CLIMATOLOGICAL DATA FOR MARCH, 1912.

DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

GENERAL SUMMARY.

Over most of the district the month was one of the coldest and most wintry on record for March. The temperature was below the normal almost continuously, and several heavy snow storms in the southern part of the district caused the total snowfall for the month to exceed all previous records for March at many stations. Transportation interests suffered severely owing to blockades caused by snowdrifts, and a severe ice storm in Illinois on the 20th wrought great damage to telephone property, causing an estimated loss of $500,000. High water at the close of the month was also productive of much damage in the southern part of the district. Many streams reached the highest stage in years. The month was an unfavorable one from the agriculturist's viewpoint. Over much of the district the ground was covered with snow most of the month and field work could not be started. In Illinois fields were sodden or covered with water, and winter wheat in that State is said to have been damaged by the adverse conditions of the winter. A marked change to more seasonable conditions took place toward the close of the month, and under the influence of mild temperature and sunshine the soil dried rapidly in many sections. Grass was beginning to grow, insects and birds were appearing, and other evidences of spring were manifesting themselves.

The following table presents in condensed form the leading features of climatological interest for the several parts of the district:

Parts of States within district No. 5.	Temperature.				Precipitation.					
	Mean.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest total.	Least total.	Average snowfall	Average number of rainy days.
North Dakota	15.9	− 3.1	65	−28	0.22	−0.63	0.50	T.	2.4	2
Minnesota	19.8	− 5.8	64	−36	0.46	−0.79	1.80	0.04	4.7	4
South Dakota	22.0	− 5.8	61	−11	0.57	−0.68	0.57	0.57	3.5	4
Wisconsin	21.2	− 7.2	57	−30	0.87	−0.88	2.30	0.15	7.9	5
Iowa	24.8	− 8.7	66	−15	2.01	−0.02	5.25	0.60	19.2	7
Missouri	31.6	−10.5	77	− 4	4.54	+1.43	6.47	0.99	17.3	11
Indiana	27.8	−12.0	68	− 2	1.78	−1.30	2.22	1.61	14.7	9
Illinois	29.9	− 9.1	81	−15	2.86	+0.05	6.10	0.80	15.0	10

TEMPERATURE.

The month was a cold one throughout the district, the greatest deficiency in temperature being experienced in the Missouri area, southern and eastern Iowa, and adjacent Illinois territory, where it averaged from 8° to 10° below the normal. Over much of the region mentioned the month was without exception the coldest March in the last 40 years or more, the mean temperature being 1° or 2° lower than in the abnormally cold months of March, 1899 and 1906. Over most of Wisconsin and Minnesota the deficiency averaged about 6° daily, while in the North Dakota area the month was from 2° to 4° colder than usual.

The first half of the month was remarkable for the persistency with which abnormally low temperatures continued. During this period the mean temperature averaged from 10° to 20° below the normal almost daily, and the weather was colder than the average in midwinter. After the 15th no very low temperatures occured, except on one or two days, but this half of the month averaged considerably colder than usual. On the morning of the 22d temperatures in parts of the Iowa area were lower than ever previously recorded so late in the season, being 10° below zero at some points. At most of the stations in the district the lowest temperatures of the month occurred within the first decade, the most frequent dates being the 1st, 2d, 5th, 6th, 8th, and 9th. Ten stations in the Iowa area, however, experienced the coldest weather of the month on the 22d. The lowest temperature reported in the district was −36°, at Little Fork, Minn., on the 2d.

The mildest periods of the month covered the 17th–19th and 27th–31st. The latter was the more important, though the highest temperature in the district, 81°, was observed on the 19th at 4 stations in southern Illinois. The temperature rose above 60° at some time within the month in all the States of the district, except Wisconsin. However, in the colder parts of North Dakota and Minnesota the maximum temperature barely exceeded 40°. Readings above 70° occurred in southern Illinois on the 19th and 31st and in the Missouri area on the 31st.

PRECIPITATION.

The precipitation over the northern half of the district averaged less than 1 inch. South of northern Iowa and southern Wisconsin, however, the fall was much heavier, reaching more than 6 inches over part of the Missouri area and at one station in Illinois. At Vandalia, Mo., the precipitation on the 20th was excessively heavy, amounting to 2.85 inches.

The average precipitation for the 329 stations that reported was 1.53 inches, or 0.28 inch less than the normal. The fall was deficient in the North Dakota, Minnesota and Wisconsin areas, as well as in northern Iowa and northern Illinois. In that part of the Missouri area having the heaviest fall the amount was almost 4 inches above the normal. Over the northern two-thirds of the district practically all the precipitation was in the form of snow, but considerable rain fell over the southern third of it.

The average number of days with precipitation ranged from 2 in the North Dakota area to 17 in extreme southern Illinois, the number increasing regularly from north to south. The principal dates of precipitation, with the areas to which chiefly confined, are as follows: 2d–3d, southern half of district, extending over northern half a day later; 6th–7th, Minnesota and Wisconsin; 7th–8th, Missouri, Illinois and Indiana; 11th, southern half of district; 14th, same as preceding; 16th–17th, Wisconsin and Minnesota; 20th–21st, entire district, save North Dakota; 23d, Missouri and Illinois; 25th–26th, North Dakota, Minnesota and Wisconsin; 27th–29th, Missouri, Illinois and Indiana; 30th–31st, Minnesota and Wisconsin. The principal storms were those of the 3d, 11th, 14th and 20th. Considerable sleet fell on the 20th and the ice storm in Illinois on that date is described in a separate article. Thunderstorms occurred on or about the 20th in Illinois, and on the 31st in parts of Iowa.

RIVERS.

The rivers and streams in the northern part of the district remained frozen all the month, but at the close there were signs of an early break-up. The ice in the Mississippi River at Dubuque was about 20 inches thick until the middle of the month, after which time measurements were impracticable. At the close of the month the river at that point was rising quite rapidly and the ice was beginning to break up. At Davenport the ice began breaking up on the 25th. On the 26th gorges formed on the rapids opposite the eastern part of the city, but they did not remain long. A short distance farther downstream gorges formed until the 29th. On that date the ice moved out from in front of the city; and at 6 p. m. the gage reading was 11 feet, but by 8.30 a. m. of the 30th the stage was 12.8 feet owing to the formation of another gorge a few miles below. This last gorge broke soon after the hour named, and the river fell to 11.6 feet by 6 p. m. of the 31st. At the time of the highest stage some houses in the western part of Rock Island, Ill., were surrounded by water and cellars were flooded, but no damage of consequence resulted. The ice moved out at Muscatine, Iowa, at 2 p. m. of the 30th without causing any material damage. At the close of the month the stage at that station was 13.1 feet, or almost 3 feet below the flood stage. The observer at Hannibal, Mo., reports that the ice in the Mississippi River there began to break up in places on the 17th, and there was running ice in the river, at times heavy, during the remainder of the month. No damage worth mentioning resulted at that point. By the 31st the river there had reached a stage of 13.8 feet. High water prevailed in the Des Moines River during the closing days of the month. By the 31st the stage at Des Moines was 17 feet, or only 1 foot below the flood stage, and was the highest since 1903. Considerable damage was caused to bridges by the high water and heavy running ice. The situation in Illinois is described by the section director at Springfield as follows:

During the latter part of the month the interior streams were out of their banks and much land was inundated. The Illinois River was above flood stage continuously after the 18th. At Peoria the highest stage, 19.5 feet, is the highest on record since 1908 and has been exceeded but six times since the records began in 1882. Running ice caused about $1,000 damage to bridges, houseboats, and summer cottages. No serious damage resulted at La Salle. A dam in the Kankakee River at Wilmington went out on the 20th, flooding hundreds of acres of land and partially wrecking a power plant. The ice went out of the Rock River on the 29th, the Illinois at Ottawa on the 11th and the Fox at Ottawa on the 19th. Considerable damage was caused at Warsaw, Ill., when the ice in the Mississippi River went out on the 26th.

The breaking of a large dike on the last night of the month on the Kankakee River in Indiana caused the inundation of 50,000 acres of land. Other dikes in that section were threatened, and the total damage was placed at $500,000.

The observer at Hannibal, Mo., reports as follows:

With the breaking up of the ice in the Mississippi River during the latter part of March an ice gorge formed and lodged against Buzzard Island, about 4 miles below Gregory, Mo. With heavy flows of ice coming from the Des Moines and from the Mississippi above Keokuk the gorge increased steadily, until it was more than 6 miles long and 10 to 50 feet in height. It is said to have been the largest gorge ever seen in this section.

The location of the gorge was first learned on the morning of the 22d, and a sharp rise in the river was forecast to occur at points below, when the gorge should break. The forecast contained the further information that it was not believed that a stage of more than 11 or 12 feet would occur at Quincy and Hannibal. This forecast was repeated daily until the 27th, when a stage of about 13 feet was forecast for Hannibal.

These forecasts proved to be fairly accurate, as the river reached a stage of 13.2 at Quincy on the 27th and 12.6 at Hannibal at 2 p. m. on the same day.

The gorge broke at 3 p. m. on the 26th and the ice flow reached Hannibal about midnight.

There was no damage at Hannibal or Quincy, but in the vicinity of Gregory the conditions were serious. Water filled with heavy floating ice was forced over the small levee and submerged the village and spread across the bottom lands to the bluffs a distance of several miles. Many of the inhabitants had to be taken away in boats or on work trains. One house was lifted from its foundation and left standing on the railroad track. A mile or more of railroad track was washed out or pushed from its place by the ice.

The C., B. & Q. R. R. was unable to run trains north of Canton from 10 p. m., March 24, to 7.50 p. m., March 27, and their damage is estimated at $4,000.

The value of property destroyed and damaged is estimated at $8,000 to $10,000.

MISCELLANEOUS.

The prevailing winds were northwesterly over the northern part of the district and northeasterly over the southern part. The wind movement was less than usual in March, this fact being commented on generally. The highest velocity reported was at the rate of 40 miles an hour from the northeast, at Hannibal, Mo., on the 20th.

The average percentage of possible sunshine was about 60, or about 5 per cent more than the normal. The average number of clear days was 15; partly cloudy, 7; cloudy, 9; with .01 or more precipitation, 6.

On the 19th, about 11 a. m., a local storm in Bond and Madison Counties, Ill., unroofed houses, destroyed outbuildings and twisted off telegraph and telephone poles. A few persons received minor injuries. The damage, reported by the postmasters, is as follows: New Douglas, $22,000; Smithboro, $7,000; Mulberry Grove, $2,000.

ICE STORM IN ILLINOIS.

By CLARENCE J. ROOT, Section Director.

A severe ice storm, causing great damage, occurred on the 20th. The storm extended across the middle of the State, from Pike County on the Mississippi River through Vermilion County on the east and embraced three or four tiers of counties. To the northward of this belt the precipitation fell in the form of snow and in the south the temperature was too high to form ice. Rain fell throughout the day and into the night. At times sleet was mixed with rain. The temperature hovered slightly below the freezing point. The sleet and freezing rain produced more than an inch of slush on the ground.

TABLE 1.—*Climatological data for March, 1912. District No. 5, Upper Mississippi Valley.*

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.
North Dakota.																				
Amenia	Cass	954	15	20.4	− 1.4	50	23†	− 13	1	48	0.70	+ 0.02	0.45	7.0	4	19	6	6	nw.	C. E. Wood.
Bottineau	Bottineau	1,638	17	12.7	− 3.1	53	29	− 21	1	39	0.34	− 0.70	0.14	1.8	3	16	8	7	se.	W. M. Mills.
Bowbells	Burke	1,958																		G. H. Phelps.
Cando	Towner	1,488	11	15.5[i]	− 4.8	46[i]	29	− 14[i]	7	46[i]	0.06	− 0.38	0.04		2					E. T. Judd.
Crosby	Divide		6	9.6		47	29	− 24	1	33	0.23		0.15	1.5	2	25	2	4	sw.	H. C. Kaschau.
Devils Lake	Ramsey	1,482	7	14.2	− 4.3	47	29	− 20	1	35	0.09	− 0.92	0.07	0.9	3	14	9	8	sw.	U. S. Weather Bureau.
Donnybrook	Ward	1,760	13	12.9	− 8.2	50	29	− 18	1	40	0.22	− 0.88	0.20	2.2	2				nw.	C. J. De Vore.
Dunseith	Rolette		15	13.7	− 3.3	48	29	− 18	1†	38	0.09	− 0.76	0.05	0.9	3	18	6	7	se.	C. E. Goodsell.
Edmore	Ramsey	1,524	7	12.0		44	23†	− 27	1	44	0.05		0.05		1	22	9	0	w.	H. R. Aslakson.
Fessenden	Wells	1,610		14.9		58	28	− 20	1	39	0.15		0.12	1.5	2	24	5	2	nw.	G. T. Seymour.
Forman	Sargent	1,249	18	22.8[d]	− 0.4	60	29	− 12[i]	8	36[i]	0.40	− 0.73	0.20	4.0	3	16	7	8	nw.	A. Maltby.
Grafton	Walsh	827	21	17.6	− 1.2	49	27	− 15	2	34	0.08	− 0.73	0.05	0.8	2	17	5	9	s.	A. R. T. Wylie.
Granville	McHenry	1,504	6	13.4		53	29	− 17	8	45	0.02		0.01	0.2	2	17	10	4	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	7	14.1[b]		39[b]	27	− 26[b]	1	39[b]	0.50		0.30	5.0	3				nw.	J. Moffatt.
Hansboro	Towner		4	13.2		48	26	− 19	1	38	0.07		0.05	0.8	2	22	6	3	sw.	Geo. Dale.
Hillsboro	Traill	901	7	20.0		51	28	− 14	2	41	0.80		0.30	8.0	5	17	10	4	nw.	F. E. Mayall.
Lakota	Nelson	1,579	6	11.0		43[a]	28	− 24[a]	1†	34[b]	0.16		0.09	3.5	3	15	16	0	nw.	C. R. Pettes.
Langdon	Cavalier	1,615	17	10.2		43	27	− 25	2	42	0.10		0.10		1	22	0	9	w.	J. Woolner.
Larimore	Grand Forks	1,134	17	15.8	− 3.7	46	28	− 17	1	38	0.38	− 0.56	0.20	3.7	3	20	8	3	n.	J. M. Freeman.
Lisbon	Ransom	1,091	8	20.4	− 7.6	60	28	− 12	8	38	0.20	− 0.65	0.20	2.0	1	18	2	11	nw.	H. K. Adams.
McKinney	Renville	1,640	18	14.1	− 2.8	53	29	− 28	5	45	0.30	− 0.53	0.30	3.0	1	14	5	2	nw.	N. P. Swenson.
Manfred	Wells	1,605	11	15.6		52	29	− 15	1†	39	0.20		0.10	2.0	2	16	8	7	nw.	P. B. Anderson.
Mayville	Traill	975	16	19.6	− 2.3	51	28	− 15	1	43	0.15	− 0.63	0.10		2	23	2	6	nw.	W. C. Gould.
Minot	Ward	1,557	14	15.4	− 2.0	55	29	− 19	5†	46	0.60	− 0.30	0.50	6.0	2	16	7	8	w.	W. J. Ellison.
Minto	Walsh	820	19	20.2	+ 1.0	51	27	− 14	2	37	T.	− 0.92	T.	T.	0	25	1	5	nw.	S. S. Marsh.
Oriska	Barnes	1,270	7	19.2		56	27	− 11	7	36	0.01		0.01	0.1	1	17	12	2	n.	J. J. Taylor.
Park River	Walsh	998	9	18.4		49	27	− 15	1	37	0.08		0.05	1.5	2	18	10	3	nw.	P. J. Prochaska.
Pembina	Pembina	789	14	15.6	− 2.1	42	24†	− 20	1	42	0.08	− 1.03	0.04	0.3	4	16	12	3	w.	C W. Shumaker.
Power	Richland	1,020	20	20.8	− 1.4	65	28	− 16	8	40	0.40	− 0.42	0.20	4.0	3	18	6	7	nw.	J. A. Power.
Pratt	McHenry		7																	W. B. Ahern.
Towner	do		4	15.4		55	29	− 19	1	41	0.17		0.15	1.7	2	14	9	8	nw.	B. Bagley.
University	Grand Forks	830	20	17.7	− 4.0	47	28	− 15	2	39	0.26	− 0.51	0.16	2.9	3	25	5	1	nw.	U. S. Weather Bureau.
Wahpeton	Richland	962	20	22.3	− 4.4	56	27†	− 10	8	38	0.15	− 0.96	0.13	2.0	2	16	7	8	nw.	E. G. Burch.
Walhalla	Pembina	966	8	16.9		45[a]	27	− 20[a]	2	44[a]	0.25		0.10	2.5	3	16	13	2	n.	Ivanhoe Lee.
Westhope	Bottineau		6	12.8		55	29	− 24	1	43	0.20		0.20	2.0	1	4	25	2	sw.	W. A. Meddaugh.
Willow City	do	1,471	19	13.4	− 3.5	54	29	− 22	1	42	0.10	− 0.42	0.10	1.0	1	9	14	8	nw.	M. A. Ostby.
Minnesota.																				
Albert Lea	Freeborn	1,229	21	23.7	− 6.0	55	28	− 5	22	33	0.75	− 0.58	0.25	6.0	4	9	15	7	se.	Edward Carey.
Alexandria	Douglas	1,391	18	21.7	− 2.3	57	27	− 9	2†	36	0.26	− 0.78	0.16	3.2	3	12	5	14	nw.	P. O. Unumb.
Angus	Polk	870	10	15.6	− 7.0	44	27†	− 19	8	39	0.09		0.05	0.9	3	17	12	2	n.	John Nadvornik.
Bagley	Clearwater		6	13.9		45	18	− 34	2	53	0.55		0.40	7.0	4	15	12	4	nw.	Jens Nelson.
Baudette	Beltrami	1,084	1	14.4		42	18	− 31	2	48	0.27		0.15	2.7	4	21	4	6	nw.	C. S. Dahlquist.
Beardsley	Bigstone	1,090	16																	G. L. Fitzgerald.
Beaulieu	Mahnomen	1,200	9	14.8		44	27†	− 28	8	44	1.80		0.85	18.0	7	24	4	3	sw.	Dr. P. A. Slattery.
Bemidji	Beltrami	1,400	9								0.04		0.02		3					C. W. Warfield.
Bird Island	Renville	1,039	22	23.2	− 5.1	60	28	− 10	5	33	0.25	− 0.72	0.21	2.9	4	8	10	13	nw.	Dr. F. L. Puffer.
Brainerd	Crow Wing	1,215	5	20.4		54[a]	28	− 21	2	36[a]	0.22		0.06		6	18	8	5	nw.	Theodore Miller.
Caledonia	Houston	1,179	19	20.8[e]	− 9.8	50[e]	29	− 3[e]	1†	32[f]	1.39	− 0.43	0.80	11.9	7	15[e]	1[e]	10[e]	nw.	W. D. Belden.
Campbell	Wilkin	984	6	20.8		56	27†	− 10	8	38	0.30		0.15	3.0	3	14	4	13	nw.	J. T. Neisess.
Cass Lake	Cass	1,300	5								0.10		0.04	2.6	3					C. W. Burns.
Collegeville	Stearns	1,282	19	23.4	− 5.5	55	27	− 10	2	34	0.31	− 0.79	0.18	2.0	4	16	7	8	nw.	F. Tembreull.
Crookston	Polk	863	23	16.9	− 4.5	47	28	− 14	2	35	0.70	− 0.41	0.45	7.0	4	19	5	7	nw.	A. G. Andersen.
Detroit	Becker	1,364	16	15.2	− 7.3	50	18†	− 30	1	51	0.27	− 0.61	0.12	5.0	3	22	3	6	nw.	G. W. Peoples.
Ely	St. Louis		1																	C. A. Barnes.
Fairmont (near)	Martin	1,240	25	23.4	− 5.6	54	28	− 4	9	31	0.65	− 0.78	0.30	5.9	4	12	12	7	w.	W. F. Wherland.
Faribault	Rice	1,003	14	19.3	−12.4	45	28	− 9	2	24	0.43	− 0.71	0.22	4.3	3	19	9	3	se.	Alice Chambers.
Farmington	Dakota	902	24	23.6	− 5.0	58	28	− 10	5	33	0.26	− 1.59	0.11	4.0	4	13	4	14	sw.	E. D. Akin.
Fergus Falls	Ottertail	1,210	20	22.7	− 3.3	54	27	− 8	1	33	0.35	− 0.64	0.15	3.5	6	17	9	5	nw.	C. E. Kissinger.
Fort Ripley	Crow Wing	1,136	4	16.8		53	27†	− 25	2	39	0.12	− 0.81	0.05	2.5	3	20	0	11	s.	J. J. Tucker.
Fosston	Polk	1,289	2	12.4		45	27	− 26	2	35	0.86		0.21	8.6	6	16	10	5	s.	O. N. Hem.
Glencoe	McLeod	1,000	15	24.8	− 4.7	60	28	− 8	5	34	0.45	− 0.36	0.30	4.5	2	18	13	0	nw.	F. B. Reed.
Grand Meadow	Mower	1,338	24	19.8	− 8.5	47	28†	− 14	5	39	0.95	− 0.82	0.23	11.0	9	18	7	6	s.	C. F. Greening.
Gull Lake Dam	Cass	1,215	1	15.4		46	27	− 25	2	44	0.44		0.15	5.5	6	23	4	4	n.	G. A. Williams.
Hallock	Kittson	815	13	15.6	− 4.7	46	18	− 23	2	40	0.10	− 1.15	0.10	1.0	1	20	2	9	n.	D. A. Robertson.
Halstad	Norman	870	6	15.6		57	28	− 18	2	40	0.48		0.17	3.0	4	21	3	7	s.	A. G. Holstrom.
Hinckley	Pine	1,050	7	20.2		54	29	− 13	1	38	0.70		0.20	7.0	5	17	8	6	n.	W. R. Newman.
International Falls	Koochiching	1,112	9	16.9		54	18	− 24	2	48	0.75		0.50	7.5	4	19	7	5	w.	Rees Roe.
Itasca State Park	Clearwater	1,500	1	16.0		51	18	− 30	2	53	0.40		0.20	4.0	3	17	8	6	s.	J. A. Stillwell.
Lake Crystal	Blue Earth		4	25.9		58	28	− 5	5	30	1.30		0.60	13.0	5	18	3	10	s.	W. P. Cobb.
Leech Lake Dam	Cass	1,301	24	15.2	− 6.4	48	18†	− 32	2	48	0.30	− 0.98	0.08	4.1	5	5	21	5	w.	Hans Olson.
Littlefork	Koochiching		2	12.4		49	18	− 36	2	56	1.15		0.90	7.0	3	21	5	5		O. C. Olson.
Long Prairie	Todd	1,299	20	20.8	− 4.4	56	18	− 12	1	44	0.30	− 0.83	0.10	3.0	3	20	8	3	nw.	A. L. Sheets.
Lynd	Lyon	1,175	19	24.2	− 4.8	64	28	− 10	5	35	0.28	− 0.87	0.15	4.0	2	15	9	7	sw.	J. W. Rouse.
Mankato	Blue Earth	758	14								0.57	− 0.36	0.38	6.0	4	17	3	11	sw.	Sadie H. Blake.
Milaca	Mille Lacs	1,072	13	20.2	− 6.9	55[a]	27†	− 15[a]	2	41[a]	0.29	− 0.54	0.13	1.5	3	12[a]	15[a]	3[a]	nw.	C. H. Foss.
Milan	Chippewa	955	18	23.0	− 5.1	60	28	− 10	5	35	0.30	− 1.09	0.20	3.1	2	6	22	3	nw.	O. K. Opjorden.
Minneapolis	Hennepin	918	21	24.2	− 5.5	57	28	− 5	2	27	0.34	− 1.31	0.17	4.6	7	13	8	10	nw.	U. S. Weather Bureau.
Montevideo	Chippewa	900	22	23.0	− 4.9	61	28	− 8	5	37	0.30	− 0.97	0.16	4.7	5	13	12	6	se.	L. G. Moyer.
Moorhead	Clay	935	31	20.6	− 0.8	55	28	− 9	1	36	0.21	− 0.93	0.08	2.4	7	21	7	3	n.	U. S. Weather Bureau.
Mora	Kanabec		7	19.6		55	28	− 23	2	44	0.44		0.11	3.5	5	19	3	9	sw.	Hans Peterson.
Morris	Stevens	1,170	27	22.3	− 3.5	56	27†	− 8	8	38	0.70	− 0.23	0.15	7.0	6	20	5	6	nw.	D. T. Wheaton.
New London	Kandiyohi	1,215	18			56	28				0.25	− 0.98	0.16	3.5	3	18	10	3	sw.	Harold Swensen.
New Richland	Waseca	1,180	18	24.5	− 6.8	56	28	− 3	1	29	0.50	− 0.41	0.18	4.7	4	12	12	7	ne.	N. O. Tyrholm.
New Ulm	Brown	791	32	24.9	− 3.4	62	28	− 2	1†	34	0.98	− 0.55	0.40	9.7	6	13	2	16	s.	A. L. Henle.
Osakis	Douglas	1,343	4	21.0		55	27	− 12	2	35	0.24		0.18	2.5	3	12	8	11	nw.	J. B. Johnson.
Park Rapids	Hubbard	1,426	22	15.1	− 7.0	49	27†	− 24	2	48	0.24	− 0.81	0.10	2.4	5	17	2	12	nw.	Dr. P. A. Walling.
Pine River Dam	Crow Wing	1,251	25	16.0	− 6.7	48	28	− 30	2	49	0.22	− 0.95	0.12	2.2	2	21	6	4	nw.	Neil McKay.
Pokegama Falls	Itasca	1,280	25	16.0	− 5.2	49	18	− 32	2	49	0.16	− 1.23	0.05	2.7	5	13	11	7	sw.	A. L. Mampel.
Redlake	Beltrami	1,152	4	14.9		48	18	− 32	2	45	0.49		0.37	4.7	2	20	8	3	w.	A. C. Goddard.
Red Wing	Goodhue	680	16								0.52	− 0.91	0.18	4.6	8	17	1	13	sw.	Louis Bach.
Redwood Falls	Redwood	1,050	5	26.2		63	28	− 10	5	36	0.50	− 0.21	0.30	5.0	3	18	7	6	nw.	N. B. Andersen.
Reeds Landing	Wabasha	681	16								0.34	− 0.77	0.12	4.7	5	12	2	17	nw.	John Deschneau.
Rochester	Olmstead	991	7	22.0		58	28	− 13	5	38	0.35		0.28	3.5	2	17	4	10	s.	Mary P. Cram.
St. Charles	Winona	850	21	22.2	− 7.1	51	28	− 10	5	34	0.65	− 0.72	0.37	4.0	3	16	2	13	se.	S. W. Gleason.

TABLE 1.—*Climatological data for March, 1912. District No. 5*—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.
***Minnesota*—Continued.**																				
St. Cloud	Sherburne	1,020	35	21.8	− 5.5	57	27	− 12	2	33	0.28	− 1.10	0.09	1.5	5	10	13	8	se.	J. H. Capser.
St. Paul	Ramsey	940	41	24.6	− 3.6	59	28	− 5	2	27	0.32	− 1.28	0.15	3.9	9	11	13	7	n.	U. S. Weather Bureau.
St. Peter	Nicollet	825	17	25.6	− 6.9	62	28	− 7	5	34	0.35	− 0.98	0.25	3.5	2	14	11	6	w.	State Hospital.
Sandstone	Pine			18.0		55[c]	28	− 15[b]	1†	36[c]						9[b]	10[b]	10[b]	s.	A. D. Hale.
Sandy Lake Dam	Aitkin	1,234	19	16.8	− 7.1	50	28	− 27	2	45	0.32	− 0.95	0.17	5.0	2	15	13	3	w.	A. Newstrom.
State Sanatorium	Cass		4					− 14	2		0.38		0.17	3.4	4	12	12	7	w.	Dr. L. B. Ohlinger.
Stillwater	Washington	694	6								0.16		0.10		2	22	1	8	s.	Oscar Ostrom.
Taylors Falls	Chisago	759	5	21.3		55	27	− 25	2	41	0.30		0.09	4.1	4	19	4	8	sw.	Minneapolis Gen. Elec. Co.
Thief River Falls	Pennington	1,137	1	14.9		47	31	− 25	2	49	0.25		0.10	2.5	3	23	7	1	n.	E. W. Lown.
Warren	Marshall	859																		P. H. Holm.
Warroad	Roseau	1,069	2	13.2		43	18	− 27	1	47	0.04		0.02	0.4	2	20	4	7	w.	J. H. Sawyer.
Winnebago	Faribault	1,100	14	25.2	− 6.9	57	28†	− 1	22	36	0.65	− 0.58	0.20	6.0	5	16	7	8	nw.	H. H. Haight.
Winnibigoshish	Itasca	1,300	24	17.2	− 4.8	48	18	− 30	2	48	0.13	− 1.07	0.05	1.3	5	18	6	7	nw.	John Duncan.
Winona	Winona	700	16	25.6	− 6.7	54	28†	− 9	5	35	1.01	− 0.48	0.48	4.4	6	17	4	10	sw.	P. C. Myers.
Worthington	Nobles	1,593	17	21.6	− 8.2	58	28	− 9	21	29	0.80	− 0.57	0.30	7.5	5	15	3	13	nw.	M. P. Mann.
Zumbrota	Goodhue	917	16	23.1	− 7.5	55	28	− 15	5	37	0.35		0.16	3.0	4	15	9	7	sw.	W. C. Rowell.
South Dakota.																				
Milbank	Grant	1,148	21	22.0	− 5.8	61	27	− 11	5	43	0.57	− 0.68	0.41	3.5	4	15	3	13	nw.	I. T. Partridge.
Wisconsin.																				
Antigo	Langlade	1,489	18	20.7	− 5.8	52	28	− 11	1	35	0.18		0.10	1.8	3	23	0	8	w.	Elton C. Larzelere.
Barron	Barron	1,115	21	18.6[a]	− 6.9	52[a]	28	− 22[a]	2	39[a]	0.35	− 1.28	0.10	3.5	5	17[d]	7[d]	3[d]	nw.	Wm. A. Kent.
Beloit	Rock	750	46	24.2	−10.0	49	28†	− 10	5	37	1.37	− 0.84	0.60	12.8	5	11	11	9	n.	Smith Observatory.
Big St. Germain Dam	Vilas	1,590	2	18.4		51	28	− 20	2	43	0.40		0.29	2.8	2	11	17	3	sw.	Oscar Brehmer.
Brodhead	Green	812	14	24.1	−10.4	50	28	− 10	1†	43	2.30	− 0.23	0.80	15.0	5	18	7	6	nw.	Hector D. Kirkpatrick.
Burnett	Dodge	880	8	21.6		49	28	− 15	2	37	1.21		0.36	11.2	5	13	8	10	ne.	Geo. W. Smith.
Cottage Grove	Dane	888	1								1.76		0.57	22.8	10	16	9	6	sw.	John E. Mellish.
Darlington	Lafayette	867	6	23.2		53	28	− 20	1	41	1.11		0.40	14.1	5	21	1	9	ne.	F. J. O'Neill.
Deerskin Dam	Forest	1,625	2	16.2		54	18	− 24	2	47	0.30		0.21	5.0	2	24	5	2	sw.	Wm. E. O'Neal.
Delavan	Walworth	920	21	22.6	− 8.9	47	19†	− 12	2	38	0.88	− 0.97	0.33	14.0	5	17	6	8	s.	Elwood S. Austin.
Dodgeville	Iowa	1,116	12	22.9[e]	− 8.8	50[e]	19†	− 8[e]	1	31[e]	1.30	− 0.66	0.80	13.0	2	18[c]	1[c]	9[c]	ne.	Thomas Gibbon.
Downing	Dunn	983	10	19.2	− 8.2	55	28	− 20	2	40	0.50	− 1.16	0.20	5.0	3	12	1	18	se.	Eugene F. Stoddard.
Eau Claire	Eau Claire	800	21	23.7	− 5.0	57	28	− 13	2	34	0.51	− 1.53	0.15	3.1	7	14	11	6	sw.	Robert D. Whitford.
Grand Rapids	Wood	1,021	13	22.0	− 7.6	54	28	− 13	1†	36	0.80	− 0.79	0.46	5.0	5	19	1	11	n.	Willis B. Raymond.
Grantsburg	Burnett	1,095	21	20.2	− 6.0	56	28	− 26	2	47	1.00	− 0.75	0.30	10.0	5	19	3	9	s.	Theodore Olsen.
Hancock	Waushara	1,091	20	23.1	− 6.3	54	28	− 16	5	39	0.80	− 0.98	0.40	4.0	2	16	3	12	sw.	Frederick B. Hamilton.
Hatfield	Jackson	973	18	21.0	− 7.4	56	28	− 22	2	53	0.90	− 0.39	0.40	5.0	4	11	15	5	sw.	Walter S. Woods.
Hayward	Sawyer	1,197	21	18.4	− 6.0	50	28	− 26	2	45	0.45	− 1.28	0.20	3.0	4	15	10	6	sw.	Wm. E. Swain.
Hillsboro	Vernon	1,000	21	21.2	− 8.1	53	28	− 23	5	48	1.25	− 0.79	0.60	12.5	4	19	9	3	sw.	Emil V. Wernick.
Koepenick	Langlade	1,683	21	18.3	− 7.7	50	28	− 18	1	47	0.40	− 1.46	0.30	4.0	2	6	24	1	se.	Edward S. Koepenick.
Lac du Flambeau	Vilas		2	16.7		48	28	− 26	2	48	0.63		0.25	4.5	4	22	5	4	s.	W. J. Lovett.
La Crosse	La Crosse	714	40	24.6	− 6.3	55	28	− 5	5	31	1.14	− 0.51	0.50	9.2	9	14	5	12	s.	U. S. Weather Bureau.
Lake Mills	Jefferson	897	21	22.5	− 9.6	48	28	− 6	1†	39	1.37	− 0.81	0.45	12.2	8	10	15	6	sw.	S. Newton Dexter Smith.
Lancaster	Grant	1,070	21	24.3	− 6.9	52	28	− 5	1	31	1.84	+ 0.09	0.79	17.5	7	15	8	8	e.	Edward Pollock.
Long Lake	Oneida	1,592	4	15.6		51	28	− 30	2	53	0.55		0.35	3.0	7	14	11	6	w.	Louis Frank.
Madison	Dane	974	43	23.4	− 6.7	49	28	− 5	2	27	1.92	− 0.29	0.65	17.5	6	7	15	9	ne.	U. S. Weather Bureau.
Mather	Juneau	962	8	20.2		55	28	− 12	2†	41	1.23		0.58	6.5	4	13	8	10	w.	Frank Evans.
Mauston	do	882	16	21.1	− 9.1	52	28	− 20	5	43	0.80	− 1.23	0.30	12.0	5	19[a]	3[a]	8[a]	se.	Eugene L. Hitchcock.
Meadow Valley	do	974	21	22.0	− 6.3	56	28	− 15	5	39	0.85	− 0.58	0.40	5.0	3	9	15	7	sw.	Charles H. Johnson.
Medford	Taylor	1,420	23	20.8	− 5.4	51	28	− 16	2	35	0.40	− 1.05	0.20	4.0	3	25	5	1	w.	Wm. Zeit.
Merrill	Lincoln	1,267	6	23.8[a]		53[a]	28	− 12[a]	1†	42[a]	0.15		0.11	1.5	2	18[a]	8[a]	4[a]	nw.	J. M. Wilson.
Minocqua	Oneida	1,604	8	17.5		50	28	− 23	2	42	0.30		0.23	3.0	3	16	9	6	w.	Benjamin W. Applebee.
Mondovi	Buffalo	738	4	22.0		55	28	− 20	5	43	0.59		0.26	8.0	7	19	6	6	nw.	Dr. Charles Hebard.
Mount Horeb	Dane	1,226	8	22.4		50	28	− 12	1	37	1.32		0.40	11.0	7	13	7	11	ne.	W. M. Lewis.
Muscoda	Grant	666	3	21.7		56	28	− 11	1†	41	1.14		0.40	11.0	5	20	0	11	nw.	Wm. Hessler.
Neillsville	Clark	996	22	21.9	− 5.9	56	28	− 20	2	41	0.80	− 1.34	0.40	4.0	3	19	0	12	nw.	Wm. Heaslett.
New Richmond	St. Croix	990	7	22.4		57	28	− 15	2	39	0.70		0.10	7.0	7	13	13	5	sw.	Franc. A. R. Van Meter.
Osceola	Polk	806	21	20.4	− 6.2	55	30	− 19	1	37	0.60	− 1.30	0.40	7.0	3	11	14	6	s.	Charles W. Staples.
Park Falls	Price	1,492	21	16.2[1]		55[1]	28	− 21[1]		45[1]	0.41		0.20	2.5	3	15[j]	3[j]	3[j]	w.	Flambeau Paper Co.
Portage	Columbia	809	23	24.0	− 7.1	52	28	− 10	2†	34	1.19	− 0.62	0.33	12.2	6	17	1	13	ne.	James H. Martin.
Port Edwards	Wood	969	2	21.8		56	28	− 18	3	43	1.07		0.40	7.0	5	22	3	6	nw.	Nekoosa-Edwards Paper Co.
Prairie du Chien	Crawford	690	21	23.1	− 9.7	55	28†	− 9	1	38	1.18	− 0.73	0.42	13.5	7	17	1	13	s.	James A. Gillis.
Prairie du Sac	Sauk	750	4	23.7		53	28	− 14	1†	39	1.05		0.28	10.5	8	13	9	9	ne.	Wis. River Power Co.
Prentice	Price	1,551	14	18.0	− 6.2	50	28†	− 21	1	36	0.40	− 0.87	0.16	2.8	5	14	4	13	w.	Joseph G. Lash.
Rhinelander	Oneida	1,550	6	19.8		54	28	− 19	2	44	0.58		0.40	4.0	4	17	3	11	sw.	Rhinelander Power Co.
Shullsburg	Lafayette	1,019	6	23.4		47	28	− 12	1	34	1.75		0.82	17.9	6	18	2	11	w.	Harrison B. Chamberlin.
Solon Springs	Douglas	1,083	6	21.8[1]		55[1]	28	− 20[1]	2	40[1]	0.40		0.20	4.0	2	11[1]	4[1]	7[1]	sw.	John M. Sayles.
Spooner	Washburn	1,104	18	19.9	− 5.5	50	28	− 18	2	36	0.25	− 1.68	0.15	2.5	3	20	8	3		Horace A. Bresee.
Stanley	Chippewa	1,082	8	21.6		52	28	− 16	2	36	0.31		0.15	2.5	3	18	6	7	nw.	W. Humphrey Scott.
Stevens Point	Portage	1,113	19																	Garry E. Culver.
Sugar Camp Dam	Oneida	1,582	2								0.40		0.25	3.5	3	11	10	10	sw.	Lyman Haskin.
Trout Lake	Vilas			18.3		45	27	− 24	1	43	0.60		0.20	3.0	5	12	14	5	nw.	F. B. Woodruff.
Twin Lakes Dam	do	1,625	2								0.45		0.30	4.5	3	15	8	8	sw.	Albert D. Hansen.
Valley Junction	Monroe	930	20	22.1	− 7.1	51	28	− 15	2	37	1.10	− 0.91	0.30	7.8	9	13	10	8	nw.	Frederick Muermann.
Viroqua	Vernon	1,412	22	23.8	− 6.6	53	28	− 8	1	29	0.60	− 1.54	0.15	12.0	6	5	17	9	sw.	Henry E. Rogers.
Vudesare	Vilas	1,600	4	16.1		52	28	− 21	2†	49	0.28		0.22	3.0	2	19	9	3	w.	Louis L. Thomas.
Watertown	Jefferson	824	21	23.3	− 7.8	49	28	− 7	2	36	2.11	− 0.23	0.65	18.0	10	13	9	9	ne.	Charles J. Salick.
Waukesha	Waukesha	864	21	24.1	− 8.1	48	28	− 5	2	34	1.38	− 0.79	0.70	13.0	5	10[a]	18[a]	2[a]	sw.	Carroll College.
Wausau	Marathon	1,212	17	23.8	− 3.8	54	28	− 12	1	32	0.59	− 1.25	0.22	4.0	4	16	11	4	s.	Geo. H. Halder.
Weyerhaeuser	Rusk	1,297	10	18.5		51	28	− 20	2	42	0.62		0.12	5.5	7	16	7	8	ne.	Miss Etta Stiles.
Whitehall	Trempealeau	675	21	21.8	− 8.7	54	28	− 20	5	45	1.30	− 0.28	0.60	7.0	4	16	0	15	nw.	Hans J. Haugh.
Iowa.																				
Albia	Monroe	959	14	27.3	−10.3	59	19†	− 4	9	34	1.57	− 0.33	0.50	16.5	6	14	6	11	ne.	J. I. Chenoweth.
Algona	Kossuth	1,213	38	24.0	− 5.6	53	30	− 5	22	30	0.99	− 0.57	0.32	10.0	6	14	4	13	n.	Dr. F. T. Seeley.
Alta	Buena Vista	1,513	21	22.6	− 8.0	60	30	− 3	9	32	1.93	+ 0.27	0.72	17.5	10	15	6	10	ne.	David E. Hadden.
Amana	Iowa	721	36	24.6	− 7.9	48	28	− 12	1	38	2.29	+ 0.29	1.04	22.9	7	10	13	8	n.	C. Schadt.
Ames	Story	926	36	23.6	− 9.9	52	30	− 10	22	38	1.95	+ 0.54	0.75		7	11	13	7	n.	Iowa State College.
Baxter	Jasper	998	12	24.2	−12.4	56	27†	− 6	22	35	1.68	− 0.53	0.48	26.4	9	17	7	7	ne.	W. R. Vandike.
Belle Plaine	Benton	828	22	24.1	− 8.6	51	28	− 12	1	39	1.95	− 0.56	1.00	19.5	4	16	8	7	se.	S. P. Van Dike.
Belmond	Wright		2	23.1		53	28	− 3	1†	36	1.35		0.35	10.9	8	5	15	11	nw.	G. P. Hardwick.
Bloomfield	Davis		5	28.6		58[d]	19†	− 2	9	36[d]	2.44		0.55	22.4	9	19	0	12	n.	Albert Power.

TABLE 1.—*Climatological data for March, 1912. District No. 5*—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.
Iowa—Continued.																				
Bonaparte	Van Buren		21	26.5	−11.5	57	19	− 8	10	37	1.20	− 1.35	0.40	15.0	5	23	0	8		B. R. Vale.
Boone	Boone	1,134	7	22.2		51	30	− 4	9	34	2.01		0.75	25.0	9	15	3	13		C. F. Henning.
Britt	Hancock	1,236	15	23.2	− 7.9	53	28	− 5	22	33	0.70	− 0.80	0.29	7.0	7	17	7	7	s.	L. M. Goodman.
Buckingham	Tama		12								1.42	− 0.80	0.75		4	16	5	10		J. S. Guynn.
Burlington	Des Moines	544	16	29.2	−10.6	63	19	0	1	31	2.88	+ 0.02	1.30	28.2	5	14	7	10	ne.	Max. E. Poppe, jr.
Carroll	Carroll	1,265	22	23.1	− 9.6	62	30	− 5	15	35	2.20	+ 0.16	0.70	22.0	5	19	3	9	nw.	Mrs. Jos. J. Wolfe.
Cedar Rapids	Linn	733	30	23.2	−10.4	49	28	− 13	2	33	1.93	− 0.11	0.80	19.3	7	15	3	13	n.	Chas. B. Graf.
Charles City	Floyd	1,015	21	23.0	− 5.4	52	28	− 6	22	34	1.36	− 0.56	0.48	14.1	8	8	8	15	s.	U. S. Weather Bureau.
Clear Lake	Cerro Gordo	1,241	14	24.6	− 7.1	51	31	3	1†	30	0.60	− 0.99	0.30	6.0	3	19	0	12	nw.	Oscar Stevens.
Clinton	Clinton	593	45	26.2	− 7.3	59	19	− 5	1	40	2.14	− 0.88	0.90	19.5	9	9	13	9	ne.	Luke Roberts.
Columbus Junction	Louisa	595	11	28.2	−10.8	57	19	0	1	36	2.07	− 0.44	0.72	21.9	7	17	3	11	ne.	J. B. Johnston.
Davenport	Scott	580	41	27.2	− 8.2	55	31	2	1	31	2.34	+ 0.13	0.92	22.1	7	12	11	8	e.	U. S. Weather Bureau.
Decorah	Winnishiek	875	19	23.0	− 8.6	50	28	− 10	1	40	0.96	− 1.09	0.30	10.5	7					F. H. Baker.
Delaware	Delaware	1,083	21	24.0	− 7.6	46	19†	− 6	1	36	0.84	− 0.99	0.25	11.5	6	15	10	6	nw.	William Ball.
Des Moines	Polk	861	34	26.2	− 9.5	60	30	− 4	9	28	2.87	+ 1.22	1.28	28.0	8	11	8	12	n.	U. S. Weather Bureau.
Dubuque	Dubuque	639	39	25.2	− 8.0	50	28	− 5	1	30	2.07	− 0.14	0.89	16.7	10	10	10	11	n.	Do.
Earlham	Madison		10	23.8	−10.4	64	30	− 15	9	42	5.25	+ 3.49	1.30	52.5	9	19	2	10	nw.	George Phillips.
Elkader	Clayton	727	33	23.8	− 8.0	56	28	− 10	1†	43	2.18	+ 0.27	0.70	20.0	5	14	11	6	nw.	Chas. Reinecke.
Elma	Howard		2																	H. C. Johnson.
Estherville	Emmet	1,298	17	21.6	− 7.4	58	30	− 2	1	42	0.89	− 0.55	.49	9.0	6				nw.	A. O. Peterson.
Fairfield	Jefferson		28	26.6	− 7.2	54	19†	− 6	10	35	1.35	− 1.22	.45	14.0	4	23	1	7	e.	R. M. McKenzie.
Fayette	Fayette	1,003	22	23.0	− 8.2	51	28	− 12	1	36	1.72	− 0.54	0.58	14.0	7	15	6	10	nw.	R. Z. Latimer.
Forest City	Winnebago	1,226	18	22.8	− 6.9	54	28	− 4	1†	33	1.18	− 0.38	0.50	10.5	7	14	7	10	sw.	J. A. Peters.
Fort Dodge	Webster	1,126	12	24.0	− 9.4	57	30	− 1	1†	37	1.95	− 0.31	0.55	18.5	9				s.	J. F. Monk.
Fort Madison	Lee	516	63								1.30	− 1.46	0.80	13.0	3	4	10	17	n.	Miss L. A. McCready.
Gilman	Marshall	1,052	13								2.30	+ 0.25	1.00	23.0	4					J. L. Wylie.
Grand Meadow	Clayton	1,180	21	23.2	− 8.1	50	28	− 6	1	27	1.46	− 0.68	0.53	9.0	8	12	10	9	ne.	F. L. Williams.
Grinnell	Poweshiek	1,023	20	26.2	− 6.9	51	30	− 2	1	32	2.20	+ 0.46	0.90	22.0	4	16	6	9	w.	D. W. Brainard.
Grundy Center	Grundy	976	21	23.8	− 8.8	49	28	− 7	1	36	2.54	+ 0.72	1.20	24.0	5	23	0	8	n.	J. B. Calderwood.
Guthrie Center	Guthrie	1,077	17	24.4	−11.0	61	30	− 9	9	35	3.33	+ 1.93	1.59	27.5	6	21	1	9	nw.	D. G. Beardsley.
Hampton	Franklin	1,155	22	25.1	− 5.2	56	28		1	29	2.22	− 0.03	0.70	16.0	7	6	17	8	sw.	E. C. Grenelle.
Humboldt	Humboldt	1,095	24	25.4	− 6.4	57	30	− 6	1†	36	1.80	+ 0.20	0.40	16.0	6	24	0	7	sw.	Henry S. Wells.
Independence	Buchanan	921	48	23.4	− 7.4	50	28	− 6	22	34	1.85	+ 0.22	0.60	18.0	8	17	7	7	nw.	R. E. Dudley.
Indianola	Warren	969	21	26.4	− 9.7	64	30	− 1	9	42	2.35	+ 1.03	0.90	22.3	5	9	5	17	nw.	Prof. J. L. Tilton.
Iowa City	Johnson	683	52	23.8	−10.2	48	19†	− 11	1	36	2.30	− 0.14	0.94	21.0	8	11	9	11	ne.	Prof. A. G. Smith.
Iowa Falls	Hardin	1,170	19	23.0	− 8.9	50	28	− 6	22	43	2.04	+ 0.31	0.60	17.5	8	18	3	10	sw.	J. B. Parmlee.
Jefferson	Greene		13	23.2		57	30	− 9	22	37	3.87	+ 2.19	1.14	28.2	10	14	5	12	ne.	Ora M. Hall.
Keokuk	Lee	547	41	29.8	− 8.1	64	31	4	9	32	1.38	− 0.99	0.54	10.8	7	10	11	10	nw.	U. S. Weather Bureau.
Keosauqua	Van Buren	644	20	28.4	− 9.8	62	19	− 11	6	50	1.62	− 0.92	0.55	19.0	6					J. H. Landes.
Knoxville	Marion	920	17																	Casey and Bellville.
Lacona	Warren		13								2.26	− 0.24	0.60	25.0	8	11	12	8		J. B. Alter.
Le Claire	Scott	576	12								1.82	− 0.82	0.85	17.9	7					Miss M. T. Disney.
Marshalltown	Marshall	947	20	24.9	− 8.5	50	30	− 9	1	36	2.30	− 0.38	1.02		7	11	17	3	se.	R. B. Reasoner.
Mason City	Cerro Gordo	1,132	15	23.6	− 8.0	51	28	− 4	1†	30	0.72	− 0.96	0.25	6.5	6	15	9	7	sw.	J. S. Mills.
Monroe	Jasper			24.2		60	30	− 6	5	34	2.55		1.33	18.2	5	19	3	9	ne.	J. A. Dibel.
Mount Pleasant	Henry	729	31	27.4	− 9.3	53	30†	− 2	1	33	2.10	− 0.33	0.68	21.0	7	10	11	10	ne.	J. W. Edwards.
Muscatine	Muscatine		52								1.90	− 0.89	0.60	18.5	5					William Molis.
New Hampton	Chickasaw	1,169	15	23.0	− 8.7	50	28	− 5	1	31	1.10	− 0.91	0.40	11.0	4	19	5	7	s.	A. F. Kemman.
Northwood	Worth	1,122	16	21.7	− 9.4	49	28	− 7	22	34	1.60	− 0.26	0.40	15.0	9	14	8	9	nw.	Chas. H. Dwelle.
Olin	Jones	760	14	25.2	− 9.9	49	28	− 9	2	43	1.80	− 0.74	0.80	18.0	3	23	2	6	nw.	Dr. F. W. Port.
Osage	Mitchell	1,184	25	22.3	− 6.8	52	28	− 4	1	34	1.10	− 0.66	0.25	17.5	5	20	3	8	s.	Lester Coonradt.
Oskaloosa	Mahaska	843	36	26.6	− 8.6	55	30	− 7	9	41	1.81	− 0.05	1.18	11.2	4	17	2	12	nw.	Joseph Boyd.
Ottumwa	Wapello	649	17	27.0	−11.7	57	19	− 2	6	34	2.27	+ 0.13	1.00	18.2	4	19	4	8	e.	Chester Potter.
Pella	Marion	877	10	24.7	− 8.3	55	30	− 13	6†	44	2.67	+ 1.64		23.2	8	24	1	6	nw.	J. H. Ver Steeg.
Perry	Dallas	975	11	24.4	−12.5	58	31	− 8	22	36	2.30	+ 0.16	0.90	23.0	6	17	3	11	ne.	S. J. Brumfield.
Plover	Pocahontas	1,426	16	24.6	− 7.5	56	30	− 3	11	31	3.18	+ 1.97	0.83	23.5	9	20	6	5	n.	J. S. Smith.
Pocahontas	do	1,248	8	23.3		56	28	− 3	3	30	1.64		0.50	15.1	9	19	5	7	s.	F. E. Hronek.
Ridgeway	Winneshiek	1,215	14	25.3	− 7.8	58	28	− 5	1	34	2.73	− 0.48	1.20	16.4	8	17	7	7	s.	Arthur Betts.
Rockwell City	Calhoun		16	25.2	− 8.4	55	29	− 2	9†	34	2.60	+ 0.52	1.20	21.0	5					C. M. Randall.
Sac City	Sac	1,278	36	23.2	− 8.1	61	30	− 3	3†	37	3.30	+ 1.78	1.35	33.0	8	17	2	12	nw.	E. N. Baily.
St. Charles	Madison	1,070	11	28.0	−10.2	66	30	0	6†	37	3.31	+ 1.37	1.38	31.3	6	18	6	7	nw.	R. D. Minard.
Sigourney	Keokuk	877	16	26.8	−10.1	52	30	− 3	1	39	1.39	− 0.67	0.42	17.5	6	2	23	6	e.	J. T. Parker.
Stockport	Van Buren	745	10	26.2		55	30	− 12	10	42	3.45	+ 1.12	1.40	37.0	6	19	5	7	ne.	C. L. Beswick.
Storm Lake	Buena Vista	1,440	23	23.4	− 6.8	58	30	− 4	21	30	1.37	+ 0.05	0.38	11.5	6	19	0	12	sw.	Prof. W. Ingold.
Tipton	Cedar	807	13	28.0	− 8.6	52	19	1	1	30	1.92	− 0.95	0.60	19.2	8	18	8	5	s.	F. K. Gregg.
Toledo	Tama	856	18	23.2	−11.5	46	28†	− 11	1	35	2.20	+ 0.29	0.90	22.0	7	20	3	8	nw.	I. F. Giger.
Wapello	Louisa	588	14	27.0	−10.4	53	31	0	1†	31	1.88	− 0.54	0.54	22.5	4	18	3	10	ne.	G. W. Schofield.
Washington	Washington	769	30	27.2	− 7.0	54	30	1	9	29	2.01	− 0.25	0.80	20.1	4	10	16	5	ne.	Wm. A. Cook.
Waterloo	Black Hawk	862	29	24.2	− 7.6	50	28	− 5	1	30	1.34	− 0.41	0.45	12.5	7	18	4	9	e.	Ralph B. Slippy.
Waukee	Dallas	1,039	9	23.8		61	30	− 8	9	32	1.66		0.65	16.2	8	21	4	6	ne.	S. F. Foft.
Waverly	Bremer	948	16																	Earl C. Moore.
Webster City	Hamilton		7																	C. D. Carpenter.
West Bend	Palo Alto	1,197	19	25.1	− 5.9	56[c]	30	− 3	1	33[c]	1.84	+ 0.24	0.80	17.0	6	15	6	10	w.	Phil. Dorweiler.
Whitten	Hardin	1,036	15	23.2	−10.1	47	28†	− 6	1	33	2.90	+ 1.52	1.20	29.0	5	12	13	6	se.	Dr. F. P. Butler.
Winterset	Madison	1,129	21	26.0	− 9.7	65	30	− 3	9	34	2.75	+ 0.82	0.80	27.5	7	11	11	9	n.	Dr. R. S. Cooper.
Missouri.																				
Gorin	Scotland	700	26								0.99	− 1.57	0.25	5.6	5	9	9	13	ne.	J. W. Pulliam.
Hannibal	Marion	534	20	31.8	− 9.8	70	31	9	6	32	3.54	+ 0.78	0.71	14.6	14	11	8	12	ne.	U. S. Weather Bureau.
Louisiana	Pike	500	35	31.6	−11.7	72	31	− 1	6	39	6.47	+ 3.88	1.31	15.7	12	13	7	11	n.	J. T. Farrel.
Mexico	Audrain	797	35	30.8	−11.5	74	31	4	6	37	6.25	+ 3.60	1.35	22.1	16	14	0	17	n.	J. F. Llewellyn.
Steffenville	Lewis	576	20	32.6	−10.0	68	31	−	1†	41	4.20	+ 1.38	1.30	18.0	12	11	10	10	ne.	Frank Ball.
Sublett	Adair	1,000		29.7	−10.2	63	30	− 4	1	45	2.60	− 0.11	1.00	21.6	7	8	13	10	ne.	Lewis Spriggs.
Vandalia	Audrain	776	2	32.6		73	31	9	5	35	6.84		2.85	9.9	10	14	7	10	e.	C. B. Ellis.
Warrenton	Warren	865	23	32.0	−10.0	77	31	9	9	41	5.43	+ 2.03	1.17	30.8	14	9	5	17	ne.	Prof. J. H. Frick.
Indiana.																				
Collegeville	Jasper		13	28.6	−12.5	68	31	4	6	36	1.63	− 1.68	0.40	13.7	9	5	14	12	n.	Otto Miller.
Knox	Starke	716	7	28.2[a]		65[a]	31	5	2†	33	1.61		0.70	12.5	9	10	10	11	e.	W. R. R. Tatman.
Laporte	Laporte	810	16	26.2	−11.6	59	31	− 2	16	39	2.22	− 0.91	0.90	21.6	8	16	2	13	nw.	Wm. M. Walton, jr.
Plymouth	Marshall	790	9	28.0		66	31	2	2	33	1.68		0.64	11.0	10	12	11	8	e.	J. W. Siders.

TABLE 1.—*Climatological data for March, 1912. District No. 5*—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.
Illinois.																				
Aledo	Mercer	738	12	27.8	−11.4	57	31	1	1	32	1.55	− 0.48	0.49	15.2	6	16	7	8	ne.	William B. Frew.
Alexander	Morgan	670	19	31.4	− 9.8	72	31	3	6	34	4.02	+ 1.49	1.59	19.8	16	8	10	13	ne.	George H. Hall.
Antioch	Lake	861	11	23.2	−12.5	42	17†	− 8	1†	40	1.69	− 0.18	0.50	14.0	5	10	12	9	e.	J. C. James.
Astoria	Fulton	650	13	29.9	−10.4	69	31	− 2	6	36	4.74	+ 1.97	1.50	27.0	9	11	10	10	ne.	Edward V. Bohl.
Aurora	Kane	687	33	26.2	− 8.6	60	31	− 2	1†	40	1.14	− 1.44	0.48	13.1	6	9	9	13	ne.	W. Holden.
Beardstown	Cass	448									2.81	− 0.32	0.66	20.0	11					Mrs. L. M. Rice.
Bement	Piatt	700	5	31.6		72	31	7	6	33	5.06		2.08	9.1	12	12	4	15	ne.	Rev. C. S. Adams.
Bloomington	McLean	840	21	30.3	− 9.3	70	31	6	6	31	2.42	− 0.62	0.68	12.1	13	12	5	14	ne.	Prof. H. N. Pearce.
Cairo	Alexander	359	40	42.0	− 5.0	76	19	22	1	38	5.29	+ 1.27	1.24	6.6	17	6	8	17	ne.	U. S. Weather Bureau.
Carbondale	Jackson	412	7	40.4		81	19	13	6	39	6.10		1.04	16.9	17	12	3	16	ne.	State Normal University.
Carlinville	Macoupin	663	22	33.3	− 9.3	74	31	4	6	34	5.05	+ 2.00	1.20	15.2	13	8	18	5	ne.	W. T. Eddy.
Carlyle	Clinton	470	27																	Harvey O. Jones.
Chester	Randolph	380	6																	F. A. Gollon.
Clinton	Dewitt	727	2	31.0		71	31	4	6	34	3.72		0.68	9.0	12	12	5	14	ne.	J. Frank Ziegler.
Coatsburg	Adams	763	20	30.7	− 9.3	68	31	2	6	34	1.85	− 0.94	0.33	13.0	9	15	3	13	s.	Dr. J. R. Lambert.
Cobden	Union	656	29	39.8	− 6.8	81	19	15	6†	43	3.37	− 1.29	1.20	10.7	9	10	4	17	n.	John Buck.
Dakota	Stephenson	929	7	32.6		49	30	− 11	3	38	1.27		0.42	15.3	6	10	13	8	ne.	Rev. G. W. Kerstetter.
Decatur	Macon	685	21	32.6	− 8.3	73	31	7	10	33	4.60	+ 1.38	1.62	7.8	13	13	8	10	ne.	Prof. J. H. Coonradt.
Dixon	Lee	725	22	25.1	−10.0	55	31	− 2	2	33	1.72	− 0.65	0.80	18.0	4	25	2	4		H. U. Bardwell.
Du Quoin	Perry	459	24	38.8	− 8.1	81	19	12	6	35	4.94	+ 0.85	0.73	16.5	14	14	5	12	nw.	G. H. Knetzger.
Dwight	Livingston	600	19	28.4	− 8.4	66	31	2	1†	29	1.72	− 0.39	0.59	12.5	7	7	10	14	ne.	Edward O. Welch.
East St. Louis	St. Clair	418	1								5.46		1.10	27.7	13					W. McK. Brown.
Edwardsville	Madison	554	12								4.08	+ 1.35	1.16	28.0	10					W. H. Morgan.
Elgin	Kane	716	5	26.9		53	31	− 1	1†	39	1.30			12.5	4	6	17	8	ne.	Elgin Observatory.
Ewing	Franklin	449	1																	Ewing College.
Fairview	Fulton	733	1								1.66		0.46	10.4	8					Abram Wilson.
Galva	Henry	842	20	27.6	− 9.2	68	31	− 2	1†	29	2.23	− 0.20	0.82	21.4	8	14	4	13	se.	Prof. F. U. White.
Grafton	Jersey	422	19																	R. C. Goodrich.
Greenville	Bond	635	34	34.1	− 8.1	71	31	11	10	31	5.30	+ 1.65	1.00	22.9	16	11	4	16	ne.	M. S. Oudyn.
Griggsville	Pike	650	27	32.3	− 9.0	71	31	7	6	28	2.75	+ 0.10	0.83	11.0	8	13	10	8	ne.	George F. Kneeland.
Havana	Mason	475	20	31.8	−10.1	72	31	7	6	33	2.70	− 0.21	0.58	13.5	9	15	11	5	e.	F. & C. Borgelt.
Henry	Marshall	500	24	28.3	− 9.0	68	31	− 1	6	40	1.78	− 0.64	0.74	18.0	7	15	8	8	ne.	Dr. F. A. Powell.
Hillsboro	Montgomery	675	18	34.0	− 9.0	74	31	7	6†	35	5.24	+ 1.88	0.88	19.5	14	13	0	18	ne.	Ira L. Woodward.
Joliet	Will	541	21	26.4	−10.5	61	31	− 1	2	33	1.41	− 1.29	0.67	10.8	5	16	2	13	ne.	F. M. Muhlig.
Kishwaukee	Winnebago	730	24	24.2	− 9.9	50	30	− 5	1†	37	1.70	− 0.85	0.61	17.2	9	11	11	9	ne.	George Stevens.
La Grange	Cook	657	20	26.2	− 9.4	60	31	− 1	1	35	2.02	− 0.46	0.72	21.5	5	13	8	10	nw.	Prof. F. E. Sanford.
La Harpe	Hancock	698	33	28.3	−10.1	64	30	− 5	6	44	1.14	− 1.75	0.35	16.5	7	17	7	7	ne.	George Campbell.
Lanark	Carroll	883	23	23.3	−10.3	48	30†	− 15	1	38	1.13	− 0.98	0.43	13.7	7	20	5	6	ne.	M. N. Wertz.
La Salle	La Salle	536	7	27.9	− 8.9	62	31	2	1	32	1.47	− 1.35	0.60	15.8	8	5	17	9	ne.	U. S. Weather Bureau.
Lincoln	Logan	482	24	31.2	− 8.1	70	31	3	6	32	3.77	+ 0.89	0.79	13.5	11	12	10	9	nw.	Prof. C. S. Oglevee.
Loami	Sangamon	624	12								4.02	+ 1.58	1.60	9.0	13	7	3	21	se.	H. C. Foster.
Macomb	McDonough	700	8								1.44		0.39	11.5	7					State Normal University.
Manteno	Kankakee	711	1								1.63		0.73	11.0	7	16	5	10	ne.	J. F. Schmeltzer.
Martinton	Iroquois	633	25	27.8	− 9.0	62	31	6	6	36	2.03	− 0.54	1.00	6.7	4	9	6	16	ne.	Joseph H. Peltier.
Mascoutah	St. Clair	425	22	37.0	− 6.8	78	19†	9	10	43	5.25	+ 1.31	0.82	28.0	14	17	5	9	nw.	George Henrich.
Minonk	Woodford	745	19	30.4	− 7.6	70	31	2	1	34	2.05	− 0.42	0.50	13.6	8	9	11	11	nw.	M. H. Pfaffle.
Monmouth	Warren	784	20	28.6	− 9.9	64	31	0	1	35						12	4	15	e.	Dr. J. C. Hutchison.
Morris	Grundy	518	1	27.4		65	31	− 2	10	39	1.92		0.54	14.4	7	8	12	11	ne.	E. G. Cryder.
Morrison	Whiteside	685	18	25.2	−10.2	56	31	− 7	1	43	1.74	− 1.00	0.36	15.7	9	15	9	7	ne.	S. A. Maxwell.
Morrisonville	Christian	638	13	31.8	−10.7	72	31	1	10	32	4.62	+ 1.81	2.05	11.5	14	14	4	13	ne.	J. D. Lowis.
Mount Vernon	Jefferson	511	18	35.2	− 9.8	81[a]	19	11	2†	49[a]	3.94	− 0.73	0.95	14.5	12	11	0	20	ne.	Theodore P. Stelle.
Nashville	Washington	503	12								4.60	− 0.41	1.20	18.5	12					Prof. John M. Avery.
Oregon	Ogle	702	3	25.1		50	30	− 6	1	36	1.25		0.68	15.0	5	11	9	11	n.	Samuel Ray.
Ottawa	La Salle	500	26	28.8	− 8.4	64	31	2	1†	38	1.17	− 1.52	0.54	9.0	5	4	3	24	ne.	Miss Maude M. Harris.
Pana	Christian	602	26	32.0	− 9.0	75	31	7	6†	33	4.78	+ 1.50	1.22	7.2	13	15	4	12	ne.	C. W. Sibley.
Peoria	Peoria	609	56	28.4	− 8.6	67	31	3	1	32	2.03	− 0.93	0.80	16.5	10	4	16	11	n.	U. S. Weather Bureau.
Pontiac	Livingston	546	10	29.8	−11.0	67	31	6	1	34	2.24	− 0.35	0.70	15.0	11	12	8	11	s.	George Butterworth.
Quincy	Adams	481	7	30.6		68	31	2	6	36	2.13		0.51	10.2	8					Fred J. Brinkoetter.
Riley	McHenry	956	53	25.0[a]	− 6.6	49[a]	19	− 4[a]	1†	32[a]	1.51	− 0.89	0.65	12.9	8	5	15	11	ne.	John West James.
Roberts	Ford	774	1								1.95		0.43	7.2	13	13	6	12	n.	R. E. Bradbury.
Rockford	Winnebago	763	20	25.4	− 8.3	51	30	− 3	2	32	1.56	− 0.87	0.70	15.4	7	17	0	14		Hosmer C. Porter.
Rushville	Schuyler	670	21	31.6	− 8.7	70	31	7	5	32	2.61	+ 0.27	0.90	14.0	7	12	5	14	n.	H. F. Dyson.
St. Charles	Kane	700	17	26.6	− 9.4	55	31	− 2	2†	41	1.59	− 1.46	0.40	16.0	7	8	16	7	ne.	Dr. William H. Bishop.
St. Peter	Fayette	500	10	34.2	−10.7	72	31	1	25	43	5.31	+ 1.79	1.40	32.0	12	10	4	17	nw.	M. L. Lansford.
Sparta	Randolph	538	26	36.6	− 8.4	80	19	8	6	33	5.18	+ 1.21	0.68	25.4	18	12	5	14	nw.	James A. Caldwell.
Springfield	Sangamon	644	32	32.1	− 7.0	72	31	10	6	32	4.21	+ 1.14	1.55	11.0	12	2	12	17	ne.	U. S. Weather Bureau.
Streator	La Salle	626	19	28.8	− 9.6	67	31	2	1†	31	1.89	− 0.99	0.68	8.9	8	16	9	6	ne.	Miss Lora Sweetser.
Sullivan	Moultrie	530	12	32.2	−10.4	73	31	6	6†	34	3.07	+ 0.03	1.24	7.2	12	9	8	14	ne.	C. A. Corbin.
Sycamore	DeKalb	865	32	25.2	− 8.2	56	30	− 5	1	42	2.50	+ 0.08	1.00	26.0	6	13	5	13	ne.	Miss Edna J. Davis.
Tiskilwa	Bureau	798	28								1.94	− 0.84	0.65	18.5	6					F. I. Smucker.
Walnut	do	717	21	27.4	−10.2	57	31	− 2	1	35	1.69	− 0.95	0.77	15.6	6	14	9	8	ne.	O. C. Nussle.
Warsaw	Hancock	501	14								0.80	− 1.34	0.29	8.4	4					W. R. Kirkbride.
Waterloo	Monroe	719	1								4.19		0.84	26.0	16					Prof. James E. Raibourn.
White Hall	Greene	573	4	32.6		74	31	5	6	35	4.20		1.11	9.1	16	17	5	9	ne.	Frank Dillman.
Windsor	Shelby	681	13	32.6	− 8.9	74	31	1	10	36	5.04	+ 1.97	1.29	17.0	14	9	8	14	ne.	Herbert Rose.
Winnebago	Winnebago	900	25	24.4	− 9.6	49	30	− 7	1	35	2.07	− 0.58	0.60	20.0	7	17	8	6	ne.	Frank Osborn.
Yorkville	Kendall	584	25	25.8	− 8.7	59	31	− 5	16	43	1.54	− 0.69	0.52	11.7	7	12	0	19	e.	Herman A. Grimwood.
Zion	Carroll	938	18	25.8	− 8.9	49	28†	− 5	2	37	1.23	− 0.73		14.0	5	26	2	3	w.	Robert F. Gillogly.

[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 March, 1912. District No. 5, Upper Mississippi Valley.*

Stations.	Watershed.	Day of month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
North Dakota.																																	
Amenia	Red				.10	T.	.05	T.										.45							.10								0.70
Bottineau	Mouse			.08	.14																	T.				.12				T.			0.34
Bowbells	do																																
Cando	Sheyenne						.04																			.02					T.		0.06
Crosby	Mouse		.08	.15				T.												T.						T.					T.		0.23
Devils Lake	Cheyenne		T.	.05	.02		T.	T.									T.							T.		.02				T.	T.		0.09
Donnybrook	Mouse		.02	.20															T.							T.							0.22
Dunseith	do			.03	.01																					.05							0.09
Edmore	Sheyenne																									.05							0.05
Fessenden	James			.03	.12			T.																			T.						0.15
Forman	Sheyenne					.20		.10										.10															0.40
Grafton	Red				.05		T.	T.																			.03						0.08
Granville	Mouse		.01	.01																						T.							0.02
Hannah	Pembina			.10																	T.				T.	.30	.10						0.50
Hansboro	Red				.02																					.05							0.07
Hillsboro	do			.10		T.	.15	.05									T.	.30								.20							0.80
Lakota	Sheyenne			T.	0.9			.02																T.		.05					T.		0.16
Langdon	Pembina				T.							T.							T.							.10	T.	T.					0.10
Larimore	Red				.20													.12								.06							0.38
Lisbon	Sheyenne				.20		T.	T.																			T.						0.20
McKinney	Mouse				.30																					T.							0.30
Manfred	Sheyenne			.10	.10																					T.							0.20
Mayville	Red				T.		.10										T.	.05															0.15
Minot	Mouse			.10	.50															T.													0.60
Minto	Red																														T.		T.
Oriska	Sheyenne			T.	T.												.01																0.01
Park River	Red				.05																					.03	T.						0.08
Pembina	do								.02					.04					T.		.01					.01							0.08
Power	Sheyenne			.15	T.		.05										.20														T.		0.40
Pratt	Mouse																																
Towner	do		T.		.15																					.02							0.17
University	Red				.06		T.											.04								.16							0.26
Wahpeton	do				.13		.02	T.										T.								T.							0.15
Walhalla	Pembina																						.10		.05	.10							0.25
Westhope	Mouse			.20																													0.20
Willow City	do		T.	T.	.10																												0.10
Minnesota.																																	
Albert Lea	Mississippi		T.		.20		.25											T.			.20					T.						.10	0.75
Alexandria ‖	do				.16		.02	T.	T.						T.																	.08	0.26
Angus	Red				.02	T.		T.										.05				T.				.02							0.09
Bagley	do						.04	.06									.40									.05					T.		0.55
Baudette	Rainy																	.15				.05	.02								.05		0.27
Beardsley	Minnesota																																
Beaulieu ‖	Red				.05		.15	.40									.05	.85				.10				.20							1.80
Bemidji ‖	Mississippi				.02			.01																			.01						0.04
Bird Island	Minnesota				.21		T.	T.										T.			.02	.01				T.	T.				T.	.01	0.25
Brainerd	Mississippi				.02		.03	.03										.04								.06						.04	0.22
Caledonia ‖	do	T.		.02	.15	.05			T.				.15		.02				.20			.80											1.39
Campbell ‖	Red				.10	.15		.05										T.									T.					T.	0.30
Cass Lake ‖	Mississippi				.04			.03											.03							T.							0.10
Collegeville	do				.18		T.																			.02					.05	.06	0.31
Crookston ‖	Red				.10		.05											.45				T.				.10							0.70
Detroit ‖	do				.05		T.	.12										T.				T.					.10		T.		T.	T.	0.27
Ely	Rainy																																
Fairmont (near)	Minnesota			.10		T.	T.	T.				T.			.T						.30	.05										.20	0.65
Faribault	Mississippi		T.		.15		.06	T.													.22	T.				T.					T.	T.	0.43
Farmington	do				.11		.03	T.										T.			T.	.07				T.	T.					.05	0.26
Fergus Falls	Red				.15	.02	.03	.08										.04								.03						T.	0.35
Fort Ripley ‖	Mississippi				.05	T.		.03	T.																		T.					.04	0.12
Fosston	Red				.10		.10	.10									.15	.21								T.						.20	0.86
Glencoe	Mississippi				.30			T.														.15											0.45
Grand Meadow	do		T.	.06	.18		.07	T.				.04			.08			.08			.23	.18				T.						.03	0.95
Gull Lake Dam	do				.06		.08	.05										.08								.15						.02	0.44
Hallock	Red																									.10							0.10
Halstad ‖	do						.06											.15	.17							.10							0.48
Hinckley	St. Croix				.15		.10	.20										.05													.20		0.70
International Falls	Rainy						T.	.10										.50								T.	.10				.05		0.75
Itasca State Park	Mississippi						.20	.10																		.10							0.40
Lake Crystal	Minnesota				.60		.20														.10	.20										.20	1.30
Leech Lake Dam	Mississippi				.07		.08	.05										.08				T.				T.	.02						0.30
Littlefork	Rainy							.15									T.	.90											.10				1.15
Long Prairie	Mississippi				.10			.10																								.10	0.20
Lynd	Minnesota		T.	T.	.13	T.	T.	T.														.15									T.		0.28
Mankato ‖	do				.07			.05														.07										.38	0.57
Milaca	Mississippi				.10		.06																									.13	0.29
Milan	Minnesota			T.	.20	T.	T.	.10													T.										T.	T.	0.30
Minneapolis	Mississippi				.17		.01	.02										T.		T.	.06	T.				.01	T.				.01	.06	0.34
Montevideo ‖	Minnesota				.16		.02	T.	.06										T.			.04										.02	0.30
Moorhead	Red			.04	.04	T.	.02	.01									.05	.01				T.				.04							0.21
Mora	St. Croix						.10	0.5																		.10					.11	.08	0.44
Morris	Minnesota			.10	.15		.10	.15										T.								T.					.10	.10	0.70
New London	Mississippi			.16			T.	.03			T.											T.										.06	0.25
New Richland	Minnesota		T.		.14		.02	T.							T.			T.			.18											.16	0.50
New Ulm ‖	do	T.		.03	.40	.10	T.	.15										T.				.25										.05	0.98
Osakis	Mississippi				.18	T.	.04	T.																							T.	.02	0.24
Park Rapids ‖	do				.10		T.	.06	.02									T.	.02								.04		T.				0.24
Pine River Dam	do				T.		T.											.10								.12							0.22
Pokegama Falls	do				.04		.02	.03						T.			T.	.05				T.				T.	T.	T.			.02		0.16
Red Lake	Red						.12											.37										T.			T.		0.49
Red Wing ‖	Mississippi				.08	.04		.02	.02										.02			.18	T.				.02					.14	0.52
Redwood Falls	Minnesota				.30																.10	.10											0.50
Reeds Landing ‖	Mississippi				.05	.02													.12			.07										.08	0.34
Rochester ‖	do				.07			T.										T.														.28	0.35
St. Charles	do			T.	T.			T.				T.			T.			.11				.37										.17	0.65
St. Cloud	do				.06		T.	.06										.01								T.					.06	.09	0.28
St. Paul	do			0.1	.14		.01	.03										.01		T.	.05	T.				.02					.02	.03	0.32
St. Peter	Minnesota				.25																	.10											0.35
Sandstone ‖	St. Croix																																
Sandy Lake Dam	Mississippi				T.			.15										.17								T.							0.32
State Sanatorium	do						.17	.08										.09								.04		T.			T.		0.38

TABLE 2.—*Daily precipitation for March, 1912. District No. 5*—Continued.

Stations.	Watershed.	Day of month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Minnesota—Con.																																	
Stillwater ‖	St. Croix				.06	T.														.10			T.				T.					T.	0.16
Taylors Falls	do				.06		T.	.07										T.				T.				.09	.08						0.30
Thief River Falls ‖	Red					T.	T.	T.								.10	.10									.05					T.		0.25
Warren	do																																
Warroad	Rainy							T.	T.													0.2									.02		0.04
Winnebago ‖	Minnesota			T.	.10	T.	T.	T.	.05			.10			T.							.20					T.					.20	0.65
Winnibigoshish	Mississippi				.04		.01	.05										.02				T.				.01			T.		T.		0.13
Winona	do				.09		.01		T.			T.			T.			.48			.11	.22				T.						.10	1.01
Worthington ‖	Des Moines		T.	T.	.15	T.	T.	T.				T.	.05		.05						T.	.25										.30	0.80
Zumbrota	Mississippi				.10		T.											.01			.16											.08	0.35
South Dakota.																																	
Milbank ‖	Minnesota				.41			.08														.04										0.4	0.57
Wisconsin.																																	
Antigo	Wisconsin				T.													.10				.03				T.	.05						0.18
Barron	Chippewa				.10		T.	.05										T.				.05				.05	.10						0.35
Beloit	Rock			.08								.40			.20			.09			.60												1.37
Big St. Germain Dam.	Wisconsin							.11										.29				T.				T.	T.					T.	0.40
Brodhead	Rock				T.				T.			.40			.30			.10			.80											.70	2.30
Burnett	do				T.			T.	T.			.22			.25			.07			T.	.31					T.					.36	1.21
Cottage Grove	do				.04				.01			.23	.06		.33	.17		.09			.18	.39					T.					.26	1.76
Darlington	do				.05							.30			.35			.01			T.	.40											1.11
Deerskin Dam	Wisconsin							T.										.21				T.										.09	0.30
Delavan	Rock		T.		T.			T.				.15				.30		.03			.33											0.7	0.88
Dodgeville	do											.50			.80																	T.	1.30
Downing	Chippewa							.20										T.				T.	.10			T.						.20	0.50
Eau Claire	do				.10		T.	T.	.02									.15		T.		.12				.03	.01					.08	0.51
Grand Rapids ‖	Wisconsin					.06			T.										.03			.46					.04					.21	0.80
Grantsburg	St. Croix				.20		.10	.30																		.20						.20	1.00
Hancock	Wisconsin				T.							T.			T.			T.			T.	.40										.40	0.80
Hatfield	Black				.15		T.											.25			*	.10										.40	0.90
Hayward	St. Croix						T.	.20										.10								.05						.10	0.45
Hillsboro	Wisconsin				.30		T.		T.			.15			.20			T.	T.		.60					T.						T.	1.25
Koepenick	do																	.30				.10											0.40
Lac du Flambeau	Chippewa							.12										.25								.03						.23	0.63
La Crosse	Mississippi				.08		.01	.01	T.			.07			.07			.12			.48	.02				T.						.28	1.14
Lake Mills	Rock				.04				.02			.40	T.		.45	.04		T.			.20	.10										.12	1.37
Lancaster	Mississippi		.10	.10	.05							.20			.79						.50											.10	1.84
Long Lake	Wisconsin							.02	.03									.35	T.			.04					.03		.01			.07	0.55
Madison	Rock			T.	.04				T.			.31			.65	T.		.06			.59	T.				T.	T.		T.		T.	.27	1.92
Mather ‖	Wisconsin				.10	.05			T.				T.		T.				T.			.50					T.					.58	1.23
Mauston	do				.20							.10			.10							.30										.10	0.80
Meadow Valley	do				.07		T.					T.						T.			*	.40										.38	0.85
Medford	Black								T.									.20				.10				T.	.10						0.40
Merrill	Wisconsin																	.04									.11						0.15
Minocqua	do							.05	.02									.23	T.			T.				T.	T.					T.	0.30
Mondovi	Mississippi				.04		.02		T.									.10				.11				T.	.03		.03			.26	0.59
Mount Horeb	Rock				.11				T.			.20	.09		.40						.22	.10										.20	1.32
Muscoda ‖	Wisconsin			T.	.05	T.							.20		T.	.23						.40										.26	1.14
Neillsville	Black				T.													.40				.10										.30	0.80
New Richmond	St. Croix				.10		.10	.10	.10									T.	T.		T.	.10				.10					T.	.10	0.70
Osceola	do				.10		.10												T.			T.	T.			.40					T.		0.60
Park Falls	Chippewa						T.	.01	T.									.20				T.				T.						.20	0.41
Portage	Wisconsin				.12		T.		T.			.16			.17	T.		.11				.30										.33	1.19
Port Edwards	do				.10				T.									.15			.40					T.	.05					.37	1.07
Prairie du Chien ‖	Mississippi			.04	.04	T.							.32		.08	.18			T.			.42										.10	1.18
Prairie du Sac	Wisconsin				.05							.20			.18	.06		.03			.15	.10										.28	1.05
Prentice	Chippewa				.04			T.										.16				.07					.06					.07	0.40
Rhinelander	Wisconsin				T.			T.	T.									.40		T.		.04				*	.09					.05	0.58
Shullsburg	Mississippi			.08								.34			*	.51		T.			*	.82											1.75
Solon Springs	St. Croix				T.			.20										T.								T.						.20	0.40
Spooner	do				.05			.15										T.								.05	T.				T.	T.	0.25
Stanley	Chippewa						T.	T.										.10		T.		.06				.15					T.		0.31
Stevens Point	Wisconsin																																
Sugar Camp Dam	do							.10										.25				.05									T.		0.40
Trout Lake	do							.10	.04									.16			T.				.10						.20		0.60
Twin Lakes Dam	do							.10										.30				.05									T.		0.45
Valley Junction	do				.30		.03		T.			.08			.06			.11			.20	.10				.01						.21	1.10
Viroqua	Mississippi			T.	.07		T.		T.			.07			.09			T.			.15	.10				T.	T.					.12	0.60
Vudesare	Wisconsin							.06										.22				T.									T.	T.	0.28
Watertown ‖	Rock				.05	.05			.02				.42		.02	.55			.08			.60	.05									.27	2.11
Waukesha	Fox								T.			.30			.30			.02			.70						T.					.06	1.38
Wausau	Wisconsin				T.			T.	T.									.22				.13				T.	.06					.18	0.59
Weyerhaeuser	Chippewa				.12		T.	.10										.12		T.		.10				.05	.08					.05	0.62
Whitehall	Mississippi				.20																*	.40					.10					.60	1.30
Iowa.																																	
Albia ‖	Des Moines			.38					T.			.10	.44		T.	.15					.20	.30											1.57
Algona	do		.10		T.	T.						.10			.20						.32	.17									T.	.10	0.99
Alta ‖	Raccoon		.10	.15		T.	T.		.06			.20	.20		.20	.15					.30	.42										.15	1.93
Amana	Iowa		.13	.14	T.				T.			.37			.56	.05					.95	.09											2.29
Ames	Skunk		.21	.18	.08				.01		T.	.35			.37						.75											T.	1.95
Baxter	do		.23	.06					.04		T.	.48	.01		.39	.01					.35	.11											1.68
Belle Plaine	Iowa		.25		T.							.30			.40						1.00												1.95
Belmond	do		.10	.02	.06	T.	.01					.23			.30						.35											.28	1.35
Bloomfield	Mississippi		.55	.30								.45	.25		.15	.25					.25								.04	.20			2.44
Bonaparte	Des Moines		.30								.40				.10	.10					.30								T.	T.			1.20
Boone ‖	do		.18	.35		T.						.10	.23		.10	.18					.20	.55										.12	2.01
Britt	Iowa		.07	T.	.04		T.	T.				.14			.11						.28	.01				T.					T.	.05	.70
Buckingham	Cedar		.12									.25			.30						.75												1.42
Burlington ‖	Mississippi			1.30								.23	.30			.80					T.	.25							T.	T.			2.88
Carroll ‖	Raccoon		.30									.30	.40		.50						.70											T.	2.20
Cedar Rapids ‖	Cedar			.20		.03						T.	.30		.10	.50	T.	T.			.05	.75											1.93
Charles City	do	.09	.02	.07			.01					.24			.25						.48											.20	1.36
Clear Lake	do			.10									.20								.30											T.	0.60
Clinton	Mississippi		.23		T.				.01				.21		T.	.78		.01			.90												2.14

TABLE 2.—*Daily precipitation for March, 1912. District No. 5*—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.
Iowa—Continued.																																	
Columbus Junction.	Iowa		.14	.20					T.			.43			.35	.23					.65	.07							T.			T.	2.07
Davenport	Mississippi		.12	.09	T.				T.			.33			.67	.21		T.		T.	.87	.05							T.			T.	2.34
Decorah	do	.03		.13								.20			.16			.02			.30												.12	.96
Delaware	do			.10	T.							.15			.25			.01			.25												.08	.84
Des Moines	Des Moines		.43	T.	T.				.02		.04	.34		.10	.64					T.	1.28			T.									.02	2.87
Dubuque	Mississippi		.02	.04	T.				T.			.33		.01	.68	.04		.04			.76	.13											.02	2.07
Earlham	Raccoon		1.20	.30		T.			.20		.05	1.00			1.10	.10					1.10	.20												5.25
Elkader	Mississippi			T.	.32							.24			.70						.50												.42	2.18
Elma	Wapsipin'n																																	
Estherville ‖	Des Moines			.06	.06								.06		.06							.40										.25	0.89
Fairfield	Skunk			.30								.40			.20						.45													1.35
Fayette	Mississippi		.02		.05							.40			.30				T.		.48	.10											.37	1.72
Forest City ‖	Cedar		.10	T.	.15		.03		T.			.10			.10			T.			.50												.20	1.18
Fort Dodge ‖	Des Moines		.05	.20					T.			.10	.40		.20	.20					.15	.55											.10	1.95
Fort Madison	Mississippi		.80							T.			.30								.20								T.					1.30
Gilman	Iowa	.60										.30			.40						1.00													2.30
Grand Meadow	Mississippi			.05	.05							.25			.25			.03			.20	.10											.53	1.46
Grinnell	Iowa			.50					T.			.40			.40						.90													2.20
Grundy Center	Cedar		.10									.50			.60						1.20												.14	2.54
Guthrie Center	Raccoon	T.	.36	.07	T.	T.			T.		T.	.46	T.		.66						1.59	.19												3.33
Hampton	Cedar		.15	T.	.02							.50		.10	.13						.62												.70	2.22
Humboldt	Des Moines				.30							.32			.40						.40	.18											.20	1.80
Independence	Wapsipinicon.		.10	.05								.30	.10		.45						.60	.20											.05	1.85
Indianola	Des Moines		.70	.05								.35			.35	T.				T.	.90													2.35
Iowa City ‖	Iowa			.24		T.			T.			.12	.28		.05	.65					.06	.88											.02	2.30
Iowa Falls ‖	do		.25		T.	.05			T.			.10	.25		.20	.30					T.	.60											.29	2.04
Jefferson	Raccoon		.40	.10	.02	.01		T.				1.00	.06		.76			T.			1.14	.26											.12	3.87
Keokuk	Mississippi		.54	.04					T.		T.	.24	T.		.20	.06					.15			T.				T.	.15					1.38
Keosauqua ‖	Des Moines		T.	.50	.05				T.			.12	.25		T.	.28					T.	.42							T.	T.				1.62
Knoxville	do																																	
Lacona	do		.50						.10			.50			.30					.05	.60	.20											.01	2.26
Le Claire ‖	Mississippi			.09	T.	T.			T.	T.		.10	.23		.03	.85	T.		.03		T.	.49								T.		T.	1.82
Marshalltown ‖	Iowa		T.	.26	T.	T.			T.			.10	.21		.11	.39				T.	.21	1.02			T.								2.30
Mason City	Cedar		.03		.02							.23			.12						.25												.07	.72
Monroe	Skunk		.45						.05			.38			.34					T.	1.33													2.55
Mount Pleasant	do		.40	.20					T.			.52	.05		.24	.44					.25	T.												2.10
Muscatine ‖	Mississippi			.35								.10	.35			.50	T.		T.	T.	T.	.60								T.				1.90
New Hampton	Wapsipinicon.		T.	T.	T.		T.					.30			.20						.40	.20												1.10
Northwood	Cedar		T.	.05	.30		.15	T.				.20			.30			.02			.40	.10											.08	1.60
Olin	Wapsipinicon.											.40			.60						.80													1.80
Osage	Cedar	T.	T.		.20		T.					.20			.25			T.			.25	.20												1.10
Oskaloosa	Des Moines		.04						T.			.37			.22			T.		T.	1.18													1.81
Ottumwa	do		.65	T.					T.			.51			.11						1.00													2.27
Pella	do		*	1.02	T.				.02		T.	.49	T.		.35	T.					.54	.23											.02	2.67
Perry	Raccoon		.40	.10					T.			.40			.50						*	.90											T.	2.30
Plover	Des Moines		.25		.10	.10	.10						.20		.40						.60	.60											.83	3.18
Pocahontas	do		.02	.03	T.	.01	T.	.03	T.			.35			.40						.50	.15											.15	1.64
Ridgeway	Mississippi		.03		.74		.01					.40			.20			.04			1.20												.11	2.73
Rockwell City	Raccoon		.40					.10							.40						1.20												.50	2.60
Sac City	do		.40	.10				.10	.10		T.	.65		.10	.50						1.35												T.	3.30
Saint Charles	Des Moines		1.00						.03		T.	.40			.50					T.	1.00	.38												3.31
Sigourney	Skunk		.20	.19								.30			.20	.08					.42												T.	1.39
Stockport	do		.80	.60							.80				.25	.50					.50				T.									3.45
Storm Lake	Raccoon	.22	T.	T.	T.			T.				.38			.27					.30		.05											.15	1.37
Tipton	Cedar		.22	.10	T.							.42	.04		.50	.10					.52	.02											T.	1.92
Toledo	Iowa		.40									.30	.10		.40	.10					.60	.30												2.20
Wapello	do	T.	.54									.41			.51						.42													1.88
Washington	Skunk			.36								.55			.30						.80													2.01
Waterloo ‖	Cedar			.05	T.	.05						T.	.22		.12	.12						.45											.33	1.34
Waukee	Raccoon	T.	.34	.01	T.	T.			.03		T.	.25	.02	T.	.36	T.					.59	.06		T.										1.66
Waverly	Cedar																																	
Webster City	Des Moines																																	
West Bend	do		.20	T.	T.	T.	T.	.25				.15			.30			T.			.80												.14	1.84
Whitten	Iowa		.20									.60			.60						1.20	.30											T.	2.90
Winterset	Des Moines		.60	.10					.05		T.	.40			.70	.10				T.	.80	T.												2.75
Missouri.																																	
Gorin	Mississippi		.16									.25			.15						.23								.20				0.99
Hannibal	do		.41	.06				T.	.01		.10	.36	.01		.43	.04				.22	.68			.27	.02			.24	.69			T.	3.54
Louisiana	do			.70				T.	.02			.55			.51	.10					1.28	.90		.10	.40			.20	.40	1.31			6.47
Mexico ‖	do		T.	.75			.01	T.	.03	.01		.55	.09	.03	.02	.65	T.					1.35		.20	.65			.26	1.12	.51		.02	6.25
Steffenville	do		.30		.10				T.	.20		1.30	.50		.35	.30		T.			.40	.10	.15					.15	.35		T.		4.20
Sublett	do		.35									1.00			.48						.40	.13						.04	.20				2.60
Vandalia	do	.20		.31				T.	.10			.55		.25	.01		.30					1.15				2.85			1.35				6.84
Warrenton ‖	do			.62				.14	.01	.02		.59	.05			.49						.91		.01	1.07	.01		.23	.11	1.17			5.43
Indiana.																																	
Collegeville	Iroquois			.08				.10	.12		.07	.35			.14	.40				.12	.25							T.					1.63
Knox	Kankakee			.10				.04	T.			.26	.10		.16	.54					.32	T.							.05	.04			1.61
Laporte	do	T.		.05	T.			.02				.40	.02		.25	.90				T.	.46	.12							T.				2.22
Plymouth	do			.14	T.			.18	T.			.15	.11		.27	.37					.19	.17			T.				.08	.02		T.	1.68
Illinois.																																	
Aledo	Mississippi		.12	.16								.41	T.		.30	.07		T.			.49												1.55
Alexander	Illinois		.23	.16				.07	.02	.01		.24	.02		.23	.31				T.	1.11	.48		.07	.02			.11	.32	.62	T.	T.	4.02
Antioch	do											.50			.30	.42					.23	.24											1.69
Astoria	do		.50	.75				T.	T.			.32	T.		.30	1.50				T.	.75			T.				.12	.25	.25			4.74
Aurora	do			.04	T.				T.			.18	.02		*	.48					.42												1.14
Beardstown ‖	do		.60	.05			T.	T.				.30	.20			.56	.10				T.	.15		.20	.10				.15	.40			2.81
Bement	Mississippi			.08	.24			.09		.05		.18			.05	.59				.70	1.69	.39			T.				.32	.68			5.06
Bloomington	Illinois		.10	.18					.02			.32	.07	T.	.16	.52				.09	.33	.30						.05	.07	.21			2.42
Cairo	Mississippi		.31	T.	.10	.64	.04	.25	.08		.01	.38	.04		.43	.08			.01		T.	1.24		.71	.05			.01	.91			T.	5.29
Carbondale	do		.20	.37	T.	.46		.25	.37	.09		.45	.08	.07	.25	.15					.03	1.04		.42	.35				.75	.77			6.10
Carlinville	Illinois		*	.31				.20	T.	.01		.54			.19	.23				.41	1.20	.36		T.	.51				.43	.66	T.		5.05

TABLE 2.—*Daily precipitation for March, 1912. District No. 5*—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.
Illinois—Continued.																																	
Carlyle	Mississippi																																
Chester ‖	do																																
Clinton	Illinois		.14	.15				.18	T.			.10	.12		.10	.65				T.	.62	.63		.01	T.			T.	.34	.68			3.72
Coatsburg	Mississippi		.32	.20								.20			.25	.33				T.	.22			.10				.06	.17				1.85
Cobden	do		.08	.14		.36		T.	T.			.10	T.		T.	.10					T.	1.20		.45	T.				.56	.38			3.37
Dakota	do			.06	T.				T.			.36	T.		.42	.07					.16	.20										T.	1.27
Decatur	Illinois		.20	.14				.15	.14			.40			.15	.63					1.32	.30		T.	.06			.06	.45	.58			4.60
Dixon ‖	Mississippi			.18		T.						T.	.19			.55						.80											1.72
Du Quoin	do		*	.70		.15			.50			.49	.28			.31				.04	.07	.73		.38	.30				.66	.33			4.94
Dwight	Illinois		T.	.10					T.			.34	.10		.20	.39					.37	.22							T.	T.			1.72
East St. Louis ‖	Mississippi			.71				.15	.09	.06		.60	.10			.41						.68			1.10	.39		.05	.21	.91	T.		5.46
Edwardsville	do		.60	.10				.16	.08			.64				.40					.10	.58			1.16				.26				4.08
Elgin	Illinois			T.								.30			*	.70					.30												1.30
Ewing	Mississippi																																
Fairview	Illinois		.20	.09	T.				T.			.37			.17	.32				T.	*	.46						T.	.05	T.			1.66
Galva	do		.07	.17								.49	.04		.31	.33					.75	.07							T.				2.23
Grafton ‖	Mississippi																																
Greenville	do		.35	.20				.25	.05			.40	.04		.50	.30				.35	.50	.05		.35	1.00			.15	.45	.56			5.30
Griggsville	Illinois		.40	.10				T.	T.			.40	T.		T.	.21					.42	.83		T.	T.			T.	.22	.17			2.75
Havana	do		.58						T.			.36			.25	.50				.02	.43			T.				.08	.19	.28			2.70
Henry	do		T.	.19					T.			.35	.02		.15	.33					.52	.22							T.				1.78
Hillsboro	Mississippi		.28	.18				.22				.55	.06		.12	.38				.45	.50	.38		T.	.75			.15	.38	.84			5.24
Joliet	Illinois		T.	.04	T.				T.			.29			.20	.21					.67	T.							T.				1.41
Kishwaukee	Mississippi		T.	.08	.01				T.			.26			.61	.17		.05			.25	.23										.04	1.70
Lagrange	Illinois		T.	.06								.37			.40	.47				T.	.72	T.							T.				2.02
Laharpe	do		.35	.12					.03			.25	T.		T.	.20					.07								.12				1.14
Lanark	Mississippi		T.			.02						.23			.25	.13		.07			.35	.08										T.	1.13
La Salle	Illinois		.05	.05	T.			T.	T.			.27	.01		.37	.12					.58	.02							T.				1.47
Lincoln	do		.29	.30	T.			.12	T.			.32	T.		.29	.50					.56	.47		T.				.02	.35	.55			3.77
Loami	do		.35	.15				.10	.02			.35			.25					.02	1.60	.25		T.	.05			.10	.18	.60			4.02
Macomb	do		.24	.26					T.			.15			.10	.15					.15	.39						T.	T.				1.44
Manteno	do			.03				T.	T.			.34	.08		.06	.67					.23	.22							T.				1.63
Martinton ‖	do			.03					T.			T.	.50			.50						1.00							T.				2.03
Mascoutah	Mississippi		T.	.82		T.		.25	T.	.12		.45	.31		.17	.12					.20	.50		.20	.80			.10	.71	.50			5.25
Minonk	Illinois		.02	.25					T.			.40	.05		.15	.50				T.	.35	.33						T.	T.				2.05
Monmouth	Mississippi																																
Morris	Illinois			.10								.28	.02		.14	.54					.30	.54											1.92
Morrison	Mississippi		.02	.16	T.				.02			.36			.28	.18				.16	.36	.20										T.	1.74
Morrisonville	Illinois		.14	.09				.18				.26	.06		.12	.51				.02	1.66	.39		T.	.10			.07	.29	.73			4.62
Mount Vernon ‖	Mississippi			.95					.20	.04		.36	.11			.34	T.			.18					.55	.16		.50	.35	.20			3.94
Nashville ‡	do																																4.60
Oregon	do			.07								.16			.36	.32		T.			.34												1.25
Ottawa	Illinois		.02						T.			.28	.03		.30						.54								T.				1.17
Pana	Mississippi		.23	T				.15		T.		.64	.06		.09	.58				.04	.45	.77		T.	.60			.12	.30	.75			4.78
Peoria	Illinois		.20	.06				T.	T.			.39	.01		.25	.19				.01	.66	.14		T.				T.	.02				2.03
Pontiac	do		T.	.20				.10	T.			.30	.10		.20	.50				.10	.30	.30						T.	.06	.08			2.24
Quincy ‖	Mississippi			.51					T.	T.		.27	.07	T.		.39	T.	T.			T.	.29			.21			T.	.17	.22			2.13
Riley	do		T.	.02	.02				T.			.25			*	.50		.01			.65											.06	1.51
Roberts	Illinois		T.	.09				.08	.04			.22	.15		.17	.18				.11	.22	.43			T.			.03	.11	.12			1.95
Rockford ‖	Mississippi			.02	T.	.02							.20		.10	.60			.02			.60								T.			1.56
Rushville	Illinois		.60						T.			.30			.65						.06		.10	T.				.65	.25				2.61
St. Charles	do		T.	.08	T.				T.			.30	T.		.30	.30		T.		.01	.40	.20							T.				1.59
St. Peter	Mississippi		.35	.25				.50	T.			.40	.10		.25	T.				.25	.28			.15	1.25			T.	.75	.78	T.		5.31
Sparta	do		.35	.45	T.	.22		.19	.20	.22		.37	.13	.02	.34	.13				.08	.08	.54		.21	.51			T.	.68	.46			5.18
Springfield	Illinois		.30	.10	T.			.10	.03		T.	.40	T.		.42	.16				T.	1.55	T.		.04	T.			.35	.66	.10			4.21
Streator ‖	do			.15	.01	T.			T.	T.		.07	.46	.01		.45	.06					.68	T.										1.89
Sullivan	Mississippi		.24	.08					.10			.20			.15	.27				T.	1.10	.14			.10			.09	.20	.40			3.07
Sycamore ‖	do			.10									.40			.80	.20					.90										.10	2.50
Tiskilwa	Illinois			.14					T.			.30			.40	.65					.40								.05				1.94
Walnut	Mississippi		.06	T.					T.			.23	T.		.22	.41		T.			.56	.21											1.69
Warsaw ‖	do		.29									.20			.27						.04												0.80
Waterloo	do		.53	.12	T.	.11		.10	.07	.11		.51	.07	T.	.13	.09				T.	.08			.09	.84			.16	.55	.63			4.19
White Hall	Illinois		*	.31				.06	T.	.03		.07	.04		.40	.21	T.		T.	.38	.98	.13		.04	.10	T.		.12	.32	1.00		T.	4.20
Windsor	Mississippi		.30	.30				.20		.10		.70	.10		.10	.40				T.	.90	.39		T.	.20			.10	.53	.72		T.	5.04
Winnebago	do			.30	T.							.40			.50	.12		T.			*	.60										.15	2.07
Yorkville	Illinois			.05	T.				T.			.35	.02		.12	.40					.50	.10											1.54
Zion	Mississippi				T.				T.			.18			*	.54		T.			*	.51											1.23

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

TABLE 3.—*Maximum and minimum temperatures for March, 1912. District No. 5, Upper Mississippi Valley.*

Date.	North Dakota.										Minnesota.																	
	Bottineau.§§		Devils Lake.		Lisbon.§§		Minot.§§		Pembina.§§		Collegeville.		Crookston.§§		Grand Meadow.		Montevideo.§§		Moorhead.		New Ulm.§§		Pine River Dam.		St. Paul.		Winnibigoshish.	
	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	5	−21	4	−20	16	−10	11	−13	0	−20	12	−8	5	−13	16	−10	18	−5	10	−9	19	−2	8	−20	12	−4	9	−19
2	8	−20	8	−19	17	−10	12	−11	8	−18	15	−10	10	−14	14	−10	13	−2	17	−8	17	−1	13	−30	13	−5	18	−30
3	14	−8	15	−1	21	−5	12	−5	20	−12	18	0	20	−5	23	−1	17	2	23	4	33	4	19	−14	20	4	23	−9
4	25	4	20	−4	21	7	20	5	32	−8	18	10	22	6	24	−1	23	3	21	8	28	10	21	5	22	11	28	6
5	17	−14	17	−10	21	12	11	−19	28	−5	25	5	23	−4	25	−14	22	−8	23	−3	26	−2	22	−20	24	1	27	−13
6	18	−15	14	−2	24	−10	18	−19	30	−8	22	7	25	0	22	−1	24	12	26	13	27	3	20	−6	26	6	24	4
7	17	−8	13	−8	22	4	11	0	34	−5	28	18	22	7	27	17	18	15	21	0	32	16	23	9	31	20	20	8
8	11	−16	15	−14	18	−12	15	−10	35	0	21	−1	20	−10	22	−1	21	−5	19	−7	23	3	18	−7	23	7	22	−10
9	24	−15	25	−6	28	−8	24	−10	26	−5	27	−1	26	−5	24	−6	8	−1	30	−3	33	−1	24	−16	25	1	27	−3
10	21	−11	26	−4	28	−10	36	−10	30	−8	30	4	30	−5	27	−1	35	−2	34	4	34	1	30	−19	32	7	34	−10
11	26	−7	26	−3	33	4	25	−3	24	−10	37	21	28	3	27	18	34	7	29	11	33	22	35	16	36	22	39	0
12	21	−3	24	−7	27	3	22	−6	36	−5	33	12	28	−1	36	8	30	13	33	5	37	18	32	−1	35	14	34	−2
13	13	−8	18	−3	28	0	17	−6	30	−2	34	15	24	1	35	6	30	15	24	8	37	18	26	0	35	19	25	2
14	21	−10	14	−8	38	0	18	−8	24	0	26	4	15	0	25	8	28	10	22	2	27	10	23	−12	26	11	28	−3
15	21	−6	27	−4	32	1	30	−6	32	−5	34	3	32	3	26	−2	39	6	38	7	33	7	28	−20	33	8	28	−18
16	24	2	23	2	32	8	25	5	40	−2	41	18	30	5	33	10	42	15	33	18	40	13	35	9	43	20	40	14
17	32	1	28	6	28	18	33	2	20	5	38	32	32	12	35	29	40	24	32	16	41	20	33	29	39	30	32	25
18	33	10	40	7	50	18	40	10	32	−8	53	22	40	11	37	20	59	25	52	16	48	29	46	5	53	28	48	10
19	9	−8	9	−6	38	8	10	−5	40	0	51	17	10	0	37	27	32	25	28	4	33	31	40	13	40	16	44	10
20	16	−13	14	−10	28	0	16	−11	34	5	20	4	15	−7	27	10	17	10	16	−3	21	10	16	−6	19	10	20	−12
21	20	−7	20	−1	28	0	26	−7	32	−3	24	6	23	6	20	0	29	3	24	7	27	1	21	−8	24	8	19	−4
22	37	1	41	6	38	8	41	11	35	2	35	13	38	8	22	−8	38	7	42	10	32	0	32	−13	31	7	31	−6
23	36	16	34	22	36	10	37	22	40	0	35	20	31	13	37	6	39	15	34	20	39	8	32	18	40	19	35	12
24	40	17	36	20	46	18	40	21	42	2	40	13	38	14	36	12	41	14	40	19	42	18	36	2	37	19	37	5
25	36	24	33	27	42	28	38	27	35	28	36	25	36	26	38	16	46	23	36	28	32	26	33	23	36	29	34	21
26	40	18	43	22	47	28	42	24	42	15	40	27	41	24	38	24	45	27	45	27	50	18	37	25	37	28	38	22
27	47	22	45	30	48	28	50	28	38	22	55	28	43	25	40	20	46	28	50	30	58	29	46	29	57	30	47	27
28	42	29	44	22	60	28	50	32	32	18	53	34	47	33	47	28	61	33	55	24	62	32	48	28	59	32	44	28
29	53	21	47	21	58	23	55	25	35	12	51	19	43	18	43	27	49	23	45	22	58	26	37	12	41	23	37	11
30	25	12	38	14	38	28	34	13	36	10	50	30	35	23	47	26	52	35	39	19	58	28	45	24	56	33	41	20
31	42	8	40	11	42	8	43	13	38	10	39	19	34	9	37	27	41	18	38	11	42	26	36	18	38	27	32	14
Mns.	25.6	−0.2	25.8	2.6	33.4	7.3	27.8	2.9	31.0	0.2	33.6	13.1	27.9	5.9	30.5	9.2	33.5	12.4	31.6	9.7	36.2	13.6	29.5	2.4	33.6	15.5	31.1	3.2

Date.	Wisconsin.														Iowa.													
	Eau Claire.		Grantsburg.		Hancock.		La Crosse.		Madison.		Prentice.		Wausau.		Algona.		Cedar Rapids.§§		Charles City.		Davenport.		Des Moines.		Dubuque.		Keokuk.	
	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	13	−10	15	−20	10	−10	15	−4	12	−3	10	−21	12	−12	19	0	16	−12	13	−5	17	2	20	4	14	−5	24	5
2	14	−13	17	−26	12	−14	16	−2	12	−5	24	−12	15	−9	15	9	15	−13	12	2	16	5	13	9	16	−5	15	10
3	22	−3	24	−16	16	3	24	10	19	8	20	−12	25	4	22	1	25	4	24	7	25	14	21	8	22	12	25	14
4	23	10	27	−4	17	6	23	7	19	6	20	−3	25	7	21	12	25	9	26	14	24	12	26	14	23	10	27	19
5	26	−7	28	−15	23	−16	26	−5	23	0	20	−12	25	−6	23	4	24	2	23	0	23	4	22	10	23	2	26	6
6	24	3	25	−14	25	−10	24	2	25	1	22	−2	25	−1	25	7	31	0	25	4	30	3	29	2	29	2	31	4
7	29	20	32	18	29	18	32	22	32	19	24	5	28	17	31	22	34	1	31	24	34	20	35	24	35	23	37	23
8	28	10	26	3	27	18	27	12	29	13	24	9	29	15	26	8	27	19	24	6	32	16	29	12	31	15	34	17
9	22	−4	27	−12	25	−3	27	2	24	6	21	−14	29	−1	24	2	23	2	25	−3	25	5	24	−4	26	7	25	4
10	34	0	31	−3	32	3	33	4	29	11	23	−8	33	7	29	5	28	1	29	5	28	3	28	2	31	6	31	8
11	35	20	37	19	29	15	27	23	24	19	30	14	31	22	28	20	28	1	25	21	30	23	28	22	26	23	33	24
12	37	15	37	7	33	16	33	15	28	15	30	11	34	11	33	14	33	18	33	7	34	22	35	19	33	17	33	23
13	37	8	33	3	39	10	38	11	34	9	30	2	36	10	34	8	35	5	34	2	37	10	32	9	36	6	40	14
14	32	13	28	−12	36	21	29	20	28	22	30	1	34	20	28	18	30	5	27	15	31	26	30	18	30	24	35	28
15	32	7	33	−14	30	10	32	11	26	11	25	−1	29	22	30	4	29	20	28	3	30	17	29	9	30	14	28	22
16	41	14	41	17	40	11	39	15	36	9	34	10	39	19	37	10	40	13	37	8	42	11	43	16	39	10	46	17
17	40	32	39	23	43	32	40	32	42	31	34	20	39	36	38	31	46	39	38	29	48	33	42	29	45	31	50	34
18	48	23	48	19	47	24	49	26	41	25	41	19	47	30	42	24	44	25	42	22	47	26	47	24	44	25	55	29
19	42	27	42	22	45	25	43	24	44	30	41	30	45	29	41	30	47	26	42	28	51	36	49	34	50	32	64	34
20	31	10	25	5	37	8	24	13	30	13	30	0	35	5	33	11	24	24	28	13	38	18	34	15	32	16	34	20
21	25	8	27	0	27	5	26	10	24	9	20	3	24	7	23	2	23	15	21	7	26	16	23	9	25	13	28	19
22	32	1	33	−5	29	−3	31	1	25	8	26	−9	31	0	25	−5	28	1	28	−6	30	10	29	1	28	2	31	14
23	41	15	40	16	42	11	39	15	35	10	30	6	37	12	37	11	33	1	35	8	33	24	37	20	36	9	34	27
24	39	18	38	3	39	12	36	21	33	21	35	10	38	14	35	19	35	13	34	19	36	27	36	24	36	24	37	30
25	34	24	35	25	40	20	38	22	34	22	35	12	36	13	42	22	42	17	39	22	44	23	41	20	39	17	46	25
26	40	28	41	15	42	29	41	28	40	31	34	18	36	26	41	31	40	21	39	31	41	33	43	32	41	31	42	29
27	51	23	53	25	48	22	48	24	44	28	42	19	46	23	46	27	46	30	47	28	48	32	48	32	46	30	45	32
28	57	31	56	31	54	31	55	31	49	30	50	30	54	30	52	29	49	28	52	30	41	32	49	31	50	28	41	36
29	50	23	47	15	50	27	44	32	41	27	50	14	50	18	45	28	43	28	45	30	44	34	46	35	43	31	55	34
30	53	27	50	23	47	20	47	28	42	25	42	16	46	19	53	30	45	29	47	30	52	27	60	32	47	27	62	30
31	48	29	42	25	45	33	41	30	42	29	42	22	50	27	47	27	44	30	38	32	55	35	51	36	43	35	64	43
Mns.	34.8	12.6	34.7	5.6	34.1	12.1	33.8	15.5	31.2	15.5	30.3	5.7	34.3	13.4	33.1	14.9	33.3	13.0	32.0	14.0	35.2	19.3	34.8	17.7	33.8	16.5	38.0	21.7

TABLE 3.—*Maximum and minimum temperatures for March, 1912. District No. 5*—Continued.

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois.															
					Cairo.		Greenville.		La Salle.		Monmouth.		Mount Vernon.		Peoria.		Springfield.		Winnebago.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	27	11	16	4	31	22	29	13	18	2	25	0	30	16	21	3	26	13	14	− 7
2	20	14	20	0	29	25	28	18	17	5	21	6	25	11	18	7	19	13	17	− 5
3	28	18	23	10	34	29	33	20	24	14	29	13	32	20	26	15	26	17	21	11
4	28	18	24	7	36	28	32	18	23	11	29	13	33	22	24	9	27	16	23	9
5	28	9	24	4	33	26	31	16	26	8	29	3	33	21	26	7	27	11	21	− 1
6	35	9	30	5	43	26	36	16	32	6	35	1	40	14	33	5	34	10	29	1
7	37	26	32	12	41	35	35	28	34	16	38	17	39	15	34	18	35	25	33	15
8	34	22	33	25	39	31	36	29	32	19	38	27	37	30	33	21	35	27	32	19
9	26	10	25	9	33	26	32	16	27	11	29	4	.....	11	27	8	27	14	25	3
10	31	14	33	10	36	23	32	11	30	10	30	6	31	13	30	5	30	13	33	5
11	34	24	30	19	43	31	34	25	31	24	34	21	36	29	33	24	34	25	27	20
12	33	22	36	26	43	34	35	31	35	21	35	22	35	31	36	19	36	27	32	20
13	39	13	35	16	48	29	39	17	36	18	39	11	41	20	36	11	35	19	37	6
14	37	30	37	19	47	39	41	31	34	29	34	22	41	20	37	29	41	31	31	26
15	33	23	34	23	44	32	37	28	31	14	30	21	34	33	31	14	36	24	29	10
16	47	23	37	− 2	50	29	44	23	40	8	42	7	60	23	41	12	42	22	39	4
17	56	34	43	26	66	41	61	34	50	34	48	27	65	25	52	32	58	36	43	31
18	58	29	44	24	68	42	56	30	49	29	47	29	62	27	51	28	53	30	45	22
19	60	36	52	31	76	58	63	41	55	33	55	33	81	32	61	33	59	39	47	32
20	39	23	39	17	70	52	52	34	33	18	37	21	38	38	36	20	39	28	38	15
21	28	21	27	17	67	29	34	26	27	21	33	17	36	23	29	18	30	24	25	13
22	29	17	33	10	37	28	34	20	30	12	30	12	40	23	31	13	28	19	31	1
23	34	28	36	20	39	33	37	26	36	23	35	25	40	30	36	26	35	27	35	13
24	38	24	34	27	39	32	33	20	34	26	37	28	33	31	36	25	36	29	33	24
25	45	21	35	15	47	29	40	16	39	24	43	23	47	12	42	22	42	24	37	18
26	47	33	41	28	62	41	50	33	43	32	48	29	64	31	44	29	50	33	38	28
27	47	32	47	26	68	49	47	33	45	31	48	29	54	29	43	29	46	33	44	28
28	42	38	40	25	56	49	49	39	43	33	42	31	51	39	40	34	48	37	46	28
29	57	36	37	27	57	44	59	40	43	28	46	31	58	32	49	28	53	32	38	30
30	66	34	55	24	66	45	64	33	50	27	48	27	69	36	55	27	61	29	49	26
31	70	46	59	32	70	52	71	45	62	33	64	38	78	36	67	35	72	42	47	32
Means	39.8	23.8	35.2	17.3	49.0	35.1	42.1	26.1	35.8	20.0	38.0	19.2	45.4	24.9	37.4	19.5	39.4	24.8	33.5	15.4

[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.