

DEPTH AND FREQUENCY OF RAIN.

PERIODS .....	6 a.m.	10 a.m.	2 p.m.	6 p.m.	10 p.m.	2 a.m.	Total.
	to 10 a.m.	to 2 p.m.	to 6 p.m.	to 10 p.m.	to 2 a.m.	to 6 a.m.	
Per centage of depth	9.2	12.7	22.8	23.5	17.9	13.9	100
" frequency	14.0	14.0	17.0	17.7	18.0	19.3	100

SNOW.

	1861.	Average of 19 years & 22 years.	Extremes in 19 years and 22 years.	
Total depth in the year	74.8	61.6	{ 99.0 } in 1855	{ 38.4 } in 1851
No. days which snow fell	76	57	87 in 1859	33 in 1848
Greatest depth in one month fell in . . . . .	February	February	Feb. 1846	Dec. 1851
when it amounted to . . . . .	29.7	18.0	46.1	10.7
Days of snow were the most frequent in . . . . .	January	December	{ Dec. 1859 Jan. 1861	Feb. 1858
when their number was	23	13.0	23.0	8
Greatest depth in one day which fell on . . . . .	8 inches Feb. 7th	..	..	..

RAIN AND SNOW (COMBINED.)

Where 10 inches of snow are considered as equivalent to 1 inch of rain.

	1861.	Average of 19 years & 22 years.
Total depth in the year . . . . .	34.475	36.488
Number of days in which rain or snow fell . . . . .	200	160*
Greatest depth in one month fell in . . . . .	November	September
when it amounted to . . . . .	4.614	3.973
Days of aqueous precipitation most frequent in . . . . .	January	December
when their number was . . . . .	23	18*

On February 7th, a heavy snow-storm occurred, accompanied by a strong gale and intense cold. At one part of the day, when the temperature was 14°3 below zero, the wind was blowing more than 33 miles an hour, with heavy falling and drifting snow. The temperature afterwards fell to 20°8 below zero, but at that time the gale had subsided.

2. THE CLIMATE OF CANADA.

L'Abbe Ferland, in his History of Canada, shews by a comparison of meteorological records kept here since the earliest settlement of the country, that the climate has undergone no change, as the first colonists imagined it would. The observations of Upper Canada savans establish the same conclusion for the western portion of our country, as we gather from the following report of a conversation at a meeting of the Canadian Institute, Toronto:

Judge HAGARTY.—Do the observations of 20 years shew any permanent change of temperature?

Professor KINGSTON (of the Meteorological Observatory).—There is no perceptible change as far as I can judge. The figures seem to oscillate, without shewing anything like a secular increase or diminution.

Mr. T. C. KEEFER.—It appears that the variations of mean annual temperature for a period of 22 years are only about four degrees. How does that compare with other countries?

\* These numbers include the cases in which both rain and snow have fallen in the same day, and which have been reckoned both in the rain and in the snow tables.

Prof. KINGSTON.—To the best of my recollection, the fluctuations of mean temperatures in England are much greater.

Mr. KEEFER.—It appears to me that 4 degrees is a very small variation for a period of 20 years, and that it speaks well for the climate of this country.

TABLE A.—METEOROLOGICAL STATIONS AT THE SENIOR COUNTY GRAMMAR SCHOOLS OF UPPER CANADA.

Under the authority of the Consolidated Grammar School Act, a special grant of \$400 per annum is made to each Senior County Grammar School, with participation in the distribution of the General School Fund; provision is also made for the establishment of a Meteorological Station at each of the prescribed Schools, and it is declared to be the duty of the Master to make the prescribed Meteorological Returns every month to the Educational Department. Out of the 31 Counties in which Senior County Grammar Schools have been established, only 18\* have contributed the necessary sum of half-price to purchase the necessary instruments, and but few of these (as will be seen from the following table) make the returns required by law. Steps, it is hoped, will shortly be taken to enforce the law, or restrict the grant to those Stations only from which returns are received.

Name of Meteorological Station.	No. of months the Station has been established to December, 1861, inclusive.	No. of monthly abstracts received at the Education Office, to December, 1861, inclusive.	Character of Abstracts received.		
			Well prepared.	Indifferently prepared.	Badly prepared.
1. Niagara ..	48	10	8	2	..
2. Hamilton ..	48	36	33	3	..
3. Belleville ..	48	38	33	2	..
4. Barrie ....	48	20	20	..	..
5. Chatham ..	48	15	..	11	4
6. Port Sarnia	48	26	26	..	..
7. Milton ....	47	3	..	..	3
8. Cornwall ..	47	31	31	..	..
9. Guelph ...	40	1	1	..	..
10. Whitby ..	40	36	35	1	..
11. Perth ...	39	10	10	..	..
12. Picton ...	39	22	22	..	..
13. Brantford	30	21	19	2	..
14. L'Orignal	4	..	..	..	..
15. Stratford.	17	17	17	..	..
16. Ottawa ..	4	4	4	..	..
17. Woodstock	2	..	..	..	..

TABLE B.—SHEWING THE NUMBER OF MONTHS THAT METEOROLOGICAL ABSTRACTS HAVE BEEN RECEIVED FROM THE DIFFERENT STATIONS, FOR THE YEAR 1861.

Name of Meteorological Station.	When established	Character of Abstracts received.		
		Well prepared.	Indifferently prepared.	Badly prepared.
1. †Niagara .....	1858	8	..	..
2. †Hamilton .....	1858	11	..	..
3. Belleville .....	1858	12	..	..
4. †Barrie .....	1858	1	..	..
5. †Chatham .....	1858	..	..	..
6. †Port Sarnia .....	1858	..	..	..
7. †Milton .....	1858	..	..	..
8. †Cornwall .....	1858	11	..	..
9. †Guelph .....	1858	..	..	..
10. Whitby .....	1858	12	..	..
11. †Perth .....	1858	1	..	..
12. †Picton .....	1858	11	..	..
13. Brantford .....	1859	9	..	..
14. †L'Orignal .....	1861	..	..	..
15. Stratford .....	1860	12	..	..
16. Ottawa .....	1861	4	..	..
17. Woodstock .....	1862	..	..	..

\* Station at Cayuga established February, 1863  
† The returns required by law have only been in part, or not at all, received from these Stations during the year 1861.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS MADE AT SOME OF THE SENIOR COUNTY GRAMMAR SCHOOL STATIONS IN UPPER CANADA, DURING THE YEARS 1859, 1860, AND 1861.

(Compiled at the Educational Department, Toronto.)

NOTE.—As the prescribed monthly Meteorological Reports have not been regularly received from the different Stations (see Table A), we are not able to insert a complete abstract for the entire year; we have, however, selected four monthly reports of each year, the calculations in which are actually correct.

1859.	BAROMETER.			TEMPERATURE OF AIR.					WARMEST DAY.		COLDEST DAY.		Humidity.	RAIN.	SNOW.	GENERAL REMARKS.
	Highest.	Lowest.	Greatest Daily Range.	Highest °Temp-ature.	Lowest °Temp-ature.	Greatest °Daily Range.	Least °Daily Range.	Date.	Mean °Temp-ature.	Date.	Mean °Temp-ature.	Mean.				
January .....	29.531	28.414	.458	46.6	-37.0	40.0	1.4	20	40.6	8	-1.0	66	..	9		
June .....	29.478	28.822	.471	91.1	28.0	42.6	14.1	28	76.4	4	36.6	44	10	..		
August .....	29.330	28.976	.120	91.6	44.0	37.9	5.4	10	77.9	29	52.8	54	5	..		
October .....	29.449	28.698	.462	78.3	19.8	28.0	4.6	4	65.9	26	28.8	36	7	2		

1. BARRIE.—Rev. W. F. CHECKLEY, B.A., Observer.