II. Paper on Meteorology.

1. Abstract of Monthly Meteorological Results, compiled from the Returns of the daily observations at ten Grammar School Stations for July, 1867.

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Station.	North Latitude. a	West Longitude. a	Elevation. a: Above the Lake.	Elevation. a: Above the Sea.	Barometer at temperature of 32° Fahrenheit. Monthly Means. 7 A.M.	1 P.M.	9 P.M.	Mean.	Highest. Reading.	Date.	Lowest. Reading.	Date.	Range. Monthly.	Greatest in 24 hours.	Date.
	°	°	Ft.		Inches										
e Barrie	44.25	79.45	59	779	29.1209	29.1049	29.1020	29.1092	29.484	1 p.m. 30	28.800	7 a.m. 6	.684	.299	10—11
f Belleville	44.10	77.25	72	307	29.5646	29.5412	29.5370	29.5476	29.816	9 p.m. 13	29.230	1 p.m. 6	.586	.309	29—30
n Cornwall	45.0	74.50	...	175	29.5320	29.5002	29.5050	29.5124	29.795	7 a.m. 31	29.191	9 p.m. 6	.604	.335	11—12
g Goderich	43.45	81.42	137	715	29.2582	29.2409	29.2130	29.2374	29.502	7 a.m. 13	28.941	9 p.m. 5	.561	.386	29—30
h Hamilton	43.12	79.50	90	324	29.61	29.59	29.59	29.60	29.900	1 p.m. 13	29.284	7 a.m. 6	.616	.292	29—30
i Pembroke	45.50	77.10	...	400	29.441	29.414	29.436	29.430	29.665	7 a.m. 19	29.195	1 p.m. 11	.470	.369	18—19
k Peterboro'	44.20	78.25	...	629	29.2705	29.2460	29.2466	29.2544	29.536	9 p.m. 13	28.967	1 p.m. 6	.569	.322	29—30
l Simcoe	42.51	80.14	150	716	29.106	29.101	29.074	29.093	29.317	9 p.m. 13	28.816	9 p.m. 10	.501	.397	9—10
k Stratford	43.25	80.58	...	118	28.7498	28.7377	28.7310	28.7395	28.977	9 p.m. 13	28.475	7 a.m. 6	.502	.268	10—11
m Windsor	42.20	83.00	...	6202	29.284	29.358	29.358	29.367	29.581	7 a.m. 30	29.067	9 p.m. 5	.514	.231	30—31

Station.	Temperature of the Air. Monthly Means. 7 A.M.	1 P.M.	9 P.M.	M'N	Mean Maximum	Mean Minimum	Mean Range.	Daily Range. Greatest.	Date.	Least.	Date.	Highest. Reading.	Date.	Lowest. Reading.	Date.	Monthly Range.	Warmest Day. Date.	Mean Temp.	Coldest Day. Date.	Mean Temp.	Tension of Vapour. Monthly Means. 7 A.M.	1 P.M.	9 P.M.	Mean.
	°	°	°	°	°	°	°	°		°		°		°		°		°		°				
e Barrie	64.5	73.7	64.7	67.63	78.1	56.3	21.8	30.8	3	10.8	5	90.6	23	45.0	10	45.6	24	79.17	9	56.37	.474	.482	.455	.470
f Belleville	65.67	75.04	67.85	69.52	79.11	59.36	19.75	27.4	3	9.3	25	93.8	24	49.0	13	44.8	24	80.23	9	58.53	.496	.533	.534	.521
n Cornwall	64.62	74.14	63.49	67.42	78.82	51.42	27.40	39.1	15	15.4	18	89.1	24	39.7	31	49.3	24	78.53	30	58.70	.463	.534	.473	.490
g Goderich	64.90	67.88	63.52	65.43	74.09	55.87	13.22	29.6	2	8.4	18	84.4	23, 24	45.3	17	39.1	24	78.10	12	58.53	.488	.547	.494	.510
h Hamilton	65.7	78.4	67.2	70.4	84.16	54.34	29.82	41.5	15	13.1	5	99.8	24	42.3	15	57.5	3	82.8	9	60.6	.516	.574	.539	.543
i Pembroke	65.8	74.2	70.7	70.2	80.6	52.7	25.9	40.0	13	10.5	26	91.9	23	39.5	15	52.4	23	82.7	9	63.2	.565	.759	.665	.663
k Peterboro'	65.03	75.26	65.3	68.53	79.85	53.63	26.22	35.1	3	14.6	6	89.7	23	41.6	15	48.1	24	81.4	9	58.36	.464	.439	.464	.456
l Simcoe	65.65	78.17	64.08	69.3	81.56	52.49	29.07	40.4	27	16.3	6	90.0	23	42.1	15	47.9	4	77.93	30	61.76	.560	.821	.584	.655
k Stratford	61.47	72.04	63.81	65.77	75.86	53.70	22.16	33.9	1	8.7	25	87.6	23	41.9	17	45.7	24	76.13	9	57.03	.480	.510	.512	.501
m Windsor	68.76	80.06	65.31	71.38	82.59	57.76	24.83	32.8	1, 4	10.8	25	92.7	34	46.6	13	46.1	24	81.16	12	60.76	.567	.587	.541	.565

a Approximation. e On Lake Simcoe. n On St. Lawrence. f Near Lake Ontario (on Bay of Quinte.) g On Lake Huron. h On Lake Ontario. i On the Ottawa River. l Close to Lake Erie. m On the Detroit River. k Inland Towns.

Station.	Humidity of Air. Monthly Means. 7 A.M.	1 P.M.	9 P.M.	Mean.	Winds. Number of Observations. Surface Current. North.	North East.	East.	South East.	South.	South West.	West.	North West.	Calm.	Total.	Motion of Clouds. North.	North E.	East.	South E.	South.	South W.	West.	North W.	Impercep.	Clear.	Total.
Barrie	80	61	76	72	3	3	5	13	1	6	8	17	25	81	4	1	5	2	1	3	7	11	23	24	81
Belleville	78	62	77	72	8	3	13	1	17	5	20	10	4	81	1	6	3	...	1	2	15	6	24	23	81
Cornwall	78	65	83	75	3	5	10	3	...	8	20	11	21	81	1	...	17	3	1	6	5	...	38	10	81
Goderich	78	79	83	80	18	6	3	6	21	10	...	17	...	81	2	1	1	1	4	8	3	3	26	32	81
Hamilton	79	60	79	73	...	13	..	...	...	41	1	1	25	81	...	9	1	...	...	35	...	13	2	21	81
Pembroke	86	84	90	86	1	5	4	15	3	15	5	33	...	81	3	...	5	2	18	3	4	...	33	13	81
Peterborough	74	49	73	65	3	10	7	4	4	3	9	15	26	81	2	9	3	...	1	7	14	11	19	15	81
Simcoe	87	82	91	87	12	12	8	1	2	11	9	10	16	81	4	7	3	...	1	9	7	16	11	23	81
Stratford	86	64	84	78	12	6	5	2	3	8	11	11	23	81	3	2	2	...	2	4	5	8	30	25	81
Windsor	80	55	85	73	5	13	4	3	11	6	5	7	27	81	2	3	1	1	4	2	2	1	42	23	81

Station.	Estimated b Velocity of Wind. Monthly Means. 7 A.M.	1 P.M.	9 P.M.	Mean.	Amount of Cloudiness. c Monthly Means. 7 A.M.	1 P.M.	9 P.M.	Mean.	Rain. No. Rainy Days.	Duration in hrs.	Depth in inches.	Snow. No. Snowy Days.	Duration in hrs.	Depth in inches.	Total Depth of Rain and Melted Snow.	Auroras. Class I.	Class II.	Class III.	Class IV.	Sky unfavorable obs. doubtful.	Sky unfavorable obs. impossible.	Sky favorable, none seen.	When Observed.
Barrie	1.	2.	0.	1.	4.	5.	3.	4.	7	...	2.0674	...	...	...	2.0674	...	...	...	3	...	4	21	4th, 27th, 28th.
Belleville	1.2	1.7	1.0	1.3	3.5	4.1	3.6	3.7	10	25.15	1.930	...	...	...	1.930	...	...	...	1	...	12	14	29th.
Cornwall	1.5	2.1	0.8	1.5	4.9	5.1	3.8	4.6	...	...	4.5117	...	...	...	4.5117	...	...	3	18	...	4	2	6th, 9th and 29th III. See remarks
Goderich	...	...	0...	...	4.	4.	1.	3.	8	25.30	2.4315	...	...	...	2.4315	...	...	...	...	...	7	20	
Hamilton	1.5	2.1	0.6	1.4	4.8	6.3	5.	5.3	7	24.45	1.916	...	...	...	1.916	...	...	...	1	...	12	14	29th.
Pembroke	1.5	1.9	1.1	1.5	4.3	6.0	4.5	4.9	3	...	1.0912	...	...	...	1.0912	...	...	...	...	3	14	10	
Peterborough	1.	1.96	0.5	1.17	4.3	5.4	3.5	4.4	10	31.26	3.087	...	...	...	3.087	...	...	...	1	3	8	15	29th.
Simcoe	1.3	1.7	0.4	1.1	4.2	5.8	3.7	4.6	8	...	4.7674	...	...	...	4.7674	...	...	...	1	...	6	20	29th.
Stratford	2.3	2.7	0.8	1.9	4.5	5.5	3.	4.3	10	38.30	2.4315	...	...	...	2.4315	...	...	1	1	...	6	23	28th IV, 29th III.
Stratford	1.1	1.6	1.	1.2	4.8	5.7	2.8	4.4	4	...	1.945	...	...	...	1.945	1	...	1	...	...	5	21	28th I, Sunday. 29th, III.

b Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane. c 10 denotes that the sky is covered with clouds; 0 denotes that the sky is quite clear of clouds.

REMARKS.

Barrie.—On 4th, violent thunder with lightning storm from SW at 4.30 a.m., heavy rain and high wind. 5th, beautiful rose-colored aurora, very bright, intermittent, at 9 p.m. 10th, lightning. 11th, heavy rain, thunder and lightning storm between 5 and 6 a.m. 15th, heavy rain, lightning and thunder storm from SW at 5 p.m. Rain on 4th, 6th, 9th, 11th, 15th, 29th, 30th. Barometer very steady during the month.

Belleville.—On 4th, rained from 6.30 a.m. to 8.15 a.m., during which time a heavy thunder storm occurred with occasional very vivid lightning; storm proceeded from NW to SE; very little wind on surface, and scarcely any change observed in barometer or thermometer. 6th, thunder, lightning and rain of shorter duration. 7th, between 1 and 2 p.m., rain and lightning with distant thunder. 11th, rain, with intermissions, from 4 a.m. to about 2 p.m.; distant thunder between 6 and 7 a.m. and occasional lightning. 21st, occasional distant thunder from 1 to 2 p.m. and 8 to 9 p.m., with lightning on both occasions, but little rain. 22nd, occasional distant thunder with lightning to NW from 2 to 5 p.m., with a few drops of rain. Rain on 4th, 6th, 7th, 9th, 11th, 15th, 16th, 19th, 21st, 22nd. No severe storms except on 4th, weather steady and uniform.

Cornwall.—On 3rd, lightning. 6th, thunder. 11th, lightning, thunder and rain. 24th, thunder. Rain on 1st, 4th, 6th, very heavy, 8th, 11th, 16th, 20th, 25th, 27th, 28th, 29th. Besides three observations of third class auroras, the observer reports no less than eighteen of fourth class, viz.: on 1st, 3rd, 4th, 8th, 11th, 12th, 15th, 16th, 17th, 18th, 19th, 20th, 22nd, 23rd, 24th, 26th, 30th, 31st.

Goderich.—On 15th, lightning and thunder with rain which begun at 11.30 a.m. and ended at 1 p.m.; at 1 p.m. tried dry and wet bulb thermometers three times with same results, viz: dry 68°5, wet 68°2, and at 1 p.m. suddenly fell, dry from 68°5 to 65°, wet from 68°2 to