Climatological Data for April, 1910.

DISTRICT No. 4, LAKE REGION.

Prof. HENRY J. COX District Editor

GENERAL SUMMARY.

While in Climatological District No. 4, the month of April, 1910, was, as a whole, warmer and wetter than the average, yet the comparatively severe weather and heavy snows in the southwestern sections, during the latter half of the period, which accompanied storms of quite unusual character, caused considerable damage to vegetation, and interfered somewhat with wire communication and train service. The amount of snow which fell on the western shore of Lake Michigan and in portions of Indiana and Ohio during the passage of these storms was excessive, and in many instances far exceeded all previous records for April snows. Owing to the advanced state of vegetation generally, due to the favorable weather of March and the first half of April, the comparatively low temperatures experienced during the last 2 weeks of the month wrought a great deal of damage to the young shoots and blossoms of trees, but the slow return to warm weather rendered the injury less severe that would otherwise have been the case. Vines and grass growth escaped damage generally because of the heavy snowfall, which gave protection from the low temperatures. Throughout the eastern portions of the district the weather continued more favorable during this period, and at the end of the month vegetation was progressing rapidly, with the season about 10 days earlier than the average.

The storms referred to in the above paragraph as unusual were two in number, although other disturbances crossed the Lake region during the month. The first of these unusual storms reached the western portions of the district on the morning of the 15th, after a remarkably slow advance from the far west covering more than a week's time, during which it maintained a distinct trough shape. This trough shape was gradually lost in its advance on the 15th and 16th, and by the evening of the 17th the center of the disturbance, which was now of more or less circular proportions, was at Green Bay. During the next 12 hours, however, a retrograde motion carried the storm center to St. Paul, from which point it moved southeastward and eastward along the southern boundary of the district. A high area was centered over the lower St. Lawrence which blocked its progress in that direction, and a second slight retrogression occurred in the lower Lake region during the 19–20th. Its center passed into the Atlantic north of the 40th parallel on the morning of the 22d, just as the second storm reached the western borders of the district.

This second storm had approached in much the same manner as had the preceding disturbance, and lost its trough shape during the 22d, on the evening of which day it was centered at Grand Haven. It remained stationary during the next 12 hours, however, and the gradient toward the northwest increased considerably, there being a difference of 1.1 inch of pressure between Grand Haven and Winnipeg, Manitoba. By the evening of the 22d the center had moved backward to Madison, from which point it advanced rapidly eastward and joined forces in the Atlantic States with a "low" that had appeared on the southeastern coast. A second retrograde movement on the 25-26th brought the center again to Grand Haven, whence it passed southward over Kentucky.

Both these storms were accompanied by general rains and snows over the southern, central, and eastern portions of the district. They were followed by low temperatures, and together were responsible for practically all the damage to vegetation and interruption to communication mentioned above.

TEMPERATURE.

The mean temperature ranged from 3° to 6° above the normal in all portions of the district, the departures being least over the Ohio and Indiana sections, and greatest in the Upper Michigan Peninsula, and in northeastern New York and northern Vermont. Extreme departures were as follows: Mount Iron, Minn., +6.9°; Humboldt, Mich., +9.7°; Harrison, Mich., +7.2°; Plattsburg, N. Y., +7.0°; Tupper Lake, N. Y., +6.6°; and Burlington, Vt., +6.5°.

The month opened with high temperatures in all portions of the district; and, except for a cool period on the 7-13th over the sections from Ohio eastward, warm weather continued until after the middle of the month. The warmest period, using the daily normal temperatures as the basis for comparison, was that of the 3d-6th, when the departures ranged from +20° to +29° in all parts of the district. During this period were recorded the highest temperatures of the month over the sections from Erie, Pa., eastward, as well as in localities of the Upper Michigan Peninsula. Over the remainder of the Lake Superior region and Lower Michigan the absolute maximum temperatures occurred on the 13-15th, while over northern Ohio, northern Indiana, and the western shore of Lake Michigan the highest readings were made generally on the 29th. The absolute maximum temperature for the district was 88°. recorded at Fremont, Ohio, on the 15th, while the lowest monthly maximum was 55° at Whitefish Point, Mich.

From the 7th to the 13th an area of high pressure drifted slowly across the district, bringing the lowest temperatures of the month to the Lower Peninsula of Michigan, northeastern Indiana, and the remainder of the district lying to the eastward. These temperatures, except at stations located immediately on the lake shores, were considerably below the freezing point, the lowest being 12° at Gabriels, N. Y. Over the remaining portions of the district the coldest weather occurred on the 23d-24th, the temperatures ranging from 6° to 20° below freezing, the latter figure being recorded at several stations in the Lake Superior region.

On the last day of the month the temperatures were again above the normal in all sections.

PRECIPITATION.

Over the western half of the Lake Superior region, localities of the southern Michigan Peninsula, and the greater portion of northeastern New York State the precipitation was somewhat below the average for April. Elsewhere the amounts exceeded the normal values, the excess reaching between 2 and 3 inches in the Fox River Valley of Wisconsin, north-central Ohio, and western New York.

The first 2 weeks of the month were comparatively dry from Indiana northward and westward, although a distinct period of rainfall occurred on the 3d-6th, during which an inch or more was recorded at many stations. Throughout the remainder of the month, and over the eastern portions of the district during the entire month, precipitation was frequent; so that, except in the vicinity of western Superior, the deficiency of the first 2 weeks was more than made up by the 25th, and the excess for the month was generally more than half an inch.

On the 18–20th, accompanying the passage of the first of the 2 storms described in the general summary, exceptionally heavy snowfalls occurred over northern Indiana and northern Ohio, especially in the valleys of the Maumee and Cuyahoga rivers, where the depths ranged from 6 to 12 inches. Limbs of trees were broken in these sections by the weight of the snow, and some damage was done to telephone and telegraph wires. The rain and melting snow of the period caused a rapid rise of the rivers on the 20th-22d, but at no time was the flood stage reached.

From the 22d to the 26th, during the passage of the second storm referred to in the summary, severe snowstorms occurred over eastern Wisconsin and northeastern Illinois, where depths of from 6 to 12 inches were recorded, and traffic was interrupted to a considerable extent.

ICE FIELDS AT BUFFALO.

The following paragraph, relative to the extensive ice fields which held at the eastern end of Lake Erie because of the absence of brisk and high southwesterly winds, is from the report of Mr. D. Cuthbertson, District Forecaster, Buffalo, N. Y.:

The ice fields that extended beyond vision, and from shore to shore, on March 31, continued until after April 22, offering more or less obstruction to navigation, which opened on the 10th by the arrival of the steamer *Boyce*. The steamer had battled with the ice fields from the time it was sighted 15 miles out on the afternoon of the 9th until 3:30 p. m. of the 11th, taking about 48 hours to cover the distance. The western limit of the ice became visible on the morning of the 25th. The brisk westerly winds of the 22d–26th drove the large fields down the Niagara River, so that by the 30th the ice had entirely disappeared. The persistent manner in which the fields remained at this end of the lake was due mainly to the absence of brisk and high southwest and west winds, which usually drive the ice down the river.

ERRATUM.

In the report for March, 1910, page 4, 2d paragraph under the topic "Ice in the Great Lakes," the date 1893 should be made to read 1903.

ICE CONDITIONS ON THE GREAT LAKES DURING THE WINTER OF 1909-10.

By N. B. CONGER, Inspector and Marine Agent. Dated Detroit, Mich., May 23, 1910.

There was not as much ice as usual in any of the lakes during the past winter and navigation, in consequence, opened earlier than has been the case in several years. The low temperatures of December, 1909, caused a general formation of ice in all the lakes and over the upper lakes it increased steadily in thickness as the month advanced. The temperatures during January and February, 1910, held the ice firm, but the high temperatures during March, 1910, caused a decided breaking up of the ice fields and there was a general disappearance in all the lakes, except over eastern Erie. In Superior the fields disappeared from the shore early in March and did not return with the shifting winds, as is usual. The field in Whitefish Bay broke up early and moved out during the first week in April, 1910. The ice in St. Marys River was not as heavy as during the last season and it moved out about 15 days earlier.

In Green Bay the thickness of the ice was about normal, but it broke up and moved out about one month earlier than last season. There were fewer ice fields reported in Lake Michigan than usual, but the fringe of ice along the eastern shore continued during the early part of March. During the latter part of the month, however, no ice was reported south of the Islands.

The ice in the Straits of Mackinac was not as heavy as usual and moved out on April 1, 1910, the earliest opening since 1903. There were few ice fields reported in Huron and most of those were over the northern portion and along the eastern shore. These latter fields disappeared during the first week in April, 1910. In Lake St. Clair the ice formed during the latter part of November, 1909, and reached a thickness of from 14 to 18 inches during December. The ice broke up during the middle of March, 1910, and had run out of the lake by March 22. The Detroit River was blockaded with ice from about Third Street at Detroit, south to the mouth from December 20, 1909, until late in February, 1910. A tug operated about 10 miles down the river during this period to keep a passage clear for the car ferries, but much difficulty was experienced with the ice from December 20 to 27, 1909, and on February 18, 1910. The usual conditions prevailed in Lake Erie, the heaviest fields being reported over the eastern portion. The western portion of the lake was practically free of ice by March 20, 1910, and the fields moved gradually to the extreme eastern portion and did not disappear from that section of the lake until April 30, 1910.

Over the western portion of Lake Ontario, the larger fields of ice disappeared during the early part of March, 1910. Over the extreme eastern portion the fields were broken up and disappeared during the first week of April, 1910, large quantities of the ice moving down the river.

While navigation was resumed on the lakes about April 10, 1910, there were but few vessels in commission until April 15, on account of hull insurance.

The opening and closing of navigation on the Great Lakes, 1909–10.

LAKE SUPERIOR.

Stations.	Navigation.		Ice first formed.	Greatest thickness.	Ice disappeared.	Remarks.
	Closed.	Opened.				
		1910.		*Inches.*	1910.	
Duluth, Minn	Dec. 22, 1909	Apr 14	Nov. 21, 1909	32	Mar. 29	Ice covered the harbor on December 20. Local navigation closed on January 27, 1910, though a fish tug broke through the ice and entered the harbor on February 17, 1910, and began operations again on March 17, 1910.
Two Harbors, Minn	Jan. 28, 1910	Apr 14	.....	.....	Mar. 20	The fire tug kept the ice in the harbor broken most of the winter.
Bayfield, Wis	Jan. 2, 1910	Mar. 29	Dec. 28, 1909	18	Mar. 20	South channel open to Long Island light on March 12, 1910.
Washburn, Wis	Dec. 5, 1909	Apr. 9	Dec. 3, 1909	15	Apr 10	Ice broke away from the docks on March 19, 1910.
Ashland, Wis	Dec. 6, 1909	Apr. 9	Dec. 9, 1909	25	Mar. 24	
Portage L. S. S., Mich	Dec. 15, 1909	Apr. 9	Dec. 6, 1909	16	Mar 26	The first through passages were made on April 16, 1910.
Eagle Harbor, Mich	Dec. 20, 1909	Apr. 14	Dec. 9, 1909	16	Mar. 24	Field ice drifted in and out of harbor on night of March 26-27, 1910.
Houghton, Mich	Dec. 15, 1909	Apr. 5	Dec. 9, 1909	15	Mar. 28	Channel clear of ice in front of the city on March 23, 1910.
Marquette, Mich	Dec. 11, 1909	Apr. 16	Dec. 26, 1909	18	Mar. 17	Harbor frozen over on January 17, 1910, but was broken up on January 20, 1910. It again froze over on February 13, 1910, and remained solid till March 10, 1910.
Munising, Mich	Dec. 20, 1909	Apr. 25	Dec. 20, 1909	16	Mar. 29	Teams crossed to Grand Island as late as March 19, 1910.
Whitefish Point, Mich	Dec. 17, 1909	Apr. 12	.....	30	Apr. 3	Ice fields first formed off this point on January 9, 1910.
Sault Sainte Marie, Mich	Dec. 16, 1909	Apr. 11	Dec. 20, 1909	15	Apr. 1	The ferry operated below the locks all winter and reported but little difficulty on account of ice. The steamer *Elva* arrived from Detour on April 6. The Canadian locks opened on April 12 and the first passage through was steamer *J. E. Upson* up bound. The American locks opened on May 2, opening being delayed by work in widening the channel.

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

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	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.		
Minnesota.																				
Cloquet	Carlton	892																		C. I. McNair.
Duluth	St. Louis	1,133	39	41.2	+ 2.8	73	13	16	23	40	1.40	− 0.70	0.64	4.7	6	9	12	9	ne.	U. S. Weather Bureau.
Floodwood	....do	1,257	6	47.2[a]		77[a]	3	16[a]	6†	53[a]	1.21[a]		0.28[a]		5[a]	20[a]	4[a]	5[a]	n.[a]	M. H. Schussler.
Mount Iron	....do	1,510	16	46.0	+ 6.9	77	13	12	23	43	2.67	+ 0.81	1.50	3.5	8	11	12	7	nw.	Oliver Iron Mining Co.
Stephens Mine	....do	1,500	3	45.0		76	13	13	23	43	1.38		0.67		7	15	5	10	se.	Do.
Two Harbors	Lake	614	16	41.8	+ 2.9	67	8	18	23	29	1.50	− 0.76	0.90	T.	2	17	11	2	ne.	George W. Watts.
Wisconsin.																				
Appleton	Outagamie	795	11	47.8	+ 4.7	77	15	22	18	34	3.40	+ 1.15	0.74	11.2	13	14	8	8	se.	Wm. O. Thiede.
Ashland	Ashland	647	16	45.5	+ 5.9	77	4	21	23†	44	1.78	− 0.37	0.57	4.0	7	13	13	4	ne.	Sam Wheeler.
Cecil	Shawano	804	3	46.2		75	15	22	23†	38	4.47		0.80	10.0	13	11	10	9	se.	Louis W. Schmidt.
Chilton	Calumet	860	16	47.1	+ 2.1	75	15†	22	23	35	4.83	+ 2.53	1.18	12.0	12	9	16	5	ne.	Daniel V. Jones.
Crandon	Forest	1,060	15	45.0	+ 1.9	67	8†	18	12	38	2.96	+ 1.48	0.90	13.0	8	21	1	8	s.	Calvin T. H. Riggs.
Florence	Florence	1,293	19	44.0	+ 5.0	71	15†	20	23†	39	4.04	+ 1.60	2.33	12.0	8	11	8	11	e.	Fred S. Evans.
Fond du Lac	Fond du Lac	800	24	48.4	+ 3.6	79	29	22	23†	42	4.62	+ 2.62	1.27	13.5	12	13	3	14	ne.	Geo. W. Marshall.
Grand River Locks	Marquette	616	14	49.6		85	29	22	23	40	4.22	+ 1.79	1.58	8.5	10	17	2	11	s.	Jerry Parkinson.
Green Bay	Brown	617	24	46.2	+ 5.5	75	15	25	23	32	4.90	+ 2.46	1.60	12.7	14	4	9	17	se.	U. S. Weather Bureau.
Herbster	Bayfield	700	2																	Wm. Angell.
Iron River	....do	1,096	1	47.4		76	4	17	23	45	1.33		0.28	4.0	7	12	9	9	ne.	Harry C. Hall.
Kewaunee	Kewaunee	590	1	42.2		62	20	26	26	27	4.59		1.50	11.0	7	8	7	15	s.	Eugene V. Kimball.
Manitowoc	Manitowoc	616	59	44.0	+ 2.3	75	29	26	23	33	4.73	+ 2.27	1.39	12.0	13	11	2	17	se.	Johanna Lups.
Menasha	Winnebago	764	13								3.18	+ 1.46	0.90	7.0	14	17	3	10	se.	George T. Allanson.
Menominee Falls	Waukesha	842	1	47.8		79	29	21	24	40	4.47		0.87	10.5	16	14	7	9	n.	Arthur H. Christman.
Milwaukee	Milwaukee	681	40	46.9	+ 5.1	84	29	22	23	35	3.48	+ 0.78	1.65	8.0	12	13	7	10	ne.	U. S. Weather Bureau.
New London	Outagamie	762	14	47.9	+ 3.3	74	4	22	23	37	5.89	+ 3.30	1.35	12.0	12	6	10	14	se.	August H. Pape.
Oconto	Oconto	590	19	45.5	+ 2.0	73	15	23	12	37	3.79	+ 1.15	0.62	9.5	12	10	10	10	ne.	William K. Smith.
Oshkosh	Winnebago	744	21	48.1	+ 2.9	77	15†	24	23	37	4.04	+ 1.68	1.00	11.0	11	15	7	8	se.	Evan Vincent.
Pine River	Waushara	900	15	48.6[d]	+ 3.7	82[d]	29	22[d]	23	42[d]	3.90	+ 1.69	1.01	8.9	13	0[d]	16[d]	10[d]	se.	George H. Carpenter.
Plum Island	Door	588	2	41.1		58	9	29	21	26	4.85		1.33	4.0	13	6	9	15	s.	John P. Whelan.
Port Washington	Ozaukee	713	17	44.8	+ 1.5	78	30	23	23	36	3.22	+ 0.62	0.65	12.0	11	12	2	16	se.	Richard C. Kann.
Racine	Racine	633	13	46.6	+ 1.7	84	29	22	24	42	2.66	+ 0.79	0.62	6.0	14	14	6	10	se.	Daniel Davis.
Sheboygan	Sheboygan	831	12	44.4	+ 1.4	73	30	24	23	32	3.76	+ 1.53	0.67	9.0	13	12	5	13	se.	Louis C. Meyer.
Sturgeon Bay	Door	600	12	42.2	+ 2.5	62	20	22	13	32	5.09		0.81	6.0	16	7	12	11	ne.	Adam N. Dier.
Superior	Douglas	671	1	40.1		65	8	17	23	32	1.23		0.56	3.0	5	12	13	5	ne.	Edward B. Banks.
Waupaca	Waupaca	857	14	48.0	+ 3.6	77	15	21	23†	44	4.73	+ 2.41	2.17	12.0	11	7	8	15	se.	James H. Flagg.
Illinois.																				
Chicago	Cook	824	40	51.2	+ 5.3	86	29	26	23	37	3.84	+ 0.96	0.9	6.9	14	11	6	13	sw.	U. S. Weather Bureau.
Indiana.																				
Auburn	DeKalb	874	14	48.6	+ 2.1	82	29	24	13	49	3.03	+ 0.50	1.15		14	12	1	17	w.	Mrs. Josie B. Kuhlman.
Berne	Adams	849		51.8		84	29	25	13	47	2.95		0.87	2.4	14	13	7	10	sw.	H. M. Reusser.
Elkhart§	Elkhart	801	8	52.4		86	29	29	24†	39	3.40		0.89	2.0	15	15	7	8	s.	Dr. Miles Medical Co.
Fort Wayne	Allen	775	14	52.8	+ 3.5	84	29	26	13	51	3.11	+ 0.17	0.93	1.8	14	11	5	14	sw.	Orion E. Mohler.
Hammond	Lake	598	19	51.4	+ 3.9	86	29	24	24	42	3.02	+ 0.19	1.10	2.0	11	5	10	15		Carson W. Whitney.
Howe	Lagrange	886	5	49.2		86	29	28	7	41	3.61		0.75	6.0	9	14	4	12	w.	James E. Zook.
South Bend	St. Joseph	726	17	49.0	+ 1.0	83	29	26	24	45	2.97	+ 0.29	1.15	10.5	14	14	3	13	se.	Henry H. Swaim.
Whiting	Lake	636		53.7		85	11	27	24	40	3.10		1.14	T.	9	12	9	9	sw.	D. H. Boyd.
Michigan—Upper Peninsula.																				
Baraga	Baraga	623	8	43.5[a]		75[a]	6	17[a]	13	54[a]						15	0	15	n.	D., S. S. & A. Ry.
Bergland	Ontonagon	1,300		45.6		77	4	15	12	47	1.04		0.30		6	15	3	12	ne.	Frank McMonigal.
Blaney	Schoolcraft		3	35.8		65	4	13	24	35						9	14	7	nw.	Dr. S. S. Hackwell.
Calumet	Houghton	1,246	22	41.4	+ 4.1	72	4	16	23	32	2.36	+ 0.25	0.69	9.0	9	19	4	7	e.	E. S. Grierson.
Chatham	Alger	875	9	40.8		73	14	18	12	44	2.61		0.68	10.0	12	12	9	9	nw.	U. P. Experiment Station
Deer Park	Luce	610	9	41.8		69	15	27	1	34	2.70		0.60		7	12	1	17	se.	Mrs. Sara E. McGaw.
Detour	Chippewa	585	9	44.1		85	14	12	9	50	2.46		0.66	1.0	9	13	11	6	se.	Dr. F. E. Cameron.
Eagle Harbor	Keweenaw	622	11	41.0	+ 3.6	73	4	23	12	30	2.78	+ 0.67	1.00	10.0	5	8	14	8	ne.	John Nolen.
Escanaba	Delta	612	37	41.2	+ 4.0	59	9	27	7	25	4.87	+ 2.80	1.50	16.3	13	7	8	15	n.	U. S. Weather Bureau.
Ewen	Ontonagon	1,147	9	43.2		76	4	14	12	45	1.46		0.80	8.5	7	16	5	9	se.	W. B. Hatfield.
Grand Marais	Alger	610	9	38.8		56	3	25	24	19	1.22		0.30	2.0	7	9	4	17	s.	Mrs. Lena Truedell.
Houghton	Houghton	668	9	42.8	+ 6.0	74	4	24	23	35	2.04	+ 0.01	0.83	8.6	7	10	11	9	e.	U. S. Weather Bureau.
Humboldt	Marquette	1,536	13	45.2	+ 9.7	74	15	15	12	45	1.70	− 0.05	1.00	7.0	3	16	3	11	e.	D., S. S. & A. Ry.
Iron Mountain	Dickinson	1,111	9	44.2[f]		74[f]	16	24[f]	23	40[f]	4.75		1.05		10	13[d]	5[d]	8[d]	ne.	Chapin Mining Co.
Iron River	Iron	1,504	13	45.4		76	15	12	24	44	2.80		0.90	3.0	6	23	2	5	nw.	Victor D. Laing.
Ironwood	Gogebic	1,520	7	45.9		74	4†	17	23	38	2.13		1.15	8.0	7	18	6	6	n.	Prof. J. V. Brennan.
Ishpeming	Marquette	1,536	10	43.1[d]	+ 4.3	73[d]	14	20[d]	12	40[d]	2.90	+ 0.95	0.40	10.2	12	8	15	7	n.	Cliv'd. Cliffs Iron Co.
Isle Royale	Keweenaw	610	3																	John H. Malone.
Mackinac Island	Mackinac	831	10																	M. I. S. P. Com.
Maple Ridge	Delta		4	41.4		71	14	22	23	38	3.05		0.98	7.0	8	13	6	11	n.	Herman Johnson.
Marquette	Marquette	734	39	40.8	+ 3.3	75	14	26	11†	32	3.89	+ 1.95	1.66	19.0	12	5	13	12	nw.	U. S. Weather Bureau.
Menominee	Menominee	581	11	42.6	+ 2.0	63	15	28	12†	27	3.03	+ 1.28	0.86	1.8	10	15	1	14	ne.	C. & N. W. Ry.
Newberry	Luce	773	8	43.8		72	13	22	11	43				3.0		14	6	10	nw.	D., S. S. & A. Ry.
Powers	Menominee	868	11																	C. & N. W. Ry.
St. Ignace	Mackinac	593	20	42.6	+ 4.2	67	15	28	2†	29	2.47	+ 0.44	0.70	1.0	13	6	10	14	ne.	D., S. S. & A. Ry.
Sault Ste. Marie	Chippewa	614	22	42.0	+ 6.3	72	14	26	2	37	2.53	+ 0.46	0.77	1.3	12	6	8	16	se.	U. S. Weather Bureau.
Thomaston	Gogebic	1,347	13	44.5	+ 6.6	75	4	13	12	53	1.31	− 0.35	0.40	4.5	5	12	7	11	n.	D., S. S. & A. Ry.
Victoria	Ontonagon	1,263		45.2		77	4	20	24	42	1.45		0.55	5.0	6	18	4	8	nw.	R. S. Schultz, jr.
Watersmeet	Gogebic		1	44.7		74	13†	14	12	46	2.33		0.94	3.6	9	9	8	13	n.	B. N. Grant.
Wetmore	Alger	878	13	41.3	+ 5.1	74	14	12	12	44	2.35	+ 0.67	0.85	6.0	6	13	0	17	n.	D., S. S. & A. Ry.
Whitefish Point	Chippewa	610	20	37.6	+ 2.7	55	14	26	7	26	1.65	− 0.10	0.50	2.4	11	15	0	15	se.	Robert Carlson.
Michigan—Lower Peninsula.																				
Adrian	Lenawee	770	32	51.0	+ 4.5	84	29	25	13	44	3.64	+ 1.04	0.37	0.0	15	7	5	18	s.	B. F. Gibbs.
Agricultural College	Ingham	820	46	49.2	+ 3.6	77	29	28	12	41	2.48	+ 0.20	0.73	0.0	13	8	8	14	s.	Prof. A. J. Patten.
Allegan	Allegan	698	19	52.5	+ 5.9	81	15†	28	7	43	3.92	+ 1.76	0.89	2.0	12	8	8	14	w.	Pere Marquette R. R.
Alma	Gratiot	750	23	49.2	+ 4.9	75	5	25	13	40	3.07	+ 0.69	0.81	T.	11	7	9	15	e.	P. M. Smith.
Alpena	Alpena	609	37	42.7	+ 4.7	72	14	28	13	31	2.82	+ 0.62	0.75	0.1	15	7	11	12	se.	U. S. Weather Bureau.
Ann Arbor	Washtenaw	930	30	49.0	+ 3.6	79	29	27	13	42	3.41	+ 1.14	0.74	0.1	19	8	6	16	se.	University of Michigan
Arbela	Tuscola	728	14	47.8	+ 3.2	73	14†	25	13	37	5.48	+ 2.66	1.28	T.	14	2	7	21	nw.	Wm. Atkin.
Battle Creek	Calhoun	822	26	49.8	+ 2.3	83	29	27	13	40	3.61	+ 1.57	0.67	T.	12	10	5	15	sw.	Elmer E. Sager.
Bay City	Bay	593	14	48.6	+ 5.0	75	5	27	7	36	6.35	+ 4.07	1.50	0.0	12	9	15	6	se.	Pere Marquette R. R.
Benzonia	Benzie	832	14	47.6	+ 5.6	76	15	27	7†	36	3.10	+ 0.49	1.02	0.0	10	11	10	9	nw.	Martin S. Joiner.
Berlin	St. Clair		21	46.4	+ 2.7	78	5	21	13	42	5.20	+ 3.10	1.65	1.0	11	7	9	14	se.	R. O. Gould.
Big Rapids	Mecosta	906	14	48.5	+ 4.9	77	15	22	13	44	2.72	+ 0.23	0.65	0.9	13	11	9	10	se.	Charles Gay.
Bloomingdale	Van Buren		6	49.5		82	29	27	7†	36	3.29		0.67	2.0	8	14	5	11	se.	John M. Haven.
Cadillac	Wexford	1,293	1	46.6[a]		75[b]	14†	25[a]	7†	39[b]	3.19[a]		0.90[a]	0.0	13[a]	7[a]	2[a]	20[a]	sw.[a]	A. J. Teed.
Cassopolis	Cass	903	9																	Michigan Central R. R.
Charlevoix	Charlevoix	610	23	46.4[b]	+ 5.7	69[b]	15	28[a]	7†	30[b]	1.77	+ 0.27	0.60	2.0	6	10	11	9	sw.	Pere Marquette R. R.
Charlotte	Eaton		6	49.5[a]		81[a]	29	25[a]	13	42[a]	3.51		0.70	T.	13	8	7	15	se.	City of Charlotte.

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

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	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.
Michigan—Lower Peninsula—Cont'd.																				
Cheboygan	Cheboygan	611	20	43.0	.....	74	5	25	13	34	3.24	+ 1.12	0.86	1.0	10	4	21	5	e.	E. A. Bouchard.
Clinton	Lenawee	830	20	51.2	+ 4.6	84	16	21	12	49	3.33	+ 0.03	1.03	2.5	12	10	10	10	sw.	David Woodward.
Coldwater	Branch	984	13	51.4	+ 4.9	82	29†	26	13	39	3.03	+ 0.70	0.65	4.0	11	13	6	11	se.	Lake Shore & Mich. So. Ry
Concord	Jackson	.....	5	50.0	.....	82	29	26	13	40	3.73	.....	1.10	0.0	9	13	9	8	sw.	Dr. W. N. Armstrong.
Croton	Newago	685	2	50.2	.....	74	14†	26	13†	40	2.32	.....	0.65	T.	10	5	21	4	sw.	G. R.-Mus. Power Co.
Detroit	Wayne	730	39	49.0	+ 3.5	75	5	31	8	40	4.73	+ 2.40	1.32	T.	16	9	8	13	e.	U. S. Weather Bureau.
Durand	Shiawassee	799	3	50.2	.....	79	5	26	13	39	3.30	.....	0.55	T.	13	10	9	11	nw.	Grand Trunk Ry.
East Tawas	Iosco	590	13	44.6	+ 3.3	68	1	24	8	34	2.37	+ 0.01	0.45	T.	10	17	5	8	e.	Detroit & Mackinac Ry.
Eloise	Wayne	640	13	49.9	+ 4.0	80	29	27	8	41	3.79	+ 2.02	0.87	T.	13	10	10	10	se.	John Gilmore.
Flint	Genesee	730	21	47.8[a]	+ 3.4	77[a]	5	26	13	43[a]	4.51	+ 2.39	0.80	0.0	18	7	13	10	w.	Wm. L. Fisher.
Frankfort	Benzie	589	6	46.2	.....	68	2	28	13	26	2.22	.....	0.96	2.0	8	12	0	18	s.	Capt. Geo. Morency.
Ganges	Allegan	665	1	48.3	.....	75	14	29	23†	37	2.57	.....	0.59	3.0	9	15	3	12	nw.	H. H. Hutchins.
Gaylord	Otsego	1,367	5	45.6	.....	80	14	24	7	42	0.25	.....	0.11	T.	4	10	0	20	sw.	Michigan Central R. R.
Gladwin	Gladwin	794	14	48.7	+ 4.3	77	5	23	13	44	0.75	− 1.26	0.45	T.	3	16	7	7	se.	Geo. R. Smith.
Grand Haven	Ottawa	628	29	47.6	+ 3.6	75	14	28	23	35	2.88	+ 0.44	0.99	0.2	14	10	7	13	se.	U. S. Weather Bureau.
Grand Rapids	Kent	707	21	50.2	+ 4.0	80	29	29	23	36	3.16	+ 0.71	1.26	T.	12	8	5	17	se.	Do
Grape	Monroe	625	20	49.8	+ 3.0	81	29	26	13	42	5.03	+ 2.77	1.63	T.	15	7	11	12	e.	Joseph W. Morris.
Grass Lake	Jackson	989	4	49.0	.....	80	29	25	2	42	3.95	.....	0.70	4.0	14	14	7	9	sw.	Menzo Conklin.
Grayling	Crawford	1,147	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Oscar Palmer.
Harbor Beach	Huron	635	22	45.0	+ 4.0	75	4†	22	19	38	3.70	+ 1.93	1.20	0.0	8	10	7	13	s.	Pere Marquette R. R.
Harrison	Clare	1,159	17	49.7	+ 7.2	76	14	25	8†	44	2.12	+ 0.05	1.09	T.	3	10	5	15	se.	Do.
Harrisville	Alcona	616	26	42.3	+ 3.2	75	14	25	8	40	3.53	+ 0.96	0.88	1.0	11	5	8	17	se.	Dr. D. W. Mitchell.
Hart	Oceana	698	18	45.0	− 0.4	72	15	29	7	38	1.64	− 0.59	0.35	T.	10	4	16	10	s.	Pere Marquette R. R.
Hayes	Huron	620	20	47.6	+ 4.2	77	5	27	8	41	3.34	+ 1.47	0.85	0.0	7	8	5	17	ne.	C. F. Leipprandt.
Highland	Oakland	830	18	.....	.....	77	.....	24	.....	.....	4.44	+ 1.91	1.05	.....	11	.....	.....	.....	.....	A. D. De Garmo.
Hillsdale	Hillsdale	1,150	13	49.7	+ 4.3	80	29	27	8	38	2.54	+ 0.14	0.58	1.5	14	13	3	14	sw.	Prof. C. L. Herron.
Holland	Ottawa	610	4	49.3	.....	78	29	24	13	42	3.19	.....	0.99	T.	13	8	13	9	sw.	City of Holland.
Howell	Livingston	924	18	47.2	+ 2.2	77[c]	29	26[d]	13	41[d]	5.03[c]	+ 2.67	1.40	T.[c]	12[c]	6[c]	6[c]	15[c]	sw.	Frank Sharp.
Ivan	Kalkaska	.....	21	47.0	+ 5.5	74	14	20	13	44	2.10	− 0.08	0.60	2.0	12	8	12	10	nw.	O. L. Giddings.
Jackson	Jackson	927	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michigan Central R. R.
Jeddo	St. Clair	667	21	47.0	+ 4.0	76	5	24	13	40	4.04	+ 0.70	1.17	0.0	11	8	6	15	sw.	William Bice.
Kalamazoo	Kalamazoo	955	34	50.2	+ 3.4	83	29	28	7†	37	3.30	+ 0.77	0.74	.....	12	11	6	13	se.	Kalamazoo Asylum.
Lansing	Ingham	881	23	50.0	+ 4.2	78	29	29	12†	37	3.18	− 0.38	0.73	T.	18	8	6	16	se.	State Board of Health.
Lapeer	Lapeer	827	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michigan Home.
Ludington	Mason	586	12	47.5[d]	+ 6.3	72[d]	14	28[d]	18	36[d]	3.85[d]	− 1.88	1.40[d]	T.[d]	7[d]	11[d]	8[d]	7[d]	n.[d]	Pere Marquette R. R.
Luther	Lake	1,028	....	48.7	.....	77	15	21	10†	44	2.17	.....	0.62	T.	11	9	10	11	s.	John W. Nichoson.
Mackinaw	Cheboygan	592	14	43.2	+ 3.2	73	5	21	2	38	1.51	− 0.60	0.50	1.0	5	17	1	12	w.	Grand Rapids & Ind. R.
Mancelona	Antrim	1,121	14	46.1	+ 4.8	76	14	21	12†	42	0.39	− 0.47	0.11	T.	5	17	5	8	se.	Do.
Manistee	Manistee	600	13	50.6	.....	77	15	25	1	40	4.03	+ 1.86	1.70	0.0	12	14	9	7	sw.	Pere Marquette R. R.
Midland	Midland	604	11	.....	.....	75[d]	4	.....	.....	.....	1.02[d]	− 0.81	0.35[d]	T.[d]	6[d]	6[d]	5[d]	15[d]	sw.[d]	Do.
Montague	Muskegon	660	7	48.2	.....	71	5†	26	12	36	2.34	.....	0.68	1.0	6	4	11	15	n.	Gerard A. Whitbeck.
Morenci	Lenawee	811	3	50.2	.....	81	29	26	1†	43	4.50	.....	1.15	0.0	13	11	5	14	sw.	George J. Tripp.
Mount Clemens	Macomb	615	10	.....	.....	.....	.....	.....	.....	.....	3.08[h]	+ 1.87	0.70[h]	0.0[h]	9[h]	5[h]	2[h]	15[h]	se.[h]	Herman Orbits.
Mount Pleasant	Isabella	826	11	47.2	+ 1.8	81	2	15	19	51	3.33	+ 1.35	1.12	.....	7	16	3	11	se.	Pere Marquette R. R.
Muskegon	Muskegon	587	14	48.7	+ 4.7	71	10†	29	13	35	0.71	− 1.03	0.45	T.	4	7	9	14	s.	Grand Rapids & Ind. Ry.
Old Mission	Grand Traverse	848	16	46.8	+ 4.1	76	4	26	7	39	3.97	+ 1.95	0.92	4.0	7	1	21	8	ne.	E. O. Ladd.
Olivet	Eaton	934	20	48.2	+ 2.8	80	29	19	24	38	3.37	+ 0.72	0.98	0.8	14	12	2	16	s,	Prof. G. A. Knapp.
Omer	Arenac	616	11	47.4	+ 5.6	74	5	22	13	43	1.40	− 0.07	0.50	0.0	5	4	11	15	sw.	Detroit & Mackinac Ry.
Onaway	Presque Isle	826	7	.....	.....	72[j]	14	23[j]	13	38[j]	.....	.....	.....	.....	.....	2[j]	4[j]	14[j]	se.[j]	Do.
Ovid	Clinton	760	20	48.8	+ 3.7	78[a]	14	24	13	43[a]	3.05	+ 0.90	0.92	T.	17	14	1	15	sw.	Geo. B. Faxon.
Owosso	Shiawassee	731	13	51.2	+ 6.0	81	5	28	8	42	0.93	− 1.54	0.30	0.0	14	5	18	7	ne.	Owosso Sugar Co.
Petoskey	Emmet	660	20	46.2	+ 5.7	73	4	28	2†	37	1.96	+ 0.13	1.18	1.0	8	11	5	14	w.	Grand Rapids & Ind. Ry.
Plymouth	Wayne	725	13	49.8	+ 4.6	80	29	22	8†	56	3.01	+ 0.10	0.93	0.0	6	9	7	14	sw.	Pere Marquette R. R.
Pontiac	Oakland	935	10	48.4	+ 1.3	76	5	27	8	36	4.10	+ 1.84	1.03	T.	13	16	6	8	se.	Fred W. Shaw.
Port Austin	Huron	618	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pere Marquette R. R.
Port Huron	St. Clair	639	35	46.4	+ 4.2	78	5	27	8	32	3.50	+ 1.43	1.10	T,	16	7	3	20	n.	U. S. Weather Bureau.
Reed City	Osceola	1,033	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	5	4	nw.	Pere Marquette R. R.
Roscommon	Roscommon	1,141	6	45.0[c]	.....	71[c]	14	20[c]	12	40[c]	2.10[c]	.....	1.00[c]	0.0[c]	7[c]	9[c]	10[c]	8[c]	se.[c]	William Marsh.
Saginaw	Saginaw	601	8	51.6[a]	.....	78[a]	29	30[a]	7†	36[a]	3.42[a]	.....	1.00[a]	T.[a]	12[a]	7[a]	17[a]	5[a]	ne.[a]	Postmaster.
Saginaw, W. S.	...do	601	15	49.6	+ 4.4	76	5	27	7	37	44.7	+ 2.28	1.00	T.	16	8	13	9	sw.	Robert B. Hudson.
St. James	Charlevoix	681	4	41.6	.....	68	4	20	7	34	2.34	.....	0.70	0.0	7	10	9	11	sw.	Rev. N. Wilhelm.
St. Johns	Clinton	779	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	City of St. Johns.
St. Joseph	Berrien	593	23	49.0	+ 2.6	80	14	27	24	37	1.30	− 1.22	0.60	1.0	9	11	8	11	sw.	City of St. Joseph.
Sandusky	Sanilac	790	1	47.4	.....	74	14	23	13	39	4.65	.....	1.40	0.0	11	9	13	8	ne.	Pere Marquette R. R.
Saranac	Ionia	639	15	50.2	+ 5.6	79	15	23	13	46	3.42	+ 0.78	0.84	0.0	11	9	3	18	sw.	John Wallington.
South Haven	Van Buren	585	14	47.6	+ 3.2	75	15	28	23†	36	1.45	− 0.79	0.40	0.5	5	18	2	10	se.	Mrs. M. E. De Diemar.
Stanton	Montcalm	880	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	City of Stanton.
Thornville	Lapeer	975	33	48.6	+ 2.5	77	5	30	12	41	6.27	+ 4.13	1.10	T.	13	7	8	15	se.	Dr. J. S. Caulkins.
Traverse City	Grand Traverse	588	13	46.4	+ 5.5	74	4	30	1	34	2.50	+ 0.62	1.00	T.	3	16	0	14	sw.	Grand Rapids & Ind. Ry.
Vassar	Tuscola	641	9	51.2	.....	78	5	25	13	41	.....	.....	.....	.....	.....	4	15	11	se.	Pere Marquette R. R.
Wasepi	St. Joseph	842	13	49.4	+ 3.7	83	29	27	13	40	4.03	+ 1.67	0.75	1.0	15	11	0	19	nw.	Chas. A. Palmer.
Webberville	Ingham	884	8	49.3	.....	79	29	24	13	50	3.50	.....	0.80	T.	13	5	14	11	se.	I. R. Wadsworth.
West Branch	Ogemaw	973	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	9	5	w.	Michigan Central R. R.
Woodlawn	Montmorency	.....	8	44.0	.....	76	5	19	13	43	2.05	.....	0.78	T.	6	9	4	17	se.	T. C. Mathews.
Ypsilanti	Washtenaw	736	25	48.8	+ 2.6	79	11†	26	8	43	3.98	+ 1.70	0.76	0.0	17	5	20	5	sw.	Orin J. Bemiss.
Ohio.																				
Akron	Summit	1,081	23	50.6	+ 2.8	81	5	27	8	42	2.98	+ 0.26	0.84	6.5	17	12	1	17	sw.	Prof. C. R. Olin.
Benton Ridge	Hancock	800	17	52.5	+ 3.2	82	29	27	13	41	5.23	+ 2.39	1.75	12.0	8	10	6	14	sw.	J. W. Powell.
Bowling Green	Wood	670	30	51.0	+ 3.0	81	29	27	13	40	5.86	+ 2.87	2.00	10.0	11	10	10	10	sw.	G. C. Houskeeper.
Bucyrus	Crawford	1,000	15	49.3	+ 0.7	82	29	25	8	49	4.62	+ 1.72	0.80	4.0	11	10	3	17	s.	James R. Hopley.
Cleveland (1)	Cuyahoga	762	39	48.2	+ 2.2	79	5	32	8	34	3.34	+ 1.03	1.33	2.0	13	9	5	16	se.	U. S. Weather Bureau.
Cleveland (2)§	...do	754	13	48.5	+ 2.6	80	5	30	8	36	3.67	+ 1.71	1.37	T.	12	9	4	17	nw.	Rev. F. L. Odenbach, S. J.
Defiance	Defiance	712	16	49.2	+ 1.1	81	29	25	8	50	3.04	+ 0.33	1.08	T.	10	12	2	16	sw.	John F. Heilshorn.
Findlay	Hancock	776	21	50.4	+ 1.2	84	29	23	13	50	5.29	+ 2.42	2.00	6.0	12	13	9	8	sw.	Dr. E. A. Moser.
Fremont§	Sandusky	628	9	52.3	.....	88	15	28	13	41	7.52	.....	2.40	8.0	11	10	7	13	sw.	E. Stanley Thomas.
Hedges	Paulding	725	16	52.2	+ 3.3	83	29	21	13	51	3.67	+ 1.03	1.27	4.0	10	17	2	11	s.	Charles Stutzman.
Hillhouse	Lake	997	18	48.2	+ 3.4	80	5	24	8†	40	3.19	+ 0.51	1.10	3.0	12	10	14	6	w.	J. W. Doncaster.
Hiram	Portage	1,260	26	50.0	+ 3.5	79	5	25	8	35	3.08	+ 0.05	1.33	2.0	13	9	9	12	ne.	Prof. G. H. Colton.
Hudson	Summit	1,153	49	50.2	+ 3.7	80	5	24	8	44	4.39	+ 1.69	1.57	.....	15	12	7	11	nw.	Dr. W. I. Chamberlain.
Lima	Allen	875	11	52.4	+ 4.0	82	29	28	13†	43	3.77	+ 0.33	1.15	3.0	8	23	1	6	w.	Miss Ollie De Long.
Medina	Medina	944	22	50.3	+ 2.8	80	5	23	13	49	4.04	+ 0.90	1.08	10.0	12	11	4	15	nw.	F. W. Clark.
Montpelier	Williams	880	18	51.0	+ 3.3	83	29	27	13†	40	3.99	+ 0.92	1.00	T.	11	14	7	9	e.	G. L. Laser.
Napoleon	Henry	680	24	52.1	+ 3.6	82	29	29	8	47	5.44	+ 2.78	2.21	3.0	10	13	2	15	s.	A. C. Senter.
New Bremen	Auglaize	1,038	17	52.6[a]	+ 2.8	83	30	26[a]	24	41[a]	2.40	− 0.16	0.86	3.0	7	14	9	7	sw.	Miss Lillian Grothaus.
North Royalton	Cuyahoga	1,000	18	49.3	+ 2.3	78	5	25	8	37	3.63	+ 0.89	0.87	10.0	12	11	11	8	nw.	W. S. Edgerton.
Norwalk	Huron	719	24	49.0	+ 1.7	81	29	25	13	46	5.69	+ 3.25	1.35	6.0	13	14	0	16	se.	Dr. Albert Sheldon.

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

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	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—Cont'd.																				
Oberlin	Lorain	855	35	50.2	+ 2.9	81	5	25	13	46	4.96	+ 2.35	1.35	6.0	10	2	4	24	s.	Prof. F. F. Jewett.
Ottawa	Putnam	720	18	51.6	+ 2.0	83	29	24	13	47	4.65	+ 1.82	1.43	6.0	10	2	11	17	w.	Prof. J. T. Maidlow.
Rome	Ashtabula	894	3																	G. H. Crosby.
Sandusky	Erie	629	33	50.0	+ 2.7	82	29	32	19	34	6.24	+ 3.69	2.00	5.0	16	10	8	11	sw.	U. S. Weather Bureau.
Tiffin	Seneca	775	28	51.2	+ 2.4	81	29	30	8†	37	5.92	+ 3.07	1.65	11.0	12	11	12	7	s.	Prof. T. H. Sonnedecker.
Toledo (1)	Lucas	769	39	50.5	+ 3.2	82	29	33	7	39	5.79	+ 3.51	2.50	0.1	16	11	8	11	sw.	U. S. Weather Bureau.
Toledo (2)§	...do	606	6	51.1		82	29	31	13	39	5.15		2.02	T.	17	14	1	15	n.	J. A. Krance, S. J.
Upper Sandusky	Wyandot	854	27	52.5	+ 2.6	81	29	25	13	43	3.82	+ 0.92	0.82	8.0	9	13	10	7	w.	Prof. R. J. Kiefer.
Vickery	Sandusky	588	17	49.9	+ 2.2	82	29	25	13	47	6.83	+ 4.27	2.10	9.5	13	7	13	10	s.	John W. Barr.
Wauseon	Fulton	780	38	49.4	+ 2.3	82	29	26	13	39	5.62	+ 2.56	2.10	1.0	13	10	9	11	s.	Thomas Mikesell.
Wellington	Lorain	856	16	51.2	+ 3.2	81	29	26	13	48	4.84	+ 2.18	1.45	6.0	13	11	5	14	sw.	W. D. Warren.
Willoughby	Lake	649	16								3.73	+ 1.60	1.49	2.0	9	4	11	15	s.	C. J. Richardson.
Pennsylvania.																				
Erie	Erie	713	37	48.2	+ 3.5	82	5	31	7	29	2.23	− 0.17	1.02	0.3	12	6	8	16	s.	U. S. Weather Bureau.
New York.																				
Adams Center	Jefferson	540	19	45.2	+ 5.1	82	5	26	13	38	1.34	− 1.31	0.42	2.0	8	7	19	4	se.	A. E. Cooley
Angelica	Allegany	1,340	27	47.5	+ 4.2	79	5	16	13	48	5.92	+ 3.00	1.29	1.0	13				w.	Charles P. Arnold.
Appleton	Niagara	270	19	46.9	+ 2.8	72	5	26	13	38	4.52	+ 2.48	1.07	T.	11	8	14	8	sw.	H. A. Van Wagoner.
Auburn	Cayuga	715	41	49.0	+ 4.0	80	5	28	8†	32	3.67	+ 1.15	0.70	T.	10	15	7	8	n.	A. H. Underwood.
Avon	Livingston	585	15	49.2	+ 4.4	80	5	24	13	40	3.28	+ 1.19	0.85	T.	9	14	7	9		W. G. Markham.
Benson Mines	St. Lawrence		2																	R. C. Folger.
Blue Mountain Lake	Hamilton	1,750	10								3.93	+ 1.08	1.15	7.0	8	18	4	8	w.	B. F. Merwin.
Brockport	Monroe	537	14	48.9	+ 4.3	85	5	27	12†	34	4.41	+ 1.56	0.83	T.	17	9	12	9		W. H. Lennon.
Buffalo	Erie	767	59	47.0	+ 4.7	80	5	28	7	37	4.34	+ 1.89	0.92	0.2	17	10	4	16	sw.	U. S. Weather Bureau.
Canton	St. Lawrence	448	16	47.6	+ 5.1	78	5	25	11	30	1.61	− 0.61	0.61	0.7	13	8	11	11	sw.	Do.
Cape Vincent	Jefferson	246	5	46.0		72	5	26	10†	32	2.32		1.04		7	8	15	7	s.	Verne M. Rice.
Carvers Falls	Washington	243	12	48.4	+ 5.5	77	6	23	11	37	3.36	+ 0.98	1.21		7	16	9	5	s.	Washburn Fancher.
Chazy	Clinton	151	10	48.8	+ 6.3	75	24	24	11	32	1.20	− 0.38	0.50		6	15	6	9	s.	W. R. North.
Dannemora	Clinton	1,490	5	46.6		74	5	20	11	32	2.26		0.51	6.0	11	7	11	12	w.	W. N. Thayer.
Elba	Genesee	500	11	47.4	+ 4.8	80	5	23	13	41	5.86	+ 2.72	1.20	1.0	12	17	4	9	sw.	Jos. S. Wilford.
Fayetteville	Onondaga	530	9	50.4		84	5	25	13	41	1.74	− 1.01	0.32	T.	14	8	8	14	nw.	Dana H. Wells.
Gabriels	Franklin	1,729	8	45.6		74	5	12	11	36	0.89		0.22	6.8	13	10	11	9	se.	Sanatorium.
Harkness	Clinton	622	8	47.5		77	6	23	11	33	1.27		0.34	0.5	9	24	3	3	w.	J. W. Harkness.
Hemlock Lake	Livingston	900	12	47.9	+ 4.0	75	5	24	13	38	3.80	+ 1.27	1.35		6	10	8	12	n.	D. H. Westbury.
Hunt	...do	1,321	11	50.5	+ 6.0	85	5	20	13	45	5.83	+ 2.87	1.08		12	9	12	9	ne.	W. S. Barrager.
Ithaca	Tompkins	928	32	49.8	+ 5.6	81	5	26	13	41	3.66	+ 1.37	1.11	1.1	15	10	5	15	se.	U. S. Weather Bureau.
Keene Valley	Essex	1,000	12	47.3	+ 6.4	79	5	20	11	41	3.30	+ 0.57	1.56	2.5	7	15	6	9	nw.	E. R. Wells.
King Ferry	Cayuga		10								3.32	+ 0.74	1.04	1.2	11	14	4	12	se.	Lucius A. Goodyear.
Lake George	Warren	350	13	48.9	+ 5.2	79	6	24	13	32	3.20	+ 0.47	1.05	2.1	9	8	13	9		Charles Forsell.
Lake Placid Club	Essex	1,864	2	41.8		69	5	13	11	40	2.63		0.58	10.7	11	7	16	7	nw.	Henry van Hoevenberg.
Le Roy	Genesee	920	20	49.4	+ 6.0	83	5	26	8†	38	5.56	+ 2.50	1.05	1.6	16	9	7	14	se.	F. W. Ball.
Lockport	Niagara	650	23	48.0	+ 2.3	79	5	26	13	34	4.22	+ 2.02	1.05	T.	5	11	6	13	sw.	J. E. Wakeman.
Lowville	Lewis	900	43	45.8	+ 3.2	78	5	22	11†	38	1.85	− 0.39	0.67		4	13	5	12	s.	Charles J. Rice.
Lyndonville	Orleans		14								4.88	+ 3.07	1.14	T.	8	17	5	8	sw.	Milton St. John.
Moira	Franklin	200	10	48.0	+ 5.4	77	5	23	11	33	1.44	− 1.04	0.78	1.5	11	2	16	12	w.	C. E. McBride.
Nehasane	Hamilton	1,750	2	44.0		73	5	16	13	42	2.37		0.45	2.0	11	13	4	13	e.	A. C. Heyburn.
North Lake	Herkimer	1,822	9	45.3		75	5	15	8	37	3.92		1.28	9.0	7	9	10	11		H. A. Paull.
Ogdensburg	St. Lawrence	175	26	48.0	+ 3.9	74	26	25	11	30	2.09	0.00	0.66	5.0	9	9	15	6	w.	State Hospital.
Old Forge	Herkimer	1,733	2	45.7		76	5	15	13	44	2.31		0.89	0.8	15	8	7	15		Stuart W. Nelson.
Oswego	Oswego	335	40	47.4	+ 4.2	80	5	30	8	30	2.00	− 0.26	0.48	1.0	16	8	9	13	se.	U. S. Weather Bureau.
Otto	Cattaraugus	1,410	6	49.2		77	5	25	8†	36	3.17		0.83		11	12	6	12		William Winke.
Palermo	Oswego	460	51								1.46	− 0.74	0.40	2.5	9	15	5	10	se.	E. B. Bartlett.
Perry City	Schuyler	1,038	30	48.4	+ 5.3	80	5	21	13	45	5.32	+ 2.57	1.62	3.5	15	8	10	12	s.	W. H. Jeffers.
Philadelphia	Jefferson	485	4	49.6		80	5	24	11	37	1.76		0.96	1.0	12	5	17	8	s.	E. D. Babcock
Plattsburg	Clinton	170	60	48.4	+ 7.0	76	6	27	11	29	1.75	− 0.22	0.30	T.	10	9	13	8	nw.	T. P. Davison.
Potsdam	St. Lawrence	300	34	49.4	+ 6.1	78	5	24	11†	32	1.74	− 0.12	0.59	T.	11	11	5	14	nw.	Lloyd W. Weed.
Raquette Lake	Hamilton		2	45.0		68	24	24	11†	38	2.87		0.86	4.2	8	6	11	13	sw.	R. J. Dunning.
Rochester	Monroe	523	81	49.7	+ 5.8	83	5	29	13	31	3.10	+ 0.66	1.13	0.5	16	10	8	12	w.	U. S. Weather Bureau.
Romulus	Seneca	719	18	51.3	+ 5.7	82	5	27	13	45	3.95	+ 1.46	1.47	2.0	12	9	9	12	nw.	John H. Coryell.
Shortsville	Ontario	740	11	49.1	+ 5.1	80	5	26	13	36	3.92	+ 1.61	1.47		12	12	9	9	w.	C. H. Latting.
Skaneateles	Onondaga		15								3.04	+ 0.16	0.74		16					Edward Conron.
Syracuse	...do	597	8	49.2	+ 4.8	80	5	30	8	32	1.39	− 0.92	0.39	0.3	16	8	8	14	nw.	U. S. Weather Bureau.
Ticonderoga	Essex	344	12					28	1†	30	1.05	− 0.87	0.60	T.	7	15	8	7	n.	Eva M. De Lano.
Trudeau	...do	1,620	17																	Daniel Smith.
Tupper Lake	Franklin	1,552	10	45.4	+ 6.6	72	5	20	11	36	0.46	− 1.61	0.15	1.5	6	19	2	9	w.	Aaron W. Maddox.
Volusia	Chatauqua	1,167	11	47.2	+ 4.9	80	5	25	7	34	2.11	− 0.72	0.55	3.0	12	11	7	12	n.	Benjamin Breads.
Watertown	Jefferson	737	18	49.2	+ 5.0	82	5	25	11†	34	1.42	− 0.94	0.75		11	5	17	8	n.	L. L. Allen.
Wedgewood	Schuyler	1,430	21	48.0	+ 4.2	78	5	20	7	36	6.62	+ 3.75	2.20	2.0	19	14	10	6	nw.	Orlando F. Corwin.
Westfield	Chatauqua	837	14	47.8	+ 3.1	81	5	27	13	39	3.29	+ 0.83	0.56	2.0	16					John R. Rogers.
Youngstown	Niagara		8								4.68		1.20		11	5	22	3	e.	B. V. Brookins.
Vermont.																				
Burlington	Chittendon	404	3	47.2	+ 6.5	74	6	26	11	28	2.10	+ 0.23	0.52	1.8	13	6	13	11	nw.	U. S. Weather Bureau.
Cornwall	Addison	507	17	49.0	+ 3.7	77	6	26	11	31	2.21	+ 0.65	0.40	T.	10	8	13	9	s.	C. H. Lane.
Enosburg Falls	Franklin	601	19	48.1	+ 5.4	78	6	22	11†	38	3.10	+ 0.86	0.59	4.0	14	13	10	7	s.	L. Howe Pomeroy.
Northfield	Washington	876	24	45.3	+ 5.1	78	6	22	11	35	2.17	+ 0.08	1.03	T.	12	3	15	12	s.	U. S. Weather Bureau.
Rutland	Rutland																			H. L. Hindley.
Wells	...do	750	19	46.8	+ 5.0	73	6	22	11	28	2.14	+ 0.26	0.49	6.0	10	6	16	8	s.	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 April, 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	31	
Minnesota.																																		
Cloquet	Lake																																	
Duluth	do				.01							T.				.61	.60	.04	T.			.09		.05						T.				1.40
Floodwood	do				.17	.03										.20		.53					.28											1.21
Mount Iron	do			.06	.04	.14										.57	T.	1.50	.04			.12	.20	T.							T.			2.67
Stephens Mine	do			T.	T.	.02										.30	.08	.67	.02			.27	T.	T.						.02				1.38
Two Harbors	do				T.											.60		.90						T.										1.50
Wisconsin.																																		
Appleton	Fox			.03	.05	.48	.65					.18				.13	.35	T.	.03				.63	.74	T.	.05	.07	.01						3.40
Ashland	Lake					.05										.27	.37	.57					.15	.17	.20									1.78
Cecil	Fox			T.	.04	1.28	.07		T.			.04				.13	.09	.38	.49				.80	.75	.20	.16	.04							4.47
Chilton	do			.03		.83	1.18					.05				*	.41	.36	.34				.35	.60	T.	.08	.50	.10						4.83
Crandon	do					.90	.10									.15	.06	.45	T.				.60	.40	.30									2.96
Florence	Menominee						.93		.10							.09	.11	.48					*	*	2.33									4.04
Fond du Lac	Fox			.02		.35	1.06					T.				T.	.10	.40	.13	.10			.38	1.27		.27	.42	.12						4.62
Grand River Locks	do			T.		.53	.58									.24	.43	.27	.08				1.58	.12		.13	.26							4.22
Green Bay	Lake			.02	.18	.92	.55		.01			T.				.15	.36	.10	.28				1.01	.59	.05	.21	.47	T.	T.					4.90
Herbster	do																																	
Iron River	do					.05										.28	.25	.12					.28	.25	.10									1.33
Kewaunee	do					.45	.60										.44		.30				*	1.50		.30	1.00							4.59
Manitowoc	do			.02		.60	.50					.10			.15	*	.28	*	.83				*	1.39		.56	.30							4.73
Menasha	Fox			.02	T.	*	.90					.37				.13	*	*	.26				*	.86	*	*	.60	.04						3.18
Menominee Falls	Lake			.06	.29	.35	.27					.03				.10	.52	.11	.18	.07			.77	.87	.10	.46	.18	.11						4.47
Milwaukee	do			T.	.22	.12	.05					.04				.01	.49	.01	.10				1.06	.67	T.	.51	.20			T.	T.			3.48
New London	Fox			T.	.02	*	1.80					.20				.08	.53	*	.40				1.35	1.30	T.	.21	T.							5.89
Oconto	Lake				.19	.62	.54									.26	.27	.22	.04				.62	*	.25	.55	.27							3.79
Oshkosh	Fox			T.		.41	.10					.60				.13	*	*	.55				.65	1.00	T.	*	.60							4.04
Pine River	do		.03			.72	.63					.06				.08	.49	.03	.03				1.01	.62	.07	.01	.12							3.90
Plum Island	Lake				.19	.85	.30					T.				.30	.13	.21	.09				.18	1.33	.21	.19	.83	.04						4.85
Port Washington	do				.05	.21						.27				.10	.30	.16	.21				.51	.43		.33	.65							3.22
Racine	do				.11	.13	.02					T.	.10			T.	.48	.15	.05	.02			.30	.62	T.	.38	.15	.10		T.	.05			2.66
Sheboygan	do			T.	.09	.16	.57					T.				.16	.05	.28	.46	.04			.37	.60	T.	.67	.31	.06						3.78
Sturgeon Bay	do			.03	.04	.71	.64									.21	.04	.35	.19	.02			.43	.32	.39	.37	.81	.51	.03					5.09
Superior‖	do				T.											.56	.04	.55					.06		.02									1.23
Waupaca	Fox			.02		.88						.15				.07	.53	T.	.45				2.17	.09	.25	.07	.05							4.73
Illinois.																																		
Chicago	Lake Michigan			T.	.43	.21	.01					.42				T.	.19	.03	.05				.69	.21	.20	.52	.22	.03		T.	.63			3.84
Indiana.																																		
Auburn‖	Maumee				.23	.05	.22						.12			.02	.03	.36	.04	1.15	.04			.43	.03		.02	.29						3.03
Berne	do			.87		.13	.05										.41	.01	.21	.74	.12	.02	.06	.21	.03		.08	.01						2.95
Elkhart‖	St. Joseph			.01	.39	.03	.28					T.	.04			.06	.36	.89	.72	.06	.02		T.	.40	T.	.07	.02	.05						3.40
Fort Wayne	Maumee			.22	.08	.10	.10									.06	.02	.38	.17	.93	.04		.13	.35	.08		.45							3.11
Hammond	Lake Michigan				1.10	.06	.10					.16					.22	.12	.10				.42	.49	.10	.15								3.02
Howe‖	St. Joseph				.33		.35						.75			.13		.55	.17	.08				.55				.70						3.61
South Bend‖	do				.20	.03	.12	T.					.18			.03	.18	.49	.66	.03				.28	.08	.06	.23	.40						2.97
Whiting	Lake Michigan				1.14	.12	.03					.20					.15	T.	.09	.72						.25	.40				T.			3.10
Michigan—Upper Peninsula.																																		
Baraga	Lake																																	
Bergland	Ontonagon					.22						T.					.20	.19	T.	T.			.10	.30	T.						.03			1.04
Blaney	Manistique																																	
Calumet	Lake					.33						.02		T.		.02	.09	.31		T.			.21	.64	.12					T.	.02			2.36
Chatham	do			T.		.68	.46		.06			.05				.16	.04			.07			.12	.48	.36	.12			.01					2.61
Deer Park	do	T.				.40					T.	T.				.30	.35	T.						.40	.60	.40	.25	T.						2.70
Detour	St. Marys									.20		T.				.25	.02	.66						.26	.38	.12	.47	.10						2.46
Eagle Harbor	Lake				T.	.45		T.				T.		T.		.60	.38	.35						1.00	T.				T.					2.78
Escanaba	do			.01	.10	1.09	.01		T.		T.	.03				.42	.99	.02	T.	T.			.53	1.03	.48	.15	.01		T.	T.				4.87
Ewen	Ontonagon								.01			T.				.01	.10	.31	T.	T.			.13	.80	.10						T.			1.46
Grand Marais	Lake					.20					.20	.30								.01				.30	.20	.01		T.						1.22
Houghton	do	T.			.06	.27					T.	.02		T.		T.	.47	T.	.01				.54	.67							T.			2.04
Humboldt	Escanaba					1.00										T.	T.			T.			T.	.60	.10									1.70
Iron Mountain	Menominee					1.03	.23		.13								.15	.86					.85	1.05	.46	.18			.01					4.75
Iron River	do				T.	.90	.30					T.					.40	.30					.40	.50	T.									2.80
Ironwood	Lake					.01										.23	.12	.35	.14					1.15	.13									2.13
Ishpeming	Escanaba					.40	.20		.10			.05				.30	.20	.35		.05			.35	.40	.40		.10				T.			2.90
Isle Royale	Lake																																	
Mackinac Island	do																																	
Maple Ridge	do					.98	.14									.40	.38	.10					.25	.20	.10	.50								3.05
Marquette	do					1.05					T.	.02		T.		.22	.23	T.		.01			.70	1.04	.21	.28	.10		.02	.01				3.89
Menominee	Menominee				.46	.86		T.								.15	.35	.16					.45	.08	.10	.24	.18							3.03
Newberry	Tequamenon																								.20	.10								
Powers	Lake																																	
St. Ignace	do					.25	.70				.05	.06				.02	.01	.24						.20	.05	.28	.35	.22	.04					2.47
Sault Saint Marie	St. Marys	.08				.40	.19					.06				.09	.16	.63						.11	.22	.15	.41	.03	T.					2.53
Thomaston	Lake					T.										.40	.15	.31		.05				.40										1.31
Victoria	Ontonagon					.28										T.	.20	.21		T.			.19	.55							.02			1.45
Watersmeet	do					.94			.06							.05	.15	.42	.01	.02			.32	.26	T.		T.							2.23
Wetmore	Lake					.85										.30							.25	.40	.20	.35								2.35
Whitefish Point	do					.03	.02					.05				.10	.16	.30						.10	.50	.18	.19	.02	T.					1.65
Michigan—Lower Peninsula.																																		
Adrian	Raisin			.15	.30	.28	.04									.05	.57	.28	.45	.47	.14		.16	.05	.02	.35	.33				T.			3.64
Agricultural College	Grand			T.	.15	T.	T.									.15	.10	.25	.20	.05	.10		.05		.05	.50	.73	.10			.05			2.48
Allegan	Kalamazoo				.21	.07	.02					T.				.08	T.	.89	.57				.11	.32	.14	.59	.51	T.			.41			3.92
Alma	Saginaw			T.		.06	.24					.04				.16	T.	.60	T.				T.	.26	T.	.81	.57	.18	.09	T.	.06			3.07
Alpena	Lake					.14	.17				.02	.12				.32	.08	.67		.03	.37			.31	.01	.33	.19	.01	T.	.05				2.82
Ann Arbor	Huron			.01	.28	.13	.14									.03	.01	.42	.17	.25	.46	.01	.03	.07	.10	.47	.74	.05	.03	.01				3.41
Arbela	Saginaw				.55		.31					.05				.21		.65		.18	1.28				.41	1.10	.22	.24	.15	.03	.10			5.48
Battle Creek	Kalamazoo			T.	.18	.05	.35						T.			.20		.65	.40	T.			.05	.14	.17	.64	.67	.11						3.61
Bay City	Saginaw				T.		.20					.10				.15		1.00		.40	.50			.70	1.00	1.50	.20		.40	.20				6.35
Benzonia	Betsie					.30	.85										.05	.32					.05	1.02	.01	.13	.10	.27						3.10
Berlin	Clinton			T.	.10	T.	.29									.21	T.	1.65		.28	1.35		T.	T.	.25	.49	.52	.05	.01	T.	T.			5.20
Big Rapids	Muskegon					.01	.24					.06				T.	.02	.65	.03				.16	.37	.04	.62	.32	.12	.08					2.72
Bloomingdale	Lake			T.	.15	T.	T.					T.				T.			.67				.50	.30	.43	.66		.43			.15			3.29
Cadillac	Manistee					.25	.08					.32				.02	.11	.90	T.				.10	.51		.50	.25	.08	.05	.02				3.19
Cassopolis	St. Joseph																																	
Charlevoix	Lake					.12	.20											.11						.60		.50	.24							1.77
Charlotte	Kalamazoo				.22	.01	.48									.06	T.	.70	.25	T.	.03		.09	.10	.16	.58	.76	.13			T.			3.51
Cheboygan	Cheboygan				.08	.30	.86				T.	.05				.10		.50						.30	.10	.47	.48							3.24
Clinton	Raisin			T.	.41	.02	.12									.11	.05	.50	.33	.26	.15		.10		.25	T.	1.03			T.				3.33
Coldwater	St. Joseph			T.	.65	T.	.26									.08	.05	.50	.25	.04			.20	.22		.27	.51							3.03
Concord	Kalamazoo			T.	.55	T.	.15									.06	T.	.87	.20	T.	T.		T.	.15	.20	.45	1.10	T.						3.73
Croton	Muskegon			T.		T.	.13									.08	T.	.51	.26	.08			.08	.24		.65	.22	.07	T.	T.	T.			2.32
Detroit	Detroit			.15	.42	.13	.08					T.				.08	.43	.89	.01	.64	.42		.02	T.	.35	.46	.52	T.	.11	.02				4.73
Durand	Saginaw			T.	.29	T.	.24									.20	T.	.34	T.	.09	.55	T.		.13	.19	.51	.49	.13	.13	.01	T.			3.30

TABLE 2.—*Daily precipitation for April, 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	31	Total.
Michigan—Lower Peninsula—Cont'd.																																	
East Tawas	Lake						.12					.10				.40	.20	.40		.10	.45		.10		T.	.45	.05						2.37
Eloise	Rouge		T.	T.	.43		.05									.02		.73	.04	.41	.87		T.	.02	.18	.30	.60		.12	.02	T.		3.79
Flint	Saginaw				.07	.30	.08	.25									.25	.45	.10	.05	.75	.35		.15	.08	.35	.80	.20	.20	.05	.03		4.51
Frankfort	Betsie					.16	.20										.25	.25						.96		.10	.25	.05					2.22
Ganges	Lake				.05		.07					T.				T.	T.	.36	.59					.30	.11	.52	.51	.06					2.57
Gaylord	Cheboygan					T.	T.									T.		.02					.07			.11	.05						0.25
Gladwin	Saginaw					T.	T.				T.					T.	T.	.15								.45	.15						0.75
Grand Haven	Grand				.01	.11	.02					.02				.02	.28	.21	.57				.41	.05	.01	.65	.44			T.	.08		2.88
Grand Rapids	...do			T.	T.	.09	.01					T.				.03	.52	.66	.60	T.			.24	.01	.02	.67	.68			T.	.14		3.16
Grape	Raisin			.02	.67	.02	.05					T.				.09	T.	.71	.34	1.63	.70		.01	.04	.21	.11	.41		.02	T.			5.03
Grass Lake	Grand				.18	.58	.35									.15	.10	.25	.40	.10	.15			.12	.37	.40	.70	.10		T.			3.95
Grayling	Au Sable																																
Harbor Beach	Lake				.10		.10					.10				.60		1.10		.30	1.20					.20							3.70
Harrison	Saginaw						1.09																		.89		.14						2.12
Harrisville	Lake						.20					.17				.43	T.	.88		.14	.82			.18	.03	.47	.18	T.	T.	.03			3.53
Hart	Pentwater				.10		.15											.35	.25				.26	.24	.68	.05		.06		.10			1.64
Hayes	Pigeon				.56		.18									.47		.65		.25	.85					.38							3.34
Highland	Huron				.05	.34	.12									.10		.61		.36	.76				.35	.55	1.05	.15					4.44
Hillsdale	Saint Joseph			.02	.40	.05	.22					T.				.13	T.	.26	.26	.10	.10		.15	.13	.07	.07	.58				T.		2.54
Holland	Lake					.03	.02									.05	.33	.12	.50				.02	.35	.09	.51	.99	.06			.12		3.19
Howell	Saginaw		T.	T.	.05	.05										.25		.60	.20	.40	.45				.50	.90	1.40	.16	.67				5.03
Ivan	Manistee				.02	.02	.60					.05				.05	.05	.17					T.	.47		.11	.30	.02	.24				2.10
Jackson	Grand																																
Jeddo	St. Clair				.09	T.	.34	T.				.11				.01		1.17		.32	1.04				T.	.66	.14	.06		.10	T.		4.04
Kalamazoo	Kalamazoo			T.	.31	.10	.12									.13	.05	.74	.34				.03	.10	.18	.53	.67				T.		3.30
Lansing	Grand			.02	.18	.05	.13				T.					.14	.02	.57	.22	.03	.05		.08	.04	.06	.58	.73	.13	.01	T.	.14		3.18
Lapeer	Saginaw																																
Ludington	Pere Marquette					.12	.15												.70				.05	1.40		.74	.63						3.85
Luther	Manistee					T.	.37				T.	.05				T.	T.	.62	.05	T.			.10	.49	T.	.20	.14	.09	.07	.01			2.17
Mackinaw	Lake						.10																	.50		.38	.48	.05					1.51
Mancelona	...do					T.	T.										.05							.13	T.	.06	.11		.04			0.39
Manistee	Manistee					.20	.70					.02					.27	.12	.04				T.	1.70		.35	.09	.44	.05	.05			4.03
Midland	Saginaw				T.	.01	T.										T.	.01			.15				.25	.35	.25	T.	T.				1.02
Montague	White					T.	.20									.10	.37		.54					.45			.68						2.34
Morenci	Maumee			.40	.59	.18	.20					.03				.01	.69		.20	1.15	.14		.24		.02		.65						4.50
Mount Clemens	Clinton				T.	T.	.19													.45	.63			T.	.27	.64	.70	.11	.05	.04			3.08
Mount Pleasant	Saginaw						.76				.16							.12	.71						.18	1.12	.28						3.33
Muskegon	Muskegon					T.	T.					T.				T.		T.	.08				T.	.10	T.	.08	.45	T.					0.71
Old Mission	Lake					.76	.92											.45						.83		.13	.66		.22				3.97
Olivet	Kalamazoo			.01	.03	.05	.32						T.			.16	T.	.73	.29	T.	.02		.05	.04	.03	.66	.92	.06			T.		3.37
Omer	Lake						.20									.30		.60		T.	.40					.50	T.						2.00
Onaway	Cheboygan															.15		.40						.30	.10	.15	.10						1.20
Ovid	Grand				.35	.08	.06	.11									.12	.65	.01	.03	.06	.11		.13	.05	.17	.92	.13	.01	.06			3.05
Owosso	Saginaw				.30		.30									.02	.03	.02	.04	.02	.03			.01	.01	.08	.02	.04	.01				0.93
Petoskey	Lake					.17	.10									.01		.02						.03	.30	.15	1.18						1.96
Plymouth	Rouge				.30		.20											.88			.93					.50	.20						3.01
Pontiac	Clinton			T.	.10		.10									.13	.03	.80	T.	.18	.58		T.		.36	.50	1.03	.09	.18	.02	T.		4.10
Port Austin	Lake																																
Port Huron	St. Clair				.03	.02	.20		T.			.01				.13	.05	.99		.46	.64		.01	.01	.03	.60	.20		T.	.03	.09		3.50
Reed City	Muskegon																																
Roscommon	Au Sable					T.	.28					.05				.06							T.	1.00		.18	.40		.13				2.10
Saginaw	Saginaw			T.	.02		.25	.05				T.				.15		.60		.10	.50		T.	.30		1.00	.30	.10	.05	T.	T.		3.42
Saginaw, W. S.	...do			T.	.32	.03	.33	T.				.05				.12	T.	.62	T.	.15	.54		T.	.24	.13	1.00	.38	.15	.28	.07	.06		4.47
St. James	Lake						.76											.27					.50	.10	.30	.27	.20						2.34
St. Johns	Grand																																
St. Joseph	St. Joseph				.60	.02											.02	.05	.04					T.	.04	.38	.11	.04			T.		1.30
Sandusky	Lake				.25		.58	.02				.02				.14		1.40		.25	1.17					.59	.13	.10					4.65
Saranac	Grand				.11	.01	.01									.15		.70	.63				.11	.16		.84	.48				.22		3.42
South Haven	Lake						.20									T.	.40		T.					.05		.60					.20		1.45
Stanton	Grand																																
Thornville	Saginaw				.12		.90									.60		1.10		.05	.85			.20	.50	.80	.62	.18	.20	T.	.15		6.27
Traverse City	Lake				1.00		T.																1.00	.50									2.50
Vassar	Saginaw																																
Wasepi	St. Joseph			.18	.28	.10	.51						.05			.16	.75	.29	.25				.10	.25	.15	.16	.72	.08					4.03
Webberville	Grand			T.	.25	.05	.22									.11		.53		.25	.30		T.	.13	.12	.52	.80	.10	.12		T.		3.50
West Branch	Lake																																
Woodlawn	Au Sable						.78					T.					.03	.06						.40		.30	.48						2.05
Ypsilanti	Lake			.01	.35	.13	.06					T.				.02	.01	.67	.26	.53	.43	T.	.01	.05	.20	.43	.76	.01	.05	T.	T.		3.98
Ohio.																																	
Akron‖	Lake	T.			.10	.84	.06	.07									.01	.47	.01	.33	.25	.01	.01	.01	.36	.03	.30	.09	T.	.03			2.98
Benton Ridge	Maumee			T.	.80	T.	.28										T.	.45	.22	1.75	1.10	.05		T.			.58						5.23
Bowling Green	Lake			.20	.90	.10	.06					.12					.15	.68	.15	2.00	.90						.60						5.86
Bucyrus	Sandusky				.80	.45	.20	.02										.75	.25	.35	.65	.20					.60	.35	T.				4.62
Cleveland (1)	Lake			T.	1.33	T.	.08	.02		T.		.02				T.	T.	.42	T.	.42	.34	T.	T.	.02	.35	.09	.21	.02	T.	.02	T.		3.34
Cleveland (2)	...do				1.37	.07	.01					.05					T.		.43	T.	.53	.45		T.	.36	.13	.22	.02		.03			3.67
Defiance	Maumee				.05	T.	.11	T.					T.			T.		.22	.09	1.08	.76	.13		.24			.31	.05		T.			3.04
Findlay‖	...do				.52	.39	.39	.02										.83	.08	.29	2.00	.18		.02			.47	.10			T.		5.29
Fremont	Sandusky			.55	1.01	.09	.05										.05	.95	.08	2.40	1.76			.03	T.		.55						7.52
Hedges	Maumee			.22	.26	.22	.06										.45		.32	1.27	.44		.09	T.			.34						3.67
Hillhouse	Lake			T.	1.10	.10	.05	.16										.25	T.	.45	.10	.02	T.		.16	.40	.35	T.		.05			3.19
Hiram	...do			T.	1.33	.17	.03	.09					T.					.20		.46	.22	.02		.04	.20	.17	.06			.09			3.08
Hudson	...do				1.57	.30	.01	.13								.01		.58		.60	.42	.02			.35	.03	.24	.04	.02	.07			4.39
Lima	Maumee			T.	.26		.13										.05	.50	.13	1.15	1.03	T.	T.				.52						3.77
Medina	Lake				.67	.33	.06	.07								T.		.48		1.08	.18				.48	.06	.24	.05	T.	.04			4.04
Montpelier	Maumee			.32	.17	.45	T.					.38				.07	.50		.25	1.00	.13		.22	T.			.50						3.99
Napoleon	...do			T.	1.00	.21	T.					.05				T.	.10	.41	.15	2.21	.64					.07	.60						5.44
New Bremen	...do			.22		.03	.13												.60	.86			.18	.38									2.40
North Royalton	Lake			T.	.87	.04	.06	.12					T.			T.		.61	T.	.46	.42				.40	.18	.36	.07		.04			3.63
Norwalk	...do				.20	.87	.07	.04										.60	.56	1.35	1.10	.14		.08	.06	.08	.34	.30	.06				5.65
Oberlin	...do				1.27	.01							T.					1.35	T.	.73	.85		T.	T.	.42	T.	.20	.08	.03	.02	T.		4.96
Ottawa	Maumee			.72	.15	.20	.10										T.	.55	.31	1.43	.60	T.	.02	T.			.57						4.65
Rome	Lake																																
Sandusky	...do			.25	1.75	.02	.05					.05					.10	1.02	.23	1.57	.43		T.	.01	.13	.20	.33	.02	.08	T.	T.		6.24
Tiffin	Sandusky			.13	.81	T.	.07										.26	.72	.60	1.65	1.10			.05		.06	.44	.03			T.		5.92
Toledo (1)	Maumee			.15	.50	.10	.03					.33				.04	.36	.43	.72	1.97	.44		.04	.01	.03	.06	.58		T.	T.			5.79
Toledo (2)	...do			.06	.60	.05	.08	T.				.22	.01			.02	.01	.75	.12	2.02	.50	.05	.05	.02	.04	T.	.55		T.	T.	T.		5.15
Upper Sandusky	Sandusky			.08	.78	T.	.07										.08	.82	.10	.80	.50						.59						3.82
Vickery	Lake				1.75	.03	.09										.03	1.07	.06	2.10	1.13			.03	.05		.42	.02	.05	T.	T.		6.83
Wauseon	Maumee				.43	.27	.31	T.					.25				.06	.57	.17	1.40	1.20	.12		.17	T.		.43	.24			T.		5.62
Wellington	Lake				1.45	.03	.07	.05					T.					1.08		.79	.77	.01		.02	.24		.26		.05	.02			4.84
Willoughby‖	...do				.07	1.49													.40	.20				.87	.03	.23	.34	.10					3.73
Pennsylvania.																																	
Erie	Lake			T.	.43		.08	.02		T.		T.				.11	T.	.07	T.	.26	.02	.12		.02	.11	.97	T.			.02	T.		2.23

TABLE 2.—*Daily precipitation for April, 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	31	Total
New York.																																	
Adams Center	Lake							.06	.14			.17			T.				.42	.17	T.	T.			.14	T.	T.	T.	.07		.17		1.34
Angelica	Genesee				.28			.19	T.			T.					.38	.03	.79	.50	.12	.21		.05	1.29	.57	.80			.71			5.92
Appleton	Lake				T.		T.	T.		T.		.10				T.	.05	.48	.27	1.07	.10	T.		.10	.65	.25	.66			.79			4.52
Auburn	Oswego				T.	T.	.20	.30				.40						T.	.50	.65	.12			.40	.70	.20				.20			3.67
Avon	Genesee							T.	T.			.02							.32	.35	.25	.13		T.	.85	.35	.39			.62			3.28
Benson Mines	St. Lawrence																																
Blue Mountain Lake	Raquette						.20	.40	.20	.25									.63	.23						.87	1.15						3.93
Brockport	Lake				.03		.01	.02	.09	.01		.24				.04		.34	.47	.35	.47	.05		.03	.83	.62	.33		T.	.48			4.41
Buffalo	Lake				.08		.02	.02		T.		.04				.30	.09	.50	.06	.74	.11	.07		.33	.43	.55	.08	T.		.90	.02		4.34
Canton	St. Lawrence						.01	.08	.04	.05		T.			.03			.15	.49	.15	.01	T.		T.		.12	.34	.11		T.	.03		1.61
Cape Vincent	...do							.17				.06							1.04	.37					.55		.10			.03			2.32
Carvers Falls	Lake				.66				.34	.29									.65	.20							1.21	.01					3.36
Chazy	...do							.15		.10									.50				.30				.03	T.			.12		1.20
Dannemora	...do	T.					*	.34	.12	.51	.10	T.	T.					*	.41	.37	.01		*	.05		T.	.07	*	.11	*	.17		2.26
Elba	Lake				T.	T.	T.	.01				T.	.20				.50	.25	.60	.25	.30	.10		T.	1.00	.50	1.20			.95			5.86
Fayetteville	Oswego				T.		.14	.23	.05	.03		.32	.06					T.	.06	T.	.12	T.		.11	.16	.10	.16			.16	.04		1.74
Gabriels	Lake						T.	.04	.16	.10	.22				.02			T.	.03	.04				.02		.02	.05	.05	.09		.05		0.89
Harkness	...do						.01	.27	.05	.34									.12	.10	.12		T.	.04			.22						1.27
Hemlock Lake	Genesee				T.			T.				.30						.24		.60	T.			*	1.35	.40				.91			3.80
Hunt	...do				.15		.03					.20				.18		.72		.51		.42		.48	.62	.44	1.08			1.00			5.83
Ithaca	Oswego				.07		.17	.16	T.	T.		.29					.01	.02	.03	.64	.02	.04		.66	1.04	.08	T.			.41	.02		3.66
Keene Valley	Au Sable							.18	.09	.43	.06							T.	.89							T.	1.56		.09		T.		3.30
King Ferry	Oswego				.08		.15	.18	.07	.02		.36							T.	.15	.31			.77	1.04					.29			3.32
Lake George	Lake				T.		.05	.15	.04	.23								T.	1.03	.32						.27	1.05				.06		3.20
Lake Placid Club	Au Sable, W. Br.						.03	.22	.54	.32	T.				.05		T.	T.	.58	.46			T.			.05	.08		.10		.20		2.63
Le Roy	Genesee				.16		T.	.11	.06	.02		.18				T.	.03	.20	.55	.65	.29	.15		.04	1.05	.27	.91			.89			5.56
Lockport	Lake				.01		T.	.01				.15				T.	.09	.43	.12	.89	.09			.07	.35	.33	.63			1.05			4.22
Lowville	...do							.15											.35		.18						.67				.50		1.85
Lyndonville	...do							.16				.05								1.14	.71				.96	.16	1.00				.70		4.88
Moira	St. Lawrence					T.	.04	T.	.13	.16	.02							.03	.78	.17	.03	T.	T.			.02	T.	.02	.04				1.44
Nehasane	Lake						.03	.26	.28	.12	.14								.40	.15	.07						.45	.43	T.		.04		2.37
North Lake	...do		.60					.28	.30		.16								1.28		.20						1.10						3.62
Ogdensburg	St. Lawrence						T.	.04	.50	T.		.02			.01			T.	.66	.15	.13				.03	T.	.55	T.			T.		2.09
Old Forge	Lake						.02	.02	.08	.04		.02	.03					.11	.48	.07	.07					.01	.89	.07		.20	.20		2.31
Oswego	...do				.01	.01	.06	.11	T.	.01		.39						.08	.31	.14	.01			.14	.45	.04	.19	.01	T.	.04	T.		2.00
Otto	...do				.12		T.										.21		.71	.15			.09	.43	.83	.30	.09	.02		.22	T.		3.17
Palermo	Lake					.10					T.	.25	.15				T.	.02	.17	.20	.12		T.	.05		.40							1.46
Perry City	...do				.06		.39	.15	.20	.04		.20	.14				T.		T.	.26	.38	.11		.20	1.62	.87	.18	T.		.52			5.32
Philadelphia	St. Lawrence						T.	.08	.04			.02	T.		T.			.05	.96	.16	.10				.13	.04	.03		.09	T.	.06		1.76
Plattsburg	Lake							.30	.13	.30	.01								.30				.08	.25			.11		.07		.20		1.75
Potsdam	St. Lawrence						T.	.12	T.	.16			T.		.07			*	.59	.33	.04					.08	.09	.05	.16	—	.05		1.74
Raquette Lake	Raquette						T.	.86	.40	.06		T.							.43	.37						*	.55	.12	T.	*	.08		2.87
Rochester	Genesee				.02		.03	.07		.01		.18				T.	.01	.21	.17	.59	.04			.26	1.05	.10	.02		.01	.33	T.		3.10
Romulus	Oswego						.02	.20	.02			.06	.08						.04	.11	.18			T.	1.47	.86	.32			.59			3.95
Shortsville	...do					.33	T.	.50				.37	.02					T.	.25	.07	.01	.05		T.	1.47	.43	.10			.32			3.92
Skaneateles	...do			T.	.10	.09		.06	.10	.05	T.	.35						T.	.74	.16	.40	.02		.28	.30	.08	.09			.18	.04		3.04
Syracuse	...do				.04	T.	.07	.03	.01	.01		.39				T.		.03	.04	.13	.02			.26	.04	.09	.06			.14	.03		1.39
Ticonderoga	Lake						.02	.60	.10	T.	T.								.30		T.		T.	.01		.01					.01		1.05
Trudeau	...do																																
Tupper Lake	St. Lawrence						.01	.07	.13	T.									.15	.05	T.						.05				T.		0.46
Volusia	Lake				.30	.01	T.	.08								.18	T.	.01	.02	.37	.11	.20		T.	.08	.55	.20			T.			2.11
Watertown	...do						T.	.10				.07			T.		T.	.05	.75	.05				.14	.12	.06			.03	.03	.02		1.42
Wedgewood	Oswego				.23		.28	.20	.10	.01		.05	.07				T.	.05	.22	.50	.19	.37		.18	2.20	.97	.29		.02	.67	.02		6.62
Westfield	Lake				.21	.17	.09	.21								.17	.02	.12	.17	.39	.31	.43		.06	.05	.56	.31			.02			3.29
Youngstown	...do				.14		.04									.02	.19			1.20	.60		.39		.05	.40	.55			1.10			4.68
Vermont.																																	
Burlington	Lake						.02	.29	.20	.32	.02		T.					.03	.16	T.			.20			.01	.17	.47	.02	T.	.19		2.10
Cornwall	...do				T.			.30	.25	.40	.10								.14	.40	T.		.12			T.	.40	.05			.05		2.21
Enosburg Falls	...do							.35	.40	.19	.35	.01	.02						.07	.01		.06	.26	.04				.59	.31		.44		3.10
Northfield	...do						.20	.07	.08	.08	T.		.01						.23	.10	.02		.22			T.	.55	.48			.14		2.17
Rutland	...do																																
Wells	...do				.13	.05	T.	.49	.34	.14	.32	T.							.18	.05			T.			T.	.39				.05		2.14

TABLE 3.—*Maximum and minimum temperatures at selected stations, April, 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	58	36	56	36	62	42	69	44	71	47	70	30	55	36	55	31	54	36	50	39	44	27	65	34	66	35	64	35
2	52	38	58	25	59	41	55	40	60	52	74	35	55	31	63	20	52	31	57	38	56	26	51	31	67	37	64	35
3	59	46	62	35	60	45	55	42	71	50	74	42	50	38	60	28	71	37	67	42	54	36	49	39	69	42	70	38
4	63	40	64	42	70	48	72	47	73	60	77	55	52	37	76	42	74	41	71	45	55	44	56	41	70	53	71	52
5	44	31	60	35	62	38	67	37	69	47	76	58	47	33	42	36	66	31	60	31	60	37	68	45	73	56	70	40
5	57	29	43	27	53	33	51	33	47	38	59	38	39	30	45	29	41	30	37	29	39	27	52	31	59	36	40	28
7	43	32	58	21	54	30	45	33	45	37	57	29	45	27	63	19	46	29	41	29	40	27	44	28	54	28	46	25
8	65	33	67	34	69	37	73	38	75	44	71	28	48	34	61	33	56	34	62	38	46	27	49	28	68	28	66	27
9	57	44	64	31	72	41	61	46	59	49	72	48	59	34	59	29	56	36	57	38	53	32	62	37	70	45	65	26
10	48	34	60	32	60	41	54	43	65	48	75	37	50	37	70	45	50	36	46	36	41	30	44	34	67	37	65	34
11	34	28	51	31	46	34	63	37	78	41	81	45	43	29	47	31	40	28	35	26	44	30	40	32	78	45	58	35
12	41	29	55	20	47	30	46	36	46	38	66	37	44	28	59	14	49	26	39	26	39	27	47	30	55	31	50	25
13	73	33	71	33	65	33	60	36	57	41	69	26	54	31	74	34	63	36	62	38	57	29	54	28	65	27	60	27
14	46	37	71	45	73	46	55	48	75	52	81	30	56	41	75	39	68	40	75	43	72	35	72	41	74	37	75	43
15	48	36	71	45	75	50	76	47	78	63	73	58	57	43	75	40	62	44	59	46	56	42	46	41	75	36	.....	51
16	37	28	68	46	58	35	60	33	65	36	77	54	51	41	49	30	54	40	53	46	60	46	51	42	73	56	75	52
17	37	27	51	29	42	30	40	31	44	35	68	38	41	34	44	30	43	34	52	33	48	32	48	34	64	35	59	32
18	50	26	50	33	47	32	44	32	45	34	57	35	55	34	42	30	47	32	41	33	54	33	49	34	49	33	53	36
19	50	30	45	27	44	35	46	38	45	40	49	32	40	32	44	28	44	30	40	30	50	37	47	37	50	40	49	33
20	53	36	62	28	61	33	60	37	51	37	52	36	58	33	60	20	53	30	47	34	57	35	42	36	50	35	55	31
21	53	37	64	25	59	35	52	40	53	44	60	36	48	32	70	28	61	33	64	33	62	33	48	36	59	37	65	33
22	43	21	55	29	50	30	48	30	65	35	66	36	45	29	60	28	54	25	48	28	56	36	46	34	60	37	65	37
23	31	16	31	20	32	25	30	22	35	26	55	31	37	29	28	20	30	24	33	27	49	38	47	35	44	29	50	30
24	37	28	31	24	36	29	38	30	38	29	50	29	34	29	34	24	37	25	33	26	38	30	39	35	38	29	42	30
25	43	33	41	28	42	32	40	31	40	34	47	36	42	31	40	30	42	32	38	30	45	30	48	35	39	35	40	32
26	61	35	61	34	52	40	48	34	47	35	43	33	50	39	58	35	55	41	53	36	55	40	49	37	39	35	53	33
27	56	33	56	36	49	41	48	39	48	40	59	39	45	36	52	32	44	34	44	34	49	36	49	36	58	35	52	35
28	43	35	42	33	52	40	63	38	76	47	70	39	42	36	49	38	44	35	41	33	44	29	38	34	54	41	46	35
29	45	35	57	35	55	43	84	63	86	61	84	55	49	39	66	34	47	37	47	36	43	35	43	37	83	45	70	37
30	63	36	60	36	56	44	64	42	74	42	76	57	56	40	59	37	56	38	50	31	48	35	57	40	76	47	.....	.....
31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mns	49.7	32.7	56.2	31.8	55.4	37.1	55.6	38.2	59.7	42.7	66.3	30.4	48.3	34.1	56.0	30.5	52.0	33.5	50.3	31.3	50.5	33.4	50.0	35.4	61.5	38.1	58.5[b]	34.7[a]

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	65	37	60	38	68	33	60	36	71	53	60	38	69	39	55	38	48	36	56	36	60	39	58	37	56	40	59	35
2	60	40	69	40	64	37	55	40	69	43	52	43	56	43	56	38	58	38	56	38	58	41	58	40	54	40	54	32
3	59	44	68	45	67	38	65	49	67	36	70	46	60	44	72	47	72	40	56	31	68	37	68	36	53	32	55	25
4	66	53	65	51	70	51	64	52	75	56	70	52	71	55	66	54	59	44	61	38	69	54	58	51	60	36	62	27
5	75	54	70	55	76	56	79	54	74	55	79	56	76	54	82	56	80	52	78	48	83	59	80	50	72	48	75	46
6	54	34	55	38	62	34	55	35	57	35	56	39	54	36	59	34	72	35	68	45	71	45	72	45	74	50	78	48
7	45	32	42	30	52	27	38	33	53	30	41	34	48	33	35	31	37	28	45	30	45	31	45	30	50	34	50	36
8	58	31	64	30	65	28	52	32	66	29	56	35	65	34	47	32	37	30	37	27	50	31	41	30	35	31	39	30
9	65	48	62	45	69	42	56	44	71	56	61	49	66	51	53	42	58	34	43	34	57	38	50	39	39	32	43	32
10	59	44	71	36	64	34	53	41	71	37	58	44	63	46	52	40	51	34	45	30	51	38	48	36	41	30	37	30
11	73	33	61	46	54	36	71	37	79	55	75	41	78	39	61	36	48	34	40	25	41	33	38	32	41	26	42	22
12	47	31	53	31	51	28	43	35	70	47	45	39	46	38	45	32	43	31	37	36	43	32	40	30	38	28	37	28
13	57	32	54	29	65	29	48	34	64	28	50	35	57	35	49	32	46	31	51	27	55	29	52	30	49	29	47	25
14	71	43	70	39	71	41	64	39	77	34	66	44	75	45	61	39	58	38	56	38	68	38	67	38	55	38	56	28
15	71	53	69	59	67	52	72	54	72	61	75	57	75	57	74	50	72	47	59	31	59	48	68	47	53	35	55	29
16	66	49	71	41	69	53	70	55	69	56	68	57	67	50	69	45	70	46	62	38	70	46	65	49	59	33	59	26
17	56	33	64	34	65	36	61	38	67	39	59	34	53	38	57	39	59	36	65	45	54	45	52	45	61	37	56	33
18	54	37	46	36	54	39	55	37	50	34	52	37	53	37	52	41	64	37	63	45	63	45	68	45	56	43	52	39
19	46	39	46	30	50	41	40	32	40	32	42	32	44	34	52	34	54	32	63	48	56	38	68	40	70	51	70	51
20	45	36	52	33	44	37	42	33	53	33	44	38	43	36	42	36	47	33	56	41	50	37	53	38	65	48	65	40
21	55	37	50	37	51	38	45	38	55	35	50	39	57	34	49	37	56	39	61	41	56	42	57	40	66	39	64	33
22	59	39	64	39	66	34	60	34	63	36	64	39	62	42	55	36	56	35	64	39	63	40	60	42	49	39	52	33
23	53	36	55	30	55	35	58	41	59	34	57	39	57	34	57	42	58	38	66	41	58	43	70	44	68	48	66	44
24	46	35	43	30	47	36	41	35	48	28	43	34	42	34	46	40	54	37	71	52	56	43	62	43	70	53	66	51
25	46	39	44	35	46	37	49	39	50	36	48	42	49	39	54	40	57	37	68	54	68	53	68	51	66	48	63	49
26	46	38	56	36	60	37	47	36	44	33	45	37	45	36	54	42	59	43	72	48	64	43	66	42	67	55	62	50
27	57	41	48	39	58	35	48	40	56	39	54	40	57	39	53	40	53	40	57	36	55	41	56	38	61	33	62	36
28	45	37	56	40	49	35	49	40	69	40	49	42	51	41	46	38	47	34	44	29	45	34	42	30	42	30	40	30
29	73	41	66	48	75	41	72	48	82	54	82	49	82	45	72	43	63	38	52	30	49	36	49	31	51	29	52	26
30	71	48	66	42	72	45	69	50	76	51	70	51	70	51	71	46	66	42	70	45	71	48	72	48	60	41	63	34
31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mns	58.1	39.8	58.7	38.7	60.9	38.2	56.0	40.4	63.9	41.0	58.0	42.1	59.7	41.3	56.5	40.0	56.7	37.3	57.4	37.9	58.5	40.9	58.4	39.9	56.0	38.5	56.0	34.9