METEOROLOGICAL SERVICE, DOMINION OF CANADA.

Monthly Weather Review.

VOL. XXIII SEPTEMBER, 1899. No. 9

INTRODUCTION.

In compiling the present Review the principal data made use of are the telegraph reports of observations received at this office for the purpose of weather forecasting, and reports by mail from voluntary observers and storm signal agents. For the material used in tracing the paths of areas of high and low pressure in the United States, we are indebted to the Chief of the Weather Bureau, Washington, D.C.

REMARKS UPON THE WEATHER.

The weather in Canada during September was chiefly remarkable for the exceptionally bright warm weather which prevailed throughout the greater portion of British Columbia and the North-west Territories, also the cool weather with much cloud and heavy rainfall in Ontario. Elsewhere the weather did not differ much from normal.

In the Province of British Columbia the weather was unusually fine and warm the temperature being well above average in most places and the rainfall generally below. The ripening of grain, so much retarded by the cool wet weather of August, made rapid progress, and losses expected were fortunately not realized.

The weather conditions in the North-west Territories were even more favourable than in the last named province it being exceptionally fine and warm, whilst the rainfall was about average. The maximum temperatures which occurred at most places on or about the 25th, were generally well above 80°. Frosts were reported from all stations and at some places they were severe, nevertheless little damage appears to have been caused thereby.

In Manitoba the weather did not differ much from normal excepting in the amount of bright sunshine which at most places was unusually large; in the eastern portion however it was somewhat cooler than usual and at most places the rainfall was below average. The lowest temperature occurred nearly everywhere on the 29th, and 14° was recorded at Rosebank on that date. By the 30th vegetation had quite a wintry appearance.

In Ontario the weather was for the most part exceptionally cold, cloudy, and wet, more especially during the latter half of the month. Nearly everywhere the temperature was well below average and although the departure in the rainfall above average was only important in northern and eastern districts it was almost general. The maximum temperatures which were at most places between 80° and 90° exceeded the latter figure at a few stations. The frosts which occurred were unusually frequent and early, and in some districts were severe. These repeated frosts quickly showed their effect upon vegetation the trees taking on their autumnal tints, very early. Snow fell at many places during the last few days of the month, a depth of four inches being reported from London on the 30th.

The weather in the province of Quebec did not differ much from the normal excepting in a few districts; on the whole however it was somewhat cooler and more cloudy than usual, more especially during the latter half of the month. The maximum temperatures recorded only reached 80° at two stations, whilst the minimum temperatures were in many instances higher than in Ontario, 41° being the minimum at South-west Point Anticosti and 36° at Montreal. The trees changed colour towards the end of the month.

In New Brunswick the weather was almost normal, the rainfall however was somewhat below average at most places and in the vicinity of Moncton it was exceptionally dry. The maximum temperatures at most places were 80° or a little below and the minimum temperatures reported were from 42° at Grand Manan to 20°·5 at Sussex. The only gale recorded occurred on the 6th, when the wind registered 48 miles per hour at St. John.

In Nova Scotia the departures from normal were not important; it was however somewhat warmer than usual in most districts and at the larger number of stations the rainfall was above average. At most places the maximum temperatures were between 70° and 75°, and the minimum temperatures between 48°·0 at Sable Island and 28°·8 at Parrsboro. Most trees were still quite green at the end of the month. A strong gale from the west and northwest occurred on the 6th and 7th.

In Prince Edward Island the weather took much the same character as that in New Brunswick, the conditions being almost normal. Light frosts occurred at most places but vegetation was comparatively green on the 30th. Some considerable damage was done along the coast by a heavy gale which occurred on the 7th.—F. F. PAYNE.

ATMOSPHERIC PRESSURE.

The mean pressure was considerably above average from the Pacific Coast to the Upper Lake Region average or a little above in the Maritime Provinces, and average or a little below in Ontario and Quebec. The greatest amount above average was in Assiniboia 0·12 of an inch, and the largest amount below was at Montreal, 0·05 of an inch.

HIGH AREAS.

No. 1, which had first appeared on the North Pacific coast on the 27th of last month, was on the 1st September centred in Northern Quebec whence it moved to the Gulf of St. Lawrence and then south over the Atlantic. No. 2 developed over Alberta on the 2nd, moved eastward to Lake Superior, then south-east to the New England coast and out to sea on the 5th. It was not a very pronounced area, but brought fine weather everywhere. No. 3 also first developed over Alberta on the 4th, moved to Western Quebec and then southward and off the middle Atlantic coast on the 7th. No. 4, after hovering on and off the British Columbian and adjoining States coasts from the 6th until the 11th, moved to the North-west Territories, then to the Lakes where it divided in two on the 14th, but reunited again on the the 16th. It was an extensive area and brought fine weather throughout the country. No. 5 was an offshoot of the last area from which it parted on the 8th over Dakota; it passed eastward reaching Newfoundland on the 11th. No. 6 was comparatively unimportant; it first appeared over Northern British Columbia on the 15th, and moved south-eastward for a time, but was absorbed by No. 7 on the 17th when nearing the Lakes. No. 7 first appeared over British Columbia on the 17th, and thence moved to the North-west where it attained some energy, but soon passed to Northern Quebec, and apparently dispersed there. No. 8 was first noticed over Saskatchewan on the 20th. It was unimportant and of little energy, and took a south-east course to the Maritime Provinces, passing off the coast on the 24th, and causing cold weather throughout its course. No. 9 was an unimportant high, which first took definite form over Kansas and seems to have been absorbed by No. 8 on the 23rd, when nearing the Middle Atlantic Coast. No. 10, after hovering some time off the British Columbian and adjoining States coasts, was centred over Washington Territory on the 24th, from whence it took an erratic course more or less south-easterly until reaching the Carolina Coast, when it moved north-eastward up the Gulf Stream and out to sea. No. 11 first appeared over Northern British Columbia on the 27th, moved quickly south-eastward to Wyoming, then eastward to the Lakes being centred near Lake Michigan on the night of the 30th; it was of slight proportions at first, but soon developed into an area of importance and large proportions, covering at the end of the month the whole territory from Hudson's Bay south to the Gulf of Mexico and extending from Manitoba in the west to the Atlantic seaboard in the east.

LOW AREAS.

September was not a stormy month, although the low areas were numerous. In three cases areas moved up the middle Atlantic Coast, and two came from the Middle Mississippi Valley, but by far the greater number crossed the North-west and passed eastward across the continent. The mean velocity with which the low areas travelled was 31·0 miles per hour. No. 1 first appeared over British Columbia on the night of August 30th, and on the 1st September was centred over Montana, whence it moved to Manitoba, and then east to Newfoundland, which it reached on the 4th, and for the most part was unimportant until it passed over the Gulf of St. Lawrence where it gave a moderate to fresh gale. No. 2 was also first seen over British Columbia on the 2nd, moved into Montana and then to the North-west, where it was joined on the 4th by No. 3. This latter area was on the 2nd near California, and moved quickly northward; the combined system then passing due eastward to Newfoundland, which it reached on the 6th. It was of moderate energy until it arrived at the Gulf of St. Lawrence, where it developed considerably and gave a fresh gale. No. 4 was at first noticed on the morning of the 4th, as centred over Arizona, from whence it moved north-eastward and may have been absorbed by No. 5, but its actual movement is uncertain. No. 5 was passing over British Columbia on the 4th, soon crossed to the North-west and thence moved eastward, reaching Newfoundland on the 8th, and showed little energy throughout. No. 6 was an area of slight importance, which first appeared over Alberta on the night of the 8th, and passed east to the north of Lake Superior where it apparently dispersed. No. 7, which seems to have been subsidiary to No. 6, was apparently centred over Saskatchewan on the night of the 10th; whence it took a south-easterly course to the Ottawa Valley and then north-east to the Gulf of St. Lawrence, eventually crossing Newfoundland on the 15th. It was a shallow depression until it reached the Lakes, where it caused fresh to strong winds and local showers, also giving showery weather in the eastern provinces. No. 8 was short lived and of little importance. It first appeared near Cape Hatteras on the night of the 11th, disappearing during the 12th off the New England Coast. No. 9 was an unimportant low, which after causing some showers in Alberta on the 13th passed southward and disappeared. No. 10 was quite unimportant,

arriving over Alberta on the 15th, it apparently moved to Lake Superior and then eastward, dispersing over Northern Quebec. No. 11 was a small shallow trough of low pressure, which first appeared over Missouri on the 17th, and soon extended to the Lower Lakes and St. Lawrence Valley where it caused a general rainfall. No. 12, which first appeared in the eastern portion of the Gulf of Mexico, moved quickly up the coast, crossing the Maritime Provinces on the 20th. It was unimportant as far as wind is concerned, but was accompanied by an excessive fall of rain, both along the Atlantic coast and throughout the Maritime Provinces. No. 13 was quite unimportant. It first appeared over Alberta on the 21st, passed eastward and dispersed near James Bay. No. 14 was first noticed as centred in Iowa on the 24th. It soon crossed the Lower Lakes causing strong winds and moderate gales accompanied by heavy rainfall there. After passing the Lakes it was joined by No. 15 on the 26th, which had first appeared over North Carolina the day before. No. 16 was the most imporatnt area of the month and was situated over Northern Alberta on the 25th, whence it took a south-easterly course to Lake Superior and on the 28th covered the whole of the Lakes and had developed into an important storm. It caused a fresh to strong gale throughout the North-west, Manitoba and the Lakes. On the 29th it quickly diminished in energy and passed as an unimportant area eastward, reaching the Gulf of St. Lawrence on the 30th.

WINDS.

In British Columbia southwesterly winds were the most prevalent, and whilst on several days fresh winds occurred there were no gales. In the North-west Territories, the general direction was westerly. No gales were recorded, although on several days strong winds prevailed. In Manitoba, the winds were mostly westerly; two gales occurred, one on the 27th, reaching the force of a strong gale. One gale occurred on Lake Superior, otherwise the winds were for the most part moderate to fresh, and no special direction of wind was marked. In the Lake Region generally, north and west winds were most prevalent; the force of a gale was reached on four occasions; but in two of these the gales were only local. In the Ottawa and St. Lawrence Valleys the winds were generally moderate to fresh, no gales being recorded; whilst the westerly winds were most in evidence. In the Gulf of St. Lawrence the westerly winds predominated. There was one gale which was general throughout the Gulf and on three occasions the force of a gale was reached locally. In the Maritime Provinces the most prevalent winds were from a westerly direction, and whilst they were not as a rule strong, the force of a gale was reached locally on three occasions. One local gale was not warned for the Maritime Provinces; all the others were warned, but for one gale in the Gulf the warning was late at many stations.

TEMPERATURE.

The temperature was above average from Vancouver Island to Manitoba, nearly average in Eastern Quebec and the greater portion of the Maritime Provinces, and below average over Ontario and Western Quebec, and especially so in the more northern portions. White River was as much as 7° below, Bissett 5° below, and Montreal 4° below. Alberta and the North Saskatchewan Valley show the greatest amount above average, amounting to 3°.

The Highest and Lowest Temperature in each Province during September, 1899, were:

British Columbia,	90°·0 on 15th at Agassiz.	29°·5 on 28th at Revelstoke.
North-west Territories,	88°·0 on 1st at Alameda.	20°·0 on 18th at Moose Jaw.
Manitoba,	88°·5 on 1st at Aweme.	14°·0 on 29th at Rosebank.
Ontario,	95°·0 on 7th at Cottam and Gosfield.	8°·0 on 30th at Savanne.
Quebec,	85°·0 on 1st at Richmond.	23°·0 on 24th at Richmond.
New Brunswick,	80°·0 on 18th at Chatham.	20°·5 on 24th at Sussex.
Nova Scotia,	78°·0 on 4th at Port Hastings.	28°·8 on 24th at Parrsboro.
Prince Edward Island,	76°·6 on 18th at Charlottetown.	33°·0 on 24th at Hamilton.

PRECIPITATION.

The rainfall was largely above average over the middle and eastern portions of Ontario and in Western Quebec, below average in western and south-western Ontario, and also generally below over British Columbia. In the other portions of the Dominion it did not differ much from the average amount, except locally; it was however, for the most part, a little below average in Eastern Quebec, the Maritime Provinces, Southern Manitoba and the Qu'Appelle Valley, and above average in the North Saskatchewan Valley. At Toronto the average amount was exceeded by 1·9 inches, at Ottawa by 2·4 inches, at Welland by 3·4 inches and at Haliburton by 3·8 inches, Montreal was 1·8 inches above average, and Quebec 0·6 inches below average.

BRIGHT SUNSHINE.

Bright sunshine exceeded the mean amount from Vancouver Island to Manitoba both inclusive, and a deficiency was recorded over the remaining portion of the Dominion; the percentage of the possible duration ranged from 62 in Victoria, B.C., 60 at Battleford and 53 at Winnipeg to between 33 and 42 in Ontario and to between 43 and 48 in Quebec and the Maritime Provinces.

PRESSURE, TEMPERATURE, WIND AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, SEPTEMBER, 1899.

a. Barometer not reduced to Sea Level. • Stations not furnished with Registering Thermometers.

STATION.	Latitude N.	Longitude W.	Elevation above Sea Level, in feet.	PRESSURE. Mean reduced.	Highest.	Lowest.	Range.	TEMPERATURE. Mean.	Difference from average.	Years observt.	Highest.	Date.	Lowest.	Date.	Mean daily range.	Mean temperature of Dewpoint.	Mean relative Humidity.	Mean amount of Cloud.	No. of days completely clouded.	DIRECTION OF WIND FROM N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	C.	Total number of hours.	VELOCITY OF WIND Mean miles per hour.	Highest day's velocity.	Date and direction from.	PRECIPITATION. Amount.	Difference from Average.	Heaviest fall in month.	Days with 0·01 or more.	No. of Fair days.	No. of Auroras.	No. of Thund.-storms.	No. of Fogs.
BRITISH COLUMBIA:	° ′	° ′		in.	in.	in.	in.	°	°		°		°		°																	in.	in.	in.					
Victoria	48 24	123 19	85	30·05	30·35	29·69	0·66	57·0	+ 2·5	5	80·3	11	39·2	28	21·3	....	85	4	3	17	78	41	17	106	129	102	5	225	720	4·1	9·8	12 SW	0·72	—1·61	0·32	6	21	0	1	0
Barkerville	53 2	121 35	4180	29·98	30·47	29·43	1·04	49·4	+ 2·5	11	74·0	11	30·0	22	25·0	....	....	4	2	1	0	0	2	4	0	1	52	60	.....	7·0	2 SW	2·9	—0·95	0·70	10	19	0	1	0
Agassiz	49 14	121 31	52	.....	.....	...	...	56·9	+ 1·0	10	90·0	15	40·0	30	27·6	..	...	...	...	29	0	0	0	40	0	21	0	0	90	.....	.....	.....	3·07	—2·17	1·64	8	22	0	0	0
Abbotsford	49 2	122 16	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Simpson	54 34	130 26	26	29·97	30·35	29·60	0·75	52·4	— 0·4	12	66·0	3	38·0	3	18·1	..	88	6	14	0	0	2	3	13	0	7	0	59	84	I	IV	24 S	7·65	—2·61	3·53	14	16	0	0	18
Spence's Bridge	50 23	121 20	770	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hazlemere	49 3	122 43	....	.....	.....	.....	.....	57·9	+ 2·9	6	81·0	10–19	33·0	28	29·1	....	.....	.....	.....	0	1	6	28	0	25	0	0	0	30	.....	.....	.....	0·72	—3·20	0·30	6	24	0	0	13
Revelstoke	51 0	118 6	1476	.....	.....	.....	.....	52·7	—	—	80·0	12	29·5	28	25·4	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2·63	—	0·43	9	18	0	0	0
Kamloops	50 41	120 29	1193	30·09	30·52	29·62	0·90	58·2	+ 0·3	6	75·7	11	38·0	29	18·7	....	74	5	1	1	0	2	3	7	3	6	3	35	60	.....	22·5	13 NW	0·52	—0·43	0·25	6	24	0	1	0
Princeton	49 29	120 29	1650	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pilot Bay	49 39	116 55	....	.....	.....	.....	.....	57·6	+ 2·8	3	74·0	13	45·0	8	14·6	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·31	—0·07	0·45	5	25	0	0	0
Rivers Inlet	51 39	127 19	20	30·08	30·34	29·57	0·77	55·5	+ 2·5	5	71·0	18	43·2	13	12·5	....	95	5	7	0	0	5	11	0	4	21	0	49	90	I	III	9 SE	8·07	+0·91	2·86	13	17	0	0	5
Stuart's Lake	54 28	124 12	1800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
French Creek	49 20	124 36	....	.....	.....	.....	.....	60·6	+ 6·4	6	74·0	11	38·0	28	30·9	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·23	—2·09	0·57	7	23	0	0	0
Glacier	51 16	117 28	4072	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Donald	51 28	117 11	2090	.....	.....	.....	.....	54·4	+ 4·2	6	80·0	12	27·0	28	32·6	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·06	—0·14	0·50	5	25	0	1	1
Griffin Lake	50 56	118 29	1517	.....	.....	.....	.....	56·6	+ 4·3	5	86·0	11	35·0	28	25·9	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·31	—0·26	0·42	7	23	0	1	1
Vernon	50 14	119 15	1246	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*a*Kuper Island	48 58	123 38	....	30·07	30·35	29·67	0·68	57·4	+ 1·4	4	78·5	11	39·8	28	21·3	....	87	4	0	3	9	4	1	8	2	1	1	61	90	I	IV	30 S	0·72	—0·73	0·35	5	25	0	0	1
Chilliwack	49 10	121 57	....	30·06	30·35	29·72	0·63	59·0	+ 2·5	3	79·1	11	40·0	7	21·5	....	92	4	0	1	1	27	10	11	11	20	2	0	83	15·6	24·0	12 SW	2·49	+0·27	0·73	10	2	0	1	4
Quatsino	50 32	128 3	....	.....	.....	.....	.....	55·0	+ 0·7	3	73·0	1	41·0	27	13·1	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6·45	—2·53	1·53	14	15	0	0	0
Midway	49 0	118 46	1800	.....	.....	.....	.....	57·8	+ 4·8	4	89·0	11	31·0	27	23·6	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·40	+0·60	0·96	4	26	0	0	0
Enderby	50 32	119 7	1180	.....	.....	.....	.....	55·2	— 1·0	3	80·0	11	31·0	27	27·6	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·78	+0·19	0·62	6	24	0	1	20
Nicola Lake	50 9	120 39	2120	.....	.....	.....	.....	54·3	+ 1·3	3	77·0	11	32·0	28	25·5	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·10	+0·40	0·48	6	24	0	0	0
Chilcoten	52 2	122 40	2170	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Kootenay	49 20	117 50	....	.....	.....	.....	.....	57·4	+ 2·3	3	77·0	12	40·0	8	19·6	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·08	—0·13	0·28	6	24	0	0	9
Garry Point	49 21	123 17	....	.....	.....	.....	.....	54·3	+ 0·3	3	69·0	11	33·0	28	18·6	....	.....	.....	.....	5	6	15	9	8	3	5	30	9	90	.....	.....	.....	1·23	—0·75	0·88	4	26	0	0	0
Tobacco Plains	49 1	115 5	2300	.....	.....	.....	.....	56·3	+ 2·5	3	86·1	12	32·0	29	28·5	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·51	—0·52	0·97	3	27	0	1	1
Alberni	49 15	124 49	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Westminster	49 13	122 54	330	30·07	30·34	29·64	0·70	59·1	+ 1·7	7	76·0	11–19	44·0	14	19·1	....	86	4	2	0	0	10	2	8	11	0	0	29	60	.....	.....	.....	1·46	—1·87	0·57	8	22	0	0	0
*a*Ladner	49 5	123 4	....	30·06	30·32	29·75	0·57	56·1	—	—	78·0	6	30·0	27	19·2	....	.....	.....	.....	1	0	0	5	1	4	6	4	9	30	.....	.....	.....	1·00	—	0·67	4	26	0	0	6
N. Nicomen	49 12	122 2	59	.....	.....	.....	.....	59·6	+ 2·7	6	79·0	11	42·0	7	21·1	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·94	—4·10	0·49	7	21	0	3	0
Quesnelle	52 59	122 30	1700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clayoquot	49 11	125 47	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Scott	50 48	128 27	....	.....	.....	.....	.....	54·6	+ 1·8	2	68·0	29	41·5	28	16·2	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5·65	—0·98	1·27	15	15	0	0	0
Massett	53 58	132 9	....	.....	.....	.....	.....	54·3	+ 1·6	1	66·0	1–13	38·0	25	14·4	....	.....	.....	.....	0	2	1	11	0	3	12	1	0	30	.....	.....	.....	3·05	—	0·40	15	15	0	1	0
Quesnelle Forks	52 45	121 55	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bella Coola	52 20	126 54	100	.....	.....	.....	.....	54·6	+ 0·3	1	75·0	11	35·0	28	17·2	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4·64	—	1·54	11	19	0	0	0
Duncan's	48 45	123 42	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vancouver	49 17	123 5	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nelson	49 29	117 21	....	.....	.....	.....	.....	58·7	+ 2·1	1	84·0	10	39·5	28	24·2	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·78	—0·17	0·60	8	22	0	1	0
Kelowna	49 52	119 29	....	.....	.....	.....	.....	56·1	—	—	77·7	11	31·6	28	26·4	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·52	—	0·54	5	25	0	0	0
Matsqui	....	....	....	.....	.....	.....	.....	58·2	—	—	80·0	11	39·0	27	22·7	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1·75	—	0·68	7	23	0	0	0
N. W. TERRITORIES:																																								
Medicine Hat	50 1	110 37	2161	29·98	30·35	29·48	0·87	59·1	+ 3·9	15	86·6	25	32·0	28	28·9	....	68	5	1	5	0	5	1	10	5	18	5	11	60	.....	32·0	30 S	1·66	+0·56	0·52	7	19	3	1	0
Edmonton	53 33	113 30	2158	29·93	30·31	29·28	1·03	53·2	+ 3·4	16	77·0	25	32·0	28	22·8	....	84	5	4	3	1	4	6	3	9	13	10	11	60	.....	14·3	22 NW	1·40	+0·19	0·46	8	21	0	1	0
Swift Current	50 20	107 45	2439	30·02	30·45	29·50	0·95	55·0	+ 1·5	13	81·0	25	27·5	28	25·7	....	76	4	0	33	33	29	57	52	102	146	110	158	720	8·7	21·3	27 NW	0·64	—0·52	0·28	8	20	0	2	0
Qu'Appelle	50 30	103 47	2115	29·98	30·45	29·30	1·15	53·0	+ 1·4	16	80·0	26	24·0	18	27·0	....	65	4	1	0	1	8	5	9	10	7	12	8	60	.....	20·7	27 NW	0·81	—0·47	0·44	6	21	4	1	0
Calgary	51 2	114 2	3389	29·97	30·38	29·48	0·90	53·6	+ 3·5	15	77·0	26	32·0	28	26·3	....	70	5	2	0	1	2	10	2	2	15	15	13	60	.....	37·3	13 NW	0·99	—0·21	0·63	6	2	0	0	1
Prince Albert	53 10	106 0	1402	29·92	30·39	29·45	0·94	52·4	+ 3·4	14	81·2	26	26·5	18	24·7	....	....	5	6	14	4	2	8	8	2	4	1	17	60	.....	12·0	27 N	2·31	+1·15	0·91	8	21	5	0	2
Battleford	52 41	108 20	1620	29·99	30·37	29·36	1·01	54·0	+ 1·5	8	82·0	25	29·0	28	24·6	....	....	4	3	31	40	9	188	22	69	174	103	84	720	7·7	21·3	3 E	1·82	+0·64	0·64	9	11	2	0	2
Oonikup	53 30	101 20	....	.....	.....	.....	.....	51·4	+ 1·1	8	75·5	27	28·0	18	19·5	....	....	....	....	8	2	4	10	4	14	5	6	7	60	.....	.....	.....	.....	.....	.....	.....	2	5	0	0	.....
*a*Banff	51 10	115 35	4542	30·07	30·55	29·51	1·04	49·8	+ 4·2	4	73·5	12	28·2	28	25·0	....	70	5	3	2	1	0	4	4	23	3	3	20	60	.....	15·0	23 SW	1·89	+0·35	0·47	11	17	0	2	0
Calgary (2)	51 4	114 4	....	.....	.....	.....	.....	53·8	+ 4·9	5	79·8	24	32·0	28	26·8	....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0·90	+0·10	0·53	5	25	1	1	0
Chaplin	50 27	106 40	2202	.....	.....	.....	.....	49·5	— 2·2	14	78·0	30	27·0	28	28·6	....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0·06	—0·50	0·04	2	28	0	0	0
Moose Jaw	50 21	105 35	1745	.....	.....	.....	.....	51·9	— 0·1	4	82·0	26	20·0	18	29·8	....	....	....	....	4	0	0	2	19	4	9	6	16	60	.....	.....	.....	0·50	—0·02	0·21	4	26	2	1	1
Regina	50 27	104 37	1885	.....	.....	.....	.....	52·2	+ 1·6	15	82·0	27	24·0	16	29·0	....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0·87	+0·36	0·60	3	24	1	2	0

N. W. Territories:—*Con.*	° '	° '		in.	in.	in.	in.	°	°		°		°		°																		in.	in.	in.					
Indian Head	50 28	103 40	1924					53·9	+1·8	10	81·0	26	22·0	18	28·5					3	5	2	20	13	8	12	27	0	90				1·15	+0·55	0·80	4	26	0	0	0
Cannington Manor	49 43	102 2						52·4	−0·3	4	87·0	1	22·0	29	27·7					1	4	3	8	5	4	5	17	13	60				0·85	0·00	0·33	7	23	2	3	2
Macleod	49 44	113 24						57·5	+2·5	3	83·0	25	31·0	28	25·4					9	3	8	8	6	7	40	9	0	90				1·75	+0·68	0·85	7	22	0	0	0
Yarrow	49 45	115 42	4000					55·3	+4·5	3	83·0	25	29·0	8	30·3					0	1	15	0	0	0	37	1	0	54									0	0	1
Gatesgarth	50 20	105 0						52·2	−0·6	3	85·0	26	23·0	18	28·6																		0·38	−0·76	0·24	3	27	0	0	0
Grenfell	50 23	102 53	1957																																					
Kneehill	51 55	113 0						52·3	+0·8	2	77·0	25	28·0	28	25·9					0	3	1	5	2	6	1	12	0	30				3·64	—	0·88	1[illegible]	20	0	3	0
Muskowpetung	50 15	104 15						50·4	—	—	79·9	10	22·0	25	28·1					2	0	0	1	0	2	12	8	5	30				1·17	+0·53	0·34	6	24	1	0	0
Fort Simpson	61 52	121 43																																						
Alameda	49 15	102 17						51·4	−1·6	4	88·0	1	21·0	28	34·6																		0·10	−1·58	0·10	1	29	0	0	0
Duck Lake	52 24	106 9						52·0	+1·8	1	80·5	27	27·0	18	23·1																		2·28	+0·74	1·03	7	23	0	1	0
Red Deer	52 15	113 30						57·2	—	—	75·4	10	35·0	27	19·5					0	1	0	7	1	9	2	10	0	30				3·90	—	1·68	11	17	4	3	0
*a*Mosquito Creek	50 22	113 46		26·51	26·84	26·06	0·76	52·7	—	—	82·3	25	24·0	28	31·9		73	3	2	0	2	1	22	1	4	7	8	15	60	7·5	27·0	13 NW	1·39	—	0·88	4	23	0	0	0
Colles								54·5	—	—	82·0	25	29·3	1	28·9																		4·68	—	3·60	6	24	0	0	0
Saskatoon	52 15	106 30																																						
Crane Lake	50 0	109 50						56·4	—	—	81·0	25	30·0	28	23·2					2	0	2	6	3	8	8	8	23	60				1·07	—	0·71	10	20	0	1	0
Selkirk (Yukon)								42·7			65·0	12	18·0	30	21·1																									
Tagish (Yukon)	60 17	134 15						43·8	—	—	64·5	10	19·0	6	22·9					6	0	0	0	19	5	0	0	0	30				0·55	—	0·15	7	23	4	0	0
Manitoba:																																								
Minnedosa	50 10	99 48	1690	30·03	30·46	29·38	1·08	51·6	+0·3	16	81·8	1	17·1	29	27·8		70	5	1	2	1	8	3	4	5	4	13	20	60		28·3	2 NW	0·85	−0·36	0·41	5	23	3	1	0
Winnipeg	49 53	97 7	760	30·00	30·34	29·40	0·94	52·7	−0·4	26	82·5	9	17·0	29	26·4		72	6	1	12	2	3	15	5	3	8	10	2	60		38·9	28 NW	0·91	−1·07	0·37	8	19	0	1	1
*a*St. Alban's (Aweme)	49 43	99 33		28·78	29·09	28·36	0·73	53·8	−1·1	13	88·5	1	16·0	29	28·7																		1·15	−0·09	0·55	4	26	9	0	0
*Fort Osborne	49 53	97 11						50·3	−3·3	13	77·0	9	22·0	29	—																									
*a*Emerson	49 1	97 12																																						
Portage la Prairie	49 57	98 1	830					53·1	−1·7	10	80·0	9	19·0	29	26·0			3	1	2	15	0	7	0	9	5	4						0·82	−0·76	0·49	2	28	1	1	0
Brandon	49 51	99 57	1176					52·2	−1·4	10	85·6	1	19·6	29	28·1			3	1	2	15	0	7	0	9	5	49	3	90	II	III	2 NW	0·40	−0·47	0·35	2	28	0	1	0
Channel Island	52 18	97 23	710					52·4	+1·9	12	69·0	9	30·5	29	17·6			5	4	13	1	4	34	2	5	20	9	2	90	IV	VII	2 W	1·46	−0·84	1·00	4	23	1	0	0
Elkhorn	49 58	101 16																																						
Stony Mountain	50 5	97 12	803	29·92	30·29	29·24	1·05	53·1	+1·0	18	82·5	10	22·0	29	24·7			5	0	4	9	2	12	8	6	5	13	1	60	II	VI	2 NW	0·58	−1·48	0·42	5	21	0	3	1
*a*Barnardo	50 59	101 20		26·67	26·96	26·27	0·69	48·9	+0·7	13	81·0	27	19·0	29	29·2			5	2	7	7	5	20	10	13	11	17	0	90	13·1	24·8	30 SE	1·42	+0·37	0·44	9	20	4	3	2
Treherne	49 38	98 42						51·4	−3·2	3	83·0	9	17·0	22	27·6																		1·00	+0·08	0·30	3	27	0	3	0
Rosebank	49 22	98 6						52·7	−2·5	3	85·0	1	14·0	29	29·0																							0	4	0
Hillview	49 54	100 35						50·6	−0·5	13	84·0	1	15·0	29	28·8			2	1	6	8	10	10	5	11	11	27	2	90				0·77	−0·44	0·57	3	27	10	1	0
Pipestone	49 34	100 58						54·7	—	—	88·0	1	20·0	22	29·8																		0·16	—	0·10	3	27	0	2	0
Roseberry	49 14	99 20	1400																																					
Ontario:																																								
Haileybury	47 29	78 39	687	30·01	30·39	29·51	0·88	50·3	−4·2	5	75·2	2	24·1	23	18·4			8	4	19	2	1	0	15	3	2	12	6	60	II	V	5 W	3·20	+0·01	1·07	11	14	5	1	2
*Sudbury	46 27	80 55																																						
Savanne	48 55	90 18	1506					44·4	−6·5	13	72·0	2	8·0	30	27·1					1	7	2	7	0	6	12	18	37	90				3·70	+0·82	1·50	5	18	2	0	0
*Missanabie	48 21	88 28						49·5	−1·9	11	70·0	1	20·0	26	—					14	2	0	5	21	0	41	6	1	90				1·55	−0·15	0·50	12	16	0	0	0
*Schreiber	48 50	87 15						45·8	−5·7	4	65·0	2	21·0	21	—					43	5	0	2	17	2	0	3	20	90				3·00	+1·20	0·40	6	13	0	0	0
*Heron Bay	48 40	87 10						46·0	−7·1	6	70·0	3	25·0	23	—					18	0	0	0	0	30	14	0	28	90				2·55	−0·04	0·65	10	20	0	0	1
North Bay	46 34	79 30																																						
White River	48 35	85 16	1252	30·06	30·45	29·35	1·10	44·4	−6·5	10	74·8	1	14·0	23	22·2		93	7	9	104	89	12	44	94	86	23	75	193	720	4·0	7·0	28 W	2·78	+0·06	0·36	16	13	2	3	1
Port Arthur	48 27	89 12	644	30·03	30·44	29·24	1·20	48·8	−3·8	19	78·0	2	20·0	30	21·8		79	5	3	199	95	8	5	26	0	35	303	119	720	6·1	13·3	6 NE	3·65	+0·31	1·07	9	10	0	1	0
Parry Sound	45 15	89 0	635	30·01	30·37	29·58	0·79	53·7	−3·4	23	79·2	2	26·8	23	17·6		72	7	5	132	123	76	82	6	29	133	120	19	720	10·5	18·7	29 W	3·34	−0·31	1·32	12	18	0	1	0
Saugeen	44 30	81 21	656	30·03	30·42	29·57	0·85	55·8	−4·1	23	83·0	7	27·6	23	15·8		72	7	11	165	73	36	54	92	59	66	139	36	72[illegible]	10·5	23·3	28 SW	2·76	−0·24	1·07	12	16	0	1	2
Owen Sound	44 34	80 55	597					57·6	−1·7	21	86·0	2	28·0	23	18·8					14	24	3	3	13	19	3	11	0	90				4·06	+0·54	1·59	14	16	0	2	1
Uplands	45 48	79 25						51·0	−2·8	13	81·0	2	20·4	23	22·8					1	2	3	0	2	3	7	12	0	30				2·29	−2·13	0·40	16	14	0	3	0
(*a*)Durham	44 10	80 50		28·70	29·04	28·14	0·90	54·8	−4·5	17	82·0	17	25·0	23	17·7			6	7	7	0	0	4	18	17	0	42	2	90	III	VI	28 S	1·92	−0·71	0·82	8	17	1	2	1
Toronto	43 39	79 24	350	30·03	30·40	29·64	0·76	56·8	−1·8	58	85·0	5	31·8	23	17·2	50·9	78	6	4	17	0	8	1	7	4	16	5	2	60	5·2	14·7	12 W	5·15	+1·89	1·76	12	18	0	5	0
Welland	42 50	79 17						58·0	−3·7	13	84·0	3	34·0	14	17·6																		6·94	+3·42	1·27	12	18	0	1	3
Niagara	43 13	79 6																																						
Peterborough	44 17	78 19	722																																					
Lindsay	44 20	78 45	872	30·02	30·37	29·60	0·77	53·6	−3·4	17	83·6	17	30·0	23	19·0			6	8	5	6	2	7	10	15	4	27	14	90	II	VI	28 S	5·02	+2·10	1·10	19	11	0	2	1
Deseronto	44 11	77 4	261					57·0	−3·3	17	83·8	3	29·0	30	22·3			5	2	0	8	6	14	6	7	33	14	2	90	9·4	17·0	28 SW	4·51	+2·00	0·64	12	18	0	0	1
Lakefield	44 25	78 15						55·0	−4·9	15	90·0	1	29·5	29	21·0																		3·26	+0·72	1·07	9	21	0	0	0
Ridgetown	42 30	81 55						58·4	−1·[illegible]	10	90·0	7	29·0	30	2[illegible]·3																		1·58	−0·74	0·31	9	21	0	4	0
Kingston	44 13	76 29	285	30·00	30·38	29·58	0·80	58·2	−2·3	25	82·7	3	34·7	30	16·5					8	8	0	3	6	14	9	6	6	60		15·8	28 SW	3·95	+1·27	1·19	12	16	0	0	0
Clontarf	45 23	77 9						53·8	−3·7	11	87·0	17	22·8	23	22·3																		3·87	+1·12	0·54	16	14	0	0	0
Renfrew	45 26	76 39						53·3	−4·8	21	86·0	18	26·1	22	25·9																		2·43	+0·52	0·90	6	24	0	0	0
Bancroft	45 1	77 50						50·6	−3·1	11	81·4	17	20·6	23	21·5			7	12	7	1	3	2	3	4	22	21	7	90	I	IV	28 S	6·91	+4·25	2·17	11	15	0	2	0
Ottawa	45 26	75 42	294	29·99	30·41	29·53	0·88	55·6	−2·1	16	81·8	3	32·0	23	18·3			6	7	9	4	6	3	3	9	6	10	0	60		IV	4 SW	4·93	+2·37	1·[illegible]2	10	17	0	1	0
Bissett	46 12	77 55	557	30·02	30·41	29·55	0·86	51·1	−4·8	22	79·0	17	20·0	23	23·0		86	8	10	4	4	1	2	0	0	2	8	39	60		19·3	3 N	5·56	+2·43	1·82	18	12	0	0	3
Mattawa	46 15	78 41						52·3	−2·5	12	80·0	1	21·0	30	28·1																		3·70	+1·18	1·16	6	24	0	0	0
*Cartier	46 40	80 50																																						
St. Ann's	43 6	79 32						58·3	−2·9	4	82·0	17	34·0	30	20·7																		4·39	+2·30	1·67	9	18	0	0	2
Stouffville	43 56	79 11						57·2	−4·0	4	88·0	1	29·0	23	20·7					37	6	5	14	16	1	6	5	0	90				5·45	+2·55	1·25	13	17	0	3	1
Sarnia	42 59	82 29	586					58·0	−3·9	4	88·0	7	31·0	30	—																		2·98	+0·54	1·39	4	26	0	0	1
Millbrook	44 8	78 32						54·4	−4·8	3	82·5	18	24·5	22	21·3																		3·33	+0·13	1·25	11	18	0	0	0
Barrie	44 23	79 41	839																																					
Erasmus	43 58	80 22						52·4	−4·1	3	85·9	1	26·0	23	20·0																		4·18	+1·61	1·82	12	14	0	4	2
Bloomfield	43 59	77 21						57·1	−2·3	3	82·0	1–18	35·0	14	17·9																		3·95	+0·45	0·80	9	21	0	0	0

PRESSURE, TEMPERATURE, WIND AND PRECIPITATION AT STATIONS IN THE DOMINION OF CANADA, SEPTEMBER, 1899.

a. Barometer not reduced to Sea Level. *Stations not furnished with Registering Thermometers.

STATION.	Latitude N.	Longitude W.	Elevation above Sea Level, in feet.	PRESSURE. Mean reduced	Highest.	Lowest.	Range.	TEMPERATURE. Mean.	Difference from average.	Yearsobservt.	Highest.	Date.	Lowest.	Date.	Mean daily range.	Mean temperature of Dewpoint.	Mean relative Humidity.	Mean amount of Cloud.	No. of day completely cloudeds.	DIRECTION OF WIND FROM N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	C.	Total number of hours.	VELOCITY OF WIND Mean miles per hour.	Highest day's velocity.	Date and direction from	PRECIPITATION. Amount.	Difference from Average.	Heaviest fall in month.	Days with ·01 or more.	No. of Fair days.	No. of Aurorars.	No. of Thund. storms.	No. of Fogs.
ONTARIO—(*Continued.*)																																									
Calvin	46 15	78 48	....	....	....	....	....	50 0	— 5·3	3	80·0	2	20 8	23	21·4	....	....	....	....																						
*Otonabee	44 20	78 18	....	....	....	....	....	56 9	— 4·9	4	81·0	17	33·0	23	—	....	....	....	....	5	9	3	7	11	24	5	25	1	90	....	....	....	3·85	—0·83	0·94	10	20	0	2	3
Windsor	42 19	83 2	....	....	....	....	....	60 8	— 2·0	25	88·5	1	31·0	30	20·3	....	....	....	....															3·82	+0·78	1·63	12	17	3	0	0
Alton	43 51	80 5	1250	....	....	....	....	53 5	— 4·5	12	87·2	1	24·9	23	22·2	....	....	....	....															2·46	+0·25	1·01	11	19	0	0	0
aGuelph	43 33	80 16	....	28·76	29·12	28·43	0·69	55·8	— 3·0	11	85·0	17	28·0	23	17·1	....	....	4	4	18	8	2	8	10	2	25	17	0	90	II	III	3 NW	4·53	+1·97	2·78	9	20	0	4	2
*North Bruce	44 23	81 25	....	....	....	....	....	55·1	— 4·0	11	85·0	16	33·0	30	—	....	....	....	....															3·67	+1·64	1·16	11	17	0	3	0
Collingwood	44 30	80 15	....	....	....	....	....	56·9	— 3·3	7	83·0	18	33·0	30	14·0	....	....	....	....	4	14	9	3	12	12	16	20	0	90	....	....	....	3·43	+0·58	1·21	10	20	0	0	1
Collingwood (2)	44 29	80 15	....	....	....	....	....	52·9	— 5·2	3	89·0	2	21·0	30	22·8	....	....	....	....															3·09	—0·57	0·90	13	17	0	0	0
Bognor	44 40	80 50	....	....	....	....	....	60 1	—	—	92·0	1	26·0	22	28·2	....	....	....	....															4·53	+1·83	0·90	16	14	0	3	6
Whiteside	45 0	79 30	....	....	....	....	....	54 7	— 2·1	16	80·0	17	29·0	23	18·7	....	....	....	....															2·98	+0·04	2·10	4	26	0	0	1
Sprucedale	45 20	79 40	....	....	....	....	....	52 2	— 2·3	14	84·0	2	20·0	23	19·8	....	....	....	....															3·76	+0·66	0·67	12	17	0	4	0
Orillia	44 34	79 24	....	....	....	....	....	54·7	— 3·4	7	84·0	17	26·0	22	20·5	....	....	....	....															3·01	—0·35	1·13	9	20	0	2	0
Coldwater	44 38	79 40	....	....	....	....	....	53·2	— 4·5	13	83·2	17	21·9	23	21·0	....	....	....	....															4·00	+1·09	1·01	7	23	0	4	0
Beatrice	45 8	79 26	....	....	....	....	....	51·8	— 3·0	23	80·0	17	25·6	23	19·7	....	....	6	6	4	0	1	5	10	13	1	25	7	60	....	....	....	3·09	—0·08	0·47	14	16	1	4	0
Gravenhurst	44 54	79 20	770	....	....	....	....	54·0	— 2·9	28	84·0	17	25·0	22	18·9	....	....	6	5	17	2	6	10	13	5	12	15	10	90	II	V	28 SW	3·94	+0·45	0·95	10	19	0	3	0
Haliburton	45 1	78 28	....	....	....	....	....	53·0	— 2·7	11	83·0	17	22·0	23	20·1	....	....	....	....															3·19	—0·53	1·14	12	16	2	5	1
*Point Clark	44 5	81 44	595	....	....	....	....	58·7	— 1·1	28	85·0	7	32·0	23	—	....	....	4	0	35	4	4	2	26	4	9	6	0	90	III	VII	29 W	6·40	+3·81	1·16	17	12	0	3	0
Birnam	43 2	81 55	....	....	....	....	....	58·7	— 1·7	16	90·5	7	36·0	27	15·9	....	....	....	....	11	3	1	1	10	11	8	13	2	60				2·64	—0·58	1·05	5	25	0	3	1
London	42 59	81 12	808	30·01	30·38	29·48	0·90	58·3	— 2·4	16	85·5	2	32·5	30	20·5	....	80	4	2	3	0	0	0	2	18	43	24	0	90	I	III	28 W	2·90	—0·13	1·10	9	21	0	3	1
Port Stanley	42 40	81 13	592	30·04	30·38	29·63	0·75	58·0	— 3·0	25	82·2	3	32·0	30	18·9	....	78	6	7	190	23	71	27	79	32	164	77	57	720	7·6	....	....	3·95	+1·40	1·37	13	13	0	2	0
Woodstock	43 8	80 47	980	30·03	30·43	29·61	0·82	55·8	— 3·3	25	83·0	7	32·0	30	21·0	50·9	84	6	4	215	20	94	1	140	16	119	52	63	720	8·8	22·5	28 SW	2·71	—0·06	0·81	10	20	0	6	2
Port Dover	42 47	80 13	635	....	....	....	....	59·7	— 0·8	21	86·3	1	35·0	30	18·5	....	....	....	....															2·79	+0·32	1·00	14	15	0	0	0
Pelee Island	41 50	82 38	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3·82	+1·14	0·80	12	18	0	5	0
Port Rowan	42 38	80 29	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
St. George	43 14	80 12	722	....	....	....	....	58·8	— 0·6	15	85·0	17	33·0	30	19·4	....	....	....	....																						
Paris	43 12	80 25	840	....	....	....	....	53·2	— 7·6	9	88·0	17	31·5	30	15·4	....	....	4	8	1	17	0	0	0	8	61	3	0	90	....	....	....	2·55	—0·52	0·86	7	22	0	0	0
St. Mary's	43 15	81 11	1040	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2·81	+0·15	1·07	8	22	0	2	0
Stratford	43 23	81 0	1191	30·05	30·43	29·58	0·85	55·9	— 1·8	30	83·2	17	30·0	23	18·3	....	....	....	....																						
Lucknow	43 56	81 30	....	....	....	....	....	56·6	— 3·5	13	85·7	7	25·7	23	20·7	....	....	....	....	6	8	1	5	5	8	9	11	7	60	....	....	....	3·29	+0·12	1·19	9	18	0	4	0
*Cottam	42 7	82 45	....	....	....	....	....	60·6	— 1·8	10	95·0	7	30·0	30	—	....	....	....	....															3·87	+0·78	1·37	10	20	1	3	0
Brantford	43 10	80 21	750	....	....	....	....	55·6	— 5·0	16	85·0	7	32·0	30	23·5	....	....	....	....	12	12	4	9	10	7	19	17	0	90	....	....	....	2·91	+0·03	0·85	11	19	1	0	4
*Dewsville	42 56	79 59	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3·39	—0·38	1·13	7	23	0	3	0
Conestogo	43 33	80 39	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Stony Creek	43 13	79 45	292	....	....	....	....	55·0	— 2·7	17	84·5	17	26·0	23	20·3	....	....	4	4	....	....	....	....	....	....	....	....	....	....	....	....	....	2·39	—0·08	1·85	4	24	0	4	0
Agincourt	43 39	79 19	....	....	....	....	....	61·3	— 0·8	16	92·0	17	35·0	30	20·7	....	....	5	4	10	8	10	6	11	13	16	6	10	90	III	VII	28 S	3·75	+0·55	1·03	8	22	0	1	0
Nepigon	48 50	88 40	915	....	....	....	....	56·7	— 4·9	2	90·0	1	28·0	23	19·8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2·86	+0·40	0·98	11	19	0	5	0
Hamilton	43 16	79 54	303	....	....	....	....	58·3	— 4·3	23	86·5	17	36·4	29	16·6	....	....	....	....																						
Port Hope	43 56	78 20	....	....	....	....	....	57·1	— 6·8	2	85·0	18	32·0	29	23·1	....	....	....	....	1	4	5	1	5	4	9	0	31	60	....	....	....	3·02	—0·28	0·72	12	18	0	2	0
Kinmount	44 42	78 42	....	....	....	....	....	53·2	— 5·3	1	83·5	17	22·0	24	20·0	....	....	....	....															4·62	+1·58	2·17	13	17	0	1	0
Cockburn Island	45 57	83 18	610	....	....	....	....	54·4	—	—	81·0	3	32·0	23	16·2	....	....	....	....															4·62	+1·49	1·12	13	17	0	0	1
Chatham	42 23	82 12	595	....	....	....	....	59·4	— 1·8	12	92·0	7	32·0	30	17·7	....	....	....	....	3	10	3	4	12	6	8	13	1	60	....	....	....	3·92	—	1·23	14	16	1	4	2
Dalhousie Mills	45 20	74 29	....	....	....	....	....	56·8	—	—	86·0	18	31·0	23	25·6	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1·94	—0·25	0·67	7	23	0	0	0
Meaford	44 37	80 37	....	....	....	....	....	56·9	—	—	84·0	17	31·0	30	15·7	....	....	....	....	7	6	1	4	3	15	17	6	1	60	....	....	....	3·01	—	1·30	5	25	0	0	0
Gosfield	....	....	....	....	....	....	....	61·3	—	—	95·0	7	31·0	30	18·0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4·90	—	2·20	10	20	3	3	0
Listowel	43 44	80 58	....	....	....	....	....	54·9	— 0·9	4	83·0	7	25·0	22	21·4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2·18	—	0·69	11	19	0	3	0
North Sister Rock	46 18	83 55	....	....	....	....	....	—	—	—	79·0	17	24·0	23	—	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.60	+0·57	1·64	7	3	0	0	0
Rat Portage	....	....	....	....	....	....	....	50·4	—	—	72·4	10	20·0	29	18·5	....	....	....	....	4	5	6	1	0	2	2	7	3	30	....	....	....	3·35	—	1·40	8	22	0	2	2
QUEBEC :																																								
Montreal	45 30	73 35	187	29·96	30·42	29·46	0·96	54 8	— 3·6	25	77·6	3	36·1	30	14·8	47·4	77	6	2	100	4	16	138	178	176	57	49	2	720	14·7	20·8	24 SE	5·08	+1·82	1·56	16	13	0	1	3
Richmond	45 40	72 8	437	....	....	....	....	55 8	+ 0·2	21	85·0	1	23·0	24	21·9	....	....	6	—	1	0	0	5	5	11	3	2	3	30	....	....	....	2·97	—0·28	0·61	15	15	0	1	0
Brome	45 10	72 36	....	....	....	....	....	54 3	— 1·8	18	80·0	17	28·0	23	17·8	....	....	6	12	2	0	2	5	20	21	0	0	0	60	....	....	....	2·96	—0·85	0·60	10	10	0	1	0
Quebec	46 48	71 13	296	29·99	30·45	29·50	0·95	54·0	— 1·7	25	71·2	25	31·2	24	14·9	....	....	7	10	2	136	18	84	52	140	182	102	4	720	13·5	30·5	20 NE	3·06	—0·61	0·62	16	13	1	2	0
Chicoutimi	48 25	71 5	150	....	....	....	....	52·1	— 0·7	20	75·2	4	28·5	24	19·5	....	....	7	9	0	1	0	22	0	20	0	38	9	90	III	VIII	6 SW	4·31	+1·26	0·79	14	16	1	1	0
Father Point	48 31	68 19	20	29·95	30·41	29·44	0·97	49 8	— 0·1	22	72·4	11	27·7	24	18·2	....	....	7	10	25	38	92	6	51	222	221	53	9	720	17·3	33·5	15 W	2·99	—0·06	0·98	17	11	1	1	2
*Point des Monts	49 20	67 22	....	....	....	....	....	44 7	— 3·3	16	65·0	2	30·0	24	....	....	....	....	....	7	25	0	1	0	22	26	0	9	90	....	....	....	8·50	+6·10	1·60	13	17	0	0	0
*Cape Chatte	49 6	66 45	....	....	....	....	....	53·0	+ 1·5	18	68·0	25	39·0	23	....	....	....	....	....	4	0	6	4	10	21	26	0	9	90	....	....	....	2·85	+0·40	0·86	7	23	0	0	0
*Bicquette	48 25	68 53	....	....	....	....	....	47·7	+ 0·5	17	61·0	10	37·0	23	....	....	....	....	....	3	15	4	2	10	24	23	4	5	90	....	....	....	2·48	—0·76	0·50	15	15	0	0	5
*Cape Magdalen	49 16	65 20	....	....	....	....	....	51·6	+ 0·2	17	70·0	3	36·0	24	....	....	....	....	....	0	2	4	7	34	2	3	31	7	90	....	....	....	1·82	—0·72	0·63	10	20	2	0	3

	° ′	° ′		in.	in.	in.	in.	°	°		°		°		°																		in.	in.	in.					
Quebec—(*Continued.*)																																								
Grindstone	47 23	61 58	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anticosti, W. Pt	49 52	64 32	...	...	...	...	...	49·4	—0·8	17	64·0	2	41·0	23	...	...	...	...	...	6	6	5	18	16	10	12	17	0	90	...	...	...	2·08	—0·51	0·62	10	20	0	0	4
Anticosti, S.-W. Point	49 24	63 35	30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Abitibi	48 43	79 22	...	...	...	...	...	47·2	—2·5	3	69·0	2	29·0	23	...	...	...	8	9	21	0	2	0	25	6	14	15	7	90	III	VI	13 NW	2·08	+0·12	0·73	13	13	0	0	0
*Anticosti, E. Pt	49 5	61 42	...	...	...	...	...	51·3	+0·3	14	60·0	1	43·0	2	...	...	...	...	...	17	3	11	0	4	3	46	6	0	90	...	...	...	0·50	—	0·30	2	28	0	0	3
Bird Rocks	47 51	61 8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Roberval	48 31	72 13	...	...	...	...	...	53·1	—	—	68·0	2	40·0	23	...	...	...	...	...	15	18	1	3	0	7	8	26	0	78	...	...	...	...	...	...	...	...	...	...	...
Percé	48 31	64 12	50	...	...	...	...	51·9	—	—	78·7	1	32·8	10	...	...	...	...	...	12	5	2	2	6	15	9	4	5	60	...	...	...	2·48	—	0·71	12	15	0	1	3
St. Agathe des Monts	...	...	...	...	...	...	...	50·7	—	—	75·5	17	29·0	23	16·7	...	82	6	3	0	0	26	2	0	2	28	2	0	60	...	...	...	8·76	—	1·87	17	13	1	2	0
New Brunswick:																																								
Fredericton	45 57	66 36	164	30·04	30·49	29·61	0·87	55·1	—1·1	25	79·2	18	24·[illegible]	24	22·0	45·2	64	5	7	0	0	13	10	11	10	33	0	13	90	6·6	22·5	7 W	2·34	—1·10	1·19	8	18	0	1	5
Chatham	47 3	65 29	21	30·01	30·47	29·49	0·98	56·4	0·0	25	80·0	18	26·0	24	21·0	...	...	5	2	3	0	8	3	1	10	12	11	12	60	...	20·0	6 NW	2·01	—0·74	0·85	10	17	0	0	0
Grand Manan	44 47	66 46	49	30·05	30·48	29·62	0·86	56·6	+0·4	15	69·1	3	42·0	24	12·5	...	80	5	6	26	45	116	51	24	21	180	40	1	504	9·9	26·0	27 SW	4·14	+1·02	2·62	10	17	1	2	10
*Point Lepreaux	45 4	66 28	30	...	...	...	...	55·2	+1·0	20	63·0	18	43·0	23	—	...	...	5	5	14	0	15	9	0	21	7	12	0	78	II	V	6 NW	3·45	—0·41	2·75	7	20	0	0	12
St. John	45 17	66 4	70	30·06	30·49	29·57	0·92	55·4	—0·2	16	70·2	10	34·0	24	14·3	49·2	80	5	4	24	60	43	122	101	187	20	148	15	720	10·3	29·4	6 NW	3·05	—0·23	2·16	11	18	[illegible]	1	9
Dalhousie	48 4	66 22	39	...	...	...	...	52·6	—0·8	27	79·0	2	32·0	24	18·3	...	...	4	4	0	0	9	0	0	0	21	3	27	60	I	III	4 NW	1·64	—0·89	0·92	5	23	0	0	0
St. Stephen	45 11	67 16	35	...	...	...	...	56·4	—0·5	1	71·0	18	24·5	24	21·7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2·76	+0·37	1·56	11	19	0	1	3
Moncton	46 9	64 45	...	...	...	...	...	54·9	—0·8	1	77·5	18	25·0	23	21·7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1·69	—0·01	1·31	5	26	0	0	0
Sussex	45 38	65 38	...	...	...	...	...	58·2	—0·7	1	80·0	18	20·5	24	20·0	...	...	...	...	2	2	3	1	0	7	2	7	6	30	...	...	...	2·05	—0·91	0·95	7	23	1	0	0
Nova Scotia:																																								
Halifax	44 3	63 36	97	30·06	30·49	29·63	0·86	58·6	+0·1	25	74·7	21	35·6	24	16·9	...	88	5	8	133	1	116	15	99	11	207	30	108	720	7·9	23·5	7 N	3·20	—0·47	0·97	12	18	0	0	0
Sydney	46 10	60 10	55	30·05	30·49	29·43	1·06	55·5	—1·1	26	75·0	19	32·0	24	18·7	...	82	7	14	3	68	50	3	23	356	36	134	47	720	6·0	25·3	7 NE	4·19	+0·98	1·36	12	18	1	0	8
Truro	45 22	63 18	73	30·04	30·48	29·44	1·04	55·9	+0·2	26	74·6	3	25·5	24	22·6	...	...	...	...	3	10	5	8	16	14	12	5	17	90	II	III	3 NW	3·21	+0·32	0·88	9	19	4	1	9
Yarmouth	43 50	66 2	65	30·07	30·49	29·67	0·82	56·5	+1·4	19	70·3	26	33·7	24	14·2	...	84	5	7	49	14	55	147	70	163	52	165	5	720	8·6	22·9	7 NW	2·23	—1·19	1·21	13	15	1	1	10
Pictou	45 42	62 41	...	...	...	...	...	58·3	+0·4	22	75·0	19	38·[illegible]	24	15·4	...	...	4	4	4	5	7	0	4	24	18	16	12	90	II	VI	6 W	4·13	+0·57	1·55	6	24	0	0	1
*Digby	44 38	65 46	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Port Hastings	45 39	61 24	45	...	...	...	...	60·7	+3·9	6	78·0	4	44·0	8	17·5	...	...	...	...	2	2	5	3	0	7	3	8	0	30	...	...	...	2·24	—0·72	1·09	3	28	0	0	1
*Whitehead	45 15	61 8	20	...	...	...	...	57·8	+0·2	15	67·5	3	49·0	24	...	...	...	...	...	7	2	7	13	5	27	12	12	5	90	...	...	...	2·60	+0·14	1·01	5	25	0	0	8
*Sable Island, E. Pt	43 58	59 46	25	...	...	...	...	60·0	—0·3	15	71·0	4	53·5	6	...	...	...	...	...	14	12	5	13	11	6	8	12	9	90	...	...	...	4·52	+1·86	1·65	9	21	0	1	15
Guysborough	45 27	61 30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Sable Island, M. station	43 57	60 6	25	30·06	30·47	29·43	1·04	59·4	—0·3	..	72·0	4	48·[illegible]	24	9·0	...	...	7	9	59	76	100	76	83	104	129	80	13	720	16·0	40·0	6 NW	3·52	+0·38	1·62	8	20	0	1	8
Parrsboro'	44 28	64 25	40	...	...	...	...	55·8	+1·0	2	74·0	2	28·8	24	17·5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3·59	+0·93	0·85	8	21	0	0	0
Wolfville	45 7	64 20	...	...	...	...	...	56·1	+0·4	1	75·8	4	30·0	24	18·8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2·23	—0·45	1·16	9	21	0	1	0
Bridgetown	43 49	65 16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
P. E. Island:																																								
Charlottetown	46 14	63 10	38	30·03	30·48	29·50	0·98	57·6	+0·4	24	76·6	18	36·0	24	15·6	...	...	6	8	29	54	3	76	99	225	27	106	101	720	7·8	19·3	7 NE	4·06	+0·76	1·63	11	18	0	0	1
Summerside	46 18	63 51	...	...	...	...	...	56·8	—0·2	1	73·0	28	34·5	24	14·2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2·61	+0·58	1·60	7	23	0	0	0
Hamilton	46 25	63 48	...	...	...	...	...	55·2	—2·4	1	74·5	28	33·0	24	15·4	...	...	...	...	3	0	7	1	3	7	2	7	0	30	...	...	...	2·76	—1·06	1·45	9	21	0	1	0
Newfoundland:																																								
St. John's	47 34	52 42	125	29·99	30·47	29·14	1·33	53·0	—1·0	27	75·0	4	30·0	25	14·9	...	...	6	8	16	0	7	1	23	0	13	0	0	60	...	21·0	7 N	3·30	—0·34	0·75	14	16	0	1	5
Channell	47 37	59 9	20	...	...	...	...	51·4	—2·1	13	63·0	1	39·0	24	10·4	...	...	6	5	4	5	6	32	12	3	27	1	0	90	III	V	21 SE	4·78	+0·80	1·60	8	22	0		8
*Cape Norman	51 38	55 52	...	...	...	...	...	48·2	+0·3	13	62·0	3	40·0	7	...	...	...	...	...	4	8	9	5	13	8	33	10	0	90	...	...	...	3·83	+1·60	1·58	16	14	3		5
*Amour Point	51 28	56 51	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Point Rich	50 42	57 25	35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bermuda:																																								
Prospect	37 20	64 50	151	30·08	30·25	29·38	0·87	76·6	—1·1	8	85·0	2	67·2	19	9·6	...	83	5	3	0	5	3	8	6	17	2	4	15	60	...	29·2	13 SW	8·11	+2·03	2·22	13	16	0	4	[illegible]

PRECIPITATION AT STATIONS REPORTING RAIN, WEATHER, &c., DURING SEPTEMRER, 1899.

STATIONS.	Rainfall. Amount in inches.	Days '01 or Over.	No. of Fair Days.	Heaviest Fall in Month.	Date.	Thunder and Lightning.	Remarks.
British Columbia—							
Cumberland	1·81	5	25	1·02	3		
Alberni	2·44	9	21	1·07	4		28th, Frost; 30th a little snow on mountains.
Goldstream	1·22	5	26	0·56	30		Fog on 10 days.
Langley	1·48	6	6	0·53	29		
Royal Oak	0·95	4	26	0·65	29		
Nanaimo	1·17	4	26	0·70	4-5		
N. W. Territories—							
Coutts	2·86	5	26	2·13	13		
Didsbury	1·76	7	23	0·99	5	11.	26th, Wind storm.
N. E. Beaver Hills	0·29	4	26	0·07	6	27.	28th, Frost.
West Beaver Hills	0·93	9	21	0·39	4	12.	Fog on 3 days; frost 15, 23.
Innisfail	1·27	5	25	0·75	5		17th, Frost.
Saltcoats	4·74	5	25	1·50	3		29th, Frost.
Stirling	2·56	4	26	1·69	22		
Manitoba—							
Clear Spring	1.17	6	23	0·67	4	1, 2, 4.	Snow on 27th.
Rapid City	1·18	2	28	0·73	14		
Shoal Lake	0·40	1	29	0·40	4		12th, Frost.
Norquay	0·47	4	25	0·30	4	4.	28th, Snow.
Greenwood	1·34	4	26	0·72	6		
Rosebank	0·38	4	26	0·17	27		
Cartwright	0·71	3	27	0·55	3	3.	28th, Snow.
Hartney	0·80	2	28	0·55	4		
Pembina Crossing	1·24	5	21	0·65	4	1, 3, 9, 27.	29th, Temp. 15°.
Belmont	1·37	4	26	0·63	4	3, 4, 9, 15, 27.	27th, Snow.
Elgin	0·48	5	22	0·40	14	3, 4.	11th, Frost.
Oakbank	1·07	6	21	0·46	4		27th, Snow.
Selkirk	0·84	5	25	0·44	3	3.	13th, Frost; 27th snow.
Morden	0·90	2	27	0·90	3-4		21st, 28th Frost.
Beaver Creek	0·47	2	28	0·47	3-4		
Turtle Mountain	0·59	4	26	0·45	14	3.	18th, Frost.
Cartwright (1)	0·35	1	25	0·35	3		
Ontario—							
Dealtown	2·08	5	25	0·73	1		30th, Frost,
Princeton	2·28	6	24	1·00	26		5th, Storm of wind.
Port Burwell	3·35	8	22	0·75	1		30th, Snow.
Sunshine	3·85	10	20	1·04	25	13.	25th, ice; 30th, ½ in. snow
Dutton	1·70	5	25	0·60	7	5, 24.	28th-29th, frost; ice, 30th.
Wilton Grove	1·63	9	20	0·80	24	5, 24.	30th, 4 in. of snow.
Goderich	2·58	5	25	1·00	24		
Watford	2·94	7	23	0·87	24		
Wyoming	3·43	7	23	0·68	1	1, 5, 8, 24.	
Deer Park	4·89	10	20	1·92	1		
Scarboro'	5·27	11	19	2·70	1	1, 7, 24.	23rd, Ice.
Georgetown	3·70	11	19	1·96	1	1, 4, 5, 7, 17, 18, 24.	14th, Ice, 30th, snow.
Aurora	3·30	10	30	1·51	1		22nd, Severe frost.
Orangeville	6·26	8	22	3·55	1		30th, Snow.
Wiarton	3·43	7	23	0·68	5	5, 7, 17.	22nd, Frost; 50th snow.
Lion's Head	3·79	6	24	1·20	18	5, 7, 24.	
Providence Bay	4·25	12	17	2·00	5	5, 7.	29th, 2 in. snow. On 30th.
Huntsville	3·85	8	22	1·25	18		
Emsdale	4·61	15	15	1·12	25	5, 18, 24.	14th, 15th, 23rd frost, 1½
Nottawasaga Island	4·90	9	21	1·15	17	17.	17th, Heavy hail storm.
Uxbridge	4·61	8	22	1·72	5		13th, Ice; 30th, snow.
Midland	3·44	13	17	0·58	24	4, 7, 17, 24.	13th, Hailstorm; 30th
Jermyn	3·79	10	20	0·97	1	5, 7, 12, 18.	14th, Frost. [snow.
Lynedoch	4·66	8	22	0·97	1		
Ennismore	3·94	6	24	1·50	26		Sleet on 26th.
Cherry Valley	3·41	8	22	0·65	1	7.	storm.
Glen Elm	4·57	14	16	0·82	26		6th, Frost; 30th, hail-
Elgin	4·40	10	20	1·53	27		26th, Heavy storm from N.
Roblin's Mills	4·25	9	21	1·45	26		
Ursa	6·80	17	13	2·04	24		26th, Snowstorm broke
Wooler	3·47	11	19	1·41	26	7, 24.	14th, Frost. [fruit trees.
Croydon	3·65	6	24	1·10	20	11.	
Parma	4·50	11	19	1·05	20		
Oliver's Ferry	6·31	11	19	1·75	26		
Arden	3·14	15	15	0·60	27	8, 13, 18, 26.	7th, Frost; 23rd, ice.
Mortague	3·66	5	25	1·45	26		22nd, Heavy frost; 30th
Lansdowne	1·28	6	24	0·55	26	7, 12.	snow.
N. Williamsburg	3·77	9	21	1·30	26	7.	
Sparrow Lake	3·42	10	19	1·10	24	7, 12, 17, 24.	15th, Heavy frost.
New Brunswick—							
Point Escuminac	1·77	8	22	1·36	21	14.	
Nova Scotia—							
Port Morien	7·55	13	17	3·00	30		
P. E. Island—							
Murray River	4·46	5	25	2·54	20-21		6th, Heavy N. W. gale.
Mount Stewart	3·34	3	27	0·62	30		

Thunder reported on—

1. Barnardo, Stratford, Port Stanley, Toronto, Birnam, Port Hope, Brantford, Bermuda, Stouffville, Welland, Scarboro, Georgetown, Clear Spring, Swift Current, Medicine Hat, Alton.

2. Stony Mountain, Haileybury, Clear Spring, White River, Port Arthur.

3. Turtle Mountain, Barnardo, Grand Manan, Quebec, Father Point, Treherne, Rosebank, Portage la Prairie, Cannington Manor, Brome, Cartwright, Pembina Crossing, Belmont, Selkirk, Minnedosa, Perce, Bermuda, Qu'Appelle.

4. Wolfville *heavy*, Meaford, Stony Mountain, Grand Manan, St. John, Brandon, Treherne, Rosebank, Hamilton, P.E.I., Cockburn Island, Clear Spring, Norquay, Belmont, Yarmouth, Winnipeg, White River, Bermuda, Truro.

5. Meaford, Uplands, Owen Sound, Moose Jaw, Collingwood, N. Sister Rock, Barnardo, Durham, Stratford, Coldwater, Port Stanley, Parry Sound, Birnam, Point Clark, Erasmus, Sprucedale, Agincourt, Port Dover, Brantford, Lucknow, Paris, Stouffville Providence Bay, Emsdale, Midland, Jermyn, Ridgetown, Dutton, Wilton Grove, Wyoming, Georgetown, Wiarton, Lion's Head, Alton, Conestogo.

6. N. Sister Rock, Stony Mountain, Treherne, Rosebank, Whiteside, Knee Hill.

7. Meaford, Owen Sound, Durham, Stratford, London, Coldwater, Port Stanley, Toronto, Saugeen, Birnam, Point Clark, Erasmus, Cockburn Island, Hamilton, Ont., Gosfield, Beatrice, Stony Creek, Agincourt, Port Dover, Lucknow, Paris, Providence Bay, Midland, Jermyn, Cherry Valley, Wooler, Lansdowne, Stouffville, Otonabee, Ridgetown, Scarboro, Georgetown, Wiarton, Lion's Head, N. Williamsburg, Sparrow Lake, Guelph.

8. Port Stanley, Port Dover, Wyoming, Arden, Conestogo.

10. Donald.

11. Toronto, Agincourt, Calvin, Stouffville.

12. Montreal, N. Nicomen, Griffin Lake, Uplands, Nelson, Chilliwack, Gravenhurst, Lindsay, Coldwater, Red Deer, Calgary, Tobacco Plains, Sprucedale, Whiteside, Otonabee, W. Beaver Hills, Jermyn, Croydon, Landsdowne, Sparrow Lake, Bancroft, Banff, White River, Kamloops, St. Agathe, Knee Hill.

13. Fredericton, Sable Island. Hillview, Pipestone, Cannington Manor, Sable Island, Sunshine, Arden, Edmonton, Regina.

14. Point Escuminac, Bermuda.

16. Haileybury, Red Deer, Cockburn Island, Knee Hill.

17. Meaford, Collingwood, Gravenhurst, Lindsay, Quebec, Coldwater, Toronto, Point Clark, Erasmus, Beatrice, Agincourt, Whiteside, Haliburton, Otonabee, Georgetown, Midland, Swift Current, Bancroft, Guelph, St. Agathe, Alton, Conestogo.

18. Uplands, Gravenhurst, Ottawa, Gosfield, Beatrice, Port Dover, Whiteside, Haliburton, Calvin, Emsdale, Jermyn, Arden.

19. Port Dover.

21. Cockburn Island, Barkerville.

22. Masset.

24. Collingwood, Stratford, Gravenhurst, London, Port Stanley, Toronto, Birnam, Point Clark, Erasmus, Hamilton, Ont., Gosfield, Agincourt, Port Dover, Brantford, Lucknow, Haliburton, Otonabee, Ridgetown Dutton, Wilton Grove, Wyoming, Guelph, Scarboro, Lion's Head, Emsdale, Midland, Wooler, Sparrow Lake, Bancoft,

25. Port Stanley, Ridgetown, Alton, Conestogo.

26. Crane Lake, Duck Lake, Arden, Regina.

27. Rosebank, Pembina Crossing, Belmont.

28. Scarboro.

29. N. Nicomen, Banff, Victoria.

Aurora Recorded :—

Where the class of aurora is noted by the observer, it is given, (I) being the brighest, (IV) the feeblest in brilliancy.

1. Hailybury, IV ; Hillview, III ; Pembina Crossing, III ; Truro, IV ; Cape Norman, I.

2. Hillview, IV ; St. Albans, III ; Red Deer, IV ; Cannington Manor, IV; Muskowpetung, II ; Truro, IV.

3. Hillview, IV ; Tagish, II ; Prince Albert, III.

4. Pembina Crossing IV.

7. Cannington Manor, IV.

8. Qu'Appelle, IV.

9. Meaford, IV ; Haileybury, IV ; Quebec, III ; St. Albans, III ; Red Deer, IV ; Lucknow, Georgetown, IV ; Pembina Crossing, III ; St. Agathe, II ; Truro, IV.

10. Barnardo, III ; Hillview, II ; Tagish, III ; Calgary, IV ; Rat Portage, Pembina Crossing, IV; Calgary, II ; Sydney, IV.

11. Hillview, II ; W. Beaver Hllls, IV ; Pembina Crossing, IV ; Prince Albert, I.

12. Barnardo, IV ; Hillview, IV ; St. Albans, IV ; Georgetown, IV ; Pembina Crossing, IV.

15. W. Beaver Hills, IV.

16. Red Deer, IV.

17. Tagish, II.

18. Haileybury, III.

24. Barnardo, IV.

25. Haileybury, III ; Grand Manan, IV ; Hillview, IV ; St. Albans, Cockburn Island, Savanne, W. Beaver Hills, III ; Pembina Crossing, IV ; Minnedosa, IV ; Yarmouth, IV ; Regina, II ; Qu'Appelle, III ; Medicine Hat, IV ; Truro, III.

26. Moose Jaw, Meaford, III ; Haileybury, III ; Durham, IV ; Coldwater, I ; Hillview, III ; Cape Magdalen, Cottam, Savanne, Rat Portage, Georgetown, IV ; Pembina Crossing, IV ; Minnedosa, III ; White River, II ; Qu'Appelle, IV ; Medicine Hat, III ; Cape Norman, III.

27. Hillview, IV ; St. Albans, III ; Tagish, IV ; Red Deer, IV ; W. Beaver Hills, IV ; White River, III; Qu'Appelle, IV.

28. Moose Jaw, Chicoutimi, St. Albans IV ; Cape Magdalen, W. Beaver Hills, III ; Pembina Crossing, IV; Prince Albert, I ; Oonikup.

29. Meaford, IV ; Barnardo, II ; Gravenhurst, IV ; Hillview, III ; Channel Island, St. Albans, III ; Portage la Prairie, Rat Portage, Georgetown, IV ; Pembina Crossing, III ; Prince Albert, II ; Minnedosa, III ; Battleford, III ; Cape Norman, II ; Oonikup.

30. Father Point, III ; St. Albans, IV ; Battleford, III.

ABSTRACT OF OBSERVATIONS AT BELLE ISLE. OCTOBER, 1898, TO SEPTEMBER, 1899, INCLUSIVE.

Months.	Barometer at Sea Level.			Temperature.								
	Mean.	Max.	Min.	9 a.m.	4 p.m.	9 p.m.	Mean Max.	Mean Min.	Mean Daily Range	Highest.	Lowest.	Mthly Mean.
	in.	in.	in.	°	°	°	°	°	°	°	°	°
October, 1898	29·914	30·29	29·61	36·9	38·1	36·5	40·3	34·0	6·3	48·0	25·0	37·2
November "	30·012	30·58	29·29	29·5	31·0	29 5	33·0	26·5	6·5	45·0	10·0	29·8
December "	29·637	30·24	28·98	20·2	20·1	18·4	22·7	15·7	7·0	34·0	—2·0	19·2
January, 1899	29·772	30·40	28·51	2·5	5·0	4·2	7·9	—0·4	8·3	35·0	—22·0	7·4
February "	29·675	30·13	28·66	4·5	7·6	6·4	9·4	2·6	6·8	35·0	—21·0	6·0
March "	30·094	30·52	29·38	17·7	19·2	17·4	22·4	13·6	8·8	37·0	—17·0	18·0
April "	30·119	30·66	29·42	31·3	33·2	30·6	35·3	28·0	7·3	42·0	13·0	31·7
May "	30·000	30·53	29·72	35·7	36·6	34·0	38·5	30·6	7·9	52·0	20·0	34·6
June "	30·109	30·52	29·41	40·8	42·6	39·2	45·0	37·1	7·9	57·0	30·0	41·0
July "	30·163	30·55	29·83	48·1	49·5	47·0	52.1	44·9	7·2	59·0	34·0	48·5
August "	30·163	30·52	29·79	53·8	54·6	52·9	57·8	51·2	6·6	64·0	43·0	54·5
September "	29·974	30·47	29·29	51·3	52·4	50·7	55·4	49:7	5·7	59·0	48·0	52·5

ABSTRACT OF OBSERVATIONS AT BELLE ISLE. OCTOBER, 1898, TO SEPTEMBER, 1899, INCLUSIVE.

Months.	No. of Winds from									Velocity in Miles.			Clouded Sky Mean.	Rain.		Days of Snow.	No. of Fogs.	No. of Auroras.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	Mean.	Most Windy Day.	Direction from.		Amt.	Days.			
										mls.	mls.		%	in.				
October, 1898	7	19	7	3	1	20	18	18	0	26·8	54·0	S.W.	70	7·01	10	6	14	1
November "	5	15	6	10	6	11	19	18	0	19·7	38·8	N.E.	70	15·96	12	6	16	3
December "	16	7	7	4	1	15	34	9	0	26·5	60·8	N.E.	63	0·08	2	13	0	5
January, 1899	14	8	4	8	4	10	18	27	0	30·0	67·9	N.W.	59	0·68	1	14	1	2
February "	16	15	9	4	0	9	21	10	0	28·4	67·1	S.W.	74	0·00	0	16	1	1
March "	12	25	3	5	2	8	17	21	0	18·6	55·0	N.E.	61	0·06	2	14	4	2
April "	11	24	14	16	5	3	12	5	0	17·0	32·5	N.E.	79	3 00	8	9	8	0
May "	2	35	9	11	5	6	16	9	0	28·7	67·9	N.E.	69	6·20	10	4	7	0
June "	5	12	27	4	2	3	31	6	0	12·1	27·9	W.	58	1·19	9	0	11	0
July "	1	18	13	16	12	8	16	8	1	13·3	52·9	N.E.	78	5·19	12	0	14	0
August "	9	9	0	20	1	17	23	4	0	12·5	25·0	N.	68	3·70	8	0	16	0
September "	2	12	4	7	6	27	24	8	0	15·2	32·9	W.	64	3·08	6	0	9	0

PROPORTION OF BRIGHT SUNSHINE REGISTERED IN EACH HOUR OF THE DAY DURING WHICH THE SUN WAS ABOVE THE HORIZON IN THE MONTH OF SEPTEMBER, 1899.

	Hours Ending															
	5 a.m.	6 a.m.	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon.	1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.
Victoria	.....	0·00	0·22	0·59	0·62	0·71	0·75	0·78	0·77	0·81	0 81	0·72	0·63	0·40	0·00	.....
Kuper Island	.....	0·00	0·04	0·29	0·57	0·70	0·74	0·70	0·71	0·79	0·79	0·70	0·66	0·44	0·00	.....
Agassiz	.....	0·00	0·04	0·15	0·42	0·52	0·63	0·65	0·67	0·73	0·70	0·66	0·36	0·06	0·00	.....
Battleford	.....	0·30	0·52	0·63	0·72	0·75	0·74	0·69	0·68	0·66	0·67	0·63	0·46	0 11	0·00	.....
Indian Head	.....	0·00	0·00	0·14	0·58	0·77	0·78	0·76	0·74	0·74	0 80	0·63	0·33	0·04	0·00	.....
Brandon	.....	0·00	0·14	0·44	0·62	0·66	0·72	0·73	0·69	0·66	0·69	0·72	0·66	0·29	0·00	.....
Winnipeg	.....	0·05	0·20	0·47	0·56	0·66	0·71	0·70	0·72	0·70	0·69	0·66	0·43	0·07	0·00	.....
Durham	.....	0·00	0 02	0·20	0·36	0·39	0·41	0·53	0·56	0·54	0·52	0·54	0·47	0·21	0·02	.....
Woodstock	.....	0·00	0·03	0·26	0·49	0·51	0·56	0·59	0·60	0·54	0·52	0·51	0·44	0·21	0·01	.....
Toronto	.....	0·00	0·04	0·37	0·55	0·57	0·50	0·50	0·54	0·53	0·57	0·48	0·41	0·15	0·00	.....
Lindsay	.....	0·01	0·16	0·26	0·44	0·49	0·47	0·48	0·44	0·50	0·52	0·42	0·38	0·30	0·08	.....
Barrie	.....	0·00	0·05	0·24	0·40	0·45	0·46	0·51	0·53	0·54	0·54	0·51	0·35	0·10	0·00	.....
Kingston	.....	0·00	0·00	0·42	0·53	0·58	0·57	0·52	0·48	0·51	0 50	0·38	0·45	0·18	0·00	.....
Ottawa	.....	0·00	0·10	0·34	0·42	0·45	0·44	0·43	0·47	0·45	0·39	0·33	0·32	0·15	0·00	.....
Montreal	.....	0·00	0·13	0·29	0·41	0·50	0·52	0·55	0·52	0·50	0·49	0·48	0·32	0·00	0·00	.....
Fredericton	.....	0·20	0·36	0·48	0 55	0·56	0·63	0·63	0·63	0·63	0·55	0·47	0·29	S	0·00	.....

	Victoria.	Kuper Island.	Agassiz.	Battleford.	Indian Head.	Brandon.	Winnipeg.	Durham.	Woodstock.	Toronto.	Lindsay.	Barrie.	Kingston.	Ottawa.	Montreal.	Fredericton.
Mean proportion for month. *(Constant sunshine being 1.)*	0·62	0·56	0·46	0·60	0·50	0·56	0·53	0·38	0·42	0·41	0·39	0·38	0·41	0·33	0·43	0·48
Difference from average	+·25	+·20	+·18	+·13	+·11	+·04	+·19	—	—·06	—·15	—·14	—·10	—·11	—	—·12	·00
Maximum daily amount	0·99	0·90	0·72	0·94	0·68	0·90	0·88	0 80	0·80	0·83	0·98	0·81	0·80	0·90	0·97	0·91
Date	7	15	28	29	29	24	25	15	14	15	9	9	15	15	9	28
No. of days completely clouded	1	0	6	1	1	3	0	8	6	6	7	5	8	8	4	3

FORECASTS FOR SEPTEMBER, 1899.

The forecasts issued by this office at 11 p.m. each night, are posted up at every telegraph station in Canada, and are for the 24 hours beginning at 8 a.m. the following day.

The number of predictions issued during the month was 958. These were divided as follows :—

District.	No. Issued.	Verified.			
		No. Fully	No. Partly	No. Not	Percentage
Manitoba	87	73	9	5	89·1
Lake Superior	111	79	23	9	81·5
Lower Lake Region	119	79	20	20	74·8
Georgian Bay	119	79	25	15	76·9
Ottawa Valley	103	70	21	12	78·2
Upper St. Lawrence	103	75	18	10	81·6
Lower St. Lawrence	99	76	15	8	84·3
Gulf	105	79	15	11	82·4
Maritime Provinces	112	78	21	13	79·0
Total	958	688	167	103	80·5

In order to obtain the percentage of verification of the predictions, the number partly verified is divided by two and added to the number fully verified, and the result divided by the total number issued.

In ascertaining to what extent the predictions have been verified, the reports from the agents at all observing stations, as well as the telegraphic reports, are used.

R. F. STUPART,
Director.

Meteorological Office, Toronto,
26th October, 1899.