CLIMATOLOGICAL DATA FOR JUNE, 1912.

DISTRICT No. 4, THE LAKE REGION.

J. H. ARMINGTON, Acting District Editor.

GENERAL SUMMARY.

June, 1912, in the Lake region was a month of generally deficient temperature and precipitation. No pronouncedly warm spells were experienced, while there were several brief intervals of sharply cool weather in most portions of the district, accompanied in localities by light to heavy frosts. In the highlands of New York killing frosts were reported during the month at a number of places, as follows:

Stations.	Date of killing frost.	Latest date of killing frost in previous years.
Angelica	8, 10	June 21, 1897.
Blue Mt. Lake	8, 10, 27, 30	
Gabriels	30	
Hunt	8	June 4, 1910.
Keene Valley	14, 30	June 11, 1902.
King Ferry	7	May 25, 1907 and 1908.
Lake George	8	
Lake Placid Club	7, 8, 14, 19, 27, 30	June 18, 1907.
Lowville	8	June 12, 1906.
Nehasane	8	
Old Forge	8, 10, 13	
Raquette Lake	8	June 5, 1910.
Tupper Lake	8, 10, 30	June 30, 1899.
Wanakena	8, 10, 14	

With the exception of the Wisconsin shore of Lake Michigan and the extreme northeastern sections, sunshine was considerably in excess of the normal for the month, the percentage of moisture in the atmosphere correspondingly low, and cloudy days of relatively infrequent occurrence. There were no instances of high wind general throughout the Lake region. Thunderstorms, however, were of greater number than usual over the southern portions of the district, and in several instances were accompanied by heavy local downpours of rain, while in other cases much damage was occasioned by lightning. Hail and dense fog were reported from a few stations on several days during the course of the month.

The following table presents the chief features of meteorological interest in the various portions of the district:

Portions of States.	Mean temperature.	Departure.	Mean daily range.	Mean precipitation.	Departure.	Greatest precipitation in 24 hours.	Mean snowfall.	Number of days— With 0.01 inch or more.	Clear.	Partly cloudy.	Cloudy.	Prevailing wind direction.
Minnesota	58.3	−0.3	18.6	2.14	−2.17	1.31	0	8	16	10	4	w.
Wisconsin	62.3	−1.0	18.7	1.23	−2.59	1.28	0	6	18	8	4	sw.
Illinois	65.4	−0.3	15.3	1.65	−1.91	0.92	0	8	16	8	6	sw.
Indiana	66.8	−1.7	20.8	2.87	−0.65	2.75	0	7	18	7	5	sw.
Upper Michigan	58.0	−0.6	20.2	1.78	−1.23	1.90	0	7	17	7	6	w.
Lower Michigan	63.3	−1.8	20.7	1.29	−1.70	1.60	0	5	18	10	2	sw.
Ohio	66.0	−2.3	16.4	2.96	−0.63	3.75	0	6	18	8	4	sw.
Pennsylvania	63.6	−3.4	14.4	3.07	−0.68	2.13	0	6	15	8	7	w.
New York	60.7	−3.3	18.8	1.10	−2.60	1.00	0	7	15	11	4	w.
Vermont	59.4	−5.0	23.6	1.90	−1.77	0.73	0	12	12	12	6	s.

TEMPERATURE.

The mean temperature of the month was below normal in all portions of the district, the departures increasing gradually from −0.3° over the western Lake Superior region to −5° over the Vermont section. The average temperature was slightly less than 60° along the northern portions of the upper lakes, and increased southward to somewhat more than 65° over the northern portions of Indiana and Ohio.

Following the cool spell at the close of May, the daily temperatures rose to values above the seasonal averages, but on the 4th cool weather again set in, and continued practically without interruption until about the middle of the last decade. The lowest readings of the month occurred generally on the 7th or 8th, but the temperature was 10° or more below the normal quite widely on the 13th–14th and 17th–19th as well, and frosts occurred in localities in each of the periods mentioned.

During the remainder of the month warmer weather prevailed, the highest temperatures being recorded at most stations on the 24th–26th. At no station, however, did the temperature reach 98°, while at some locality in practically every portion of the district the lowest reading was near the freezing point or below. The absolute range for the district was 73°, while the greatest daily range experienced at any station was 55°.

PRECIPITATION.

West of Lake Michigan, and also east of the lower Lakes, the month's precipitation in the district was deficient by more than 2 inches. Between these areas the rainfall approached more nearly the normal for June, but the deficiency exceeded an inch over Michigan, and slightly more than half an inch over northern Indiana and northern Ohio. By far the greatest portion of the amount measured at the various stations fell during the first part of the second decade, especially on the 14th–16th, when general and heavy rains occurred over the extreme southern sections. At this time a number of stations within the area mentioned reported rainfalls of more than 2 inches in 24 hours, but like falls did not occur in any other portion of the Lake region during the month.

A number of rains, generally light, had occurred previously, during the first week of June, and a few scattered showers were reported after the 16th. The last two weeks, however, were practically rainless, and by the end of the period the surface soil at many places was much in need of moisture.

No snow occurred in June in any portion of the district.

DAMAGE BY STORMS.

Minnesota.—An unusually severe electrical storm occurred at Duluth during the afternoon of the 29th. Lightning struck one of the feed wires of the Great Northern Power Co. at about 12.45 p. m., and the power was shut off until nearly 4 p. m. Much loss resulted to many industries in the cities of Duluth and Superior. Street cars were out of commission, coal dock conveyors were shut down, newspaper presses could not be operated, etc.—Mr. H. W. RICHARDSON, *Local Forecaster, Duluth, Minn.*

Ohio.—At Woodville, on June 16, a large barn and five horses were burned by fire caused by lightning. The loss was about $10,000. Damage by lightning was quite heavy over Wyandot County on this date also. On the

same day interurban service into Toledo was demoralized as a result of lightning and rain. Lightning struck the power house of the Ohio Electric Co., burning out the dynamos.—Mr. J. WARREN SMITH, *Professor of Meteorology, Columbus, Ohio.*

JUNE, 1912, LAKE LEVELS.

The following data are from the report of the United States Lake Survey Office:

Lakes.	Feet above tidewater New York.
Superior	602.22
Michigan-Huron	580.48
Erie	573.64
Ontario	247.34

Lake Superior is 0.32 foot higher than last month, 0.95 foot higher than a year ago, 0.18 foot below the average stage for June of the last 10 years, 1.31 feet below the high stage of June, 1876, and 0.98 foot above the low stage of June, 1879. It will probably rise 0.2 foot during July.

Lakes Michigan-Huron are 0.53 foot higher than last month, 0.48 foot higher than a year ago, 0.53 foot below the average stage for June of the last 10 years, 3.14 feet below the high stage of June, 1886, and 0.58 foot above the low stage of June, 1896. They will probably rise 0.1 foot during July.

Lake Erie is 0.10 foot higher than last month, 0.70 foot higher than a year ago, 0.24 foot lower than the average stage for June of the last 10 years, 1.88 feet below the high stage of June, 1876, and 1.07 feet above the low stage of June, 1895. It will probably remain about stationary during July.

Lake Ontario is 0.52 foot higher than last month, 1.68 feet higher than a year ago, 0.54 foot higher than the average stage for June of the last 10 years, 1.29 feet below the high stage of June, 1870, and 2.45 feet above the low stage of June, 1895. It will remain about stationary during July.

TABLE 1.—*Climatological data for June, 1912. District No. 4, Lake Region.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Minnesota.																				
Cloquet	Carlton	800	1	57.6	.....	92	25	29	7	49	1.47	.....	0.33	0	9	15	12	3	w.	Walter McDonald.
Duluth	St. Louis	1,133	41	58.5	+ 0.8	92	25	39	16	30	1.32	− 3.21	0.34	0	7	15	9	6	ne.	U. S. Weather Bureau.
Floodwood	do	1,257	6	.....	.....	.....	.....	.....	.....	.....	2.64	.....	0.74	0	6	25	1	4	.....	M. H. Schussler.
Stephens Mine	do	1,500	5	58.8	.....	97	29	27	7	46	2.68	.....	1.31	0	8	20	7	3	w.	Oliver Iron Mining Co.
Two Harbors	Lake	614	18	57.4	+ 0.4	96	25	39	10†	50	2.20	− 1.73	0.55	0	7	5	17	8	ne.	G. W. Watts.
Virginia	St. Louis	1,434	18	59.2	− 2.1	92	28	32	7	40	2.55	− 1.56	1.25	T.	8	16	11	3	w.	Oliver Iron Mining Co.
Wisconsin.																				
Appleton	Outagamie	795	11	66.5	+ 1.9	95	25†	42	7	35	0.17	− 3.35	0.04	0	5	19	5	6	sw.	Wm. O. Thiede.
Ashland	Ashland	647	21	60.6	− 0.8	95	25	39	7†	43	2.27	− 1.16	0.99	0	5	20	6	4	w.	Sam Wheeler.
Bayfield	Bayfield	635	3	61.4[a]	.....	93[c]	25	38[c]	22	40[c]	2.24	.....	0.84	0	6	18[c]	0[c]	9[c]	sw.	Frank Kern.
Cecil	Shawano	804	14	63.2	− 1.7	95	29	36	7	40	0.76	− 2.40	0.23	0	5	18	10	2	sw.	Louis W. Schmidt.
Cornucopia	Bayfield	.....	0	58.3	.....	89	25	35	7	41	2.03	.....	0.71	0	6	7	17	6	.....	Reed Fruit Co.
Crandon	Forest	1,060	17	60.0	− 3.3	92	29	31	7	40	1.29	− 1.37	0.28	0	7	17	6	7	w.	Frank Shoemaker.
Florence	Florence	1,293	21	60.6	− 1.2	92	25†	32	7	44	2.04	− 1.49	0.53	0	6	23	5	2	nw.	Fred S. Evans.
Fond du Lac	Fond du Lac	800	26	64.4	− 1.6	93	29	41	21	42	1.63	− 1.90	0.70	0	7	27	1	2	e.	Edward A. Seeley.
Grand River Locks	Marquette	770	16	64.6	.....	94	29	40	7	41	0.69	− 3.99	0.40	0	6	28	1	1	w.	Jerry Parkinson.
Green Bay	Brown	617	26	63.3	− 1.8	94	29	42	7	33	1.03	− 2.52	0.59	0	8	9	13	8	sw.	U. S. Weather Bureau.
High Falls	Marinette	810	0	62.4	.....	97	29	31	7	47	1.72	.....	0.89	0	4	9	20	1	e.	No. Hydro-Elec. Power Co.
Iron River	Bayfield	1,096	3	61.2	.....	97	25	35	7†	47	2.43	.....	0.96	0	7	23	2	5	w.	Winfield E. Tripp.
Kewaunee	Kewaunee	590	3	60.0	.....	88	25	36	7†	34	1.44	.....	0.80	0	4	18	6	6	ne.	Eugene V. Kimball.
Manitowoc	Manitowoc	616	61	61.2	− 1.0	89	25	40	7	31	0.59	− 2.88	0.40	0	6	12	9	9	s.	Johanna Lups.
Menasha	Winnebago	764	15	.....	.....	.....	.....	.....	.....	.....	0.65	− 2.86	0.59	0	3	27	2	1	se.	Geo. T. Allanson.
Menomonee Falls	Waukesha	842	3	63.4	.....	93	29	38	7	35	0.70	.....	0.27	0	6	20	8	2	nw.	Arthur H. Christman.
Milwaukee	Milwaukee	681	42	62.8	− 0.7	89	25	45	7	31	0.92	− 2.75	0.56	0	9	15	10	5	ne.	U. S. Weather Bureau.
New London	Outagamie	762	16	64.3	− 1.0	94	25†	38	7	38	1.27	− 2.77	0.60	0	5	17	7	6	nw.	August H. Pape.
Oconto	Oconto	590	21	62.6	− 1.8	90	25†	36	7	33	0.92	2.48	0.33	0	6	14	13	3	s.	Wm. K. Smith.
Oshkosh	Winnebago	744	23	65.9	− 0.2	93	28	44	7	35	0.90	− 3.63	0.50	0	4	22	6	2	sw.	Evan Vincent.
Pine River	Waushara	900	17	64.2	− 0.9	94	29	37	7	39	0.90	− 2.95	0.45	0	5	13	15	2	ne.	Geo. H. Carpenter.
Plum Island	Door	588	4	59.7	.....	88	25	40	13	30	1.98	.....	0.41	0	11	17	9	4	s.	Geo. C. Robinson.
Plymouth	Sheboygan	843	2	62.7	.....	89	29	37	7	33	0.76	.....	0.37	0	6	19	7	4	nw.	Paul O. Feldrappe.
Port Washington	Ozaukee	713	19	62.4	− 0.2	88	25	42	7	35	0.24	− 2.61	0.22	0	2	20	6	4	se.	Richard C. Kann.
Racine	Racine	633	15	63.2	− 1.2	89	25	45	7	28	1.04	− 2.09	0.55	0	6	17	7	6	se.	Daniel Davis.
Ripon	Fond du Lac	935	2	64.3	.....	96	29	42	8†	42	1.44	.....	1.28	0	2	18	10	2	sw.	Ripon College.
Sheboygan	Sheboygan	831	13	62.4	− 0.4	93	25	41	7	35	0.89	− 2.25	0.28	0	7	16	11	3	se.	Louis C. Meyer.
Sturgeon Bay	Door	600	13	59.0	− 1.0	94	25	31	13	42	1.84	.....	0.75	0	7	15	12	3	s.	Adam N. Dier.
Superior	Douglas	671	3	58.0	.....	93	25	40	7†	39	1.37	.....	0.46	0	8	13	14	3	sw.	Edward B. Banks.
Waupaca	Waupaca	857	17	63.9	− 1.4	97	29	33	7	42	0.70	− 3.72	0.33	0	8	19	4	7	sw.	James H. Flagg.
Illinois.																				
Chicago	Cook	824	42	66.0	− 0.3	87	29	49	7	33	1.78	− 1.88	0.92	0	7	15	12	3	sw.	U. S. Weather Bureau.
Evanston	do	601	....	64.9	.....	90	29	41	8	33	1.52	− 1.94	0.47	0	9	17	5	8	.....	City of Evanston.
Indiana.																				
Auburn	Dekalb	874	16	65.5	+ 1.8	91	26†	35	8	43	1.34	− 2.28	0.64	0	7	15	7	8	sw.	Mrs. Josie B. Kuhlman.
Berne	Adams	849	3	67.0	.....	91	26†	37	8	43	2.46	.....	1.84	0	5	20	7	3	sw.	Henry M. Reusser.
Elkhart	Elkhart	801	10	69.2[b]	.....	91[b]	26†	42[b]	8	30[b]	4.79	.....	1.68	0	6	23[c]	1[c]	3[c]	nw.	Dr. Miles Medical Co.
Ft. Wayne	Allen	856	16	67.1	− 1.4	89	26	43	8	30	3.24	− 0.60	2.75	0	9	17	9	4	sw.	U. S. Weather Bureau.
Hammond	Lake	598	21	66.4	− 1.8	92	28	34	8	40	4.02	+ 0.92	1.80	0	9	14	12	4	.....	Carson W. Whitney.
Howe	Lagrange	886	7	67.4	.....	91	26†	38	8	40	2.08	.....	0.88	0	6	23	0	7	.....	James E. Zook.
Notre Dame	St. Joseph	712	1	65.2	.....	88	27	40	8	30	1.80	.....	0.61	0	9	15	9	6	nw.	U. S. Weather Bureau.
Whiting	Lake	606	3	67.0	.....	92	29	44	8	29	3.20	.....	2.61	0	8	17	12	1	se.	D. H. Boyd.
Michigan—Upper Peninsula.																				
Baraga	Baraga	623	10	.....	.....	.....	.....	30	13	.....	0.50	− 2.71	0.30	0	2	20	0	10	w.	D., S. S. & A. Ry.
Bergland	Ontonagon	1,300	2	59.2	.....	91	25	30	3†	45	2.48	.....	0.69	0	7	18	2	10	nw.	Frank McMonigal.
Blaney	Schoolcraft	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Calumet	Houghton	1,246	24	57.9	− 1.7	83	24†	37	4†	30	1.79	− 1.23	0.48	0	7	23	3	4	w.	E. S. Grierson.
Chatham	Alger	875	11	55.9	− 1.6	91	25	27	27	52	2.14	− 0.91	0.87	0	7	20	2	8	n.	Upper Peninsula Exp. Sta.
Deer Park	Luce	610	11	55.6	+ 1.0	84	25	36	7	28	T.	− 2.23	T.	0	0	22	1	7	s.	Mrs. Sarah E. McGaw.
Detour	Chippewa	585	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Linton Melvin.
Eagle Harbor	Keweenaw	622	13	55.9	+ 0.4	82	24	35	7	28	1.59	− 1.22	0.55	0	6	15	12	3	w.	John Nolen.
Escanaba	Delta	612	39	59.0	− 1.6	85	29	35	7	28	1.62	− 1.98	0.71	0	10	14	9	7	s.	U. S. Weather Bureau.
Ewen	Ontonagon	1,147	11	58.8	− 2.1	91	29	30	7	46	1.78	− 0.33	0.60	0	6	14	3	13	w.	W. B. Hatfield.
Grand Marais	Alger	610	11	55.8	+ 0.3	84	25	37	7	35	1.33	− 1.22	0.40	0	8	24	2	4	w.	Mrs. Lena Truedell.
Green	Ontonagon	622	1	.....	.....	86	24	.....	.....	.....	1.54	.....	0.80	0	2	23	4	3	.....	T. A. Green.
Houghton	Houghton	668	11	58.2	− 1.3	86	25	37	7	34	1.64	− 1.85	0.64	0	7	13	7	10	w.	U. S. Weather Bureau.
Humboldt	Marquette	1,536	15	58.7[a]	+ 0.8	90[a]	29	24[a]	10	46[a]	.....	.....	.....	0	....	22[a]	0[a]	7[a]	w.	D., S. S. & A. Ry.
Iron Mountain	Dickinson	1,111	11	62.3	+ 0.7	95	29	33	7	44	0.91	− 1.62	0.25	0	6	16	13	1	nw.	Chapin Mining Co.
Iron River	Iron	1,504	15	60.9[b]	+ 1.3	93	29	34[e]	8†	40[e]	3.20	− 0.85	0.70	0	8	16	14	0	w.	Victor D. Laing.
Ironwood	Gogebic	1,520	9	60.5	.....	90	25	34	7	34	1.90	.....	0.51	0	7	20	5	5	w.	J. V. Brennan.
Ishpeming	Marquette	1,536	12	58.9	− 0.3	89	25	32	7	44	1.50	− 1.08	0.60	0	8	18	9	3	w.	Cleveland Cliffs Iron Co.
Isle Royale	Keweenaw	610	5	59.7	.....	71	29	33	19	27	2.37	.....	0.66	0	7	21	2	7	sw.	J. A. Malone.
Mackinac Island	Mackinac	831	11	56.8	− 1.2	84	28	39	16	33	1.53	− 2.35	1.05	0	5	7	16	7	w.	Mackinac I. State Park Com.
Maple Ridge	Delta	.....	6	58.3	.....	93	25	31	7†	48	1.37	.....	0.59	0	6	18	1	11	s.	Herman Johnson.
Marquette	Marquette	734	41	58.6	+ 0.1	90	25	37	7	37	2.45	− 1.06	1.02	0	9	12	12	6	sw.	U. S. Weather Bureau.
Menominee	Menominee	581	13	62.8	+ 1.1	92	25	38	7	32	1.38	− 1.82	0.41	0	7	23	4	3	sw.	C. & N. Ry.
Munising	Alger	631	15	57.6	− 0.5	88	25	32	7	44	2.28	+ 0.06	0.98	0	9	18	7	5	nw.	Albert Oas.
Newberry	Luce	773	10	58.4	+ 0.4	89	29	33	7	45	1.66	− 0.71	0.49	0	9	15	10	5	s.	John Brown.
Powers	Menominee	868	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. & N. Ry.
St. Ignace	Mackinac	593	22	57.2	− 2.0	84	28	37	7	33	1.90	− 1.10	1.90	0	1	17	8	5	w.	D., S. S. & A. Ry.
Sault Ste. Marie	Chippewa	614	24	55.8	− 1.8	86	24	36	13	36	1.32	− 1.45	0.62	0	9	17	8	5	w.	U. S. Weather Bureau.
Seney	Schoolcraft	730	0	57.6[d]	.....	91[b]	28	26	26	.....	1.46	.....	0.70	0	5	17	10	3	w.	Western Land Securities Co.
Thomaston	Gogebic	1,347	15	58.4	− 2.3	90	25	26	7	43	2.24	− 0.03	0.62	0	6	8	20	2	w.	D., S. S. & A. Ry.
Victoria	Ontonagon	1,263	2	62.2	.....	91	25	36	7	33	2.07	.....	0.57	0	8	19	9	2	nw.	R. S. Schultz, jr.
Watersmeet	Gogebic	.....	3	58.7	.....	92	25†	27	7	47	2.32	.....	0.61	0	9	4	16	10	sw.	B. N. Grant.
Whitefish Point	Chippewa	610	12	52.1	− 1.0	79	25	36	9	30	1.21	− 1.18	0.28	0	9	22	2	6	nw.	Robert Carlson.
Michigan—Lower Peninsula.																				
Adrian	Lenawee	770	34	66.6	− 1.1	92	26†	38	8	40	1.94	− 2.23	0.56	0	6	10	18	2	w.	H. E. Hubbard.
Allegan	Allegan	698	21	68.4[a]	+ 1.0	92	30	38[b]	9	33[b]	2.47	− 1.06	1.27	0	4	7	18	5	w.	Pere Marquette R. R.
Alma	Gratiot	750	25	64.0	− 2.2	91	29	40	7	33	1.27	− 1.77	0.34	0	8	15	11	4	w.	P. M. Smith.

TABLE 1.—*Climatological data for June, 1912. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit. Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Precipitation, in inches. Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Sky. Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
Michigan—Lower Peninsula—Continued.																				
Alpena	Alpena	609	39	60.1	− 0.2	91	25	40	7	32	0.69	− 2.86	0.17	0	8	13	15	2	nw.	U. S. Weather Bureau.
Ann Arbor	Washtenaw	930	32	65.0	− 2.1	91	29	42	8	32	0.91	− 2.64	0.46	0	6	17	6	7	sw.	University of Michigan.
Arbela	Tuscola	728	16	63.0	− 2.7	90	28	39	7†	40	1.57	− 1.54	0.62	0	6	2	20	8	w.	Wm. Atkin.
Battle Creek	Calhoun	822	28	65.8	− 2.7	90	29	40	8	34	0.42	− 3.88	0.42	0	1	26	2	2	ne.	Elmer E. Sager.
Bay City	Bay	593	16	64.6	− 1.5	90	28†	40	7	39	0.46	− 2.11	0.24	0	3	.....	.....	.....	sw.	Pere Marquette R. R.
Benzonia	Benzie	832	15	61.0[b]	− 1.5	88[b]	29	38[b]	8†[b]	36[b]	1.32	− 0.98	0.41	0	5	17	10	1	sw.	Wallace Nutting.
Berlin	St. Clair	.....	23	63.7	− 2.1	94	29	40	7†	38	0.93	− 2.32	0.44	0	5	6	22	2	nw.	R. O. Gould.
Big Rapids	Mecosta	906	16	62.9	− 1.0	91	29	39	7	37	2.13	− 0.40	0.70	0	6	9	19	2	nw.	Supt. Waterworks.
Blissfield	Lenawee	687	0	66.8[k]	.....	91[k]	25†	46[k]	21†	35[k]	.....	.....	.....	0	.....	14[k]	4[k]	1[k]	.....	
Bloomingdale	Van Buren	.....	8	65.0	.....	90	29	38	8	35	0.42	.....	0.12	0	5	21	9	0	nw.	John M. Haven.
Cadillac	Wexford	1,293	3	62.4	.....	91	29	36	7	36	0.74	.....	0.26	0	7	19	10	1	w.	Cadillac W. & L. Co.
Cassopolis	Cass	903	11	67.1	+ 1.1	87	26†	47	24	37	0.05	− 3.47	0.03	0	2	23	0	7	se.	Michigan Central R. R.
Charlevoix	Charlevoix	610	34	59.6	− 2.5	88	25†	34	7	38	0.11	− 2.24	0.11	0	1	21	4	5	nw.	Pere Marquette R. R.
Charlotte	Eaton	.....	8	64.1	.....	89	29	38	8	33	0.63	.....	0.35	0	2	17	7	6	w.	City of Charlotte.
Cheboygan	Cheboygan	611	22	60.6	− 1.1	88	25	35	7	38	2.10	− 0.60	1.30	0	3	17	12	1	w.	E. A. Bouchard.
Clinton	Lenawee	830	22	66.4	− 1.7	96	28	35	21	50	1.36	− 1.56	0.48	0	5	21	8	1	sw.	David Woodward.
Coldwater	Branch	984	15	66.4	+ 0.4	91	26	40	8	33	3.63	− 0.69	1.31	0	9	23	3	4	sw.	L. S. & M. S. R. R.
Concord	Jackson	.....	7	65.9	.....	91	26†	37	8	38	1.15	.....	0.40	0	4	20	9	1	sw.	W. N. Armstrong.
Croton	Newaygo	685	4	63.2	.....	92	29	40	9	35	1.25	.....	0.35	0	6	15	14	1	sw.	Gr. Rap. Musk. Power Co.
Detroit	Wayne	730	41	65.0	− 2.8	88	29	45	8	27	1.92	− 1.97	0.60	0	9	13	14	3	e.	U. S. Weather Bureau.
Durand	Shiawassee	799	4	64.3	.....	89[l]	25†	42[g]	8	41[l]	.....	.....	.....	0	.....	19[g]	1[g]	3[g]	.....	H. J. Tobin.
East Tawas	Iosco	590	15	59.8[a]	− 2.2	81	16†	38[a]	7	36[a]	1.37	− 0.81	0.50	0	6	27	3	0	w.	Detroit & Mackinaw Ry.
Eloise	Wayne	640	15	65.4	− 1.5	92	29	42	13	37	1.93	− 0.91	1.12	0	5	19	8	3	se.	John Gilmore.
Flint	Genesee	730	23	63.6	− 2.1	90	29	42	7†	30	0.99	− 1.88	0.25	0	8	17	8	5	w.	William L. Fisher.
Frankfort	Benzie	589	8	56.6	.....	74	27†	44	7	22	1.35	.....	0.55	0	5	18	0	12	s.	George Morency.
Ganges	Allegan	665	3	62.2	.....	85	27	45	5†	28	2.10	.....	0.86	0	5	22	5	3	sw.	H. H. Hutchins.
Gaylord	Otsego	1,367	12	62.8[e]	− 0.5	91	28†	39[f]	7	38[f]	0.95	− 1.61	0.39	0	4	1	20	9	sw.	Michigan Central R. R.
Gladwin	Gladwin	794	16	64.4	− 1.0	95	29	37	7	40	0.75	− 1.89	0.20	0	5	27	1	2	s.	George R. Smith.
Grand Haven	Ottawa	628	31	60.6	− 4.1	83	27	44	2	28	1.07	− 1.44	0.42	0	7	18	9	3	w.	U. S. Weather Bureau.
Grand Rapids	Kent	707	23	64.8	− 3.3	91	29	44	8	32	1.02	− 1.50	0.57	0	4	15	10	5	w.	Do.
Grape	Monroe	625	22	66.0	− 1.7	92	29	39	8	39	2.04	− 0.93	0.99	0	8	15	14	1	w.	Joseph W. Morris.
Grass Lake	Jackson	989	6	65.6	.....	91	30	40	8	43	0.83	.....	0.45	0	3	22	0	8	sw.	Menzo Conklin.
Grayling	Crawford	1,147	22	59.9	− 4.2	94	29	34	7	52	1.38	− 1.35	0.52	0	5	22	7	1	w.	S. N. Insley.
Harbor Beach	Huron	635	24	59.2	− 3.0	89	25	33	12	49	1.60	− 1.06	1.10	0	4	26	3	1	ne.	Pere Marquette R. R.
Harrison	Clare	1,159	19	63.3	− 0.7	93	29	36	7	39	0.59	− 2.16	0.31	0	4	22	6	2	nw.	Do.
Harrisville	Alcona	616	28	60.0	− 0.9	88	25	38	7	35	1.18	− 2.04	0.34	0	9	14	9	7	sw.	D. W. Mitchell.
Hart	Oceana	698	20	.....	.....	.....	.....	.....	.....	.....	2.10	− 0.11	0.80	0	3	19	7	4	sw.	Pere Marquette R. R.
Hayes	Huron	620	22	64.0[a]	− 1.0	89[a]	29	40[a]	17	38[a]	1.87	− 0.50	0.85	0	7	14	14	2	nw.	C. F. Leipprandt.
Highland	Oakland	830	20	.....	.....	.....	.....	.....	.....	.....	1.71	− 1.68	0.70	0	7	.....	.....	.....	.....	A. D. De Garmo.
Hillsdale	Hillsdale	1,150	15	65.6	− 0.3	90	26	43	5†	34	2.47	− 1.62	0.68	0	6	20[b]	4[b]	4[b]	w.	C. L. Herron.
Holland	Ottawa	610	6	62.4	.....	86	29	39	8	37	1.28	.....	0.91	0	4	19	10	1	nw.	City of Holland.
Howell	Livingston	924	20	64.7	− 2.1	88	28	40	7	30	2.64	− 0.14	0.95	0	7	17	11	2	sw.	Frank Sharp.
Ivan	Kalkaska	.....	23	61.0	− 3.4	94	29	32	7	42	1.46	− 1.29	0.78	0	7	17	12	1	nw.	O. L. Giddings.
Jackson	Jackson	927	15	66.4	− 1.7	92	28	41	8	37	1.18	− 2.39	0.34	0	8	19	0	1	sw.	City of Jackson.
Jeddo	St. Clair	667	23	62.1	− 3.1	86	28	40	8	31	0.99	− 1.73	0.62	0	5	15	9	6	sw.	William Bice.
Kalamazoo	Kalamazoo	955	36	64.3	− 3.7	91	29	37	8	33	0.70	− 3.38	0.45	0	3	19	9	2	nw.	Kalamazoo Asylum.
Lansing (Agr. College)	Ingham	820	48	63.1	− 4.1	89	28	40	8	32	0.97	− 2.43	0.57	0	7	13	11	6	sw.	U. S. Weather Bureau.
Lansing (Capitol)	do	881	25	64.8	− 2.3	90	28†	41	7	30	1.29	− 2.46	0.60	0	7	14	12	4	se.	State Board of Health.
Lapeer	Lapeer	827	13	66.3	+ 1.1	91	29	41	7	37	1.19	− 1.12	0.36	0	3	17	12	1	sw.	Michigan Home.
Ludington	Mason	586	14	58.5	− 2.9	82	28	41	13	34	1.06	− 1.40	0.47	0	3	17	12	1	sw.	Pere Marquette R. R.
Luther	Lake	1,028	2	61.6	.....	95	29	34	7	43	1.65	.....	0.74	0	8	17	10	3	w.	John W. Nichoson.
Mackinaw	Cheboygan	592	21	60.6	+ 1.0	85	25	39	30	35	0.84	− 1.75	0.42	0	4	19	8	3	w.	G. R. & I. Ry.
Mancelona	Antrim	1,121	16	60.7	− 2.1	91	28	34	7	39	T.	− 2.48	T.	0	0	28	2	0	s.	Do.
Manistee	Manistee	600	15	60.0[c]	− 2.5	88[c]	30	36[c]	27	42[c]	.....	.....	.....	0	.....	7	18	2	w.	Pere Marquette Railroad.
Marshall	Calhoun	896	0	66.3[e]	.....	88[e]	29	41[e]	8	32[e]	.....	.....	.....	0	.....	.....	.....	.....	.....	E. B. Stuart.
Midland	Midland	604	13	66.6	+ 0.9	95	29†	40	7†	55	0.85	− 1.36	0.25	0	4	15	12	3	se.	Pere Marquette Railroad.
Morenci	Lenawee	811	5	64.6	.....	87	26†	36	8	36	3.29	.....	1.60	0	7	18	6	6	sw.	George J. Tripp.
Mount Clemens	Macomb	615	12	64.7	− 1.8	92	29	39	8	38	1.54	− 1.32	0.55	0	6	9	10	11	w.	Waterworks.
Mount Pleasant	Isabella	826	13	63.2	− 2.7	95	29	31	7	49	0.58	− 1.91	0.35	0	4	23	6	1	w.	Pere Marquette Railroad.
Muskegon	Muskegon	587	16	62.7	− 2.3	85	27	45	8	29	1.50	− 1.02	0.40	0	7	22	7	1	s.	G. R. & I. Ry.
Old Mission	Grand Traverse	858	18	60.5[b]	− 2.9	87[b]	29	37[b]	7	35[b]	0.98	− 1.45	0.62	0	5	15	14	1	sw.	E. O. Ladd.
Olivet	Eaton	934	22	64.2	− 2.1	86	28†	42	8	29	0.75	3.48	0.27	0	6	26	6	4	n.	G. A. Knapp.
Omer	Arenac	616	13	60.3	+ 0.2	90	26	37	7	37	1.53	− 0.02	1.00	0	4	26	0	4	w.	D. & M. Ry.
Onaway	Presque Isle	826	9	60.6	.....	90	29	35	7	38	.....	.....	.....	0	.....	1	20	9	w.	Do.
Owosso	Shiawassee	731	15	65.8	− 0.8	91	29	41	8	36	1.14	− 1.47	0.40	0	9	10	20	0	nw.	Owosso Sugar Co.
Petoskey	Emmet	660	22	57.8	− 4.4	85	25	37	15	31	0.34	− 2.50	0.18	0	3	20	5	5	w.	G. R. & I. Ry.
Plymouth	Wayne	725	15	66.5	− 1.0	94	29	42	13	39	0.81	− 2.70	0.48	0	2	28	1	1	e.	Pere Marquette Railroad.
Pontiac	Oakland	935	12	65.0	− 2.6	90	29	42	7	30	1.13	− 1.57	0.46	0	5	16	13	1	nw.	Fred W. Shaw.
Port Austin	Huron	618	15	62.4	+ 0.5	86	25	39	8	37	2.07	− 0.36	0.81	0	5	24	4	2	s.	Pere Marquette Railroad.
Port Huron	St. Clair	639	37	62.3	− 1.5	85	28	40	8	34	1.70	− 1.54	0.80	0	8	14	10	6	sw.	U. S. Weather Bureau.
Reed City	Osceola	1,033	15	63.0	− 2.4	94	29	37	6	41	0.46	− 2.04	0.20	0	4	19	5	6	e.	Pere Marquette Railroad.
Roscommon	Roscommon	1,141	11	59.2	− 3.6	93	29	30	13	43	1.46	− 1.40	0.36	0	9	15	15	0	nw.	Marcus Schaaf.
Saginaw	Saginaw	601	10	67.6	+ 1.9	93	29	43	7	32	0.87	− 1.95	0.29	0	8	16	13	1	sw.	Postmaster.
Saginaw, west side	do	601	17	65.8	− 1.5	93	29	41	7	32	0.76	− 1.97	0.26	0	8	22	7	1	sw.	Robert B. Hudson.
St. James	Charlevoix	681	6	58.0[d]	.....	83†	29	38[i]	7	32[i]	1.69	.....	0.51	0	7	21	0	9	sw.	James Malone.
St. Joseph	Berrien	593	25	64.0	− 1.3	88	30	43	12	33	0.55	− 2.51	0.20	0	6	15	11	4	sw.	City of St. Joseph.
Sandusky	Sanilac	790	3	61.0	.....	85	15†	38	8	38	1.67	.....	0.53	0	6	17	9	4	w.	Pere Marquette Railroad.
Saranac	Ionia	639	17	64.5	− 2.9	94	29	38	8	37	1.27	− 2.19	0.53	0	4	15	3	12	ne.	John Wallington.
South Haven	Van Buren	585	16	62.2	− 1.7	78	25†	45	5†	26	2.80	+ 0.54	1.00	0	5	22	5	3	sw.	Mrs. M. E. De Diemar.
Stanton	Montcalm	880	18	66.6	0.0	90	25	40	14	36	2.18	− 0.96	1.60	0	3	17	9	4	sw.	City of Stanton.
Thornville	Lapeer	975	35	62.8	− 4.8	87	23†	40	7	40	1.15	− 2.44	0.60	0	4	14	14	2	w.	J. S. Caulkins.
Traverse City	Grand Traverse	588	15	63.4	+ 0.5	90	11	38	7	38	0.29	− 2.03	0.20	0	4	20	4	6	nw.	G. R. & I. Ry.
Vassar	Tuscola	641	11	65.0[a]	− 0.4	92[a]	29	41[a]	8	37[a]	1.70[a]	− 0.83	1.45	0	2	14[a]	13[a]	2[a]	sw.	Pere Marquette Railroad.
Wasepi	St. Joseph	842	15	65.0	− 0.8	88	26	40	8	32	2.59	− 1.41	1.35	0	6	28	0	2	nw.	Charles A. Palmer.
West Branch	Ogemaw	973	7	.....	.....	90	29†	.....	.....	.....	T.	.....	T.	0	0	25	3	2	w.	Michigan Central Railroad.
Woodlawn (p.o. Vienna)	Montmorenci	.....	14	58.6	− 6.6	91	29	34	5†	41	1.24	− 2.14	0.40	0	6	19	10	1	nw.	T. C. Mathews.
Ypsilanti	Washtenaw	736	27	64.4	− 2.0	91	29	40	8	36	0.98	− 2.89	0.55	0	4	3	27	0	ne.	Orin J. Bemiss.
Ohio.																				
Akron	Summit	1,081	25	65.8[b]	− 2.5	88[b]	29	36[b]	8	32[b]	3.07	− 0.69	2.62	0	8	17	3	10	sw.	Prof. C. R. Olin
Antwerp	Paulding	733	....	67.6	.....	92	26	37	8	40	1.53	.....	0.72	0	5	22	0	8	sw.	North G. Osborn.
Benton Ridge	Hancock	800	19	67.2	− 2.4	89	26†	35	8	39	3.51	− 0.14	2.00	0	7	19	10	1	sw.	J. W. Powell.
Bowling Green	Wood	670	31	65.6	− 2.4	90	29	35	8	39	4.22	+ 0.38	1.95	0	6	19	8	3	sw.	G. C. Houskeeper.
Bucyrus	Crawford	1,000	18	66.8	− 2.0	91	29	34	8	42	2.67	− 1.03	1.20	0	5	18	6	6	nw.	James R. Hopley.
Cleveland (1)	Cuyahoga	762	41	64.8	− 3.1	85	29	43	8	29	1.96	− 1.72	1.62	0	7	15	8	7	n.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for June, 1912. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio—Continued.																				
Cleveland (2)	Cuyahoga	754	15	65.5	− 1.7	86	29	41	8	30	2.35	− 0.76	1.32	0	5	21	4	5	n.	Rev. F. L. Odenbach, S. J.
Conneaut	Ashtabula	675	2	63.8	.....	86	29	33	8	37	1.48	.....	0.66	0	6	17	6	7	sw.	E. L. Ransom.
Findlay	Hancock	776	23	67.3	− 2.6	92	26	34	8	43	1.94	− 2.07	0.80	0	8	23	3	4	sw.	Dr. E. A. Moser.
Fremont	Sandusky	628	10	67.3	− 0.9	92	26†	39	8	37	4.27	− 0.44	2.08	0	8	22	5	3	sw.	E. Stanley Thomas.
Hedges	Paulding	725	18	65.9	− 2.5	90	26	35	8	46	3.34	− 0.30	2.03	0	7	19	11	0	nw.	Chas. Stutzman.
Hillhouse	Lake	997	19	62.7	− 2.5	86	29	31	8	36	1.94	− 1.62	0.87	0	5	22	6	2	ne.	J. W. Doncaster.
Hiram	Portage	1,260	32	64.6	− 2.4	87	29	37	8	31	1.52	− 2.45	1.37	0	2	19	10	1	nw.	Prof. G. H. Colton.
Hudson	Summit	1,153	51	66.2	− 1.3	91	28	33	8	43	1.88	− 1.86	1.33	0	5	24	4	2	nw.	Dr. W. I. Chamberlain.
Lima	Allen	875	13	66.2	− 1.6	88	26†	38	8	34	2.87	− 1.36	1.15	0	7	18	5	7	w.	Miss Ollie DeLong.
Medina	Medina	944	24	64.7	− 2.9	89	26†	32	8	42	2.65	− 0.59	2.02	0	6	20	3	7	n.	F. W. Clark.
Montpelier	Williams	880	20	67.3	− 0.6	91	26	37	8	38	3.56	− 1.27	1.67	0	7	21	6	3	w.	G. L. Laser.
Napoleon	Henry	680	25	66.8	− 1.7	90	26	38	8	37	3.14	− 0.64	1.84	0	7	17	8	5	w.	A. C. Senter.
New Bremen	Auglaize	1,038	19	66.4	− 3.0	88	26	37	8	34	2.57	− 0.79	1.80	0	5	15	12	3	sw.	Miss Lillian Grothaus.
North Royalton	Cuyahoga	1,000	19	64.5	− 3.1	88	29	36	8	32	2.29	− 1.20	1.28	0	5	18	11	1	nw.	W. S. Edgerton.
Norwalk	Huron	719	26	66.3	− 1.9	93	29	35	8	40	4.67	+ 1.21	2.19	0	6	13	14	3	w.	Giles R. Gregory
Oberlin	Lorain	855	37	65.0	− 2.9	88	26	34	8	40	2.33	− 1.39	1.95	0	5	16	13	1	s.	Prof. F. F. Jewett.
Ottawa	Putnam	720	19	66.8	− 2.5	88	14†	37	8	38	4.70	+ 1.21	3.75	0	6	13	16	1	sw.	Prof. J. T. Maidlow.
Sandusky	Erie	629	35	66.2	− 2.6	89	29	44	8	27	4.52	+ 0.70	2.72	0	9	18	7	5	sw.	U. S. Weather Bureau.
Tiffin	Seneca	775	30	66.7	− 2.8	86	29	40	8	29	2.69	− 1.27	1.89	0	7	20	8	2	n.	Prof. T. H. Sonnedecker.
Toledo	Lucas	769	41	66.8	− 2.6	91	26	46	8	26	3.55	+ 0.17	1.74	0	7	19	10	1	sw.	U. S. Weather Bureau.
Upper Sandusky	Wyandot	854	29	67.0	− 2.7	88	26†	35	8	35	3.99	− 0.24	2.74	0	4	15	12	3	w.	Robert E. Tracht.
Vickery	Sandusky	588	19	66.2	− 2.1	92	29	35	8	40	5.45	+ 2.12	2.56	0	9	15	11	4	n.	John W. Barr.
Wauseon	Fulton	780	40	66.0	− 2.6	92	29	36	8	40	2.97	− 1.02	1.93	0	9	12	13	5	s.	Thomas Mikesell.
Wickliffe	Lake	649	....	.....	.....	....	....	.....	....	....	2.29	.....	1.32	0	5	20	5	5	w.	C. M. Richardson.
Pennsylvania.																				
Erie	Erie	658	39	63.6	− 3.4	81	25	43	8	31	3.07	− 0.68	2.13	0	6	15	8	7	w.	U. S. Weather Bureau.
New York.																				
Adams Center	Jefferson	540	21	62.6	− 2.9	88	25	35	8	34	0.98	− 2.88	0.36	0	9	12	14	4	s.	A. E. Cooley.
Angelica	Allegany	1,340	29	59.2	− 4.7	87	29	28	8	42	1.17	− 3.05	0.53	0	5	8	15	7	w.	Charles P. Arnold.
Appleton	Niagara	270	21	62.1	− 2.5	87	29	36	8	34	0.84	− 2.22	0.57	0	5	17	10	3	sw.	H. A. Van Wagonen.
Auburn	Cayuga	715	43	62.4	− 3.4	88	28	38	8	34	0.62	− 3.48	0.27	0	4	24	6	0	nw.	A. H. Underwood.
Avon	Livingston	585	17	62.8	− 2.5	87	28†	34	8	36	0.77	− 2.45	0.42	0	5	10	17	3	.....	W. G. Markham.
Blue Mountain Lake	Hamilton	1,750	12	.....	.....	....	....	.....	....	....	0.50	− 4.21	0.17	0	4	14	13	3	w.	B. F. Merwin.
Brockport	Monroe	537	16	63.2	− 2.9	87	29	37	8	35	0.65	− 2.42	0.24	0	10	11	19	0	.....	W. H. Lennon.
Buffalo	Erie	767	61	61.7	− 3.4	80	27	44	14	33	0.83	− 2.31	0.22	0	7	11	13	6	sw.	U. S. Weather Bureau.
Canton	St. Lawrence	448	18	59.1	− 6.0	82	28	37	14	32	1.57	− 1.86	0.47	0	10	10	14	6	sw.	Do.
Cape Vincent	Jefferson	246	7	60.7	.....	81	26	41	8	31	1.24	.....	0.55	0	5	20	7	3	w.	J. Harry Grapotte.
Chazy	Clinton	151	12	61.9	− 2.5	88	24	34	10	38	1.50	− 1.74	0.46	0	6	14	13	3	n.	W. R. North.
Dannemora	....do	1,490	7	60.8	.....	84	24†	36	10	33	1.42	.....	0.53	0	9	14	11	5	w.	Dr. W. N. Thayer.
Elba	Genesee	500	13	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....	....	....	....	.....	Joseph S. Wilford.
Fayetteville	Onondaga	530	11	63.2	− 3.1	85	25†	36	8	36	0.79	− 3.90	0.55	0	5	22	5	3	nw.	Dana H. Wells.
Gabriels	Franklin	1,729	10	56.9	.....	84	24†	27	14	42	1.85	.....	0.40	0	9	17	8	5	w.	Gabriels Sanitarium.
Harkness	Clinton	622	10	61.3	− 2.1	87	24†	34	10	38	0.42	− 2.87	0.11	0	9	28	1	1	w.	J. W. Harkness.
Hemlock Lake	Livingston	900	14	62.8	− 3.2	84	28†	38	8	36	1.20	− 2.10	0.33	0	6	8	19	3	sw.	Grant Harvey.
Hunt	....do	1,321	13	62.2	− 4.3	90	29	29	8	43	0.53	− 3.32	0.30	0	3	19	8	3	nw.	W. S. Barager.
Ithaca	Tompkins	928	34	63.2	− 3.0	88	28	36	8	37	1.37	− 2.51	0.84	0	7	13	12	5	nw.	U. S. Weather Bureau.
Keene Valley	Essex	1,000	14	59.6	− 3.1	90	25	30	14	48	0.37	− 3.38	0.15	0	5	19	6	5	nw.	E. R. Wells.
King Ferry	Cayuga	.....	12	.....	.....	....	....	.....	....	....	1.12	− 2.75	0.55	0	6	19	5	6	w.	Lucius A. Goodyear.
Lake George	Warren	350	15	61.4	− 3.0	90	24	32	8	44	0.56	− 3.63	0.42	0	3	14	14	2	sw.	Charles Forsell.
Lake Placid Club	Essex	1,864	4	51.5	.....	78	23	26	8	43	1.39	.....	0.30	0	13	16	13	1	nw.	Henry Van Hoevenberg.
Lockport	Niagara	520	25	63.2	− 3.0	87	29	38	8	32	1.50	− 1.01	0.73	0	5	18	11	1	nw.	Robert N. Clark.
Lowville	Lewis	900	45	62.4	− 0.6	87	1†	33	8	45	0.54	− 3.06	0.11	0	9	24	4	2	w.	Prof. W. F. H. Breeze.
Moira	Franklin	200	12	59.6	− 4.8	83	3†	36	30	35	1.82	− 2.03	0.40	0	12	10	13	7	w.	C. E. McBride.
Nehasane	Hamilton	1,750	4	55.3	.....	82	24†	27	8	44	1.07	.....	0.40	0	14	19	9	2	w.	L. W. Brown.
North Lake	Herkimer	1,822	11	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....	....	....	....	.....	John F. Redmond.
Ogdensburg	St. Lawrence	175	28	61.6	− 3.4	80	2†	39	14	35	3.06	− 0.49	1.00	0	9	13	16	1	s.	State Hospital.
Old Forge	Herkimer	1,733	4	55.6	.....	81	2†	29	8†	40	1.70	.....	0.40	0	10	15	10	5	w.	Mrs. S. W. Nelson.
Oswego	Oswego	355	42	59.6	− 4.2	85	2	42	8	25	1.01	− 2.42	0.79	0	4	13	9	8	w.	U. S. Weather Bureau.
Otto	Cattaraugus	1,410	8	61.9	.....	84	28†	34	8	32	0.84	.....	0.29	0	8	16	10	4	.....	William J. Winke.
Palermo	Oswego	460	53	.....	.....	....	....	.....	....	....	0.86	− 2.40	0.40	0	6	23	5	2	sw.	E. B. Bartlett.
Perry City	Schuyler	1,038	32	60.4	− 4.5	88	29	29	8	48	1.52	− 2.55	0.85	0	4	12	12	6	nw.	W. H. Jeffers.
Philadelphia	Jefferson	485	6	60.6	.....	83	25	35	8	38	0.92	.....	0.26	0	9	10	17	3	w.	E. B. Babcock.
Potsdam	St. Lawrence	300	36	61.2	− 3.1	85	25†	36	13	38	1.66	− 2.06	0.44	0	11	....	....	....	.....	A. E. Sutherland.
Raquette Lake	Hamilton	1,776	4	57.2	.....	83	24†	30	8	40	0.94	.....	0.17	0	12	16	9	5	sw.	R. J. Dunning.
Rochester	Monroe	523	83	63.0	− 3.1	86	29	39	8	29	0.89	− 2.24	0.40	0	7	14	10	6	w.	U. S. Weather Bureau.
Romulus	Seneca	719	20	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....	....	....	....	.....	John H. Coryell.
Shortsville	Ontario	740	13	62.8	− 2.7	85	28	38	8	34	0.73	− 2.89	0.46	0	5	17	11	2	nw.	C. H. Latting.
Skaneateles	Onodaga	.....	17	.....	.....	....	....	.....	....	....	0.97	− 3.29	0.75	0	3	....	....	....	.....	Edward Conron.
Syracuse	....do	597	10	62.8	− 4.1	85	2	42	8	29	0.55	− 3.34	0.33	0	6	13	10	7	nw.	U. S. Weather Bureau.
Ticonderoga	Essex	344	14	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....	....	....	....	.....	Miss Eva M. De Lano.
Tupper Lake	Franklin	1,522	12	56.6	− 3.3	82	24	29	8	45	1.05	− 3.19	0.30	0	7	23	3	4	w.	Rev. A. W. Maddox.
Volusia	Chautauqua	1,167	13	61.6	− 2.1	82	28†	37	8	35	1.27	− 2.15	0.56	0	5	13	14	3	w.	Benjamin Breads.
Wanakena	St. Lawrence	1,620	2	57.8	.....	83	24†	28	8	41	1.30	.....	0.38	0	11	7	22	1	w.	J. Otto Hamele.
Watertown	Jefferson	540	20	61.2	− 4.8	84	2	37	8	30	0.52	− 2.95	0.20	0	9	17	7	6	sw.	H. P. Dunlap.
Wedgwood	Schuyler	1,430	23	62.2	− 3.4	87	29	36	8	32	1.88	− 2.26	0.65	0	8	19	10	1	nw.	O. F. Corwin.
Westfield	Chautauqua	837	16	63.4	− 1.9	86	29	38	8	....	2.10	− 1.55	0.91	0	5	21	4	5	.....	John R. Rogers.
York	Livingston	760	0	62.6	.....	85	28†	34	8	36	1.43	.....	0.72	0	10	11	11	8	sw.	M. N. Stewart.
Youngstown	Niagara	.....	10	.....	.....	....	....	.....	....	....	0.71	.....	0.55	0	5	3	26	1	sw.	B. V. Brookins.
Vermont.																				
Burlington	Chittenden	404	4	59.9	− 3.9	86	25	34	10	35	1.18	− 2.08	0.30	0	11	10	9	11	s.	U. S. Weather Bureau.
Cornwall	Addison	517	18	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....	....	....	....	.....	C. H. Lane.
Enosburg Falls	Franklin	601	20	59.8	− 5.4	87	25	32	8	39	4.15	− 0.40	0.73	0	16	13	12	5	w.	L. H. Pomeroy.
Hyde Park	Lamoille	576	0	59.4	.....	87	24†	29	10	42	1.88	.....	0.48	0	12	12	11	6	w.	A. V. Wiswell.
Northfield	Washington	876	25	57.4	− 5.3	85	24	30	10	40	1.05	− 2.20	0.33	0	11	10	15	5	s.	U. S. Weather Bureau.
Wells	Rutland	750	20	60.4	− 5.3	82	24†	33	8	36	1.22	− 2.39	0.55	0	8	13	13	4	s.	E. R. Pember.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for June, 1912. District No. 4, Lake Region.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Minnesota.																																
Cloquet	Lake Superior		.01	.16	.11	.24	.02	.02			T.	T.			.33	.30	.28													T.		1.47
Duluth	do		.20		T.	.19		T.			T.	.02		T.	.34	.33	.02									T.				.22	T.	1.32
Floodwood	do			.74		.10									.57	.45	.30													.48		2.64
Stephens Mine	do		T.		.38	.14		.07				.40			.20	1.31	.08														.10	2.68
Two Harbors	do			.55	T.	.05						.20			.30	.45	.25													.40		2.20
Virginia	do		.08		.38	.21						.20			.31	1.25	.02														.10	2.55
Wisconsin.																																
Appleton	Fox		.03	.04		.03	T.		T.			T.		T.	.04	.03																0.17
Ashland	Lake Superior		T.	.35	T.	.15									.99	.36	.42															2.27
Bayfield	do		.04	.84		.07					.10				.43	.76														T.		2.24
Cecil	Fox	T.	.23	.14		.07	T.	T.	.12				T.		.20					T.												0.76
Cornucopia	Lake Superior		T.	.71	T.	.07						.04			.53	.45	.23	T.		T.												2.03
Crandon	Fox	T.	.06	.06	T.	.20						.28			T.	.20	.23										.26			T.		1.29
Florence	Menomonee			.38		.13						.53				.53					.26									.21		2.04
Fond du Lac	Fox	T.	.70	.07		T.						.08	.36	T.	.36	.05				.01												1.63
Grand River Locks	do	.20	.20	.05		T.						.02			.10	.12																0.69
Green Bay	Lake Michigan	.21	.15	.03	T.	T.	.02	.01				.02		T.	.24	.35	T.			T.												1.03
High Falls	do	T.					.06	T.				.55					T.				.22						.89					1.72
Iron River	Lake Superior		.09	.60	.05	.21						.05			.47	.96																2.43
Kewaunee	Lake Michigan	.62		.01		.01	T.			T.		T.									.80											1.44
Manitowoc	do	.40		.02		.04			.02			.02			.09																	0.59
Menasha	Fox	.59		.03			T.							T.	T.	.03																0.65
Menomonee Falls	Lake Michigan		.24	.02	T.							T.	.27	.03	.11					.03							T.					0.70
Milwaukee	do	.55	.01	.02			T.		T.			.01	.09	.02	.01	T.				.14							.07					0.92
New London	Fox	.50		.07		T.						.05			.60	.05																1.27
Oconto	Lake Michigan	.20	.02	.06								T.		.26	.05	.33																0.92
Oshkosh	Fox		.50	T.	T.	.12		T.					T.	.08	.20				T.													0.90
Pine River	do	.11	.45	.02		T.	T.		T.			T.		T.	.17	.15																0.90
Plum Island	Lake Michigan		.37	.07		.24	.07	T.	.05			.40			.09	.12	.08			.41						.08						1.98
Plymouth	do	.12	.15	.03		T.	T.		T.			.01	.08			.37				T.												0.76
Port Washington	do		.22												.02																	0.24
Racine	do		.55		.19				T.				T.	T.	.15	.04				.09							.02					1.04
Ripon	Fox		1.28	T.								T.		T.	.16	T.																1.44
Sheboygan	Lake Michigan		.24	.06	T.	T.		.03					.09		.11	.08	.28															0.89
Sturgeon Bay	do		.75	.34			.02					T.	.07		.04	.26					.36						T.					1.84
Superior ‖	Lake Superior			.25		.08	.08					.02	.01		.46	.02	.45	T.														1.37
Waupaca	Fox	*	.20	.05	.03	.05						.04			*	.33																0.70
Illinois.																																
Chicago	Lake Michigan	T.	.07	.32								T.		.37	.85	.02			T.	.04	.11											1.78
Evanston	do		.12		.29							T.		.16	.47	.16	.12			.03	.01	.16										1.52
Highland Park	do	T.	.28	.46										.12	.62	.70				.02	.56									T.		2.76
Indiana.																																
Auburn ‖	Maumee		.16		.07											.64	.15	.10				.12							.10			1.34
Berne	do		.20		.02								T.		T.	T.	1.84	.17	T.	T.	T.										.23	2.46
Elkhart	St. Joseph														1.02	.39	1.03	.43										.24	1.68			4.79
Fort Wayne	Maumee		.08		.04								T.		.21	.49	2.26	.10	.03	T.										.02	.01	3.24
Hammond	Lake Michigan		.08		.38								.10	.20	1.80	.70	.58	.08		T.		.10								T.		4.02
Howe ‖	St. Joseph				.20										.48	.15	.88					.30						.07				2.08
Notre Dame ‖	do	.05	.01	.12	.03										.45	.14	.47		T.	T.	.04						T.	.49	T.			1.80
Whiting	Lake Michigan		.02	T.									.01		2.61	.22	.08				.07	.08		.11								3.20
Michigan—Upper Peninsula.																																
Baraga	Lake Superior											.20				.30																0.50
Bergland	Ontonagon			.51	.25	.11						.69	T.		.27	.45	.20															2.48
Blaney	Manistique																															.....
Calumet	Lake Superior			.48	.08	.04						.41			.12	.42	.24									T.				T.		1.79
Chatham	do		.17	.30	.02	.25						.87				.20	.33															2.14
Deer Park	do				T.	T.						T.				T.										T.						T.
Detour	St. Marys																															.....
Eagle Harbor	Lake Superior				T.	.04						.48			.02	.55	.25			T.										.25		1.59
Escanaba	Lake Michigan	.05	.07	.08	T.	.25	.01	T.	.03			.71			.20	.17	T.	T.		.05										T.		1.62
Ewen	Ontonagon			.11	.10	.10	T.					.60			.35	.52		T.														1.78
Grand Marais	Lake Superior	.05		.35	.03	.10	.15					.40				.05	.20									T.						1.33
Green	do														.74	.80																1.54
Houghton	do		.32	.32	.14	T.		T.				.33			.13	.29	.11	T.												T.		1.64
Humboldt	Escanaba																															.....
Iron Mountain	Menominee		.06	.14		T.						.20				T.	.23				.03						T.			.25		0.91
Iron River	do	T.	.30	.45		.35						.55			.15	.40	.70				T.									.30		3.20
Ironwood	Lake Superior	T.		.35	.06	.04					T.	.34			.31	.51	.29															1.90
Ishpeming	Escanaba		.20	.10	.05	.05						.60			.05	.05	.40			T.										T.		1.50
Isle Royale	Lake Superior			.32		.04						.30			.55	.66							.20								.30	2.37
Mackinac Island	Lake Huron	T.	T.	.02		T.						.07			.37	1.05	.02															1.53
Maple Ridge	Lake Michigan			.22		.10						.59				.21	.15			.10												1.37
Marquette	Lake Superior	.11	.15	.07	.03	.08						1.02			.09	.78	.12	T.								T.						2.45
Menominee	Menominee	.41	.06		T.	T.	T.		T.			.37			.18	.08				.11						.17						1.38
Munising	Lake Superior		.10	.35	.05	.16	.04					.94	.04			.10	.50															2.28
Newberry	Tequamenon		.12	.13	.01	.15	.12					.49				.23	.39										.02					1.66
Powers	Lake Michigan																															.....
St. Ignace	Lake Huron															1.90																1.90
Sault Ste. Marie	St. Marys		.07	.06	.02	.20						.17			.08	.58	.11									.03						1.32
Seney	Manistique			T.	.01	.25					T.	.70			.17	.33																1.46
Thomaston	Lake Superior				.62	.12					T.	.55			.20	.52	.23			T.												2.24
Victoria	Ontonagon	T.		.57	.15	.15						.34	.04		.23	.34	.25	T.														2.07
Watersmeet	do	.01		.61	.08	.25						.32	.09		.17	.21	.58															2.32
Whitefish Point	Lake Superior		.03	.26	.02		.20					.08	.05			.28	.24										.05					1.21
Michigan—Lower Peninsula.																																
Adrian	Raisin		.18		.03								T.			.52	.56		.15	T.	.50	T.										1.94
Allegan	Kalamazoo				.47										.32	.41	1.27															2.47
Alma	Saginaw		.17	T.	.34		.12						.04		.20	.08				.10					.22							1.27
Alpena	Lake Huron		.16	.04	T.	.06	.08		T.			.06	T.	.09		.12				.08						T.						0.69
Ann Arbor	Huron		.35		.03										.02	.03	.46				.02											0.91

TABLE 2.—*Daily precipitation for June, 1912. District No. 4*—Continued.

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total.
Michigan — Lower Peninsula—Con.																																
Arbela	Saginaw		.62		.22								.11		.32	.14					.16											1.57
Battle Creek	Kalamazoo		T.										T.		.42	T.	T.	T.										T.				0.42
Bay City	Saginaw														.09					.24	.13											0.46
Benzonia	Betsey				.04								.23		.41	.29				.35												1.32
Berlin	Clinton		.44	T.	.29				.02				.01			.17				T.	T.											0 93
Big Rapids	Muskegon		.48		.70		.11								.12	.40					.32											2.13
Blissfield	Raisin												T.		.66	1.32	.04			.05	T.				T.		.02			T.		
Bloomingdale	Lake Michigan			.07	.10							T.	.03			.10	.12		T.													0.42
Cadillac	Manistee		.08		.08		.25						.26		.01	.02					.04											0.74
Cassopolis	St. Joseph														.02	.03																0.05
Charlevoix	Lake Michigan			.11																												0.11
Charlotte	Kalamazoo				.35											T.	.28															0.63
Cheboygan	Cheboygan	T.	.30	T.									.50				1.30															2.10
Clinton	Raisin		.25										.08			.30	.48				.25									T.		1.36
Coldwater	St. Joseph		.23		.05								T.		.08	1.31	1.15			.02	.16	.35								.28		3.63
Concord	Kalamazoo		.30		T.										.05	T.	.40			T.										.40		1.15
Croton	Muskegon		.35		T.		.12						.05		.35	.05					.33											1.25
Detroit	Detroit	.10	.23		.01								.01		.36	.22	.28			T.	.60				T.		T.			.11		1.92
Durand	Saginaw																															
East Tawas	Lake Huron		.40	T.		.15	.50								.02	.05										.35						1.37
Eloise	Rouge		.32												.18	.23	1.12				.08	T.			T.					T.		1.93
Flint	Saginaw		.25	.12	.20								.05			.20	.05				.07					.05						0.99
Frankfort	Betsey			.10			.20					.10				.55					.40											1.35
Ganges	Lake Michigan			.29	.31										.86	.46	.18															2.10
Gaylord	Cheboygan	.26		.07									.23					.39														0.95
Gladwin	Saginaw		.10				.15								.10	.20				T.					.20							0.75
Grand Haven	Grand	.29	.01	.19		.10						T.	.04	T.	.42	.02											T.					1.07
Grand Rapids	do			.25			T.					T.	.02	T.	.56	.19	T.			T.												1.02
Grape	Raisin		.22		.01								.03		.45	.31	.99				.01	T.			.02							2.04
Grass Lake	Grand		.03												T.	.45	.35				T.											0.83
Grayling	Au Sable		.46	.14		T.	.16								.10					T.	.52											1.38
Harbor Beach	Lake Huron		1.10		.20		.20									.10																1.60
Harrison	Saginaw		.08				.31									.09									.11							0.59
Harrisville	Lake Huron		.10	T.	.03	.02	.31		T.				.12		.02	.22										.34	.02					1.18
Hart	Pentwater		.80												.80		.50															2.10
Hayes	Pigeon		.85		.15		.48						.18		.10	.08										.03						1.87
Highland	Huron		.31		.70									.06	.24	.20			.10	.10												1.71
Hillsdale	St. Joseph		.26										T.		.30	.68	.35			T.		.26								.62		2.47
Holland	Lake Michigan			.15	.22										.77	.14																1.28
Howell	Saginaw		.38		.95				T.							.15	.20			.01		.45							T.	.50		2.64
Ivan	Manistee		.25	.10			.20						.78		.02	.01					.10											1.46
Jackson	Grand		.30		.05										.13	.05	.34			.06	.07									.18		1.18
Jeddo	St. Clair		.21	T.	.62		T.						.06			.07					.03											0.99
Kalamazoo	Kalamazoo		.10		.15										.45																	0.70
Lansing (Agr. Col.)	Grand		.03	.57					.01						.08	.15	.01												.12			0.97
Lansing (Capitol)	do	T.	.04	.60					.02			.01		T.	.14	.14				T.									.34			1.29
Lapeer	Saginaw		.66	.17	.36											T.																1.19
Ludington	Pere Marquette					.47										.37					.22											1.06
Luther	Manistee		.37	.04	.03		.35						.01		.06	.05					.74											1.65
Mackinaw	Lake Huron		.04	T.		.20									.42	.18																0.84
Mancelona	Lake Michigan		T.	T.											T.	T.																T.
Manistee	Manistee																															
Marshall	Kalamazoo																															
Midland	Saginaw		.20		.20		.20		T.				T.		T.	T.				T.	.25					T.						0.85
Morenci	Maumee		.18		.02								T.		.12	1.60	.71			.04	.62						T.					3.29
Mount Clemens	Clinton		.43		.04								.02		T.	.27	.55			T.	.23									T.		1.54
Mount Pleasant	Saginaw		.13												.07				.35	.03												0.58
Muskegon	Muskegon	.30	.20	.40		.10						.10	.10		.30																	1.50
Old Mission	Lake Michigan		.07	.03									.11		.15	.62																0.98
Olivet	Kalamazoo		.05	.10	.09										.27	.16	.08												T.			0.75
Omer	Lake Huron						.42						.07		.04										1.00							1.53
Onaway	Cheboygan																															
Owosso	Saginaw		.10		.17		.01						.40		.05	.06	.22			.12					.01							1.14
Petoskey	Lake Michigan			.12									.18		.04																	0.34
Plymouth	Rouge		.33	T.		T.										.48	T.								T.							0.81
Pontiac	Clinton		.17		.46								.04		T.	.40	.06				T.											1.13
Port Austin	Lake Huron		.81		.10		.45						.46			.25																2.07
Port Huron	St. Clair		.49	.23	.04		.01						.06		.02	.78				.07	T.											1.70
Reed City	Muskegon		.20	.02												.20									.04							0.46
Roscommon	Au Sable		.36	.10	.01	.08	.36						.25		.01	.03									.26							1.46
Saginaw	Saginaw		.18	T.	.29		.10		T.			T.	T.		.06	.06	.04			.07	.07					T.						0.87
Saginaw West Side	do		.14		.26		.10		T.			T.	T.		.07	.04	.03			.08	.04				T.	T.						0.76
St. James	Lake Michigan		.50	.04			.51						.38			.15	.08									.03						1.69
St. Joseph	St. Joseph				.06								.05		.15	.20	.04				.05							T.				0.55
Sandusky	Lake Huron		.53		.27		.09						.02			.39					.37											1.67
Saranac	Grand				.27		.04									.43	.53															1.27
South Haven	Lake Michigan		.40									1.00			.60	.40			.40													2.80
Stanton	Grand															.08	1.60															1.68
Thornville	Saginaw			.24	.60								.15			.16																1.15
Traverse City	Lake Michigan			.05		.02							.02			.20																0.29
Vassar	Lake Huron		1.45												.25						T.											1.70
Wasepi	St. Joseph				.12								.02		.56	1.35	.12				.42											2.59
West Branch	Lake Huron														T.																	T.
Woodlawn	Au Sable		.28	.06	.06		.22						.22		T.		.40		T.													1.24
Ypsilanti	Huron		.20										T.		.01	.22	.55													T.		0.98
Ohio.																																
Akron ‖	Lake Erie		.01				T.							.22		.06		2.62	T.	T.	.05		.02		.01				T.		.08	3.07
Antwerp	Maumee		.18												.20	.72	.22	.21														1.53
Benton Ridge	do		.20										T.			.55	2.00	.20		.07		.22							T.		.27	3.51
Bowling Green	Lake Erie		.10		T.										.65	1.07	1.95	T.	T.	T.		.29									.16	4.22
Bucyrus	Sandusky			.02												.80	1.20	.60				T.									.05	2.67
Cleveland (1)	Lake Erie		.10		T.		T.						T.			.68	1.10	.01	T.	T.	.03	.01			.03							1.96
Cleveland (2)	do		.09				T.						T.			.83	1.32	.01	T.	T.					.10							2.35
Conneaut	do		.41										.09			.28	.66					.02		.02								1.48
Findlay ‖	Maumee		T.	T.	T.									T.		.47	.80	.38		.04	.05	.02							*.03		.15	1.94
Fremont	Sandusky		.10										.15		1.35	2.08	.37	.03			.02							.17				4.27
Hedges	Maumee		.22												.34	.21	2.03	.07	.02	T.									.45			3.34
Hillhouse	Lake Erie		.50										.05			.49	.87	.03			T.	T.										1.94

TABLE 2.—*Daily precipitation for June, 1912. District No. 4*—Continued.

Stations.	Watershed.	Day of month.																														Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Ohio—Continued.																																
Hiram	Lake Erie		T.													.15	1.37	T.	T.	T.		T.			T.							1.52
Hudson	do		.02										.09			.20	1.33					.24										1.88
Lima ‖	Maumee			.14	T.									.44		.45	1.15	.53			.10											2.87
Medina	Lake Erie		.07				T.						.22			.06	2.02			T.		.14										2.65
Montpelier	Maumee		.27		.09		T.						T.		.60	1.67	.23			.20	.50											3.56
Napoleon	do		.18												.33	.43	1.84	.03				.05							.28			3.14
New Bremen	do												T.		.15		1.80	T.		.20		.40									.02	2.57
North Royalton	Lake Erie												.15			.28	1.28				.16							.42				2.29
Norwalk	do			.09			T.							.19		1.05	2.19	.09													1.06	4.67
Oberlin	do					T.	T.						T.			.27	1.95	.02	T.	T.									.01		.08	2.33
Ottawa	Maumee		.07										T.			.58	3.75	.08	.05												.17	4.70
Sandusky	Lake Erie	T.	.09										.09		.70	2.50	.41	.01	T.	T.	.21	.01								.50		4.52
Tiffin	Sandusky		.07		T.		T.						T.		.08	.56	1.89	T.	.05	T.		.02						.02				2.69
Toledo	Maumee		.36				T.						.01		1.01	1.55	.59	T.	T.	.02	.01	T.			T.							3.55
Upper Sandusky	Sandusky		T.				T.								.70		2.74	T.		.05	T.	T.									.50	3.99
Vickery	Lake Erie		.12										.02		.59	1.97	1.96	.03				.06							.03		.67	5.45
Wauseon	Maumee		.09	.01	.03					T.			T.	T.		1.16	1.32	.17		.01	.07	.11						T.	T.		T.	2.97
Wickliffe ‖	Lake Erie		.29										.02			.65	1.32	T.	T.	.01												2.29
Pennsylvania.																																
Erie	Lake Erie		.64		T.		T.						.10			.45	1.80		T.			.07		T.	.01							3.07
New York.																																
Adams Center	Lake Ontario							.05	.30	.06	.05	.04	.02			.04		.36				.06										0.98
Angelica	Genesee		.53	T.				T.					.12				.13				T.	.25				.14						1.17
Appleton	Lake Ontario		.57		T.		.03	.02	T.				.16			.06	T.				T.					T.	T.					0.84
Auburn	Oswego		.27				.06		.06		.23					T.						T.				T.						0.62
Avon	Genesee		.24	.42			T.	.08					.02				.01					T.										0.77
Blue Mountain Lake	Raquette		.15			.05		.13					.17														T.					0.50
Brockport	Lake Ontario		.07	.03	.01		.01						.08			.24	.02			.02		.16					.01					0.65
Buffalo	Lake Erie		.17		T.		.04	.04	T.				.19			.14	.03				.22	T.								T.		0.83
Canton	Grass		.09	.19	.02		.08		.06				.47	T.		.19	.20				.16						.11					1.57
Cape Vincent	St. Lawrence		.55										.12			.44	.09									.04						1..
Castile	Genesee																															.74
Chazy	L. Champlain	.46		.28			.33			T.		.18	.20				.05									T.				T.		1.50
Dannemorra	do	.02		.24	.01		.19	T.		T.		.53	.09	T.			.22	.08		T.		T.				T.	.04					1.42
Elba	Lake Ontario																															
Fayetteville	Oswego			.55			.06					.12			T.	T.	T.			.04	.02											0.79
Gabriels	St. Regis		.15	.40	T.		.25	.20		T.		.10	.25			T.	.20	T.	T.		T.					.25	.05					1.85
Harkness	L. Champlain	.11		.03	.04		.08					.09	.02			.02	.02				.01						T.					0.42
Hemlock Lake	Genesee		.23	T.			T.	.21					.11			T.					.07	.25			.33	T.						1.20
Hunt	do		.30										.13				.10															0.53
Ithaca	Oswego		.84		.01		T.	T.					.05			T.	T.				.05	.15			.12	.15			T.			1.37
Keene Valley	Ausable			.09	T.		.15						.05				.04		.04								T.					0.37
King Ferry	Oswego		.55	T.			T.	.02					.18									.04	.21						.12			1.12
Lake George	L. Champlain		.11		.42																	.03										0.56
Lake Placid Club	Ausable, W. Br.		.07	.23	.11		.26			.11	.20		.24	.04		.03	T.	.02	.03	.02	.03					T.	T.					1.39
Lockport	Lake Ontario		.38		T.		.08						.21			.10					.73											1.50
Lowville	Black		.10	.05	T.		.02	.11	.01				.06				.03	.11				.05										0.54
Moira	St. Lawrence		.40	.01	.02	.07	.31	.02	.21				.20			.12	.05				.25					T.	.16					1.82
Nehasane	Black		.25	.15	.04	.03		.03		.10			.20	.01		.04	.02	.04			.13	.02					.01					1.07
North Lake	do																															
Ogdensburg	St. Lawrence			.60	T.	T.	.09	T.		.30			.30			.15	.36				.20	1.00					.06					3.06
Old Forge	Black		.11	.38	.40		.06	.03					.22			.10			.13		.01	.26										1.70
Oswego	Lake Ontario		.07	T.	T.		T.						.10			.05	.79				T.	T.					T.					1.01
Otto	Lake Erie		.08	.06		.04	T.						.08				.29					.08	.10								.11	0.84
Palermo	Lake Ontario	.10	.13				T.						.03			.10	.40					.10										0.86
Perry City	Oswego		.85	T.					T.				.53								.07	.07										1.52
Philadelphia	St. Lawrence		T.	.16	.05		.09	.09		.07			.14			.17	.09	T.			T.						.06					0.92
Potsdam	Raquette			.34	.02	.01		.08	.11			.10	.23				.44	.02				.20					.11					1.66
Raquette Lake	do		.03	.14	.05		.09	.06		.07			.11	.06		T.	.11	.06				.09				T.	.07					0.94
Rochester	Genesee		.08		T.		.01		T.				.05			.13	T.				.09	.13			T.	.40	T.					0.89
Romulus	Oswego																															
Scottsville	do		.12										.28			.26									.03							0.69
Shortsville	do		.12	.03				.07					.05			T.	T.				T.	.46			T.							0.73
Skaneateles	do		.75	T.			.09		T.				.13			T.		T.	T.		T.	T.				T.	T.					0.97
Syracuse	do		.33		T.		.03						.08			T.	.02				.08	.01		T.								0.55
Ticonderoga	L. Champlain																															
Tupper Lake	Raquette		.30				.08					.26	.06				.21				.08						.06					1.05
Volusia	Lake Erie		.56				T.						.14			.05	.34					.18										1.27
Wanakena	Oswegatchie		.38	.07	.08		.07	.06		.05			.20			T.	.19	.03			.07						.10					1.30
Wards Creek	Raquette																															
Watertown	Black		.01	.19	.02		.05	.01		.01			.11			T.		.09									.03					0.52
Wedgwood	Oswego		.47	.01									.20				.02				.06	.12							.65	.35		1.88
Westfield	Lake Erie		.41				T.						.26			.29	.91					.23										2.10
York	Lake Ontario		.16	.56			.02	T.					.03			.02	.02	.06				.01	.02		.53	T.						1.43
Youngstown	do		.55				.03			.02						.09												.02				0.71
Vermont.																																
Burlington	L. Champlain	.15	.09	.02	.30	T.	.25	.01	T.		.10		.15			.03	.06				.02					T.	T.			T.		1.18
Cornwall	do																															
Enosburg Falls	do	.54	T.	.61	.30	.05	.58	.04	T.	.08	.26	.44	T.		T.		.04	.05		T.	.11	.03				.73	.14			.15		4.15
Hyde Park	do	.48		.27	.40	T.	.05	.13		T.	.06	.01	.15				.05	T.			.03				.21	.04				T.		1.88
Northfield	do	.06	.07	.05	.08	T.	T.		T.		.32	.01	.05			.02	.02	T.	T.		.07						.18					1.05
Wells	do	.07		.17	.16		.05					.04	.09			T.	.09					.55					T.					1.22

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for June, 1912. District No. 4, Lake Region.*

Date.	Duluth, Minn.		Wisconsin. Florence.		Wisconsin. Green Bay.		Wisconsin. Milwaukee.		Chicago, Ill.		Fort Wayne, Ind.		Upper Michigan. Escanaba.		Upper Michigan. Ewen.		Upper Michigan. Houghton.		Upper Michigan. Marquette.		Upper Michigan. Sault Ste. Marie.		Lower Michigan. Alpena.		Lower Michigan. Battle Creek.		Lower Michigan. Cadillac.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	68	49	73	55	72	57	74	51	83	64	82	58	71	55	63	52	67	50	67	50	69	49	82	58	83	55	78	60
2....	74	51	78	50	77	54	77	50	76	52	72	56	68	52	75	44	75	47	67	50	67	46	71	55	77	60	72	54
3....	66	49	68	55	72	53	79	56	86	53	81	54	70	51	67	51	65	50	67	52	70	48	84	56	82	57	78	55
4....	65	41	63	43	63	51	66	54	71	54	72	55	64	48	61	40	61	10	57	39	54	40	64	42	76	54	60	49
5....	60	44	65	44	66	48	67	52	76	56	78	51	65	47	57	40	58	43	61	45	60	38	70	41	73	45	67	46
6....	60	41	60	41	65	47	67	53	67	56	68	52	60	39	58	35	51	37	53	38	54	39	60	42	69	59	60	47
7....	69	42	68	32	69	42	59	45	57	49	63	47	63	35	66	30	67	37	67	37	60	37	64	40	64	45	63	36
8....	71	49	71	41	72	49	70	52	67	53	71	43	72	45	70	43	67	47	68	50	62	37	74	43	73	40	70	45
9....	68	54	75	37	71	48	67	53	69	58	74	50	66	46	74	35	71	44	72	50	70	41	73	45	75	45	73	44
10....	64	47	78	46	77	50	64	52	70	57	79	49	63	49	77	42	80	46	81	57	76	42	75	45	77	45	76	44
11....	68	52	79	57	80	58	81	58	83	63	83	53	65	55	70	57	65	49	67	51	62	48	72	48	82	50	76	53
12....	65	48	66	48	66	50	69	51	72	53	82	63	63	45	67	41	64	43	58	45	58	42	67	47	80	63	70	50
13....	54	46	67	35	63	47	56	48	64	53	74	56	60	43	68	33	65	40	59	41	70	36	62	44	71	51	67	42
14....	49	44	70	51	59	54	56	49	70	54	80	57	63	52	72	47	55	48	66	48	65	45	56	50	70	52	63	50
15....	52	41	70	51	80	53	82	51	84	65	85	67	67	53	63	45	55	44	62	47	62	51	82	52	82	64	77	56
16....	59	39	63	44	68	51	72	55	79	58	76	67	64	48	58	43	57	43	58	43	57	39	80	48	78	64	73	56
17....	55	44	56	44	65	41	71	52	70	58	72	61	61	45	57	47	53	48	57	48	54	37	66	45	70	55	64	47
18....	71	45	69	47	71	51	61	54	63	54	62	55	69	46	67	40	67	46	61	49	58	44	69	48	70	47	67	48
19....	76	54	74	46	70	55	67	57	67	58	70	55	72	49	70	44	72	53	74	54	69	40	69	44	68	53	70	46
20....	64	51	67	45	69	53	71	53	79	56	75	52	64	50	74	38	65	45	56	45	56	44	66	48	72	48	70	53
21....	62	50	75	42	75	47	68	52	65	55	71	58	66	46	73	49	67	47	56	46	61	42	68	44	75	54	70	41
22....	81	59	84	47	82	49	68	55	66	58	76	51	69	50	80	50	80	48	76	56	77	42	71	45	78	44	76	43
23....	83	60	85	53	84	58	79	57	70	59	78	55	72	55	83	52	82	65	81	64	77	48	73	52	81	50	82	50
24....	87	61	88	55	85	62	81	66	81	64	83	58	74	59	87	47	85	60	87	66	86	50	72	56	83	54	84	60
25....	92	62	92	61	90	63	89	66	85	69	85	60	79	60	90	44	86	59	90	53	86	55	91	61	87	56	85	63
26....	64	50	75	54	71	62	75	57	77	61	89	63	74	53	86	48	68	47	58	47	69	48	71	55	87	61	78	70
27....	64	51	80	36	74	52	68	55	69	60	85	65	69	48	85	47	77	44	69	46	77	42	65	52	83	59	77	52
28....	80	52	88	47	81	56	74	59	81	62	89	64	75	55	89	47	85	53	77	62	84	48	75	53	89	59	88	55
29....	82	53	92	57	94	61	82	62	87	72	88	66	85	60	91	53	85	56	90	55	82	54	85	60	90	65	91	55
30....	60	48	74	57	77	61	75	59	76	68	82	61	70	60	85	56	66	54	68	52	72	52	63	49	85	63	82	67
Mns..	67.8	49.2	73.8	47.4	73.6	52.9	71.2	54.5	73.7	58.4	77.5	56.7	68.1	50.0	72.8	44.7	68.7	47.8	67.7	49.5	67.5	44.1	71.3	48.9	77.7	53.9	73.6	51.2

Date.	Lower Michigan. Detroit.		Lower Michigan. Muskegon.		Lower Michigan. Saginaw, West Side.		Ohio. Cleveland.		Ohio. Lima.		Ohio. Sandusky.		Ohio. Toledo.		Erie, Pa.		New York. Buffalo.		New York. Canton.		New York. Rochester.		New York. Syracuse.		Vermont. Burlington.		Vermont. Northfield.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	81	60	73	58	84	60	81	60	83	54	84	58	84	60	78	59	70	55	75	44	80	53	80	57	73	46	74	46
2....	71	57	74	48	77	62	76	60	72	65	76	58	73	58	76	61	76	56	82	61	83	62	85	62	80	61	84	47
3....	79	54	72	53	82	57	79	57	80	53	83	56	80	57	75	59	68	53	73	57	77	60	77	60	77	62	77	64
4....	70	52	61	47	68	53	69	56	76	60	73	58	73	55	69	53	67	50	69	57	71	50	72	59	74	57	80	49
5....	69	49	67	48	70	46	67	52	75	45	69	50	75	52	65	51	59	46	61	47	66	45	65	48	63	49	63	42
6....	67	52	63	53	68	53	68	55	70	59	69	58	70	54	67	54	65	50	62	45	65	49	65	50	61	48	63	41
7....	60	47	60	46	65	41	55	50	70	43	59	50	61	47	56	50	56	46	54	39	58	43	56	44	52	43	52	34
8....	72	45	65	45	75	43	67	47	70	38	70	44	72	46	65	43	58	44	62	38	67	39	64	42	65	36	64	31
9....	70	54	75	46	74	45	66	53	77	43	70	51	71	53	66	53	66	52	61	42	67	50	62	48	58	45	56	35
10....	74	57	75	47	77	49	69	51	78	44	72	51	74	53	69	49	64	54	70	38	75	46	70	47	69	34	70	30
11....	80	57	74	54	82	51	77	52	82	50	81	54	83	57	77	52	69	58	74	50	77	53	75	56	74	46	75	43
12....	73	53	72	56	74	63	72	56	79	60	72	59	78	59	69	57	67	54	62	44	68	51	69	52	66	45	65	46
13....	65	48	72	46	72	48	60	54	75	55	62	57	64	56	62	51	63	46	61	39	64	46	58	46	50	42	50	35
14....	71	55	67	55	64	51	82	53	80	54	83	57	70	56	79	48	77	44	62	37	73	44	73	44	65	36	67	32
15....	80	64	73	56	83	60	81	62	84	63	84	63	84	62	74	56	70	60	67	52	70	60	62	54	70	49	67	44
16....	79	59	73	54	82	66	78	64	72	65	77	63	78	63	79	65	73	61	75	59	82	64	77	60	69	54	63	52
17....	72	55	66	51	73	52	71	62	72	62	71	62	74	59	69	58	65	55	69	54	73	56	70	57	75	60	76	61
18....	64	53	67	52	73	49	62	58	69	56	63	56	65	54	61	55	61	53	62	48	63	50	60	51	62	54	66	52
19....	66	55	66	54	74	51	66	54	71	54	70	55	70	56	64	50	68	51	70	42	68	45	70	46	69	49	71	47
20....	74	53	71	51	77	53	73	55	76	52	75	54	75	53	69	58	63	57	71	53	72	56	72	57	71	53	72	47
21....	72	54	68	47	77	47	65	60	65	59	69	59	72	57	67	58	67	57	70	51	68	57	67	57	70	52	71	44
22....	70	52	72	50	77	49	65	55	75	48	70	58	73	59	67	54	71	54	74	45	73	53	74	52	74	46	74	38
23....	75	58	72	49	85	54	67	56	77	51	73	56	75	58	70	55	75	54	77	54	77	52	79	52	80	51	82	45
24....	79	62	82	60	79	56	73	61	82	51	77	56	80	62	74	61	76	63	82	57	81	58	82	58	85	56	85	47
25....	83	65	83	55	88	61	77	61	84	54	82	62	83	62	81	66	77	65	81	59	80	63	84	63	86	57	85	50
26....	83	63	81	61	81	61	82	63	88	57	85	64	91	65	77	65	75	61	72	51	74	61	75	60	73	54	76	48
27....	75	61	85	57	81	53	77	65	85	63	71	66	71	66	72	60	80	54	75	43	72	54	77	53	76	47	74	40
28....	84	64	82	61	90	58	80	67	87	63	86	67	85	66	79	67	75	67	82	53	84	65	84	66	85	60	83	47
29....	88	68	82	64	93	64	85	72	88	63	89	66	89	69	80	68	75	64	72	54	86	65	82	66	72	49	71	50
30....	72	57	83	63	85	61	73	59	83	65	76	65	74	62	68	55	67	53	68	39	67	52	68	50	66	44	63	36
Mns..	73.9	56.1	72.5	52.9	77.7	53.9	72.1	57.5	77.5	55.0	74.7	57.8	75.6	57.9	70.8	56.4	68.8	54.6	69.8	48.4	72.7	53.4	71.8	53.9	70.3	49.5	70.6	44.1

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.