Climatological Data for November, 1910.

DISTRICT No. 4, LAKE REGION.

Prof. HENRY J. COX, District Editor.

GENERAL SUMMARY.

The month of November, 1910, was cloudy and cold, and in nearly all sections deficient in precipitation. The cold was mainly due to persistent cloudiness, which kept the maximum temperatures low, rather than to any extremely low minimum temperatures. There was a rapid succession of disturbances, mostly of but little energy, moving across the district with their centers well to the south, and, while these conditions were often unattended by any considerable amount of precipitation, the resulting cloudiness was so persistent as to be without precedent in the Great Lake region. As many as 29 cloudy days were observed at Sault Ste. Marie, Mich., and Cleveland, Ohio; and 28 such days at Alpena and Port Huron, Mich., while stations reporting 25 or more cloudy days were quite common. It is a remarkable fact that not one clear day was observed during the entire month at any of the following places: Green Bay, Wis.; Escanaba, Sault Ste. Marie, Alpena, Grand Haven, and Port Huron, Mich.; Erie, Pa.; Buffalo, Oswego, Rochester, Ithaca, Syracuse, N. Y.; and Burlington, Vt. In fact, the area absolutely lacking a clear day embraces the greater portion of Michigan, the portion of the State of New York lying in District No. 4, as well as parts of Wisconsin, Pennsylvania, and Vermont. These cloudy conditions naturally caused relatively low maximum temperatures, which were still further kept down by the prevailing northwest and west winds, especially during the second decade of the month. While southerly winds occasionally prevailed, they were of short duration, because of the rapid movement of areas of high and low pressure across the district.

In strong contrast with the cold weather of this month, is November, 1909, which was unusually warm, the warmest November on record, with the single exception of 1902. During November, 1910, there was not a single storm that seriously affected navigation on the Great Lakes, the total wind movement being much below the normal for November on the upper Lakes, although above the normal on the lower Lakes.

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

Portions of States lying within District No. 4.	Mean.									Prevailing wind direction.
	Temperature.	Departure from normal.	Precipitation.	Departure from normal.	Snowfall.	Number of days.				
						0.01 inch or more precipitation.	Clear.	Partly cloudy.	Cloudy.	
Minnesota	23.4	−3.4	0.97	−0.48	8.6	6	7	8	15	nw.
Wisconsin	30.3	−4.2	1.98	+0.09	6.1	8	4	8	18	nw.
Illinois	36.0	−3.2	1.31	−1.19	1.3	12	5	10	15	w.
Indiana	35.5	−4.7	2.06	−0.85	2.4	8	7	6	17	nw.
Upper Michigan	29.2	−1.8	2.04	−0.47	15.0	12	2	5	23	nw.
Lower Michigan	33.2	−2.2	2.13	−0.42	8.8	12	3	6	21	nw.
Ohio	35.7	−4.3	2.44	−0.21	5.8	11	5	5	20	w.
Pennsylvania	37.4	−3.8	3.45	−0.02	14.7	20	0	4	26	w.
New York	33.4	−2.5	2.72	−0.01	14.4	15	3	6	21	w.
Vermont	33.0	−1.2	2.58	−0.61	13.9	13	3	7	20	nw.

TEMPERATURE.

While the mean temperature for the month averaged considerably below the normal in all sections of the district, this was due to uniformly cool weather rather than to extremes of temperature, and due also, as has been stated above, to relatively low maximum temperatures rather than to low minimum readings of a few dates.

The deficiency averaged greatest in the southern portion of the Lake region, where the mean departure from the normal exceeded 4°; moreover, the deficiency exceeded 5° at several individual stations.

The temperature was more nearly normal in the extreme northern portion of the Lower Michigan Peninsula and in the Lake Champlain watershed. In fact, Alpena and Mackinaw, in the former section, actually averaged above the normal, 0.1° and 0.2°, respectively, while Carvers Falls and Chazy, N. Y., in the Lake Champlain watershed, reported an average excess of 2.5° and 0.3°, respectively. Because of the unusual cloudiness during the month there was not the customary range between day and night temperatures, the mean daily range for the entire district being only 10.1°, which is in strong contrast with November, 1909, when the average daily range was 15.5°. Moreover, during the greater portion of the month the temperatures remained several degrees below normal, with very slight changes from day to day.

Following a comparatively warm October, the month opened with temperatures above the normal, except in the extreme northwest portion, where cool weather had appeared. This area of cool weather gradually extended eastward, covering during the 2d the entire district west of Pennsylvania and reaching the eastern limits during the 3d. The temperature continued comparatively low in all sections until the 20th, with the exception of a slight break on the 9th and 10th. The rise in temperature, which appeared in the extreme western portion of the district on the 20th, did not extend eastward generally until the 23d. Then followed a few days with temperatures above normal to be followed in turn on the last few days by lower temperatures, except in the Lake Champlain watershed.

The highest temperatures, as a rule, occurred during the first decade and chiefly on the 1st, 2d, or 9th, while the lowest readings were observed during either the last half of the 3d week or in the closing days of the month.

PRECIPITATION.

While the total precipitation averaged for the entire district below the normal, the distribution geographically was irregular, and often where considerable deficiencies were noted, close by, amounts far above the normal were observed. For instance, at Marquette and Munising, in Upper Michigan, falls of snow brought the amount of precipitation up to a point much above the normal, yet along the shore of Lake Superior farther west the amounts were so much less as to cause the monthly total to fall below the average; and the deficiency was even greater at interior stations near the Wisconsin boundary. Again, the amounts in the Lower Michigan Peninsula were quite variable, ranging from a considerable excess to a corresponding deficiency, and in the watershed of western Lake Erie the precipitation was light, and, at the same time, a considerable excess occurred in the eastern portion, this precipitation being mostly in the form of snow. In the extreme western portion of the region, as well as in the Lake Champlain watershed in the eastern portion, there was an almost general deficiency in precipitation. In the portion of New York State not included in the Lake Champlain watershed ample precipitation occurred, but the principal feature regarding this precipitation was not in the total

fall, but rather in the great number of days in which snow or rain occurred. In all sections of the district the distribution of precipitation through the month was rather uniform, there being no long period of drouth at any place. It was mostly in the form of snow in the northern and eastern portions and rain in the southwest portion. The total ranged from a minimum of 0.30 inch at Iron River, Wis., to a maximum of 4.91 inches at Lake Placid, N. Y.

Snow.—The snowfall in the northern and eastern portions of the district was greater than is usual in November; and at Cleveland, Hillhouse, and Hiram, Ohio, there was more snow than in any other November of which there is a record. The snowfall in that portion of New York State lying in the district averaged 14.4 inches, and it varied from 40 inches in the Adirondack region to about 3 inches in the northwestern part of the Niagara country. In the swamps and woods of the northern Lake region snow came before the ground froze, logging operations being interfered with as a consequence. The greatest monthly fall reported in the latter section is 32.6 inches at Chatham, Mich.

At the close of the month the ground was covered with snow, the greatest depths naturally being in the regions of Lakes Superior and Champlain.

ICE IN RIVERS AND HARBORS.

Ice of consequence first appeared in the Duluth Harbor on the 21st. On the last two or three days of the month the harbor was pretty well covered and navigation was considerably impeded by ice of 6 to 8 inches in thickness. At Escanaba, by the end of the month, thin ice had formed over shallow water, but not in the channel.

Ice formed in the channel at Green Bay on the 17th, although it was broken up by vessels passing through. At the close of the month the ice was 2 inches in thickness on each side of the channel.

The rivers and ponds in the vicinity of Milwaukee were not frozen over until the last two days of the month. At Sandusky the first ice of the season was observed on the morning of the 20th, when a thin coating covered the slips along the city front. This disappeared during the day, and ice did not form again during the month. The Grasse River in New York State, emptying into the St. Lawrence, had ice along its banks during the greater portion of the month, but very little ice formed in the streams of Vermont, Ohio, Indiana, and Illinois.

NAVIGATION ON THE GREAT LAKES.

The month was free from severe windstorms, so common in the month of November on the Great Lakes, and conditions were, therefore, as a rule favorable to the movement of vessels. The storms, however, seemed to be more severe on Lake Erie than elsewhere. At Chicago not a single gale occurred during the entire month. Strong winds prevailed on Lakes Huron, Erie, and Ontario from the 10th to the 16th, and on all Lakes during the closing days of the month. The steamship *Powell Stackhouse* went hard on the rocks in Callum Bay, near the head of Lake Erie, on the 11th, and the less staunch craft were obliged to seek shelter. On the 30th the steamship *Alpena*, while entering the harbor of Alpena in a snowstorm, lost her bearings and grounded on Sulphur Island reef, but she was released 10 hours later without much damage.

MISCELLANEOUS.

Auroras were observed at Houghton, Mich., on the 18th, and at Northfield, Vt., on the 20th. There was a display of parhelia at Grand Haven, Mich., on the 20th, and at Burlington, Vt., on the 21st.

Thunderstorms were noted as follows: Grand Haven, 1st; Sandusky, Toledo, Cleveland, and Buffalo, 10th; Milwaukee and Chicago, 26th; Chicago, 27th.

Section Director W. M. Wilson, Ithica, N. Y., well describes in the following statement the unusual conditions which prevailed in his section during November:

In all the records available, the month of November, 1910, is unrivaled as a period of unchangeable weather, with continued low temperatures, exceptionally frequent precipitation, heavy snowfall and practically no sunshine. Though the maximum temperatures of the 1st and 2d ranged generally from 50° to 60°, the remaining four weeks of the month formed a period of such uniformity of temperature as has probably not been observed for more than a quarter of a century. Throughout this period the mean daily temperatures in most parts of the State remained within 2° or 3° of the freezing point, while the daily range in temperature was very frequently less than 5°. At Buffalo, from the 11th to the 19th, inclusive, the absolute range in temperature was only 9°, from 29° to 38°. The average cloudiness, the average number of rainy days, and the average snowfall are all much greater than the corresponding averages computed for the stations within District No. 4 for the last 10 years, and, except in the case of snowfall, show a decided excess over the highest previous records, and, in view of the comments made by many observers, we are undoubtedly justified in concluding that the cloudiness and the frequency of precipitation of the current month have had no equal in any November for probably 40 years or more.

TABLE 1.—*Climatological data for November, 1910. District No. 4, Lake Region.*

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, .01 inch or more.	Sky. Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
Minnesota.																				
Duluth	St. Louis	1,133	39	23.9	− 5.4	42	24	6	30	21	1.18	− 0.40	0.45	9.7	11	2	9	19	nw.	U. S. Weather Bureau.
Floodwood	do	1,257	6	21.2[e]		39	4†	− 7	29	30[e]	0.87		0.24	8.0	4	17[e]	3[e]	5[e]		M. H. Schussler.
Mount Iron	do	1,510	16																	Oliver Iron Mining Co.
Stephen's Mine	do	1,500	3	21.2		40	1	− 9	29	27	1.03		0.26	7.6	8	2	6	22	w.	Do.
Two Harbors	Lake	614	16	27.6	− 3.5	51	1	3	29	25	0.72	− 0.94	0.35	5.0	4	9	14	7	nw.	George W. Watts.
Virginia	St. Louis	1,434	16	23.0	− 1.7	41	1	− 4	29	22	1.07	− 0.09	0.42	12.5	4	2	9	19	n.	Oliver Iron Mining Co.
Wisconsin.																				
Appleton	Outagamie	795	11	30.1	− 5.5	55	1	19	6†	23	2.44	+ 0.69	1.50	10.0	10	7	12	11	w.	Wm. O. Thiede.
Ashland	Ashland	647	16	28.9	− 2.8	49	1	15	30	19	0.35	− 1.18	0.28	3.5	3	5	8	17	w.	Sam Wheeler.
Bayfield	Bayfield	635	2																	Ruben V. Ryder.
Cecil	Shawano	804	3	30.4		58	2	16	3†	36	1.14		0.46	4.4	7	4	13	13	nw.	Louis W. Schmidt.
Chilton	Calumet	860	16																	Daniel V. Jones.
Crandon	Forest	1,060	15																	Calvin T. H. Riggs.
Florence	Florence	1,293	19	27.8	− 2.1	46	1	18	30	18	0.91	− 1.20	0.51	4.0	5	4	2	24	nw.	Fred S. Evans.
Fond du Lac	Fond du Lac	800	24	28.7	− 5.2	51	9	10	19†	29	2.33	+ 0.62	1.45	7.0	8	4	7	19	nw.	Geo. W. Marshall.
Grand River Locks	Marquette	770	14	29.2		53	7	11	3	34	2.15	+ 0.39	1.30	8.0	9	8	6	16	nw.	Jerry Parkinson.
Green Bay	Brown	617	24	30.2	− 2.3	48	9	19	6	19	2.65	+ 0.69	1.53	8.3	11	0	5	25	nw.	U. S. Weather Bureau.
Iron River	Bayfield	1,096	1	25.8		47	1	9	30	26	0.30		0.30	5.0	1	3	4	23	nw.	Harry C. Hall.
Kewaunee	Kewaunee	590	1	31.8		52	1	19	19	22	3.85		1.58	15.5	11	2	6	22	nw.	Eugene V. Kimball.
Manitowoc	Manitowoc	616	59	31.6	− 4.2	50	9	16	19	22	2.61	+ 0.53	1.13	7.0	9	1	10	19	w.	Johanna Lups.
Menasha	Winnebago	764	13								1.55	+ 0.38	0.89	7.0	7	8	3	19	nw.	George T. Allanson.
Menomonee Falls	Waukesha	842	1	31.1		57	1	16	19	26	3.46		2.27	1.7	6	7	12	11	nw.	Arthur H. Christman.
Milwaukee	Milwaukee	681	40	32.6	− 3.5	58	9	19	30	23	1.63	− 0.35	0.93	0.5	9	6	8	16	w.	U. S. Weather Bureau.
New London	Outagamie	762	14	29.1	− 5.0	54	1	16	3	26	2.34	+ 0.54	0.90	6.0	7	4	2	24	nw.	August H. Pape.
Oconto	Oconto	590	19	30.8	− 3.5	49	1	19	3†	20	1.25	− 0.82	0.40	9.5	7	4	12	14	w.	William K. Smith.
Oshkosh	Winnebago	744	21	28.8	− 5.9	53	1	13	19	27	2.02	+ 0.37	1.30	3.0	5	10	14	6	w.	Evan Vincent.
Pine River	Waushara	900	15	29.0	− 5.1	50	9	15	3†	25	2.10	+ 0.48	1.08	7.7	10	0	13	17	nw.	George H. Carpenter.
Plum Island	Door	588	2	34.8		52	1	24	30	18	2.12		0.75	T.	8	0	5	25	nw.	John P. Whelan.
Plymouth §	Sheboygan	843		30.0		53	9	18	6†	24	1.99		1.12	6.5	9	3	10	17	nw.	Paul O. Feldrappe.
Port Washington	Ozaukee	713	17	32.5	− 3.6	54	9	19	19†	26	2.15	+ 0.14	0.92	3.0	8	6	3	21	nw.	Richard C. Kann.
Racine	Racine	633	13	34.2	− 5.5	65	9	17	30	34	1.77	− 0.14	1.12	T.	7	7	3	20	nw.	Daniel Davis.
Ripon	Fond du Lac	935		29.6		58	7	15	30	35	2.07		1.20	5.3	5	5	6	19	nw.	Ripon College.
Sheyboygan	Sheboygan	831	12	32.4	− 5.9	54	9	19	19	22	2.30	+ 0.44	0.86	5.5	8	2	16	12	nw.	Louis C. Meyer.
Sturgeon Bay	Door	600	12	32.6	− 2.5	50	1†	20	18	20	3.50		1.49	15.0	11	2	8	20	nw.	Adam N. Dier.
Superior	Douglas	671	1	25.8		43	24	8	30	18	0.78		0.32	8.5	8	6	5	19	sw.	Edward Banks.
Waupaca	Waupaca	857	14	29.0	− 4.6	60	1	14	3†	30	1.81	+ 0.10	0.87	7.0	7	3	8	19	nw.	James H. Flagg.
Illinois.																				
Chicago	Cook	824	40	36.0	− 3.2	67	9	20	30	29	1.31	− 1.19	0.83	1.3	12	5	10	15	w.	U. S. Weather Bureau.
Indiana.																				
Auburn	Dekalb	874	14	31.6[b]	− 7.1	61	9	14	20	35	1.97	− 0.40	0.65		9	7	2	21	nw.	Mrs. Josie B. Kuhlman.
Berne	Adams	849		35.2		66	9	18	20	32	3.09		0.90	2.3	12	11	4	15	nw.	H. M. Reusser.
Elkhart	Elkhart	801	8	37.6		66	10	24	20	28	3.18		1.23		10	4	11	15	nw.	Dr. Miles Medical Co.
Fort Wayne	Allen	775	14	36.2	− 4.4	67	9	16	20	35	2.32	− 0.62	0.74	2.2	9	5	4	21	nw.	Orion E. Mohler.
Hammond	Lake	598	19	37.0	− 2.2	63	10	18	6	37	1.50	− 0.81	0.88	1.5	6	10	6	14		Carson W. Whitney.
Howe	Lagrange	886	5	34.3[l]		64	9	22	19†	31[l]	2.10		0.70	6.0	5	7[k]	0[k]	12[k]	w.[k]	James E. Zook.
South Bend	St. Joseph	726	17	34.6	− 5.0	57	1	23	18	27	1.25	− 1.57	0.28	2.5	14	6	3	21	nw.	Henry H. Swaim.
Whiting	Lake	606		37.2		67	9	20	6†	31	1.11		0.96	T.	3	7	8	15	nw.	D. H. Boyd.
Michigan—Upper Peninsula.																				
Baraga	Baraga	623	8													6[a]	0	23[a]	n.	D., S. S. & A. Ry.
Bergland	Ontonagon	1,300																		Frank McMonigal.
Blaney	Schoolcraft		3	31.0		47	1	19	3	17						4	1	25	nw.	Dr. S. S. Hackwell.
Calumet	Houghton	1,246	22	26.7	− 3.8	42	1	8	30	23	1.82	− 0.73	0.54	21.0	16	1	2	27	nw.	E. S. Grierson.
Chatham	Alger	875	9	28.9		45	1	17	30	19	3.40		0.48	32.6	19	2	5	23	nw.	U. P. Experiment Station.
Deer Park	Luce	610	9	33.0		48	1	19	4	19	1.65			12.0	6	1	0	29	nw.	Mrs. Sara E. McGaw.
Detour	Chippewa	585	9					21	19		2.32		0.70	11.2	5	15	0	15	nw.	Dr. F. E. Cameron.
Eagle Harbor	Keweenaw	622	11	32.0	− 4.0	45	1	23	19	14	1.58	− 0.72	0.45	12.8	11	0	6	24	nw.	John Nolen.
Escanaba	Delta	612	37	31.6	− 0.1	49	1	20	8	18	1.81	− 0.45	1.01	12.5	13	0	4	26	nw.	U. S. Weather Bureau.
Ewen	Ontonagon	1,147	9	26.9		43	24	14	19	21	2.90		1.00	29.0	14	1	3	26	nw.	W. B. Hatfield.
Grand Marais	Alger	610	9	31.3		45	24	22	4†	15	2.72		0.30	16.5	20	0	3	27	nw.	Mrs. Lena Truedell.
Houghton	Houghton	668	9	30.4	− 1.2	43	1	19	19	19	1.63	− 1.84	0.63	15.4	17	2	2	26	nw.	U. S. Weather Bureau.
Humboldt	Marquette	1,536	13	26.8	− 0.5	57	1	10	22	29				10.0		0	1	29	nw.	D., S. S. & A. Ry.
Iron Mountain	Dickinson	1,111	9	30.2[a]		50[a]	1	9[a]	30	27[a]	1.12		0.53	2.8	8	1	10	19	nw.	Chapin Mining Co.
Iron River	Iron	1,504	13	27.4	− 1.2	48	1	9	3	25	0.70	− 1.32	0.30	5.0	3	0	29	1	nw.	Victor D. Laing.
Ironwood	Gogebic	1,520	7	25.9		45	1	15	6†	19	1.06		0.27	13.0	6	2	2	26	w.	Prof. J. V. Brennan.
Ishpeming	Marquette	1,536	10	27.0[f]	− 3.3	44[f]	1	18[f]	19†	19	1.57	− 0.91	0.60	14.6	13	0	9	21	nw.	Cliv'd Cliffs Iron Co.
Isle Royale	Keweenaw	610	3																	John H. Malone.
Mackinac Island	Mackinac	831	10	34.2	− 0.6	50	2	22	27	17	1.24	− 1.40	0.60	11.5	8	2	14	14	n.	M. I. S. P. Com.
Maple Ridge	Delta		4	29.0		48	1	17	8	21	2.97		0.64	20.0	8	3	3	24	n.	Herman Johnson.
Marquette	Marquette	734	39	30.7	− 1.2	46	1	22	19	15	3.44	+ 0.65	0.87	30.9	23	1	3	26	w.	U. S. Weather Bureau.
Menominee	Menominee	581	11	31.7	− 4.1	50	1	20	6†	19	1.75	+ 0.31	0.60	9.5	5	5	9	16	nw.	C. & N. W. Ry.
Newberry	Luce	773	8																	D., S. S. & A. Ry.
Powers	Menominee	868	11	30.6	− 1.4	48	3†	13	8	30				8.5		1	12	17	n.	C. & N. W. Ry.
St. Ignace	Mackinac	593	20	33.8	0.0	49	1	20	18	15	2.24	− 0.14	0.88	6.7	11	10	13	7	w.	D., S. S. & A. Ry.
Sault Ste. Marie	Chippewa	614	22	30.5	− 0.2	45	1	19	4	14	2.54	− 0.38	0.71	14.6	17	0	1	29	nw.	U. S. Weather Bureau.
Thomaston	Gogebic	1,347	13	25.6	− 3.5	41	24	13	17	18	1.20	− 0.85	0.40	12.0	6	0	4	26	w.	D., S. S. & A. Ry.
Victoria	Ontonagon	1,263		25.2		45	24	13	17†	23	1.04		0.22	15.0	13	3	3	24	nw.	R. S. Schultz, jr.
Watersmeet	Gogebic		1	25.4		44	1	14	3	22	0.89		0.14	8.3	10	3	2	25	nw.	B. N. Grant.
Wetmore	Alger	878	13	30.2	− 1.2	48	1	15	3	26						0	0	30	s.	D., S. S. & A. Ry.
Whitefish Point	Chippewa	610	20	33.6	− 0.7	50	1	24	18	12	4.16	+ 0.78	0.62	22.4	22	0	0	30	nw.	Robert Carlson.
Michigan—Lower Peninsula.																				
Adrian	Lenawee	770	32	35.8	− 3.1	60	1†	17	20	33	1.74	− 1.54	0.58	1.0	5	5	1	24	nw.	B. F. Gibbs.
Allegan	Allegan	698	19	37.2	− 0.8	67	1	21	20	32	2.19	− 0.31	0.80	11.0	11	0	11	19	w.	Pere Marquette R. R.
Alma	Gratiot	750	23	34.6	− 3.0	58	9	20	20	23	2.19	− 0.46	0.50	7.5	11	3	10	17	nw.	P. M. Smith.
Alpena	Alpena	609	37	33.8	+ 0.1	51	1	26	30	14	2.32	− 0.24	0.70	17.8	17	0	2	28	nw.	U. S. Weather Bureau.
Ann Arbor	Washtenaw	930	30	34.6	− 2.5	62	9	21	20	28	2.34	− 0.24	0.50	8.5	16	6	5	19	nw.	University of Michigan.
Arbela	Tuscola	728	14	33.0	− 4.9	59	1	20	4	25	2.60	0.00	0.48	13.5	11	0	5	25	nw.	Wm. Atkin.
Battle Creek	Calhoun	822	26	34.0	− 4.3	58	10	20	20	25	1.36	− 1.03	0.37	2.0	10	3	5	22	w.	Elmer E. Sager.
Bay City	Bay	593	14	35.4	− 1.6	59	1	22	20	32	1.85	− 0.16	0.45	6.0	6	0	2	28	nw.	Pere Marquette R. R.
Benzonia	Benzie	832	14																	Martin S. Joiner.
Berlin	St. Clair		21	33.1	− 3.3	60	1	13	20	27	1.92	− 0.72	0.40	5.5	15	0	5	25	w.	R. O. Gould.
Big Rapids	Mecosta	906	14	32.8	− 2.2	56	9	18	4	27	2.54	+ 0.06	0.48	5.0	16	3	6	21		Charles Gay.
Bloomingdale	Van Buren		6	35.4		63	9	22	22	28	3.75		1.00	13.5	13	7	3	20	nw.	John M. Haven.
Cadillac	Wexford	1,293	1	31.6		58	1	20	4	25	3.64		0.41	29.0	20	2	7	21	n.	A. J. Teed.
Cassopolis	Cass	903	9	34.4		66	9	22	6†	30				3.0		6	1	23	sw.	Michigan Central R. R.
Charlevoix	Charlevoix	610	32	35.2	− 1.6	55	1	27	12†	21	2.95	+ 0.49	1.05		7	0	1	29	nw.	Pere Marquette R. R.
Charlotte	Eaton		6	33.6		67	2	21	4†	36	0.86		0.35	2.6	9	2	6	22	nw.	City of Charlotte.

TABLE 1.—*Climatological data for November, 1910. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .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.		
Michigan—Lower Peninsula—Continued.																				
Cheboygan	Cheboygan	611	20	32.6	− 2.2	50	2	21	3	24	3.28	+ 0.86	1.10	14.5	6	3	8	19	sw.	E. A. Bouchard.
Clinton	Lenawee	830	20	35.8	− 2.0	62	9	15	20	30	1.51	− 1.10	0.57	T.	7	7	9	14	nw.	David Woodward.
Coldwater	Branch	984	13	35.6	− 2.7	62	9	20	20	29	1.83	− 1.00	0.58	3.2	12	7	3	20	nw.	Lake Shore & Mich. So. Ry.
Concord	Jackson	.....	5	34.5	.....	62	9	20	22	31	1.55	.....	0.35	T.	6	6	18	6	nw.	Dr. W. N. Armstrong.
Croton	Newago	685	2	35.3	.....	55	29	21	4	25	2.49	.....	0.90	3.0	10	0	10	20	nw.	G. R. Mus. Power Co.
Detroit	Wayne	730	39	35.7	− 2.9	61	9	26	30	24	2.04	− 0.59	0.70	2.7	13	2	5	23	nw.	U. S. Weather Bureau.
Durand	Shiawassee	799	3	34.6	.....	63	9	21	20	30	0.88	.....	0.38	2.0	6	6	4	19	nw.	Grand Trunk Ry.
East Tawas	Iosco	590	13	34.6	− 1.3	52	1	22	7†	18	1.17	− 0.50	0.45	4.4	6	16	7	7	w.	Detroit & Mackinac Ry.
Bloise	Wayne	640	13	36.0	− 2.5	62	1†	16	20	25	1.87	0.00	0.65	0.9	13	3	8	19	w.	John Gilmore.
Flint	Genesee	730	21	35.1	− 0.8	60	9	21	20	30	2.05	− 0.41	0.45	5.0	15	4	5	21	w.	Wm. L. Fisher.
Frankfort	Benzie	589	6	35.3	.....	52	2	24	30	19	2.45	.....	0.50	4.0	8	0	0	30	w.	Capt. Geo. Morency.
Ganges	Allegan	665	1	36.0	.....	58	9	24	20	20	1.69	.....	0.39	4.0	11	3	3	24	nw.	H. H. Hutchins.
Gaylord	Otsego	1,367	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michigan Central R. R.
Gladwin	Gladwin	794	14	33.6	− 1.6	65	1	16	20	27	1.11	− 0.73	0.40	10.6	6	10	6	14	nw.	Geo. R. Smith.
Grand Haven	Ottawa	628	29	35.4	− 2.6	55	9	27	30	20	1.91	− 0.62	0.43	5.5	19	0	7	23	nw.	U. S. Weather Bureau.
Grand Rapids	Kent	707	21	35.0	− 3.1	60	9	26	30	21	1.34	− 1.19	0.29	4.0	14	0	9	21	nw.	Do.
Grape	Monroe	625	20	35.8	− 2.9	63	9	17	20	31	1.72	− 0.84	0.62	2.3	9	6	7	17	w.	Joseph W. Morris.
Grass Lake	Jackson	989	4	33.8	.....	59	9	19	20	26	2.86	.....	0.94	10.0	10	9	0	21	nw.	Menzo Conklin.
Grayling	Crawford	1,147	21	31.6•	− 2.8	48	5	20	5†	28•	3.10	+ 0.61	0.60	31.5	11	5	15	10	nw.	Dr. Oscar Palmer.
Harbor Beach	Huron	635	22	35.5	− 1.7	60	1	20	15	21	1.10	− 1.04	0.35	4.0	8	3	8	19	w.	Pere Marquette R. R.
Harrison	Clare	1,159	17	31.8	− 1.6	56	2	21	12	24	1.61	− 0.55	0.78	8.0	....	3	0	27	nw.	Do.
Harrisonville	Alcona	616	26	33.9	− 1.0	54	1	22	12	20	1.81	− 0.74	0.60	11.5	12	3	9	18	nw.	Dr. D. W. Mitchell.
Hart	Oceana	698	18	34.2	− 3.8	56	1	22	30	28	1.98	− 0.36	0.62	4.0	7	0	3	27	sw.	Pere Marquette R. R.
Hayes	Huron	620	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. F. Leipprandt.
Highland	Oakland	830	18	.....	.....	.....	.....	.....	.....	.....	2.57	− 0.17	0.60	13.2	11	.....	.....	.....	.....	A. D. De Garmo.
Hillsdale	Hillsdale	1,150	13	34.0	− 3.4	59	9	20	20	26	0.76	− 1.88	0.30	4.5	6	7	4	19	nw.	Prof. C. L. Herron.
Holland	Ottawa	610	4	35.0	.....	60	9	21	11	24	1.93	.....	0.36	8.0	13	1	9	20	nw.	City of Holland.
Howell	Livingston	924	18	.....	.....	.....	.....	.....	.....	.....	2.27	− 0.01	0.90	5.4	5	.....	.....	.....	nw.	Frank Sharp.
Ivan	Kalkaska	.....	21	31.4	− 2.1	48	9	17	20	24	3.69	+ 1.02	0.67	29.3	22	1	12	17	nw.	O. L. Giddings.
Jackson	Jackson	927	13	35.6	− 2.7	64	9	19	20	32	1.68	− 0.59	0.60	4.1	10	7	12	11	nw.	City of Jackson.
Jeddo	St. Clair	667	21	34.2	− 2.5	60	1	22	20	19	2.34	− 0.14	0.42	6.9	15	1	5	24	nw.	William Bice.
Kalamazoo	Kalamazoo	955	34	35.4	− 2.2	56	4	20	19†	30	2.24	− 0.60	0.43	11.5	15	5	10	15	nw.	Kalamazoo Asylum.
Lansing (Agr. Col.)	Ingham	820	46	34.0	− 1.8	63	9	21	20	27	1.37	− 1.88	0.43	5.9	15	2	5	23	nw.	U. S. Weather Bureau.
Lansing	do	881	23	34.8	− 2.3	64	9	22	20	29	1.47	− 0.87	0.35	6.1	15	2	5	23	nw.	State Board of Health.
Lapeer	Lapeer	837	11	34.0	− 3.5	60	2	22	4†	23	.....	.....	.....	3.5	....	0	17	13	nw.	Michigan Home.
Ludington	Mason	586	12	.....	.....	.....	.....	25	3	....	2.35	+ 0.44	0.72	6.0	9	4	10	12	nw.	Pere Marquette R. R.
Luther	Lake	1,028	0	32.8	.....	54	9	21	3	24	2.78	.....	0.52	12.6	20	2	4	24	w.	John W. Nichoson.
Mackinaw	Cheboygan	592	14	35.6	+ 0.2	58	5	20	2†	26	1.50	− 1.34	0.40	15.0	6	0	1	29	nw.	Grand Rapids & Ind. Ry.
Mancelona	Antrim	1,121	14	.....	.....	.....	.....	18	3†	....	4.37	+ 1.63	0.80	36.7	16	4	0	26	nw.	Do.
Manistee	Manistee	600	13	35.3	− 1.4	53	1	22	30	22	4.34	+ 2.05	1.10	2.0	7	0	10	20	nw.	Pere Marquette R. R.
Midland	Midland	604	11	34.6	− 2.3	57	1†	20	4†	26	.....	.....	.....	6.0	....	3	7	20	s.	Do.
Montague	Muskegon	660	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gerard A. Whitbeck.
Morenci	Lenawee	811	3	35.9	.....	62	9	16	20	28	2.09	.....	0.56	4.0	9	8	3	19	nw.	George J. Tripp.
Mount Clemens	Macomb	615	10	.....	.....	60	1	.....	.....	....	2.26	− 0.05	0.40	1.7	13	5	7	18	w.	Water Works.
Mount Pleasant	Isabella	826	11	.....	.....	.....	.....	7	29	.....	.....	.....	.....	7.0	....	13	2	15	w.	Pere Marquette R. R.
Muskegon	Muskegon	587	14	35.9	.....	56	1	27	17	17	1.50	.....	0.40	2.0	7	1	2	27	n.	Grand Rapids & Ind. Ry.
Old Mission	Grand Traverse	858	16	33.4•	− 2.9	48	1	25	30	13•	4.31	+ 1.86	0.75	17.8	18	0	4	26	n.	E. O. Ladd.
Olivet	Eaton	934	20	33.3	− 3.3	59	9	21	20	24	1.26	− 1.37	0.53	6.8	13	7	0	23	w.	Prof. G. A. Knapp.
Omer	Arenac	616	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	11	17	nw.	Detroit & Mackinac Ry.
Onaway	Presque Isle	826	7	31.9	.....	68	1	20	13	37	3.75	.....	1.40	18.2	8	0	0	30	n.	Do.
Ovid	Clinton	760	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. B. L. Bates.
Owosso	Shiawassee	731	13	36.0•	− 0.9	62	9	24	4	27•	1.76	− 0.39	0.34	6.5	12	1	12	12	nw.	Owosso Sugar Co.
Petoskey	Emmet	660	20	34.4f	− 0.9	49	1	23	4	20f	0.88	− 2.09	0.30	7.0	12	.....	.....	.....	nw.	Grand Rapids & Ind. Ry.
Plymouth	Wayne	725	13	34.6	− 4.3	67	1	12	20	39	1.76	− 0.46	1.00	T.	3	11	0	19	nw.	Pere Marquette R. R.
Pontiac	Oakland	935	10	34.9	− 2.6	66	1	20	20	27	1.65	− 0.78	0.27	1.5	12	5	7	18	nw.	Fred W. Shaw.
Port Austin	Huron	618	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pere Marquette R. R.
Port Huron	St. Clair	639	35	34.8	− 2.0	60	1	24	20	26	1.80	− 0.87	0.66	4.7	15	0	2	28	nw.	U. S. Weather Bureau.
Reed City	Osceola	1,033	14	34.0	− 0.8	55	10	21	4†	27	1.35	− 0.71	0.30	7.9	8	0	0	30	nw.	Pere Marquette R. R.
Roscommon	Roscommon	1,141	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	State Forestry Com.
Saginaw	Saginaw	601	8	35.2	− 3.9	59	1	21	13	27	1.97	− 0.05	0.50	11.8	9	2	14	14	w.	Postmaster.
Saginaw W. S	do	601	15	34.9	− 2.6	58	1†	21	20	29	1.93	− 0.38	0.57	9.6	17	2	8	20	nw.	Robert B. Hudson.
St. James	Charlevoix	681	4	33.4	.....	47	1	26	30	17	2.31	.....	0.56	3.5	11	0	6	24	nw.	Rev. N. Wilhelm.
St. Joseph	Berrien	593	23	37.0	− 3.4	60	9	17	2	27	2.32	− 0.60	0.50	2.0	7	5	1	24	nw.	City of St. Joseph.
Sandusky	Sanilac	790	1	34.5	.....	66	1	22	5	29	0.80	.....	0.24	6.0	10	0a	2a	27a	w.	Pere Marquette R. R.
Saranac	Ionia	639	15	34.7	− 1.6	63	9	19	4†	29	1.58	− 1.30	0.28	2.5	10	4	1	25	nw.	John Wallington.
South Haven	Van Buren	585	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	....	4	13	13	nw.	Mrs. M. E. De Diemar.
Stanton	Montcalm	880	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	City of Stanton.
Thornville	Lapeer	975	33	36.6	− 1.0	72	1	22	4	34	3.22	+ 0.47	0.50	22.0	15	0	10	20	nw.	Dr. J. S. Caulkins.
Traverse City	Grand Traverse	588	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Grand Rapids & Ind. Ry.
Vassar	Tuscola	641	9	34.6	.....	59	1	20	4	26	2.50	.....	0.40	7.2	11	0	18	12	nw.	Pere Marquette R. R.
Wasepi	St. Joseph	842	13	34.9	− 3.2	60	9	22	4†	25	1.88	− 0.79	0.50	6.0	13	6	2	22	sw.	Chas. A. Palmer.
Webberville	Ingham	884	8	34.0	.....	63	9	20	20	21	2.29	.....	0.49	8.0	11	3	6	21	nw.	I. R. Wadsworth.
West Branch	Ogemaw	973	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	4	19	se.	Michigan Central R. R.
Woodlawn	Montmorency	.....	8	29.8	.....	45	1	15	4†	27	4.64	.....	1.00	41.5	17	1	6	23	nw.	T. C. Mathews.
Ypsilanti	Washtenaw	736	25	35.0	− 2.0	62	9	18	20	32	2.32	− 0.66	0.60	2.6	15	0	20	10	nw.	Orin J. Bemiss.
Ohio.																				
Akron	Summit	1,081	23	34.9	− 5.1	62	1	21	20	29	1.58	− 1.10	0.50	5.5	11	3	7	20	w.	Prof. C. R. Olin.
Benton Ridge	Hancock	800	17	36.2	− 4.2	65	9	22	20	34	2.77	+ 0.24	0.56	5.0	11	4	7	19	nw.	J. W. Powell.
Bowling Green	Wood	670	30	35.8	− 3.5	65	9	18	20	32	2.06	− 0.90	0.60	5.0	9	7	5	18	nw.	G. C. Housekeeper.
Bucyrus	Crawford	1,000	15	33.0	− 6.1	65	9	16	20†	37	1.95	− 0.07	0.90	1.0	5	8	3	19	s.	James R. Hopley.
Cleveland (1)	Cuyahoga	762	39	37.1	− 3.3	63	9	25	20	28	3.08	+ 0.33	0.80	11.3	19	1	0	29	w.	U. S. Weather Bureau.
Cleveland (2)	do	754	13	36.6	− 4.4	63	1	22	20	29	3.41	+ 1.58	0.80	12.0	14	2	1	27	nw.	Rev. F. L. Odenbach, S. J.
Conneaut	Ashtabula	675	....	37.0	.....	64	1	27	7†	24	3.85	.....	0.66	7.0	10	1	6	23	nw.	E. L. Ransom.
Defiance	Defiance	712	16	35.4	− 4.1	65	8	15	20	32	1.51	− 1.09	0.58	4.4	9	8	2	20	sw.	John F. Hellshorn.
Findlay	Hancock	776	21	35.0	− 5.1	66	9	17	20	35	2.31	− 0.46	0.83	1.0	9	9	15	6	nw.	Dr. E. A. Moser.
Fremont	Sandusky	628	9	36.8	.....	62	1†	20	20	31	2.22	.....	0.74	0.2	9	8	3	19	nw.	E. Stanley Thomas.
Hedges	Paulding	725	16	35.8	− 3.6	64	9	17	20	31	1.98	− 0.35	0.51	5.0	12	6	7	17	sw.	Charles Stutzman.
Hillhouse	Lake	997	18	35.0	− 4.2	66	1	16	20	27	4.60	+ 1.54	1.25	23.0	15	1	7	22	w.	J. W. Doncaster.
Hiram	Portage	1,260	26	34.2	− 4.6	61	1	19	7	27	3.22	+ 0.10	0.78	21.0	14	1	8	21	nw.	Prof. G. H. Colton.
Hudson	Summit	1,153	49	34.6	− 5.0	64	2	15	20	32	3.35	+ 0.30	0.93	13.0	18	3	8	19	sw.	Dr. W. I. Chamberlain.
Lima	Allen	875	11	35.5	− 5.9	61	9	23	6†	26	2.47	+ 0.63	0.63	0.1	8	11	3	16	w.	Miss Ollie De Long.
Medina	Medina	944	22	34.5	− 6.3	65	9	15	20	39	1.89	− 0.92	0.80	6.0	8	4	2	24	w.	F. W. Clark.
Montpelier	Williams	880	18	35.1	− 2.7	63	9	17	20	29	2.02	− 0.91	0.57	1.5	7	.....	.....	.....	w.	G. L. Laser.
Napoleon	Henry	680	24	37.0	− 3.1	65	9	18	20	30	2.43	− 0.22	0.69	1.5	12	7	2	21	nw.	A. C. Senter.
New Bremen	Auglaize	1,038	17	35.8	− 5.5	67	9	20	7	32	2.20	− 0.73	0.68	T.	7	7	9	14	nw.	Miss Lillian Grothaus.
North Royalton	Cuyahoga	1,000	18	34.5	− 5.3	62	1	18	20	33	3.60	+ 0.98	0.88	16.5	14	6	6	18	w.	W. S. Edgerton.
Norwalk	Huron	719	24	35.6	− 4.9	67	9	20	20	38	1.68	− 0.78	0.45	4.0	6	2	8	20	nw.	Dr. Albert Sheldon.

TABLE 1.—*Climatological data for November, 1910. 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, .01 inch or more.	Sky. Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
Ohio—Continued.																				
Oberlin	Lorain	855	35	35.8	− 4.1	65	1	16	20	38	1.85	− 0.66	0.40	.....	9	6	6	18	w.	Prof. F. F. Jewett.
Ottawa	Putnam	720	18	35.8	− 5.2	65	9	18	20	33	1.90	− 0.84	0.44	1.2	8	1	6	23	w.	Prof. J. T. Maidlow.
Sandusky	Erie	629	33	36.8	− 4.0	65	9	25	20	29	1.55	− 1.19	0.41	0.8	13	4	4	22	w.	U. S. Weather Bureau.
Tiffin	Seneca	775	28	36.6	− 3.8	64	9	22	20	29	2.02	− 0.71	0.62	2.2	12	6	5	19	w.	Prof. T. H. Sonnedecker.
Toledo (1)	Lucas	769	39	37.2	− 2.5	64	9	25	20	27	2.22	− 0.43	0.75	2.2	16	6	3	21	w.	U. S. Weather Bureau.
Toledo (2)	....do	606	6	36.3	.....	64	9	24	20	26	1.77	.....	0.64	1.0	15	6	4	20	nw.	J. A. Krance, S. J.
Upper Sandusky	Wyandot	854	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. R. J. Kiefer.
Vickery	Sandusky	588	17	36.3	− 3.7	68	9	19	20	38	1.82	− 0.45	0.57	3.2	12	3	7	20	w.	John W. Barr.
Wauseon	Fulton	780	38	34.5[e]	− 2.6	64[b]	1†	16[e]	20	29[e]	2.61	− 0.49	0.69	6.5	17	3[e]	6[e]	18[e]	nw.	Thomas Mikesell.
Wellington	Lorain	856	16	36.2	− 4.3	65	9	17	20	37	2.06	− 0.43	0.70	3.5	11	5	2	23	nw.	W. D. Warren.
Willoughby	Lake	649	16	.....	.....	.....	.....	.....	.....	.....	3.63	+ 1.16	0.54	6.0	14	1	3	26	w.	C. J. Richardson.
Pennsylvania.																				
Erie	Erie	713	37	37.4	− 3.8	60	1	28	18	24	3.45	− 0.02	0.71	14.7	20	0	4	26	w.	U. S. Weather Bureau.
New York.																				
Adams Center	Jefferson	540	19	34.6	− 0.1	62	1	17	21	22	3.44	− 0.04	0.40	25.5	20	3	4	23	n.	A. E. Cooley.
Angelica	Allegany	1,340	27	32.9	− 3.0	59	1	15	21	26	2.35	− 0.11	0.50	19.0	17	0	3	27	w.	Charles P. Arnold.
Appleton	Niagara	270	19	37.4	− 2.6	67	1	22	21	31	2.02	− 0.46	0.45	10.3	10	0	6	24	nw.	H. A. Van Wagoner.
Auburn	Cayuga	715	41	35.0	− 3.4	61	1	20	21	24	3.96	+ 0.93	0.90	21.0	16	4	13	13	n.	A. H. Underwood.
Avon	Livingston	585	15	35.1	− 3.4	61	1	20	21	31	2.30	+ 0.25	0.65	8.8	9	0	6	24	.....	W. G. Markham.
Blue Mountain Lake	Hamilton	1,750	10	.....	.....	.....	.....	.....	.....	.....	2.47	− 0.33	0.47	14.9	14	2	4	24	w.	B. F. Merwin.
Brockport	Monroe	537	14	35.6	− 2.4	61	1	22	21	26	2.68	− 0.07	0.70	11.0	18	0	5	25	w.	W. H. Lennon.
Buffalo	Erie	767	59	36.1	− 3.2	61	1	25	21	21	2.89	− 0.46	0.89	3.6	18	0	7	23	w.	U. S. Weather Bureau.
Canton	St. Lawrence	448	16	32.0	− 1.9	59	1	14	21	21	2.91	− 0.50	0.61	15.0	19	1	7	22	sw.	Do.
Cape Vincent	Jefferson	246	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Verne M. Rice.
Carvers Falls	Washington	243	12	37.0	+ 2.5	60	5	18	21	31	1.85	− 0.37	0.80	8.0	4	11	6	13	n.	Washburn Fancher.
Chazy	Clinton	151	10	34.2	+ 0.3	55	3	18	21	23	1.58	+ 0.06	0.52	4.5	8	4	4	22	n.	W. R. North.
Dannemora	....do	1,490	5	30.0	.....	53	1†	15	21	23	1.59	.....	0.37	8.6	14	2	4	24	w.	W. N. Thayer.
Elba	Genesee	500	11	33.2	− 4.8	61	1	12	21	28	3.90	+ 1.83	1.40	16.0	10	6	10	14	sw.	Jos. S. Wilford.
Fayetteville	Onondaga	530	9	35.2	.....	59	1	11	21	27	3.16	+ 0.55	0.81	17.0	17	2	6	22	w.	Dana H. Wells.
Gabriels	Franklin	1,729	8	28.8	.....	54	1	1	21	33	2.41	.....	0.60	19.0	20	1	3	26	nw.	Sanatorium.
Harkness	Clinton	622	8	32.7	.....	57	1†	16	21	27[a]	1.43	.....	0.40	8.2	9	16	3	11	w.	J. W. Harkness.
Hemlock Lake	Livingston	900	12	35.0	− 3.9	59	1	19	21	21	1.94	+ 0.22	0.65	6.5	6	1	5	24	sw.	D. H. Westbury.
Hunt	....do	1,321	11	34.7	− 3.9	60	1	16	21	27	2.21	+ 0.35	0.72	4.0	6	0	14	16	nw.	W. S. Barrager.
Ithaca	Tompkins	928	32	35.0	− 2.6	59	1	21	20	25	2.85	+ 0.27	0.73	11.7	19	0	4	26	nw.	U. S. Weather Bureau.
Keene Valley	Essex	1,000	12	32.5	− 0.8	56	1	16	18†	30	2.45	− 0.17	0.54	11.2	13	5	3	22	nw.	E. R. Wells.
King Ferry	Cayuga	.....	10	.....	.....	.....	.....	.....	.....	.....	2.05	− 0.14	0.60	12.5	17	1	3	26	nw.	Lucius A. Goodyear.
Lake George	Warren	350	13	35.8	− 1.2	53	2	15	21	23	2.26	− 0.81	0.72	9.4	9	2	11	17	n	Charles Forsell.
Lake Placid Club	Essex	1,864	2	26.4	.....	49	1	3	21	30	4.91	.....	0.80	40.6	20	1	15	14	nw.	Henry van Hoevenberg.
Le Roy	Genesee	920	20	34.3	− 3.1	62	1	19	21	27	3.10	+ 0.53	0.62	18.4	18	1	4	25	nw.	F. W. Ball.
Lockport	Niagara	650	23	35.2[b]	− 3.6	59	1	21	21	21[b]	2.36	+ 0.01	0.73	6.0	12	1	2	27	nw.	J. E. Wakeman.
Lowville	Lewis	900	43	31.1	− 3.4	57	1	6	21	32	1.93	− 1.51	0.47	.....	11	6	10	14	w.	Charles J. Rice.
Lyndonville	Orleans	.....	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Milton St. John.
Moira	Franklin	200	10	32.2	− 2.4	60	1	18	21	28	2.24	− 0.24	0.45	13.7	14	5	10	15	w.	C. E. McBride.
Nehasane	Hamilton	1,750	2	28.2	.....	52	1	−1	21	34	3.24	.....	0.35	27.0	22	4	8	18	w.	A. C. Heyburn.
North Lake	Herkimer	1,822	9	30.2	− 1.5	53	1	9	21	29	2.83	− 1.72	0.75	15.0	9	6	3	21	sw.	H. A. Paull.
Ogdensburg	St. Lawrence	175	26	34.2	− 1.4	59	1	17	21	21	1.98	− 0.56	0.47	8.4	14	11	13	6	ne.	State Hospital.
Old Forge	Herkimer	1,733	2	30.8	.....	57	9	5	21	35	3.66	.....	0.45	24.0	21	3	4	23	w.	Stuart W. Nelson.
Oswego	Oswego	335	40	36.2	− 2.9	61	1	20	21	24	4.50	+ 1.09	0.71	12.7	21	0	3	27	nw.	U. S. Weather Bureau.
Otto	Cattaraugus	1,410	6	32.8	.....	64	1	22	27	26	1.78	.....	0.36	.....	12	10	8	12	.....	William Winke.
Palermo	Oswego	460	51	.....	.....	.....	.....	.....	.....	.....	4.14	+ 0.53	0.58	27.4	21	1	6	23	sw.	E. B. Bartlett.
Perry City	Schuyler	1,038	30	33.3	− 2.6	59	1	18	21	32	2.95	+ 0.35	0.68	14.6	18	0	3	27	nw.	W. H. Jeffers.
Philadelphia	Jefferson	485	4	33.0	.....	58	1	12	18	25	3.29	.....	0.71	23.5	15	1	10	19	w.	E. D. Babcock.
Plattsburg	Clinton	170	60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. P. Davison.
Potsdam	St. Lawrence	300	34	33.7	0.0	62	2	17	21	28	2.18	− 0.04	0.67	11.1	13	9	0	21	w.	A. E. Sutuerland.
Raquette Lake	Hamilton	.....	2	30.8	.....	52	4	8	21	27	2.63	.....	0.46	23.1	16	0	4	26	nw.	R. J. Dunning.
Rochester	Monroe	523	81	35.8	− 2.1	64	1	26	21	27	3.07	+ 0.31	0.87	15.7	19	0	2	28	w.	U. S. Weather Bureau.
Romulus	Seneca	719	18	36.0	− 3.2	62	1	22	21	27	1.38	− 1.06	0.60	7.6	8	2	4	24	nw.	John H. Coryell.
Shortsville	Ontario	740	11	34.9	− 3.5	62	1	21	21	25	2.16	+ 0.32	0.67	5.5	11	2	7	21	sw.	C. H. Latting.
Skaneateles	Onondaga	.....	15	.....	.....	.....	.....	.....	.....	.....	4.09	+ 0.80	0.73	.....	23	.....	.....	.....	.....	Edward Conron.
Syracuse	....do	597	8	34.6	− 4.1	59	1	19	21	20	2.19	− 0.52	0.38	15.3	23	0	6	24	w.	U. S. Weather Bureau.
Ticonderoga	Essex	344	12	33.6	− 2.4	44	9	15	21	23[b]	1.29	− 1.71	0.50	6.0	3	9	3	18	n.	Eva M. De Lano.
Trudeau	....do	1,620	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Daniel Smith.
Tupper Lake	Franklin	1,522	10	30.2	.....	53	1†	2	21	36	3.58	.....	1.20	17.0	16	3	1	26	w.	Aaron W. Maddox.
Volusia	Chautauqua	1,167	11	32.8	− 4.6	57	1	23	21	20	4.89	+ 1.37	0.68	33.0	18	1	4	25	w.	Benjamin Breads.
Wanakena	St. Lawrence	.....	0	30.6	.....	55	1†	4	21	31	2.33	.....	0.28	21.0	16	3	5	22	nw.	J. Otto Hamele.
Watertown	Jefferson	737	18	34.2	− 1.8	60	1	18	18†	20	4.12	+ 0.71	0.60	14.0	21	3	2	25	sw.	H. P. Dunlap.
Wedgewood	Schuyler	1,430	21	32.6	− 3.8	60	1	20	20	25	2.56	+ 0.05	0.52	19.5	17	1	10	19	nw.	Orlando F Corwin.
Westfield	Chautauqua	837	14	34.7[e]	− 4.9	60	1	22	21	19[e]	3.31	− 0.11	0.43	8.5	14	.....	.....	.....	.....	John R. Rogers.
Youngstown	Niagara	.....	8	.....	.....	.....	.....	.....	.....	.....	1.58	.....	0.70	3.0	7	1	22	7	w.	B. V. Brookins.
Vermont.																				
Burlington	Chittenden	404	3	33.4	− 0.3	55	2	14	21	22	2.43	− 0.15	0.80	16.5	16	0	6	24	nw.	U. S. Weather Bureau.
Cornwall	Addison	507	17	34.6	− 1.5	56	2	18	21	21	2.59	− 0.67	1.00	13.0	12	5	8	17	n.	C. H. Lane.
Enosburg Falls	Franklin	601	19	32.6	− 1.9	59	1	8	21	31	2.63	− 1.12	0.66	11.0	15	3	6	21	nw.	L. Howe Pomeroy.
Northfield	Washington	876	24	32.0	0.0	53	1	11	21	31	2.19	− 0.41	1.06	13.3	12	2	7	21	n.	U. S. Weather Bureau.
Rutland	Rutland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. L. Hindley.
Wells	....do	750	19	32.4	− 2.5	56	2	16	21	22	3.06	− 0.68	0.86	15.5	10	4	8	18	sw.	E. R. Pember.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
Estimated by observer.
‖ 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 2.—*Daily precipitation for November, 1910. District No. 4, Lake Region.*

Stations.	River basins.	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.																																
Duluth	Lake		T.		.45	.02	T.			.03	T.		T.	.10	.05			T.			.08	.02	.21	.20			.01	.01		T.	T.	1.18
Floodwood	do		T.		.24										.23						.17		.23									0.87
Mount Iron	do																															
Stephens Mine	do		T.	T.	.20	T.	T.	T.	.04	.04	T.			T.	.16						.13	.04	.15	.20		T.		T.	T.		T.	1.03
Two Harbors	do				.05				T.						.17						T.	T.	.15	.35								0.72
Virginia	do	T.	T.		.16	T.	T.	T.	T.	T.	T.	T.		T.	.27					T.	T.	.22		.42						T.		1.07
Wisconsin.																																
Appleton	Fox	.56	.02			.04	T.				.01				.10			T.	T.			.03	T.	.04	.13			1.50			.01	2.44
Ashland	Lake		T.		.05	T.		.02		T.					.28								T.	T.				T.			T.	0.35
Bayfield	do																															
Cecil	Fox	.28	T.		T.	T.				T.					.08			T.	T.				.08	.06	.16			.46			.02	1.14
Chilton	do																															
Crandon	do																															
Florence	Menominee	.51			T.	T.	T.	T.	T.	T.	T.	T.			.10							.10		.10				.10				0.91
Fond du Lac	Fox	.20	.30			.06									.14							.06		T.	.10			1.45	T.		.02	2.33
Grand River Locks	do	.30	T.			.14					.06				.10							.07		.05	.09			1.30	.04		T.	2.15
Green Bay	Lake	.56	T.		.09	.09				.02					.06						.04	T.	T.	.06	.18		.62	1.51			.02	2.65
Iron River	do				T.	T.									.30								T.									0.30
Kewaunee	do	.72		.10	.14					.10					.20							.12	.05	.02	.40			1.58			.42	3.85
Manitowoc	do	.63	.04		.06										.30						.10		.05	T.	.17			1.13			.13	2.61
Menasha	Fox	.15	.07							T.					.17							.17		.06	.04			.89			T.	1.55
Menomonee Falls	Lake	.54	T.												.10			T.				.09		.18	.28			2.27			T.	3.46
Milwaukee	do	.24	T.		.14					T.					.04		T.	T.	T.		.04	T.	T.	.13	.10		.13	.80	T.		.01	1.63
New London	Fox	.62	.15	T.	T.					.06					.38						T.	.08		T.	.15			.90				2.34
Oconto	Lake	.40			.30										.05						T.		T.	T.			.15	.15			.20	1.25
Oshkosh	Fox	*	.37			.10					.05				.10						T.		T.	.10	T.			1.30				2.02
Pine River	do	.50	.06		T.	.05				T.	.03				.15			T.	T.		.07	T.	T.	.02	.12			1.08			.02	2.10
Plum Island	Lake	.75	.32			.12									.07							.15		.19	.21			.31				2.12
Plymouth	do	.46	T.		T.	.12					.04				.04						T.	.04		.04	.10			1.12	T.		.03	1.99
Port Washington	do	*	.52			.09									.20							.08		.06	.12			.92	.10			2.15
Racine	do	.11	T.			.04									T.			T.				.08		.11	.16			1.12	.15		T.	1.77
Ripon	Fox	.27		.30		.02									.15							.05						1.20			.08	2.07
Sheboygan	Lake	.40	T.			.20				T.					.20			T.				.15		.16	.23			.86	.10		T.	2.30
Sturgeon Bay	do	.74	.03	.21		.05					T.				.05							.14		.05	.43	T.	T.	.89	.60	T.	.31	3.50
Superior‖	do				.13	.02				T.	.01				.20						.06	.02		.32				.02				0.78
Waupaca	Fox	.54	T.		.02										.17						.05			.06	.10			*	.87		T.	1.81
Illinois.																																
Chicago	Lake	.08	.01	.01	.02	T.				.01	.05				T.	T.		T.	T.		.04			.02	.12		.10	.68			.11	1.31
Indiana.																																
Auburn	Maumee		.17	.03		.05					.47	T.	T.			T.						T.				.23		.17	.65	.08	.12	1.97
Berne	do	.27	.08	.02		.19					.51	T.			.01	.03						T.		.05	.13			.90	.85		.05	3.09
Elkhart	St. Joseph					.01					1.23				.12	.27						.05		.29	.12			.22	.32		.55	3.18
Fort Wayne	Maumee	.26	.09	.03		.17	T.	T.			.52	T.			T.	T.			T.			T.		T.	.08			.24	.74	T.	.19	2.32
Hammond	Lake Michigan	.12	T.	.10															T.					T.	.18			.88	.12	T.	.10	1.50
Howe	St. Joseph		.70				.53				.04																.23				.60	2.10
South Bend	do		.10	.02		.06	.02				.10	T.	.01			.16						.02			.06	.10		.20	.28	.04	.08	1.25
Whiting	Lake Michigan	T.	T.	.11							T.				T.			T.	T.						.04				.96		T.	1.11
Michigan—Upper Peninsula.																																
Baraga	Lake						.20					.10												.20								
Bergland	Ontonagon						T.		T.		T.	.40	T.									T.	T.	.03				T.	T.	T.	.03	
Blaney	Manistique	.70																														
Calumet	Lake		.04	.24	.04	T.	.12	.08	T.	.18	.04	.08	.04		.04		.04	.02	T.	T.	T.	T.		.54				.06	.06	T.	.20	1.82
Chatham	do	.18	.48	.17	T.		.21	.29	.02	T.	.26	.28	.18		.03	.06	.04		.04			.06		.22				.28	.12	.26	.22	3.40
Deer Park	do	.40	T.	.40	.20	T.	T.				.05		T.		T.	T.	T.					T.		T.					.40	.20	T.	1.65
Detour	St. Marys		.35	T.			.20	T.				T.											.27		.30				.70	.30	.20	2.33
Eagle Harbor	Lake		T.	T.	T.	.05	.25	.07		T.	.04	.16	T.	T.	.03		.05	.18				T.		.45			T.	.20	T.	T.	.10	1.58
Escanaba	do	.32	T.		.07	.03		.04		T.	T.	.02	T.		.01	T.			T.		.03	.02	T.	.10	.14			.91	.10	T.	.02	1.81
Ewen	Ontonagon		.10		.10	.10	.30	.10	.10	.20	.20	.10	.10	.10				T.				T.	T.	.30	T.		T.		T.	.10	1.00	2.90
Grand Marias	Lake	.10	.10	.05	.02	.15	.10	.15		.02	.10	.20	.10	.08	.10	.15						.10		.20				.20	.30	.30	.20	2.72
Houghton	do		.02	.01	.01	.02	.13	.08	T.	.13	.08	.10	.02		.05	T.	.03	T.	T.		.01	T.		.63		T.		.09	T.	.02	.20	1.63
Humboldt	Escanaba																															
Iron Mountain	Menominee	.53						.10							.13							.10	T.	.04				.10	.03		.09	1.12
Iron River	do	T.			T.	T.	T.	T.	T.		T.	T.	T.				T.				T.	T.	T.	.30			.20	T.	.20	T.	T.	0.70
Ironwood	Lake		.10	T.	.27		.10	T.	T.		T.	T.	.17		T.	.21	T.				T.	T.		T.						T.	.21	1.06
Ishpeming	Escanaba	.03	T.	.01	T.	T.		.10		.10	.01	.30	.07		.05	T.			T.			.05		.15		T.		.07	.03		.60	1.57
Isle Royale	Lake																															
Mackinac Island	do	.06	.01			.02	T.	.60			T.	T.		T.		T.					T.				.04		T.	T.	.15	.20	.16	1.24
Maple Ridge	do	.64						.20				.40	.40											.23				.30	.40		.40	2.97
Marquette	do	.19	.18	.24		.01	.01	.10	T.	.02	.25	.42	.10	.05	.13	.27	.03		.01		.01	.04		.04		.02		.21	.03	.36	.72	3.44
Menominee	Menominee	.45		T.						T.					T.							.25			.35			.60			.10	1.75
Newberry	Tequamenon																															
Powers	Lake	.05																				.20						.40		.20		
St. Ignace	do	.09	.88			.28	T.		.13		T.	.04						T.	T.			.04	.06	.28		T.		T.	.41	.02	.01	2.24
Sault Ste. Marie	St. Marys	.34	.05		.03	.29	.04	.04	T.		.03	.02			T.	.01	T.	.04				.24	T.	.38		.01		.12	.59	.22	.09	2.54
Thomaston	Lake	T.	T.	.15		T.	.30	.05			.20	.10																T.			.40	1.20
Victoria	Ontonagon		T.	.01	.05	.01	.07	.01		.12	.04	.14	T.	T.	.14	T.	.02				T.	T.		.22				.06		T.	.15	1.04
Watersmeet	do	.14	T.	T.	.06	T.	T.	T.	T.	.06	.04	.13	.05		.09	T.	T.				T.	.06	T.	.13				T.	T.	T.	.13	0.89
Wetmore	Lake																															
Whitefish Point	do	.44	.45	.15		.21	.18	.08	.04		.16	.09	.04		.02	.04		.03	.04			.22	.02	.23		T.	.10	.40	.30	.62	.30	4.16
Michigan—Lower Peninsula.																																
Adrian	Raisin	.31				T.					.58													.23				.52			.10	1.74
Allegan	Kalamazoo	.21	.18	.21		.11						.02	T.		.11							.08		.11	.19			.17			.80	2.19
Alma	Saginaw	.17	.04	.08		.33						T.			.12			T.	T.			T.		.15	.40	.04		.11	.50		.25	2.19
Alpena	Lake	.25	.03			.16	T.	.02			.25	.05	.05	.01	.01	.02	T.	T.	T.			.08		.18	.12	T.		.03	.61	.34	.11	2.32
Ann Arbor	Huron	.12	.11	.04		.05	.05				.50	T.			.10	.05		T.	T.			.15	.05	.25	.25			.09	.43	.05	.05	2.34
Arbela	Saginaw		.18	.13				.07			.10				.26							.12		.27	.48				.40	.26	.33	2.60
Battle Creek	Kalamazoo	.05	T.			.10	T.				.10	T.	.10		T.	T.	T.	T.	T.			.11		.15	.14			.12	.37	T.	.12	1.36
Bay City	Saginaw	.10				T.	T.	T.	T.						T.							T.		T.	.45			.40	.45	.30	.15	1.85
Benzonia	Betsie																															
Berlin	Clinton	.13	.02	.02		.03	T.	.02		T.	.40	.02			.09	T.		T.	.02				.14	.21	.33	T.			.32	.07	.10	1.92
Big Rapids	Muskegon	.20	.11			.12		T.			.04	.02	.01		.14	.02		T.	T.			.14	.04	.09	.25	.08		.40	.40		.48	3.54
Bloomingdale	Lake		T.	.30		.20	T.					.20	.20	.10	.10	.30	T.	T.	T.			.50			.30			.20	.15	.20	1.00	3.75
Cadillac	Manistee	.06	.37			.10		.05			T.	.10	.10		.10	.10	.05	.10	.20			.20	.20	.20	.40	.12		.20	.41	.36	.16	3.64
Cassopolis	St. Joseph	.02				.05						T.			T.	T.									.02						.30	
Charlevoix	Lake	.10					1.05	T.										T.				1.00		.20				.10		.30	.20	2.95
Charlotte	Kalamazoo	.03	T.			.01	T.					T.			.06		T.	T.				.05	T.	.10	.14			.09	.35	T.	.03	0.86
Cheboygan	Cheboygan		.65			T.	T.					.38					T.	T.				.38	T.						1.10	.65	.12	3.28
Clinton	Raisin		.10			T.	T.				.33				T.							.07	T.	.11	.20			.13	.57		T.	1.51
Coldwater	St. Joseph	.02	.23			.03					.31		.06		.05			T.					.05	.08	.15			.21	.58		.06	1.83
Concord	Kalamazoo	.20	T.			T.	T.				.35	T.			T.			T.	T.			T.		.32	.15			.18	.35		T.	1.55
Croton	Muskegon	.12	.14			.90	T.			T.	T.	T.	T.	T.	.13	T.	T.	T.				.13		.05	.28	T.		.30	.24	T.	.20	2.49

TABLE 2.—*Daily precipitation for November, 1910. District No. 4*—Continued.

Stations.	River basins.	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—Continued.																																
Detroit	Detroit	.13	.01			.03	T.	T.		.01	.70	T.	T.		.08	T.	T.	T.	.01			.10		.19	.34			.05	.20	T.	.19	2.04
Durand	Saginaw				.07	T.						T.			.07	T.		T.	T.			.05	T.	.21	.10			T.	.38	T.	T.	0.88
East Tawas	Lake	.20						T.														.10		.12	.25				.45	.05	T.	1.17
Eloise	Rouge		.16	T.		T.	.11				.65	T.	T.		.03	T.		T.	.03			.06	.02	.20	.21	.08		.05	.22	T.	.05	1.87
Flint	Saginaw		.18	.15		.05				.05	.15				.05				.05			.08	.07	.15	.25	.20		.05	.45		.12	2.05
Frankfort	Betsie	.50		.10		.30									.15									.30	.20			.30	.40		.20	2.45
Ganges	Lake	.16		.10		.13	T.		T.					T.	.13	.20						.13		.05	.09			.11	.39	T.	.20	1.69
Gaylord	Cheboygan																															
Gladwin	Saginaw		T.			T.						.01			T.							.25		.05	.15			T.	.25		.40	1.11
Grand Haven	Grand	.19	.03		.06	.10	.02	T.	T.	T.	.02	.05	.06	T.	.06	.03	.01	T.	T.		.06	.17		.07	.20			.41	.04	.05	.28	1.91
Grand Rapids	do	.11	.16	T.		.07	T.		T.		.02	.02	T.	T.	.11	T.	T.	T.	T.		.03	.09		.05	.15			.29	.10	.02	.12	1.34
Grape	Raisin	T.	.14			T.					.62				.09	T.						.12		.13	.19			.08	.35		T.	1.72
Grass Lake	Grand	T.	.17			.08	T.	T.			.29		T.		.08							T.	.20	.94	.20			.22	.38	T.	.30	2.86
Grayling	Au Sable	.20	.20	.10	.15	.40	.10	.10				.40									T.	.05			.60			T.	.60	.20		3.10
Harbor Beach	Lake		.15	.35			.10																		.10	.10			.10	.10	.10	1.10
Harrison	Saginaw	.03	.78																			.20		.20				**	.40	T.	T.	1.61
Harrisville	Lake	.15	.03			T.		T.	.15		.20	.05	.15				T.	T.				.05		.04	.12	.17	.10		.60			1.81
Hart	Pentwater		.62				.10	.05		.06	.05										.10				.60					T.	.40	1.98
Hayes	Pigeon																															
Highland	Huron		.37	.24							.15	.21				.10							.20	.18	.32				.60	.10	.10	2.57
Hillsdale	St. Joseph	.06	T.	T.		T.	T.				.10	.05			T.	T.		T.				T.	T.		T.			.10	.15	T.	.30	0.76
Holland	Lake	.15	.30	.12		.09						T.	.12		T.	.10	T.					.12	.05		.18			.20	.13	.05	.25	1.93
Howell	Saginaw			.05		.02										T.		T.	T.					.90	.80				.50	T.	T.	2.27
Ivan	Manistee	.27		.05		.10	.05	.05	T.		.22	.36	.15	.08	.05	.05	.05		T.	.12		.08	.14	.21	.30	.05		.28	.67	.18	.18	3.69
Jackson	Grand	.04	.16	.08		T.					.19				.10				T.			T.	.05	T.	.14			.22	.60	T.	.10	1.68
Jeddo	St. Clair	.10	.06	.15	T.	T.	T.	.05			.42	T.			.10				.02			.05	.02	.39	.15	.10			.22	.05	.40	2.34
Kalamazoo	Kalamazoo	.10	.12			.25		.40	.43						.10	.08	.04	.10					.14	.15			.14		.19			2.24
Lansing (Agr. Col.)	Grand	.14	.01			.03				.01	.07	.01			.08				.01			.05		.16	.16			.12	.31	.02	.19	1.37
Lansing	do	.15	.04			.08	T.			.01	.07	T.			.06	T.		.02	.02			.11		.13	.16	.02		.10	.35		.15	1.47
Lapeer	Saginaw		T.												T.										.18	.15		.30		.20		
Ludington	Pere Marquette	.40	.45	.03							.03				.05							.12			.36			**	.72		.20	2.35
Luther	Manistee	.11	.20			.11	.04				.11	.11	.02	T.	.11	.05		.04	.02			.07	.12	.17	.26	.14		.52	.36	.02	.20	2.78
Mackinaw	Lake	T.						.10			T.	T.									.20							.30	.40	.10	.40	1.50
Mancelona	do	.10	.50			.01	.70	.40				.20				.01	.05	.10	.10			.10	.40	.10					.80	T.	.80	4.37
Manistee	Manistee		.40	1.28		.36									T.	T.	T.		T.			T.	T.	T.	1.10	.05	T.	.95	T.	T.	.20	4.34
Midland	Saginaw																															
Montague	White																															
Morenci	Maumee		.19	.23							.56				.09								.04	.05	.19			.19	.55			2.09
Mount Clemens	Clinton	.10	.09			.03		T.	T.	.40	.50	T.	T.		.05	T.			.02			.03	T.	.20	.25	.15		T.	.40	T.	.04	2.26
Mount Pleasant	Saginaw			.20											.10														.20		.20	
Muskegon	Muskegon	.20	.10			T.	T.					T.	T.		T.		T.				.10	T.	T.	.20	.30			.40	T.	T.	.20	1.50
Old Mission	Lake	.46	.54			.32	.08	.16				.22	.07		.11	.04	.06		.07				.27	.22	.28			.09	.75	.33	.30	4.31
Olivet	Kalamazoo	.03	.02			.02	T.					.03			.05		.01	T.	T.			.05	.11	.10	.15			.12	.53		.04	1.26
Omer	Lake																															
Onaway	Cheboygan	.90					.10	.15				.60							T.			.45			.15					1.40		3.75
Ovid	Grand																															
Owasso	Saginaw		.23				.07				.07				.10	.04							.05	.34	.21	.07		.08	.30		.20	1.76
Petoskey	Lake	.03				.15	.03				.02	.04	.02			.01	.02	.02	.04										.30	.20		0.88
Plymouth	Rouge					T.				.75	T.											T.	T.		1.00			.01	T.	T.	T.	1.76
Pontiac	Clinton	.01		.18		.06		T.		T.	.27	T.	T.		.08	T.			T.			.05		.26	.18	.20		.02	.24	T.	.05	1.65
Port Austin	Lake																															
Port Huron	St. Clair	.12		.02	T.	T.	T.	.06	T.	.02	.44	T.			.07				.01			.05	.01	.24	.28			.05	.15	.01	.27	1.80
Reed City	Muskegon	.30										T.	.05		.05	T.		.05				T.			.15			.30	.20	.05	.20	1.35
Roscommon	Au Sable																															
Saginaw	Saginaw	T.		T.		.15									.35	T.		T.	T.			.15	.05	.12				.15	.50	.05	.45	1.97
Saginaw W. S.	do	.14	T.	.03		.02	T.	.02		.01	.03	T.			.19	.01	T.	T.	T.			.10	.02	.16	.29	.02		.01	.57	.04	.27	1.93
St. James	Lake	.30	.29			.56	T.	.08										T.				.20	T.	.34	.05	.03		.02	.35	T.	.02	2.31
St. Joseph	St. Joseph	.40	.20									T.	T.		.70									T.	.50		T.	.12	.25		.15	2.32
Sandusky	Lake		.24	.04				T.		.04		T.			.02							.02	.01		.03				.10	.10	.20	0.80
Saranac	Grand		.25	T.		.25				.02					.10			T.				.03	.10	T.	.23			.22	.28	T.	.10	1.58
South Haven	Lake					.40									1.00																	
Stanton	Grand																															
Thornville	Saginaw		.30		.18			.08			.40	.10	T.		.20	.10						.24	.18	.24	.12			.08	.50	.24	.20	3.22
Traverse City	Lake																															
Vassar	Saginaw		T.	.40				.05			T.				.22							.20	.02	.30	.18	.38		T.	.40	.05	.30	2.50
Wasepi	St. Joseph	.17	.02			.07					.07		.12		.16							.16	.03	.15	.20			.07	.50		.10	1.88
Webberville	Grand	.19	.12			T.	T.				.22	T.			.05							.10	.05	.49	.31			.16	.40	T.	.20	2.29
West Branch	Lake																															
Woodlawn	Au Sable	.30	.43			.15	.20	.08	.08		.25	.30	.20	T.		.10	T.	T.	T.			.40		.30	.15	.10		T.	1.00	.30	.30	4.64
Ypsilanti	Lake	.12	.10	T.		.02				.07	.60	.01			.12	T.						.13	.08	.10	.38			.08	.40	.02	.03	2.32
Ohio.																																
Akron	Lake		.18			T.	.05	T.			.50	T.	.25	T.		.12	T.	T.	T.				.05		.12	.15	T.	T.	.07	.05	.04	1.55
Benton Ridge	Maumee		.23	.09		.20	T.				.56	T.	.02		.02							T.	T.	.43	.11			.48	.37	T.	.26	2.77
Bowling Green	Lake	T.	.25			T.	T.				.60	T.			.20	T.							.10	.22				.27	.27	.05	.10	2.06
Bucyrus	Sandusky		.30			T.		T.			.90		T.	T.		T.							T.			.55		.10	T.	T.	.10	1.95
Cleveland (1)	Lake	.10	.02	.08		.04	.42	.02	T.	T.	.60	.42	.02		.04	T.		T.	.01			.09	.08	.14	.50			.01	.19	.12	.18	3.08
Cleveland (2)	do	.25		.17		.05	.19				.80	.49			.20		T.		T.			.04	.11	.21	.45			T.	.15	.06	.24	3.41
Conneaut	do		.24			T.	.66		.15		.62	.16		.18	.50								.09	.10		.35			.40	T.	.40	3.85
Defiance	Maumee	T.	.01	T.	.08	T.				.58	T.	T.	.01		T.	T.		T.	T.			T.		.06	.17			.07	.49	T.	.04	1.51
Findlay	do		.19	.10		.01					.83	T.				.02	T.								.18	.18		.12	.68	T.	T.	2.31
Fremont	Sandusky	.18	T.	.11			T.				.74				.09	T.						T.		.23	.30			.26	.20		.11	2.22
Hedges	Maumee	.04	.21			.19					.07	.10	T.		.08				T.					.06	.11	.01		.30	.51	T.	.30	1.98
Hillhouse	Lake		.21	T.		T.	1.25	.31	.10		.70	.15	.06		.20	T.	T.	T.	T.			T.	.34	.15	.05	.50			.25	.13	.20	4.60
Hiram	do	T.	.31			T.	.02	.14	T.		.78	.13	.40	T.	.15	.24	.02		T.				T.	.21	.15	.16			T.	.46	.05	3.22
Hudson	do		.18			.05		.05			.93	.14	.18	.02	.06	.26	T.	T.	T.	.04		.04	.24		.22	.20	.02		.12	.20	.40	3.35
Lima	Maumee		.44	T.		.08					.63	T.	T.		T.	T.			T.					.21	.10			.60	.40	.01		2.47
Medina	Lake						T.				.80	T.	.10		.12	T.								.14	.26			.08	.23	.16	T.	1.89
Montpelier	Maumee	.30	.10								.57											.05			.35			.55	.10			2.02
Napoleon	do	T.	.30	.15		.11	T.				.69	T.			.05							.03		.08	.15	.07		.30	.40		.10	2.43
New Bremen	do	T.		T.		.36					.40				T.	T.								.07	.06			.68	.62	.01	T.	2.20
North Royalton	Lake		.24			.07					.88	.20	.30		.40	.10							.20	.17	.17	.26			.21	.20	.20	3.60
Norwalk	do		.28	.10							.30	.15														.45			.40			1.68
Oberlin	do		.36			T.	T.	T.				.03	T.	.17	T.									.28	.20			.40	.15	.14	.12	1.85
Ottawa	Maumee		.20			.27					.24	T.			T.	T.			T.					.08	.14			.44	.43	T.	.10	1.90
Sandusky	Lake	.12		.09		T.	T.				.41	.02	T.		.06	T.	T.	T.	T.			.01	.01	.08	.39			.16	.09	.01	.10	1.55
Tiffin	Sandusky	T.	.28	T.		.06	T.	T.			.62	T.	T.	T.	.06	.04	T.	T.	T.			T.	T.	.12	.18	.02		.31	.19	.04	.10	2.02
Toledo (1)	Maumee	.22	.08	.05		.02	.01				.75	.01			.02	T.	T.	T.	T.			.07	.01	.07	.27			.15	.35	.01	.13	2.22
Toledo (2)	do	.15	.05	.14		.03	T.	T.			.64	.01			.03	T.		T.				.03	.04	.06	.20			.12	.21	.01	.05	1.77
Upper Sandusky	Sandusky																															
Vickery	Lake		.10	T.		.01	.04				.57	.01			.11								.05	.14	.31			.25	.17		.06	1.82
Wauseon	Maumee	.31	.04	.13		.01	.01				.60	.05	.01		.08	.02	T.	T.	T.			.03	.03	.11	.25			.26	.54	T.	.13	2.61
Wellington	Lake					.02	T.				.70	T.	.06		.14	.02	T.	T.	T.			T.	T.	.25	.22			.32	.10	.08	.15	2.06
Willoughby	do						.34	*	.31	.02	.46	.24	.06			.38		.52				.05		.34	.54			.24	.03	.10		3.63

TABLE 2.—*Daily precipitation for November, 1910. District No. 4*—Continued.

Stations.	River basins.	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.
Pennsylvania.																																
Erie	Lake	.01	.37	T.		.09	.49	.12	.20	T.	.71	.02	.06	.09	.53	T.	T.		.02	T.		.02	.03	.15	.14	.12	T.	T.	.14	.03	.11	3.45
New York.																																
Adams Center	Lake		.18	T.	.15	.19	.27	.40	.02	.20	.39	.40	.30	.10	.20	.05	.05	T.	.10	.10					.04		.15			.05	.10	3.44
Angelica	Genesee		.09		.02			.06	.11		.23	.13	.28	.19	.07	.05	.08	T.	T.	.11	T.	T.	T.	T.	.02	.28	T.		.50	.10	.03	2.35
Appleton	Lake		.18				T.	T.	.10	.16	.45	.22	T.	T.	T.	T.	T.		T.			T.	T.	T.	.15	.05			.31	.30	.10	2.02
Auburn	Oswego		.32	.06	.90	.14		.06	.05	T.	.40	T.	.19	.28		.38	.16		T.	T.		T.	T.	.11		T.	.10		.24	.45	.22	3.96
Avon	Genesee				T.		T.	T.	.10	T.	.65	T.	.17	T.	T.	T.	.05		T.	.10					T.	.10	T.		.35	.48	.30	2.30
Blue Mountain Lake	Raquette				.15	.20	.10	.13	.07	T.	.05	.12	.09	.13	.15	.47	.21	T.	T.	T.		T.	T.	T.	T.	T.	T.		T.	.20	.40	2.47
Brockport	Lake		.07		.02				.17	.02	.70		.16	.03	.03	.04	.10			.01			.04		.30	.06	.08		.21	.60	.07	2.68
Buffalo	do	T.	.30			T.	.02	.05	.16	.27	.69	T.	.07	.04	.01	.07	T.		T.	T.		.18	.01	.27	.11	.03	.02		.47	T.	.12	2.89
Canton	St. Lawrence		.09	.03	.01	.16	.10	.18	T.		.54	.21	.06	.38	.05	.15			.02	.03		.02	.04		.09		T.			.61	.14	2.91
Cape Vincent	do																															
Carvers Falls	Lake			.80	.25																									.65	.15	1.85
Chazy	do			.07	.08	.52	.08	T.			.40		T.		.03								T.							.10	.30	1.58
Dannemora	do		.01	.06	.02	.19		.02	T.	T.	.37	.04	.01	.05	.01	T.	T.	T.	T.	T.			.07		.10	T.				.27	.30	1.59
Elba	do						T.		.20	T.	.90		.30	.30		.10	.20			.20			T.			T.	1.40		.20	T.	.10	3.90
Fayetteville	Oswego		.30	T.	.81	.36	T.	.08	T.	.11	.21		.32	.42	.10	.04	.02	.04	T.	T.		.02		.18	.08	.03	T.		.04	T.		3.16
Gabriels	Lake		.10	.16	.09	.02	.03	.16	T.		.15	.06	.04	.17	.11	.04	.09	.03	T.	.05	.03		.11		.11					.60	.26	2.41
Harkness	do		.07	.12	.06	.40		T.			.05			.01									.06							.37	.29	1.43
Hemlock Lake	Genesee				.24					T.	T.	.59	T.	.21											T.	.10	T.	T.	T.	.15	.65	1.94
Hunt	do		.18						.30		.34		.20													.72			.47			2.21
Ithaca	Oswego		.28	.28	.37	.12	T.	T.	.04	.21	.09	.01	.11	.04	.04	.02	T.	T.	T.	.06		T.	T.	.05		.32	.02		.23	.50	.06	2.85
Keene Valley	Au Sable		.05	.14	.53	.32					.22		T.	.18	.03	.03	.02	T.	T.	T.			.16	T.	.03					.54	.20	2.45
King Ferry	Oswego		.18		.15	.02			.17	.06	.24		.04	.04		.07	.03			.04			.01			.24	.06		.18	.42	.10	2.05
Lake George	Lake			.51	.21	.36					.08	.06	.12	T.					T.			.08	T.						.72	.12		2.26
Lake Placid Club	Au Sable, w. Br.		.08	.31	.41	.80	.25	.35	T.		.32	.10	.15	.56	.15	.08	T.	.10	T.	.25	.15		.10		.12	.05				.43	.15	4.91
Le Roy	Genesee		.08		.03		.02		.12	.10	.62	T.	.26	.46	.01	.04	.17		T.	.10		T.		.06		.22	.04		.48	.22	.07	3.10
Lockport	Lake		.18				T.		.20	.03	.73	T.	.15	.03	T.	T.	.19			.02					*	.25			.19	.39	T.	2.36
Lowville	do		.20		.47						.40		.16	.12		.05							.10	.05	.10		.05			.23		1.93
Lyndonville	do																															
Moira	St. Lawrence		.01	.03	.05	.18	.22	.04			.40			.30	.10	T.	.01			T.			.01		.04					.45	.40	2.24
Nehasane	Lake		.18	.13	.32	.15	.07	.15	T.	.02	.22	.12	.13	.35	.10	.07	.09	T.	.05	.09	.02	T.	.11		.24	T.	.10			.31	.22	3.24
North Lake	do		.74		.14			.20			.75					.20							.20		.20					.20	.20	2.83
Ogdensburg	St. Lawrence		.06		T.	.25	.08	.04			.47	.12	.15	.08	.04	.05							.05		.11					.25	.23	1.98
Old Forge	Lake		.37		.18	.38	.07	.13		.10	.27	.10	.12	.45	.10	.16	.07		.04	.10	T.		.18		.14	.01	.16			.35	.18	3.66
Oswego	do		.24	T.	.29	.03	.13	.27	.08	.69	.40	.61	T.	.02	.17	.20		T.	.32	.20		T.	.02	.11	.11	.07	T.		.01	.20	.33	4.50
Otto	do		.06			T.		.36	.06	.09	.16	.03	.20	.16		.32	.15		T.				T.						.15	T.	.04	1.78
Palermo	do		.40	.06	.10	.03	.50		.36	.16	.10	T.	.28	.02	.15	.50	.13	.05	.06	.58				T.		.06	.09	.01		.20	.30	4.14
Perry City	do		.17		.68	.05	T.		.20	.05	.22	.02	.27	.13	.02	T.	.04			.04			.03			.25	.06		.07	.55	.10	2.95
Philadelphia	St. Lawrence		.18		.07	.10	.18	.51			.43	.71	.29	.04	T.	T.		T.	.11			.02		.03		.31			.15	.16		3.29
Plattsburg	Lake																															
Potsdam	St. Lawrence			.07	.02	.10	.15	.01				.67	.05	*	.32		.08						.06							.09	.56	2.18
Raquette Lake	Raquette		.16	.46	.31	T.	T.	T.	.12		.19	.23	.08	.19	.08	.06	T.			.06			.14		.11		.03			.27	.14	2.63
Rochester	Genesee		.05	.02	.02		T.	T.	.10	.22	.51	.10	.10	.15	.01	.26	.06		T.	T.		T.	T.	.03	.12	.16	.03		.36	.54	.23	3.07
Romulus	Oswego		.14		.20				.10	T.	T.	T.	.20	.02		T.	T.		T.	T.						.08	T.		T.	.60	.04	1.38
Shortsville	do		T.	.03	.07	.06			.08	.06	.35		.11						T.							.58	.07		.08	.67	T.	2.16
Skaneateles	do			.31	.73	.12	.14	.02	.05	.10	.17	T.	.20	.35	.10	.23	.30	.07	.05	.03	T.	.05	.06	T.	.04	.28	.12	T.		.23	.34	4.09
Syracuse	do		.20	.20	.28	.13	.06	.10	.02	.31	T.	T.	.06	.19	.04	.05	.03	.05	.01	.01		T.	T.	.05	.05	.07	.02		.06	.14	.06	2.19
Ticonderoga	Lake		T.	.30		.50		T.					T.	T.						T.										.49		1.29
Trudeau	do																															
Tupper Lake	Raquette		.10	.10	.30	.02	T.	.08			.40	1.20	.04	.19	T.	T.	.09	.07		.04			.06		.19					.50	.20	3.58
Volusia	Lake		.17			T.	.58	.44	.19		.68	.23	.26	T.	.25	.13	.08		.03	.22			.22		.04	.25			.11	.35	.66	4.89
Wanakena	Oswegatchie		.15	.10	.10	.10	.05	.15			.20	.18	.04	.25				.10	.14				.14		.28					.23	.12	2.33
Watertown	Lake		.34	.02	.12	.18	.20	.45	.22	.13	.60	.50	.51	.06	T.	.09	.06		.02	.06			.06		.12		.16			.10	.12	4.12
Wedgewood	Oswego		.12	T.	.52	T.	T.	T.	.16		.20	.08	.13	.09	.05	.06	.01			.01					.03	.40	.04		.22	.41	.03	2.56
Westfield	Lake		T.			.14	.37	.17				.22	T.	T.	.14	T.	T.		.16	.18		T.	.09	.18	.21	.39	T.		.34	.29	.43	3.31
Youngstown	do								.15		.10	.70														.10			.20	.25	.08	1.58
Vermont.																																
Burlington	Lake		.31	.24	.09	.38	.06	.03			.01	.07	T.	.20	.12	.02	T.	T.		.04		T.	.04		.01					.57	.34	2.43
Cornwall	do		.20	.38	.08	.51	.05	.02			.05		.01	.05	.20								.09			T.				1.00		2.59
Enosburg Falls	do		T.	.66	.10	.35	.13	.06			.07	.03	.02	.26	.14		.07								.20	.01				.23	.30	2.63
Northfield	do		.38	.69	.04	.10	.02	T.	T.		.07	T.	T.	.04	T.	.01	T.	T.		T.			.07	T.	.02	T.	T.			.58	.17	2.19
Rutland	do																															
Wells	do			.82	.26	.22	.10	T.			.05			.27	.04	T.	T.						T.		.15	T.				.86	.29	3.06

TABLE 3.—*Maximum and minimum temperatures at selected stations for November, 1910. District No. 4, Lake Region.*

Date.	Duluth, Minn.		Wisconsin. Florence.		Green Bay.		Milwaukee.		Chicago, Ill.		Fort Wayne, Ind.		Michigan, Upper Peninsula. Escanaba.		Ewen.		Houghton.		Marquette.		Sault Ste. Marie.		Michigan, Lower Peninsula. 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	39	29	46	30	45	29	55	32	59	34	60	44	49	31	37	35	43	33	46	33	45	31	51	37	56	42	58	41
2	30	23	30	25	32	25	36	29	42	31	53	32	36	27	35	24	33	28	33	27	31	27	37	31	53	32	46	29
3	35	22	36	20	37	22	40	28	42	31	43	28	38	24	36	15	36	24	38	26	31	22	40	28	40	31	44	24
4	35	23	36	25	38	24	46	33	48	35	48	22	42	33	35	27	38	33	39	27	33	19	38	30	44	21	45	20
5	24	16	34	24	33	24	36	24	42	28	38	27	37	26	34	18	36	24	36	24	36	30	39	32	38	27	38	31
6	28	14	24	20	27	19	29	20	36	22	35	24	31	23	38	20	28	24	28	23	33	26	37	27	33	26	33	24
7	30	17	33	19	40	24	49	26	58	29	42	21	35	23	30	19	30	25	33	25	30	23	36	27	39	23	35	25
8	33	20	36	30	39	27	46	29	46	31	49	28	38	20	35	19	35	26	35	23	34	26	40	27	44	28	40	27
9	34	23	35	26	48	35	58	38	67	46	67	32	47	34	35	23	38	31	40	33	40	31	46	32	52	35	52	31
10	26	18	35	20	38	26	38	27	46	29	63	37	39	26	34	23	36	25	35	24	37	26	42	28	58	33	41	26
11	32	19	32	20	36	23	33	23	35	25	37	29	35	24	31	23	34	28	35	25	33	25	33	27	34	25	32	25
12	31	19	32	27	36	26	35	25	40	26	38	29	36	31	31	28	34	31	35	31	35	30	35	31	40	30	34	28
13	30	24	37	26	39	28	40	28	39	30	39	34	36	30	34	27	34	29	33	28	34	26	34	30	40	30	35	30
14	27	20	34	22	34	28	35	32	38	33	39	27	35	28	33	27	32	30	33	29	33	20	34	30	36	26	31	28
15	23	18	32	29	35	28	34	29	36	30	37	32	36	29	31	25	32	29	33	28	34	28	37	30	37	28	35	21
16	20	16	30	23	30	26	29	23	31	25	39	30	33	29	32	24	32	27	32	28	33	26	36	31	35	28	32	28
17	22	14	29	19	26	21	25	22	28	25	32	25	31	27	25	17	29	24	31	24	36	27	37	31	34	28	30	25
18	26	19	29	19	27	21	26	22	33	24	39	25	31	25	24	18	30	24	28	24	33	20	36	27	30	24	30	24
19	25	19	34	19	29	20	36	24	40	25	43	28	33	24	30	14	29	19	37	22	33	20	35	27	38	22	36	25
20	30	24	36	22	43	24	48	27	47	30	47	16	42	26	26	18	38	27	40	25	38	32	40	27	42	20	38	28
21	24	19	36	26	33	26	35	27	37	29	38	30	34	30	32	19	34	32	34	30	35	33	35	33	36	29	35	29
22	27	19	32	19	37	21	43	24	42	28	44	24	39	29	30	17	34	28	35	27	35	31	36	33	39	24	34	28
23	35	27	33	26	38	28	43	35	50	39	52	31	40	31	34	27	37	30	36	31	38	32	40	33	46	31	34	30
24	42	21	38	20	39	28	50	36	53	39	48	32	37	28	43	17	43	24	43	28	39	36	44	34	39	29	36	28
25	29	19	34	24	33	25	38	25	49	35	50	32	33	26	35	20	31	29	33	28	37	26	35	32	43	33	34	26
26	33	24	33	20	38	26	40	27	43	35	44	23	37	27	33	24	34	30	34	29	34	26	36	32	39	22	31	26
27	32	23	33	29	37	32	38	34	41	38	48	32	35	32	32	23	34	33	34	32	31	26	37	33	35	30	30	24
28	24	11	32	22	32	25	34	25	40	28	39	3	33	26	30	23	34	25	32	25	32	26	37	31	35	30	32	29
29	21	8	23	20	28	23	27	21	30	23	36	29	26	23	24	20	25	22	26	23	31	22	32	26	34	27	29	25
30	15	6	23	18	28	21	23	19	23	20	29	23	30	23	24	17	25	22	28	23	30	22	34	26	28	25	30	22
Mns.	28.7	19.1	32.9	22.6	35.2	25.2	38.2	27.1	42.0	30.1	43.9	28.6	36.1	27.2	32.1	21.7	33.6	27.2	34.5	26.8	34.5	26.5	37.6	30.1	39.9	28.0	36.3	26.9

Date.	Michigan, Lower Peninsula. Detroit.		Muskegon.		Saginaw W. S.		Ohio. Cleveland.		Lima.		Sandusky.		Toledo.		Erie, Pa.		New York. Buffalo.		Canton.		Rochester.		Syracuse.		Vermont. 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	60	44	56	39	58	38	62	44	52	45	63	45	61	44	60	44	61	48	59	39	64	37	59	42	54	32	53	22
2	44	35	45	34	57	33	50	37	54	37	46	39	49	34	59	40	57	36	54	35	54	38	52	38	55	37	52	38
3	44	33	40	31	41	32	42	33	42	31	43	37	43	33	40	37	39	32	35	28	39	35	39	29	37	32	38	32
4	45	32	44	29	43	25	42	38	40	27	42	36	45	30	41	34	38	31	40	28	41	34	40	29	41	33	41	34
5	38	30	40	33	37	30	40	36	41	28	39	32	41	31	41	35	41	29	40	33	41	35	40	34	44	40	48	38
6	34	28	36	33	56	27	36	28	37	23	34	27	36	30	39	29	38	30	39	32	39	33	40	32	45	34	45	33
7	40	27	42	27	36	22	43	28	43	23	46	28	42	29	35	29	38	29	34	27	38	28	38	28	36	32	38	23
8	42	31	43	35	43	23	42	34	44	35	42	35	48	33	40	32	39	31	34	23	37	31	38	31	40	31	37	26
9	61	37	54	36	58	34	63	36	61	35	65	36	64	37	60	36	53	37	41	23	42	34	38	33	40	27	35	21
10	56	34	43	37	49	32	60	32	57	37	59	36	60	35	58	37	54	36	48	28	52	36	56	38	46	27	42	20
11	34	29	37	30	36	26	37	29	39	28	36	31	37	30	37	31	36	32	38	28	38	30	39	32	43	26	42	24
12	38	31	37	34	40	30	40	36	37	29	38	36	41	33	39	32	34	29	31	27	35	29	34	27	36	24	35	22
13	39	31	38	33	43	30	39	35	38	33	38	34	41	35	39	34	36	32	34	29	35	31	33	30	34	28	36	28
14	35	31	38	32	37	29	38	33	36	30	36	32	39	32	38	32	38	30	35	28	36	31	36	30	34	28	34	27
15	38	30	37	31	38	29	38	34	35	30	37	33	40	32	37	34	36	30	33	28	36	31	34	29	38	27	35	26
16	36	31	36	31	37	32	38	34	34	30	36	33	40	32	38	34	36	30	32	27	34	31	34	30	33	30	31	28
17	31	29	32	30	35	29	34	28	35	26	33	29	35	30	38	31	38	34	30	21	38	32	35	30	35	29	33	28
18	30	28	32	29	33	27	34	28	36	25	33	28	35	29	35	28	34	30	30	20	34	32	36	32	32	23	37	22
19	37	29	38	30	37	27	35	31	35	24	35	29	38	27	36	33	33	29	25	22	33	28	32	24	28	23	30	23
20	39	30	44	39	41	21	39	25	43	20	42	25	41	25	38	31	33	26	30	18	33	27	32	20	32	16	30	14
21	39	30	42	31	39	30	40	29	39	35	40	33	42	31	41	30	42	25	35	14	41	26	39	19	36	14	34	11
22	38	28	37	31	41	28	36	32	37	23	38	26	41	29	37	32	42	33	32	29	39	35	39	34	33	30	34	27
23	42	34	42	31	41	28	46	32	47	31	48	32	50	32	45	33	46	36	39	28	44	32	43	34	39	27	38	26
24	39	32	44	30	40	30	43	35	47	31	42	34	43	34	45	36	44	38	41	35	44	38	43	36	41	36	40	33
25	45	33	42	33	41	32	42	36	48	36	45	36	48	34	41	36	41	34	37	33	41	31	39	31	40	34	40	31
26	40	33	37	30	35	30	38	35	39	25	37	33	40	32	37	33	36	32	35	31	37	31	35	30	36	32	33	29
27	37	34	35	33	35	28	39	32	36	32	36	32	36	32	40	29	34	31	36	23	36	30	34	25	35	28	33	27
28	39	33	35	32	36	32	39	35	37	33	37	34	37	32	41	36	38	30	37	25	38	29	39	26	33	27	30	28
29	33	27	34	29	34	27	36	29	36	28	35	30	36	30	37	32	36	31	33	31	34	31	35	32	33	29	33	28
30	31	26	32	29	31	25	34	28	38	23	31	28	33	28	35	29	34	30	33	29	34	30	33	30	35	29	34	28
Mns.	40.1	31.3	39.7	32.1	40.9	28.9	41.5	32.7	41.4	29.8	41.1	32.6	42.7	31.8	41.6	33.3	40.2	32.0	36.7	27.4	39.6	31.9	38.8	30.5	38.1	28.8	37.4	26.6