.1	44.4	42.2	40.1	54.2	43.3	36.4	39.7	47.5	40.8	60.8	114.5
Means.	53.4	54.4	54.0	48.8	44.9	50.4	43.7	42.8	47.4	45.4	43.9	49.8	110.6

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE XIX.

MONTHLY MEANS OF THE BAROMETER AT EACH OF THE SIX OBSERVATION HOURS, FROM 1854 TO 1859 INCLUSIVE  
Barometer at  $32^{\circ}$  = 27 inches + the number in the table.

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
JANUARY.	1854	2.583	2.601	2.624	2.615	2.602	2.617	2.607
	1855	2.630	2.645	2.664	2.655	2.617	2.626	2.639
	1856	2.645	2.653	2.685	2.679	2.669	2.687	2.670
	1857	2.714	2.713	2.734	2.729	2.762	2.765	2.736
	1858	2.648	2.662	2.713	2.714	2.656	2.660	2.675
	1859	2.652	2.665	2.683	2.675	2.689	2.698	2.677
	Means.	2.645	2.656	2.684	2.678	2.666	2.675	2.667
FEBRUARY.	1854	2.669	2.607	2.710	2.714	2.697	2.711	2.695
	1855	2.602	2.612	2.644	2.638	2.617	2.636	2.625
	1856	2.457	2.462	2.503	2.507	2.495	2.507	2.488
	1857	2.743	2.728	2.707	2.697	2.760	2.781	2.736
	1858	2.650	2.641	2.651	2.645	2.680	2.685	2.660
	1859	2.624	2.621	2.633	2.622	2.637	2.656	2.632
	Means.	2.624	2.622	2.641	2.637	2.648	2.664	2.639
MARCH.	1854	2.494	2.493	2.530	2.520	2.552	2.557	2.525
	1855	2.485	2.477	2.513	2.516	2.540	2.547	2.513
	1856	2.538	2.543	2.570	2.570	2.562	2.571	2.559
	1857	2.566	2.567	2.618	2.618	2.599	2.606	2.596
	1858	2.607	2.601	2.622	2.612	2.632	2.645	2.620
	1859	2.397	2.393	2.416	2.411	2.425	2.434	2.413
	Means.	2.515	2.512	2.545	2.541	2.552	2.560	2.538

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XIX.—(*Continued.*)

MONTHLY MEANS OF THE BAROMETER AT EACH OF THE SIX OBSERVATION HOURS, FROM 1854 TO 1859 INCLUSIVE.

Barometer at  $32^{\circ} = 27$  inches + the numbers in the table.

	Toronto Astronomical time,	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
APRIL	1854	2.621	2.604	2.648	2.651	2.646	2.655	2.638
	1855	2.642	2.636	2.659	2.652	2.664	2.670	2.654
	1856	2.559	2.553	2.587	2.585	2.593	2.597	2.579
	1857	2.512	2.508	2.565	2.560	2.511	2.524	2.530
	1858	2.492	2.477	2.497	2.492	2.514	2.521	2.499
	1859	2.514	2.513	2.554	2.552	2.538	2.540	2.535
	Means.	2.557	2.548	2.585	2.583	2.578	2.584	2.572

	Toronto Astronomical time,	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
MAY.	1854	2.548	2.536	2.577	2.577	2.574	2.584	2.566
	1855	2.646	2.633	2.635	2.634	2.675	2.685	2.651
	1856	2.577	2.564	2.576	2.568	2.596	2.612	2.582
	1857	2.528	2.516	2.532	2.523	2.553	2.560	2.535
	1858	2.571	2.568	2.589	2.589	2.587	2.600	2.584
	1859	2.657	2.638	2.647	2.643	2.680	2.694	2.660
	Means.	2.588	2.576	2.593	2.589	2.611	2.622	2.596

	Toronto Astronomical Time,	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
JUNE.	1854	2.541	2.534	2.551	2.546	2.562	2.573	2.551
	1855	2.502	2.489	2.514	2.509	2.532	2.535	2.513
	1856	2.542	2.524	2.543	2.544	2.565	2.573	2.548
	1857	2.516	2.406	2.430	2.430	2.436	2.443	2.427
	1858	2.586	2.572	2.602	2.603	2.630	2.642	2.606
	1859	2.609	2.600	2.631	2.626	2.620	2.632	2.620
	Means.	2.533	2.521	2.545	2.543	2.558	2.566	2.544

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE XIX.—(Continued)

MONTHLY MEANS OF THE BAROMETER AT EACH OF THE SIX OBSERVATION HOURS, FROM 1854 TO 1860 INCLUSIVE.

Barometer at 32° = 27 inches + the numbers in the table.

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
JULY.	1854	2.628	2.607	2.629	2.637	2.669	2.672	2.640
	1855	2.603	2.589	2.612	2.615	2.619	2.628	2.611
	1856	2.584	2.562	2.570	2.577	2.619	2.629	2.591
	1857	2.581	2.568	2.589	2.589	2.594	2.608	2.588
	1858	2.598	2.583	2.590	2.597	2.625	2.630	2.605
	1859	2.638	2.628	2.644	2.640	2.667	2.672	2.648
	Means.	2.605	2.589	2.608	2.609	2.632	2.640	2.614

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
AUGUST.	1854	2.630	2.623	2.642	2.641	2.669	2.673	2.648
	1855	2.642	2.629	2.650	2.651	2.672	2.675	2.653
	1856	2.507	2.501	2.524	2.525	2.531	2.537	2.521
	1857	2.583	2.574	2.594	2.600	2.604	2.612	2.594
	1858	2.608	2.597	2.620	2.617	2.633	2.642	2.619
	1859	2.591	2.578	2.600	2.600	2.609	2.617	2.599
	Means.	2.595	2.584	2.605	2.606	2.620	2.626	2.606

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
SEPTEMBER.	1854	2.688	2.674	2.697	2.695	2.722	2.730	2.701
	1855	2.713	2.696	2.707	2.705	2.751	2.755	2.721
	1856	2.580	2.580	2.606	2.601	2.616	2.618	2.600
	1857	2.696	2.686	2.710	2.707	2.733	2.740	2.712
	1858	2.636	2.620	2.643	2.639	2.677	2.686	2.650
	1859	2.655	2.649	2.672	2.668	2.676	2.692	2.669
	Means.	2.661	2.651	2.672	2.669	2.696	2.703	2.675

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XIX.—(Continued)

MONTHLY MEANS OF THE BAROMETER, AT EACH OF THE SIX OBSERVATION HOURS, FROM 1854 TO 1859 INCLUSIVE.

Barometer at 32° = 27 inches + the numbers in the table.

Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
OCTOBER.	1854	2.677	2.675	2.703	2.699	2.699	2.719	2.696
	1855	2.535	2.538	2.555	2.540	2.566	2.576	2.551
	1856	2.689	2.684	2.713	2.713	2.715	2.727	2.707
	1857	2.647	2.649	2.671	2.672	2.677	2.686	2.667
	1858	2.668	2.668	2.689	2.681	2.684	2.697	2.681
	1859	2.589	2.596	2.634	2.634	2.609	2.625	2.615
	Means.	2.634	2.635	2.661	2.657	2.658	2.672	2.653
Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
NOVEMBER.	1854	2.426	2.436	2.448	2.443	2.427	2.455	2.439
	1855	2.637	2.639	2.667	2.673	2.677	2.694	2.664
	1856	2.621	2.636	2.659	2.657	2.641	2.639	2.642
	1857	2.487	2.497	2.540	2.544	2.530	2.545	2.524
	1858	2.616	2.622	2.631	2.628	2.622	2.610	2.627
	1859	2.653	2.659	2.666	2.657	2.699	2.713	2.675
	Means.	2.573	2.582	2.602	2.600	2.599	2.614	2.595
Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
DECEMBER.	1854	2.572	2.583	2.600	2.598	2.581	2.591	2.587
	1855	2.697	2.701	2.701	2.695	2.701	2.718	2.702
	1856	2.694	2.707	2.717	2.719	2.708	2.723	2.711
	1857	2.599	2.612	2.649	2.647	2.597	2.609	2.619
	1858	2.668	2.688	2.718	2.715	2.683	2.695	2.694
	1859	2.686	2.693	2.719	2.717	2.711	2.729	2.709
	Means.	2.653	2.664	2.684	2.682	2.663	2.677	2.670

TABLE XX.

MONTHLY AND ANNUAL MEANS OF THE BAROMETER, FURNISHED BY SIX DAILY OBSERVATIONS.  
1854 TO 1859 INCLUSIVE.

Barometer at  $32^{\circ} = 27$  inches + the numbers in the table.

	January	February	March	April	May	June	July	August	September	October	November	December	Year.
1854	2.607	2.605	2.525	2.638	2.560	2.551	2.610	2.648	2.701	2.696	2.439	2.587	2.608
1855	2.639	2.625	2.513	2.654	2.651	2.513	2.611	2.653	2.721	2.551	2.664	2.702	2.625
1856	2.670	2.488	2.559	2.579	2.582	2.518	2.591	2.521	2.600	2.707	2.642	2.711	2.600
1857	2.736	2.736	2.596	2.530	2.535	2.427	2.588	2.594	2.712	2.667	2.524	2.619	2.605
1858	2.675	2.660	2.620	2.499	2.581	2.606	2.605	2.619	2.650	2.681	2.627	2.694	2.627
1859	2.677	2.632	2.413	2.535	2.660	2.620	2.618	2.599	2.669	2.615	2.675	2.700	2.621
Mean.	2.667	2.639	2.538	2.572	2.596	2.544	2.611	2.606	2.675	2.653	2.595	2.670	2.614

TABLE XXI.

DIFFERENCES OF THE MONTHLY AND ANNUAL MEANS OF THE BAROMETER, FOR 1854 TO 1859 INCLUSIVE,  
IN EXCESS OR DEFECT FROM THE ASSUMED NORMAL MONTHLY AND ANNUAL MEANS, BOTH BEING  
DERIVED FROM SIX DAILY OBSERVATIONS.

	January	February	March	April	May	June	July	August	September	October	November	December	Year
1854	-.017	+.086	-.091	-.008	.000	-.027	+.049	+.014	+.056	+.035	-.184	-.054	-.012
1855	+.015	+.016	-.103	+.008	+.085	-.065	+.020	+.019	+.076	-.110	+.041	+.061	+.005
1856	+.046	-.121	-.057	-.067	+.016	-.030	.000	-.113	-.045	+.046	+.019	+.070	-.020
1857	+.112	+.127	-.020	-.116	-.031	-.151	-.003	-.040	+.067	+.006	-.099	-.022	-.015
1858	+.051	+.051	+.004	-.147	+.018	+.029	+.011	-.015	+.005	+.020	+.004	+.053	+.007
1859	+.053	+.023	-.203	-.111	+.094	+.042	+.057	-.035	+.024	-.016	+.052	+.068	+.001
Mean.	-.043	+.030	-.078	-.074	+.030	-.034	+.023	-.028	+.030	-.008	-.028	+.029	-.006

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XXII.

MONTHLY MEANS OF THE BAROMETER AT EACH OF THE SIX OBSERVATION HOURS, FOR THE PERIOD  
1854 TO 1859 INCLUSIVE.

Barometer at 32° = 27 inches + the numbers in the table.

Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
January .....	2.645	2.656	2.684	2.678	2.666	2.675	2.607
February .....	2.624	2.622	2.641	2.637	2.648	2.604	2.639
March .....	2.515	2.512	2.545	2.541	2.552	2.560	2.537
April .....	2.557	2.549	2.585	2.583	2.578	2.584	2.572
May .....	2.588	2.576	2.593	2.589	2.611	2.622	2.590
June .....	2.533	2.521	2.545	2.543	2.558	2.560	2.544
July .....	2.605	2.589	2.608	2.609	2.632	2.610	2.614
August .....	2.595	2.584	2.605	2.606	2.620	2.626	2.600
September .....	2.661	2.651	2.672	2.669	2.690	2.703	2.675
October .....	2.634	2.635	2.661	2.657	2.658	2.672	2.653
November .....	2.573	2.582	2.602	2.600	2.599	2.614	2.595
December .....	2.653	2.664	2.684	2.682	2.663	2.677	2.671
	2.599	2.595	2.619	2.616	2.623	2.634	2.614

TABLE XXIII.

DIFFERENCES OF THE MEAN MONTHLY READINGS OF THE BAROMETER AT EACH OBSERVATION HOUR, IN EXCESS OR DEFECT FROM THE ASSUMED NORMAL FOR THE HOUR, TOGETHER WITH THE MEANS OF THE SIX HOURLY DIFFERENCES.

Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
January .....	+0.043	+0.043	+0.053	+0.049	+0.039	+0.033	+0.043
February .....	+ .028	+ .027	+ .028	+ .043	+ .033	+ .024	+ .031
March .....	- .085	- .083	- .078	- .078	- .069	- .078	- .079
April .....	- .082	- .077	- .055	- .049	- .081	- .093	- .073
May .....	+ .033	+ .036	+ .028	+ .027	+ .029	+ .030	+ .031
June .....	- .039	- .037	- .027	- .025	- .037	- .039	- .034
July .....	+ .022	+ .019	+ .022	+ .022	+ .028	+ .025	+ .023
August .....	- .034	- .030	- .024	- .023	- .025	- .030	- .028
September .....	+ .025	+ .027	+ .029	+ .033	+ .032	+ .030	+ .029
October .....	- .011	- .008	- .004	- .006	- .008	- .014	- .009
November .....	- .035	- .030	- .019	- .026	- .028	- .030	- .028
December .....	+ .032	+ .032	+ .044	+ .046	+ .013	+ .011	+ .030
	-0.008	-0.007	0.000	+0.001	-0.007	-0.011	-0.006

TABLE XXIV.

MONTHLY MEAN DIFFERENCES WITHOUT REGARD TO SIGN BETWEEN THE OBSERVED READING OF THE BAROMETER AND THE ASSUMED NORMAL PROPER TO THE DAY AND HOUR, FOR EACH MONTH OF THE YEARS 1854 TO 1859 INCLUSIVE.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Mean of the Y. r.
1854	0.257	0.265	0.274	0.189	0.135	0.127	0.112	0.091	0.157	0.249	0.275	0.225	0.196
1855	.315	.170	.231	.160	.138	.124	.104	.139	.152	.168	.210	.244	.180
1856	.223	.227	.165	.183	.145	.106	.112	.149	.153	.206	.201	.236	.175
1857	.240	.242	.141	.205	.149	.179	.113	.132	.149	.147	.343	.226	.189
1858	.239	.212	.208	.238	.162	.085	.120	.134	.175	.200	.134	.205	.175
1859	.220	.176	316	.203	.188	.138	.163	.081	.187	.129	.208	.216	.185
Means	0.249	0.215	0.223	0.196	0.151	0.126	0.121	0.110	0.162	0.183	0.228	0.225	0.183

TABLE XXV.

MONTHLY MEAN DIFFERENCES WITHOUT REGARD TO SIGN BETWEEN THE OBSERVED READING OF THE BAROMETER AND THE ASSUMED NORMAL FOR THE DAY AND HOUR, AT EACH OF THE SIX OBSERVATION HOURS, FOR THE PERIOD 1854 TO 1859 INCLUSIVE.

Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
January.....	0.255	0.247	0.237	0.237	0.259	0.259	0.249
February.....	.222	.218	.211	.213	.213	.217	.215
March.....	.226	.220	.217	.220	.222	.230	.223
April.....	.202	.195	.179	.179	.206	.216	.196
May.....	.154	.147	.139	.143	.162	.163	.151
June.....	.132	.126	.116	.114	.134	.136	.126
July.....	.125	.120	.112	.114	.127	.128	.121
August.....	.123	.119	.113	.114	.123	.126	.119
September.....	.166	.160	.157	.160	.164	.167	.162
October.....	.185	.179	.173	.179	.190	.192	.183
November.....	.229	.222	.228	.229	.230	.232	.228
December.....	.230	.228	.222	.220	.225	.226	.225
Means.....	.187	.182	.175	.177	.188	.191	.183

TABLE XXVI.

MEAN DIFFERENCES, WITHOUT REGARD TO SIGN, BETWEEN THE HEIGHTS OF THE BAROMETER OBSERVED AT 2 P.M. ON CONSECUTIVE DAYS, FOR EACH MONTH IN THE YEARS 1854 TO 1859 INCLUSIVE.

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
1854	0.302	0.368	0.256	0.225	0.119	0.097	0.142	0.127	0.172	0.216	0.250	0.219	0.210
1855	.216	.165	.278	.194	.107	.135	.111	.141	.158	.129	.219	.311	.185
1856	.236	.243	.187	.222	.154	.106	.110	.106	.128	.153	.199	.365	.184
1857	.261	.205	.231	.207	.146	.126	.097	.115	.166	.131	.256	.286	.188
1858	.303	.238	.237	.193	.222	.139	.145	.185	.167	.168	.158	.298	.200
1859	.265	.228	.333	.221	.155	.155	.133	.086	.169	.129	.270	.271	.201
Means.	0.269	0.241	0.254	0.210	0.155	0.127	0.123	0.124	0.160	0.155	0.230	0.292	0.195
Ratio to Mean of Year.	1.38	1.24	1.30	1.08	0.79	0.65	0.63	0.64	0.82	0.79	1.18	1.50	...

TABLE XXVII.

NUMBER OF CASES IN A HUNDRED IN EACH MONTH (FOR THE PERIOD 1854 TO 1859 INCLUSIVE) WHEN THE HEIGHT OF THE BAROMETER OBSERVED AT 2 P.M. ON CONSECUTIVE DAYS WAS INCREASING, WITH THE AVERAGE VALUES OF THE INCREASING AND OF THE DECREASING CHANGES.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Number in a hundred...	52	50	52	49	49	49	50	57	46	45	50	53
Ratio to Mean of Year...	1.03	0.99	1.03	0.97	0.97	0.97	0.99	1.13	0.91	0.95	0.99	1.05
Average increase .....	0.262	0.243	0.243	0.215	0.158	0.126	0.125	0.114	0.171	0.159	0.233	0.275
Ratio to Mean of Year...	1.35	1.25	1.25	1.11	0.82	0.65	0.65	0.59	0.88	0.82	1.20	1.42
Average decrease.....	0.276	0.210	0.266	0.206	0.153	0.127	0.122	0.136	0.151	0.150	0.227	0.310
Ratio to Mean of Year...	1.40	1.22	1.35	1.05	0.78	0.64	0.62	0.69	0.77	0.76	1.15	1.58

TABLE XVIII.  
MEAN DIFFERENCES OF THE READING OF THE BAROMETER FROM THE NORMAL AT THE HOUR OF OBSERVATION, FOR EACH OF THE SIXTEEN POINTS OF THE WIND'S DIRECTION, WITH THE NUMBER OF OBSERVATIONS FROM WHICH THE MEANS ARE DERIVED, FOR THE YEARS 1833-59 INCLUSIVE.

The sign (+) indicates that the observed reading was in excess and (-) that it was in defect of the normal

Years.	N.		N.N.E.		N.E.		E.N.E.		E.		E.S.E.		S.E.		S.S.E.	
	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.
1853	112	+ .039	118	+ .025	108	+ .060	93	+ .024	90	+ .019	46	+ .035	64	+ .072	64	+ .057
1854	113	+ .128	77	+ .093	87	+ .084	87	+ .062	145	+ .012	103	+ .001	48	+ .028	48	+ .027
1855	108	+ .073	61	+ .093	69	+ .058	74	+ .068	135	+ .047	42	+ .065	54	+ .033	54	+ .033
1856	127	+ .074	61	+ .117	65	+ .013	68	+ .022	125	+ .011	69	+ .001	42	+ .065	39	+ .055
1857	102	+ .046	39	+ .058	45	+ .015	126	+ .023	108	+ .014	57	+ .004	46	+ .021	60	+ .053
1858	120	+ .073	57	+ .060	76	+ .060	75	+ .011	136	+ .033	49	+ .014	46	+ .001	60	+ .053
1859	104	+ .073	68	+ .106	75	+ .079	160	+ .009	179	+ .017	65	+ .078	55	+ .057	47	+ .022
1853-59	876	+ .069	529	+ .075	540	+ .052	783	+ .008	937	+ .016	484	+ .031	322	+ .041	374	+ .043

S.		S.S.W.		S.W.		W.S.W.		W.		W.N.W.		N.W.		N.N.W.		Calm.			
Years.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	No.	Diff.	
1853	123	-.011	129	-.030	.08	-.097	.95	0.000	.102	-.042	.76	-.030	.115	-.027	.156	+.004	.356	+.021	
1854	79	+.059	112	-.063	.111	-.163	.109	-.131	.106	-.089	.125	-.049	.112	-.035	.163	+.012	.333	+.017	
1855	74	+.010	118	-.062	.124	-.115	.137	-.083	.168	-.068	.122	-.050	.134	-.035	.146	+.022	.235	+.027	
1856	61	-.010	106	-.051	.131	-.119	.141	-.076	.174	-.066	.170	-.054	.121	-.035	.144	+.021	.251	+.021	
1857	71	-.018	139	-.082	.134	-.098	.160	-.080	.156	-.035	.123	-.012	.119	-.008	.165	+.015	.275	+.021	
1858	83	+.045	93	-.086	.041	-.149	.111	-.064	.132	-.064	.144	-.007	.147	-.001	.150	+.030	.307	+.049	
1859	75	+.048	144	-.035	.041	-.073	.125	-.100	.156	-.062	.157	-.083	.130	-.020	.145	+.039	.225	+.042	
1853-59		.574	+.016	.857	-.657	.736	-.115	.926	-.079	.971	-.064	.916	-.043	.908	-.017	.1060	+.019	.971	+.030

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XXIX.

MONTHLY AND YEARLY MEANS OF THE DIURNAL CHANGE IN THE READINGS OF THE BAROMETER (CORRECTED TO TEMPERATURE 32°) FROM 6 A.M. TO 6 P.M. FOR THE PERIOD 1854 TO 1859 INCLUSIVE, ARRANGED ACCORDING TO THE DAILY RESULTANT DIRECTION OF THE WIND.

	January.	February.	March	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
N.	+ 0.062	+ 0.079	+ 0.006	+ 0.153	+ 0.095	+ 0.118	+ 0.039	+ 0.109	+ 0.153	+ 0.106	+ 0.161	+ 0.050	+ 0.097
N.E.	- .268	- .167	- .154	- .023	- .057	- .066	- .003	- .064	- .001	- .032	- .103	- .249	- .102
E.	- .388	- .331	- .353	- .198	- .101	- .104	- .053	- .094	- .122	- .179	- .217	- .309	- .179
S.E.	- .325	- .390	- .269	- .197	- .101	- .135	- .058	- .172	- .293	- .138	- .347	- .570	- .197
S.	- .283	- .206	- .243	- .058	- .076	- .038	- .005	- .063	- .111	- .058	- .200	- .233	- .099
S.W.	- .059	- .155	- .060	+ .030	+ .008	- .001	- .018	+ .015	- .052	- .054	- .056	+ .015	- .036
W.	- .213	+ .122	+ .203	+ .140	+ .129	+ .077	+ .093	+ .094	+ .117	+ .118	+ .185	+ .150	+ .144
N.W.	+ .255	+ .172	+ .150	+ .203	+ .157	+ .124	+ .160	+ .102	+ .144	+ .114	+ .252	+ .227	+ .170

TABLE XXX.

FREQUENCY OF INCREASING CHANGES IN EACH MONTH, THE TOTAL NUMBER IN EACH DIRECTION BEING 100.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
N.	79	64	67	80	68	56	57	80	89	79	93	52	72
N.E.	11	36	38	41	40	33	60	30	41	40	30	15	34
E.	13	6	10	19	31	28	36	30	15	3	3	16	20
S.E.	20	0	0	15	13	18	35	8	0	11	8	0	15
S.	0	20	0	29	24	25	30	40	8	38	33	0	23
S.W.	35	29	35	70	53	57	36	47	44	41	38	56	44
W.	80	72	72	75	75	74	73	82	80	79	84	76	77
N.W.	89	82	81	91	84	76	96	84	83	69	92	83	84

TABLE XXXI.

AGGREGATE OF INCREASING CHANGES FOR EACH DIRECTION, THE JOINT AGGREGATE OF INCREASING AND DECREASING CHANGES IN THE MONTHS FOR ANY ONE DIRECTION BEING EXPRESSED BY 100.

	January.	February.	March	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
N.	67	70	51	80	79	85	71	87	90	80	92	63	76
N.E.	1	20	23	44	31	18	48	24	50	33	22	12	23
E.	2	2	2	9	19	15	26	14	7	1	1	4	8
S.E.	0	0	0	10	2	6	19	0	0	10	1	0	4
S.	0	5	0	29	20	25	20	27	9	16	12	0	15
S.W.	38	20	37	58	53	50	40	57	28	35	39	55	40
W.	88	75	89	84	88	79	90	87	92	84	91	81	85
N.W.	93	88	90	94	88	90	99	90	92	79	90	89	90

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE XXXII.

MONTHLY AND YEARLY MEANS OF THE DIURNAL CHANGE, WITHOUT REGARD TO SIGN, IN THE READINGS OF THE BAROMETER (CORRECTED TO TEMPERATURE 32°) FROM 6 A.M. TO 6 P.M., FOR THE PERIOD 1854 TO 1859, ARRANGED ACCORDING TO THE DAILY RESULTANT DIRECTION OF THE WIND.

Year.	January	February	March	April	May	June	July	August	September	October	November	December	Year.	
0.097	N. 0.186	0.196	0.283	0.253	0.164	0.172	0.095	0.148	0.190	0.177	0.190	0.188	0.187	
0.102	N.E. 0.276	0.279	0.289	0.203	0.147	0.103	0.097	0.122	0.145	0.094	0.184	0.325	0.191	
0.179	E. 0.405	0.342	0.369	0.241	0.163	0.149	0.108	0.131	0.142	0.183	0.222	0.336	0.212	
0.197	S.E. 0.326	0.300	0.269	0.245	0.166	0.152	0.093	0.173	0.203	0.173	0.367	0.570	0.214	
0.099	S. 0.283	0.231	0.242	0.139	0.127	0.077	0.109	0.157	0.135	0.086	0.265	0.234	0.141	
0.036	S.W. 0.214	0.257	0.238	0.180	0.147	0.099	0.087	0.105	0.116	0.183	0.251	0.151	0.170	
-0.144	W. 0.277	0.249	0.258	0.205	0.170	0.131	0.117	0.125	0.139	0.174	0.229	0.243	0.207	
-0.170	N.W. 0.294	0.230	0.188	0.233	0.208	0.155	0.162	0.127	0.173	0.193	0.313	0.292	0.213	
	Mes.	286	272	267	242	154	129	103	134	167	158	251	292	193

TABLE XXXIII.

COMPARATIVE DIURNAL CHANGES IN THE HEIGHT OF THE BAROMETER IN THE SAME MONTH THAT ARE DUE TO DIFFERENT WINDS, BEING THE NUMBERS IN TABLE XXXII EXPRESSED IN TERMS OF THE MEAN CHANGE IN THAT MONTH FOR ALL WINDS.

Year.	January	February	March	April	May	June	July	August	September	October	November	December	Year.
72	N. 0.65	0.72	1.06	1.19	1.06	1.33	0.88	1.10	1.11	1.12	0.76	0.64	0.97
34	N.E. 0.97	1.03	1.08	0.96	0.95	0.80	0.90	0.91	0.87	0.59	0.73	1.11	0.99
20	E. 1.12	1.26	1.58	1.14	1.06	1.16	1.00	0.98	0.85	1.16	0.88	1.15	1.10
15	S.E. 1.14	1.43	1.61	1.16	0.69	1.18	0.86	1.29	1.75	1.09	1.42	1.95	1.11
44	S. 0.99	0.85	0.91	0.66	0.82	0.60	1.01	1.02	0.81	0.51	1.06	0.86	0.73
77	S.W. 0.85	0.91	0.89	0.85	0.95	0.70	0.81	0.78	0.70	1.16	1.09	0.92	0.91
84	W. 0.97	0.92	0.97	0.97	1.10	1.02	1.08	0.95	0.83	1.10	0.91	0.83	1.07
	N.W. 1.03	0.85	0.79	1.10	1.35	1.20	1.50	0.95	1.04	1.22	1.25	1.00	1.11

TABLE XXXIV.

COMPARATIVE DIURNAL CHANGES IN THE HEIGHT OF THE BAROMETER THAT ARE DUE IN DIFFERENT MONTHS TO THE SAME WIND, BEING THE NUMBERS IN TABLE XXXII EXPRESSED IN TERMS OF THE ANNUAL ARITHMETIC MEAN FOR THAT WIND.

Year.	January	February	March	April	May	June	July	August	September	October	November	December	
76	N. 0.99	1.05	1.51	1.35	0.88	0.92	0.51	0.79	1.02	0.95	1.02	1.01	
23	N.E. 1.16	1.48	1.53	1.07	0.78	0.54	0.51	0.65	0.77	0.50	0.97	1.72	
8	E. 1.71	1.47	1.58	1.03	0.70	0.64	0.46	0.56	0.61	0.78	0.95	1.44	
4	S.E. 1.21	1.49	1.03	0.94	0.40	0.58	0.35	0.66	1.12	0.66	1.36	2.17	
15	S. 1.65	1.34	1.41	0.81	0.74	0.45	0.45	0.63	0.80	0.78	0.70	1.54	1.36
40	S.W. 1.43	1.50	1.39	1.05	0.86	0.53	0.51	0.61	0.68	1.07	1.47	0.88	
85	W. 1.41	1.29	1.34	1.06	0.88	0.68	0.61	0.65	0.72	0.90	1.19	1.26	
90	N.W. 1.37	1.07	0.88	1.09	0.97	0.72	0.76	0.59	0.81	0.90	1.46	1.55	

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XXXV.

HIGHEST AND LOWEST READINGS, AND MONTHLY RANGES OF THE BAROMETER IN EACH MONTH FROM  
1854 TO 1859 INCLUSIVE.

Barometer at  $32^{\circ}$  = 27 inches + the numbers in the table.

## HIGHEST.

Years.	January	February	March	April	May	June	July	August	September	October	November	December	Year. Barom.	Date.
1854	3.219	3.172	3.638	3.233	2.986	2.955	2.885	2.845	3.142	3.121	3.196	3.215	3.245	23rd Dec.
1855	3.552	3.088	3.079	2.998	2.902	2.811	2.833	3.019	3.092	2.923	3.131	3.201	3.552	8th Jan.
1856	3.280	3.086	3.082	3.099	2.969	2.798	2.844	2.797	3.013	3. " "	3.048	3.480	3.480	18th Dec.
1857	3.168	3.361	3.006	3.006	2.896	2.707	2.848	2.860	3.076	2.994	3.281	3.258	3.361	10th Feb.
1858	3.408	3.060	3.159	3.036	3.198	2.891	2.915	2.939	3.098	3.042	2.970	3.351	3.408	8th Jan.
1859	3.311	3.002	3.255	3.046	2.986	2.966	3.141	2.811	3.049	2.962	3.252	3.392	3.392	3rd Dec.
Means.	3.323	3.128	3.113	3.065	2.990	2.855	2.911	2.879	3.078	3.040	3.146	3.321	3.406	

## LOWEST.

1854	1.693	2.002	1.788	2.045	2.036	2.287	2.308	2.384	2.302	1.731	1.685	1.917	1.685	25th Nov.
1855	1.717	2.172	1.792	2.233	2.283	1.942	2.337	2.130	2.247	1.945	1.983	1.459	1.459	9th Dec.
1856	2.186	1.778	1.828	2.081	2.125	2.207	2.241	2.174	2.149	2.217	1.902	1.460	1.459	14th Dec.
1857	2.181	2.152	2.115	1.898	2.199	1.952	2.255	2.155	2.248	2.289	1.452	1.852	1.452	19th Nov.
1858	1.973	1.940	1.849	2.011	2.032	2.147	2.290	2.231	2.167	2.000	2.190	2.008	1.849	21st Mar.
1859	1.934	1.377	1.286	1.993	2.224	2.260	2.159	2.306	2.038	2.018	1.881	2.201	1.286	19th Mar.
Means.	1.947	1.987	1.776	2.044	2.155	2.133	2.265	2.230	2.192	2.033	1.849	1.816	1.532	

## MONTHLY RANGES.

1854	1.526	1.170	1.310	1.188	0.920	0.668	0.577	0.461	0.840	1.390	1.511	1.328	1.560	
1855	1.835	0.916	1.287	0.765	0.619	0.869	0.496	0.889	0.845	0.978	1.148	1.742	2.093	
1856	1.094	1.308	1.254	1.018	0.844	0.591	0.603	0.623	0.804	0.983	1.146	2.021	2.021	
1857	0.987	1.200	0.891	1.108	0.697	0.755	0.593	0.705	0.828	0.705	1.829	1.406	1.909	
1858	1.435	1.120	1.310	0.995	1.166	0.744	0.625	0.708	0.931	1.042	0.780	1.343	1.559	
1859	1.377	1.125	1.969	1.053	0.762	0.706	0.982	0.505	1.011	0.944	1.371	1.191	2.106	
Means.	1.376	1.141	1.337	1.021	0.835	0.742	0.646	0.649	0.886	1.007	1.297	1.505	1.875	

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE XXXVI.

MONTHLY MEANS OF THE PRESSURE OF DRY AIR AT EACH OF THE SIX OBSERVATION HOURS, FOR THE YEARS 1854 TO 1859 INCLUSIV.

Pressure of Dry Air at  $32^{\circ} = 27$  inches + the numbers in the table.

Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
JANUARY.	1854	.2454	.2473	.2502	.2494	.2485	.2499	.2485
	1855	.494	.515	.539	.530	.498	.510	.514
	1856	.551	.564	.607	.604	.596	.613	.589
	1857	.626	.621	.651	.647	.683	.690	.653
	1858	.507	.529	.583	.581	.518	.530	.542
	1859	.530	.546	.559	.548	.554	.569	.551
	Means.	2.527	2.541	2.573	2.567	2.556	2.569	2.556
Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
FEBRUARY.	1854	2.546	2.544	2.601	2.608	2.595	2.611	2.584
	1855	.498	.514	.558	.556	.537	.557	.537
	1856	.362	.370	.423	.435	.424	.436	.409
	1857	.594	.581	.556	.543	.619	.641	.589
	1858	.564	.555	.569	.564	.606	.622	.580
	1859	.509	.502	.512	.499	.522	.547	.515
	Means.	2.512	2.511	2.536	2.534	2.551	2.569	2.536
Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
MARCH.	1854	2.324	2.325	2.379	2.372	2.408	2.407	2.369
	1855	.343	.332	.379	.385	.424	.424	.381
	1856	.433	.438	.469	.470	.471	.480	.460
	1857	.438	.441	.493	.495	.482	.483	.472
	1858	.489	.478	.499	.493	.514	.531	.501
	1859	.227	.228	.243	.241	.259	.271	.245
	Means.	2.376	2.374	2.410	2.409	2.426	2.433	2.405

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XXXVI.—(Continued)

MONTHLY MEANS OF THE PRESSURE OF DRY AIR AT EACH OF THE SIX OBSERVATION HOURS, FOR THE YEARS 1851 TO 1859 INCLUSIVE.

Pressure of Dry Air at  $32^{\circ} = 27$  inches + the numbers in the table.

	Toronto Astronomical time	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
APRIL	1854	2.102	2.082	2.439	2.151	2.160	2.149	2.430
	1855	.422	.424	.453	.446	.452	.459	.446
	1856	.336	.337	.392	.396	.402	.396	.376
	1857	.348	.344	.413	.407	.364	.370	.374
	1858	.317	.307	.312	.311	.347	.345	.323
	1859	.555	.362	.398	.400	.384	.391	.381
	Means.	2.363	2.359	2.401	2.402	2.404	2.402	2.358
MAY	Toronto Astronomical time	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
	1854	2.236	2.216	2.309	2.316	2.308	2.285	2.273
	1855	.369	.357	.386	.383	.428	.437	.393
	1856	.313	.293	.313	.307	.354	.356	.324
	1857	.259	.253	.273	.271	.322	.311	.282
	1858	.328	.329	.348	.348	.353	.364	.345
	1859	.342	.329	.349	.354	.396	.399	.361
	Means.	2.308	2.297	2.330	2.330	2.360	2.359	2.331
JUNE	Toronto Astronomical time	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
	1854	2.067	2.069	2.149	2.149	2.148	2.121	2.217
	1855	.050	.049	.128	.134	.151	.135	.108
	1856	.071	.062	.125	.142	.156	.145	.117
	1857	.042	.028	.095	.098	.095	.084	.074
	1858	.079	.068	.158	.161	.192	.186	.141
	1859	.230	.231	.295	.300	.273	.262	.265
	Means.	2.090	2.084	2.158	2.164	2.169	2.156	2.137

TABLE XXXVI.—(Continued)

MONTHLY MEANS OF THE PRESSURE OF DRY AIR, AT EACH OF THE SIX OBSERVATION PLACES, FOR THE YEARS 1854 TO 1859 INCLUSIVE.

Pressure of Dry Air at  $32^{\circ} = 27$  inches + the numbers in the table.

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
430	1854	2,024	2,025	2,115	2,140	2,152	2,085	2,090
446	1855	.032	.033	.107	.132	.094	.088	.081
376	1856	.075	.059	.091	.101	.147	.134	.102
374	1857	.029	.021	.081	.091	.099	.081	.068
323	1858	.083	.074	.123	.138	.169	.154	.125
381	1859	.140	.143	.188	.190	.205	.197	.177
338	Means.	2,061	2,060	2,119	2,133	2,114	2,123	2,107
101								
	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
278	1854	2,123	2,109	2,173	2,185	2,238	2,189	2,170
363	1855	.156	.157	.215	.237	.268	.222	.209
324	1856	.057	.059	.122	.131	.130	.113	.102
282	1857	.077	.086	.130	.152	.174	.135	.127
345	1858	.103	.113	.142	.156	.187	.150	.142
361	1859	.108	.122	.130	.153	.163	.132	.136
2331	Means.	2,104	2,108	2,155	2,169	2,193	2,157	2,148
101								
	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
2,217	1854	2,213	2,198	2,270	2,295	2,319	2,298	2,271
108	1855	.290	.275	.290	.311	.369	.355	.315
117	1856	.214	.221	.255	.256	.294	.256	.249
174	1857	.261	.255	.336	.337	.380	.318	.319
141	1858	.235	.220	.258	.261	.326	.292	.266
265	1859	.305	.300	.324	.330	.368	.361	.331
2,157	Means.	2,253	2,245	2,289	2,298	2,348	2,318	2,292

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XXXVI.—(Continued.)

MONTHLY MEANS OF THE PRESSURE OF DRY AIR AT EACH OF THE SIX OBSERVATION HOURS, FOR THE YEARS 1854 TO 1859 INCLUSIVE.

Pressure of Dry Air at  $32^{\circ} = 27$  inches + the numbers in the table.

Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
OCTOBER	1854	.2355	.2361	.2426	.2432	.2442	.2433	.2408
	1855	.273	.281	.303	.296	.338	.334	.304
	1856	.447	.441	.488	.491	.492	.494	.476
	1857	.381	.388	.431	.437	.452	.450	.424
	1858	.406	.409	.436	.431	.433	.430	.426
	1859	.363	.392	.418	.420	.400	.409	.400
	Means.	2.371	2.379	2.417	2.418	2.426	2.426	2.406
Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
NOVEMBER	1854	.2240	.2251	.2268	.2268	.2249	.2277	.2259
	1855	.441	.440	.481	.493	.489	.504	.475
	1856	.447	.461	.481	.479	.455	.456	.463
	1857	.326	.332	.386	.390	.375	.392	.367
	1858	.453	.463	.470	.466	.457	.477	.464
	1859	.454	.470	.472	.464	.517	.531	.484
	Means.	2.394	2.403	2.426	2.427	2.424	2.439	2.419
Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
DECEMBER	1854	.2457	.2470	.2490	.2487	.2478	.2490	.2479
	1855	.570	.578	.577	.572	.579	.600	.579
	1856	.577	.596	.611	.614	.696	.612	.601
	1857	.439	.455	.506	.505	.450	.463	.470
	1858	.539	.557	.594	.591	.553	.567	.567
	1859	.576	.585	.625	.629	.614	.632	.610
	Means.	2.526	2.540	2.567	2.566	2.555	2.561	2.551

TABLE XXXVII.

MONTHLY AND ANNUAL MEANS OF THE PRESSURE OF DRY AIR FURNISHED BY SIX DAILY OBSERVATIONS  
FOR 1854 TO 1859 INCLUSIVE.

Pressure of Dry Air at  $32^{\circ} = 27$  inches + the numbers in the table.

	January	February	March	April	May	June	July	August	September	October	November	December	Year.
1854	2.485	2.584	2.369	2.430	2.278	2.117	2.090	2.170	2.271	2.408	2.259	2.479	2.328
1855	.514	.537	.381	.416	.393	.108	.081	.209	.315	.304	.475	.579	.362
1856	.589	.409	.460	.376	.324	.117	.102	.102	.249	.475	.463	.601	.356
1857	.653	.589	.472	.374	.282	.074	.068	.127	.319	.424	.367	.470	.352
1858	.541	.580	.501	.323	.345	.141	.125	.142	.266	.426	.464	.567	.368
1859	.551	.515	.245	.381	.361	.265	.177	.136	.331	.400	.484	.610	.371
Means	2.556	2.536	2.405	2.388	2.331	2.137	2.107	2.148	2.292	2.406	2.419	2.551	2.356

TABLE XXXVIII.

MONTHLY MEANS OF THE PRESSURE OF DRY AIR AT EACH OF THE SIX OBSERVATION HOURS, FOR THE PERIOD 1854 TO 1859 INCLUSIVE.

Pressure of Dry Air at  $32^{\circ} = 27$  inches + the numbers in the table.

Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
January.....	2.527	2.541	2.573	2.567	2.556	2.569	2.556
February.....	.512	.511	.536	.534	.551	.569	.536
March.....	.376	.374	.410	.409	.426	.433	.405
April.....	.363	.359	.401	.402	.404	.402	.388
May.....	.308	.297	.330	.330	.360	.359	.331
June.....	.090	.084	.158	.164	.169	.156	.137
July.....	.061	.060	.119	.133	.144	.123	.107
August.....	.104	.108	.155	.160	.193	.157	.148
September.....	.253	.245	.289	.298	.348	.318	.292
October.....	.371	.379	.417	.418	.426	.426	.406
November.....	.394	.403	.426	.427	.424	.439	.419
December.....	.526	.540	.567	.566	.545	.561	.551
Means.....	2.324	2.325	2.365	2.368	2.379	2.376	2.356

TABLE XXXIX.

MONTHLY MEANS OF THE PRESSURE OF VAPOUR AT EACH OF THE SIX OBSERVATION HOURS, FOR THE YEARS 1854 TO 1859 INCLUSIVE.

Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
JANUARY.	1854	.129	.128	.122	.121	.116	.116	.122
	1855	.136	.129	.126	.125	.119	.117	.125
	1856	.093	.089	.078	.075	.073	.074	.080
	1857	.088	.088	.083	.082	.079	.075	.083
	1858	.141	.133	.129	.132	.138	.130	.134
	1859	.123	.119	.124	.127	.135	.128	.126
Means.		0.118	0.114	0.110	0.110	0.110	0.107	0.112
Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
FEBRUARY.	1854	.118	.124	.108	.106	.102	.104	.110
	1855	.104	.099	.086	.081	.080	.079	.088
	1856	.094	.092	.079	.072	.070	.070	.080
	1857	.149	.147	.151	.154	.142	.139	.147
	1858	.086	.086	.081	.082	.074	.073	.080
	1859	.115	.119	.121	.123	.115	.109	.117
Means.		0.111	0.111	0.101	0.103	0.097	0.096	0.104
Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
MARCH.	1854	.170	.168	.151	.149	.141	.151	.156
	1855	.143	.145	.134	.131	.116	.123	.132
	1856	.105	.105	.102	.100	.092	.092	.099
	1857	.128	.127	.125	.123	.117	.123	.124
	1858	.117	.123	.123	.119	.117	.114	.119
	1859	.171	.165	.173	.170	.167	.162	.168
Means.		0.139	0.139	0.135	0.132	0.126	0.127	0.133

TABLE XXXIX.—(Continued.)

MONTHLY MEANS OF THE PRESSURE OF VAPOUR AT EACH OF THE SIX OBSERVATION HOURS, FOR THE YEARS 1854 TO 1859 INCLUSIVE.

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
APRIL	1854	.219	.222	.209	.203	.187	.206	.207
	1855	.220	.212	.206	.207	.192	.211	.208
	1856	.223	.216	.195	.190	.191	.201	.203
	1857	.164	.164	.152	.153	.147	.154	.156
	1858	.175	.170	.181	.182	.166	.176	.176
	1859	.159	.151	.156	.152	.157	.149	.154
	Means.	0.193	0.189	0.181	0.181	0.173	0.183	0.184
	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
MAY	1854	.312	.320	.269	.260	.266	.299	.288
	1855	.277	.275	.249	.252	.247	.248	.258
	1856	.264	.265	.263	.261	.242	.256	.259
	1857	.270	.263	.259	.252	.230	.249	.254
	1858	.243	.239	.212	.211	.234	.236	.239
	1859	.315	.309	.298	.289	.284	.296	.298
	Means.	0.280	0.278	0.263	0.259	0.251	0.264	0.266
	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
JUNI	1854	.476	.465	.401	.397	.414	.451	.434
	1855	.452	.440	.396	.375	.381	.401	.406
	1856	.471	.461	.418	.402	.409	.428	.432
	1857	.374	.378	.335	.332	.341	.358	.353
	1858	.507	.504	.444	.442	.437	.456	.465
	1859	.379	.369	.336	.327	.347	.370	.355
	Means.	0.443	0.436	0.387	0.379	0.388	0.411	0.407

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XXXIX.—(Continued.)

MONTHLY MEANS OF THE PRESSURE OF VAPOUR AT EACH OF THE SIX OBSERVATION HOURS, FOR THE YEARS 1854 TO 1859 INCLUSIVE.

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
JULY.	1854	.603	.582	.515	.497	.518	.587	.550
	1855	.571	.557	.504	.483	.525	.540	.530
	1856	.510	.503	.485	.473	.472	.495	.489
	1857	.552	.544	.505	.497	.495	.527	.520
	1858	.514	.509	.470	.459	.456	.476	.481
	1859	.498	.485	.456	.450	.461	.476	.471
	Means.	0.511	0.530	0.489	0.476	0.488	0.517	0.507
AUGUST.	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
	1854	0.516	0.514	0.469	0.456	0.431	0.481	0.478
	1855	.486	.471	.436	.414	.403	.453	.444
	1856	.450	.442	.402	.395	.401	.424	.419
	1857	.506	.488	.455	.447	.431	.476	.467
	1858	.505	.484	.478	.461	.446	.493	.478
	1859	.483	.456	.461	.447	.446	.484	.469
	Means.	0.491	0.476	0.450	0.437	0.426	0.469	0.458
SEPTEMBER.	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
	1854	0.475	0.476	0.426	0.399	0.373	0.431	0.430
	1855	.423	.421	.417	.394	.382	.400	.406
	1856	.366	.359	.351	.345	.322	.361	.354
	1857	.435	.431	.375	.370	.353	.393	.393
	1858	.401	.399	.384	.378	.350	.394	.384
	1859	.350	.349	.348	.338	.308	.330	.337
	Means.	0.408	0.406	0.383	0.371	0.348	0.385	0.384

TABLE XXXIX.—(Continued.)

MONTHLY MEANS OF THE PRESSURE OF VAPOUR AT EACH OF THE SIX OBSERVATION HOURS, FOR THE YEARS 1854 TO 1859 INCLUSIVE.

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
OCTOBER	1854	.323	.315	.277	.268	.256	.286	.288
	1855	.262	.257	.251	.244	.228	.241	.247
	1856	.242	.243	.225	.222	.222	.231	.231
	1857	.267	.261	.236	.235	.225	.236	.243
	1858	.262	.260	.252	.250	.252	.258	.256
	1859	.226	.204	.216	.214	.209	.216	.214
	Means.	.264	.257	.243	.239	.232	.245	.247
NOVEMBER	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
	1854	.186	.185	.180	.175	.175	.178	.180
	1855	.196	.199	.186	.180	.188	.190	.190
	1856	.174	.174	.178	.179	.186	.183	.179
	1857	.161	.166	.154	.154	.155	.153	.157
	1858	.163	.159	.161	.162	.165	.163	.162
	1859	.199	.189	.191	.193	.183	.182	.190
	Means.	.180	.179	.175	.174	.175	.175	.176
DECEMBER	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
	1854	.115	.113	.110	.110	.101	.101	.109
	1855	.127	.123	.124	.123	.121	.118	.123
	1856	.117	.110	.107	.106	.112	.110	.110
	1857	.160	.157	.143	.142	.147	.145	.149
	1858	.129	.131	.124	.123	.130	.128	.128
	1859	.110	.108	.094	.088	.097	.097	.099
	Means.	.126	.124	.117	.115	.118	.117	.120

TABLE XL.

MONTHLY MEANS OF THE RELATIVE HUMIDITY AT EACH OF THE SIX OBSERVATION HOURS, FOR THE YEARS 1854 TO 1859 INCLUSIVE.

Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means
JANUARY.	1854	82	84	86	86	85	83	84
	1855	76	78	85	86	86	83	82
	1856	76	73	79	79	81	80	78
	1857	84	86	90	91	91	89	89
	1858	71	70	79	82	83	80	78
	1859	73	72	81	84	90	85	81
Means.		77	77	83	85	86	83	82
Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
FEBRUARY.	1854	83	82	86	87	89	86	86
	1855	76	76	82	83	83	80	80
	1856	69	70	80	79	81	78	76
	1857	77	78	85	85	91	87	84
	1858	71	71	81	82	80	78	77
	1859	69	70	81	85	86	82	79
Means.		74	74	83	84	85	82	80
Toronto Astronomical time.		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
MARCH.	1854	79	78	88	89	89	86	85
	1855	72	76	85	86	86	83	81
	1856	64	65	78	79	82	76	74
	1857	67	65	78	80	86	85	77
	1858	65	58	75	74	79	71	69
	1859	68	65	77	78	85	79	75
Means.		68	68	80	81	84	80	77

TABLE XL.—(Continued.)

MONTHLY MEANS OF THE RELATIVE HUMIDITY AT EACH OF THE SIX OBSERVATION HOURS, FOR THE YEARS 1854 TO 1859 INCLUSIVE.

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
APRIL	1854	69	68	86	87	86	83	80
	1855	56	59	83	84	85	80	75
	1856	68	68	77	78	83	77	75
	1857	63	63	79	82	82	77	74
	1858	54	54	73	74	73	67	66
	1859	53	52	66	69	75	62	63
	Means.	61	61	77	79	81	74	72
MAY	1854	64	66	79	81	79	74	74
	1855	51	53	74	79	72	62	65
	1856	64	63	75	78	75	70	71
	1857	66	66	78	82	78	71	74
	1858	59	59	74	76	74	70	69
	1859	58	57	72	74	75	66	67
	Means.	60	61	75	78	76	69	70
JUNE	1854	64	64	80	82	81	75	74
	1855	69	70	83	84	84	77	78
	1856	71	69	84	85	86	79	79
	1857	69	71	79	82	83	79	77
	1858	60	62	73	77	75	68	69
	1859	60	59	72	77	77	71	69
	Means.	66	66	78	81	81	75	74

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XL.—(*Continued*)

MONTHLY MEANS OF THE RELATIVE HUMIDITY, AT EACH OF THE SIX OBSERVATION HOURS, FOR THE YEARS 1854 TO 1859 INCLUSIVE.

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
JULY.	1854	56	57	78	80	79	74	71
	1855	70	67	82	84	87	81	79
	1856	56	56	76	78	79	69	69
	1857	67	70	83	86	85	77	78
	1858	62	61	74	76	77	70	70
	1859	61	60	75	76	78	69	70
	Means.	62	62	78	80	81	73	73
	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
AUGUST.	1854	55	58	80	82	80	74	72
	1855	64	63	81	82	82	75	74
	1856	62	61	77	80	85	74	73
	1857	66	65	81	83	86	78	77
	1858	59	57	75	77	79	72	70
	1859	59	55	76	78	82	72	70
	Means.	61	60	78	80	82	74	73
	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
SEPTEMBER.	1854	63	69	87	87	87	81	79
	1855	67	67	86	86	86	79	79
	1856	61	62	81	82	85	79	75
	1857	67	68	83	85	86	80	78
	1858	60	62	79	83	84	77	74
	1859	65	66	81	82	82	76	75
	Means.	64	66	83	84	85	79	77

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE XL.—(Continued.)

MONTHLY MEANS OF THE RELATIVE HUMIDITY AT EACH OF THE SIX OBSERVATION HOURS, FOR THE YEARS 1854 TO 1859 INCLUSIVE.

	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
OCTOBER.	1854	68	73	85	85	87	84	80
	1855	69	69	83	85	85	81	78
	1856	63	65	77	80	85	79	75
	1857	70	71	80	81	84	80	78
	1858	62	63	75	77	80	75	72
	1859	59	57	78	81	82	77	72
	Means.	65	66	80	81	84	79	76
NOVEMBER.	1854	71	74	83	85	83	83	80
	1855	69	73	78	80	82	82	77
	1856	68	71	80	82	85	82	78
	1857	71	73	77	80	80	78	77
	1858	72	72	79	81	86	83	79
	1859	72	72	80	81	83	81	78
	Means.	71	73	79	81	83	82	78
DECEMBER.	1854	74	77	83	84	83	80	80
	1855	70	71	80	82	81	80	77
	1856	79	78	83	82	86	85	82
	1857	76	77	82	82	83	82	80
	1858	75	78	82	82	83	84	81
	1859	83	81	87	88	89	90	87
	Means.	76	78	83	83	84	83	81

## TABLES XLI. AND XLII.

MONTHLY AND ANNUAL MEANS OF THE PRESSURE OF VAPOUR AND RELATIVE HUMIDITY FURNISHED BY SIX DAILY OBSERVATIONS, FOR 1854 TO 1859 INCLUSIVE

## PRESSURE OF VAPOUR

	January	February	March	April	May	June	July	August	September	October	November	December	Year
1854	.122	.110	.156	.207	.288	.434	.550	.478	.430	.288	.180	.109	.279
1855	.125	.088	.132	.208	.258	.406	.530	.444	.406	.247	.190	.123	.263
1856	.080	.080	.099	.203	.259	.432	.489	.419	.351	.231	.179	.110	.244
1857	.083	.147	.121	.156	.254	.353	.520	.467	.393	.243	.157	.149	.254
1858	.134	.080	.119	.176	.239	.465	.481	.478	.384	.256	.162	.128	.259
1859	.126	.117	.168	.154	.298	.355	.471	.463	.337	.214	.190	.099	.249
Means.	0.112	0.101	0.133	0.184	0.266	0.407	0.507	0.458	0.381	0.247	0.176	0.120	0.258

## RELATIVE HUMIDITY.

	January	February	March	April	May	June	July	August	September	October	November	December	Year
1854	84	86	85	80	74	74	71	72	79	80	80	80	79
1855	82	80	81	75	65	78	79	74	79	78	77	77	77
1856	78	76	74	75	71	79	69	73	75	75	78	82	75
1857	89	84	77	74	74	77	78	77	78	78	77	80	79
1858	78	77	69	66	69	69	70	70	74	72	79	81	73
1859	81	79	75	63	67	69	70	70	75	72	78	87	74
Means.	82	80	77	72	70	74	73	73	77	76	78	81	76

## TORONTO METEOROLOGICAL OBSERVATIONS.

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## TABLES XLIII. AND XLIV.

MONTHLY MEANS OF THE PRESSURE OF VAPOUR, AND RELATIVE HUMIDITY AT EACH OF THE SIX  
OBSERVATION HOURS, FOR THE PERIOD 1854 TO 1859 INCLUSIVE.

Year.	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
	January.....	0.118	0.114	0.110	0.110	0.110	0.107	0.112
	February.....	.111	.111	.104	.103	.097	.096	.104
	March.....	.139	.139	.135	.134	.126	.127	.133
	April.....	.193	.189	.184	.181	.173	.183	.184
	May.....	.280	.278	.263	.259	.251	.264	.266
	June.....	.443	.436	.387	.379	.388	.411	.407
	July.....	.541	.530	.489	.476	.488	.517	.507
	August.....	.491	.476	.450	.437	.426	.469	.458
	September.....	.408	.406	.383	.371	.348	.385	.384
	October.....	.264	.257	.243	.239	.232	.245	.247
	November.....	.180	.179	.175	.174	.175	.175	.176
	December.....	.126	.124	.117	.115	.118	.117	.120
	Means.....	0.275	0.270	0.253	0.248	0.244	0.258	0.258

Year.	Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
	January.....	77	77	83	85	86	83	82
	February.....	74	74	83	84	85	82	80
	March.....	68	68	80	81	84	80	77
	April.....	61	61	77	79	81	74	72
	May.....	60	61	75	78	76	69	70
	June.....	66	66	78	81	81	75	74
	July.....	62	62	78	80	81	73	73
	August.....	61	60	78	80	82	74	73
	September.....	64	66	83	84	85	79	77
	October.....	65	66	80	81	84	79	76
	November.....	71	73	79	81	83	82	78
	December.....	76	78	83	83	84	83	81
	Means.....	67	68	80	81	83	78	76

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XLV.

MONTHLY MEANS OF THE EXTENT OF SKY CLOUDED, AT EACH OF THE SIX OBSERVATION HOURS, (THE HEMISPHERE BEING UNITY), FOR THE YEARS 1854 TO 1859 INCLUSIVE.

Toronto time,	JANUARY.						FEBRUARY.						Monthly Means.	
	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.		
1854	0.80	0.85	0.72	0.69	0.80	0.85	0.78	0.78	0.73	0.65	0.70	0.65	0.72	0.71
1855	.83	.81	.83	.76	.81	.73	.79	.77	.68	.63	.71	.76	.73	.71
1856	.69	.68	.62	.59	.66	.73	.66	.60	.61	.59	.61	.60	.63	.55
1857	.63	.73	.64	.65	.71	.71	.68	.75	.72	.61	.68	.77	.79	.72
1858	.57	.53	.48	.47	.82	.78	.61	.75	.69	.69	.62	.70	.68	.69
1859	.79	.86	.60	.59	.69	.77	.72	.76	.83	.66	.61	.75	.81	.74
Means.	.72	.74	.67	.62	.75	.77	.71	.73	.72	.60	.62	.71	.73	.69
MARCH.							APRIL.							
1854	0.61	0.65	0.61	0.50	0.67	0.66	0.62	0.64	0.67	0.57	0.61	0.61	0.69	0.63
1855	.78	.74	.63	.59	.68	.61	.67	.49	.51	.52	.52	.53	.48	.51
1856	.56	.56	.47	.50	.51	.50	.52	.65	.60	.50	.47	.68	.71	.60
1857	.63	.60	.52	.60	.66	.61	.61	.67	.62	.42	.44	.50	.57	.54
1858	.59	.54	.46	.46	.47	.48	.50	.72	.70	.59	.63	.60	.67	.65
1859	.66	.66	.53	.54	.77	.76	.65	.65	.61	.52	.52	.60	.66	.59
Means.	.64	.63	.54	.53	.63	.61	.60	.64	.62	.52	.53	.59	.63	.59
MAY.							JUNE.							
1854	0.50	0.57	0.26	0.22	0.39	0.36	0.38	0.57	0.67	0.40	0.35	0.47	0.48	0.49
1855	.49	.52	.37	.33	.53	.55	.46	.70	.71	.50	.59	.68	.69	.64
1856	.60	.61	.60	.57	.58	.55	.59	.58	.43	.35	.46	.46	.51	.47
1857	.75	.80	.50	.51	.55	.58	.61	.75	.72	.55	.57	.70	.83	.69
1858	.77	.83	.52	.51	.75	.75	.69	.57	.55	.46	.45	.40	.42	.48
1859	.44	.38	.27	.44	.49	.45	.41	.55	.46	.42	.42	.57	.55	.50
Means.	.59	.62	.42	.43	.55	.54	.52	.62	.59	.45	.47	.55	.58	.55

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE XLV.—(Continued.)

MONTHLY MEANS OF THE EXTENT OF SKY CLODED, AT EACH OF THE SIX OBSERVATIONS, FOR THE YEARS 1854 TO 1859 INCLUSIVE.

Monthly Means.	Toronto time.	JULY						AUGUST						Monthly Means.	
		2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.		
.71	1854	.38	.46	.29	.31	.35	.33	.35	.47	.47	.43	.31	.46	.51	.44
.71	1855	.63	.57	.47	.51	.63	.72	.59	.58	.59	.35	.34	.34	.46	.44
.55	1856	.47	.49	.24	.36	.45	.31	.39	.63	.55	.25	.35	.59	.53	.48
.72	1857	.51	.55	.30	.33	.55	.51	.46	.53	.49	.35	.48	.55	.42	.47
.69	1858	.57	.52	.42	.43	.53	.54	.50	.49	.43	.35	.29	.45	.49	.42
.74	1859	.48	.48	.47	.41	.51	.36	.46	.44	.39	.32	.35	.45	.48	.40
.69	Means.	.51	.51	.37	.40	.50	.47	.46	.52	.49	.34	.35	.47	.48	.44
SEPTEMBER.														OCTOBER.	
.63	1854	.44	.45	.45	.34	.56	.58	.47	.59	.59	.48	.56	.73	.71	.61
.51	1855	.49	.47	.39	.40	.47	.46	.45	.69	.65	.61	.60	.72	.79	.68
.60	1856	.55	.55	.50	.48	.47	.41	.49	.52	.53	.42	.40	.48	.47	.47
.54	1857	.49	.49	.30	.37	.45	.45	.43	.61	.61	.61	.54	.66	.61	.62
.65	1858	.50	.49	.30	.31	.41	.47	.41	.65	.59	.56	.57	.61	.63	.60
.59	1859	.70	.72	.61	.63	.61	.65	.65	.68	.65	.55	.48	.73	.77	.64
.59	Means.	.53	.53	.42	.42	.50	.50	.48	.63	.61	.54	.53	.65	.66	.60
NOVEMBER.														DECEMBER.	
.49	1854	.81	.78	.72	.62	.79	.77	.75	.84	.70	.77	.82	.81	.82	.79
.64	1855	.72	.65	.50	.49	.60	.62	.60	.72	.74	.59	.62	.64	.70	.67
.47	1856	.85	.83	.74	.76	.78	.91	.81	.77	.77	.67	.74	.82	.80	.76
.69	1857	.83	.78	.61	.52	.63	.66	.67	.71	.75	.67	.69	.77	.78	.73
.48	1858	.91	.84	.80	.83	.71	.77	.81	.87	.87	.79	.83	.79	.82	.83
.50	1859	.86	.81	.79	.79	.83	.78	.81	.75	.80	.61	.66	.75	.76	.73
.55	Means.	.83	.78	.69	.67	.72	.75	.74	.78	.77	.69	.73	.76	.78	.75

TABLE XLVI.

MONTHLY AND ANNUAL MEANS OF THE EXTENT OF THE SKY CLOUDED FROM SIX DAILY OBSERVATIONS,  
FOR 1854 TO 1859 INCLUSIVE.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year
1854	.78	.71	.62	.63	.38	.49	.35	.44	.47	.61	.75	.79	.59
1855	.79	.71	.67	.51	.46	.64	.59	.44	.45	.68	.60	.67	.60
1856	.66	.55	.52	.60	.59	.47	.39	.48	.49	.47	.81	.76	.57
1857	.68	.72	.61	.54	.61	.69	.40	.47	.43	.62	.67	.73	.60
1858	.61	.69	.50	.65	.69	.48	.50	.42	.41	.60	.81	.83	.60
1859	.72	.74	.65	.59	.41	.50	.40	.40	.65	.64	.81	.73	.61
Means...	0.71	0.69	0.60	0.59	0.52	0.55	0.46	0.44	0.48	0.60	0.71	0.75	0.59

TABLE XLVII.

MONTHLY MEANS OF THE EXTENT OF SKY CLOUDED AT EACH OBSERVATION HOUR, FOR THE PERIOD  
1854 TO 1859 INCLUSIVE.

Toronto Astronomical time.	2 h.	4 h.	10 h.	12 h.	18 h.	20 h.	Monthly Means.
January.....	.72	.74	.67	.62	.75	.77	.71
February.....	.73	.72	.60	.62	.71	.73	.69
March.....	.64	.63	.54	.53	.63	.61	.60
April.....	.64	.62	.52	.53	.59	.63	.59
May.....	.59	.62	.42	.43	.55	.54	.52
June.....	.62	.59	.45	.47	.55	.58	.55
July.....	.51	.51	.37	.40	.50	.47	.46
August.....	.52	.49	.34	.35	.47	.48	.44
September.....	.53	.53	.42	.42	.50	.50	.48
October.....	.63	.61	.54	.53	.65	.66	.60
November.....	.83	.78	.69	.67	.72	.75	.76
December.....	.78	.77	.69	.73	.76	.78	.75
Means.....	0.65	0.63	0.52	0.52	0.62	0.62	0.59

	IONS,
0.59	Year
.60	
.57	
.60	
.60	
.61	
0.59	
	RIOD
	Monthly Means.
0.71	
.69	
.60	
.59	
.52	
.55	
.46	
.44	
.48	
.60	
.75	
0.59	

TABLE XLVIII.  
MEAN CLOUDED SKY FOR EACH OF THE SIXTEEN POINTS OF THE WIND'S DIRECTION, WITH THE NUMBER OF OBSERVATIONS FROM WHICH THE MEANS ARE DERIVED, FOR THE YEARS 1853-59 INCLUSIVE.

Year.	No.	N.		N N E.		E N E.		E.		E S E.		S S E.		
		Clouded Sky.	No.											
1853	112	0.53	148	0.63	108	0.83	93	0.77	90	0.63	46	0.55	64	0.49
1854	113	0.43	77	0.62	87	0.71	87	0.83	145	0.69	103	0.63	48	0.59
1855	168	0.18	79	0.59	69	0.65	71	0.80	136	0.74	95	0.74	42	0.68
1856	127	0.41	61	0.68	65	0.70	68	0.72	123	0.84	69	0.57	42	0.58
1857	102	0.51	39	0.67	63	0.80	136	0.91	108	0.70	57	0.70	46	0.65
1858	120	0.45	57	0.70	76	0.70	175	0.84	156	0.72	49	0.68	45	0.46
1859	104	0.50	68	0.62	75	0.77	160	0.73	179	0.62	65	0.55	35	0.49
1853-59	876	0.50	529	0.65	510	0.74	783	0.80	367	0.70	484	0.64	322	0.57

TORONTO METEOROLOGICAL OBSERVATIONS.

Year.	No.	N.		S S W.		S W.		W S W.		W.		W N W.		N W.		
		Clouded Sky.	No.													
1853	123	0.49	129	0.56	68	0.54	96	0.70	102	0.54	76	0.49	115	0.53	156	0.46
1854	79	0.39	112	0.59	111	0.70	109	0.68	103	0.63	125	0.50	112	0.53	123	0.52
1855	74	0.57	118	0.56	121	0.68	137	0.59	168	0.50	122	0.60	134	0.61	146	0.54
1856	69	0.46	122	0.59	131	0.67	191	0.64	174	0.51	170	0.50	121	0.47	144	0.46
1857	71	0.55	139	0.55	151	0.68	160	0.61	136	0.52	120	0.45	149	0.48	163	0.44
1858	83	0.46	95	0.56	64	0.61	111	0.65	132	0.51	44	0.55	147	0.56	154	0.52
1859	75	0.45	114	0.65	101	0.74	123	0.66	156	0.60	137	0.58	130	0.52	145	0.56
1853-59	574	0.48	857	0.58	756	0.67	926	0.61	971	0.57	913	0.53	908	0.53	1070	0.48

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE XLIX.

COMPARATIVE VIEW OF THE ANNUAL VARIATIONS OF CERTAIN METEOROLOGICAL ELEMENTS DERIVED FROM THE SERIES 1842-48, AND FROM THE SERIES 1854-59.

Months.	Temperature.		Barometer.		Pressure of Dry Air.		Pressure of Vapour.		Relative Humidity.	
	1842	1854	1842	1854	1842	1854	1842	1854	1842	1854
	1848	1859	1848	1859	1848	1859	1848	1859	1848	1859
January	-19.00	-21.44	-003	+053	+.139	+.200	-.142	-.146	+ 5	+ 6
February	-21.05	-23.09	-007	+025	+149	+.180	-.156	-.154	- 2	+ 4
March	-14.51	-14.58	+001	-.076	+131	+.049	-.130	-.125	- 3	+ 1
April	- 1.68	- 3.47	+036	-.042	+.093	+.032	-.057	-.074	- 6	- 4
May	+ 8.59	+ 7.52	-.056	-.018	-.089	-.025	+ 033	+ 008	- 5	- 6
June	+16.37	+17.35	-041	-.070	-.182	-.219	+138	+149	- 2	- 2
July	+21.67	+24.88	-032	-.000	-.235	-.249	+204	+249	- 4	- 3
August	+21.42	+22.08	+017	-.008	-.213	-.208	+230	+200	+ 1	- 3
September	+13.27	+14.65	+026	+061	-.092	-.061	+118	+126	+ 2	+ 1
October	- 0.42	+ 2.42	+042	+039	+064	+050	-.022	-.011	+ 4	0
November	- 8.08	- 7.26	+005	-.019	+083	+063	-.078	-.082	+ 6	+ 2
December	-16.89	-19.03	+022	+056	+155	+195	-.133	-.138	+ 3	+ 5

TABLE L.

COMPARATIVE VIEW OF THE ANNUAL MEANS OF THE DIURNAL VARIATIONS AT THE SIX OBSERVATION HOURS FOR THE SAME TWO SERIES.

Hours.	Temperature.		Barometer.		Pressure of Dry Air.		Pressure of Vapour.		Relative Humidity.	
	1842	1854	1842	1854	1842	1854	1842	1854	1842	1854
	1848	1859	1848	1859	1848	1859	1848	1859	1848	1859
2	- 5.90	- 5.25	-.013	-.015	-.040	-.032	+.028	+.017	- 9	- 9
4	+ 5.56	+ 4.65	-.018	-.019	-.041	-.031	+.024	+.012	- 9	- 8
10	- 2.30	- 1.85	-.001	-.005	-.011	-.009	-.012	-.005	+ 3	+ 4
12	- 3.42	- 3.99	-.005	-.002	+.012	+.012	-.017	-.010	+ 5	+ 5
18	- 4.56	- 3.95	+.010	-.009	+.032	+.023	-.022	-.014	+ 7	+ 7
20	- 1.21	- 1.22	+.025	+.020	+.025	+.020	.000	.000	+ 2	+ 2

TABLES LI.

**RESULTANT DIRECTION, RESULTANT VELOCITY, AND MEAN VELOCITY OF THE WIND FOR EACH MONTH.**

## **RESULTANT DIRECTION.**

## RESULTANT VELOCITY.

### MEAN VELOCITY

TABLE LI.

MONTHLY AND ANNUAL RESULTANT DIRECTIONS OF THE WIND AT EACH HOUR OF TORONTO ASTRONOMICAL TIME, FOR THE PERIOD 1854 TO 1855 INCLUSIVE.

Hour Commencing.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
0	N 84 W N 83 W N 83 W N 111 W N 107 E N 158 W N 180 W N 142 W N 146 W N 86 W N 91 W N 73 W N 103 W												
1	N 86 W N 82 W N 84 W N 110 W N 108 E N 164 W N 175 W N 139 W N 142 W N 87 W N 90 W N 79 W N 106 W												
2	N 87 W N 81 W N 83 W N 97 W N 80 E N 168 W N 175 W N 123 W N 135 W N 84 W N 90 W N 81 W N 101 W												
3	N 82 W N 79 W N 80 W N 75 W N 49 E N 154 W N 176 W N 105 W N 120 W N 77 W N 88 W N 82 W N 90 W												
4	N 79 W N 72 W N 76 W N 51 W N 19 E N 118 W N 153 W N 79 W N 92 W N 70 W N 83 W N 82 W N 77 W												
5	N 82 W N 70 W N 74 W N 45 W N N N 87 W N 94 W N 56 W N 78 W N 70 W N 84 W N 80 W N 70 W												
6	N 82 W N 64 W N 72 W N 47 W N 3 W N 52 W N 55 W N 49 W N 61 W N 66 W N 83 W N 80 W N 64 W												
7	N 76 W N 62 W N 66 W N 34 W N 1 W N 39 W N 52 W N 41 W N 55 W N 60 W N 83 W N 84 W N 60 W												
8	N 79 W N 61 W N 68 W N 25 W N 6 E N 24 W N 36 W N 38 W N 44 W N 59 W N 78 W N 81 W N 56 W												
9	N 81 W N 56 W N 64 W N 20 W N N N 16 W N 32 W N 32 W N 35 W N 51 W N 77 W N 70 W N 51 W												
10	N 76 W N 58 W N 61 W N 13 W N 1 E N 16 W N 29 W N 30 W N 30 W N 52 W N 80 W N 70 W N 48 W												
11	N 73 W N 62 W N 58 W N 9 W N 3 E N 18 W N 28 W N 29 W N 21 W N 51 W N 79 W N 69 W N 46 W												
12	N 72 W N 58 W N 56 W N 2 W N 6 E N 18 W N 18 W N 24 W N 22 W N 44 W N 79 W N 66 W N 43 W												
13	N 71 W N 55 W N 54 W N 2 W N 6 E N 17 W N 14 W N 22 W N 20 W N 51 W N 81 W N 62 W N 40 W												
14	N 70 W N 56 W N 54 W N 3 W N 2 E N 16 W N 11 W N 26 W N 20 W N 52 W N 80 W N 67 W N 40 W												
15	N 74 W N 59 W N 53 W N 2 W N 10 E N 21 W N 9 W N 25 W N 17 W N 43 W N 79 W N 61 W N 39 W												
16	N 70 W N 61 W N 50 W N 2 W N 15 E N 18 W N 11 W N 20 W N 15 W N 43 W N 83 W N 63 W N 39 W												
17	N 73 W N 62 W N 53 W N 2 W N 15 E N 24 W N 15 W N 18 W N 14 W N 39 W N 81 W N 60 W N 38 W												
18	N 73 W N 64 W N 53 W N 1 W N 16 E N 29 W N 15 W N 30 W N 21 W N 39 W N 86 W N 62 W N 40 W												
19	N 71 W N 66 W N 52 W N 10 W N 27 E N 42 W N 14 W N 38 W N 36 W N 45 W N 82 W N 53 W N 42 W												
20	N 68 W N 65 W N 53 W N 9 W N 29 E N 67 W N 19 W N 55 W N 49 W N 50 W N 83 W N 59 W N 48 W												
21	N 69 W N 68 W N 62 W N 12 W N 36 E N 126 W N 140 W N 74 W N 78 W N 58 W N 87 W N 59 W N 63 W												
22	N 75 W N 72 W N 72 W N 40 W N 61 E N 145 W N 171 E N 112 W N 121 W N 66 W N 88 W N 62 W N 80 W												
23	N 82 W N 76 W N 78 W N 89 W N 84 E N 157 W N 173 E N 138 W N 145 W N 79 W N 92 W N 67 W N 96 W												

Probable mean direction of wind for each hour of the day.  
 24 hours.

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE LIII.

MONTHLY AND YEARLY RESULTANT VELOCITIES OF THE WIND FOR EACH HOUR OF TORONTO ASTRONOMICAL TIME, FOR THE PERIOD 1854 TO 1859 INCLUSIVE, THE VELOCITIES BEING IN MILES PER HOUR.

Hours.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Year.	0	4.71	4.34	5.97	1.17	1.49	2.35	2.97	2.67	2.35	3.54	4.40	4.39 2.61
41°3 W	1	4.69	4.17	6.14	1.50	1.17	2.45	2.90	2.92	2.10	3.29	4.75	4.46 2.71
51°6 W	2	4.45	3.94	6.26	1.68	0.98	2.34	2.73	2.73	2.05	3.34	4.15	4.24 2.70
51°1 W	3	3.92	3.98	6.26	1.92	1.03	1.70	1.97	2.29	1.75	3.21	4.07	3.94 2.56
50°0 W	4	3.48	3.76	6.27	1.99	1.37	1.42	1.16	1.93	1.70	3.39	3.77	3.80 2.60
57°7 W	5	3.02	2.94	5.99	2.45	1.89	0.96	0.75	2.50	1.43	2.85	3.10	3.75 2.48
57°0 W	6	3.10	3.13	5.48	2.68	2.29	0.86	0.69	2.50	1.38	2.47	2.83	3.82 2.44
56°4 W	7	3.05	3.29	5.10	2.47	2.27	1.14	0.69	2.21	1.47	2.47	2.59	3.92 2.38
55°9 W	8	3.02	3.28	4.93	2.84	2.04	1.19	0.80	2.30	1.58	2.45	2.53	4.00 2.35
55°6 W	9	2.55	3.13	5.15	3.38	1.95	1.50	1.05	2.37	1.60	2.34	2.41	3.98 2.38
55°1 W	10	2.73	2.92	4.60	3.17	2.02	1.66	1.46	2.24	1.92	2.15	2.53	3.88 2.36
54°8 W	11	2.88	2.80	4.39	2.79	2.28	1.58	1.64	2.03	1.82	2.00	2.38	3.80 2.28
54°6 W	12	2.77	2.92	4.24	3.01	2.21	1.68	1.81	2.08	1.69	1.92	2.61	3.53 2.25
54°3 W	13	2.73	3.42	4.29	3.07	2.39	1.73	2.05	2.25	1.80	2.04	2.52	2.94 2.32
53°3 W	14	2.92	3.35	3.95	3.01	2.69	1.53	2.05	2.15	1.96	2.23	2.64	2.76 2.33
53°4 W	15	2.81	3.23	3.92	2.84	2.43	1.40	2.01	2.31	1.90	2.21	2.75	2.67 2.25
53°9 W	16	2.71	3.34	3.97	2.95	2.24	1.16	1.93	2.12	1.73	2.06	2.62	2.55 2.15
53°30 W	17	2.74	3.23	3.75	3.10	2.47	1.31	1.79	2.10	1.61	2.16	2.43	2.44 2.11
53°38 W	18	2.74	3.73	3.80	3.25	3.52	1.34	1.74	2.26	1.58	2.10	2.66	2.41 2.23
53°40 W	19	3.02	3.57	4.21	3.09	3.54	0.97	1.54	2.09	1.72	2.43	2.58	2.27 2.22
53°42 W	20	3.30	3.53	4.50	2.63	3.39	0.84	0.69	2.25	1.43	3.09	2.75	2.85 2.22
53°48 W	21	3.77	4.00	5.09	1.92	2.56	1.12	0.57	1.95	1.24	3.14	3.52	3.11 2.24
53°63 W	22	3.50	3.98	5.38	1.17	1.82	1.62	1.82	1.77	1.41	3.18	4.17	3.87 2.18
53°80 W	23	4.45	4.30	6.71	0.92	1.49	2.08	2.48	2.49	2.01	3.33	4.43	3.93 2.37
N 96 W	Period of 24 hours	3.29	3.45	4.89	2.14	1.91	0.69	0.41	1.68	1.16	2.60	3.13	3.42 2.18
N 62 W													

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE LIV.

MONTHLY AND YEARLY MEAN VELOCITIES OF THE WIND FOR EACH HOUR OF TORONTO ASTRONOMICAL TIME,  
FOR THE PERIOD 1854 TO 1859 INCLUSIVE, THE VELOCITIES BEING IN MILES PER HOUR.

Hours.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
0	10.43	10.69	12.09	11.29	10.33	8.80	8.76	8.99	9.27	10.33	11.57	10.97	10.29
1	10.54	10.54	12.29	11.12	10.28	9.06	8.52	9.45	8.94	10.22	11.79	11.05	10.32
2	10.45	10.13	12.50	10.96	10.05	8.89	8.74	9.72	9.21	9.98	11.86	10.69	10.27
3	9.86	9.95	12.28	10.66	9.97	8.85	8.18	9.52	8.80	9.39	10.94	10.02	9.84
4	9.23	9.72	12.56	10.43	9.41	8.57	7.63	9.11	7.86	8.50	10.28	9.97	9.44
5	8.63	8.54	11.18	9.13	8.02	7.25	6.39	7.84	6.09	6.65	9.06	9.60	8.20
6	8.66	8.57	10.24	8.15	6.99	5.98	5.01	6.41	5.09	5.87	8.83	9.64	7.45
7	8.73	8.88	9.87	7.17	6.23	4.88	3.68	5.16	4.64	5.77	8.27	9.63	6.91
8	8.38	8.09	9.41	7.22	5.91	4.41	3.31	4.95	4.45	5.73	8.31	9.63	6.72
9	7.74	8.08	9.22	7.06	5.26	4.19	3.39	4.03	4.68	5.29	8.02	9.23	6.40
10	7.91	7.69	8.53	6.82	5.06	4.17	3.82	4.62	4.66	5.42	7.98	9.44	6.34
11	7.76	7.73	8.28	6.58	5.13	3.94	3.61	4.08	4.29	5.08	7.93	9.70	6.18
12	7.90	7.84	8.12	6.58	4.92	4.11	4.00	3.98	4.09	4.92	7.95	9.63	6.17
13	7.65	8.19	8.04	6.56	4.99	3.84	3.82	4.16	4.40	5.00	7.82	9.21	6.14
14	7.48	8.11	7.85	6.82	5.34	3.82	4.07	4.18	4.48	5.41	7.89	9.43	6.24
15	7.42	7.86	7.93	6.71	5.03	3.77	3.83	4.29	4.39	5.25	8.13	9.48	6.17
16	7.43	8.13	8.32	6.67	4.97	3.93	3.65	4.15	4.16	5.09	8.26	9.14	6.16
17	7.32	7.99	8.12	7.06	5.42	4.01	3.58	4.24	4.19	5.17	8.09	9.22	6.20
18	7.94	8.62	8.36	7.50	7.27	4.61	4.01	4.56	4.29	4.91	8.08	9.25	6.62
19	8.65	8.06	8.64	8.44	8.03	5.10	4.72	4.79	5.11	5.50	7.91	8.49	6.87
20	8.08	8.57	9.45	9.31	9.02	6.17	5.73	6.43	6.04	6.87	8.70	9.57	7.83
21	8.83	9.55	10.44	9.77	9.47	7.01	6.70	7.31	7.28	8.10	9.61	9.95	8.67
22	9.35	10.13	11.17	10.81	9.91	8.04	7.38	8.15	7.99	9.03	10.82	10.48	9.44
23	9.40	10.32	11.75	11.27	10.25	8.56	7.97	9.00	8.72	9.83	11.45	10.50	9.96
Period of 24 hours	8.56	8.87	9.86	8.50	7.37	5.91	5.44	6.24	5.96	6.81	9.15	9.75	7.70

TABLE LV.  
MEAN VELOCITY OF THE WIND, FOR EACH OF THE SIXTEEN POINTS OF THE WIND'S DIRECTION, WITH THE NUMBER OF OBSERVATIONS FROM WHICH THE MEANS ARE DERIVED, FOR THE YEARS 1853-59 INCLUSIVE.

Years.	No.	N.		N.N.E.		N.E.		E.N.E.		E.		E.S.E.		S.E.		S.S.E.		
		Miles.	No.															
1853	142	6.60	118	4.68	108	5.72	93	5.08	90	6.09	90	5.23	46	4.77	64	Miles.	4.91	
1854	113	6.44	177	5.95	87	7.20	87	6.00	145	7.40	103	6.48	48	4.31	56	Miles.	5.01	
1855	168	7.35	79	6.45	69	7.39	74	7.91	136	9.61	95	6.38	42	5.71	54	Miles.	6.35	
1856	127	9.22	61	7.43	65	6.71	68	9.47	123	10.34	69	6.21	42	6.00	39	Miles.	6.87	
1857	192	7.22	39	5.86	60	6.92	126	9.18	108	7.62	67	5.34	46	6.22	54	Miles.	5.50	
1858	120	6.72	57	6.66	76	7.15	175	11.26	166	9.16	49	6.75	45	5.08	60	Miles.	5.90	
1859	104	7.31	68	7.44	75	7.86	160	8.86	179	8.35	65	5.75	35	4.90	47	Miles.	6.06	
1853-59		876	7.31	529	6.03	510	6.92	783	8.77	937	8.40	484	6.05	322	5.22	374	Miles.	5.73

Years.	No.	N.		S.S.W.		S.W.		W.S.W.		W.		W.N.W.		N.W.		N.N.W.		
		Miles.	No.	Miles.	No.	Miles.	No.	Miles.	No.									
1853	123	5.84	129	5.67	68	6.02	95	5.71	102	6.90	76	9.02	115	7.63	156	Miles.	8.08	
1854	79	5.20	112	6.18	111	8.06	105	7.83	103	9.08	125	9.30	112	11.34	163	Miles.	9.29	
1855	71	5.75	118	7.22	124	8.16	137	10.29	168	11.23	132	10.88	134	11.13	146	Miles.	11.16	
1856	69	6.67	122	8.12	131	8.93	141	11.80	174	10.99	170	11.06	121	10.63	144	Miles.	11.45	
1857	71	7.45	139	8.38	154	8.37	160	10.23	136	10.84	129	10.78	149	11.36	165	Miles.	10.73	
1858	83	6.85	93	8.50	64	8.08	111	9.86	132	11.47	144	10.42	147	11.40	150	Miles.	8.61	
1859	75	6.49	144	8.14	104	7.67	43	10.81	156	12.10	137	12.82	130	12.62	145	Miles.	8.56	
1853-59		574	6.53	857	7.46	756	8.05	926	9.85	971	10.72	913	10.89	908	10.90	1069	Miles.	9.63

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE LVI.

RATIOS SHewing THE COMPARATIVE DURATION OF DIFFERENT WINDS IN EACH  
IN THE MONTH EXPRESSED IN TERMS OF THE

	N.	N.N.E.	N.E.	E.N.E.	E.	E.S.E.	S.E.	S.S.E.	S.
January .....	1.15	0.74	0.56	0.72	0.75	0.44	0.23	0.21	0.25
February.....	1.24	0.85	0.73	0.68	0.96	0.37	0.20	0.28	0.37
March.....	0.68	0.33	0.34	1.10	1.01	0.44	0.46	0.24	0.47
April.....	1.29	0.96	0.84	1.40	1.71	0.89	0.48	0.52	0.75
May.....	1.31	0.50	..	1.90	2.08	1.03	0.56	0.57	1.08
June.....	0.91	0.44	..	1.34	1.85	0.84	0.51	0.59	1.40
July.....	1.06	0.70	..	1.10	1.40	0.99	0.72	1.18	1.39
August.....	1.20	0.85	..	0.77	1.10	0.66	0.75	0.67	1.15
September.....	1.20	0.84	0.78	1.04	1.14	0.64	0.69	0.72	0.96
October.....	0.99	0.66	0.85	1.02	1.12	0.47	0.22	0.45	0.91
November.....	0.75	0.65	0.68	1.21	1.47	0.49	0.43	0.43	0.42
December.....	1.29	1.10	1.02	0.86	0.72	0.42	0.22	0.19	0.18
	1.09	0.72	0.73	1.09	1.28	0.64	0.46	0.50	0.78

TABLE LVII.

RATIOS SHewing THE COMPARATIVE DURATION OF EACH SEPARATE WIND IN  
TERMS OF THE ANNUAL MEANS

	N.	N.N.E.	N.E.	E.N.E.	E.	E.S.E.	S.E.	S.S.E.	S.
January.....	1.06	1.03	1.31	0.66	0.59	0.69	0.50	0.42	0.32
February.....	1.14	1.18	1.00	0.62	0.75	0.58	0.44	0.56	0.42
March.....	0.62	0.46	0.46	1.00	0.79	0.69	1.00	0.58	0.60
April.....	1.18	1.34	1.14	1.28	1.34	1.39	1.05	1.03	0.97
May.....	1.20	0.70	0.97	1.74	1.63	1.61	1.24	1.13	1.38
June.....	0.84	0.61	0.90	1.22	1.45	1.31	1.12	1.17	1.82
July.....	0.97	0.98	0.80	1.00	1.09	1.55	1.58	2.34	1.78
August.....	1.10	1.18	0.88	0.70	0.86	1.03	1.65	1.33	1.49
September.....	1.16	1.17	1.06	0.95	0.89	1.00	1.51	1.43	1.23
October.....	0.91	0.92	1.16	0.93	0.88	0.73	0.48	0.89	1.18
November.....	0.69	0.90	0.93	1.11	1.15	0.77	0.94	0.85	0.54
December.....	1.18	1.53	1.39	0.79	0.56	0.66	0.48	0.38	0.23

TABLE LVI.

SEPARATE MONTH, BEING THE ABSOLUTE DURATIONS OF THE DIFFERENT WINDS  
MONTHLY MEAN DURATION FOR ALL WINDS.

S.	S.S.W.	S.W.	W.S.W.	W.	W.N.W.	N.W.	N.N.W.	Calms.	
.25	0.78	1.58	2.61	1.78	1.00	1.18	1.38	1.23	January.
.37	1.90	1.18	2.01	2.08	1.47	1.19	1.58	0.83	February.
.47	0.90	1.39	1.27	1.81	2.27	2.05	1.44	0.80	March.
.75	1.03	0.73	0.71	0.93	1.13	1.12	1.51	1.00	April.
.08	1.30	0.70	0.36	0.49	0.79	0.97	1.69	0.96	May.
.40	1.63	1.35	0.60	0.90	0.84	1.20	1.18	0.76	June.
.39	1.61	0.72	0.46	0.53	0.86	1.00	1.48	1.22	July.
.15	1.27	0.83	0.51	0.92	1.38	1.49	1.69	1.11	August.
.96	1.50	0.98	0.65	0.78	1.05	1.12	1.35	1.56	September.
.91	1.05	1.01	0.90	1.35	1.67	1.37	1.29	1.67	October.
.42	0.86	1.50	2.08	1.78	1.34	1.01	1.03	0.89	November.
.18	0.49	1.42	2.61	1.98	1.11	1.08	1.29	1.02	December.
.78	1.12	1.12	1.23	1.28	1.24	1.23	1.41	1.09	

TABLE LVII.

THE DIFFERENT MONTHS, BEING THE NUMBERS IN TABLE LVI. EXPRESSED IN  
GIVEN AT THE FOOT OF EACH COLUMN.

S.	S.S.W.	S.W.	W.S.W.	W.	W.N.W.	N.W.	N.N.W.	Calms.	
.32	0.70	1.42	2.12	1.30	0.81	0.96	0.98	1.13	January.
.43	0.89	1.06	1.63	1.63	1.19	0.97	1.12	0.76	February.
.60	0.80	1.26	1.03	1.41	1.83	1.67	1.02	0.73	March.
.97	0.92	0.65	0.58	0.73	0.91	0.91	1.07	0.92	April.
.38	1.16	0.63	0.29	0.38	0.64	0.79	1.20	0.88	May.
.82	1.36	1.21	0.49	0.70	0.68	0.97	0.84	0.70	June.
.78	1.44	0.64	0.37	0.41	0.69	0.81	1.05	1.20	July.
.49	1.13	0.74	0.41	0.72	1.11	1.21	1.20	1.02	August.
.23	1.34	0.88	0.53	0.61	0.85	0.91	0.96	1.43	September.
.18	0.94	0.91	0.73	1.06	1.31	1.11	0.91	1.53	October.
.54	0.77	1.34	1.69	1.39	1.08	0.82	0.73	0.82	November.
.25	0.44	1.27	2.12	1.55	0.90	0.88	0.92	0.94	December.

TABLE LVIII.

RATIOS SHEWING THE COMPARATIVE DURATION OF DIFFERENT WINDS FOR EACH  
IN TERMS OF THE MEAN DURATION

Toronto Astronomical time.	N.	N.N.E.	N.E.	E.N.E.	E.	E.S.E.	S.E.	S.S.E.	S.
0	0.61	0.33	0.43	0.86	1.61	1.02	0.78	0.96	1.65
1	0.55	0.28	0.44	0.93	1.54	1.04	0.80	0.99	1.65
2	0.50	0.29	0.43	0.86	1.78	1.05	0.70	0.94	1.62
3	0.54	0.28	0.39	0.96	1.76	1.12	0.69	0.96	1.31
4	0.61	0.31	0.45	1.01	1.84	1.00	0.71	0.81	1.16
5	0.74	0.34	0.53	1.14	1.72	0.86	0.54	0.75	1.00
6	0.70	0.40	0.59	1.30	1.58	0.67	0.46	0.66	0.97
7	0.83	0.44	0.68	1.32	1.38	0.71	0.38	0.51	0.71
8	0.94	0.53	0.66	1.24	1.30	0.51	0.46	0.39	0.54
9	1.08	0.68	0.73	1.22	1.18	0.46	0.33	0.41	0.44
10	1.27	0.80	0.77	1.29	1.04	0.43	0.37	0.35	0.40
11	1.46	0.88	0.85	1.00	1.05	0.41	0.38	0.3*	0.39
12	1.59	0.97	0.86	1.08	0.88	0.41	0.31	0.25	0.37
13	1.54	1.14	0.98	1.01	0.79	0.35	0.31	0.25	0.39
14	1.62	1.26	1.02	0.98	0.84	0.35	0.27	0.23	0.37
15	1.72	1.24	0.97	1.01	0.82	0.34	0.27	0.21	0.42
16	1.66	1.18	0.98	1.12	0.76	0.33	0.21	0.27	0.35
17	1.62	1.18	1.03	1.16	0.77	0.34	0.19	0.33	0.37
18	1.54	1.17	1.07	1.13	0.86	0.33	0.24	0.29	0.39
19	1.46	1.07	1.02	1.18	1.07	0.35	0.27	0.24	0.41
20	1.19	0.86	0.92	1.34	1.36	0.54	0.35	0.27	0.44
21	0.96	0.64	0.84	1.18	1.55	0.75	0.46	0.37	0.66
22	0.79	0.53	0.53	1.04	1.57	0.93	0.70	0.62	1.12
23	0.62	0.43	0.44	0.96	1.52	1.06	0.80	0.78	1.52

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE LVIII.

SEPARATE HOUR, BEING THE ABSOLUTE DURATIONS FOR THE HOUR EXPRESSED  
OF ALL WINDS FOR THE SAME HOUR.

	S.S.W.	S.W.	W.S.W.	W.	W.N.W.	N.W.	N.N.W.	Calm.	Toronto Astronomical time.
5	1.82	1.16	1.05	1.23	1.14	1.10	1.00	0.25	0
5	1.87	1.16	1.12	1.19	1.12	1.14	0.96	0.22	1
2	1.91	1.04	1.16	1.23	1.08	1.04	1.08	0.27	2
1	1.83	1.11	1.12	1.23	1.08	1.05	1.22	0.36	3
6	1.57	1.21	1.09	1.22	1.06	1.12	1.27	0.55	4
0	1.48	1.30	1.11	1.13	1.20	1.04	1.28	0.86	5
7	1.24	1.34	1.20	1.13	1.13	1.29	1.55	0.99	6
1	1.11	1.37	1.28	1.10	1.31	1.21	1.55	1.11	7
4	0.70	1.36	1.34	1.29	1.25	1.22	1.66	1.46	8
4	0.77	1.06	1.35	1.29	1.31	1.31	1.69	1.68	9
0	0.68	1.00	1.34	1.46	1.28	1.24	1.67	1.67	10
9	0.71	0.94	1.38	1.40	1.22	1.30	1.66	1.63	11
7	0.68	0.95	1.34	1.34	1.26	1.29	1.59	1.82	12
9	0.65	0.90	1.40	1.30	1.22	1.35	1.61	1.80	13
7	0.74	0.90	1.38	1.24	1.35	1.44	1.52	1.49	14
2	0.68	0.95	1.26	1.23	1.38	1.35	1.62	1.52	15
5	0.67	0.99	1.22	1.28	1.48	1.28	1.65	1.56	16
7	0.65	0.92	1.22	1.33	1.38	1.33	1.70	1.47	17
9	0.69	1.05	1.14	1.22	1.38	1.31	1.60	1.60	18
1	0.75	1.08	1.22	1.34	1.32	1.25	1.48	1.49	19
4	0.96	1.25	1.26	1.42	1.24	1.25	1.40	0.96	20
6	1.28	1.29	1.26	1.40	1.28	1.31	1.12	0.64	21
2	1.55	1.22	1.21	1.29	1.20	1.24	1.06	0.41	22
2	1.69	1.17	1.05	1.26	1.12	1.14	1.06	0.39	23

## TORONTO METEOROLOGICAL OBSERVATIONS.

TABLE LIX.

RATIOS SHewing THE COMPARATIVE DURATION OF EACH SEPARATE WIND  
EXPRESSED IN TERMS OF THE MEAN DURA-

Toronto Astronomical time.	N.	N.N.E.	N.E.	E.N.E.	E.	E.S.E.	S.E.	S.S.E.	S.
0	0.56	0.46	0.59	0.79	1.26	1.59	1.71	1.90	2.12
1	0.51	0.39	0.61	0.85	1.21	1.62	1.75	1.96	2.12
2	0.46	0.40	0.59	0.79	1.40	1.64	1.53	1.86	2.08
3	0.50	0.39	0.53	0.88	1.38	1.75	1.51	1.90	1.70
4	0.56	0.43	0.61	0.92	1.44	1.56	1.55	1.60	1.49
5	0.68	0.47	0.72	1.04	1.34	1.34	1.18	1.48	1.29
6	0.64	0.56	0.80	1.19	1.24	1.05	1.01	1.30	1.25
7	0.76	0.61	0.93	1.21	1.08	1.11	0.83	1.01	0.91
8	0.86	0.74	0.90	1.13	1.02	0.80	1.01	0.77	0.69
9	0.99	0.94	0.99	1.12	0.96	0.72	0.72	0.81	0.57
10	1.17	1.11	1.05	1.12	0.82	0.67	0.80	0.60	0.51
11	1.34	1.23	1.16	0.91	0.82	0.64	0.83	0.61	0.50
12	1.46	1.35	1.17	0.99	0.69	0.64	0.67	0.49	0.48
13	1.41	1.59	1.34	0.92	0.62	0.55	0.67	0.49	0.50
14	1.49	1.75	1.39	0.90	0.66	0.55	0.59	0.45	0.48
15	1.58	1.73	1.32	0.92	0.60	0.53	0.59	0.41	0.54
16	1.52	1.64	1.34	1.02	0.60	0.52	0.46	0.53	0.44
17	1.49	1.64	1.40	1.06	0.60	0.53	0.41	0.65	0.47
18	1.41	1.63	1.46	1.03	0.68	0.51	0.52	0.57	0.50
19	1.34	1.49	1.30	1.08	0.84	0.55	0.59	0.47	0.53
20	1.09	1.20	1.25	1.23	1.07	0.84	0.77	0.53	0.57
21	0.88	0.89	1.14	1.08	1.22	1.17	1.01	0.73	0.85
22	0.73	0.74	0.72	0.95	1.23	1.45	1.53	1.23	1.44
23	0.57	0.60	0.61	0.88	1.19	1.66	1.75	1.54	1.96

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE LIX.

IN THE DIFFERENT HOURS, BEING THE ABSOLUTE DURATIONS AT THE HOUR  
TION OF THE SAME WIND FOR ALL HOURS.

WIND  
DURA-12  
12  
08  
70  
49  
29  
25  
91  
69  
57  
51  
50  
48  
50  
48  
54  
44  
47  
50  
53  
57  
85  
44  
96

	S.S.W.	S.W.	W.S.W.	W.	W.N.W.	N.W.	N.N.W.	Calm.	Toronto Astronomical time.
12	1.62	1.04	0.85	0.97	0.92	0.89	0.71	0.23	0
12	1.67	1.04	0.91	0.94	0.90	0.89	0.68	0.20	1
08	1.70	0.93	0.95	0.97	0.87	0.85	0.77	0.25	2
70	1.63	1.00	0.91	0.97	0.87	0.85	0.87	0.33	3
49	1.40	1.09	0.89	0.96	0.85	0.91	0.90	0.50	4
29	1.32	1.17	0.90	0.89	0.97	0.85	0.91	0.79	5
25	1.11	1.20	0.98	0.89	0.91	1.04	0.96	0.90	6
91	0.99	1.23	1.04	0.87	1.06	0.98	1.10	1.02	7
69	0.78	1.22	1.09	1.02	1.01	0.99	1.18	1.34	8
57	0.69	0.95	1.10	1.02	1.05	1.06	1.20	1.54	9
51	0.61	0.90	1.09	1.18	1.03	1.01	1.19	1.53	10
50	0.66	0.84	1.12	1.06	0.98	1.06	1.18	1.39	11
48	0.61	0.85	1.09	1.03	1.01	1.04	1.13	1.67	12
50	0.58	0.81	1.14	0.98	0.98	1.09	1.14	1.65	13
48	0.66	0.81	1.12	0.97	1.09	1.17	1.08	1.36	14
54	0.61	0.85	1.03	0.97	1.11	1.09	1.15	1.39	15
44	0.60	0.89	0.99	1.01	1.19	1.04	1.17	1.43	16
47	0.58	0.83	0.99	1.05	1.11	1.08	1.20	1.35	17
50	0.62	0.94	0.93	0.96	1.11	1.06	1.13	1.47	18
53	0.67	0.97	0.99	1.06	1.07	1.01	1.05	1.37	19
57	0.86	1.12	1.03	1.12	1.00	1.01	0.99	0.88	20
85	1.14	1.16	1.03	1.10	1.03	1.06	0.80	0.59	21
44	1.38	1.10	0.98	1.02	0.97	1.01	0.75	0.38	22
96	1.51	1.05	0.85	1.00	0.90	0.93	0.75	0.36	23

TABLE LX.

THE NUMBER OF DAYS IN WHICH RAIN FELL, ITS APPROXIMATE DURATION IN HOURS, AND DEPTH IN INCHES, FOR EACH MONTH OF THE YEARS 1854—1859 INCLUSIVE.

## NUMBER OF DAYS.

	January	February	March	April	May	June	July	August	September	October	November	December	Year.
1854	7	5	9	12	11	9	9	5	11	15	13	5	114
1855	5	2	5	8	6	17	13	7	12	14	8	6	103
1856	0	0	0	13	14	13	8	12	13	10	10	6	99
1857	3	11	4	10	15	21	15	13	11	10	11	7	131
1858	6	4	10	13	17	12	13	11	8	17	12	11	131
1859	6	6	15	9	11	16	12	11	15	11	12	3	127
Mean of the Six Years	4	4	5	11	12	15	12	10	12	13	12	6	118
Mean of Fifteen Years.	5	4	6	9	12	12	10	10	9	12	11	6	106

## APPROXIMATE DURATION IN HOURS.

1854	39	25	63	42	40	26	29	5	50	45	34	19	117
1855	10	20	20	23	31	55	37	8	44	47	57	29	101
1856	0	9	0	63	89	28	10	21	55	28	42	26	365
1857	6	73	11	40	95	66	43	67	32	42	74	64	613
1858	33	1	31	81	101	47	31	56	32	49	85	41	584
1859	39	17	76	37	51	29	40	41	36	26	94	28	514
Mean of the Six Years	21	23	33	48	68	45	32	34	40	39	64	35	482

## DEPTH IN INCHES.

1854	1.270	1.460	2.425	2.685	4.630	1.460	4.805	0.455	5.375	1.495	1.115	0.590	27.765
1855	0.525	1.770	1.485	2.030	2.565	4.070	3.245	1.455	5.585	2.485	1.590	1.845	31.630
1856	0.000	0.000	0.000	2.780	4.580	3.200	1.120	1.680	4.105	0.875	1.375	1.790	21.505
1857	*	3.050	0.335	1.755	4.145	5.060	3.475	5.265	2.610	1.010	3.235	3.205	33.205
1858	1.152	*	0.917	1.642	6.367	2.943	3.072	3.890	0.735	1.797	3.879	1.657	28.051
1859	1.449	0.455	4.054	2.527	3.410	4.085	2.611	3.990	3.525	0.910	5.193	1.035	33.274
Mean of the Six Years	0.733	1.123	1.536	2.235	4.283	3.470	3.055	2.789	3.661	1.439	3.231	1.687	29.242
Mean of Fifteen Years.	1.293	0.953	1.405	2.434	3.537	2.069	3.222	2.820	4.050	2.562	3.266	1.536	29.867

In Tables LX to LXII, the sign \* denotes that the amount of Rain or Snow was too small for measurement, and the sign † that its duration was less than half an hour.

## TORONTO METEOROLOGICAL OBSERVATIONS.

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TABLE LXI.

THE NUMBER OF DAYS IN WHICH SNOW FELL, ITS APPROXIMATE DURATION IN HOURS, AND DEPTH IN INCHES,  
FOR EACH MONTH OF THE YEARS 1854 TO 1859 INCLUSIVE.

## NUMBER OF DAYS.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
114													
103	11	15	3	4	...	...	...	...	...	3	1	12	52
99	13	14	11	3	2	...	...	...	...	5	6	10	61
134	1855	11	8	12	3	1	...	...	...	2	9	20	69
131	1856	11	8	12	3	1	...	...	...	2	9	14	79
127	1857	16	11	15	11	1	...	...	...	1	13	18	67
	1858	11	16	6	2	...	...	...	...	4	9	23	87
	1859	19	14	8	8	...	2	...	...	...	...	...	...
118													
	Mean of the six years.	11	13	9	5	1	...	...	...	3	8	16	69
106										2	6	13	57
	Mean of fifteen years.	11	12	9	3	1	...	...	...	...	...	...	...

## APPROXIMATE DURATION IN HOURS.

117	101	365	613	581	514	482	27,765	31,650	21,505	33,205	28,051	33,274	29,242
		1854	42	61	10	9	7.5	18.0	2.8	2.7	...	...	...
		1855	79	98	44	8	7	21.8	18.1	1.6	0.9	...	...
		1856	88	51	75	3	+	16.2	0.1	*	...	...	...
		1857	88	31	49	12	1	11.7	11.3	12.9	*	...	...
		1858	45	96	11	3	...	26.7	0.2	0.1	...	...	...
		1859	96	67	13	21	...	8.3	1.0	1.2	...	...	...
		Mean of the six years.	71	68	34	14	1	...	...	...	...	...	...

## DEPTH IN INCHES.

27,765	31,650	21,505	33,205	28,051	33,274	29,242	27,765	31,650	21,505	33,205	28,051	33,274	29,242		
		1854	7.5	18.0	2.8	2.7	...	...	...	...	...	*	1.3	17.2	49.5
		1855	23.3	21.8	18.1	1.6	0.9	...	...	...	...	0.8	3.0	29.5	99.6
		1856	13.6	9.7	16.2	0.1	*	...	...	...	...	0.1	9.5	16.3	65.5
		1857	21.8	11.7	11.3	12.9	*	...	...	...	...	0.2	6.9	9.0	73.8
		1858	4.0	26.7	0.2	0.1	...	...	...	...	...	*	4.0	10.4	45.4
		1859	16.4	8.3	1.0	1.2	...	...	...	...	...	*	0.6	37.4	64.9
		Mean of the six years.	14.4	16.0	8.3	3.1	0.1	...	...	...	...	0.2	4.2	20.0	66.3
		Mean of fifteen years.	12.1	17.7	9.4	2.6	0.1	...	...	...	...	0.3	2.7	16.6	61.5

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TABLE LXII.

NUMBER OF DAYS IN WHICH EITHER RAIN OR SNOW FELL, THEIR APPROXIMATE DURATION IN HOURS, AND DEPTH IN INCHES, FOR EACH MONTH OF THE YEARS 1854 TO 1859 INCLUSIVE; ONE INCH OF SNOW BEING RECKONED AS EQUIVALENT TO ONE-TENTH OF AN INCH OF RAIN.

## NUMBER OF DAYS.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
1854	18	20	12	16	11	9	9	5	14	18	17	17	166
1855	18	16	16	11	8	17	13	7	12	19	14	16	167
1856	14	8	12	16	15	13	8	12	13	12	19	26	168
1857	19	22	19	21	16	21	15	13	11	12	23	21	213
1858	17	17	16	15	17	12	13	11	8	18	25	29	198
1859	25	20	23	17	11	18	12	11	15	15	21	26	214
Mean of the six years.	18	17	16	16	13	15	12	10	12	16	20	22	187
Mean of fifteen years.	16	16	15	12	13	12	10	10	9	14	17	19	163

## APPROXIMATE DURATION IN HOURS.

1854	81	86	73	51	40	26	29	5	50	45	51	82	619
1855	80	118	61	31	58	75	37	8	44	57	68	84	704
1856	88	51	75	63	89	28	10	21	55	30	72	88	676
1857	94	147	60	82	96	66	43	67	32	53	120	116	936
1858	78	65	42	84	101	47	31	56	22	49	133	118	861
1859	135	84	39	53	51	31	40	41	36	30	107	191	893
Mean of the six years.	93	90	67	62	70	45	32	34	40	41	92	113	782

## DEPTH IN INCHES.

1854	2.020	3.260	2.705	2.055	4.630	1.460	4.895	0.460	5.575	1.495	1.245	2.310	32.745
1855	2.855	3.950	3.295	2.190	2.655	1.070	3.245	1.455	2.565	3.890	4.795	41.559	
1856	1.560	0.970	1.620	2.790	4.580	2.200	1.120	1.680	3.70	6.865	2.325	3.120	24.055
1857	2.180	4.220	1.465	3.045	4.145	1.99	3.475	5.295	1.660	6.925	4.105	40.580	
1858	1.552	2.670	0.937	1.652	6.367	2.64	3.072	3.890	0.755	1.797	4.279	2.697	32.591
1859	3.089	1.285	4.154	2.647	3.660	0.78	3.61	3.940	1.925	0.940	5.253	4.775	30.761
Mean of the six years.	2.176	2.726	2.363	2.549	4.298	3.110	3.455	2.89	3.55	4.6	4.1	5.381	34.77
Mean of fifteen years.	2.503	2.723	2.345	2.694	3.367	2.460	3.222	2.82	3.30	4.32	4.00	5.146	36.017

AND  
NOW

TABLE LXIII.

COMPARATIVE DURATION OF THE SEVERAL WINDS DURING THE DAYS IN ANY PART OF WHICH RAIN OR SNOW FELL, FROM OBSERVATIONS IN THE YEARS 1853 TO 1859 INCLUSIVE.

Year.	Absolute duration of the several winds in hours.				Relative duration of each wind on days of precipitation, as compared with its duration on all days.				Ratios of the numbers in (5) (6) and (7) to their respective means for all winds.		
	During days of Rain,		During days of Snow,		During days with and without Rain or Snow,		Rain.	Snow.	Rain or Snow, Ratio of (3) to (4).	Rain.	Snow.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1856											
1857											
1858											
1859											
1860											
1861											
1862											
1863											
1864											
1865											
1866											
1867	N.	969	909	1758	3908	0.248	0.233	0.450	0.72	1.21	0.90
1868	N.N.E.	687	705	1286	3579	0.266	0.273	0.499	0.77	1.41	1.00
1869	N.E.	961	766	1566	2636	0.365	0.291	0.594	1.06	1.51	1.19
1870	E.N.E.	2142	533	2501	3929	0.45	0.136	0.637	1.58	0.70	1.27
1871	E.	2375	526	2656	4572	0.49	0.115	0.581	1.50	0.60	1.16
1872	E.S.E.	977	330	1130	2298	0.425	0.144	0.518	1.23	0.75	1.04
1873	S.E.	606	212	743	1647	0.368	0.129	0.451	1.07	0.67	0.90
1874	S.S.E.	681	165	781	1818	0.375	0.091	0.430	1.09	0.37	0.86
1875	S.	965	239	1152	2796	0.315	0.086	0.412	1.00	0.45	0.82
1876	S.W.	1538	350	1838	4021	0.382	0.087	0.457	1.11	0.45	0.91
1877	S.W.	1421	800	2120	4000	0.355	0.200	0.530	1.03	1.04	1.06
1878	W.S.W.	1297	1372	2130	4415	0.294	0.311	0.550	0.85	1.61	1.10
1879	W.	1249	1509	2578	4671	0.273	0.330	0.564	0.79	1.71	1.13
1880	W.N.W.	1157	1161	2160	4455	0.260	0.261	0.483	0.76	1.35	0.97
1881	N.W.	1160	1000	2005	4426	0.262	0.226	0.453	0.76	1.17	0.91
1882	N.N.W.	1258	1223	2317	6061	0.249	0.213	0.458	0.72	1.25	0.92
1883	Calms.	1283	504	1703	3991	0.27	0.129	0.434	0.95	0.67	0.87

39,761

39,771

36,017

TABLE LXIV.

COMPARATIVE DURATION OF THE SEVERAL WINDS DURING THE HOURS IN ANY PART OF WHICH RAIN OR SNOW FELL, FROM OBSERVATIONS IN THE YEARS 1857 TO 1866, INCLUSIVE.

	Absolute duration of the several winds expressed in hours,				Relative duration of each wind during the hours in which rain or snow fell, as compared with its duration on all days.			Ratios of the numbers in (5) (6) and (7) to their respective means for all winds.			Ratios from Table LXIV corresponding to those in columns (9) (9) and (10) of Table LXIV.		
	During Rain.		During Snow.		Without Rain or Snow.		am.	Snow.	Rain or Snow.	Rain.	Snow.	Rain or Snow.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
N.	92	105	195	1189	0.062	0.071	0.131	0.68	1.21	0.81	0.72	1.21	0.90
N.N.E.	118	100	217	770	.153	.130	.282	1.68	2.27	1.91	0.77	1.11	1.00
N.E.	102	143	245	1622	.100	.140	.240	1.10	2.45	1.63	1.00	1.51	1.19
E.N.E.	471	139	604	2149	.219	.065	.281	2.41	1.14	1.91	1.58	0.70	1.27
E.	288	82	364	2192	.131	.037	.166	1.44	0.65	1.13	1.50	0.60	1.16
E.S.E.	116	28	114	876	.132	.032	.161	1.45	0.56	1.11	1.23	0.75	1.04
S.E.	68	31	97	661	.103	.047	.116	1.12	0.82	0.99	1.07	0.67	0.90
S.S.E.	75	36	110	781	.096	.046	.141	1.05	0.80	0.96	1.09	0.47	0.86
S.	94	21	115	1166	.081	.018	.099	0.89	0.32	0.67	1.00	0.45	0.82
S.S.W.	172	49	221	1799	.096	.027	.123	1.05	0.47	0.86	1.11	0.45	0.91
S.W.	129	85	212	1760	.073	.048	.120	0.80	0.84	0.81	1.03	1.04	1.06
W.S.W.	103	113	215	1945	.053	.058	.110	0.58	1.01	0.75	0.85	1.61	1.10
W.	107	110	216	1975	.054	.056	.109	0.59	0.98	0.74	0.79	1.71	1.13
W.N.W.	92	125	217	2044	.045	.061	.106	0.49	1.07	0.72	0.76	1.35	0.97
N.W.	80	91	170	2027	.039	.045	.084	0.43	0.79	0.57	0.76	1.17	0.91
N.N.W.	115	125	239	2213	.052	.056	.108	0.57	0.98	0.73	0.72	1.25	0.92
Calm.	85	48	133	1388	.061	.035	.096	0.67	0.61	0.65	0.95	0.47	0.87

TABLE LXV.

**COMPARATIVE DURATION OF THE SEVERAL WINDS DURING THE DAYS IN ANY PART OF WHICH SNOW FELL,  
FROM OBSERVATIONS IN THE YEARS 1853 TO 1859 INCLUSIVE: THE SNOW STORMS BEING ARRANGED IN  
FOUR CLASSES ACCORDING TO THE AMOUNT OF SNOW, AND EACH CLASS BEING TAKEN TO INCLUDE  
ALL THE HIGHER CLASSES.**

Absolute duration of the several winds in hours.					Relative duration of each wind on days of snow as compared with its duration on all days.					Ratios of the numbers in (6), (7), (8) and (9) to the respective means for all winds.				
	Snow generally	Snow 1 inch and upwards.	Snow 3 inches and upwards.	Snow 6 inches and upwards.	During days with and without snow	Ratio of (1) to (5)	Ratio of (2) to (5)	Ratio of (3) to (5)	Ratio of (4) to (5)	Snow generally	Linch and upwards.	3 inches and upwards.	6 inches and upwards.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
N.	909	236	97	11	3908	0.233	0.060	0.025	0.003	1.21	1.15	1.18	0.83	
N.N.E.	705	294	119	19	2579	0.273	0.111	0.046	0.007	1.41	2.19	2.17	1.94	
N.E.	766	403	190	38	2635	0.291	0.153	0.072	0.014	1.51	2.94	3.40	3.89	
E.N.E.	533	269	171	31	3929	0.136	0.068	0.044	0.009	0.70	1.31	2.08	2.50	
E.	526	236	128	27	4572	0.115	0.052	0.028	0.006	0.60	1.00	1.32	1.67	
E.S.E.	330	125	74	22	2298	0.144	0.051	0.032	0.010	0.75	1.01	1.51	2.73	
S.E.	212	75	27	4	1617	0.129	0.046	0.017	0.002	0.67	0.88	0.80	0.56	
S.S.E.	165	43	12	1	1818	0.091	0.024	0.007	0.001	0.47	0.46	0.33	0.28	
S.	239	62	15	0	2795	0.086	0.022	0.005	0.000	0.45	0.42	0.24	0.09	
S.S.W.	350	102	14	4	4021	0.087	0.025	0.003	0.001	0.45	0.48	0.14	0.28	
S.W.	800	147	27	7	4000	0.200	0.037	0.007	0.002	1.04	0.71	0.33	0.56	
W.S.W.	1372	161	50	10	4415	0.311	0.036	0.011	0.002	1.61	0.69	0.52	0.56	
W.	1509	212	56	3	4571	0.330	0.046	0.012	0.001	1.71	0.85	0.57	0.28	
W.N.W.	1161	165	45	3	4455	0.261	0.037	0.010	0.001	1.35	0.71	0.47	0.28	
N.W.	1000	176	64	5	4426	0.226	0.040	0.014	0.001	1.17	0.77	0.66	0.28	
N.N.W.	1223	261	107	2	5061	0.211	0.052	0.021	0.000	1.25	1.00	0.99	0.00	
Calm.	504	81	28	2	3921	0.129	0.021	0.007	0.001	0.67	0.40	0.33	0.28	

TABLE LXVI.

COMPARATIVE DURATION OF THE SEVERAL WINDS DURING THE HOURS IN ANY PART OF WHICH SNOW FELL, FROM OBSERVATIONS IN THE YEARS 1857 TO 1859 INCLUSIVE; THE SNOW STORMS BEING ARRANGED IN FOUR CLASSES ACCORDING TO THE AMOUNT OF SNOW, AND EACH CLASS BEING TAKEN TO INCLUDE ALL THE HIGHER CLASSES.

	Absolute duration of the several winds expressed in hours.					Relative duration of each wind during the hours in which snow fell, as compared with the duration on all days.					Ratios of the numbers in (6), (7), (8) and (9), to their respective means for all winds.			
	Snow generally,	Snow 1 inch and upwards,	Snow 3 inches and upwards,	Snow 6 inches and upwards,	During days with Snow,	Ratio of (3) to (5),	Ratio of (2) to (5),	Ratio of (3) to (5),	Ratio of (4) to (5),	Snow generally,	1 inch and upwards,	3 inches and upwards,	6 inches and upwards,	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
N.	105	43	9	0	1489	0.071	0.029	0.006	0.000	1.24	1.07	0.59	0.00	
N.N.E.	100	72	10	2	770	.130	.094	.013	.003	2.27	3.48	1.29	2.04	
N.E.	143	117	60	11	1022	.140	.114	.059	.011	2.45	4.22	5.84	7.48	
E.N.E.	139	89	64	14	2149	.065	.041	.030	.007	1.14	1.52	2.97	4.76	
E.	82	58	34	8	2192	.037	.026	.016	.003	0.65	0.96	1.58	2.04	
E.S.E.	28	15	11	0	876	.032	.017	.013	.000	0.56	0.63	1.29	.00	
S.E.	31	14	2	0	661	.047	.021	.003	.000	0.82	0.78	0.29	.00	
S.S.E.	36	9	4	0	781	.046	.012	.005	.000	0.80	0.44	0.49	.00	
S.	21	7	3	0	1166	.018	.006	.003	.000	0.32	0.22	0.29	.00	
S.S.W.	49	20	7	0	1799	.027	.011	.004	.000	0.47	0.41	0.39	.00	
S.W.	85	26	5	0	1760	.048	.015	.003	.000	0.84	0.56	0.29	.00	
W.S.W.	113	19	6	0	1945	.058	.010	.003	.000	1.01	0.37	0.29	.00	
W.	110	16	5	0	1975	.056	.008	.003	.000	0.98	0.30	0.29	.00	
W.N.W.	125	21	2	0	2044	.061	.010	.001	.000	1.07	0.37	0.10	.00	
N.W.	91	25	2	0	2027	.045	.012	.001	.000	0.79	0.44	0.10	.00	
N.N.W.	125	47	10	0	2213	.056	.021	.005	.000	0.98	0.78	0.49	.00	
Calm.	48	13	6	1	1388	.035	.010	.004	.001	0.61	0.37	0.39	0.68	

CH SNOW FELL,  
ARRANGED IN  
EN TO INCLUDE

mbers in (6), (7),  
their respective  
winds.

3 inches and upwards,	6 inches and upwards.
(12)	(13)
0.59	0.00
1.29	2.04
5.84	7.48
2.97	4.76
1.58	2.04
1.29	.00
0.29	.00
0.49	.00
0.29	.00
0.39	.00
0.29	.00
0.29	.00
0.29	.00
0.10	.00
0.10	.00
0.49	.00
0.39	0.68

