CLIMATOLOGICAL DATA FOR DECEMBER, 1913.

DISTRICT NO. 4, THE LAKE REGION.

Prof. HENRY J. COX, District Editor.

GENERAL SUMMARY.

The unseasonably mild weather which prevailed over all portions of the Lake Region during the month of November continued without material interruption in all sections of the district during December, and this condition, combined with a decided lack of appreciable precipitation, caused the month under discussion to be one of the most remarkable on record during the winter season. In northwest sections the abnormal warmth and the marked absence of snow interfered greatly with lumbering operations, but over the balance of the district the month was most favorable for all outdoor pursuits and building activities were carried on until an unusually late date. During the first decade of the month lawns and pastures remained green, dandelions bloomed here and there, and lilacs, pussy willows, and other shrubs showed signs of awakening life.

The month was singularly free from heavy storms of any description and no severe cold waves occurred in any portion of the district. Considerable cloudiness prevailed during the last week of the month, and at many points this condition was most pronounced.

The following table summarizes most of the chief features of 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 precipitation.	Clear.	Partly cloudy.	Cloudy.	Prevailing wind direction.
Minnesota	25.9	+10.7	14.8	0.16	−0.98	0.25	2.2	1	15	10	6	w.
Wisconsin	31.5	+ 9.3	13.7	0.33	−1.20	0.51	0.2	3	15	5	11	sw.
Illinois	37.4	+ 8.1	9.9	0.38	−1.49	0.29	2.6	5	9	4	18	sw.
Indiana	34.3	+ 7.4	12.0	0.77	−1.39	0.76	4.1	4	8	6	17	sw.
Upper Michigan	29.1	+ 9.5	13.7	0.43	−1.51	0.50	3.5	4	11	7	13	sw.
Lower Michigan	32.8	+ 6.5	11.9	0.75	−1.44	0.99	3.5	4	11	7	13	sw.
Ohio	34.3	+ 4.7	11.5	1.07	−1.52	0.82	4.3	7	8	6	17	sw.
Pennsylvania	35.0	+ 3.3	9.9	1.07	−1.99	0.39	5.7	9	3	5	23	sw.
New York	30.5	+5.4	12.3	2.12	−0.84	1.50	14.8	9	7	8	16	sw.
Vermont	26.2	+ 3.2	17.2	2.39	+0.12	1.27	24.5	11	6	7	18	s.

TEMPERATURE.

The temperature during the month averaged decidedly above the normal over all portions of the Lake Region, the greatest departure, 15.2°, occurring at Chatham, Mich. At many stations in the western half of the district the number of days with mean temperature below the average did not exceed two or three, and in these few instances the deficiencies were small. At Houghton, Mich., the monthly mean was higher by 3.2° than the previous highest average for December, and the maximum temperature of 57° on the 11th exceeded the previous high reading for the same month by 10°. The records, however, for this station extend over a period of 14 years only. The daily excess in temperature over eastern sections did not exceed 5° in most instances.

The most pronounced warm periods occurred from the 1st to the 6th, inclusive, and from the 12th to the 17th, inclusive, although the month as a whole was not characterized by extreme warmth but rather by a succession of days the average temperatures of which were moderately above the normal. Moreover, zero temperature did not occur in most sections until the third decade of the month, but a reading of −2° was recorded at Northfield, Vt., on the 12th. At Duluth, Minn., the month was the third December within the past 43 years in which a temperature of zero was not recorded, the minimum this year being 3° above on the 25th.

The only cold period of the month prevailed over eastern sections from the 27th to the 29th, inclusive, the lowest reading being −18° at Hyde Park, Vt., on the 28th.

PRECIPITATION.

Over practically the entire Lake Region the month was one of the driest on record, the deficiency of moisture being most marked at stations in southwestern Lower Michigan where the departures exceeded 2 inches. At but four points in the district did the monthly precipitation total above the normal and these departures were confined to extreme eastern portions and were local in character.

At Duluth, Minn., the monthly amount, 0.17 inch, was the least on record with two exceptions for the past 43 Decembers, and no precipitation of consequence occurred until the 25th. The driest weather occurred in the second decade of the month, all stations with the exception of those in New York State reporting scarcely more than traces during that period. No heavy rains were recorded in any section of the district, although in Illinois, Indiana, and Ohio most of the precipitation occurred in the form of rain.

Snow.—With the exception of Vermont, northern New York State, and the Upper Michigan peninsula the ground in the Lake Region was generally free from any appreciable snow covering until the closing days of the month. On the evening of the 29th snow to the depth of from 3 to 16 inches covered the eastern portions of the district, while in other sections, with the exception of a limited area along the southern and southwestern shores of Lake Michigan, the depths ranged from a trace to 4 inches. However, over practically the whole of the Lake Region the month was one of marked deficiency in snowfall, amounts approaching the normal being recorded only in eastern sections. In the Michigan peninsulas the monthly snowfall was the least on record in recent years, and owing to the unusually mild conditions, the snow did not remain upon the ground for any great length of time.

Heavy snow fell on the 8th and the 26th in Vermont and the northern and central counties of New York State; the snow on the latter date accompanied the only severe storm of the month over those sections. At Syracuse the total snowfall on the 26th was 13 inches, and in Vermont the snow was accompanied by high winds which drifted it badly, thus causing delay to traffic.

STORMS.

Heavy northwest gales prevailed over the Great Lakes during the 6th–8th, the maximum velocity at Duluth, Minn., being 52 miles an hour on the 6th, at Alpena, Mich., 46 miles an hour on the 7th, and at Cleveland, Ohio, 60 miles an hour on the 8th. Over northern Lake Huron this storm was accompanied by blinding snow, but no casualties were reported. This was the only storm of importance which passed over any portion of the Lake Region during the month, aside from the storm of the 26th, mention of which was made in a previous paragraph and the influence of which was confined chiefly to the States of New York and Vermont.

NAVIGATION AND ICE CONDITIONS.

The display of storm warnings on the Great Lakes was terminated at the close of December 10, but owing to the moderate weather conditions which followed, local navigation was still possible at most ports at the end of the month. No appreciable amount of ice formed in any of the harbors on the Lakes until the third decade and at the close of the month the greatest thickness was reported from the western Lake Superior Region. But little ice formed elsewhere, however, and in comparison with the conditions of former years, the amounts were considerably below the average for this time of the year.

ERRATA.

The following corrections should be made in the Climatological Data for the month of October, 1913:

In Table 3 the maximum temperature at Sault Ste. Marie, Mich., on October 27 should be 40° instead of 39°. In Table 1 the average temperature for the month at Oconto, Wis., should be 48° instead of 48.8°; the monthly departure should be −0.6° instead of +0.2°. In Tables 1 and 2 the total monthly precipitation at Oconto, Wis., should be 2.06 inches instead of 2.16 inches; in Table 1 the monthly departure should be −0.28 inch instead of −0.18 inch.

DECEMBER LAKE LEVELS.

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

	Lake Superior.	Lakes Michigan and Huron	Lake Erie.	Lake Ontario.
	Feet.	*Feet.*	*Feet.*	*Feet.*
Above tidewater at New York	602.74	580.35	572.14	245.91
Above or below:				
Stage of November, 1913	−0.17	−0.09	−0.14	−0.15
Stage of December, 1912	+0.54	+0.12	+0.59	−0.20
Mean stage of December last 10 years	+0.42	+0.15	+0.45	+0.39
Highest recorded stage	−0.39	−2.40	−1.39	−1.70
Lowest recorded stage	+1.54	+1.35	+1.28	+2.48
Probable change during January	−0.30	−0.10	0.00	+0.10

SUMMARY FOR THE YEAR 1913.

The principal features of the year 1913 were the unusually heavy rains and unprecedented floods which occurred over the southeastern portion of the district during the last decade of March, the abnormal heat and drought of the summer season, and the severe northwest gale which swept the Great Lakes during the 7th–10th of November. The temperature for the year averaged above the normal in all sections, the mean of 51.6° at Chicago being one of the highest annual averages in the 43 years of official records. At that station all months, with the exception of February, showed an excess in temperature. Taking the district as a whole, the warmest months were those of January, November, and December, the latter two having a daily excess of from 6° to 9° in western sections and from 3° to 6° in eastern. In the southwestern part of the district the summer was one of the warmest in recent years, although the maximum temperatures did not reach those of the record-breaking season of 1911. Over the portions of Wisconsin, Indiana, and Ohio located in this district the annual precipitation was above the average, and markedly so in the last named State, where the departure averaged 7.93 inches. This excess of precipitation, however, was chiefly the result of the heavy storms over that State during the period from March 23 to 27, inclusive. The greatest annual deficiencies occurred over the extreme western Lake Superior Region, where the average was −6.12 inches. In eastern sections the summer was one of prolonged drought, this condition not being relieved until the middle of September, and the deficiences in rainfall for the months from May to September, inclusive, in the portions of the States of Pennsylvania, New York, and Vermont located in district 4 ranged between 5 and 6 inches.

The year opened with a continuation of the mild weather which had prevailed over the entire Lake Region during the preceding month of December, 1912, and the January means were much above the normal, except in Minnesota, Upper and Lower Michigan, and Wisconsin. In fact, over eastern sections, January, 1913, was one of the warmest midwinter months in many decades. Conditions during February were in general much the reverse of those experienced in January, and the month may be characterized as cold, but not unusually so, and for the most part dry. The month of March was remarkable for the unusually severe and frequent storms which swept the district during the latter half of the month. The storms resulted in widespread and damaging floods and destructive gales and caused great loss of property and some loss of life. The precipitation over southern sections in some instances was more than three times the normal amount for March, and the flood in the rivers of Indiana and Ohio were the greatest in the history of those States. A severe windstorm swept the Lakes on the 21st, and a destructive sleet storm occurred on the 25th–27th in northern New York. April and May were featureless as regards unusual meteorological conditions. The month of June was marked by great extremes of temperature, deficient precipitation, and many days of clear pleasant weather, with a correspondingly high percentage of sunshine.

July was characterized by an unusually large number of thunderstorms, many of which were destructive to life and property. In most sections of the district, August was deficient in rainfall and in New York and Vermont the lack of precipitation was severely felt. With the general and heavy rains on September 16–17, however, the droughty conditions over this portion of the

Lake Region were effectually broken. In western and southwestern sections previous high maximum temperature records were exceeded during the extreme heat of the first eight days of September, while the first severe frosts of the season occurred on the mornings of the 14th–15th over the interior of New York. In many localities these frosts were said to be the heaviest experienced in September in years, and much damage was done to susceptible vegetation. As a whole, the month of October was wetter and warmer than usual and there was much cloudy weather. The temperature for November averaged considerably above the normal, but the month was generally deficient in precipitation. The storm which swept the Lake Region on the 7th–10th, mentioned in a previous paragraph, was the most severe in many years, and numerous disasters and casualties occurred as a result. It was accompanied over eastern and central sections of the Lakes by driving snow, which greatly increased the peril of vessels and tied up land traffic to a marked extent, especially in the vicinity of Cleveland, Ohio. December, like its predecessor, averaged much in excess of the normal temperature over the entire district and was also deficient in precipitation. In fact, the weather during the first and second decades of the month more closely resembled a month of spring or autumn than one of winter, and in most sections it was not until after Christmas that more seasonal weather was experienced.

The following tables present the monthly values of temperature and precipitation and the departures from the normals for the various portions of the district:

MEAN TEMPERATURES, 1913.

Portions of States lying in District No. 4.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Minnesota	6.3	6.1	17.3	42.3	47.4	59.6	61.3	63.6	54.6	40.8	36.1	25.9	38.4
Wisconsin	18.1	13.4	25.8	44.2	52.3	65.7	67.4	67.8	59.6	47.7	39.5	31.5	44.4
Illinois	29.3	24.8	35.2	48.8	57.6	70.5	75.0	74.3	65.4	53.3	47.2	37.4	51.6
Indiana	30.4	23.3	35.2	49.7	59.1	70.7	74.4	73.2	63.5	52.2	45.3	34.3	50.9
Upper Michigan	16.3	8.4	19.6	40.7	48.2	62.2	63.1	64.4	55.9	44.7	37.2	29.1	40.8
Lower Michigan	26.6	19.1	30.6	45.5	54.9	67.0	70.1	69.8	61.2	50.7	41.5	32.8	47.5
Ohio	33.2	24.3	37.3	48.6	59.0	68.9	73.7	72.9	63.5	53.6	44.1	34.3	51.1
Pennsylvania	35.9	24.4	37.8	46.2	55.8	65.9	70.4	69.8	62.6	54.4	45.7	35.0	50.3
New York	30.3	18.7	34.0	45.9	54.0	63.2	68.7	66.7	58.9	52.0	40.4	30.5	46.9
Vermont	27.9	15.9	33.3	44.2	51.6	61.2	67.6	65.3	58.4	52.0	39.0	26.2	45.2

MEAN DEPARTURES FROM NORMAL TEMPERATURES, 1913.

Portions of States lying in District No. 4.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Minnesota	− 2.0	−4.5	−5.9	+2.8	−2.0	+1.5	−3.0	+0.9	−0.7	−2.8	+6.8	+10.7	+0.2
Wisconsin	+ 1.3	−3.6	−2.5	+2.1	−0.7	+2.3	−1.2	+1.1	−0.8	−0.8	+5.9	+ 9.3	+1.0
Illinois	+ 5.6	−0.6	+0.8	+2.9	+1.1	+4.2	+2.6	+3.1	+0.8	+0.1	+7.9	+ 8.1	+3.0
Indiana	+ 5.3	−0.7	−3.0	+2.2	−0.1	+2.1	+1.3	+2.2	−0.9	−0.7	+6.2	+ 7.4	+1.8
Upper Michigan	+ 1.8	−3.6	−3.2	+2.8	−0.4	+3.2	−1.3	+1.3	0.0	−0.4	+5.7	+ 9.6	+1.3
Lower Michigan	+ 4.4	−0.9	−0.3	+1.6	−0.3	+1.9	+0.3	+2.0	−0.4	+1.1	+4.6	+ 6.5	+1.7
Ohio	+ 6.8	−0.6	+0.3	+0.7	−0.7	+0.6	+0.7	+2.2	−1.5	+1.2	+4.0	+ 4.7	+1.5
Pennsylvania	+ 9.4	−1.7	+4.7	+1.5	−1.5	−1.1	−1.4	−0.1	−1.3	+1.3	+4.6	+ 3.3	+1.5
New York	+ 9.6	−1.0	+3.7	+3.0	−1.4	−1.0	0	+0.3	−1.9	+3.1	+5.2	+ 5.4	+2.1
Vermont	+11.5	−2.1	+5.8	+2.8	−2.9	−3.1	−0.2	0.0	−1.3	+5.0	+4.9	+ 3.2	+2.0

MEAN PRECIPITATION, 1913.

Minnesota	0.41	0.66	2.18	1.61	4.37	2.54	5.34	1.82	2.83	3.16	0.77	0.16	25.85
Wisconsin	1.18	1.22	3.19	2.10	5.85	2.94	5.38	1.98	3.72	2.95	1.57	0.33	32.41
Illinois	1.40	2.18	3.44	1.91	4.38	1.08	3.30	4.06	1.49	2.23	1.47	0.38	27.32
Indiana	4.08	1.44	5.96	2.36	4.35	0.89	3.92	2.98	2.14	3.08	2.14	0.77	34.11
Upper Michigan	1.56	1.80	3.05	1.70	2.56	3.15	4.21	2.16	3.83	3.07	2.00	0.43	29.52
Lower Michigan	2.47	1.30	3.51	2.87	2.87	1.91	2.94	2.50	1.89	3.41	2.03	0.75	28.45
Ohio	6.36	1.83	9.19	3.02	3.97	1.64	4.46	2.62	2.22	3.81	3.03	1.07	43.22
Pennsylvania	5.60	2.01	7.36	2.03	2.68	2.79	1.36	2.66	1.69	4.84	4.18	1.07	38.27
New York	4.75	1.69	5.39	2.93	2.81	2.32	2.33	2.35	2.21	4.71	2.87	2.12	36.48
Vermont	3.14	1.27	5.75	1.81	3.19	2.42	3.66	1.46	2.60	4.49	1.32	2.39	33.50

MEAN DEPARTURES FROM NORMAL PRECIPITATION, 1913.

Portions of States lying in District No. 4.	Jan.	Feb.	Mar.	Apr.	May.	June.
Minnesota	−0.44	−0.23	+0.58	−0.65	+0.43	−1.92
Wisconsin	−0.25	−0.15	+1.27	−0.38	+2.49	−0.34
Illinois	−0.58	+0.38	+0.89	−0.97	+1.01	−2.58
Indiana	+2.42	−1.05	+3.14	−0.42	+0.40	−2.75
Upper Michigan	−0.23	+0.41	+1.35	−0.18	−0.64	+0.20
Lower Michigan	+0.22	−0.66	+1.19	+0.54	−0.49	−1.09
Ohio	+3.76	−0.65	+6.35	+0.15	+0.53	−2.09
Pennsylvania	+2.57	−0.84	+4.70	−0.37	−0.75	−0.96
New York	+1.63	−0.54	+2.40	+0.32	−0.42	−1.47
ermont	+0.53	−1.09	+3.21	−0.30	+0.14	−1.25

Portions of States lying in District No. 4.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Minnesota	+1.44	−2.03	−1.65	+0.34	−1.01	−0.98	−6.12
Wisconsin	+1.69	−1.15	+0.38	+0.51	−0.26	−1.20	+2.61
Illinois	−0.34	+1.18	−1.53	−0.32	−1.03	−1.49	−5.38
Indiana	+0.86	0.00	−0.51	+0.49	−0.76	−1.39	+0.43
Upper Michigan	+0.66	−0.63	+0.23	+0.49	−0.38	−1.51	−0.23
Lower Michigan	−0.03	−0.02	−0.98	+0.97	−0.40	−1.44	−2.19
Ohio	+0.76	−0.37	−0.61	+1.25	+0.37	−1.52	+7.93
Pennsylvania	−1.85	−0.60	−1.80	+1.04	+0.57	−1.99	−0.28
New York	−1.67	−0.68	−0.72	+1.41	−0.16	−0.84	−0.74
Vermont	−0.67	−2.71	−0.43	+2.08	−1.93	+0.12	−2.30

TABLE 1.—*Climatological data for December, 1913. 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, with 0.01 inch or more.	Sky. Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
Minnesota.																				
Cloquet	Carlton	800	2	26.2	.....	55	11	0	25	37	0.25	.....	0.25	2.5	1	13	10	8	w.	State Forest Exp. Station.
Duluth	St. Louis	1,133	42	26.7	+ 9.0	53	11	3	25	29	0.17	− 1.05	0.16	3.1	3	10	13	8	w.	U. S. Weather Bureau.
Grand Marais	Cook	606		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. W. Nelson.
Stephens Mine	St. Louis	1,500	6	23.2	.....	50	11	− 5	25	37	0.15	.....	0.15	1.5	1	12	10	9	w.	Oliver Iron Mining Co.
Two Harbors	Lake	614	19	29.6	+10.7	56	4†	1	25	43	0.05	− 0.91	0.05	2.0	1	14	12	5	w.	G. W. Watts.
Virginia	St. Louis	1,434	19	23.8	+12.4	49	11	− 5	25	29	0.20	− 0.97	0.20	2.0	1	24	6	1	nw.	Oliver Iron Mining Co.
Wisconsin.																				
Appleton	Outagamie	795	12	31.2	+ 9.0	50	4†	11	21	23	0.49	− 1.21	0.28	0.2	5	16	5	10	sw.	Wm. O. Thiede.
Ashland	Ashland	615	22	29.3	+ 8.9	55	11	0	22†	36	T.	− 1.04	T.	T.	0	14	12	5	sw.	Agricultural Exp. Stations.
Bayfield	Bayfield	635	4	32.0	+11.3	59	11	10	21	30	0.08	− 1.53	0.08	1.0	1	16	7	8	nw.	Rev. Sabinus Mollitor.
Cecil	Shawano	804	15	30.0	+ 8.1	59	12	7	19†	34	T.	− 1.51	T.	T.	0	17	2	12	sw.	Louis W. Schmidt.
Cornucopia	Bayfield	640	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Reed Fruit Co.
Crandon	Forest	1,060	18	29.6[a]	+12.3	52[b]	5†	3	26	42[b]	0.21	− 0.90	0.20	0.1	2	19	4	8	sw.	Ralph Van Zile.
Florence	Florence	1,293	22	29.6	+11.0	54	4	3	22	31	0.04	− 1.53	0.04	T.	1	16	0	15	w.	Fred S. Evans.
Fond du Lac	Fond du Lac	800	27	30.8	+ 8.6	50	4†	8	21†	31	0.57	− 0.91	0.24	0.2	4	14	5	12	sw.	Edward A. Seeley.
Grand River Locks	Marquette	770	17	31.2	.....	54	4	8	21	29	0.46	− 0.84	0.16	0	4	19	0	12	sw.	Jerry Parkinson.
Green Bay	Brown	617	27	31.4	+10.1	52	5	11	21	22	0.46	− 1.35	0.38	0.4	5	11	7	13	sw.	U. S. Weather Bureau.
High Falls	Marinette	1,125	1	29.8	.....	60	5	0	21	38	0.11	.....	0.05	0.3	3	17	4	10	nw.	No. Hydro-Elec. Pow. Co.
Iron River	Bayfield	1,096	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kewaunee	Kewaunee	590	4	32.8	.....	52	5†	10	21†	29	0.55	.....	0.24	T.	3	13	0	18	w.	Anton M. Jessen.
Manitowoc	Manitowoc	616	62	33.2	+ 8.0	51	13	13	21	25	0.63	− 1.18	0.33	1.0	5	12	6	13	w.	Miss Johanna Lups.
Menasha	Winnebago	764	16	.....	.....	.....	.....	.....	.....	.....	0.28	− 0.77	0.15	0.2	3	19	1	11	sw.	Geo. T. Allanson.
Menomonee Falls	Waukesha	842	4	31.6	.....	49	2	10	21†	31	0.38	.....	0.24	0.2	4	16	5	10	sw.	Arthur H. Christman.
Milwaukee	Milwaukee	681	43	35.2	+ 9.2	56	12	17	7	25	0.08	− 1.84	0.05	0.2	4	12	4	15	w.	U. S. Weather Bureau.
New London	Outagamie	762	17	30.4	+ 9.9	51	4	7	21	26	0.45	− 1.06	0.30	T.	2	14	10	7	sw.	August H. Pape.
Oconto	Oconto	590	22	31.8	+ 8.9	63	5	8	21†	33	0.14	− 1.76	0.14	T.	1	17	0	14	sw.	Harry M. Lord.
Oshkosh	Winnebago	744	24	30.6	+ 7.5	51	13	7	21	27	0.48	− 0.87	0.48	T.	1	20	6	5	sw.	Even Vincent.
Pine River	Waushara	900	18	31.0	+ 9.8	52	4†	6	21	28	0.56	− 0.87	0.38	0.1	4	14	8	9	nw.	Geo. H. Carpenter.
Plum Island	Door	588	5	32.2[m]	.....	51[m]	5	12[m]	27	19[m]	0.08	.....	0.05	T.	2	4[m]	1[m]	13[m]	w.	Fred M. Staal.
Plymouth	Sheboygan	843	3	32.0	.....	51	13	12	21†	24	0.63	.....	0.26	T.	4	15	4	12	sw.	Paul O. Feldrappe.
Port Washington	Ozaukee	713	20	33.8	+ 9.5	51	4†	13	21	24	0.35	− 1.41	0.20	1.0	3	12	6	13	sw.	Richard C. Kann.
Racine	Racine	633	16	35.4	+ 9.3	57	12	17	7†	27	0.36	− 1.00	0.32	T.	2	19	3	9	nw.	Daniel Davis.
Ripon	Fond du Lac	1,031	3	32.4	.....	51	4	10	21	28	0.68	.....	0.26	0.5	5	10	8	13	sw.	Ripon College.
Sheboygan	Sheboygan	831	14	34.3	+ 8.2	51	12†	15	21	24	0.60	− 1.27	0.51	T.	2	13	5	13	sw.	Louis C. Meyer.
Sturgeon Bay	Door	600	14	31.1	+ 6.4	56	12	4	27	30	0.33	.....	0.22	T.	4	17	5	9	nw.	Adam N. Dier.
Superior	Douglas	701	4	27.4	.....	52	11	5	25	27	0.13	.....	0.10	1.4	3	15	9	7	sw.	Edward B. Banks.
Waupaca	Waupaca	857	18	30.0	+10.0	51	3†	4	21	34	0.18	− 1.18	0.11	T.	2	18	4	9	sw.	James H. Flagg.
Illinois.																				
Chicago	Cook	823	43	37.4	+ 8.1	57	4	18	7	29	0.45	− 1.62	0.29	2.7	5	9	4	18	sw.	U. S. Weather Bureau.
Highland Park	Lake	691		.....	.....	.....	.....	.....	.....	.....	0.31	− 1.36	0.20	2.5	2	.....	.....	.....	.....	Jesse L. Smith.
Indiana.																				
Auburn	Dekalb	874	17	31.0[d]	+ 5.0	59[d]	.....	6[d]	27	34[d]	0.87	− 1.26	0.76	.....	2	8[f]	3[f]	14[f]	sw.	Mrs. Josie B. Kuhlman.
Berne	Adams	849	4	34.5	.....	60	1†	1	27	32	0.48	.....	0.13	3.5	7	9	7	15	nw.	Henry M. Reusser.
Fort Wayne	Allen	856	17	34.8	+ 7.5	59	1	14	27	33	0.66	− 1.79	0.31	3.1	7	9	5	17	sw.	U. S. Weather Bureau.
Hammond	Lake	598	22	36.6	+ 9.7	58	6	15	8†	37	1.09	− 1.11	0.36	3.5	6	6	6	19	.....	Carson W. Whitney.
Howe	Lagrange	886	8	32.9	.....	60	1	6	27	33	0.91	.....	0.58	0.5	3	13	4	14	sw.	A. A. Wade.
Notre Dame	St. Joseph	712	2	34.7	.....	59	1	11	27	30	1.14	.....	0.40	10.0	4	8	7	16	sw.	U. S. Weather Bureau.
Whiting	Lake	606	4	35.8	.....	59	1	17	8	29	0.27	.....	0.20	4.0	2	5	5	21	sw.	D. H. Boyd.
Michigan—Upper Peninsula.																				
Baraga	Baraga	623	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	2	20	w.	D., S. S. & A. Ry.
Bergland	Ontonagon	1,300	3	27.6	.....	54	13	1	22	34	.....	.....	.....	.....	.....	9	2	20	sw.	Frank McMonigal.
Calumet	Houghton	1,246	25	27.7	+ 6.6	51	11	8	21†	28	0.32	− 0.60	0.16	4.0	4	10	4	17	w.	E. S. Grierson.
Chatham	Alger	875	12	28.2	+15.2	56	4†	− 3	26	40	0.90	− 1.80	0.50	3.7	8	11	7	13	s.	Upper Peninsula Exp. Sta.
Deer Park	Luce	610	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Sarah E. McGaw.
Eagle Harbor	Keweenaw	622	14	31.4	+ 7.1	47	14	13	22	22	.....	.....	.....	.....	.....	8	0	23	sw.	T. J. Bennetts.
Escanaba	Delta	612	40	30.0	+ 8.4	56	4	8	21	22	0.31	− 1.39	0.14	2.7	5	12	5	14	sw.	U. S. Weather Bureau.
Ewen	Ontonagon	1,147	12	26.8	+ 9.7	54	13	− 3	22	33	0.82	− 1.22	0.41	8.0	5	14	1	16	sw.	W. B. Hatfield.
Grand Marais	Alger	610	12	31.9	+ 8.6	47	12†	12	26	28	0.22	− 2.28	0.20	2.1	3	12	6	13	nw.	Mrs. Lena Truedell.
Houghton	Houghton	668	12	29.6	+ 8.1	57	11	8	21	32	0.36	− 2.11	0.23	4.2	4	8	6	17	w.	U. S. Weather Bureau.
Humboldt	Marquette	1,536	16	27.8[a]	+11.6	53[a]	13	− 5[a]	22	43[a]	0.40	− 0.82	0.20	4.0	3[a]	11[a]	1[a]	18[a]	w.	D., S. S. & A. Ry.
Iron Mountain	Dickinson	1,111	12	31.8	+12.3	57	13	4	21	37	0.11	− 1.17	0.06	0.5	3	15	13	3	sw.	Chapin Mining Co.
Iron River	Iron	1,504	16	27.2	+11.5	54	5†	1	22	39	0.40	− 1.42	0.10	T.	4	15	14	2	nw.	Victor D. Laing.
Ironwood	Gogebic	1,520	10	28.4	+12.5	52	13	5	21†	31	0.32	− 1.79	0.32	4.0	1	15	2	14	sw.	J. V. Brennan.
Ishpeming	Marquette	1,536	13	28.2[a]	+11.1	53[a]	13	4[b]	22	34[b]	0.26	− 1.65	0.10	1.4	7	9	17	5	w.	Cleveland Cliffs Iron Co.
Isle Royale	Keweenaw	610	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Malone.
Mackinac Island	Mackinac	831	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mackinac I. State Park Com.
Maple Ridge	Delta	.....	7	27.9	.....	53	4†	0	27	30	1.10	.....	0.40	7.0	4	15	2	14	n.	Herman Johnson.
Marquette	Marquette	734	42	31.6	+ 8.7	57	13	11	21	24	0.94	− 1.58	0.46	8.8	6	11	5	15	nw.	U. S. Weather Bureau.
Menominee	Menominee	581	14	32.1	+ 8.9	56	4	13	27	25	0.05	− 1.18	0.05	T.	1	20	4	7	sw.	Chief of Fire Dept.
Munising	Alger	631	16	28.6	+ 9.1	52	4	4	29	27	0.87	− 1.54	0.50	8.0	10	11	6	14	nw.	Albert Oas.
Newberry	Luce	773	11	28.2	+ 9.0	48	4	0	26	25	0.60	− 0.51	0.28	5.2	7	9	11	11	sw.	John Brown.
Ontonagon	Ontonagon	1,147	12	30.8	.....	54	11	10	22†	27	T.	.....	T.	T.	0	9	1	21	s.	T. A. Green.
Powers	Menominee	868	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chicago & North Western Ry.
St. Ignace	Mackinac	593	23	32.0	+ 7.7	49	5	10	27	26	0.55	− 1.53	0.30	5.5	3	15	12	4	w.	D., S. S. & A. Ry.
Sault Ste Marie	Chippewa	614	25	27.4	+ 6.9	44	5	− 2	26	27	0.45	− 1.88	0.17	3.5	7	6	6	19	nw.	U. S. Weather Bureau.
Seney	Schoolcraft	730	1	26.6	.....	55	2	− 6	26	44	0.65	.....	0.40	5.5	4	13	9	9	nw.	Western Land Securities Co.
Thomaston	Gogebic	1,347	16	.....	.....	42	3	.....	.....	.....	0.20	− 1.70	0.10	2.0	2	5	26	0	nw.	D., S. S. & A. Ry.
Victoria	Ontonagon	1,263	3	27.0	.....	53	12†	5	21†	32	0.30	.....	0.25	3.0	2	16	6	9	w.	R. S. Schultz, jr.
Watersmeet	Gogebic	.....	4	25.8	.....	49	4	1	26	31	0.23	.....	0.10	1.5	6	13	2	16	sw.	B. N. Grant.
Whitefish Point	Chippewa	610	13	29.7	+ 7.6	43	3†	4	26	27	0.46	− 2.25	0.22	3.8	6	11	1	19	nw.	Robert Carlson.
Michigan—Lower Peninsula.																				
Adrian	Lenawee	770	35	34.0	+ 5.9	58	2	13	22	26	1.50	− 1.03	0.86	3.4	4	7	8	16	sw.	H. E. Hubbard.
Allegan	Allegan	698	22	35.6	+ 7.3	60	2	1[a]	28	29[a]	1.20	− 1.50	0.41	6.0	4	5	12	14	w.	Pere Marquette R. R.
Alma	Gratiot	750	26	31.8	+ 5.5	57	2	− 3	27	23	0.86	− 1.52	0.32	3.5	4	12	6	13	sw.	P. M. Smith.
Alpena	Alpena	609	46	31.0	+ 6.2	52	2	8	27	21	0.54	− 1.68	0.26	5.1	7	4	15	12	nw.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for December, 1913. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Michigan—Lower Peninsula*—Continued.**																				
Ann Arbor	Washtenaw	930	33	33.0	+ 6.3	57	2	14	27	27	1.09	− 1.11	0.38	3.7	6	6	6	19	w.	University of Michigan.
Arbela	Tuscola	728	17	31.0	+ 5.1	56	2	− 1	27	24	0.81	− 1.56	0.40	4.0	4	0	8	23	sw.	Wm. Atkin.
Armada	Macomb		24	32.1	+ 5.6	58	1	9	28	29	1.28	− 1.00	0.46	5.5	5	4	11	16	nw.	R. O. Gould.
Battle Creek	Calhoun	822	29	31.8	+ 4.2	57	1	− 4	27	31	0.88	− 1.58	0.51	4.0	4	4	4	23	nw.	Elmer E. Sager.
Bay City	Bay	593	17	33.6	+ 8.0	57	1	5	27	26	0.68	− 1.86	0.30	3.2	5	22	6	3	sw.	Pere Marquette R. R.
Benzonia	Benzie	832	16	31.7	+ 5.1	54	1	5	27	22	0.91	− 2.50	0.30	5.2	6	11	11	9	nw.	Wallace Nutting.
Big Rapids	Mecosta	906	17	32.8	+ 9.0	55	1	4	27	22	0.56	− 1.76	0.30		3	1	21	9	sw.	Supt. Waterworks.
Bloomingdale	Van Buren		9	34.4		63	1	4	27	28	0.85		0.70	4.5	2	8	6	17	sw.	John M. Haven.
Cadillac	Wexford	1,293	4	30.9		51	2	4	27	23	0.85		0.40	5.5	5	14	3	14	w.	Cadillac Water & Light Co
Cassapolis	Cass	903	12			55[e]	2									17[e]	6[e]	3[e]		Michigan Central R. R.
Charlevoix	Charlevoix	610	35	34.5	+ 6.2	57	3	6	11	42						19[a]	7[a]	4[a]		Pere Marquette R. R.
Charlotte	Eaton		9	32.4		56	1	−13	27	38	0.44		0.44	T.	1	11	5	15	sw.	City of Charlotte.
Cheboygan	Cheboygan	611	23																	Francis A. Barlow.
Clinton	Lenawee	830	23	34.2	+ 6.4	58	2	12	22	28	1.75	− 0.38	0.99	3.5	4	10	7	14	sw.	David Woodward.
Coldwater	Branch	984	16	34.1	+ 7.4	58	1	6	27	22	1.21	− 1.13	0.58	2.5	6	8	5	18	sw.	L. S. & M. S. R. R.
Croton	Newaygo	685	5	32.8		56	1	2	27	24	0.66		0.44	0.5	3	7	18	6	nw.	Gr. Rap. Musk. Power Co
Detroit	Wayne	730	42	34.3	+ 4.8	57	2	18	27	26	0.99	− 1.40	0.42	4.0	6	4	8	19	w.	U. S. Weather Bureau.
Durand	Shiawassee	799	5	31.6[c]		55[c]		− 1[c]	27	26[c]	0.71		0.41	3.0	2	14[c]	2[c]	12[c]	w.	Chief Train Dispatcher.
East Tawas	Iosco	590	16	32.8	+ 8.1	53	5	6	27	30	0.76	− 0.73	0.48	1.0	3	15	11	5	w.	Detroit & Mackinaw Ry.
Eloise	Wayne	640	16	34.2	+ 7.8	66	2	14	28	27	1.24	− 1.13	0.54	2.8	5	7	9	15	nw.	John Gilmore.
Five Channels	Iosco		0	32.0		54	3	3	27	35	0.37		0.35	T.	2	13	6	12	nw.	Au Sable Electric Co.
Flint	Genessee	730	24			54[b]	1	12	21		0.79	− 1.00	0.35	4.0	4	10	8	13	w.	William L. Fisher.
Frankfort	Benzie	589	9	33.6		50	1	10	27	22	0.90		0.30	8.0	5	10	0	21	s.	Geo. Morency.
Ganges	Allegan	665	4	35.1		63	1	7	27	28	0.85		0.35	7.5	6	8	3	20	sw.	H. H. Hutchins.
Gaylord	Otsego	1,367	13	28.4	+ 6.5	49	2	0	27	27	0.92	− 1.16	0.52		4	14	0	17	nw.	Michigan Central R. R.
Grand Haven	Ottawa	628	42	35.0	+ 4.9	62	1	10	27	26	0.51	− 2.00	0.35	4.9	7	10	5	16	sw.	U. S. Weather Bureau.
Grand Rapids	Kent	707	24	35.1	+ 6.3	61	1	11	27	26	0.31	− 2.33	0.15	2.3	7	6	8	17	w.	Do.
Grape	Monroe	625	23	33.1	+ 4.5	57	13	14	22	27	1.08	− 0.95	0.46	2.0	6	7	7	17	w.	Joseph W. Morris.
Grass Lake	Jackson	989	7																	Menzo Conklin.
Grayling	Crawford	1,147	23	29.6	+ 6.7	50	5	− 2	27	28	1.00	− 1.34	0.28	5.3	8	10	1	20	w.	S. N. Insley.
Greenville	Montcalm	802	1	33.0		60	1	− 1	27	25	0.56		0.41	1.0	3	18	0	13	sw.	Engineer, Waterworks.
Harbor Beach	Huron	635	25	33.4	+ 6.2	53	2	17	27	23	1.13	− 0.67	0.30	10.5	7	12	11	8	nw.	Pere Marquette R. R.
Harrison	Clare	1,159	20	32.2	+ 8.8	58	2	− 1	27	39	0.62	− 1.26	0.47	1.5	2	19	1	11	w.	Do.
Harrisville	Alcona	616	29	31.4	+ 6.9	56	2	11	27	29	0.15	− 2.38	0.10	1.0	2	16	8	7	sw.	Mrs. D. W. Mitchell.
Hart	Oceana	698	21	35.0	+ 6.5	65	3	12	26	20	0.69	− 2.01	0.30	2.0	3	17	8	6	sw.	Pere Marquette R. R.
Hayes	Huron	620	23	32.2[e]	+ 5.0	65[e]	1	14[e]	27†		0.40	− 1.25	0.20	4.0	2	7[e]	11[e]	10[e]	sw.	C. F. Leipprandt.
Highland	Oakland	1,006	21																	A. D. De Garmo.
Hillsdale	Hillsdale	1,150	16	32.8	+ 7.5	55[a]	1	14	22†	30[a]	0.71	− 2.41	0.30	1.5	4	6[b]	1[b]	16[b]		C. L. Herron.
Holland	Ottawa	610	7	35.8		63	1	7	27	28	0.53		0.21	4.0	4	6	17	8	sw.	City of Holland.
Houghton Lake	Roscommon		0	31.0		50	2	0	22	32	0.40		0.29	T.	2	7	12	12	w.	James H. Ostrander.
Howell	Livingston	924	21	32.2	+ 5.6	56	2	8	27	28	0.97	− 0.76	0.69	1.2	7	14	5	12	nw.	Frank Sharp.
Ivan	Kalkaska		24	29.4	+ 5.5	50	1	0	27	31	0.62	− 1.66	0.40	5.3	4	7	16	8	nw.	O. L. Giddings.
Jackson	Jackson	927	16	33.8	+ 7.3	58	2	4	27	29	1.05	− 0.88	0.60	3.0	5	22	3	6	sw.	City of Jackson.
Jeddo	St. Clair	667	24	32.0	+ 5.2	52	3	13	27†	23	0.55	− 1.67	0.35	5.5	3	11	9	11	sw.	William Bice.
Johannesburg	Otsego		0	29.0		51	2	− 1	27	27	0.93		0.35	6.5	5	10	14	7	nw.	Axel Becker.
Kalamazoo	Kalamazoo	955	37	33.0	+ 5.2	61	1	− 3	27	31	1.30	− 1.53	0.80	13.0	2	6	8	17	w.	Kalamazoo Asylum.
Lansing (Agr. College)	Ingham	863	49	31.8	+ 5.0	55	1	− 5	27	27	0.55	− 1.53	0.35	4.8	7	5	7	19	sw.	U. S. Weather Bureau.
Lansing (Capitol)	do	881	26	32.4	+ 4.7	54	1†	0	27	32	0.91	− 1.11	0.32	4.7	7	8	6	17	sw.	State Board of Health.
Lapeer	Lapeer	827	14																	Michigan Home.
Ludington	Mason	637	15	34.4	+ 7.5	57	1	11	27	26	0.54	− 1.44	0.31	1.8	6	10	5	16	sw.	U. S. Weather Bureau.
Luther	Lake	1,028	3	31.8		54	1	3	27	26	0.55		0.17	3.5	7	13	3	15	w.	John W. Nichoson.
Mackinaw	Cheboygan	592	22	28.0	+ 4.1	44	2†	5	26	23						22[a]	6[a]	2[a]	nw.	Gr. Rap. & Indiana Ry.
Mancelona	Antrim	1,121	17																	Do.
Manistee	Manistee	600	16	35.1[a]	+ 7.5	56[a]	1	10[a]	27	19[a]	0.56	− 1.83	0.21	0.5	4[a]	23[a]	0[a]	7[a]	w.	Postmaster.
Marshall	Calhoun	896	1																	E. B. Stuart.
Midland	Midland	604	14	33.5	+ 7.3	60	1	− 1	26	30	0.02	− 1.46	0.02	0.2	1	10	3	18	nw.	Pere Marquette R. R
Morenci	Lenawee	811	6	34.1		58	2	14	22†	25	1.41		0.61	3.0	7	9	0	22	sw.	George J. Tripp.
Mount Clemens	Macomb	615	13	33.8	+ 6.8	58	2	12	28	33	0.63	− 1.57	0.30	3.5	3	13	2	16	sw.	Waterworks.
Mount Pleasant	Isabella	826	14																	Pere Marquette R. R.
Muskegon	Muskegon	587	17																	Gr. Rap. & Indiana Ry.
Old Mission	Grand Traverse	858	19	31.0	+ 4.4	51	2	8	26	23	0.77	− 1.18	0.31	2.5	5	6	14	11	sw.	E. O. Ladd.
Olivet	Eaton	934	23	33.0	+ 6.1	56	1	− 8	27	29	0.62	− 1.88	0.31	3.3	5	14	2	15	w.	G. A. Knapp.
Omer	Arenac	616	14	33.8	+10.2	59	8	12	25†	44	0.14	− 1.34	0.05	0.5	3	24	5	2	sw.	Detroit & Mackinaw Ry.
Onaway	Presque Isle	826	10	26.6	+ 4.2	50	2†	− 5	26†	39	0.31	− 1.34	0.21	1.0	3	10	12	9	w.	Do.
Owosso	Shiawassee	731	16	35.9	+ 9.6	57	1	4	26	33	1.27	− 0.37	0.62	5.0	6	4	18	9	nw.	Owosso Sugar Co.
Petoskey	Emmet	660	23	32.3	+ 6.5	50	1†	5	26	24	0.54	− 1.98	0.16	5.4	5	13	6	12	w.	Gr. Rap. & Indiana Ry.
Plymouth	Wayne	725	16	33.2	+ 5.7	57	2	10	28	28	0.11	− 1.52	0.10	0.1	2	11	5	15	w.	Pere Marquette R. R.
Pontiac	Oakland	935	13	32.4[a]	+ 3.7	55[a]	1	12[a]	27†	25[a]	1.04	− 1.52	0.40	5.0	4	7[a]	10[a]	13[a]	sw.	Fred W. Shaw.
Port Austin	Huron	618	16	33.2	+ 6.3	56	2	12	28	25	0.26	− 0.89	0.10	2.0	3	13	3	15	sw.	Pere Marquette R. R.
Port Huron	St. Clair	639	38	33.0	+ 5.7	55	12	16	28	26	0.64	− 1.53	0.37	3.8	6	5	10	16	sw.	U. S. Weather Bureau.
Reed City	Osceola	1,033	16	32.2	+ 8.6	55	1	11	26	27	0.53	− 1.02	0.28		5	20	0	11	nw.	Osceola Light & Power Co.
Roscommon	Roscommon	1,141	12	28.4[a]	+ 6.4	56[a]	14	− 5[a]	27	44[a]	0.18	− 1.57	0.05	1.8	4[a]	5[a]	16[a]	9[a]	nw.	Marcus Schaaf.
Saginaw, East Side	Saginaw	601	11			55	1				1.29	− 1.13	0.50	3.2	6	13	15	3	nw.	Postmaster.
Saginaw, West Side	do	641	18	32.2	+ 5.5	52	2	1	27	25	0.69	− 1.23	0.33	5.0	5	5	8	18	sw.	U. S. Weather Bureau.
St. James	Charlevoix	681	7	33.0		49[a]	2†	16	31	30[a]	0.57		0.52	T.	2	12	10	9	sw.	Rev. Edward A. Jewell.
St. Joseph	Berrien	593	26	35.8	+ 4.6	65	1	15	27	29	0.52	− 2.47	0.40	4.5	3	9	2	20	sw.	City of St. Joseph.
Sandusky	Sanilac	790	4	31.0		59	1	10	28	25	0.26		0.20	2.0	2	11	7	13	sw.	Pere Marquette R. R.
Saranac	Ionia	639	18	33.4	+ 5.9	58	1†	− 5	27	30	0.84	− 1.25	0.54	2.0	3	9	1	21	sw.	John Wallington.
South Haven	Van Buren	585	17	36.2	+ 8.3	65	1	9	27	20	0.30	− 2.67	0.20	2.0	2	11	5	15	ne.	Capt. James S. Donahue.
Thornville	Lapeer	975	36																	J. S. Caulkins.
Traverse City	Grand Traverse	588	16	38.2[b]	+11.9	59	19	17[e]	23	35[e]	0.40	− 2.08	0.30	4.0	2	19	6	6		Gr. Rap. & Indiana Ry.
Vassar	Tuscola	641	12	35.0	+ 8.9	58	1	3	27	36	1.38	− 0.17	0.60	7.5	4	6	11	14	sw.	Pere Marquette R. R.
Wasepi	St. Joseph	842	16	34.0	+ 8.1	59	1	− 2	27	30	0.91	− 1.92	0.38	5.0	4	14	0	17	sw.	Charles A. Palmer.
Weber Dam	Ionia		0	33.0		58	3	10	27	23	0.89		0.45	5.0	3	11	10	10	sw.	Au Sable Electric Co.
West Branch	Ogemaw	973	8	33.2		54	2†	− 2	26	36	0.70		0.35	1.0	3	15	2	14	nw.	Michigan Central R. R.
Ypsanti	Washtenaw	736	28	33.2	+ 6.4	57	2	15	28	28	1.27	− 1.21	0.50	5.0	5	4	18	9	sw.	Orin J. Bemiss.
Ohio.																				
Akron	Summit	1,081	26	34.0	+ 3.5	59	1	13	28	30	1.88	− 0.70	0.77	7.0	9	5	3	23	s.	Prof. C. R. Olin.
Antwerp	Paulding	733	1	34.7		62	1	12	23	29						13	0	18	nw.	North G. Osborn.
Benton Ridge	Hancock	800	20	34.7	+ 4.9	62	1	16	27	32	1.31	− 1.32	0.50	2.3	7	8	5	18	sw.	J. W. Powell.
Bowling Green	Wood	670	32	31.9	+ 3.4	58	2	10	28	28	0.67	− 2.50	0.32	1.0	6	5	10	16	sw.	G. C. Houskeeper.
Bucyrus	Crawford	1,000	19	32.6	+ 3.5	58	1†	10	9	26	0.82	− 1.77	0.22	4.0	4	10	1	20	w.	James R. Hopley.
Cleveland (1)	Cuyahoga	762	42	35.3	+ 4.2	56	2	16	28	29	1.38	− 1.20	0.42	5.9	12	6	2	23	s.	U. S. Weather Bureau.
Cleveland (2)	do	754	16	35.3	+ 5.9	56	2	16	28	23	1.21	− 1.23	0.37	5.5	7	4	4	23	sw.	Rev. F. L. Odenbach, S. J.

TABLE 1.—*Climatological data for December, 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.**																				
Conneaut	Ashtabula	675	3	34.5	.....	53	7	11	27	29	0.93	.....	0.28	5.0	8	3	3	25	sw.	E. L. Ransom.
Findlay	Hancock	776	24	34.6	+ 3.9	61	2	15	22†	28	0.35	− 2.17	0.24	1.0	3	11	6	14	sw.	Dr. E. A. Moser.
Fremont	Sandusky	628	11	34.9	+ 5.7	58	2	13	28	25	1.14	− 1.61	0.43	3.6	7	8	3	20	.....	E. Stanley Thomas.
Hedges	Paulding	725	19	35.2	+ 6.8	61	2	13	22†	36	1.28	− 1.62	0.82	1.0	6	11	5	15	sw.	Charles Stutzman.
Hillhouse	Lake	997	20	33.2	+ 4.3	55	2	5	28	26	1.23	− 1.92	0.34	4.5	8	6	9	16	sw.	J. W. Doncaster.
Hiram	Portage	1,260	33	33.2	+ 4.0	52	14	10	28	24	2.38	− 0.62	0.66	15.0	9	8	8	15	nw.	Prof. G. H. Colton.
Hudson	Summit	1,123	52	34.4	+ 6.9	57	3	9	28	33	1.89	− 0.71	0.52	7.0	10	9	8	14	sw.	Dr. W. I. Chamberlain.
Lima	Allen	875	14	34.6	+ 6.2	61	2	16	8†	30	0.35	− 2.73	0.30	T.	2	10	9	12	sw.	Miss Ollie De Long.
Medina	Medina	994	25	32.8	+ 3.9	57	2	3	28	30	1.34	− 1.52	0.30	7.0	7	7	5	19	sw.	F. W. Clark.
Montpelier	Williams	880	21	34.4	+ 6.4	57	2	14	22	26	0.79	− 1.92	0.22	4.0	5	7	4	20	w.	G. L. Laser.
Napoleon	Henry	680	26	34.2	+ 4.9	59	2	15	21†	34	0.43	− 2.01	0.23	.....	2	10	0	21	w.	A. C. Senter.
New Bremen	Auglaize	1,038	20	35.1	+ 4.8	64	2	6	27	30	0.46	− 2.29	0.12	2.0	8	9	12	10	sw.	Miss Lillian Grothaus.
North Royalton	Cuyahoga	1,000	20	33.2	+ 4.2	56	2	9	28	27	1.60	− 1.11	0.45	7.0	9	11	8	12	sw.	W. S. Edgerton.
Norwalk	Huron	719	27	33.6	+ 3.3	61	2	7	22	29	1.74	− 0.83	0.35	9.0	9	7	9	15	w.	Giles R. Gregory.
Oberlin	Lorain	855	38	33.9	+ 3.5	59	2	7	28	29	1.26	− 0.94	0.27	7.1	8	8	4	19	s.	Prof. F. F. Jewett.
Ottawa	Putnam	720	20	35.2	+ 5.7	62	2	15	22	27	1.09	− 1.37	0.45	1.3	7	9	9	13	sw.	Prof. J. T. Maidlow.
Sandusky	Erie	629	36	35.2	+ 4.1	57	2	16	28	28	0.83	− 1.52	0.33	3.7	7	5	4	22	sw.	U. S. Weather Bureau.
Tiffin	Seneca	775	31	34.4	+ 3.8	62	2	15	9†	28	1.07	− 1.54	0.30	4.2	8	8	13	10	sw.	Prof. T. H. Sonnedecker.
Toledo	Lucas	769	42	35.4	+ 4.9	59	2	15	27	27	0.95	− 1.35	0.51	1.9	6	7	3	21	sw.	U. S. Weather Bureau.
Upper Sandusky	Wyandot	854	30	36.2	+ 5.3	61	1	14	28	27	1.73	− 0.94	0.60	5.0	7	6	7	18	w.	Robert E. Tracht.
Vickery	Sandusky	588	20	33.6	+ 3.9	58	2	10	28	27	0.67	− 1.78	0.24	2.1	9	7	7	17	sw.	John W. Barr.
Wapakoneta	Auglaize	898	1	33.7	.....	58	1†	12	27	28	0.40	.....	0.10	2.5	9	6	10	15	nw.	Dr. William Kayser.
Wauseon	Fulton	780	41	33.5	+ 5.8	57	1	14	22	28	0.93	− 1.72	0.46	2.9	11	7	7	17	sw.	Thomas Mikesell.
Wickliffe	Lake	740	1	.....	.....	.....	.....	.....	.....	.....	1.15	.....	0.31	1.5	7	6	5	20	sw.	C. M. Richardson.
Pennsylvania.																				
Erie	Erie	658	40	35.0	+ 3.3	53	2	15	28	31	1.07	− 1.99	0.39	5.7	9	3	5	23	sw.	U. S. Weather Bureau.
New York.																				
Adams Center	Jefferson	540	22	32.7	+ 8.9	52	7†	− 6	27	32	2.56	− 1.41	0.60	15.0	10	14	9	8	s.	A. E. Cooley.
Angelica	Allegany	1,340	30	29.0	+ 3.3	50	7	−10	27	34	1.72	− 0.94	0.68	10.0	10	6	2	23	w.	C. P. Arnold.
Appleton	Niagara	270	22	33.9	+ 4.6	56	7	4	27	28	1.18	− 1.43	0.68	4.5	6	5	9	17	sw.	H. A. Van Wagoner.
Auburn	Cayuga	715	44	34.8	+ 5.8	53	7	13	28	22	2.04	− 0.72	0.70	12.4	9	7	9	15	s.	J. W. Ackerman.
Avon	Livingston	585	18	32.6	+ 5.7	54	7	2	28	35	1.52	− 0.33	0.45	12.0	7	5	8	18	.....	W. G. Markham.
Brockport	Monroe	537	17	32.2	+ 4.8	55	7	− 4	27	36	2.35	− 0.71	1.16	14.2	7	10	7	14	s.	C. O. Beaman.
Buffalo	Erie	767	62	33.6	+ 3.5	51	1	10	27	27	1.37	− 2.00	0.51	8.4	8	4	9	18	sw.	U. S. Weather Bureau.
Canisius College	....do	.....	0	34.5	.....	58	1	8	27	28	1.74	.....	0.62	8.0	6	6	9	16	sw.	M. T. Ahern, S. J.
Canton	St. Lawrence	448	19	27.0	+ 4.3	52	7	− 6	27	31	2.38	− 1.21	0.80	18.4	14	6	6	19	sw.	U. S. Weather Bureau.
Cape Vincent	Jefferson	246	8	32.4	.....	50	7	6	27†	27	2.23	.....	0.94	.....	4	7	8	16	w.	J. H. Grapotte.
Chazy	Clinton	151	13	28.0	+ 8.1	54	3	−12	28	36	2.28	+ 0.75	1.00	18.0	7	2	6	23	n.	W. R. North.
Chestnut Lawn	Wyoming	1,090	1	31.7	.....	54	7	− 6	27	32	1.60	.....	0.84	11.0	8	13	6	12	sw.	Charles Peterson.
Dannemora	Clinton	1,490	8	26.2	.....	48	18	2	19†	34	1.87	.....	0.87	18.8	9	24	6	1	w.	Dr. D. L. Van Derzee.
Elba	Genesee	500	14	30.6	+ 4.6	52	1†	0	27	34	1.10	− 2.08	0.60	9.0	3	9	8	14	sw.	Joseph S. Wilford.
Fayetteville	Onondaga	530	12	31.6	+ 6.1	56	7	3	28	24	1.84	− 0.89	0.83	13.5	11	9	10	12	nw.	Dana H. Wells.
Gabriels	Franklin	1,729	11	25.2	.....	43	17	−11	27	31	2.40	.....	0.48	19.5	14	7	3	21	w.	Gabriels Sanitarium.
Geneva	Ontario	550	0	33.6	.....	56	7	6	28	40	.....	.....	.....	10.8	.....	.....	.....	.....	.....	Agri. Exp. Station.
Harkness	Clinton	622	11	28.6	+ 7.8	51	17	− 5	28	28	0.99	− 0.59	0.42	17.0	6	23	1	7	w.	J. W. Harkness.
Hemlock Lake	Livingston	900	15	33.4	+ 6.0	53	7	3	27	25	.....	.....	.....	.....	.....	9	7	15	sw.	B. P. McGrady.
Hunt	....do	1,321	14	31.8	+ 5.1	53	7	− 7	27	43	1.48	− 1.30	0.80	8.0	3	10	7	14	sw.	W. S. Barager.
Ithaca	Tompkins	928	35	32.6	+ 4.2	52	14	4	28	44	1.94	− 0.70	0.87	12.8	11	6	5	20	nw.	U. S. Weather Bureau.
Keene Valley	Essex	1,000	15	29.6	+ 9.9	60	2	− 8	28	46	2.51	− 0.39	0.52	19.2	12	13	10	8	sw.	E. R. Wells.
King Ferry	Cayuga	.....	13	.....	.....	.....	.....	.....	.....	.....	1.74	− 0.66	0.57	17.5	8	3	11	17	nw.	L. A. Goodyear.
Lake George	Warren	350	16	30.8	+ 6.6	52	7	− 4	27	37	3.27	− 0.39	1.20	20.7	5	8	12	11	s.	Chas. Forsall.
Lake Placid Club	Essex	1,864	5	20.6	.....	41	2	− 9	27†	31	3.98	.....	0.65	31.3	18	3	11	17	sw.	H. Van Hoevenberg.
Lauterbrunnen	Wyoming	1,260	1	31.6	.....	54	7	− 2	27	32	1.19	.....	0.50	8.8	8	8	11	12	w.	J. O. Howard.
Lockport	Niagara	520	26	32.9	+ 4.3	54	7	5	27	29	1.49	− 1.02	0.95	4.5	4	8	13	10	sw.	R. N. Clark.
Lowville	Lewis	800	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. W. F. H. Breeze.
Moira	Franklin	200	13	27.4	+ 8.3	45	14	− 7	27†	35	2.42	− 0.71	0.60	16.0	7	4	16	11	w.	C. E. McBride.
Nehasane	Hamilton	1,750	5	24.4	.....	44	2†	−15	27	34	3.07	.....	0.83	33.9	18	3	9	19	sw.	L. W. Brown.
North Lake	Herkimer	1,822	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Redmond.
Ogdensburg	St. Lawrence	175	29	28.8	+ 7.2	50	7	− 3	27	32	3.05	+ 0.61	1.50	25.3	8	3	8	20	s.	State Hospital.
Old Forge	Herkimer	1,733	5	25.4	.....	46	2	−14	27	40	3.83	.....	0.90	28.5	16	11	5	15	w.	Mrs. S. W. Nelson.
Oswego	Oswego	335	43	32.8	+ 3.6	55	7	9	27	28	1.88	− 1.71	0.60	7.8	11	2	7	22	s.	U. S. Weather Bureau.
Otto	Cattaraugus	1,410	9	31.6	.....	55	6	10	9†	30	0.58	.....	0.15	.....	8	8	12	11	.....	W. J. Winke.
Palermo	Oswego	460	54	.....	.....	.....	.....	.....	.....	.....	1.98	− 1.73	0.58	14.0	10	8	7	16	se.	Wm. A. Bartlett.
Perry City	Schuyler	1,038	33	27.8	+ 2.4	50	7	− 6	12†	51	2.41	− 0.35	1.30	15.3	10	3	8	20	nw.	W. H. Jeffers.
Philadelphia	Jefferson	485	7	29.8	.....	51	7	− 8	27	33	2.22	.....	0.42	12.5	13	1	16	14	w.	E. D. Babcock.
Potsdam	St. Lawrence	300	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. E. Sutherland.
Ranger School	....do	1,750	0	26.8	.....	45	3†	−13	27	32	2.91	.....	0.72	29.5	18	7	1	23	w.	Prof. R. P. Prichard.
Raquette Lake	Hamilton	1,776	5	25.2	.....	47	2	−12	27	34	3.62	.....	0.70	30.6	13	3	4	24	w.	R. J. Dunning.
Rochester	Monroe	523	84	33.0	+ 4.1	56	7	6	27	30	2.49	− 0.39	1.12	14.4	11	3	9	19	sw.	U. S. Weather Bureau.
Romulus	Seneca	719	21	32.8	+ 4.1	53	7	8	28	34	1.45	− 0.77	0.80	3.9	6	5	6	20	nw.	John H. Coryell.
Shortsville	Ontario	740	14	32.2	+ 4.9	56	7	5	27†	39	1.88	− 0.08	0.90	12.2	6	15	7	9	sw.	C. H. Latting.
Skaneateles	Onondaga	.....	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Durkan.
Syracuse	....do	597	11	32.0	+ 3.7	53	7	8	27	27	2.40	− 0.25	1.50	15.9	10	5	6	20	w.	U. S. Weather Bureau.
Tupper Lake	Franklin	1,522	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. A. W. Maddox.
Volusia	Chautauqua	1,167	14	30.8	+ 4.3	49	1	9	27	27	1.75	− 1.54	0.65	12.0	5	4	11	16	sw.	Benjamin Breads.
Wanakena	St. Lawrence	1,600	3	27.7	.....	50	1	−14	27	37	3.35	.....	0.73	29.5	18	7	1	23	w.	Prof. R. P. Prichard.
Watertown	Jefferson	540	21	31.1	+ 7.7	52	7	− 2	27	28	2.14	− 1.31	0.50	16.0	11	3	11	17	sw.	C. B. Parsons.
Wedgwood	Schuyler	1,430	24	31.0	+ 4.8	53	13	5	12†	44	2.25	− 0.49	1.07	16.5	10	11	6	14	nw.	O. F. Corwin.
Westfield	Chautauqua	837	17	33.1	+ 4.8	52	7	7	27	31	1.55	− 1.20	0.49	3.0	7	4	22	5	.....	John R. Rogers.
York	Livingston	760	1	32.6	.....	55	7	0	27	37	1.49	.....	0.68	7.4	8	5	10	16	sw.	M. N. Stewart.
Vermont.																				
Burlington	Chittenden	404	5	27.0	+ 4.5	45	17	− 5	28	27	1.61	− 0.08	0.52	14.9	11	4	8	19	s.	U. S. Weather Bureau.
Cornwall	Addison	517	19	28.0	+ 2.6	47	5	− 5	27	27	3.19	+ 0.93	1.00	35.5	13	9	5	17	s.	C. H. Lane.
Enosburg Falls	Franklin	601	21	25.4	+ 3.1	48	8	−15	28	34	2.05	− 0.92	0.46	24.5	15	6	4	21	s.	L. H. Pomeroy.
Hyde Park	Lamoille	576	1	25.5	.....	50	17	−18	28	35	2.20	.....	0.75	30.0	12	4	6	21	w.	A. V. Wiswell.
Northfield	Washington	876	26	24.6	.....	49	14	−16	28	34	2.41	.....	0.85	24.4	12	6	7	18	n.	U. S. Weather Bureau.
Wells	Rutland	750	20	26.6	+ 2.8	48	7†	− 2	27	30	2.87	+ 0.53	1.27	18.0	5	6	11	14	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 December, 1913. District No. 4, Lake Region.*

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		T.																							T.		.25					0.25
Duluth	do		T.					T.													T.	T.			T.	.01	.05	.11	T.		T.		0.17
Grand Marais	do																																
Stephens Mine	do							T.													T.				T.			.15			T.		0.15
Two Harbors	do																										T.	.05					0.05
Virginia	do							T.														T.			T.	.20							0.20
Wisconsin.																																	
Appleton	Fox	.15					.28	.04													T.							.01	.01				0.49
Ashland	L. Superior							T.													T.					T.		T.					T.
Bayfield	do							T.													T.					T.		.08					0.08
Cecil	Fox						T.	T.										T.										T.					T.
Cornucopia	L. Superior																																
Crandon	Fox	.20																										.01					0.21
Florence	Menomonee	.04						T.													T.							T.					0.04
Fond du Lac	Fox	.20					.24	.11													.02							T.					0.57
Grand River Locks	do	.08	T.				.16	.12													.10												0.46
Green Bay	L. Michigan	.04					.37	.01													.02					T.		.02	T.				0.46
High Falls	do	.05						.03													T.	T.				T.		.03					0.11
Iron River	L. Superior																																
Kewaunee	L. Michigan	.24					.17	.14													T.								T.				0.55
Manitowoc	do	.33					.24														.02					T.			.02			.02	0.63
Menasha	Fox	.15					.11	T.													.02					T.		T.					0.28
Menomonee Falls	L. Michigan	.02	.10				.24	T.													T.						T.		.02				0.38
Milwaukee	do	.02	T.				.03	.02													T.					T.			.01				0.08
New London	Fox	.15					.30																					T.					0.45
Oconto	L. Michigan	.14																			T.												0.14
Oshkosh	Fox	.48	T.				T.		T.																			T.				T.	0.48
Pine River	do	.10	T.				.07	.38													T.					T.		.01	T.				0.56
Plum Island	L. Michigan	.03	.05																		T.					T.							0.08
Plymouth	do	.24	.03				.26	.10													T.								T.				0.63
Port Washington	do	.20					.05	.10																									0.35
Racine	do	.32	T.				.04	T.																T.		T.		T.	T.				0.36
Ripon	Fox	.26	.03				.17	.21													T.							*	.01			T.	0.68
Sheboygan	L. Michigan	.51	T.				.09	T.													T.			T.			T.		T.				0.60
Sturgeon Bay	do	.22	.03				.07	T.													T.							.01					0.33
Superior ‖	L. Superior																										.01	.10	.02				0.13
Waupaca	Fox		.07				.11																					T.					0.18
Illinois.																																	
Chicago	L. Michigan	.04					.02	.09													.01			.29	T.								0.45
Highland Park	do	T.					.11														T.			.20	T.								0.31
Indiana.																																	
Auburn ‖	Maumee	.76							.11													T.		T.	T.	T.	T.						0.87
Berne	do	.02					.06	.10	T.												.01			.13	T.	.10	.06						0.48
Fort Wayne	do	.01	T.				.08	.15	T.								T.				.09	T.		.31	.01	.01			T.				0.66
Hammond	L. Michigan	.10	.05		.34			.15	.09												T.			.36									1.09
Howe ‖	St. Joseph	.58	.03					.25														.05											0.91
Notre Dame	do	.11					T.	.40	.30												T.	T.		.33									1.14
Whiting	L. Michigan	.07						T.																.20									0.27
Michigan—Upper Peninsula.																																	
Baraga	L. Superior	.20						.20													.10												
Bergland	Ontonagon																																
Calumet	L. Superior							.02										T.			.16	T.				.08		T.	.06	T.		T.	0.32
Chatham	do	.02	.01					.20										.50			.05	.05				.05		.02					0.90
Deer Park	do																																
Eagle Harbor	do							T.									T.				T.												
Escanaba	L. Michigan	.03					.03	.14										T.			.08					T.		.03	T.			T.	0.31
Ewen	Ontonagon	T.	T.					.41										T.			.10	.11	T.			.10		T.	.10				0.82
Grand Marais	L. Superior	T.	.01					.20													T.					T.			.01	T.	T.		0.22
Houghton	do					T.		.23										T.			.05	T.				.05		.03	T.	T.	T.	T.	0.36
Humboldt	Escanaba	T.						.20													.10					.10		T.					0.40
Iron Mountain	Menominee	.03						T.													.06							.02					0.11
Iron River	do	T.						.10	.10	T.										.10	.10							T.	T.				0.40
Ironwood	L. Superior							.32													T.	T.				T.		T.					0.32
Ishpeming	Escanaba	.10	.02					.10	.01									T.			T.	.01				.01	T.	.01				T.	0.26
Isle Royale	L. Superior																																
Mackinac Island	Lake Huron																																
Maple Ridge	L. Michigan	.40						.30													.30					.10							1.10
Marquette	L. Superior	.09	T.					.46										T.	T.		.31	.01				.03	T.	T.	T.	T.	T.	.04	0.94
Menominee	Menominee	.05					T.														T.								T.				0.05
Munising	L. Superior	.09	.04				T.	.50	.09									.02	.01		.07	.01				T.			.02			.02	0.87
Newberry	Tequamenon	.06	.01					.28	.10									.08			.05								.02			T.	0.60
Ontonagon	L. Superior							T.										T.		T.		T.						T.	T.	T.			T.
Powers	L. Michigan																																
St. Ignace	Lake Huron	T.	T.					.05	.30												T.								.20				0.55
Sault Ste. Marie	St. Marys	.09	.06				.08	.09			T.							.01			.10	T.						.02	T.	T.			0.45
Seney	Manistique	.07						.40	.10									T.			T.					T.			.05				0.62
Thomaston	L. Superior					.10																		.10									0.20
Victoria	Ontonagon							.25																		T.	.05						0.30
Watersmeet	do	.06	.02	T.			T.	.10	T.												.01	T.	T.			.02		T.	.02				0.23
Whitefish Point	L. Superior	.01	.04	.01				.22													.13								.05				0.46
Michigan—Lower Peninsula.																																	
Adrian	Raisin	.86					.11	T.	.14															.39									1.50
Allegan	Kalamazoo	.19						.41	.30												T.			.30									1.20
Alma	Saginaw	.30					T.	.18	.06															.32					T.				0.86
Alpena	Lake Huron	.09	T.				.11	.20	.03		T.							T.	.01		.04			.06		T.	T.		T.	T.	T.	T.	0.54
Ann Arbor	Huron	.38	.03				.06	.27	.03							T.					T.	T.		.32		T.							1.09
Arbela	Saginaw	.23	.05					.13													T.			.40									0.81
Armada	Clinton	.35	.04				T.	.34	.09								T.				T.			.46	T.		T.			T.		T.	1.28

TABLE 2.—*Daily precipitation for December, 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—Con.																																	
Battle Creek	Kalamazoo	.51	T.					.05	T.													T.		.10	.22	T.			T.	T.			0.88
Bay City	Saginaw	.30					.06	.01													.01			.30									0.68
Benzonia	Betsey	.04	T.				.20	.20	.30										T.		.12					T.			.05				0.91
Big Rapids	Muskegon	.30							.18															.08									0.56
Bloomingdale	L. Michigan	T.	T.	T.			T.	.15	T.												T.			.70					T.	T.			0.85
Cadillac	Manistee		.11					.19	.40												.10								.05				0.85
Cassopolis	St. Joseph																																
Charlevoix	L. Michigan																																
Charlotte	Kalamazoo	.44																						T.									0.44
Cheboygan	Cheboygan																																
Clinton	Raisin	.99					.11	.30														T.		.35									1.75
Coldwater	St. Joseph	.58					.05	.21	.05													.02		.30									1.21
Croton	Muskegon	.44	T.					.17	T.												T.			.05				T.	T.				0.66
Detroit	Detroit	.31	T.				.03	.18	.04								T.		T.		T.			.42	.01		T.	T.					0.99
Durand	Saginaw		.41						T.												T.			.30					T.				0.71
East Tawas	Lake Huron	.48	T.				.20														T.			.08					T.				0.76
Eloise	Rouge	.54					.03	.15	.03													T.		.49	T.					T.			1.24
Five Channels	Au Sable	.35	.02					T.	T.												T.			T.									0.37
Flint	Saginaw	.35	.10					.07	T.															.27									0.79
Frankfort	Betsey	.10						.30													.20						.20		.10				0.90
Ganges	L. Michigan	.06	.02				T.	.30	.10	T.											.02			.35					T.				0.85
Gaylord	Cheboygan	.35	T.					.52											T.		.03								.02				0.92
Grand Haven	Grand	.01	.01				.01	.35													T.			.10				.01	.02				0.51
Grand Rapids	do	.01	T.		T.		.02	.14	.01												.01			.10	T.	T.	T.	T.	.02	T.			0.31
Grape	Raisin	.40	.01				.05	.11	.05										T.			T.		.46									1.08
Grass Lake	Grand																																
Grayling	Au Sable	.15	.28	T.				.28	.05												.09	.06		.03		T.		T.	.06				1.00
Greenville	Grand	.41					.05	T.													T.			.10					T.				0.56
Harbor Beach	Lake Huron	.08						.20	.30										.20		.10			.20					.05				1.13
Harrison	Saginaw	.47						.15																									0.62
Harrisville	Lake Huron	.05																						.10									0.15
Hart	Pentwater						.24	.15													.30												0.69
Hayes	Pigeon	T.	T.					.20													T.					.20							0.40
Highland	Huron																																
Hillsdale	St. Joseph	.25					.01	.05	.10																.30								0.71
Holland	L. Michigan	.11	T.				.01	.20	T.												T.			.21					T.				0.53
Houghton Lake	Au Sable	.11						.29	T.	T.	T.	T.																					0.40
Howell	Saginaw	.69	.01	.01	T.		.02	.13	.06								T.							.05	T.								0.97
Ivan	Manistee	.10	T.					.40	.10										T.		.02								T.				0.62
Jackson	Grand	.60	.03				.02	.20	T.															.20									1.05
Jeddo	St. Clair	T.	T.				T.	.05	.15												T.			.35								T.	0.55
Johannesburg	Cheboygan	.28	T.					.10	.35										T.		.10	T.					T.		.10				0.93
Kalamazoo	Kalamazoo		T.						.80												T.			.50					T.				1.30
Lansing (Agr. Col.)	Grand	.05	.03					.09													.01			.35	.01				.01				0.55
Lansing (capitol)	do	.32	.08					.07	.02													.02		.13	.27	T.			T.				0.91
Lapeer	Saginaw																																
Ludington	Pere Marquette.	.11	T.				.18	.16	.01										T.		.04					T.			.04				0.54
Luther	Manistee	.15	.02	T.			.02	.17	.10												.04			T.					.05				0.55
Mackinaw	Lake Huron	.20																															
Mancelona	L. Michigan																																
Manistee	Manistee	.21					.15	.15																					.05				0.56
Marshall	Kalamazoo																																
Midland	Saginaw	T.						T.													T.			.02									0.02
Morenci	Maumee	.61					.03	.13	.02													.05		.54			.03						1.41
Mount Clemens	Clinton	.03	T.				T.	.30	T.	T.														.30									0.63
Mount Pleasant	Saginaw																																
Muskegon	Muskegon																																
Old Mission	L. Michigan	.24						.31	.06												.10								.06				0.77
Olivet	Kalamazoo	.25	.01				T.	.03													.02			.31				T.	T.				0.62
Omer	Lake Huron						.05	.05																.04									0.14
Onaway	Cheboygan	.21						T.													.05								.05				0.31
Owosso	Saginaw	.62	.10					.10	.10					.05						.30													1.27
Petoskey	L. Michigan	.08	.12				.16	.10	.08																	T.			T.				0.54
Plymouth	Rouge	.10					T.																	.01									0.11
Pontiac	Clinton	.40	.04				T.	.20									T.				T.			.40									1.04
Port Austin	Lake Huron	.06						.10																.10									0.26
Port Huron	St. Clair	.02	.01	T.			.04	.33	.01		T.						T.		T.		T.			.23	T.	T.	T.					T.	0.64
Reed City	Muskegon	.28	.02					.18													.03								.02				0.53
Roscommon	Au Sable							.05													.05			.03					.05				0.18
Saginaw, East Side	Saginaw	.36	.05	.02			T.	.50													.06			.30	T.		T.		T.				1.29
Saginaw, West Side	do	.17					T.	.18													.01			.32	.01	T.	T.	T.	T.				0.69
St. James	L. Michigan	.05					.52	T.										T.	T.		T.	T.						T.	T.		T.		0.57
St. Joseph	St. Joseph							.10	.02															.40									0.52
Sandusky	Lake Huron	.06																						.20									0.26
Saranac	Grand	.54						.10																.20									0.84
South Haven	L. Michigan	.10						T.													T.			.20					T.				0.30
Thornville	Saginaw																																
Traverse City	L. Michigan							.30													.10												0.40
Vassar	Lake Huron	.35						.38													.05			.60									1.38
Wasepi	St. Joseph	.38						.10	.10															.33									0.91
Weber Dam	Grand	.39					.05																	.45									0.89
West Branch	Lake Huron	.35		T.				.30																.05				T.					0.70
Ypsilanti	Huron	.37	.02				.11	.27	T.															.50									1.27
Ohio.																																	
Akron ‖	Lake Erie	.11	.07	T.				.06	.13	.30		T.	T.									.11	T.	.17	.16	T.	.77	T.					1.88
Antwerp	Maumee																																
Benton Ridge	do	.28	T.	.05				.03	.10													.05		.30	T.	.50							1.31
Bowling Green	Lake Erie	.20		.03			.02	T.	.05															.32		.05							0.67
Bucyrus	Sandusky	.22	T.	T.				T.	T.															.20	T.	.20	.20						0.82
Cleveland (1)	Lake Erie	.09	.01	.01			.13	.37	.06		.02								T.			.09		.28	.02	.26	.04						1.38
Cleveland (2)	do	.08	T.				.11	.37	.08		T.											.04		.18		.35							1.21
Conneaut	do	.05						.20	.07		T.											.05		.19	.04	.05	.28						0.93
Findlay	Maumee	.24	T.	.01			T.	T.																	T.	.10							0.35
Fremont	Sandusky	.43					.03	T.	.07													.04	.11	.11		.35							1.14
Hedges	Maumee	.82			.02		.04	.09	.10															.21									1.28
Hillhouse	Lake Erie	.13	T.	T.			.05	.30	.05		T.	T.							T.			.03	T.	.34	.05	T.	.28						1.23
Hiram	do	.19		T.			.06	.47	.30		T.						T.					.12		.33	.02	.23	.66						2.38
Hudson	do	.12	.04				.05	.44	.02													.02		.26	.22	.52	.20						1.89

TABLE 2.—*Daily precipitation for December, 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—Continued.																																	
Lima	Maumee			T.			T.	T.																.30	.05	T.							0.35
Medina	Lake Erie	.10					T.	.25	.20													.09		.30		.10	.30						1.34
Montpelier	Maumee						.17	.10	.20													.10		.22	T.	T.	T.						0.79
Napoleon	do																						.23	.20									0.43
New Bremen	do	.12		T.			.01	.05	.03													.04		.09	.02	.10							0.46
North Royalton	Lake Erie	.08					.05	.10	.20													.27		.45	.05	.20	.20						1.60
Norwalk	do	.11		.03			.03	.22	.20													.30		.30		.35	.20						1.74
Oberlin	do	.04					T.	.22	.11		T.											.22		.15	.03	.27	.22						1.26
Ottawa	Maumee	.45		.05			.03	.05	.04													T.		.32		.15							1.09
Sandusky	Lake Erie	.12					.04	.01	.06		T.							T.				.04		.33		.23	T.	T.					0.83
Tiffin	Sandusky	.20		.04			T.	.03	.20													.07		.30	T.	.13	.10	T.					1.07
Toledo	Maumee	.12		T.			.03	.13	.06													T.		.51	T.	.10	T.	T.					0.95
Upper Sandusky	Sandusky	.60	.15	T.				.15	.27														T.	.10	.20	.26							1.73
Vickery	Lake Erie	.10		.01			.05	.01	.01													.01		.24		.16	.08						0.67
Wapakoneta	Maumee	.05					.01	.05	.02													.04		.10	.01	.08	.04						0.40
Wauseon	do	.16	.01			.02	.08	.09	.02									.02			.01	.04		.46		.02	T.		T.				0.93
Wickliffe ‖	Lake Erie	.17	T.	T.			T.	.15	T.		.10											.04		.31		.10	.28						1.15
Pennsylvania.																																	
Erie	Lake Erie	T.	T.		T.	T.	.06	.23	.07		.05	T.							T.			.05		.17	.05	.11	.28				T.		1.07
New York.																																	
Adams Center	L. Ontario			.03	.13				.40		.40	.40	T.	T.	.10				.10					.27	.13	T.	.60						2.56
Angelica	Genesee			.02				.09	.13			.13							T.	.05		.05	.02	.54	.01		.68						1.72
Appleton	L. Ontario			.02	T.			.03	.10		.02	T.							T.		T.			.68	T.	T.	.33					T.	1.18
Auburn	Oswego			.05	.10			.16	.15			.70							.03					.01	.34		.50						2.04
Avon	Genesee							.32	.13		T.	.16							T.			.10		.26	.10		.45						1.52
Brockport	L. Ontario				T.			.25	.15		T.	.23												.37	.11	.08	1.16						2.35
Buffalo	Lake Erie		T.				T.	.11	.29	T.	.07	.03							T.		T.	.01		.51	T.	.05	.30	T.	T.	T.	T.	T.	1.37
Canisius College	do			T.				.20	.28		.24	.14							T.			T.		.62	T.		.26	T.			T.		1.74
Canton	Grass	.05		.24	.07	T.		.29	.64		.06	.06			T.		.03	.01	.01			.01		.40	T.	T.	.45		T.		.06	T.	2.38
Cape Vincent	St. Lawrence							.47			.58													.94			.24						2.23
Chazy	Champlain	.12		.12	T.			.14	.30			.10													1.00			.50					2.28
Chestnut Lawn	Genesee							.21	.05		T.	.01							.02		T.	.02		.43	.02	T.	.84				T.		1.60
Dannemora	Champlain	.05		.25	.07			.20	T.		.10	T.								T.					.06	.87		T.	.02			.25	1.87
Elba	L. Ontario			T.	T.			.20	.30		T.	T.										T.		T.	T.	T.	.60						1.10
Fayetteville	Oswego			.02	.03			.21	.17		.02	.02					T.		.02		T.	T.	T.	.28	.22	T.	.83	.02			T.		1.84
Gabriels	St. Regis		.18	.22			.23	.48			.12	.08			T.	T.	.09	.11			.05			.40		.14	.15		.09			.06	2.40
Geneva	Oswego																																
Harkness	L. Champl'n	.04		.03			.13	.10						T.				T.					T.	.42		.27					T.		0.99
Hunt	Genesee							.16																.52			.80						1.48
Ithaca	Oswego		T.	.01				.17				.03		.03	.08				.10			.09		.51	.05	.30	.57	T.			T.		1.94
Keene Valley	Au Sable				.09			.33	.45						.03		.04		.03		.04			.43	.42		.52				.09	.04	2.51
King Ferry	Oswego			.02				.19	.24			.06							.07			.07		.52			.57						1.74
Lake George	Champlain							1.20	.42										T.		T.			.43	.36		.86			T.	T.	T.	3.27
Lake Placid Club	Au Sable			.16	.25	.15		.11	.65		.25	.50			T.	T.	.04	.05	.15	.05	.12			.25	.30	T.	.45	.15			.05	.30	3.98
Lauterbrunnen	Genesee							.26	.04		T.	.03							.01			.05	T.	.23	.07	T.	.50						1.19
Lockport	L. Ontario			.12				.17	T.		T.	T.												.95		T.	.25						1.49
Lowville	Black																																
Moira	St. Lawrence	.46		.36	.10		T.		.60								T.	T.	.10					.50			.30						2.42
Nehasane	Black	.02	T.	.10	.20	.03		.37	.83		.26	.07			T.		.07	.06	.06	.02		.12		.15	.25	T.	.30				.12	.04	3.07
North Lake	do																																
Ogdensburg	St. Lawrence	T.	T.	.27	.05			.20	1.50		.13	.14			T.			T.	T.					T.	.70		.06				T.	T.	3.05
Old Forge	Black			.15	.20	.08		.62	.90		.09	.23					.03	.05	.17			.10		.28	.30		.50				.09	.04	3.83
Oswego	L. Ontario			T.	.04	T.		.51	.04		.06	.06					.03		.02	T.	T.	T.		.51		.02	.58	T.	T.		T.	.01	1.88
Otto	Lake Erie							.09	.15	.06	.03					.06						.02		.11	T.	T.	.06						0.58
Palermo	L. Ontario				T.	.16		.30	.47	.02	T.	.26	.03					.06		T.	T.				.10		.27	.31				T.	1.98
Perry City	Oswego			.02	.02			.15				.13							.10			.04	.10	.31	.24		1.30						2.41
Philadelphia	St. Lawrence	T.		.05	.07			.33	.37		.09	.24					.03		.05					.33	.15	.07	.42				.02	T.	2.22
Potsdam	Raquette																																
Ranger School	Oswego			.25	.26	.04		.37	.72		.18	.04			.01		.02	.05	.03	T.		.08	T.	.08	.20	.02	.40	T.	T.		.11	.05	2.91
Raquette Lake	Raquette	.08		.06	.18			.45	.60		.26	.12							T.	.14		.21			.70		.65				.09	.08	3.62
Rochester	Genesee			T.	.01			.17	.15		.10	.33							.17			.01		.42	.01	.18	.94				T.	T.	2.49
Romulus	Oswego								.11		T.	.10							.10		T.	T.		.32	.02		.80						1.45
Shortsville	do							.26	.08			.12							.12					.40			.90						1.88
Skaneateles	do																																
Syracuse	do			.01	.02			.26	.05		.05	.01					T.		.06	T.	T.	T.		.44	T.	.15	1.35	T.			T.	T.	2.40
Tupper Lake	Raquette																																
Volusia	Lake Erie			T.				.57	.27		T.								T.			T.		.17	.09		.65						1.75
Wanakena	Oswegatchie			.28	.30	.03		.39	.73		.19	.05			.02		.02	.07	.04	T.		.07	T.	.10	.36	.02	.53	T.	T.		.10	.05	3.35
Watertown	Black				.20			.06	.47		.15	.37					.03		.12		T.	.01		.22	.01	T.	.50		T.		T.	T.	2.14
Wedgwood	Oswego			.02				.15	.23		.05	.12							T.	T.		.11	.02	.28	.20		1.07				T.		2.25
Westfield	Lake Erie					T.		.49	.09										.02			.16	T.	.36	.14	T.	.29						1.55
York	Genesee			.06	T.			.20	.10		T.	T.			.10		T.					.07		.25	.03	T.	.68				T.		1.49
Vermont.																																	
Burlington	Champlain	.02	T.	.14	.08			.11	.31		.02	.08			.03	T.	T.		T.		T.		T.	.52	T.	T.	.27			T.	T.	.03	1.61
Cornwall	do	.12		.10	.05		.02	.45	1.00			.15			.02				.02					.10	.36	T.	.75					.05	3.19
Enosburg Falls	do	.06		.34	.08			.20	.46		.05	.04			.03		T.	.01	.03			.03			.40	.01	.24				.07	T.	2.05
Hyde Park	do	.07		.20	.07			.40	.25		.05	.05				.02			.02			.02			.75		.30				T.	T.	2.20
Northfield	do	.02		.05	.02	.01		.27	.46		.01	.01			T.		T.		.01					.58	.27		.70				T.	T.	2.41
Wells	do	T.		.03				.51	1.27										T.					T.	.31		.75						2.87

● 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 at selected stations for December, 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....	38	36	40	34	42	40	49	43	56	48	59	50	41	38	40	35	41	38	40	39	42	39	45	42	57	51	50	42
2....	46	32	45	35	47	41	49	44	52	46	56	50	43	36	44	33	42	37	42	38	42	38	52	39	52	49	51	44
3....	45	31	47	30	44	37	47	42	48	43	51	39	40	32	41	28	43	36	43	36	40	36	40	33	45	44	45	35
4....	46	32	54	33	51	35	53	39	57	41	54	37	56	34	51	32	46	39	55	38	44	40	48	37	50	37	48	32
5....	52	35	53	34	52	35	48	39	46	38	47	37	52	33	51	29	42	31	50	37	44	37	49	32	45	38	48	34
6....	46	17	46	25	42	37	44	42	49	43	49	37	41	30	40	22	41	22	43	30	37	29	40	32	46	37	43	30
7....	18	9	39	10	37	15	42	17	47	18	49	16	31	14	34	10	22	12	30	14	34	13	40	20	30	29	39	16
8....	30	9	31	13	30	18	30	20	33	19	29	16	32	19	28	6	33	18	34	19	28	11	26	17	31	18	26	13
9....	39	21	39	20	42	22	42	25	43	24	36	18	39	19	37	18	42	31	43	26	37	16	39	18	36	19	36	19
10....	36	25	39	28	43	29	44	35	46	35	40	31	37	24	37	23	38	25	38	25	38	11	38	21	40	19	38	30
11....	53	26	50	19	44	25	48	32	47	35	40	25	40	20	49	21	57	25	49	25	31	8	38	18	36	20	34	14
12....	51	28	50	30	49	35	56	40	55	37	54	32	45	30	51	28	47	28	47	34	42	29	46	31	52	21	45	31
13....	52	29	53	24	45	31	54	36	53	38	55	33	42	28	54	21	49	28	57	34	31	23	43	28	51	32	46	29
14....	37	23	48	27	38	30	41	33	44	35	52	33	39	25	39	19	43	26	46	26	38	25	40	22	42	32	41	30
15....	39	27	38	19	35	28	39	31	41	36	41	24	34	25	38	16	39	28	35	26	39	23	37	20	42	20	42	31
16....	50	28	46	26	46	32	46	34	46	36	43	34	50	28	48	26	47	36	51	30	41	33	42	37	41	22	42	33
17....	33	15	41	27	42	27	43	30	40	34	39	32	41	31	41	23	38	29	42	30	41	32	43	33	40	32	40	30
18....	31	15	32	21	35	22	37	26	39	29	36	28	33	26	34	20	30	21	30	25	32	19	34	25	35	28	35	28
19....	36	13	41	18	37	25	39	27	42	30	40	25	42	23	41	17	36	26	44	27	36	22	42	21	37	20	37	21
20....	16	8	40	14	33	16	37	22	40	35	42	27	33	12	34	12	27	14	30	16	33	14	34	19	36	23	32	24
21....	22	8	20	5	25	11	33	17	35	22	33	25	23	8	20	5	23	8	22	11	27	14	29	19	31	19	28	19
22....	25	10	27	3	32	18	37	23	37	27	34	19	31	13	18	−3	26	11	31	16	27	15	33	25	35	15	28	18
23....	30	18	32	24	32	30	36	33	39	31	35	26	33	30	28	4	30	12	32	27	30	19	33	29	31	16	31	19
24....	30	9	31	23	32	23	38	30	40	35	34	31	32	22	27	6	30	27	32	25	24	17	29	27	34	30	30	26
25....	19	3	29	12	28	18	35	24	38	34	32	28	28	18	26	9	26	13	29	16	26	3	32	16	30	29	29	25
26....	18	10	24	11	23	14	28	21	34	26	32	17	22	10	27	7	24	14	23	15	17	−2	19	10	20	19	25	8
27....	26	15	27	11	28	13	26	21	32	26	29	14	29	15	26	7	28	16	28	16	26	6	27	8	25	−4	22	4
28....	20	15	29	17	28	22	32	25	33	28	32	27	29	20	25	14	28	24	32	25	31	23	31	23	30	6	29	20
29....	22	15	32	19	34	18	34	26	34	28	30	28	34	21	31	19	31	21	30	23	31	27	25	29	32	21	32	25
30....	25	18	31	18	32	19	37	23	33	25	33	27	32	22	30	18	29	20	34	22	30	26	34	24	35	26	35	25
31....	27	22	26	20	30	19	35	21	34	26	30	26	27	21	26	18	26	17	24	21	30	4	30	19	32	26	30	24
Mns..	34.1	19.3	38.1	21.0	37.4	25.3	40.6	29.7	42.4	32.5	40.8	28.8	36.5	23.5	36.0	17.5	35.6	23.6	37.6	25.5	33.8	21.0	37.0	25.0	38.0	25.6	36.7	25.1

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....	54	47	.....	.....	52	48	53	46	57	44	57	48	58	49	50	44	51	45	44	34	54	42	46	37	40	35	39	33
2....	57	47	.....	.....	52	45	56	48	61	48	57	46	59	48	53	46	50	41	43	36	50	36	46	41	43	37	39	33
3....	52	35	.....	.....	45	32	49	41	60	45	52	39	53	39	52	40	48	36	45	32	50	34	49	36	43	32	43	32
4....	52	32	.....	.....	49	32	48	38	50	35	50	35	55	36	46	38	45	34	40	31	43	34	41	34	41	29	39	26
5....	47	36	.....	.....	49	34	44	39	45	37	44	38	47	37	46	42	45	39	42	35	48	40	44	40	43	38	42	32
6....	44	36	.....	.....	44	34	46	40	48	37	48	38	46	37	49	41	49	35	37	27	46	36	45	31	41	26	40	22
7....	46	20	.....	.....	44	19	49	20	47	21	49	21	48	21	52	21	50	23	52	31	56	26	53	26	43	30	37	24
8....	31	19	.....	.....	31	19	31	21	30	16	30	21	31	22	31	21	27	21	31	15	31	23	29	22	42	21	35	18
9....	34	21	.....	.....	39	20	32	19	31	20	35	19	37	22	32	26	35	22	33	6	34	20	34	19	28	11	34	5
10....	41	30	.....	.....	40	25	38	30	39	28	38	30	42	30	38	29	36	29	32	23	35	28	35	27	31	24	30	23
11....	33	25	.....	.....	36	18	31	28	39	22	34	27	39	24	33	21	30	16	23	8	28	15	29	15	30	7	27	2
12....	53	32	.....	.....	52	36	49	31	51	30	53	31	54	32	49	26	44	28	37	10	45	17	44	17	29	6	30	−2
13....	49	34	.....	.....	50	33	53	38	51	31	54	37	55	35	47	37	45	41	40	33	45	38	42	37	41	27	45	20
14....	45	34	.....	.....	43	26	49	37	53	23	51	36	50	35	47	35	44	30	41	20	46	30	49	30	45	23	49	15
15....	42	30	.....	.....	39	24	46	28	40	30	46	28	44	25	41	28	39	28	36	15	41	24	39	22	35	15	33	13
16....	43	33	.....	.....	48	34	43	34	44	35	44	35	46	34	41	36	42	35	36	30	43	35	41	36	37	25	39	24
17....	37	30	.....	.....	41	30	43	33	44	34	44	33	43	33	42	35	41	34	41	32	45	34	47	36	45	36	48	30
18....	34	26	.....	.....	33	21	37	31	37	21	35	29	36	29	39	28	37	24	32	15	35	22	36	22	41	14	37	14
19....	38	25	.....	.....	37	20	38	27	45	23	39	24	40	25	36	28	35	23	33	7	34	20	31	17	27	8	24	7
20....	38	28	.....	.....	37	19	41	27	42	23	41	27	42	27	41	30	39	31	39	33	40	29	41	26	36	26	34	14
21....	32	24	.....	.....	31	19	38	28	40	25	37	23	32	25	39	31	38	30	37	27	38	33	45	34	42	34	44	26
22....	36	23	.....	.....	34	17	32	25	33	17	34	22	35	22	31	25	32	25	28	18	34	26	34	23	34	15	32	10
23....	37	29	.....	.....	35	24	41	28	39	26	41	30	39	28	40	25	41	24	34	15	40	24	34	20	32	13	28	8
24....	35	32	.....	.....	33	27	37	33	36	33	35	33	36	32	39	34	40	32	31	25	40	34	39	32	32	25	38	27
25....	32	28	.....	.....	33	26	35	32	35	29	35	30	33	28	36	32	33	30	30	25	36	30	36	32	30	25	34	29
26....	30	21	.....	.....	26	6	32	26	32	21	30	23	31	20	33	21	31	15	28	2	30	19	32	12	30	13	30	12
27....	21	18	.....	.....	21	1	27	18	26	16	23	16	21	15	28	15	27	10	7	−6	22	6	19	8	16	−2	16	−10
28....	29	19	.....	.....	32	21	28	16	29	21	29	16	33	17	28	15	29	23	24	0	27	13	23	9	18	−5	15	−16
29....	30	28	.....	.....	33	29	30	26	30	26	30	24	33	25	31	24	33	25	29	19	31	15	29	19	22	−1	19	−14
30....	37	30	.....	.....	34	25	34	29	32	27	35	29	37	31	35	28	34	28	32	14	33	23	33	27	31	14	33	7
31....	34	29	.....	.....	32	27	33	29	31	25	34	29	33	29	35	30	34	25	27	−4	34	23	32	19	25	2	28	0
Mns..	39.5	29.1	.....	.....	38.9	25.5	40.1	30.5	41.2	28.0	40.8	29.6	41.5	29.4	40.0	30.1	38.8	28.5	34.3	19.6	39.2	26.7	38.0	26.0	34.6	19.5	34.2	15.0

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§ 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.