CLIMATOLOGICAL DATA FOR JULY, 1913.

DISTRICT NO. 4, THE LAKE REGION.

Prof. HENRY J. COX, District Editor.

GENERAL SUMMARY.

The warm weather which prevailed generally over the Lake region during the closing week of June continued with unabated severity over practically all portions of the district during the first five days of July, and maximum temperatures well over 90° were experienced. On the 6th a cool high area from the west moved across the middle portion of the country and brought much needed relief to all sections of the Lake region. No unusually hot weather again prevailed until the last week of the month, the temperatures from the 6th to the 26th, inclusive, averaging close to the normal with alternating short periods of moderately warm and cool weather.

The total precipitation for the month was generally ample and quite favorable for growing crops, the lack of sufficient moisture being confined to eastern sections of the district and to portions of the lower Michigan Peninsula. In New York State the average rainfall for the month for all stations was the least on record for any July, the drought being felt principally in the counties lying south of Lake Ontario. Over much of this area, less than 1.50 inches of rain fell during the entire month.

Thunderstorms were unusually numerous, and such as were destructive to life and property will be referred to briefly in a separate paragraph. There were many clear days during the month, and on the whole the pleasant weather was most conducive to farming operations and outdoor pursuits, except where heavy rains interfered locally with harvesting.

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

Portions of States.	Mean temperature.	Departure from normal.	Mean daily range.	Mean precipitation.	Departure from normal.	Greatest precipitation in 24 hours.	Mean snowfall.	Number of days. With 0.01 inch or more.	Clear.	Partly cloudy.	Cloudy.	Prevailing wind direction.
Minnesota	61.3	−3.0	17.4	5.34	+1.44	2.40	0	11	12	11	8	ne.
Wisconsin	67.4	−1.2	17.8	5.38	+1.69	2.00	0	12	15	10	6	sw.
Illinois	75.0	+2.6	15.1	3.30	−0.34	1.75	0	8	19	6	6	ne.
Indiana	74.4	+1.3	21.6	3.92	+0.86	2.35	0	9	18	9	4	sw.
Upper Michigan	63.1	−1.3	18.4	4.21	+0.66	2.26	0	11	15	9	7	w.
Lower Michigan	70.1	+0.3	20.2	2.94	−0.03	2.68	0	7	16	10	5	sw.
Ohio	73.7	+0.7	16.8	4.46	+0.76	3.10	0	11	17	11	3	sw.
Pennsylvania	70.4	−1.4	13.9	1.36	−1.85	0.36	0	12	11	17	3	w.
New York	68.7	0.0	19.8	2.33	−1.67	2.25	0	10	16	11	4	w.
Vermont	67.6	−0.2	21.6	3.66	−0.67	1.84	0	14	9	14	8	s.

TEMPERATURE.

The temperature in the Lake region during July, 1913, ranged from an average daily departure of −5.6° at Duluth, Minn., in the extreme western portion of the district, to average temperatures of nearly normal values in central and eastern sections. However, at Chicago the monthly excess in temperature was 2.6°, and there were but few stations in the district having a departure exceeding that amount. The month began and ended with periods of high temperature, but although maximums of over 100° were reported at several stations in southern sections during the latter half of the third decade, these readings usually occurred on but a single day and no records for protracted heat appear to have been broken.

Minimum temperatures were not unusually low in any portion of the district and occurred on varying dates in either the second decade or the first half of the third. At Lake Placid Club at an elevation of nearly 2,000 feet in the Adirondack Mountains of New York State, a minimum of 33° was recorded on the 12th, while in most sections readings below 50° were generally reported.

Frost: Light frost formed in the lowlands of northern Lower Michigan on the mornings of the 7th and 25th, but no damage resulted.

PRECIPITATION.

The precipitation was well distributed, both as regards time of occurrence and territory covered, rains, mostly from thunderstorms, being reported from at least some portion of the district on each day of the month. Over northwestern sections the total amounts were generally in excess of the average and several stations in Wisconsin recorded monthly falls of over 7 inches. In the central portion the rainfall was nearly normal in amount, while in Pennsylvania, New York State, and Vermont the deficiency was most marked, the showers, although occurring frequently, being light in character. At Appleton and Romulus, N. Y., both located in rich farming and fruit sections, the precipitation during the month was but 0.84 and 0.67 inch, respectively, and at a few stations, the deficiency in rainfall exceeded 3 inches. In fact, as stated before, the month was one of the driest Julys on record in New York State.

Snow.—A trace of snow was reported from Gabriels, N. Y., on the 8th.

SEVERE STORMS.

On the evening of the 4th an unusually severe thunderstorm occurred at Duluth, Minn., concerning which the official in charge reports as follows:

> During the heavy storm of the 4th lightning struck and destroyed two cottages north of the city. The feed wires of the Great Northern Power Co. were also struck by lightning, cutting off the city lights and street railway power for about 15 minutes. The heavy downpour about 10 p. m. caused thousands of dollars damage by flooding basements, washing out roads and gardens, and weakening railroad tracks.

On the same day electrical storms did considerable damage in northern Ohio, two men and a boy being killed by lightning while attending a celebration at the

Medina Fair Ground; a glove and mitten factory in Tiffin, valued at $15,000, was totally destroyed, as were also a number of large barns. In Cleveland there were two severe storms which resulted in the injury of 14 people and caused street railway, electric light and telephone companies much trouble. Excessive precipitation occurred during these storms, flooding streets and basements, the total rainfall being 2.59 inches. On the morning of the 4th a heavy thunderstorm damaged property in the vicinity of Alpena, Mich., to the extent of several hundred dollars. The display of lightning was reported to have been remarkably brilliant and ball lightning was observed in many homes. In several instances screws in door knobs were said to have been loosened by the lightning.

Lakes Erie and Ontario were swept by a severe summer gale on the 12th–13th, the maximum velocity at Buffalo being 66 miles an hour from the southwest on the 12th. Much damage was done in that city and also in Rochester, N. Y., to roofs and buildings, and many trees and poles were felled by the high wind, injuring and bringing to the ground electric and telephone wires. In northern Ohio the wind was followed by severe thunderstorms, which in some sections continued during most of the night of the 13th–14th. In western and middle counties of Ohio, unusually heavy 24-hour rainfalls occurred, Bucyrus reporting 2.40 inches, Lima 2.35 inches, and Upper Sandusky 3.48 inches. As a result of the heavy precipitation many of the smaller streams in the southern counties were bank full and the Sandusky River above Tiffin rose nearly to flood stage. In Crawford, Hardin, Huron, Marion, and Wyandot Counties 23 barns were reported to have been destroyed by lightning, and the heavy rain damaged wheat, corn, and oats. Hail fell in portions of Huron, Medina, and Wayne Counties, the hailstones being unusually large and causing a great amount of injury to trees, gardens, and greenhouses.

Severe wind storms accompanied by destructive lightning swept over portions of northern Indiana on the 14th and 15th, doing great damage in Porter and St. Joseph Counties. In some localities the rainfall assumed the proportions of a cloudburst, washing away railroad tracks and prostrating corn and wheat. The rainfall at Whiting, Ind., on the 14th amounted to 2.35 inches.

On the 14th also a heavy thunderstorm occurred at Grand Rapids, Mich., three houses being struck by lightning and the lighting systems in the city being disabled. Both telephone and telegraph companies were also badly crippled.

A severe storm, accompanied by a heavy fall of rain and hail in the northern part of the city, passed over Buffalo on the 20th. The hailstones were quite large and were so numerous as to whiten the streets.

The northern portion of New York State was visited by exceptionally severe wind, hail, and electrical storms on the evening of the 24th, ruining crops, especially corn and grain, and causing thousands of dollars' damage. Two lives were lost, due to the overturning of a small boat by the high wind, on the St. Lawrence River.

During the afternoon of the 28th an unusually heavy storm occurred at Tiffin, Ohio, which caused immense loss to property. Buildings were unroofed, trees and chimneys blown down, and skylights and windows were shattered, allowing the buildings to be flooded by the downpour of rain.

Severe thunderstorms were reported from northern Vermont on the 29th.

The most severe wind storm on record at Houghton, Mich., occurred on the morning of the 31st, concerning which the observer at that station reports as follows:

> The day and night preceding had been very oppressive, a temperature of 81° occurring at 5 p. m. of the 30th. The wind was light and the humidity high. At 4 a. m. of the 31st a temperature of 81° was again reached, although the highest point was about 3.50 a. m., just before the storm broke. There were 8 miles of wind recorded from 3 a. m. to 3.53 a. m., the direction being southwest. At 3.53 a. m. the wind shifted to west and the next mile was made at the rate of 52 miles an hour, a high velocity being maintained for 25 minutes. The maximum for a 5-minute period was 48 miles an hour. The temperature dropped with the coming of the storm from 81° to 64°. Just as the storm broke, a very peculiar copper colored cloud was noticed in the southwest; one portion seemed to have a funnel shape, but it did not reach the ground in its passage over the city, disappearing rapidly in the northeast. The hills on the north side of Portage Lake are about 500 feet high and this cloud passed well above the surface of the ground even on the brow of the highest hill. There was evidence that the storm was tornadic in character, as the large plate-glass front of the Gately-Wiggins store fell outward.
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> A number of shade trees in both Houghton and Hancock were blown down and telephone and electric light circuits badly damaged. Watchmen at the Copper Range dock report that the waves came completely over the dock, it being the first time on record that this has occurred.

MISCELLANEOUS.

A seiche from 4 to 6 feet in height was reported to have swept Chequemegon Bay at Ashland, Wis., on the 31st, resulting in the closing of a shingle and planing mill and causing minor damage. The wave came from the east against a brisk west wind, and was doubtless caused by a sudden change in barometric conditions over that portion of Lake Superior.

JULY LAKE LEVELS.

The following data are from the report of the United States lake survey:

	Lake Superior.	Lakes Michigan, Huron.	Lake Erie.	Lake Ontario.
	Feet.	*Feet.*	*Feet.*	*Feet.*
Above tidewater at New York	602.57	581.26	573.58	247.83
Above or below:				
Stage of June, 1913	+0.26	+0.06	−0.25	−0.19
Stage of July, 1912	+0.22	+0.79	+1.02	+0.82
Mean stage of July last 10 years	+0.03	+0.19	+0.74	+0.88
Highest recorded stage	−1.25	−2.32	−0.83	−0.89
Lowest recorded stage	+1.09	+1.36	+2.12	+3.24
Probable change during August	+0.10	0.00	−0.20	−0.30

In connection with the above data, it is interesting to note that according to press reports, the St. Lawrence River reached its highest mark in many years at Ogdensburg, N. Y., on the 16th. Docks and wharves were covered with water, and boathouse and cottage owners sustained heavy losses. In some places even the piers were completely submerged.

TABLE 1.—*Climatological data for July, 1913. District No. 4, Lake Region.*

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.		
Minnesota.																				
Cloquet	Carlton	800	2	61.2	.....	83	8	36	24	38	6.93	.....	1.90	0	15	6	17	8	nw.	State Forest Exp. Station.
Duluth	St. Louis	1,133	42	60.4	− 5.6	82	8	43	11	25	6.18	+ 2.53	2.33	0	16	5	12	14	ne.	U. S. Weather Bureau.
Floodwood	do	1,257	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. H. Schussler.
Grand Marais	Cook	.....	.....	59.0	.....	90	6	39	28	42	4.18	.....	1.48	0	8	19	9	3	e.	T. J. Joynes.
Stephens Mine	St. Louis	1,500	6	62.4	.....	90	30	36	25	41	4.24	.....	1.20	0	7	16	8	7	w.	Oliver Iron Mining Co.
Two Harbors	Lake	614	19	61.0	− 2.6	87	8†	40	12	38	3.36	− 0.74	1.24	0	8	3	15	13	ne.	G. W. Watts.
Virginia	St. Louis	1,434	19	64.0	− 0.8	90	30	40	24	37	7.18	+ 2.53	2.40	0	13	21	6	4	nw.	Oliver Iron Mining Co.
Wisconsin.																				
Appleton	Outagamie	795	12	71.5	+ 0.5	93	30†	48	11†	34	7.02	+ 2.34	1.94	0	10	15	15	1	se.	Wm. O. Thiede.
Ashland	Ashland	615	22	63.6	− 4.4	95	30	40	10†	45	5.81	+ 1.07	1.35	0	14	14	9	8	sw.	Agr. Exp. Station.
Bayfield	Bayfield	635	4	64.0	− 4.2	86	30	48	10†	31	4.75	+ 1.73	1.38	0	15	7	15	9	ne.	Rev. Sabinus Mollitor.
Cecil	Shawano	804	15	67.8	− 1.2	90	29†	44	21†	36	6.41	+ 2.61	1.20	0	12	12	14	5	sw.	Louis W. Schmidt.
Cornucopia	Bayfield	640	1	60.6	.....	79	8	44	2†	27	4.88	.....	2.01	0	15	6	19	6	ne.	Reed Fruit Co.
Crandon	Forest	1,060	18	64.8	− 2.0	87	30	40	21	33	6.16	+ 2.73	1.76	0	13	17	7	7	nw.	Frank Shoemaker.
Florence	Florence	1,293	22	65.0[a]	− 0.8	89[a]	3	38[a]	20	48[a]	4.43	+ 0.31	0.84	0	14	23	5	3	nw.	Fred S. Evans.
Fond du Lac	Fond du Lac	800	27	70.2	− 0.1	95	27	43	21	39	5.03	+ 1.49	1.07	0	13	28	1	2	w.	Edward A. Seeley.
Grand River Locks	Marquette	770	17	71.0	.....	96	30	45	10	35	4.28	+ 0.06	1.35	0	9	25	4	2	s.	Jerry Parkinson.
Green Bay	Brown	617	27	68.8	− 0.7	90	3	50	21	28	4.91	+ 1.40	1.14	0	14	4	12	15	sw.	U. S. Weather Bureau.
High Falls	Marinette	1,125	1	66.8	.....	91	3	36	21	43	5.86	.....	1.86	0	13	17	8	6	se.	No. Hydro-Elec. Pow. Co.
Iron River	Bayfield	1,096	4	64.2	.....	94	30	40	10	38	7.27	.....	1.20	0	16	15	11	5	sw.	Winfield E. Tripp.
Kewaunee	Kewaunee	590	4	64.1	.....	85	1†	44	21	33	5.11	.....	0.89	0	9	19	5	7	.....	Capt. N. Craite.
Manitowoc	Manitowoc	616	62	66.2	− 1.4	86	1	46	21	29	5.39	+ 1.66	1.30	0	13	7	17	7	sw.	Miss Johanna Lups.
Menasha	Winnebago	764	16	.....	.....	.....	.....	.....	.....	.....	6.18	+ 2.53	1.71	0	10	22	7	2	sw.	Geo. T. Allanson.
Menomonee Falls	Waukesha	842	4	70.3[b]	.....	94[b]	3†	43[b]	11	38[b]	5.53	.....	1.24	0	10	17[b]	11[b]	1[b]	nw.	Arthur H. Christman.
Milwaukee	Milwaukee	681	43	70.0	+ 0.3	93	27	54	21	30	3.59	+ 0.58	1.29	0	11	16	11	4	ne.	U. S. Weather Bureau.
New London	Outagamie	762	17	69.2	− 1.2	92	3	46	21	34	6.22	+ 1.88	1.60	0	12	13	12	6	se.	August H. Pape.
Oconto	Oconto	590	22	68.4	− 0.7	92	3	44	21	34	6.12	+ 2.60	1.65	0	10	16[b]	4[b]	9[b]	w.	Harry M. Lord.
Oshkosh	Winnebago	744	24	69.7	− 1.9	99	30	45	21	38	4.77	+ 0.86	1.36	0	8	20	10	1	sw.	Evan Vincent.
Pine River	Waushara	900	18	68.6	− 1.4	92	30	47	11†	32	4.47	+ 0.36	0.81	0	12	13	17	1	se.	Geo. H. Carpenter.
Plum Island	Door	588	5	66.8	.....	88	1	49	11†	25	5.32	.....	0.85	0	16	15	5	11	sw.	Wm. Robinson.
Plymouth	Sheboygan	843	3	69.2	.....	92	3	44	11	33	3.40	.....	0.76	0	10	16	10	5	se.	Paul O. Feldrappe.
Port Washington	Ozaukee	713	20	67.8	− 0.9	93	27	47	11	27	5.35	+ 2.13	1.32	0	10	15	10	6	se.	Richard C. Kann.
Racine	Racine	633	16	71.8	+ 0.5	97	27	50	11	33	6.47	+ 3.13	1.80	0	12	22	8	1	se.	Daniel Davis.
Ripon	Fond du Lac	1,031	3	70.4	.....	93	4†	49	12	31	3.96	.....	0.76	0	15	14	7	10	w.	Ripon College.
Sheboygan	Sheboygan	831	14	69.1	− 0.7	91	3	48	21	31	5.28	+ 1.86	1.55	0	9	11	18	2	ne.	Louis C. Meyer.
Sturgeon Bay	Door	600	14	64.1	− 1.6	85	1†	38	21	33	4.75	.....	0.90	0	11	11	18	2	sw.	Adam N. Dier.
Superior	Douglas	701	4	61.2	.....	85	8	42	12	34	6.56	.....	2.00	0	17	13	12	6	sw.	Edward B. Banks.
Waupaca	Waupaca	857	18	69.2	− 1.5	96	30	44	21†	36	6.07	+ 2.44	1.60	0	13	14	6	11	nw.	James H. Flagg.
Illinois.																				
Chicago	Cook	823	43	75.0	+ 2.6	99	29	59	21	29	3.30	− 0.34	1.75	0	8	19	6	6	ne.	U. S. Weather Bureau.
Indiana.																				
Auburn	Dekalb	874	17	72.6	+ 0.4	96	30†	43	7	36	2.41	− 1.22	0.80	0	8	23	5	3	sw.	Mrs. Josie B. Kuhlman.
Berne	Adams	849	4	76.0	.....	99	31	48	7	36	5.65	.....	1.94	0	16	19	10	2	sw.	Henry M. Reusser.
Fort Wayne	Allen	856	17	75.1	+ 1.6	95	30	53	7	30	3.65	− 0.01	2.12	0	11	23	7	1	nw.	U. S. Weather Bureau.
Hammond	Lake	598	22	74.9	+ 1.8	100	29	39	23	46	4.15	+ 1.38	1.90	0	7	12	16	3	.....	Carson W. Whitney.
Howe	Lagrange	886	8	73.8	.....	98	29†	45	25	40	3.72	.....	1.95	0	7	23	0	8	sw.	A. A. Wade.
Notre Dame	St. Joseph	712	2	73.0	.....	96	30	51	7	31	3.28	.....	2.02	0	8	7	20	4	nw.	U. S. Weather Bureau.
Whiting	Lake	606	4	75.4	.....	100	29	54	25	35	4.58	.....	2.35	0	9	18	6	7	ne.	D. H. Boyd.
Michigan—Upper Peninsula.																				
Baraga	Baraga	623	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	11[b]	0[b]	12[b]	w.	Duluth, S. S. & Atl. Ry.
Bergland	Ontonagon	1,300	3	64.2	.....	92	30	39	10	41	5.34	.....	1.09	0	10	15	4	12	sw.	Frank McMonigal.
Calumet	Houghton	1,246	25	60.7	− 3.7	80	3	44	6	27	3.28	+ 0.47	1.15	0	10	19	8	4	w.	E. S. Grierson.
Chatham	Alger	875	12	.....	.....	88	30	.....	.....	.....	3.01	− 0.77	1.70	0	7	16	3	12	s.	Upper Peninsula Exp. Sta.
Deer Park	Luce	610	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Sarah E. McGaw.
Eagle Harbor	Keweenaw	622	14	59.5	− 2.2	81	3	41	10	25	2.90	+ 0.26	0.80	0	11	19	0	12	sw.	T. J. Bennetts.
Escanaba	Delta	612	40	64.3	− 2.2	88	1	44	21	25	4.87	+ 1.53	1.77	0	15	12	11	8	s.	U. S. Weather Bureau.
Ewen	Ontonagon	1,147	12	64.7	+ 0.3	92	30	40	10†	40	3.35	+ 0.58	1.25	0	6	10	4	17	sw.	W. B. Hatfield.
Grand Marais	Alger	610	12	59.8	− 1.6	86	3	43	10†	30	4.41	+ 1.46	1.52	0	10	26	1	4	w.	Mrs. Lena Truedell.
Houghton	Houghton	668	12	62.1	− 3.6	84	3	46	10	27	3.23	+ 0.13	1.02	0	12	8	15	8	w.	U. S. Weather Bureau.
Humboldt	Marquette	1,536	16	63.6	+ 1.2	87	30†	33	21	44	3.65	+ 0.71	0.88	0	9	19	1	11	w.	Duluth, S. S. & Atl. Ry.
Iron Mountain	Dickinson	1,111	12	66.6[a]	+ 0.3	90[a]	3	39[a]	21	40[a]	4.12	− 0.33	0.85	0	15	10[a]	18[a]	2[a]	nw.	Chapin Mining Co.
Iron River	Iron	1,504	16	63.9	+ 0.5	90	30	37	21†	40	5.10	− 0.44	0.85	0	14	14	14	3	sw.	Victor D. Laing.
Ironwood	Gogebic	1,520	10	64.8	− 0.8	93	30	44	11	31	5.49	+ 0.57	1.17	0	9	20	8	3	w.	J. V. Brennan.
Ishpeming	Marquette	1,536	13	62.8[a]	− 1.7	87[a]	3	40[a]	27	34[a]	3.05	− 1.27	0.94	0	13[a]	9	20	2	w.	Cleveland Cliffs Iron Co.
Isle Royale	Keweenaw	610	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Malone.
Mackinac Island	Mackinac	831	12	63.8	− 1.1	84	3	43	11	26	2.37	− 1.75	0.90	0	11	6	14	11	w.	Mackinac I. State Park Com.
Maple Ridge	Delta	.....	7	64.0	.....	88	3	39	21	38	3.58	.....	1.05	0	11	16	11	4	s.	Herman Johnson.
Marquette	Marquette	734	42	63.1	− 1.8	91	3	46	6	30	3.70	+ 0.60	0.99	0	16	15	7	9	nw.	U. S. Weather Bureau.
Menominee	Menominee	581	14	67.2	− 0.8	89	1†	47	21	27	5.12	+ 1.33	1.41	0	11	21	6	4	sw.	Chief of Fire Department.
Munising	Alger	631	16	61.4	− 0.9	91	3	37	10	39	5.99	+ 3.14	2.26	0	15	15	10	6	n.	Albert Oas.
Newberry	Luce	773	11	63.0	− 0.7	89	3	40	11	36	4.17	+ 1.45	1.34	0	11	12	15	4	n.	John Brown.
Ontonagon	Ontonagon	1,147	12	67.5[c]	.....	97[c]	30	51[c]	16	30[a]	.....	.....	.....	.....	.....	12[c]	0[c]	16[c]	nw.	T. A. Green.
Powers	Menominee	868	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chicago & North Western Ry
St. Ignace	Mackinac	593	23	62.2	− 2.5	88	5	35	23†	44	4.50	+ 1.34	1.50	0	4	24	5	2	w.	Duluth, S. S. & Atl. Ry.
Sault Ste Marie	Chippewa	614	25	61.4	− 0.5	86	3	44	11	31	5.04	+ 2.29	1.88	0	11	9	14	8	w.	U. S. Weather Bureau.
Seney	Schoolcraft	730	1	63.7	.....	92	28	30	25	50	5.28	.....	1.93	0	6	20	8	3	nw.	Western Land Securities Co.
Thomaston	Gogebic	1,347	16	63.4[j]	− 1.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3[j]	14[j]	4[j]	w.	Duluth, S. S. & Atl. Ry.
Victoria	Ontonagon	1,263	3	63.5	.....	93	30	40	12†	35	2.67	.....	1.00	0	7	22	6	3	nw.	R. S. Schultz, jr.
Watersmeet	Gogebic	.....	4	63.8	.....	90	30	35	10†	40	5.91	.....	0.92	0	15	7	14	10	w.	B. N. Grant.
Whitefish Point	Chippewa	610	13	56.8	− 2.0	82	3	42	25	31	5.10	+ 2.02	1.20	0	12	14	6	11	nw.	Robert Carlson.
Michigan—Lower Peninsula.																				
Adrian	Lenawee	770	35	74.9	+ 0.6	103	29	45	7†	42	2.42	− 1.13	0.95	0	7	10	18	3	sw.	H. E. Hubbard.
Allegan	Allegan	698	22	74.2	+ 2.4	100	30	45	7	39	3.54	+ 0.76	1.16	0	8	2	23	6	w.	Pere Marquette R. R.
Alma	Gratiot	750	26	69.5	− 0.4	93	3†	43	25	36	2.55	− 0.41	1.10	0	7	15	11	5	nw.	P. M. Smith.
Alpena	Alpena	609	40	65.4	− 0.4	95	3	44	25	31	1.89	− 1.17	0.81	0	9	7	21	3	nw.	U. S. Weather Bureau.
Ann Arbor	Washtenaw	930	33	71.9	+ 0.2	94	4	47	7	32	1.26	− 1.95	0.50	0	8	10	11	10	nw.	University of Michigan.

TABLE 1.—*Climatological data for July, 1913. 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.**																				
Arbela	Tuscola	728	17	71.2[a]	+ 0.2	97	31	38[b]	19	44[b]	3.15	+ 0.15	1.35	0	8	9	16	6	w.	Wm. Atkin.
Armada	Macomb		24	68.5	− 1.3	90	4	45	11†	31	2.25	− 0.57	0.61	0	8	8	22	1	nw.	R. O. Gould.
Battle Creek	Calhoun	822	29	73.2	− 0.1	96	27†	47	25	34	3.25	− 0.16	1.28	0	9	19	3	9	sw.	Elmer E. Sager.
Bay City	Bay	593	17	71.9	+ 0.6	99	2	47	7	45	2.84	− 0.74	1.10	0	6	17	4	10	sw.	Pere Marquette R. R.
Benzonia	Benzie	832	16	65.8	− 2.1	90	30	44	21	40	4.30	+ 1.50	1.10	0	12	12	19	0	sw.	Wallace Nutting.
Big Rapids	Mecosta	906	17	71.1	+ 2.6	95	3	45	11†	36	3.34	− 0.34	1.38	0	7	5	18	8	w.	Supt. Waterworks.
Blissfield	Lenawee	687	1																	Harry Watson.
Bloomingdale	Van Buren		9	72.2		99	30	45	7	35	2.58		1.56	0	7	23	3	5	sw.	John M. Haven.
Cadillac	Wexford	1,293	4	68.3		90	3	44	21	33	6.06		1.45	0	8	19	11	1	n.	Cadillac Water & Light Co.
Cassopolis	Cass	903	12			98[c]	30									22[c]	3[c]	1[c]	w.	Michigan Central R. R.
Charlevoix	Charlevoix	610	35	67.0	− 0.6	91	3	42	14	35	2.26	− 0.23	0.80	0	4	26	3	2	sw.	Pere Marquette R. R.
Charlotte	Eaton		9	71.9		94	5†	43	8	36	2.03		1.16	0	3	20	3	8	nw.	City of Charlotte.
Cheboygan	Cheboygan	611	23	66.2	− 0.6	91	26	42	11†	40	3.10	+ 0.10	0.85	0	6	13	18	0	w.	E. A. Bouchard.
Clinton	Lenawee	830	23	73.9	+ 1.3	99	29†	45	7†	37	3.15	+ 0.02	1.27	0	6	21	9	1	nw.	David Woodward.
Coldwater	Branch	984	16	74.3	+ 2.3	95	3†	46	25	34	2.47	+ 1.81	0.45	0	12	21	9	1	s.	L. S. & M. S. R. R.
Croton	Newaygo	685	5	71.1		94	30	45	7†	34	2.16		0.91	0	9	8	20	3	w.	Gr. Rap. Musk. Power Co.
Detroit	Wayne	730	42	72.9	+ 0.9	95	4	50	7	27	4.48	+ 1.00	1.85	0	12	12	17	2	n.	U. S. Weather Bureau.
Durand	Shiawassee	799	5																	Chief Train Dispatcher.
East Tawas	Iosco	590	16	67.6	− 0.5	93	1	43	25	32	2.08	− 1.41	0.80	0	7	19	12	0	sw.	Detroit & Mackinaw Ry.
Eloise	Wayne	640	16	73.0	+ 0.2	97	4	48	11†	34	3.64	+ 0.32	2.16	0	10	12	17	2	e.	John Gilmore.
Five Channels	Iosco		0	67.7		95	3	39	11	42	1.72		0.27	0	11	19	9	3	nw.	Au Sable Electric Co.
Flint	Genesee	730	24	69.8	− 0.1	92	4	47	25	33	4.63	+ 1.87	1.75	0	6	14	12	5	w.	William L. Fisher.
Frankfort	Benzie	589	9	64.1		82	30	52	25	18	3.35		0.70	0	9	17	0	14	s.	Geo. Morency.
Ganges	Allegan	665	4	71.0		100	30	48	21	41	1.59		0.44	0	8	23	3	5	sw.	H. H. Hutchins.
Gaylord	Otsego	1,367	13	66.6	0.0	93	3	42	11	36	2.91	− 0.49	0.90	0	8	18	0	13	se.	Michigan Central R. R.
Gladwin	Gladwin	794	17	69.9[b]	+ 0.8	97[b]	3	41[b]	14	45[b]	3.80	+ 0.90	1.30	0	4	24[b]	5[b]	0[b]	sw.	Geo. R. Smith.
Grand Haven	Ottawa	628	42	69.1	− 0.6	94	30	49	25	34	1.57	− 1.01	0.60	0	9	18	10	3	nw.	U. S. Weather Bureau.
Grand Rapids	Kent	707	24	72.8	+ 0.2	96	30	50	25	30	1.96	− 0.67	0.54	0	9	13	14	4	w.	Do.
Grape	Monroe	625	23	73.2	+ 1.0	95	29	47	7†	33	3.36	+ 1.01	1.76	0	12	19	11	1		Joseph W. Morris.
Grass Lake	Jackson	989	7	72.9		96	4†	45	7	36	2.77		1.22	0	6	22	4	5	nw.	Menzo Conklin.
Grayling	Crawford	1,147	23			90	4†				2.23	− 0.85	0.63	0	5	19	2	10	w.	S. N. Insley.
Greenville	Montcalm	802	1																	Michigan Pickle Co.
Harbor Beach	Huron	635	25	67.8	− 0.1	95	27	43	11	36	1.58	− 0.70	0.80	0	4	22	8	1	se.	Pere Marquette R. R.
Harrison	Clare	1,159	20	68.8	+ 0.3	95	3†	41	25	45	2.68	+ 0.11	0.83	0	7	19[a]	3[a]	8[a]	sw.	Do.
Harrisville	Alcona	616	29	66.6	− 0.2	96	3	44	11†	37	1.77	− 1.19	0.54	0	9	10	16	5	sw.	D. W. Michell.
Hart	Oceana	698	21	73.3	+ 3.9	98	30	51	8	36	3.62	+ 1.16	1.00	0	7	22	8	1	sw.	Pere Marquette R. R.
Hayes	Huron	620	23	69.6	+ 0.9	96	27	42	25	48	2.34	− 0.33	0.73	0	8	10	18	3	sw.	C. F. Leipprandt.
Highland	Oakland	1,006	21								4.06	+ 1.06	2.06	0	8					A. D. De Garmo.
Hillsdale	Hillsdale	1,150	16	73.3	+ 1.9	98	31	44	7	34	1.55	− 2.32	0.60	0	6	18	9	4	sw.	C. L. Herron.
Holland	Ottawa	610	7	72.4		102	30	46	21	40	1.63		0.60	0	8	15	16	0	nw.	City of Holland.
Houghton Lake	Roscommon		0	66.0		93	3	43	20	33	3.61		1.03	0	7	13	6	12	nw.	James H. Ostrander.
Howell	Livingston	924	21	72.7	+ 2.3	94	27	46	7	32	1.81	− 1.02	0.90	0	6	11[b]	16[b]	2[b]	sw.	Frank Sharp.
Ivan	Kalkaska		24	66.6	− 1.4	91	3	40	14	35	2.58	− 0.20	0.74	0	11	6	25	0	nw.	O. L. Giddings.
Jackson	Jackson	927	16	73.4	− 0.1	99	31	45	7†	36	3.30	− 0.03	1.13	0	10	18	11	2	w.	City of Jackson.
Jeddo	St. Clair	667	24	69.9	+ 0.4	92	29	45	11	38	3.30	+ 0.45	1.32	0	8	11	18	2	sw.	William Bice.
Johannesburg	Otsego		0																	Axel Becker.
Kalamazoo	Kalamazoo	955	37	72.8	+ 0.5	98	30	45	25	37	1.95	− 1.56	1.00	0	3	20	8	3	w.	Kalamazoo Asylum.
Lansing (Agr. Col.)	Ingham	863	49	70.8	− 0.1	94	3	44	7	34	2.85	− 0.37	1.28	0	10	11	15	5	nw.	U. S. Weather Bureau.
Lansing (capitol)	do	881	26	72.4	+ 1.3	96	3	47	7†	34	3.22	− 0.02	1.63	0	9	12	6	13	sw.	State Board of Health.
Lapeer	Lapeer	827	14	71.5	+ 0.2	96	28	40	25	42	2.56	− 0.16	1.35	0	5	4	25	2	sw.	Michigan Home.
Ludington	Mason	637	15	66.2	− 1.6	90	30	47	11	30	4.32	+ 1.87	1.23	0	14	13	13	5	s.	U. S. Weather Bureau.
Luther	Lake	1,028	3	67.6		96	29†	36	21†	39	3.43		1.10	0	9	14	13	4	nw.	John W. Nicholson.
Mackinaw	Cheboygan	592	22					44	11		2.88	− 0.33	1.00	0	5	15	14	2	s.	G. R. & I. Ry.
Mancelona	Antrim	1,121	17	65.8	− 1.6	91	30	39	21†	43	3.65	+ 1.02	1.35	0	6	19	0	12	nw.	Do.
Manistee	Manistee	600	16	66.6[c]	− 0.4	88[c]	3	48[c]	24	28[c]	3.92	+ 0.90	0.95	0	9	20[c]	0[c]	8[c]	s.	Postmaster.
Marshall	Calhoun	896	1	73.2[c]		97[c]	31	48[c]	7	32[c]										E. B. Stuart.
Midland	Midland	604	14																	Pere Marquette Railroad.
Marenci	Lanawee	811	6	73.4		97	29	45	7	36	2.42		1.04	0	6	15	13	3	nw.	George J. Tripp.
Mount Clemens	Macomb	615	13	72.1	− 0.2	96	4	46	11†	35	4.90	+ 1.49	1.60	0	5	21	2	8	ne.	Waterworks.
Mount Pleasant	Isabella	826	14	72.1	+ 0.8	99	1†	45	11	40	2.79	+ 0.15	1.30	0	5	21[a]	4[a]	5[a]	sw.	Pere Marquette Railroad.
Muskegon	Muskegon	587	17	69.5	− 0.7	99	30	48	25†	40	1.13	− 2.24	0.90	0	4	25	2	4	w.	G. R. & I. Ry.
Old Mission	Grand Traverse	858	19	66.3[b]	− 2.6	93[b]	30	46[b]	11	36[b]	2.13	− 0.45	0.61	0	10	11[a]	14[a]	5[a]	sw.	E. O. Ladd.
Olivet	Eaton	984	23	72.0	+ 1.4	96	27†	45	25	39	2.13	− 1.83	0.60	0	9	28	1	2	n.	G. A. Knapp.
Omer	Arenac	616	14	68.0	+ 1.0	98	3†	39	10†	45	3.90	+ 1.35	1.70	0	4	17	13	1	w.	Detroit & Mackinaw Ry.
Onaway	Presque Isle	826	10	67.0	+ 1.0	93	1†	41	11	35				0		19	0	12	s.	Do.
Owosso	Shiawassee	731	16	72.6	+ 0.1	97	4	43	25	46	2.09	− 2.41	1.10	0	9	3	26	2	nw.	Owosso Sugar Co.
Petoskey	Emmet	660	23	69.2	+ 2.5	90	4	40	6	28	1.90	− 0.64	0.60	0	4	18	0	13	sw.	G. R. & I. Ry.
Plymouth	Wayne	725	16	73.8	+ 2.0	97	1†	49	7†	41	2.66	− 0.79	1.70	0	3	25	3	3	s.	Pere Marquette R. R.
Pontiac	Oakland	935	13	71.2	+ 0.7	93	4	47	7†	28	6.51	+ 3.66	2.68	0	6	18	11	2	nw.	Fred W. Shaw.
Port Austin	Huron	618	16	68.4	− 0.9	95	27†	37	11	40	0.89	− 0.21	0.35	0	7	18	9	4	n.	Pere Marquette R. R.
Port Huron	St. Clair	639	38	69.0	0.0	91	29	48	11	29	4.30	+ 1.56	2.10	0	10	11	18	2	ne.	U. S. Weather Bureau.
Reed City	Osceola	1,033	16	68.8	− 0.1	93	3	43	25	35	3.41	− 0.34	0.93	0	10	17	0	14	sw.	Osceola Light & Power Co.
Roscommon	Roscommon	1,141	12	65.4[a]	− 0.6	93[a]	3	31[a]	25	45[a]	3.31	+ 1.01	0.94	0	9	11[a]	19[a]	0[a]	w.	Marcus Schaaf.
Saginaw, east side	Saginaw	601	11																	Postmaster.
Saginaw, west side	do	641	18	70.2	− 0.8	94	3	46	7	31	4.75	+ 1.05	2.34	0	8	11	15	5	sw.	U. S. Weather Bureau.
St. James	Charlevoix	681	7	64.2		86	3	47	6†	27	2.36		0.95	0	5	18	7	6	sw.	James Malone.
St. Joseph	Berrien	593	26	72.6	− 0.1	101	30	52	11	35	3.32	+ 0.77	1.60	0	6	13	11	7	sw.	City of St. Joseph.
Sandusky	Sanilac	790	4	67.4		92	3†	39	11	36	3.76		1.98	0	7	11	17	3	se.	Pere Marquette R. R.
Saranac	Ionia	639	18	72.5	+ 0.8	100	3	42	25	40	2.85	− 0.08	1.46	0	7	18	3	10	w.	John Wallington.
South Haven	Van Buren	585	17								3.05	− 0.06	0.80	0	7				sw.	Capt. James S. Donahue.
Thornville	Lapeer	975	36	71.2	− 0.8	91	16	44	25	35	2.36	− 0.86	0.80	0	7	12	17	2	sw.	J. S. Caulkins.
Traverse City	Grand Traverse	588	16	68.0	− 1.0	96	31	43	14	35	1.90	− 1.48	1.60	0	2	16	4	11	nw.	G. R. & I. Ry.
Vassar	Tuscola	641	12	71.8[d]	+ 0.9	97[d]	1	44[d]	11	38[d]	4.42	+ 1.50	1.26	0	6	7[d]	14[d]	6[d]		Pere Marquette R. R.
Wasepi	St. Joseph	842	16	72.5	+ 1.4	94	3†	46	24	35	2.87	− 1.28	1.05	0	8	27	0	4	sw.	Charles A. Palmer.
Webber Dam	Ionia		0	73.2[h]		96[h]	30	51[i]	11	33[i]						10[g]	14[g]	0[g]		Au Sable Electric Co.
West Branch	Ogemaw	973	8																	Michigan Central R. R.
Ypsilanti	Washtenaw	736	28	71.9	+ 1.1	96	4	47	7	37	3.77	+ 0.39	1.80	0	11				nw.	Orin J. Bemiss.
Ohio.																				
Akron	Summit	1,081	26	72.1[a]	− 0.2	95[a]	1	47[a]	12	38[a]	5.64	+ 1.70	1.49	0	16	16	7	8	sw.	Prof. C. R. Olin.
Antwerp	Paulding	733	1	75.4		99	31	47	7	43	4.47		1.40	0	7	27	0	4	sw.	North G. Osborn.
Benton Ridge	Hancock	800	20	74.8	+ 0.7	96	1	47	7	34	6.05	+ 2.23	1.54	0	9	19	12	0	sw.	J. W. Powell.
Bowling Green	Wood	670	32	73.8	+ 0.9	96	29	45	7	33	3.45	− 0.97	1.00	0	9	19	12	0	sw.	G. C. Housekeeper.
Bucyrus	Crawford	1,000	19	74.2	+ 0.7	95	4†	46	7	37	5.78	+ 1.98	2.40	0	11	18	4	9	sw.	James R. Hopley.
Cleveland (1)	Cuyahoga	762	42	71.8	− 0.7	90	3	50	11	25	4.85	+ 1.30	2.64	0	12	7	20	4	se.	U. S. Weather Bureau.
Cleveland (2)	do	754	16	73.0	+ 0.1	94	4	50	11	29	7.71	+ 4.05	3.10	0	12	17	7	7	w.	Rev. F. L. Odenbach, S. J.
Conneaut	Ashtabula	675	3	70.8		93	4	44	11	32	3.97		0.83	0	11	16	4	11	sw.	E. L. Ransom.

TABLE 1.—*Climatological data for July, 1913. 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.
***Ohio*—Continued.**																				
Findlay	Hancock	776	24	75.0	+ 0.8	97	29	46	7	38	5.68	+ 1.84	1.45	0	13	20	8	3	sw.	Dr. E. A. Moser.
Fremont	Sandusky	628	11	74.4	+ 0.5	94	1†	45	7	32	4.79	+ 0.77	1.70	0	15	28	3	0	sw.	E. Stanley Thomas.
Hedges	Paulding	725	19	75.8[a]	+ 2.7	97	3	49[a]	11	39[a]	3.38	+ 0.37	1.30	0	7	27	4	0	nw.	Charles Stutzman.
Hillhouse	Lake	997	20	70.3	− 0.2	92	4	41	11	36	4.08	− 0.20	1.25	0	10	15	16	0	sw.	J. W. Doncaster.
Hiram	Portage	1,260	33	71.8	+ 0.7	94	1	48	11	30	3.78	+ 0.05	1.13	0	11	14	17	0	nw.	Prof. G. H. Colton.
Hudson	Summit	1,123	52	73.2	+ 0.9	101	31	46	11	41	4.35	+ 0.18	0.72	0	16	19	12	0	sw.	Dr. W. I. Chamberlain.
Lima	Allen	875	14	75.1	+ 2.0	96	1†	47	7	35	4.74	+ 1.67	2.35	0	7	19	5	7	sw.	Miss Ollie DeLong.
Medina	Medina	944	25	72.4	0.0	97	1	42	11	41	4.73	+ 0.36	0.68	0	15	18	10	3	n.	F. W. Clark.
Montpelier	Williams	880	21	75.3	+ 2.9	97	29†	47	7†	34	3.95	− 0.02	1.80	0	8	21	7	3	w.	G. L. Laser.
Napoleon	Henry	680	26	74.8	+ 1.7	98	17	48	6†	39	2.12	− 1.28	0.75	0	7	22	9	0	w.	A. C. Senter.
New Bremen	Auglaize	1,038	20	75.1	+ 0.9	96	30†	49	7	34	3.42	+ 0.21	0.65	0	10	12	19	0	nw.	Miss Lillian Grothaus.
North Royalton	Cuyahoga	1,000	20	71.6	− 0.6	93	3†	47	7†	33	6.22	+ 1.82	1.35	0	13	14	15	2	sw.	W. S. Edgerton.
Norwalk	Huron	719	27	74.3	+ 1.4	97	1†	46	11	39	3.64	− 0.83	1.10	0	10	10	14	7	w.	Giles R. Gregory.
Oberlin	Lorain	855	38	72.7	+ 0.4	98	4	41	14	41	3.28	− 0.45	1.09	0	15	11	16	4	sw.	Prof. F. F. Jewett.
Ottawa	Putnam	720	20	74.5	+ 0.7	95	30†	47	7	34	4.17	+ 0.42	1.80	0	10	12	18	1	nw.	Prof. J. T. Maldlow.
Sandusky	Erie	629	36	73.8	+ 0.2	95	4	54	11	29	2.19	− 1.60	0.84	0	14	8	18	5	sw.	U. S. Weather Bureau.
Tiffin	Seneca	775	31	73.8	+ 0.3	94	4†	52	7†	26	5.41	+ 1.54	0.98	0	13	20	11	0	sw.	Prof. T. H. Sonnedecker.
Toledo	Lucas	769	42	74.2	+ 0.5	94	4	52	7	25	3.38	+ 0.14	1.18	0	14	24	6	1	sw.	U. S. Weather Bureau.
Upper Sandusky	Wyandot	854	30	74.5	+ 0.8	94	1†	48	7	33	8.97	+ 5.48	3.08	0	11	11	19	1	sw.	Robert E. Tracht.
Vickery	Sandusky	588	20	73.8	+ 0.6	96	29	46	11	35	3.05	− 1.13	1.15	0	13	10	20	1	ne.	John W. Barr.
Wapakoneta	Auglaize	898	1	76.2	.....	96	1†	50	7†	34	3.95	.....	1.49	0	11	10	21	0	nw.	Dr. William Kayser.
Wauseon	Fulton	780	41	73.4	+ 0.6	98	5	44	7	37	3.87	− 0.07	1.76	0	13	16	11	4	s.	Thomas Mikesell.
Wickliffe	Lake	740	1	.....	.....	.....	.....	.....	.....	.....	3.07	.....	1.20	0	10	22	5	4	sw.	C. M. Richardson.
Pennsylvania.																				
Erie	Erie	658	41	70.4	− 1.4	87	4	51	11	22	1.36	− 1.85	0.36	0	12	11	17	3	w.	U. S. Weat her Bureau.
New York.																				
Adams Center	Jefferson	540	22	71.1	+ 1.2	95	4	46	11	34	2.35	− 2.13	0.64	0	6	18	13	0	sw.	A. E. Cooley.
Angelica	Allegany	1,340	30	65.6	− 2.0	92	1†	38	22	41	1.90	− 2.30	0.49	0	11	5	15	11	w.	C. P. Arnold.
Appleton	Niagara	270	22	69.4	− 0.3	95	27	47	11	42	0.84	− 3.12	0.24	0	8	20	10	1	nw.	H. A. Van Wagoner.
Auburn	Cayuga	715	44	70.1	− 0.4	94	1†	47	11	35	2.30	− 1.49	0.93	0	6	21	10	0	nw.	A. H. Underwood.
Avon	Livingston	585	18	71.5	+ 0.6	95	4	49	11†	36	2.32	− 1.45	0.90	0	6	20	8	3	.....	W. G. Markham.
Brockport	Monroe	537	17	70.0	− 1.2	94	4†	46	11	36	1.60	− 2.72	0.39	0	7	20	11	0	sw.	C. O. Beaman.
Buffalo	Erie	767	62	69.2	− 1.0	93	31	52	7	25	1.03	− 2.37	0.38	0	10	14	12	5	sw.	U. S. Weather Bureau.
Canisius College	....do	.....	0	68.8	.....	94	31	47	11	34	2.64	.....	1.04	0	7	16	13	2	.....	Do.
Canton	St. Lawrence	448	19	68.2	− 0.7	95	4	47	8	38	2.13	− 1.10	0.46	0	15	8	12	11	sw.	Do.
Cape Vincent	Jefferson	246	8	69.6	.....	89	4	44	12	37	3.11	.....	1.36	0	10	15	13	3	w.	J. H. Grapotte.
Chazy	Clinton	151	13	72.4	+ 3.6	97	1†	47	8	37	1.78	− 2.28	0.95	0	4	19	10	2	n.	W. R. North.
Chestnut Lawn	Wyoming	1,090	1	69.6	.....	95	31	44	11	40	1.26	.....	0.47	0	13	20	10	1	w.	Charles Peterson.
Dannemora	Clinton	1,490	8	70.0	.....	94	4	50	7†	30	2.34	.....	0.50	0	9	10	11	10	w.	Dr. W. N. Thayer.
Elba	Genesee	500	14	68.3	− 1.3	92	4	44	11	39	1.14	− 3.70	0.36	0	4	23	4	4	sw.	Joseph S. Wilford.
Fayetteville	Onondaga	530	12	73.1	+ 1.5	94	1†	50	11†	36	0.74	− 3.23	0.50	0	5	20	10	1	w.	Dana H. Wells.
Gabriels	Franklin	1,729	11	64.2	.....	92	4	37	8†	41	4.06	.....	2.25	T.	14	16	7	8	w.	Gabriels Sanitarium.
Geneva	Ontario	550	0	72.0	.....	95	1†	50	12	35	2.09	.....	0.70	0	8	.....	.....	.....	.....	Agr. Exp. Station.
Harkness	Clinton	622	11	69.4	+ 0.4	96	4	49	8†	36	3.78	+ 0.12	1.82	0	12	27	2	2	w.	J. W. Harkness.
Hemlock Lake	Livingston	900	15	70.5	− 0.4	91	4	52	11†	32	1.90	− 2.14	0.75	0	9	22	7	2	s.	B. P. McGrady.
Hunt	....do	1,321	14	69.4	− 0.7	96	4	43	11†	38	1.26	− 3.30	0.30	0	8	18	12	1	nw.	W. S. Barager.
Ithaca	Tompkins	928	35	70.4	− 0.2	96	1	48	11	36	1.59	− 2.16	0.60	0	12	16	9	6	nw.	U. S. Weather Bureau.
Keene Valley	Essex	1,000	15	67.8	+ 0.8	101	4	38	12	45	3.43	− 0.48	0.96	0	16	14	13	4	s.	E. R. Wells.
King Ferry	Cayuga	.....	13	.....	.....	.....	.....	.....	.....	.....	0.91	− 3.18	0.24	0	4	21	6	4	nw.	L. A. Goodyear.
Lake George	Warren	350	16	68.9	− 0.9	98	1	42	12	40	1.81	− 2.50	0.45	0	8	13	17	1	s.	Charles Forsell.
Lake Placid Club	Essex	1,864	5	57.5	.....	88	4	33	12	32	3.75	.....	0.53	0	16	16	11	4	nw.	H. Van Hoevenberg.
Lauterbrunnen	Wyoming	1,260	1	69.2	.....	94	31	43	11	40	1.17	.....	0.36	0	11	13	17	1	sw.	J. O. Howard.
Lockport	Niagara	520	26	69.8	− 0.6	94	31	50	11	34	1.44	− 2.38	0.44	0	5	20	9	2	sw.	R. N. Clark.
Lowville	Lewis	900	46	69.1	+ 1.6	93	4	42	12†	39	2.61	− 1.10	1.20	0	10	6	25	0	w.	Prof. W. F. H. Breeze.
Moira	Franklin	200	13	68.6	− 0.4	99	4	47	8	44	2.81	− 1.57	1.07	0	9	12	16	3	w.	C. E. McBride.
Nehasane	Hamilton	1,750	5	63.0	.....	93	4	35	12	45	4.48	.....	1.01	0	16	13	17	1	w.	L. W. Brown.
North Lake	Herkimer	1,822	12	64.8	.....	92	4	38	16	40	2.99	.....	1.15	0	8	23	5	3	w.	J. F. Redmond.
Ogdensburg	St. Lawrence	175	29	70.8	+ 1.2	93	1	48	8	34	2.40	− 0.80	0.70	0	7	11	20	0	s.	State Hospital.
Old Forge	Herkimer	1,733	5	63.8	.....	90	1†	34	8	42	2.71	.....	1.10	0	13	18	8	5	w.	Mrs. S. W. Nelson.
Oswego	Oswego	335	43	68.8	− 0.8	95	4	51	12	32	2.33	− 0.90	1.02	0	11	15	10	6	nw.	U. S. Weather Bureau.
Otto	Cattaraugus	1,410	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. J. Winke.
Palermo	Oswego	460	54	.....	.....	.....	.....	.....	.....	.....	1.58	− 1.78	0.62	0	8	19	6	6	w.	Wm. A. Bartlett.
Perry City	Schuyler	1,038	33	67.7	− 1.1	96	4	39	12	45	1.07	− 3.16	0.41	0	10	16	9	6	nw.	W. H. Jeffers.
Philadelphia	Jefferson	485	7	70.2	.....	96	4	45	11	37	2.86	.....	0.79	0	9	12	19	0	w.	E. D. Babcock.
Potsdam	St. Lawrence	300	37	71.0	+ 2.7	95	2†	47	9	33	3.32	− 1.02	1.66	0	7	.....	.....	.....	.....	A. E. Sutherland.
Ranger School	....do	1,750	0	65.0	.....	94	1†	39	12	39	2.72	.....	0.61	0	15	14	12	5	sw.	Prof. P. T. Coolidge.
Raquette Lake	Hamilton	1,776	5	64.0	.....	92	4	40	12	41	3.98	.....	1.38	0	13	16	11	4	sw.	R. J. Dunning.
Rochester	Monroe	523	84	71.0	+ 0.6	95	4	50	11	29	2.08	− 1.01	0.76	0	10	16	11	4	w.	U. S. Weather Bureau.
Romulus	Seneca	719	21	71.4	− 0.2	94	1†	50	10†	33	0.67	− 2.87	0.36	0	4	19	6	6	nw.	John H. Coryell.
Shortsville	Ontario	740	14	70.1	− 0.1	93	4	49	11	32	1.29	− 2.91	0.62	0	6	17	13	1	nw.	C. H. Latting.
Skaneateles	Onondaga	.....	18	.....	.....	.....	.....	.....	.....	.....	2.39	− 1.68	0.85	0	11	.....	.....	.....	.....	John Durkan.
Syracuse	....do	597	11	70.4	− 0.4	93	1†	52	11	31	0.95	− 2.73	0.77	0	5	17	9	5	nw.	U. S. Weather Bureau.
Tupper Lake	Franklin	1,522	13	64.5	− 0.2	88	1	45	8†	32	4.35	− 0.60	1.20	0	14	16	12	3	w.	Rev. A. W. Maddox.
Volusia	Chautauqua	1,167	14	68.0	− 0.3	90	4	44	11	30	4.08	+ 0.11	1.18	0	11	15	14	2	s.	Benjamin Breads.
Wanakena	St. Lawrence	1,600	3	67.2	.....	93	1†	35	12	44	2.88	.....	0.60	0	15	14	11	6	sw.	Prof. P. T. Coolidge.
Watertown	Jefferson	540	21	69.8	+ 0.2	94	4	51	12	31	2.71	− 0.94	1.02	0	10	18	12	1	sw.	H. P. Dunlap.
Wedgwood	Schuyler	1,430	24	70.1	+ 0.2	96	1	46	11	33	2.87	− 1.08	0.65	0	15	20	10	1	nw.	O. F. Corwin.
Westfield	Chautauqua	837	17	69.4	− 0.9	91	1	47	11	29	5.03	+ 0.78	1.70	0	10	8	16	7	.....	John R. Rogers.
York	Livingston	760	1	69.8	.....	94	31	48	12	40	2.09	.....	0.87	0	7	11	8	12	nw.	M. N. Stewart.
Vermont.																				
Burlington	Chittenden	404	5	68.5	+ 0.3	94	4	46	12	34	2.83	− 0.95	1.05	0	14	5	13	13	s.	U. S. Weather Bureau.
Cornwall	Addison	517	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	C. H. Lane.
Enosburg Falls	Franklin	601	21	68.4	+ 0.8	93	1	45	8	41	5.59	+ 0.19	1.84	0	20	14	12	5	nw.	L. H. Pomeroy.
Hyde Park	Lamoille	576	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	A. V. Wiswell.
Northfield	Washington	876	26	65.3	− 1.3	95	1	39	12	42	3.37	− 0.33	1.41	0	13	5	17	9	s.	U. S. Weather Bureau.
Wells	Rutland	750	20	68.4	− 0.6	90	4†	45	12	35	2.84	− 1.58	0.71	0	9	12	15	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 July, 1913. District No. 4.*

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	31	Total.
Minnesota.																																	
Cloquet	L. Superior.			.24	.43	1.90		T.	.18			1.02	.24	.29		.26	.52			.23			.19		T.		.45	.23	T.	.13		.62	6.93
Duluth	do		.17	.02	1.87	.46		T.	.32			1.09	.23	.05		.15	.52			.06			.03				.46		.08		.01	.66	6.18
Floodwood	do																																
Grand Marais	do					1.48		.48				1.16					.12					.21		.08		.17						.48	4.18
Stephens Mine	do					.90			.35			.70	.40			.34	1.20															.35	4.24
Two Harbors	do				.10	.60						.60	.50	T.			1.24	T.					.07				.10	T.		T.		.15	3.36
Virginia	do				.12	.99			.25			.85	.41	.06		1.49	2.40			.07			.12				.14	.09				.19	7.18
Wisconsin.																																	
Appleton	Fox		1.04		.61	.20			.14				1.94			.48				T.				.60				.40		.92		.69	7.02
Ashland	L. Superior			.31	.01	1.35			.73	T.		.27	.14	.21		.09	.74			.09			.04				.94			.22		.67	5.81
Bayfield	do			.12	.03	1.38		.02	.37			.18	.31	.13	T.	T.	.54			.04			.23	T.	T.		.58	.38	T.	.11		.33	4.75
Cecil	Fox	.43	T.	.80	1.20	.87		.08	.38	T.		T.	1.02		T.		.32			.42							T.	.26		.38		.25	6.41
Cornucopia	L. Superior			.14	.11	2.01			.43			.18	.07	.17	T.	.02	.47			.16			.15	T.			.23	.35	T.	.09		.30	4.88
Crandon	Fox	.06	T.		.89	.84			.53				1.09	.07				T.		.13			.04	.17			.28	1.76	.23			.07	6.16
Florence	Menomonee	T.	.18	.10	.57	.47			.22		*	.84	.15			.26						.59					.18	.08		.22		.57	4.43
Fond du Lac	Fox		.08		.14	.42			.33			.03	.52	.02	.67		.07		T.	.41				.75						.52		1.07	5.03
Grand River Locks	do					T.			.27			.07	1.35		.32		.18			.18				.75						.86		.30	4.28
Green Bay	L. Michigan.	.32			.06	.52		.06	.58			1.14	.05		T.		.27	T.		.05			.24	.10				.52		.27		.73	4.91
High Falls	do	.24		.06	T.	.22		T.	.49	.01		T.	1.32	.04			.50	T.		.01					.66		.20	1.86		.25		T.	5.86
Iron River	L. Superior			.68	.19	1.20	.05		.67	T.	.30		.21	.24		.29	.74		T.	.30			.15		T.		1.15	.30		.25	T.	.55	7.27
Kewaunee	L. Michigan.	.09				.89		T.	.55				.71				.78			.06				.57				.65		.16		.65	5.11
Manitowoc	do	.32		.42	.40				.48				.68		.02		.39			.11				.90			.11	.06		.20		1.30	5.39
Menasha	Fox	.61			.48				.34			1.71	T.		T.		.66	T.		.23			.73					.10		.60		.72	6.18
Menomonee Falls	L. Michigan.				.74				.38			T.	.98	T.	.24	1.24	.21	T.		.17	T.			.77						.54		.26	5.53
Milwaukee	do				T.	.03			.35			.49		.12	1.17	.12				.05				.26						.55	.04	.41	3.59
New London	Fox	1.10			.15	.10			.90				1.60		.10	.10	.30	T.		T.				.45				.17		.75		.50	6.22
Oconto	L. Michigan.	.51			.72	.58			.52				1.65				.60							.28				.55		.21		.50	6.12
Oshkosh	Fox		.50		.30				.35				1.36		.85		T.			T.				.46						.61		.34	4.77
Pine River	do	*	.42			.18			.30			.22	.69	T.	.62		.26	T.		.04			*	.80				.05		.81		.08	4.47
Plum Island	L. Michigan.	.47	.14		.22	.27			.12				.85	.05			.34	.04		.36	.19			.74			.70	.56		.09		.18	5.32
Plymouth	do		.23		.01	.08			.38				.76	T.	.46		.03							.63						.27		.55	3.40
Port Washington	do								.40					.52	.33	1.05	.18	.05		.05				1.32						.62		.83	5.35
Racine	do	T.			1.80	.31			.61	.03			.19		1.68	.80	.16	T.	.12		T.			.25						.30		.22	6.47
Ripon	Fox				.31	.14			.76			.25	.63	.01	.58	.11			.01	.09	.01			.50				.01		.31		.24	3.96
Sheboygan	L. Michigan.		.12			.05			.85				1.03			1.55	.09			T.				.50						.26		.83	5.28
Sturgeon Bay	do	.68	.04			.43		T.	.34				.90				.68	T.						.26			.39	.67		.11		.25	4.75
Superior ‖	L. Superior			.13	.02	2.00			.25			.11	1.38	.12			.83	.16			.05		.03	.01			.47	.22		.11	.06	.61	6.56
Waupaca	Fox	.78	.82			.52			.63			.20	1.39		.08		.22			.18			.09	.18				.09		.87		.02	6.07
Illinois.																																	
Chicago	L. Michigan.	T.		T.					1.09						1.75	.23	.03		.01	.06				.11								.02	3.30
Evanston	do								.80					.90	1.20	.50								.20								.08	3.68
Indiana.																																	
Auburn ‖	Maumee	.08				.47	.10		.06						.57	.80									T.				.30		.03		2.41
Berne	do	.16	.03	.19		.14				.98		.25	.04	.22	.54	.82	1.94							.10	.02			.10			.10	.02	5.65
Fort Wayne	do	T.			.20	.81			.30				.02		2.12	.02	.04			.02				.04				T.			.02	.06	3.65
Hammond	L. Michigan.									1.05				.54	1.90	.08	.10		.06													.42	4.15
Howe ‖	St. Joseph				.58		.23			.02					.52	1.95			T.						.10			T.		T.		.32	3.72
Notre Dame	do	T.			.06	T.			.52					.05	1.97		.04		T.	T.				.03				.50		T.		.11	3.28
Whiting	L. Michigan.	.02							.97	.23		.02			2.35	.11		.02	T.	.22												.04	4.58
Michigan—Upper Peninsula.																																	
Baraga	L. Superior																																
Bergland	Ontonagon			1.09	.13	.86			.39			.96	.13			.43	T.					T.				.43	.66		.26				5.34
Calumet	L. Superior	T.		.42		.40		T.	.28				1.15	.15			.33					T.	T.	.12			.28			.10	.05	T.	3.28
Chatham	do					1.70	.05		.05								.01	.03					.47									.70	3.01
Deer Park	do																																
Eagle Harbor	do			.10	.10	.30		.10					.80	.10			.10						.60				.20			.10	T.	.40	2.90
Escanaba	L. Michigan	.17		.02	.18	.39			.12			1.02	.75	.03			.20	T.		.45			.57	.02	T.		.56	.19		T.		.20	4.87
Ewen	Ontonagon			1.25								T.					.60					T.	.20				.13	.36		.81		T.	3.35
Grand Marais	L. Superior			.40	.35				T.				1.52				.10						.70	.47	.10			.30		.05	T.	.42	4.41
Houghton	do			.47		.31	.05		.25			.37	.71	.02			.19			T.			.06				.49			.14	.17	T.	3.23
Humboldt	Escanaba			.38	.40	.32			T.				.88				.04						.70				.15	.50				.28	3.65
Iron Mountain	Menominee	.04	.26	.06	.40	.45		T.	.18				.85	.09		.24							.48	.17			.04	.30		.20		.36	4.12
Iron River	do			.35	.85	.45			.30			T.	.55	.35			.55	.20		.25			.30	.10			.30	.20		.35		T.	5.10
Ironwood	L. Superior			1.17		1.00			.47				.32	.45			.59										.45	.66		.38			5.49
Ishpeming	Escanaba			.23		.58	.04		.05				.94	.08			.07	T.		.23			.18	.26			T.	.25		.05		.09	3.05
Isle Royale	L. Superior																																
Mackinac Island	Lake Huron	T.	.09	T.	.62	.05							.12	T.			.01	.01		T.	.04		T.	.37	.05			.11				.90	2.37
Maple Ridge	L. Michigan				.92	.37			.05				1.05				.23			.13			.06	.33			.10	.14				.20	3.58
Marquette	L. Superior			.32	.53	.18	.04		.03			.25	.63	.01			.03	.02		.03			.99				.18	.02		.02	T.	.42	3.70
Menominee	Menominee	.07		.04	.82			T.	.33			1.41	.05				.21	T.					.76				1.03		.09			.31	5.12
Munising	L. Superior			.03	1.56	.45	.02		.09				2.26	.10			.06	.02					.66	.26	.06		.01	.03				.38	5.99
Newberry	Tequamenon				.68	.39			.05				1.34	.07			.05	.04					.25	.57				.04			T.	.69	4.17
Ontonagon	L. Superior				.64	.57			.40				1.00	.25									.10					.54		.10			
Powers	L. Michigan																																
St. Ignace	Lake Huron				1.00							1.00												1.50				T.				1.00	4.50
Sault Ste. Marie	St. Marys			T.	.15	.11			T.	.33			1.88	.07			.06					.01	.56	.54			T.	.02				1.31	5.04
Seney	Manistique				1.10	.45							1.93										.35					.95				.50	5.28
Thomaston	L. Superior			1.27					.26				.72	.60			.61															.60	
Victoria	Ontonagon							.43				1.00	.28	.43			.06						.07				.40						2.67
Watersmeet	do			.85	.60	.76	.02		.37				.85	.30			.36	.03					.07	.04			.37	.92		.84		.03	5.91
Whitefish Point	L. Superior				.78	.46				.03			1.20	.16			.28	.06					.59	.63				.22	.10			.59	5.10
Michigan—Lower Peninsula.																																	
Adrian	Raisin					.95							.06		.38	.68	T.	.22						.05				.08					2.42
Allegan	Kalamazoo			.10		.21			.14				T.		.09	.61	.74							.49								1.16	3.54
Alma	Saginaw				T.	T.			T.				.15			.75	1.10				.05			.18					.12			.20	2.55
Alpena	Lake Huron		T.		.81	.01							.10	.10			.16	T.		.37				.06	T.			.22				.06	1.89
Ann Arbor	Huron	T.	T.		T.	.32			T.	.03			.03			.04	T.	.21			T.			.05				T.	.50	.08		T.	1.26
Arbela	Saginaw				.96						.11						1.35				.30			.02				.13	.12			.10	3.15
Armada	Clinton	.33			.61	.48							.14					.58			.03							.03	.05				2.25
Battle Creek	Kalamazoo	T.	T.		.12	1.28	.11			T.			.04	T.	.06	.85		.42	T.			T.			.06				.25				3.25
Bay City	Saginaw				1.10								.21				.63							.41	.08							.41	2.84

TABLE 2.—*Daily precipitation for July, 1913. 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	31	Total.
Michigan—Lower Peninsula—Contd.																																	
Benzonia	Betsey	.06	.09		.33	.17			.14				.39				.90	.03	.04		T.			.69				1.10		T.		.36	4.30
Big Rapids	Muskegon								.08	.02							.45	1.38						.80				.53				.08	3.34
Blissfield	Raisin																																
Bloomingdale	L. Michigan				.08	.10			.02	T.		T.	T.	T.	.45	.32								.05								1.56	2.58
Cadillac	Manistee	.18			.77								.28				1.05	1.45						.96				1.07				.30	6.06
Cassopolis	St. Joseph																																
Charlevoix	L. Michigan				.06									.60										.80								.80	2.26
Charlotte	Kalamazoo					.27												.60	1.16													T.	2.03
Cheboygan	Cheboygan		.05		.80	T.							.70	.10										.60								.85	3.10
Clinton	Raisin				.10	.70									.39	.41		1.27											.28				3.15
Coldwater	St. Joseph	.13			.02	.28				.06					.38	.39	T.	.45			.15			.06				.02			.12	.41	2.47
Croton	Muskegon					.06			.16	.37			.07			.03	.44	.91						.08								.04	2.16
Detroit	Detroit	.01			1.79	.06							.27		.35		.37	.38	T.		.32			.04				.87		.01	T.	.01	4.48
Durand	Saginaw																																
East Tawas	Lake Huron				.30	.10							.08				.65			.03	.12							.80				T.	2.08
Eloise	Rouge	T.	.01		.25	.60							.10		T.	.13		.25						.06	T.			.01	2.15	.08			3.64
Five Channels	Au Sable				.09	.04							.03				.20	.26		.20	.23			.18				.27	.17			.05	1.72
Flint	Saginaw				.85	1.22							.18								.60			.03				1.75					4.63
Frankfort	Betsey				.47	.10			.12				.47				.40	.20						.68				.70				.21	3.35
Ganges	L. Michigan					.18			.27						.08	.44	.18				.03			.12								.29	1.59
Gaylord	Cheboygan		.08		.90	T.							.43	.24				.39			T.			.03	T.			.33				.51	2.91
Gladwin	Saginaw				T.													1.20			T.			.20				1.30	1.10			T.	3.80
Grand Haven	Grand				T.	.05			.60			T.	.01	.03	.34		.12							.13						.03		.26	1.57
Grand Rapids	do				T.	.27		.01	.18	.01			.02		.37		.54	T.			T.			.09						T.		.47	1.96
Grape	Raisin	.03	.02		.06	1.76				T.			.15		.21	.19		.37						.02				.20	.28		.07		3.36
Grass Lake	Grand				.10	.30							T.	T.		.30		1.22						.05				.80				T.	2.77
Grayling	Au Sable												.40				.52							.11				.57				.63	2.23
Greenville	Grand																																
Harbor Beach	Lake Huron				.80								.15											.50				.13					1.58
Harrison	Saginaw				.19	.27							.07				.24	.83										.34	.74				2.68
Harrisville	Lake Huron	T.			T.								.14	.08			.27	.02		.54				.31	T.			.32	.06			.03	1.77
Hart	Pentwater				.12				.30			.40					.80	1.00						.65				.35					3.62
Hayes	Pigeon				.73								.25				T.	.35		.18				.03				.65	.12			.03	2.34
Highland	Huron				.17	.73	.11									.41		.41						.07				2.06	.10			T.	4.06
Hillsdale	St. Joseph				T.	.60				.09				.05	.55			.24						T.							T.	.02	1.55
Holland	L. Michigan					.60			.23	.02				T.	.18	.24	.18				T.			.08								.10	1.63
Houghton Lake	Au Sable				.79								.20				1.03				.15			.54				.53				.37	3.61
Howell	Saginaw	T.			T.	.05							T.					.75			T.			.01				.90			.05	.05	1.81
Ivan	Manistee		.01		.68	.06	T.		.03				.34	.03			.35	.15			T.			.10				.45				.38	2.58
Jackson	Grand				.15	.52				T.			.03	.42		.55	.06	1.13	.02					.05				.37			T.	T.	3.30
Jeddo	St. Clair	.22			1.32								.20				.05	.90		.15	.42			.04				T.					3.30
Johannesburg	Cheboygan																																
Kalamazoo	Kalamazoo					T.			T.						.25	1.00	T.				T.			T.								.70	1.95
Lansing (Agr. Col.)	Grand				.31	.53			.04				.10		.03		1.09	.19						.03				.40				.13	2.85
Lansing (Capitol)	do		T.		T.	.70	.24			.04			.13			.07		1.63				.03			.05				.33				3.22
Lapeer	Saginaw	.30			.22	1.35							.17					.52															2.56
Ludington	Pere Marquette.	.07	.01	.19	1.04	.53			.29	.21		T.	.74				.76	T.		.08	T.			.18				.07		.01		.14	4.32
Luther	Manistee				1.10	.05			.06				.48				.96	.10						.11				.20				.37	3.43
Mackinaw	Lake Huron		.10		.50								1.00	.28																		1.00	2.88
Mancelona	L. Michigan				1.35				T.					.35	T.		.37	.25										.42				.91	3.65
Manistee	Manistee		.10		.36	.48			.18				.48				.95						.37				.70					.30	3.92
Marshall	Kalamazoo																																
Midland	Saginaw																																
Morenci	Maumee	.01				1.04										.42		.31						.03				.61					2.42
Mount Clemens	Clinton	T.	T.		1.30	.70							T.					.70						T.				1.60	.60				4.90
Mount Pleasant	Saginaw																1.30	.60						.21				.57				.11	2.79
Muskegon	Muskegon								.20								.90							.02								.01	1.13
Old Mission	L. Michigan					.15							.61	.03	.05			.04		.05				.42				.20		.02		.56	2.13
Olivet	Kalamazoo				.23	.60			T.	T.					.03	.34	.35	.13	T.									.09			.15	.21	2.13
Omer	Lake Huron				.70													1.70						1.00								.50	3.90
Onaway	Cheboygan												.55					.20															
Owosso	Saginaw					.55			.01				.20		.03	.11		1.10			.01			.01			.07						2.09
Petoskey	L. Michigan				.30								.60							.50												.50	1.90
Plymouth	Rouge				.81	T.												.15						T.				1.70		T.			2.66
Pontiac	Clinton	T.			.15	1.35							.08			T.		1.91						T.				2.68	.34				6.51
Port Austin	Lake Huron	.06			.24	.12							T.					.35			.06			.01					.05				0.89
Port Huron	St. Clair	.01			2.00	.17				.05			.06				.53	1.21		T.	.20			.01				.06				T.	4.30
Reed City	Muskegon	.09			.20	T.	T.		.04	T.			.22	T.			.78	.52			.03			.44		T.			.93			.16	3.41
Roscommon	Au Sable				.85	.08											.76	.09			.01			.01				.49	.08			.94	3.31
Saginaw East Side	Saginaw																																
Saginaw West Side	do			.02	.54	T.			T.				.05				1.32	T.			.27			.11				2.34				.10	4.75
St. James	L. Michigan					.16							.95	.15														.20				.90	2.36
St. Joseph	St. Joseph					.10			.25						.75	1.60								.50								.12	3.32
Sandusky	Lake Huron	.54			1.98	.09							.34					.71			.06			.04									3.76
Saranac	Grand					.50			.09				.20			.15		1.46						.09								.36	2.85
South Haven	L. Michigan					.80			.40			.40	.55	.42		T.		T.		T.				.11						T.		.37	3.05
Thornville	Saginaw				.80	.60						.12					.10	.35						.09				.30					2.36
Traverse City	L. Michigan																							.30				1.60				T.	1.90
Vassar	Lake Huron				.38	1.26							.18					1.20						.20					1.20				4.42
Wasepi	St. Joseph				1.05	.16			T.	.03					.50	.75					T.			.15				T.			.10	.13	2.87
Webber Dam	Grand								.05				.09		.04		.48	1.30						.05				.01				.27	
West Branch	Lake Huron																																
Ypsilanti	Huron	T.	T.		.30	.40				T.			.32		.01	.08		.30	T.		.18			.03	T.			1.80	.32	.03			3.77
Ohio.																																	
Akron ‖	Lake Erie		1.49	.01		.15	1.44			.08	.32		.02	.13	.49	.16		.60	T.		.25				.17				.01	.10	.22		5.64
Antwerp	Maumee	T.				1.15			.13			.17		1.30	1.40			.16												.16			4.47
Benton Ridge	do	.25				1.43				.02				T.	1.54	.79	T.	.59	T.		T.			T.	.43			.86	T.		.14		6.05
Bowling Green	Lake Erie	.10			T.	.70				T.			.04	.30	.34	1.00	.02	.74						T.							.21		3.45
Bucyrus ‖	Sandusky		1.10			.10	.60						.07		2.40	.50		.65	T.		.03				.20	T.			.03		.10		5.78
Cleveland (1)	Lake Erie	T.	T.		2.59	.25				T.			.15	.15	.10	.13	.01	.03		T.	T.			.06	.19			1.15		.04			4.85
Cleveland (2)	do	T.			3.10	1.13				T.			.26	.28	.06	.21	.01	.04			T.			.20	.13			2.12		.17			7.71
Conneaut	do		.24		.36	.83	.09			.36			.58	.33				.34							.10				.15		.59		3.97
Findlay ‖	Maumee		.26			.32	.45				.09		T.		1.02	1.20		1.45		.01		.01			.30	T.			.44	.08	.05		5.68
Fremont	Sandusky	1.70	.04		.13	.13				.15			.14	.20	.60	.33		.40			T.	.04		.11			.02		.37	.43			4.79
Hedges	Maumee	.02				.72							.06	1.30	.93									.15						.20			3.38
Hillhouse	Lake Erie		.42		.35	1.25	.12			.13			.52	T.				.19	T.		T.			T.				.50	.27	T.	.33		4.08

TABLE 2.—*Daily precipitation for July, 1913. 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	31	Total.
Ohio—Contd.																																	
Hiram	Lake Erie	T.	.16	.59	1.13	.18				.60			.32	.18	.10	.16		.20						T.	.16						T.		3.78
Hudson	do	.15	.10		.30	.72	.23			.20			.12	.12	.44	.46		.12		.56					.21			.24	.10	.28			4.35
Lima ‖	Maumee		.65				.20			.19			T.		2.35	1.06		T.			T.				.09						.20		4.74
Medina	Lake Erie	.27			.14	.66				.10			.19	.08	.28	.44		.31		.54					.24			.16	.68	.58	.06		4.73
Montpelier	Maumee				.50	.37	.05			T.		T.			.38	1.80		.05			T.			.04			T.				.76		3.95
Napoleon	do				.34							.34			.75		.06												.55	.03		.05	2.12
New Bremen	do	.25		T.	.27	.46				.40			.09		.52	.65	.40				T.			.01							.37	T.	3.42
North Royalton	Lake Erie				1.35	.75	.35			.30			.28		.30	.50		.58		.26	.04				.35			.81	.35				6.22
Norwalk ‖	do	.02	.49			.24	.80				.05				1.10	.15		.38				T.			.38				.03				3.64
Oberlin	do	.16	.05		.04	1.09	.01			.12			.05	.06	.46	.18	.31					T.			.33				.20	.21	.01		3.28
Ottawa	Maumee		.12		.08	.48							.22		1.80	.80	T.			T.				T.	.28			.24	.08		.07		4.17
Sandusky	Lake Erie	.03	.01		.13	.71				.05			.19	.22	.23	.14	.13	.05						.15				.14			.01		2.19
Tiffin	Sandusky	.36	.02		T.	.98				T.			.12	.10	.70	.33	T.	.98			T.			.12	.28			.10	.88		.44	T.	5.41
Toledo	Maumee	T.	.01		.14	.71				.03			.07	T.	.25	.17	.14	.01			.03			T.				.40	.78		.62	.02	3.38
Upper Sandusky	Sandusky	1.16	.05			T.	.68						.22	.40	3.08	1.58			.88		T.					.20		.32	.40				8.97
Vickery	Lake Erie	.29	.02		.03	1.15				T.			.17	.12	.14	.22		.62			.02			.08				T.	.15		.04	T.	3.05
Wapakoneta	Maumee	.37			.19	.36				.30			.09	.10	1.49	.94	.04							T.	.04				T.		.03		3.95
Wauseon ‖	do	.07	.02		.01	.08	.56			T.			.21		.20	1.76		.73							.05	.09			.08	T.	.01		3.87
Wickliffe ‖	Lake Erie		.24		.04	1.20				T.			.66	.12	.09			.08							.19			T.	.41	T.	.04		3.07
Pennsylvania.																																	
Erie	Lake Erie	T.	.18		.05	.17	T			.36			.26	.12				.03			.01			.04				.02	.04		.02		1.36
New York.																																	
Adams Center	L. Ontario									.20	.35		.60	.24							T.	T.		T.	.32				.64				2.35
Angelica	Genesee		.18		.30		.16	.05		.28	.02							.12	T.		.49			.02	.19			T.	.09				1.90
Appleton	L. Ontario		.16		.15	.02				T.	.03		.24								.02			T.	.06				.16				0.84
Auburn	Oswego		T.			.23				T.	.40		.24											.28	.65			.50					2.30
Avon	Genesee					.53	T.				T.		.38								.90			.05	.36				.10				2.32
Brockport	L. Ontario		.38		.02	.11							.32								.35				.39	T.		T.	.03				1.60
Buffalo	L. Erie		.16		.16	.01	T.			.06	T.		.06					.03			.14			.08	.30				.03				1.03
Canisius College	do		.23		.20					.08			.36					*T.			1.04			.11	.62				T.				2.64
Canton	Grass		T.		.02		.23	T.	.07	.45	.01		.39	.04	T.				.43	.11	.01	T.		.10	.23	.01			.01	.02			2.13
Cape Vincent	St Lawrence	.19	.07							1.36		.06	.37						.28	.06	.10			.12				.50					3.11
Chazy	Champlain						.03													.95									.70		.10		1.78
Chestnut Lawn	Genesee		.05		.12	.35	.06	.02		.05			.14								.05	.02		.01	.19	.09			.11				1.26
Dannemora	Champlain		T.								.12		T.		.31				.15	.15		.50		.05	.50				T.	.06	.50		2.34
Elba	L. Ontario		.25			.33							.20								T.				.36								1.14
Fayetteville	Oswego		T.			.08	T.			.03	.11		.02												.50				T.				0.74
Gabriels	St. Regis		T.			.12		.06	.06	.65	.06		.30	.07	.05				.18	.03	.02				.20				2.25		.01		4.06
Geneva	Oswego				.70	T.	T.		.03	.10			.23							T.	.40			.48	.09			.06					2.09
Harkness	Champlain				.01			.06	.01	.14									.48	.09	.54	.02			.05	.09			1.82		.47		3.78
Hemlock Lake	Genesee		.03		*	.33	T.			.17	.03		.24								.30			T.	.75			T.	.05				1.90
Hunt	do		.06		.04	.16				.12			.30								.17				.26				.15				1.26
Ithaca	Oswego		.01		.01	.59	T.	T.	T.	.04			.13	.19				.02	T.		.01			.04	.52	.01		.02	T.				1.59
Keene Valley	Au Sable					.21	.03	.14	.04	.14	.08		.14	.09	.05				.36	T.	.05	.43			.07	.32			.96	.32			3.43
King Ferry	Oswego					.24			T.	.22			T.											.22	.23	T.							0.91
Lake George	Champlain								.20	.04	.22		.26	T.					.08	T.	T.	.26	T.	T.	.30				.45				1.81
Lake Placid Club	Au Sable					.53	.15	T.		.25	.33		.06	.15	.25	.20			.25	.24	.23	.11			.19	.22			.44	.15			3.75
Lauterbrunnen	Genesee		.04		.06	.36	.04			.06	T.		.13					T.			.04	.02		T.	.18	.13			.11				1.17
Lockport	L. Ontario		.44		.44								.34								T.				.20	T.			.02				1.44
Lowville	Black							.01		.34	1.20		.03	.80	.02						.01				.03				.15		.02		2.61
Moira	St. Lawrence						.07		T.	T.	.22		.22	.15	T.				.30						.53	.18			1.07		.07		2.81
Nehasane	Black	T.	T.			.34	.03	.03	.01	.37	.82	.04	.77	.10	.06			T.	.04	.06	.47				.09	.24			1.01	T.			4.48
North Lake	do						.06	.14			1.15		.38								.14				.40	.07			.65				2.99
Ogdensburg	St. Lawrence		T.						.08		.28		T.	.54	T.	T.			.32	.18	T.	T.			.70				T.	*.30			2.40
Old Forge	Black							.12	.05	.07	1.10		.31	.02	.25					.05	.25	.03		.09	.25				.12				2.71
Oswego	L. Ontario	.03	.01		.01	.06				.98	.07		.71					T.						T.	.35	.04		.01	.06				2.33
Otto	L. Erie																																
Palermo	L. Ontario	.11	.02			.02	T.				.62	.04		.36								T.			.37	T.			.04				1.58
Perry City	Oswego		.08			.12	T.	.01	T.	.02			.21	.05				.02	.10		T.			.05	.41								1.07
Philadelphia	St. Lawrence		.03						.03	.12	.51		.03		.06			T.	T.	T.	.79				.20				.49				2.86
Potsdam	Raquette						.11				.57			.44						1.66					.18	.22			.14				3.32
Ranger School	Oswegatchie	T.	.02			.05	.04	.04	.01	.09	.20	T.		.61	.03	T.				.35	.20	.15	T.		.12	.20			.31				2.72
Raquette Lake	Raquette		T.	.09			.28	.04		.23	1.38	.12		.75					T.	.28	.40	.08			.09	.08			.16				3.98
Rochester	Genesee		.18		.03	.73		T.	T.	.10	.04		.23								.34			.04	.36				.03				2.08
Romulus	Oswego				.14		T.		T.	.09		.08													.36								0.67
Scottsville	do				.37						.16		.38								.78			.30				.08					2.07
Shortsville	do		.03			.45				.07	T.		.07								.62								.05				1.29
Skaneateles	do	.02	.01		.85	.02				.23	.01		.10	.03										.85	.22			.05					2.39
Syracuse	do	T.	T.		.08	.07	T.			T.	T.		.03					T.			T.			.38	.39				T.				0.95
Tupper Lake	Raquette		.18			.18	.24		.40	.30	1.20			.36					.05	.35	.32	.11			.04	.12			.50	T.			4.35
Volusia	L. Erie		.30		.50	.20	T.			T.	.75		.24	.22				.20			T.				.10			.33	1.18		.06		4.08
Wanakena	Oswegatchie	T.	.01			.03	.13	.03	.01	.12	.54	T.	T.	.60	.04	T.				.35	.20	.15	T.		.13	.21			.33				2.88
Watertown	Black	.04					.02			1.02	.35		.35						.01	.01	.03				.22				.66	T.	T.		2.71
Wedgwood	Oswego		.08		.65	.07		.01	.05	.13	.05		.14	.46				.03	.01		.11			.26	.65	.17							2.87
Westfield	L. Erie		.31		1.70	.39	T.			.87			.33	.21				.31						T.	.04			.06	.81				5.03
York	Genesee		.02		T.	.50	T.			T.	T.		.22								.87			.06	.32				.10				2.09
Vermont.																																	
Burlington	Champlain		T.			.16	T.	T.	T.	.03	.24		.20	T.					.28	.01	.18	.02		.03	.22	.18			1.05	.08	.15		2.83
Cornwall	do																																
Enosburg Falls	do	T.	.02			.22	.08	.02	T.	T.	.32	.02		.18	.33	.02	.02		1.84	.30	.02	.07			.40	.17		.03	.50	.46	.57		5.59
Hyde Park	do																																
Northfield	do	T.	.02			.43	.04	.01	T.		.68		.28	.01					.06		.04	T.		T.	.08	.26			1.41	T.	.05		3.37
Wells	do							T.	.37		.71	.04		.26	.04				.16	.71				.19	T.				.36				2.84

* 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 July, 1913. District No. 4, Lake region.*

Date.	Duluth, Minn.		Wisconsin.						Chicago, Ill.		Fort Wayne, Ind.		Upper Michigan.										Lower Michigan.					
			Florence.		Green Bay.		Milwaukee.						Escanaba.		Ewen.		Houghton.		Marquette.		Sault Ste. Marie.		Alpena.		Battle Creek.		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....	78	56	84	65	84	63	83	68	80	75	93	74	88	63	80	60	76	58	82	55	75	58	85	68	87	71	81	71
2....	60	49	80	53	79	63	82	66	81	72	91	69	72	57	82	42	70	52	66	50	74	52	76	64	93	63	84	62
3....	75	55	89	64	90	65	85	68	94	74	94	70	85	64	87	60	84	57	91	61	86	55	95	64	95	67	90	66
4....	67	51	85	64	85	72	85	68	94	77	93	72	78	65	79	59	76	57	69	54	81	59	79	66	93	70	84	67
5....	72	52	76	62	78	65	85	65	92	73	91	71	81	57	78	54	67	51	78	49	79	49	86	65	89	72	82	65
6....	74	52	69	52	72	59	74	58	80	65	76	60	69	49	76	56	66	48	69	46	56	46	65	53	74	63	72	55
7....	79	57	76	48	80	55	76	57	77	63	78	53	73	52	77	46	75	58	72	58	68	49	76	51	78	48	73	51
8....	82	57	77	51	72	59	78	58	89	67	88	60	69	55	80	47	78	56	80	59	76	47	77	52	84	58	74	59
9....	73	52	74	40	74	60	78	59	83	66	86	63	71	52	79	45	65	50	72	53	63	53	78	56	81	65	74	60
10....	62	47	69	47	71	51	66	55	66	60	80	56	68	47	74	40	65	46	57	48	57	47	68	50	77	51	68	58
11....	52	43	67	54	72	52	74	54	81	60	84	54	66	52	71	49	65	49	70	47	72	44	62	45	82	52	74	47
12....	62	45	69	50	74	59	80	63	84	67	82	69	69	54	75	51	58	49	70	50	66	52	75	57	79	65	71	60
13....	68	51	73	42	73	56	83	56	92	65	93	66	69	53	70	56	66	48	67	50	57	48	67	48	86	65	69	57
14....	60	49	79	45	74	55	75	56	81	64	87	63	69	50	75	60	66	48	71	49	63	48	75	47	85	58	78	45
15....	58	48	72	56	72	60	72	57	75	67	85	65	69	50	82	50	66	48	60	48	74	48	69	50	85	62	83	55
16....	61	45	80	57	76	60	79	60	92	70	86	65	67	60	76	50	64	52	71	54	72	52	66	51	86	65	80	59
17....	76	61	79	57	74	66	74	62	83	65	87	70	71	60	75	55	71	51	65	53	71	54	74	57	83	69	73	62
18....	78	60	75	55	82	64	78	63	76	65	82	66	79	60	76	52	75	57	77	62	68	53	82	59	85	65	79	62
19....	74	56	69	50	79	60	82	62	84	67	83	64	77	56	74	48	71	52	72	55	68	51	80	57	83	60	77	65
20....	70	52	78	38	71	54	69	58	69	62	77	60	67	52	76	50	67	52	63	53	69	49	70	52	78	58	70	55
21....	78	53	79	59	77	50	70	54	69	59	80	56	68	44	75	43	75	50	76	51	75	46	71	46	79	53	73	44
22....	74	59	70	57	83	61	82	61	84	62	83	58	75	61	80	50	75	61	77	59	72	56	83	54	83	49	79	57
23....	67	48	68	49	79	63	79	63	77	68	80	63	70	53	80	50	63	52	65	56	67	50	76	55	69	62	73	62
24....	72	47	.....	.....	71	53	71	56	70	62	75	59	69	53	82	51	69	51	64	55	64	49	68	50	74	57	69	51
25....	77	53	76	41	72	54	70	59	71	63	76	54	70	48	80	40	76	56	78	56	75	44	70	44	78	47	72	49
26....	61	51	78	52	83	55	80	63	85	66	86	56	72	55	78	40	75	56	78	58	77	51	78	50	87	59	81	55
27....	72	53	86	61	86	66	93	73	94	76	92	71	79	64	82	43	73	54	79	62	84	61	89	66	96	67	86	65
28....	62	49	76	49	76	61	75	64	80	70	92	71	73	57	77	50	70	51	63	56	72	54	79	60	92	70	79	68
29....	62	49	84	56	85	61	91	61	99	70	93	72	76	61	84	57	77	56	69	57	81	50	73	54	95	64	87	68
30....	63	49	85	60	89	65	82	66	89	74	95	75	74	63	92	67	81	55	86	58	81	56	73	59	96	69	86	60
31....	73	55	79	65	81	65	86	67	88	74	95	69	80	58	86	55	81	62	82	61	78	58	78	57	94	65	85	68
Mns..	69.1	51.7	76.7	53.3	77.9	59.6	78.6	61.3	82.5	67.4	85.9	64.3	73.0	55.6	78.6	50.8	71.2	53.0	71.9	54.3	71.6	51.3	75.6	55.1	84.7	61.6	77.6	59.0

Date.	Lower Michigan.						Ohio.								Erie, Pa.		New York.								Vermont.			
	Detroit.		Muskegon.		Saginaw, west side.		Cleveland.		Lima.§§		Sandusky.		Toledo.				Buffalo.		Canton.		Rochester.		Syracuse.		Burlington.		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....	91	74	78	71	85	70	88	73	96	74	89	73	93	74	87	75	79	73	92	70	92	72	93	73	94	73	95	68
2....	84	72	80	65	88	66	82	68	90	69	86	72	87	72	80	65	75	63	78	56	83	64	78	67	76	61	74	57
3....	92	71	93	65	94	66	90	67	92	66	93	69	92	69	86	65	86	65	87	49	91	64	86	61	84	56	85	49
4....	95	71	92	70	92	70	90	70	93	73	95	73	94	74	87	72	83	69	95	65	95	69	93	71	94	61	92	50
5....	88	69	88	63	87	66	84	68	91	74	90	65	90	67	81	70	77	71	86	67	85	69	86	69	90	70	90	66
6....	73	55	73	62	68	50	74	60	79	64	76	63	76	57	74	58	74	53	78	53	75	54	76	54	82	59	84	59
7....	77	50	77	53	77	46	70	60	79	47	74	55	76	52	70	59	72	52	73	50	74	54	70	53	62	55	59	52
8....	81	63	76	58	80	55	80	55	90	55	79	57	80	61	75	60	71	60	75	47	78	56	75	58	73	51	71	43
9....	85	63	74	62	83	53	82	67	88	65	84	67	86	65	80	66	75	64	79	58	82	64	77	64	77	56	78	45
10....	70	54	71	54	75	50	67	58	81	54	69	57	73	55	66	61	64	57	64	52	66	54	67	55	72	55	73	57
11....	75	54	84	50	77	53	74	50	86	54	74	54	76	56	69	51	73	53	74	48	73	50	70	52	73	50	72	46
12....	81	69	78	63	76	65	82	68	84	66	83	71	82	69	78	66	78	57	83	49	84	56	83	52	80	46	79	39
13....	87	61	73	58	81	54	87	65	92	65	91	67	90	68	79	63	73	58	77	57	83	58	84	58	78	62	78	60
14....	75	59	78	59	81	52	70	62	86	65	73	64	78	61	71	57	67	54	70	56	72	52	69	54	67	60	70	57
15....	78	61	80	60	84	58	74	58	86	64	75	62	77	64	74	57	76	59	72	54	76	55	72	56	74	60	72	55
16....	80	60	85	62	83	58	80	59	85	66	81	65	83	67	74	58	77	58	80	50	78	54	77	55	77	55	74	50
17....	78	65	77	67	75	64	79	67	89	67	81	69	82	70	73	65	73	64	82	58	77	64	79	60	83	54	80	46
18....	85	67	78	66	84	65	78	69	89	67	84	67	86	69	75	66	71	65	85	57	83	64	81	65	81	58	81	54
19....	84	65	76	60	82	60	80	68	83	64	83	71	84	66	78	64	72	61	78	55	82	61	80	62	80	54	79	50
20....	77	60	78	63	72	57	73	64	80	59	74	63	79	61	72	63	73	57	75	53	74	59	75	61	77	56	78	51
21....	79	57	79	50	77	49	73	61	80	55	77	63	79	57	73	60	74	58	77	53	76	58	74	56	76	56	75	51
22....	82	61	80	53	81	52	78	58	83	54	82	60	83	62	78	57	76	62	79	54	82	56	82	57	83	53	80	45
23....	75	67	75	65	69	62	86	64	84	63	84	66	80	65	86	64	83	65	84	61	87	62	86	61	86	57	84	49
24....	75	60	70	50	70	53	72	63	78	66	76	65	76	60	73	63	71	59	78	59	77	61	74	64	73	56	71	55
25....	72	56	68	48	74	48	67	59	78	50	71	62	73	56	70	58	72	53	73	56	74	57	70	58	72	56	70	47
26....	84	63	84	53	85	58	77	59	88	53	78	61	81	61	73	56	82	60	79	53	81	55	82	53	82	53	79	42
27....	90	66	88	48	92	66	85	66	93	65	95	66	93	68	86	67	82	69	90	59	94	65	90	68	88	57	87	46
28....	86	69	82	54	84	65	82	69	93	69	87	70	93	68	82	70	78	70	88	69	87	71	86	74	77	65	73	61
29....	92	69	90	50	90	63	88	72	96	70	88	71	94	73	86	70	84	68	88	62	88	70	85	67	84	66	86	62
30....	90	71	99	63	86	67	83	76	92	70	87	76	86	69	82	74	88	71	85	59	84	69	87	66	82	65	81	54
31....	90	68	79	62	91	64	85	70	95	64	84	70	93	71	82	67	93	68	86	53	89	62	88	63	80	54	82	46
Mns..	82.3	63.5	80.1	58.9	81.4	58.9	79.4	64.3	87.1	63.1	82.0	65.6	83.7	64.7	77.4	63.5	76.5	61.8	80.3	56.2	81.3	60.6	79.8	60.9	79.3	57.7	78.5	52.1

[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.