CLIMATOLOGICAL DATA FOR DECEMBER, 1912.

DISTRICT NO. 5, UPPER MISSISSIPPI VALLEY.

GEO. M. CHAPPEL, District Editor.

GENERAL SUMMARY.

A December so pleasant as that of 1912 is but rarely experienced in the Upper Mississippi Valley. The weather of most of the month was largely a continuation of the agreeable features that marked October and November, being mild, dry, sunshiny, and free from storms of severity. Outdoor activities were carried on under highly favorable conditions, this being especially true of country districts, where the roads never were in better shape. South of Minnesota there was but little snowfall, this condition contributing in no small degree to the month's pleasantness.

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

Parts of States within District 5.	Temperature.				Precipitation.					
	Mean.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest total.	Least total.	Average snowfall.	Average number of days with precipitation.
North Dakota	16.4	+5.5	60	−28	0.58	+0.20	3.13	T.	5.0	6
Minnesota	20.1	+5.2	56	−25	0.90	+0.13	1.93	0.16	7.0	6
South Dakota	23.6	+4.1	55	−12	0.30	−0.23	0.52	0.08	2.4	4
Wisconsin	24.0	+5.2	57	−16	1.83	+0.38	3.20	0.78	6.0	7
Iowa	29.4	+6.0	64	− 5	0.84	−0.43	1.75	0.24	1.0	4
Missouri	34.9	+4.0	65	3	0.48	−1.41	0.98	0.00	T.	3
Indiana	32.6	+5.6	58	1	0.81	−1.87	1.10	0.24	0.8	6
Illinois	33.7	+4.3	64	− 2	0.84	−1.20	1.60	0.31	0.3	5

TEMPERATURE.

The mean temperature was more than 3° higher than the normal over the entire district, excepting extreme southern Illinois. The average daily excess of mean temperature was greatest in the north, where it reached almost 9°. From Iowa northward this month was one of the half dozen mildest Decembers in the last 40 years. The mean temperature for the district was 26.1, or 5.2° higher than the normal. The means were above the freezing point over the southern third of the valley, Cairo, Ill., with 39.4°, being the warmest station. Over a considerable area in the far north the average monthly temperatures were lower than 15°. At Pembina, N. Dak., the average was only 7°; this was the coldest point from which reports were received.

The extremes of temperatures at all stations were well within the limits set in previous years. Only along and near the Mississippi River from below Davenport, Iowa, southward did the monthly highest temperatures exceed 60°, Warrenton, Mo., reporting the highest, 65°, on the 5th. The line of zero temperature extended slightly to the southward of the Illinois-Wisconsin boundary, and 10° was reached at all, except extreme southern Illinois stations. The lowest temperature reported was −28°, on the 11th, at Willow City, N. Dak. The occurrence of several distinct warm and cold spells caused considerable variation in the dates of the monthly highest and lowest temperatures at the individual stations. The 1st and 5th were the principal dates of the monthly highest, and the 8th, 11th, and 22d, of the monthly lowest temperatures.

PRECIPITATION.

The average precipitation for the district was 0.99 inch, or 0.41 inch less than the normal. As a rule there was a slight excess in the north and a decided deficiency in the south. Wisconsin was the wettest area, the fall over that State averaging close to 2 inches. Not much more than a third of the normal amount was received in Iowa, Illinois, and Missouri; at Sublett, in the last-named State, no precipitation whatever occurred. The greatest monthly amount was 3.20 inches, at Solon Springs, Wis. The distribution of the precipitation over those sections where nearly normal amounts occurred was good in point of time, but the third decade was the driest.

Snowfall.—Some snow occurred over practically the entire district, but over the southern third of it, except at and near Cairo, Ill., the amounts did not exceed a trace. In North Dakota, Minnesota, and Wisconsin the average fall was about half a foot. Solon Springs, Wis., reported the greatest amount, 22.0 inches. The northern third of the district was generally snow covered after the first week, but elsewhere bare ground was the rule the entire month.

RIVERS.

The Red River of the North, at Moorhead, Minn., was icebound the entire month, the thickness increasing from 4 inches at the beginning of the month to 14 inches at the close. The Wisconsin River froze over about the 12th. The Mississippi at Dubuque, Iowa, closed on the 12th, and remained partially closed until the end of the month. The ice, however, was only from 1 to 3 inches thick, and was soft most of the time. At the close of the month the river there was frozen over only in places, but there was much shore and floating ice. Below Le Claire, Iowa, the Mississippi remained open at the end of the month.

MISCELLANEOUS.

While the amount of sunshine was in excess of the normal probably over the entire district, the excess was not marked, except from Iowa southward. In parts of that State the percentage was above 70, and it was almost as high in southern Illinois. The average number

of clear days for the district was 14; partly cloudy, 7; and cloudy, 10.

Southwesterly winds prevailed in southern and northwesterly winds in northern sections The highest velocity reported was at the rate of 46 miles an hour from the north, on the 1st, at St. Paul, Minn.

DR. FRIEDRICH BRENDEL.

[By M. L. FULLER, Local Forecaster, Peoria, Ill.]

Friedrich Brendel, M. D., was a native of Erlangen, Bavaria, from whose university he graduated in 1839. He was a patriot in the German Revolution of 1848, and was compelled for that reason to leave the Fatherland in 1850. After two years' residence in St. Louis, Mo., he settled in Peoria, Ill., in 1852. His records of temperature and rainfall began in December, 1855, and continued practically unbroken for 50 years, constituting, with the subsequent work of the Weather Bureau station, the longest continuous record kept within the State of Illinois.

Dr. Brendel was a physician of excellent standing, a botanist of note, author of a 90-page pamphlet on "Flora Peoriana," a man of scientific tastes, and of deep devotion to his work. It is related of him on the best of authority that in his later years, while seriously ill and lying day after day apparently unconscious, he would still rouse regularly about the observation hour and direct the nurses to read the thermometers. The records kept by such an observer possess more than ordinary interest. Dr. Brendel's death occurred August 10, 1912, at the advanced age of nearly 93 years. His records have been extensively used in compiling the climatology of Illinois, and the originals are in the Weather Bureau offices at Springfield and Peoria.

PROLONGED DRY PERIOD IN MINNESOTA.

[THOMAS A. BLAIR, observer, Minneapolis, Minn.]

The fall of 1912 has been notable in Minnesota for mild temperatures and deficiency of precipitation. Following a pleasant summer, marked by no long heated periods, and in which the average daily temperature for the months of June to September, inclusive, was 1.5° below the normal, the months of October and November prolonged the agreeable weather and shortened the winter by temperature departures in the opposite direction, the average daily excess in October being 1.7° and in November 5.6°, with an entire absence of cold waves. For October the average temperature for the State was 47.5°, which has been exceeded five times during the past 18 years; for November the mean was 33.9°, which has been exceeded but twice during the same period; likewise, the combined mean of the two months has been exceeded but twice.

But it is to the long dry spell and the general deficiency in precipitation that special attention is directed in this note. The deficiency began in September, amounting in that month to 0.49 inch, and was general except in the Red River Valley. October precipitation was below normal at every station in the State except Hallock, in the extreme northwest. The average amount was 0.97 inch, which equals the amount in the extremely dry year of 1910. The only less amount recorded was 0.25 inch, in 1895. In November the southeastern counties of the State received one good rain, on the 12th; the rest of the State and, for the remainder of the month, the entire State, received but very light precipitation, amounting in general to less than 0.20 inch. Over a considerable portion of the State, principally in the upper Minnesota Valley, no amounts in excess of a trace fell during the month. At Minneapolis there was 0.08 inch, the least amount for November recorded in 77 years of observations in this vicinity. The State average for November was 0.36 inch, which is one-third the normal amount. Less amounts are recorded in 1903 and 1904. The total for the three months of September, October, and November was 4.36 inches. Only the years 1897 and 1910, with 3.97 and 3.94, respectively, had smaller averages. The year 1910 was the driest year on record, precipitation being deficient in all months except January; but in 1897, as in 1912, there was an accumulated excess at the beginning of September.

The area in which the drought was most marked extends from east to west across the central portion of the State, between the latitudes of St. Paul and Duluth. The following is a list of stations at which no measurable amount of precipitation fell for the periods indicated:

Alexandria	57 days	Sept. 26–Nov. 21
Beardsley	44 days	Oct. 12–Nov. 24
Bird Island	49 days	Oct. 13–Nov. 30
Collegeville	41 days	Oct. 13–Nov. 22
Fort Ripley	41 days	Oct. 13–Nov. 22
Glencoe	54 days	Oct. 12–Dec. 4
Halstad	45 days	Oct. 30–Dec. 13
Hinckley	44 days	Oct. 12–Nov. 24
Long Prairie	44 days	Oct. 12–Nov. 24
Lynd	50 days	Oct. 12–Nov. 30
Milan	44 days	Oct. 12–Nov. 24
Montevideo	41 days	Oct. 12–Nov. 21
Morris	44 days	Oct. 12–Nov. 24
New London	50 days	Oct. 12–Nov. 30
Osakis	42 days	Oct. 12–Nov. 22
Pierz	44 days	Oct. 12–Nov. 24
Pipestone	54 days	Oct. 12–Dec. 4
St. Cloud	43 days	Oct. 13–Nov. 24
Stillwater	49 days	Oct. 13–Nov. 30
Taylors Falls	35 days	Oct. 21–Nov. 24
Worthington	31 days	Oct. 12–Nov. 11

Many of the same stations had much longer periods with amounts of less than 0.20 inch, as shown by the following table:

Alexandria	69 days	Sept. 26–Dec. 4	0.17
Beardsley	54 days	Oct. 12–Dec. 4	0.05
Bird Island	63 days	Oct. 13–Dec. 4	0.17
Campbell	45 days	Oct. 11–Nov. 24	0.02
Collegeville	53 days	Oct. 13–Dec. 4	0.13
Crookston	44 days	Oct. 20–Dec. 2	0.13
Halstad	78 days	Sept. 26–Dec. 13	0.11
Itasca State Park	36 days	Oct. 30–Dec. 4	0.04
Long Prairie	56 days	Oct. 12–Dec. 6	0.10
Lynd	66 days	Oct. 12–Dec. 16	0.10
Milan	54 days	Oct. 12–Dec. 4	0.10
Minneapolis	50 days	Oct. 12–Nov. 30	0.14
Montevideo	59 days	Oct. 12–Dec. 9	0.16
Moorhead	71 days	Oct. 6–Dec. 15	0.15
Mora	44 days	Oct. 12–Nov. 24	0.02
New London	54 days	Oct. 12–Dec. 4	0.06
New Ulm	50 days	Oct. 12–Nov. 30	0.11
Osakis	66 days	Oct. 12–Dec. 16	0.18
Pierz	81 days	Oct. 12–Dec. 31	0.19
Pine River Dam	50 days	Oct. 12–Nov. 30	0.19
Pipestone	66 days	Oct. 12–Dec. 16	0.20
Roseau	50 days	Oct. 31–Dec. 19	0.05
St. Cloud	49 days	Oct. 13–Nov. 30	0.01
St. Paul	40 days	Oct. 22–Nov. 30	0.10
Sandy Lake Dam	44 days	Oct. 12–Nov. 24	0.16
Taylors Falls	50 days	Oct. 12–Nov. 30	0.13
Two Harbors	50 days	Oct. 12–Nov. 30	0.14
Worthington	54 days	Oct. 12–Dec. 4	0.15

The period of 44 days from October 12 to November 24, inclusive, was the most common one without measurable precipitation, but the average for the 21 stations of

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

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Dakota.																				
Amenia	Cass	954	15	15.8	+ 3.3	58	8†	− 14	14	60	0.80	+ 0.45	0.37	8.0	5	12	4	15	nw.	C. E. Wood.
Bottineau	Bottineau	1,638	17	12.0	+ 4.0	39	9	− 26	8	60	3.13	+ 2.83	0.73	.....	15	5	9	17	nw.	W. M. Mills.
Bowbells	Burke	1,958		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Phelps.
Cando	Towner	1,488	11	15.2	+ 8.8	47	9	− 18	11	46	0.11	− 0.33	0.04	.....	4	20	7	4	.....	E. T. Judd.
Crosby	Divide	.....	6	18.6	.....	42	9†	− 18	8	53	0.34	.....	0.13	3.7	5	23	2	6	nw.	H. C. Kaschau.
Devils Lake	Ramsey	1,482	7	16.2	+ 8.2	46	9	− 14	11	47	0.74	+ 0.25	0.24	6.2	8	12	7	12	nw.	U. S. Weather Bureau.
Donnybrook	Ward	1,760	13	18.6	+ 3.5	43	9	− 21	8	56	0.60	− 0.06	0.25	6.0	6	19	5	7	nw.	C. J. DeVore.
Dunseith	Rolette	.....	15	12.6	+ 2.8	39[b]	9	− 25[b]	8	51[b]	0.62	+ 0.27	0.15	5.4	8	.....	.....	.....	nw.	C. E. Goodsell.
Edmore	Ramsey	1,524	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. M. Van Osdell.
Fessenden	Wells	1,610	....	18.8	.....	48	9	− 16	8	54	0.30	.....	0.13	2.0	4	14	8	9	nw.	G. T. Seymour.
Forman	Sargeant	1,249	18	19.3	+ 5.1	44	9†	− 13	11†	44	0.08	− 0.25	0.02	0.8	5	17	2	12	nw.	A. Maltby.
Grafton	Walsh	827	21	14.6[d]	+ 7.1	43[f]	9	− 22	8	52[f]	0.40	− 0.08	0.11	7.0	7	12	3	16	se.	A. R. T. Wylie.
Granville	McHenry	1,504	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Christianson.
Hannah	Cavalier	1,568	7	10.1[j]	.....	38[j]	9	− 23[j]	8	41[j]	1.00	.....	0.30	10.0	5	.....	.....	.....	.....	J. Moffatt.
Hansboro	Towner	.....	4	13.6	.....	41	27	− 19	8	41	0.32	.....	0.13	3.6	5	20	5	6	nw.	Geo. Dale.
Hillsboro	Traill	901	7	18.5	.....	49	9	− 10	8	39	1.08	.....	0.30	10.0	6	10	11	10	nw.	F. E. Mayall.
Lakota	Nelson	1,579	6	14.0	.....	36	7†	− 20	11	40	0.70	.....	0.25	10.5	9	5	20	6	nw.	C. R. Pettes.
Langdon	Cavalier	1,615	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Woolner.
Larimore	Grand Forks	1,134	17	15.4	+ 4.1	44	9	− 15	8	47	0.69	+ 0.46	0.32	.....	13	14	5	12	nw.	J. M. Freeman.
Lisbon	Ransom	1,091	8	19.5	+ 5.1	53	30	− 12	11	55	0.35	− 0.13	0.30	3.5	2	19	5	7	nw.	W. S. Adams.
McKinney	Renville	1,640	18	19.4	+ 8.8	45	9	− 21	8	54	0.40	− 0.06	0.20	4.0	3	4	20	7	nw.	N. P. Swenson.
McLeod	Ransom	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	11	12	8	sw.	Martin Reinholt.
Manfred	Wells	1,605	11	18.6	.....	47	9	− 15	8	45	0.87	.....	0.38	6.0	9	17	8	6	nw.	P. B. Anderson.
Mayville	Traill	975	16	19.6	+ 5.7	48	9†	− 11	11	39	0.54	+ 0.16	0.30	.....	4	14	6	11	nw.	W. C. Gould.
Milnor	Sargent	1,097	.....	.....	.....	.....	.....	.....	.....	.....	0.27	.....	0.25	3.2	2	11	7	13	w.	Hj. Edman.
Minot	Ward	1,557	14	21.5	+ 9.4	48	9	− 12	8	47	0.24	− 0.09	0.08	2.2	8	13	6	12	w.	W. J. Ellison.
Minto	Walsh	820	19	16.0	+ 5.3	45[a]	9	− 17[a]	8	55[a]	0.54	+ 0.16	0.20	6.5	5	.....	.....	.....	nw.	S. S. Marsh.
Oriska	Barnes	1,270	7	21.0	.....	50	13	− 7	10	38	0.36	.....	0.22	2.5	5	12	6	13	w.	J. J. Taylor.
Park River	Walsh	998	9	16.8	.....	44	9	− 18	8	39	0.50	.....	0.20	.....	3	5	11	15	nw.	P. J. Prochaska.
Pembina	Pembina	789	14	7.0	− 0.8	32	17†	− 18	7	32	0.42	− 0.22	0.20	3.0	3	11	9	11	w.	C. W. Shumaker.
Power	Richland	1,020	20	16.8[d]	+ 4.7	47[d]	9	− 17[d]	4	57[d]	0.80	+ 0.36	0.30	8.0	5	.....	.....	.....	.....	J. A. Power.
Towner	McHenry	.....	4	16.8	.....	41	9	− 18	8	49	0.25	.....	0.10	2.5	4	9	12	10	sw.	B. Bagley.
University	Grand Forks	830	20	16.5	+ 5.1	46	9	− 16	8	44	0.41	− 0.12	0.25	4.5	7	11	8	12	nw.	U. S. Weather Bureau.
Wahpeton	Richland	962	20	27.5	+12.3	60	9†	− 9	8	50	T.	− 0.37	T.	0	0	18	5	8	sw.	Fred E. Smith.
Walhalla	Pembina	966	8	16.0	.....	41	9†	− 19	8	51	0.80	.....	0.40	8.0	6	12	8	11	n.	Ivanhoe Lee.
Westhope	Bottineau	.....	6	14.2	.....	43	9	− 24	8	46	0.42	.....	0.15	4.2	6	16	13	2	nw.	W. A. Meddaugh.
Willow City	do	1,471	19	12.0	+ 2.0	40	9	− 28	11	54	0.90	+ 0.49	0.30	9.0	7	.....	.....	.....	nw.	M. A. Ostby.
Minnesota.																				
Albert Lea	Freeborn	1,229	21	24.3	+ 5.7	50	1	− 5	12	30	1.50	+ 0.42	0.60	3.7	6	6	18	7	sw.	Edward Carey.
Alexandria	Douglas	1,391	18	20.2	+ 7.9	43	4†	− 10	8	50	0.30	− 0.28	0.20	3.0	2	14	5	12	nw.	P. O. Unumb.
Angus	Polk	870	10	14.8	+ 5.8	41	9	− 23	8	40	0.32	.....	0.20	3.2	3	9	6	16	s.	John Nadvornik.
Bagley	Clearwater	.....	6	15.2	.....	42	9†	− 20	8	42	0.87	.....	0.30	13.0	8	7	15	9	sw.	Jens Nelson.
Baudette	Beltram	1,084	2	16.8	.....	43	14	− 18	8	41	0.41	.....	0.13	5.0	7	14	5	12	nw.	J. A. Gjelhaug.
Beardsley	Bigstone	1,090	16	23.6	+ 7.3	51	14	− 11	12	42	0.20	− 0.27	0.20	2.0	1	13	8	10	nw.	G. L. Fitzgerald.
Bemidji	Beltrami	1,400	9	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.17	.....	7	.....	.....	.....	.....	C. W. Warfield.
Bird Island	Renville	1,039	22	23.2	+ 6.2	53	1	− 9	22	43	0.33	− 0.27	0.16	2.8	5	3	10	18	nw.	Dr. F. L. Puffer.
Brainerd	Crow Wing	1,215	5	20.0	.....	47	14	− 11	12	46	0.77	.....	0.43	.....	11	18	1	12	se.	Theodore Miller.
Caledonia	Houston	1,179	19	24.3	+ 4.7	47	1	− 2	12	39	1.90	+ 0.52	1.05	2.2	8	15	7	9	sw.	W. D. Belden.
Campbell	Wilkin	984	6	20.1	.....	48	14	− 10	22	53	0.65	.....	0.30	6.5	5	12	2	17	nw.	J. T. Neisess.
Cass Lake	Cass	1,300	5	.....	.....	.....	.....	.....	.....	.....	0.67	.....	0.23	17.5	6	.....	.....	.....	.....	C. W. Burns.
Collegeville	Stearns	1,282	19	23.8	+ 5.3	49	1	− 9	12	38	0.50	0.00	0.27	8.0	4	12	4	15	nw.	F. Tembreull.
Crookston	Polk	863	23	15.9	+ 4.2	42	9	− 13	8	50	1.60	+ 1.09	0.40	13.0	7	8	8	15	s.	A. G. Andersen.
Detroit	Becker	1,364	16	15.4	+ 5.3	41	14	− 16	12	54	0.75	+ 0.24	0.40	7.7	5	16	1	14	nw.	G. W. Peoples.
Ely	St. Louis	.....	1	17.0	.....	42	14†	− 14	8†	41	0.89	.....	0.29	13.3	7	8	12	11	nw.	Iver Wisted.
Fairmont (near)	Martin	1,240	25	24.8	+ 4.5	53	1†	− 3	8	37	1.08	− 0.04	0.40	5.0	3	13	12	6	nw.	W. F. Wherland.
Faribault	Rice	1,003	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. B. Moulton.
Farmington	Dakota	902	24	22.6	+ 3.6	51	1	− 11	22	36	1.36	+ 0.13	0.44	10.0	9	13	7	11	nw.	E. D. Akin.
Fergus Falls	Ottertail	1,210	20	20.2	+ 5.4	45	4	− 8	8†	36	1.05	+ 0.36	0.20	10.2	12	10	9	12	nw.	C. E. Kissinger.
Fort Ripley	Crow Wing	1,136	4	18.2	.....	46	15	− 13	22	45	0.56	− 0.10	0.16	6.0	6	13	0	18	s.	J. J. Tucker.
Fosston	Polk	1,289	2	15.6	.....	39	10†	− 21	8	39	0.77	.....	0.20	7.7	11	11	9	11	s.	O. N. Hem.
Glencoe	McLeod	1,000	15	23.8	+ 5.8	51	1	− 10	22	43	0.80	+ 0.10	0.50	8.0	2	20	10	1	s.	L. V. Koos.
Grand Meadow	Mower	1,338	24	24.0	+ 5.2	46	1†	− 5	12	34	1.57	+ 0.22	0.48	3.8	7	10	14	7	sw.	C. F. Greening.
Gull Lake Dam	Cass	1,215	1	21.0	.....	46	14†	− 10	8†	42	0.78	.....	0.26	7.5	7	8	9	14	w.	U. S. Engineer Corps.
Hallock	Kittson	815	13	14.7	+ 6.4	41	25	− 21	8	49	0.50	− 0.08	0.30	5.0	3	22	0	9	s.	D. A. Robertson.
Halstead	Norman	870	6	11.8	.....	37	7†	− 14	8	42	0.65	.....	0.27	4.5	4	14	5	12	S.	A. G. Holstrom.
Hinckley	Pine	1,050	7	20.2	.....	48	1	− 13	12	37	0.75	.....	0.30	6.5	5	4	12	15	sw.	W. R. Newman.
International Falls	Koochiching	1,112	9	16.2	.....	40	14†	− 18	18	36	0.58	.....	0.20	5.8	9	4	6	21	n.	C. Ardies.
Itasca State Park	Clearwater	1,500	1	.....	.....	.....	.....	− 14	12	.....	0.90	.....	0.30	9.0	5	10	3	18	nw.	J. A. Stillwell.
Lake Crystal	Blue Earth	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. D. Baker.
Leech Lake Dam	Cass	1,301	24	17.2	+ 4.8	49	10	− 11	8†	46	1.00	+ 0.12	0.33	12.2	11	2	15	14	sw.	U. S. Engineer Corps.
Littlefork	Koochiching	.....	2	15.4	.....	42	14	− 25	22	49	1.14	.....	0.34	7.0	5	16	3	12	.....	O. C. Olson.
Long Prairie	Todd	1,299	20	21.2	+ 7.2	47	14	− 10	8	39	.....	.....	.....	.....	.....	13	7	11	nw.	A. L. Sheets.
Lynd	Lyon	1,175	19	24.4	+ 4.7	56	14	− 10	22	46	0.33	− 0.28	0.23	4.5	3	17	7	7	nw.	J. W. Rouse.
Mankato	Blue Earth	758	14	.....	.....	.....	.....	.....	.....	.....	1.11	0.00	0.42	.....	6	20	1	10	sw.	C. G. Staley.
Mapleplain	Hennepin	1,023	17	22.4	+ 4.8	50	1	− 9	22	36	1.76	+ 0.59	0.62	10.8	8	14	5	12	nw.	G. W. Richards.
Milaca	Mille Lacs	1,072	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Foss.
Milan	Chippewa	955	18	22.6	+ 6.6	54[d]	14	− 9	12†	43[d]	0.85	0.00	0.30	6.0	6	6	6	19	nw.	O. K. Opjorden.
Minneapolis	Hennepin	918	21	24.0	+ 3.7	51	1	− 4	22	35	1.93	+ 0.98	0.76	13.6	9	11	6	14	nw.	U. S. Weather Bureau.
Montevideo	Chippewa	900	22	23.6	+ 5.3	54	4	− 7	11	43	0.45	− 0.28	0.18	4.8	6	14	10	7	sw.	L. G. Moyer.
Moorhead	Clay	935	31	17.5	+ 6.8	44	9	− 10	22	41	0.95	+ 0.21	0.42	9.2	8	14	3	14	nw.	U. S. Weather Bureau.
Mora	Kanabec	.....	7	20.6	.....	48	1	− 13	12	37	1.13	.....	0.45	8.2	8	11	9	11	nw.	Hans Peterson.
Morris	Stevens	1,170	27	20.8	+ 4.9	46	14	− 9	11	36	0.35	− 0.27	0.20	4.9	6	16	6	9	nw.	D. T. Wheaton.
New London	Kandiyohi	1,215	18	20.4	+ 5.5	48	7	− 10	12	37	0.36	− 0.17	0.30	3.0	2	9	18	4	sw.	Harold Swenson.
New Richland	Waseca	1,180	18	24.1	+ 5.0	47	1	− 6	12	35	1.16	− 0.04	0.42	4.0	4	15	11	5	sw.	N. O. Tyrholm.
New Ulm	Brown	791	32	21.8	+ 3.5	52	14	− 5	12	45	0.93	+ 0.20	0.25	5.2	7	3	13	15	nw.	A. L. Henle.
Osakis	Douglas	1,343	4	20.6	.....	44	1†	− 11	22	40	0.28	.....	0.14	4.1	7	6	4	21	nw.	J. B. Johnson.
Park Rapids	Hubbard	1,426	22	15.0	+ 3.5	42	14	− 17	8	55	0.79	+ 0.09	0.30	7.9	8	8	8	15	nw.	Dr. P. A. Walling.
Pierz	Morrison	.....	....	19.5	.....	45[b]	1	− 11[b]	12	51[b]	0.17	.....	0.13	2.5	2	9	11	9	nw.	E. H. Kerkhoff.
Pine River Dam	Crow Wing	1,251	25	17.2	+ 3.8	42	5	− 14	22	44	0.46	− 0.21	0.15	7.0	5	7	10	14	ne.	U. S. Engineer Corps.
Pokegama Falls	Itasca	1,280	25	16.5	+ 5.8	43	14	− 16	22	44	0.78	− 0.08	0.21	8.8	8	5	7	19	sw.	Do.
Redlake	Beltrami	1,152	4	16.2	.....	41	14	− 13	22	41	0.71	.....	0.35	8.3	4	8	9	14	s.	A. C. Goddard.
Red Wing	Goodhue	680	16	.....	.....	.....	.....	.....	.....	.....	1.30	− 0.09	0.44	7.9	8	14	2	15	nw.	Louis Bach.

TABLE 1.—*Climatological data for December, 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.																				
Redwood Falls	Redwood	1,050	5	26.0	.....	55	14	− 5	8	43	0.75	− 0.32	0.30	6.5	3	18	3	10	nw.	Hockett Bros.
Reeds Landing	Wabasha	681	16	.....	.....	.....	.....	.....	.....	.....	1.61	+ 0.87	0.73	4.9	7	11	0	20	se.	John Deschneau.
Rochester	Olmstead	991	7	22.4	.....	48	1	− 6	22†	41	1.27	.....	0.59	3.5	4	16	6	9	s.	Mary P. Leslie.
Roseau	Roseau	1,040	3	12.6	.....	40	9	− 19	8	54	0.50	.....	0.30	5.0	2	6	12	13	se.	M. J. Hegland.
St. Charles	Winona	850	21	25.5	+ 5.3	48	1	− 4	12†	34	1.32	+ 0.02	0.55	4.0	5	16	7	8	se.	S. W. Gleason.
St. Cloud	Sherburne	1,020	35	21.5	+ 4.4	49[b]	2	− 10[b]	12†	43[b]	0.82	+ 0.29	0.21	3.7	9	7[b]	9[b]	13[b]	se.	J. H. Capser.
St. Paul	Ramsey	940	41	23.2	+ 3.9	49	1	− 5	22	35	1.54	+ 0.48	0.56	9.9	8	11	7	13	nw.	U. S. Weather Bureau.
St. Peter	Nicollet	825	17	25.0	+ 5.2	51	1	− 7	12	40	1.05	+ 0.39	0.40	9.5	5	14	7	10	w.	State Hospital.
Sandy Lake Dam	Aitkin	1,234	19	17.8	+ 7.8	41	1†	− 14	12†	43	1.12	+ 0.30	0.51	8.9	7	4	14	13	nw.	U. S. Engineer Corps.
State Sanatorium	Cass	.....	4	18.7	.....	44	14	− 14	8	40	1.22	.....	0.35	12.2	8	10	1	20	w.	Dr. L. B. Ohlinger.
Stillwater	Washington	694	6	.....	.....	.....	.....	.....	.....	.....	1.32	.....	0.41	11.0	7	19	0	12	n.	Oscar Ostrom.
Taylors Falls	Chisago	759	5	23.4	.....	50	1	− 10	12	44	1.48	.....	0.50	9.7	5	12	5	14	s.	Minneapolis Gen. Elec. Co.
Three River Falls	Pennington	1,137	1	15.2	.....	38	14	− 25	8	50	.....	.....	.....	.....	.....	20	2	9	n.	E. W. Lown.
Tracy	Lyon	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. D. Davis.
Warren	Marshall	859	.....	17.1	.....	46	10	− 19	8	46	0.72	.....	0.30	7.2	5	16	8	7	.....	P. H. Holm.
Warroad	Roseau	1,069	2	12.2	.....	35	14	− 18	8	38	0.65	.....	0.20	6.5	5	16	7	8	nw.	G. A. Sawyer.
Winnebago	Faribault	1,100	14	24.8	+ 5.4	56	1	− 7	12	43	1.20	+ 0.19	0.70	2.0	3	15	10	6	sw.	H. H. Haight.
Winnibigoshish	Itasca	1,300	24	17.2	+ 4.3	44	1	− 12	22	38	1.49	+ 0.72	0.58	14.1	9	4	6	21	w.	U. S. Engineer Corps.
Winona	Winona	700	16	27.5	+ 6.1	51	1	− 1	12	34	1.45	+ 0.27	0.47	3.4	8	17	4	10	nw.	P. C. Myers.
Worthington	Nobles	1,593	17	21.6	+ 2.0	49	1	− 9	6	47	0.16	− 0.64	0.09	3.0	2	20	3	8	s.	M. P. Mann.
Zumbrota	Goodhue	917	16	24.1	+ 4.8	49	1	− 9	22	38	1.04	.....	0.50	5.1	4	15	9	7	nw.	W. C. Rowell.
South Dakota.																				
Milbank	Grant	1,148	21	22.4	+ 4.1	55	14	− 8	8†	53	0.52	− 0.23	0.22	4.0	6	18	5	8	nw.	Miss Mary Patridge.
Sisseton	Roberts	1,202	6	24.7	.....	54[a]	15	− 12	19	42[a]	0.08	.....	0.04	0.8	3	21	0	10	nw.	George Gray.
Wisconsin.																				
Antigo	Langlade	1,489	18	21.8	+ 3.3	45	14	− 13	12	33	2.05	.....	0.60	12.2	9	13	0	18	sw.	Elton C. Larzelere.
Barron	Barron	1,115	21	20.8	+ 4.5	46	2	− 9	12	37	1.83	+ 0.66	0.75	10.0	7	13	10	8	sw.	Wm. A. Kent.
Beloit	Rock	750	46	28.6	+ 4.6	53	6†	− 1	12	43	1.23	− 0.66	0.08	1.0	4	18	0	13	sw.	Smith Observatory.
Big St. Germain Dam	Vilas	1,590	2	20.6	.....	41	2†	− 9	12	33	1.05	.....	0.56	10.8	11	6	10	15	s.	Fred Hessen.
Brodhead	Green	812	14	29.6	+ 7.4	55	6	− 1	12	36	1.37	− 0.42	0.55	1.1	4	11	14	6	sw.	Hector D. Kirkpatrick.
Burnett	Dodge	880	8	27.4	.....	51	6	− 1	12	35	1.47	.....	1.08	T.	3	9	7	15	sw.	George W. Smith.
Cornell	Chippewa	993	0	.....	.....	.....	.....	.....	.....	.....	1.38	.....	0.46	T.	7	10	15	6	s.	Brunet Falls Mfg. Co.
Cottage Grove	Dane	888	1	.....	.....	.....	.....	.....	.....	.....	2.25	.....	1.50	2.3	9	17	6	8	sw.	John E. Mellish.
Darlington	Lafayette	867	6	28.9	.....	52	2†	2	12	36	1.10	.....	0.60	1.0	4	18	3	10	sw.	F. J. O'Neill.
Deerskin Dam	Forest	1,685	2	20.0	.....	43	29	− 10	12	37	1.67	.....	0.58	5.5	9	6	7	18	w.	Wm. E. O'Neal.
Delavan	Walworth	920	21	28.7	+ 4.7	57	1	− 3	12	33	2.09	+ 0.45	1.59	2.5	4	12	3	16	sw.	Elwood S. Austin.
Dodgeville	Iowa	1,220	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Gibbon.
Downing	Dunn	983	10	20.2[b]	+ 3.5	49[b]	2	− 10[b]	21	42[b]	1.50	− 0.17	1.20	13.0	3	11[b]	3[b]	16[b]	sw.	Eugene F. Stoddard.
Eau Claire	Eau Claire	800	21	24.0	+ 5.3	48	1	− 5	22	33	2.37	+ 0.89	0.62	8.7	8	7	15	9	nw.	Robert D. Whitford.
Glen Flora	Rusk	1,475	0	20.4	.....	45	1	− 13	12	45	1.76	.....	0.76	10.1	6	12	7	12	sw.	G. A. Durgin.
Grand Rapids	Wood	1,021	13	24.4[a]	+ 4.4	50[a]	14	− 5[a]	12	47[a]	2.06	+ 0.69	0.92	3.0	7	13[a]	4[a]	13[a]	sw.	Willis B. Raymond.
Grantsburg	Burnett	1,095	21	20.4	+ 3.7	50	2	− 12	12	43	1.00	− 0.23	0.60	10.0	2	20	5	6	sw.	Chester Ahlstrom.
Hancock	Waushara	1,091	20	26.4	+ 6.5	50	14	− 4	12	35	1.75	+ 0.41	0.35	4.0	6	16	3	12	sw.	Frederick B. Hamilton.
Hatfield	Jackson	973	18	23.2	+ 4.7	48	14	− 5	12†	47	2.03	+ 0.67	0.90	4.0	5	3	15	13	sw.	Walter S. Woods.
Hayward	Sawyer	1,107	21	20.2	+ 4.1	50	1†	− 12	22	40	1.44	+ 0.35	0.50	11.2	7	8	8	15	sw.	A. E. Johnson.
Hillsboro	Vernon	1,000	21	25.8	+ 5.8	52	5	− 6	12	39	1.22	− 0.37	0.85	0.2	4	14	12	5	sw.	Emil V. Wernick.
Koepenick	Langlade	1,683	21	22.4	+ 4.3	43	15†	− 12	12	35	3.00	+ 1.74	1.00	14.0	9	.....	.....	.....	sw.	Edward S. Koepenick.
Lac du Flambeau	Vilas	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
La Crosse	La Crosse	714	40	27.4	+ 4.6	49	1	0	12	32	2.13	+ 0.80	1.01	0.8	10	9	10	12	s.	U. S. Weather Bureau.
Lake Mills	Jefferson	897	21	28.4	+ 5.7	52	2†	0	12	27	1.89	+ 0.16	0.82	2.4	7	10	12	9	sw.	S. Newton Dexter Smith.
Lancaster	Grant	1,070	21	27.6[e]	+ 6.3	52[e]	5†	− 4[e]	12	37[e]	1.23	− 0.05	0.72	0.5	3	2[e]	7[e]	17[e]	w.	Edward Pollock.
Long Lake	Oneida	1,592	4	19.6	.....	44	14	− 10	12	41	2.19	.....	0.60	8.4	12	8	7	16	w.	Louis Frank.
Madison	Dane	974	43	27.8	+ 5.2	54	5	− 2	12	32	1.35	− 0.42	0.90	1.2	8	9	12	10	sw.	U. S. Weather Bureau.
Marshfield	Wood	1,276	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Agr. Exper. Station.
Mather	Juneau	962	8	22.4	.....	48	14	− 4	12	39	2.22	.....	1.02	4.5	10	13	1	17	w.	Frank Evans.
Mauston	do	882	16	26.8	+ 7.4	46	2	− 3	12†	30	1.45	+ 0.33	0.70	2.0	4	14	8	9	sw.	Eugene L. Hitchcock.
Meadow Valley	do	974	21	25.4	+ 6.4	48	5	− 4	12	35	1.58	+ 0.37	0.53	3.0	6	8	14	9	sw.	Charles H. Johnson.
Medford	Taylor	1,420	23	22.2	+ 4.3	43	14	− 11	12	35	2.55	+ 1.26	1.45	8.0	6	13	9	9	s.	Wm. Zeit.
Merrill	Lincoln	1,267	6	23.2	.....	48	14	− 9	12	38	2.20	.....	0.60	8.0	6	12	0	19	s.	Wm. T. Hunter.
Minocqua	Oneida	1,604	8	19.8	.....	44	14	− 12	12	35	1.68	.....	0.45	9.0	11	4	12	15	w.	Benjamin W. Applebee.
Mondovi	Buffalo	738	4	24.0	.....	50	1	− 10	21	42	1.84	.....	0.47	6.5	9	16	6	9	nw.	Dr. Charles Hebard.
Mount Horeb	Dane	1,226	8	27.4	.....	50	5	− 5	12	28	1.81	.....	0.65	3.0	6	9	10	12	nw.	W. M. Lewis.
Muscoda	Grant	666	3	25.9	.....	53	5	− 1	12†	43	1.33	.....	0.80	T.	6	18	0	13	sw.	Wm. Hessler.
Neillsville	Clark	996	22	23.0	+ 3.9	50	3	− 5	11†	40	2.17	+ 0.54	0.75	4.0	5	.....	.....	.....	nw.	Wm. Heaslett.
New Richmond	St. Croix	990	7	21.8	.....	48	1	− 10	22	38	1.66	.....	0.40	9.0	7	7	18	6	nw.	Franc A. R. Van Meter.
Osceola	Polk	806	21	22.2	+ 5.9	48	1	− 6	22	37	0.78	− 0.39	0.40	9.0	5	7	16	8	n.	Charles W. Staples.
Park Falls	Price	1,492	21	19.8	.....	42	1†	− 14	12	40	1.76	.....	0.38	11.0	9	10	6	15	s.	Flambeau Paper Co.
Portage	Columbia	809	23	28.6	+ 7.4	51	6	− 1	12	32	1.78	+ 0.22	1.09	0.9	6	14	7	10	sw.	James H. Martin.
Port Edwards	Wood	969	2	23.7[a]	.....	49[a]	5	− 5[a]	12	40[a]	2.65	.....	0.99	3.0	6	13[a]	6[a]	11[a]	sw.	Nekoosa-Edwards Pa. Co.
Prairie du Chien	Crawford	628	21	26.8	+ 3.2	52	1†	− 2	12	44	1.10	− 0.35	0.78	0.5	4	20	3	8	s.	James A. Gillis.
Prairie du Sac	Sauk	750	4	28.4	.....	52	6	− 1	12	31	2.00	.....	0.84	1.5	6	14	7	10	sw.	Wis. River Power Co.
Prentice	Price	1,551	14	20.8	+ 5.3	42	1†	− 14	12	38	1.44	+ 0.26	0.27	8.5	11	5	4	22	s.	Joseph G. Lash.
Rhinelander	Oneida	1,550	6	21.6	.....	44	14†	− 12	12	36	2.02	.....	0.59	5.2	11	10	1	20	sw.	Rhinelander Power Co.
Shullsburg	Lafayette	1,019	6	28.4	.....	52	5†	− 3	12	37	1.46	.....	0.80	0.5	4	20	3	8	w.	Harrison B. Chamberlin.
Solon Springs	Douglas	1,083	6	19.1	.....	44	1	− 16	12†	38	3.20	.....	1.20	22.0	7	13	3	15	sw.	John M. Sayles.
Spooner	Washburn	1,104	18	20.6	+ 4.5	47	1	− 12	12	41	2.09	+ 1.32	0.68	6.5	6	17	4	10	.....	Horace A. Bresee.
Stanley	Chippewa	1,082	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. Humphrey Scott.
Stevens Point	Portage	1,113	19	25.3	+ 6.3	48	6†	− 5	12	36	2.56	+ 1.30	1.00	6.3	4	4	14	13	sw.	Postmaster.
Sugar Camp Dam	Oneida	1,582	2	.....	.....	.....	.....	.....	.....	.....	2.79	.....	0.60	14.0	8	7	6	18	s.	Lyman Haskins.
Tomahawk	do	1,451	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Victor Extrom.
Trout Lake	Vilas	1,400	0	18.6[a]	.....	40[a]	2	− 10[a]	12†	33[a]	1.85	.....	0.75	6.3	8	6	6	19	nw.	F. B. Moody.
Twin Lakes Dam	do	1,625	2	.....	.....	.....	.....	.....	.....	.....	1.50	.....	0.65	15.0	6	13	0	18	w.	Albert D. Hansen.
Valley Junction	Monroe	930	20	25.4	+ 6.2	47	1†	− 1	22	34	2.15	+ 0.88	0.90	2.2	6	10	9	12	nw.	Frederick Muermann.
Viroqua	Vernon	1,412	22	26.9	+ 6.0	48	5†	− 4	12	37	2.06	+ 0.49	0.55	3.5	10	13	8	10	sw.	Henry E. Rogers.
Vudesare	Vilas	1,700	4	18.8	.....	40	1†	− 13	12	33	2.70	.....	0.50	17.0	12	9[a]	11[a]	10[a]	sw.	Louis L. Thomas.
Watertown	Jefferson	824	21	27.6	+ 6.4	52	5	0	12	27	1.74	− 0.08	0.97	2.5	6	12	7	12	sw.	Charles J. Salick.
Waukesha	Waukesha	864	21	28.3[a]	+ 5.4	53[a]	6	0[a]	12	32[a]	2.20	+ 0.80	1.42	2.0	5	7[a]	17[a]	6[a]	sw.	Carroll College.
Wausau	Marathon	1,212	17	23.7	+ 5.4	45	2†	− 8	12	31	1.96	+ 0.70	0.60	9.0	11	19	3	9	se.	Geo. H. Halder.
Weyerhaeuser	Rusk	1,297	10	18.7[a]	.....	44[a]	2	− 13[a]	12	41[a]	1.42	.....	0.80	17.0	7	13[a]	8[a]	9[a]	sw.	Miss Etta Stiles.
Whitehall	Trempealeau	675	21	25.4	+ 6.6	47	2	− 5	21	38	1.70	+ 0.36	1.00	4.0	5	.....	.....	.....	sw.	Hans J. Haugh.

TABLE 1.—*Climatological data for December, 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.																				
Albia	Monroe	959	14	30.8	+ 5.8	60	5	2	12	47	0.80	− 0.34	0.80	1.0	1	18	8	5	sw.	J. I. Chenoweth.
Algona	Kossuth	1,213	38	26.6	+ 6.5	52	1	− 1	22	33	1.23	+ 0.20	0.68	4.0	5	17	7	7	nw.	Dr. F. T. Seeley.
Alta	Buena Vista	1,513	21	25.8	+ 4.4	54	1	− 1	8	42	0.87	− 0.06	0.44	0.5	5	17	7	7	nw.	David E. Hadden.
Amana	Iowa	721	36	30.2	+ 7.6	55	5	2	12	36	0.97	− 0.48	0.64	2.0	3	14	10	7	nw.	Conrad Schadt.
Ames	Story	926	36	30.5	+ 7.9	59	28	2	12	39	0.94	− 0.08	0.55	T.	5	.....	.....	.....	sw.	Iowa State College.
Baxter	Jasper	998	12	29.5	+ 5.3	58	28	− 2	12	37	0.67	− 0.22	0.37	0.1	5	23	4	4	sw.	W. R. Vandike.
Belle Plaine	Benton	886	22	30.8	+ 7.1	57	28	1	12	36	0.76	− 0.77	0.52	0.8	4	24	1	6	sw.	O. Burrows.
Belmond	Wright	.....	2	26.2	.....	51	28	− 2	12†	34	1.02	.....	0.50	3.2	9	10	16	5	nw.	Geo. P. Hardwick.
Bloomfield	Davis	.....	5	33.6	.....	61	5	4	12	41	0.38	.....	0.30	0.3	5	21	1	9	sw.	Albert Power.
Bonaparte	Van Buren	.....	21	33.1	+ 5.2	60	5	4	12	34	0.54	− 1.49	0.43	T.	3	.....	.....	.....	.....	B. R. Vale.
Boone	Boone	1,134	7	27.5	.....	57	28	0	12	47	0.24	.....	0.24	T.	1	.....	.....	.....	.....	C. F. Henning.
Britt	Hancock	1,236	15	25.8	+ 6.7	50	1†	− 5	22	36	1.14	+ 0.38	0.57	2.3	6	14	8	9	s.	L. M. Goodman.
Buckingham	Tama	.....	12	.....	.....	.....	.....	.....	.....	.....	0.56	− 0.41	0.56	T.	1	16	6	9	sw.	J. S. Guynn.
Burlington	Des Moines	544	16	31.3	+ 4.2	60	5	4	12	43	0.71	− 0.84	0.35	T.	3	21	7	3	sw.	Max. E. Poppe, jr.
Carroll	Carroll	1,265	22	29.4	+ 6.0	53	1†	− 1	12	51	0.58	− 0.41	0.53	0.5	2	18	6	7	sw.	Mrs. Jos. J. Wolfe.
Cedar Rapids	Linn	733	30	28.9	+ 3.9	54	5†	3	12†	43	0.69	− 0.81	0.69	T.	1	18	4	9	w.	R. S. Toogood.
Charles City	Floyd	1,015	21	25.4	+ 6.4	52	28	− 1	12	36	1.00	− 0.28	0.68	1.1	8	9	13	9	nw.	U. S. Weather Bureau.
Clear Lake	Cerro Gordo	1,241	14	27.0	+ 6.6	50	1†	− 1	22	35	0.75	+ 0.12	0.40	0.5	3	28	0	3	nw.	Oscar Stevens.
Clinton	Clinton	593	45	31.2	+ 5.9	55	5	2	12	34	1.31	− 0.54	0.57	0.5	5	13	12	6	sw.	A. E. Reed.
Columbus Junction	Louisa	595	11	33.1	+ 6.5	58	5	3	12	36	0.48	− 0.98	0.28	0.5	2	22	4	5	s.	J. B. Johnston.
Davenport	Scott	580	41	32.4	+ 5.2	59	5	4	12	35	0.56	− 1.13	0.34	T.	6	15	9	7	sw.	U. S. Weather Bureau.
Decorah	Winnishiek	875	19	27.4	+ 6.4	48	1†	− 3	12	33	1.28	− 0.08	0.67	.....	5	.....	.....	.....	.....	F. H. Baker.
Delaware	Delaware	1,083	21	28.5	+ 7.1	52	6	− 1	12	41	1.07	− 0.31	0.49	0.1	5	15	10	6	sw.	William Ball.
Des Moines	Polk	861	34	31.7	+ 6.0	58	28	4	12	35	0.30	− 1.01	0.22	0.6	3	15	9	7	sw.	U. S. Weather Bureau.
Dubuque	Dubuque	639	39	30.2	+ 5.7	55	5	1	12	35	1.00	− 0.72	0.82	0.4	7	13	7	11	s.	Do.
Earlham	Madison	.....	10	31.0	+ 8.0	52	13†	− 1	12	39	0.40	− 0.90	0.25	1.0	3	20	4	7	sw.	George Phillips.
Elkader	Clayton	727	33	27.6	+ 6.0	50	5†	− 2	12	41	0.88	− 0.95	0.56	1.0	4	14	11	6	nw.	Chas. Reinecke.
Elma	Howard	.....	2	25.1	.....	50	1	− 5	22	39	1.50	.....	0.60	1.1	5	18	7	6	se.	H. A. Moore.
Estherville	Emmet	1,298	17	24.6	+ 6.4	55	1	0	7†	45	1.25	+ 0.63	0.60	4.0	3	18	11	2	s.	A. O. Peterson.
Fairfield	Jefferson	.....	28	32.2[c]	+ 7.1	57[c]	5	5[c]	12	36[c]	0.44	− 1.34	0.43	2.5	3	24	1	6	nw.	R. M. McKenzie.
Fayette	Fayette	1,003	22	26.5	+ 4.9	50	5	− 2	12	31	1.21	− 0.28	0.78	0.5	4	18	6	7	nw.	R. Z. Latimer.
Forest City	Winnebago	1,226	18	23.7	+ 3.9	50	1	− 4	22	40	1.07	+ 0.22	0.58	3.0	4	14	10	7	nw.	J. A. Peters.
Fort Dodge	Webster	1,126	12	26.8	+ 4.3	53	28	0	11†	47	0.88	+ 0.42	0.45	T.	4	23	0	8	nw.	J. F. Monk.
Fort Madison	Lee	516	63	.....	.....	.....	.....	.....	.....	.....	0.55	− 1.38	0.30	T.	2	18	4	9	sw.	Miss L. A. McCready.
Gilman	Marshall	1,052	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. L. Wylie.
Grand Meadow	Clayton	1,180	21	26.6	+ 5.1	48	2	− 4	12	33	1.36	− 0.10	0.50	1.5	9	14	7	10	sw.	F. L. Williams.
Grinnell	Poweshiek	1,023	20	31.7	+ 7.3	58	28	0	12	36	0.25	− 0.92	0.15	0.2	3	19	5	7	sw.	D. W. Brainard.
Grundy Center	Grundy	976	21	30.0	+ 7.4	56	28	0	12	34	1.22	+ 0.04	0.57	T.	3	22	5	4	s.	J. B. Calderwood.
Guthrie Center	Guthrie	1,077	17	30.6	+ 6.8	54	28	1	12	36	0.54	− 0.56	0.28	T.	3	20	5	6	nw.	D. G. Beardsley.
Hampton	Franklin	1,155	22	28.4	+ 6.9	56	28	0	12	35	1.01	− 0.24	0.53	0.9	6	12	13	6	sw.	E. C. Grenelle.
Humboldt	Humboldt	1,095	24	27.3	+ 4.0	54	1	− 3	20	40	1.00	+ 0.11	0.80	2.0	4	24	3	4	sw.	J. P. Peterson.
Independence	Buchanan	921	48	28.6	+ 7.0	54	28	0	12	41	0.64	− 0.72	0.46	T.	3	22	3	6	nw.	R. E. Dudley.
Indianola	Warren	969	21	31.9	+ 6.1	57	28	3	12	36	0.47	− 0.86	0.20	0.6	3	19	1	11	nw.	Prof. J. L. Tilton.
Iowa City	Johnson	683	52	28.7	+ 4.5	59	14	0	12	48	0.75	− 0.90	0.75	T.	1	20	3	8	nw.	Prof. A. G. Smith.
Iowa Falls	Hardin	1,170	19	25.4	+ 4.3	50	1	0	12	40	0.80	− 0.31	0.43	0.5	5	17	7	7	nw.	J. B. Parmelee.
Jefferson	Greene	.....	13	29.6	.....	58	28	2	12	38	0.37	− 0.38	0.24	0.3	4	19	7	5	sw.	Ora M. Hall.
Keokuk	Lee	547	41	34.5	+ 5.1	64	5	6	12	40	0.50	− 1.37	0.27	T.	2	20	5	6	sw.	U. S. Weather Bureau.
Keosauqua	Van Buren	644	20	30.8	+ 3.4	61	5	4	12	44	0.37	− 1.13	0.32	1.0	2	15	9	7	.....	J. H. Landes.
Knoxville	Marion	920	17	32.6	+ 6.1	60	5	5	12	34	0.82	− 0.56	0.52	1.5	4	17	5	9	sw.	Casey and Bellville.
Lacona	Warren	.....	13	.....	.....	.....	.....	.....	.....	.....	0.90	− 0.77	0.80	0	4	19	8	4	.....	J. B. Alter.
Lansing	Allamakee	632	.....	.....	.....	.....	.....	.....	.....	.....	0.68	.....	0.54	0	5	.....	.....	.....	.....	Chas. R. Serene.
Le Claire	Scott	576	12	.....	.....	.....	.....	.....	.....	.....	1.28	+ 0.16	0.71	T.	5	.....	.....	.....	.....	Miss M. T. Disney.
Marshalltown	Marshall	947	20	28.2	+ 4.7	59	28	1	12†	51	0.83	− 0.33	0.47	.....	5	18	8	5	nw.	Jacob Eige.
Mason City	Cerro Gordo	1,132	15	25.9	+ 4.2	50	1	− 1	12†	32	0.89	+ 0.08	0.50	0.7	4	20	5	6	nw.	J. S. Mills.
Monroe	Jasper	.....	1	31.4	.....	58	28	0	12	41	0.53	.....	0.44	T.	3	19	5	7	s.	J. A. Dibel.
Mount Pleasant	Henry	729	31	32.5	+ 5.7	59	5	4	12	34	1.04	− 0.33	0.46	0.7	4	17	7	7	nw.	J. W. Edwards.
Muscatine	Muscatine	.....	52	.....	.....	.....	.....	.....	.....	.....	1.00	− 1.28	0.91	0.5	3	.....	.....	.....	.....	William Molis.
New Hampton	Chickasaw	1,169	15	26.0	+ 6.5	48	1	− 3	12	34	1.12	+ 0.19	0.65	.....	3	18	2	11	w.	A. F. Kemman.
Nora Springs	Floyd	1,064	.....	28.9	.....	57	28	− 5	22	42	1.28	.....	0.65	0.6	6	19	7	5	s.	Arthur Betts.
Northwood	Worth	1,122	16	24.1	+ 4.1	49	1	− 4	22	32	1.75	+ 0.65	0.55	11.0	8	16	9	6	sw.	Chas. H. Dwelle.
Olin	Jones	760	14	31.6	+ 7.8	58	5	1	12	38	1.40	− 0.04	1.20	T.	4	21	7	3	s.	Dr. F. W. Port.
Osage	Mitchell	1,184	25	26.4	+ 6.8	51	28	− 2	12	33	0.96	− 0.39	0.60	T.	2	19	5	7	s.	Lester Coonradt.
Oskaloosa	Mahaska	843	36	31.0	+ 5.1	58	5	3	12	36	0.69	− 0.57	0.66	1.6	3	22	1	8	sw.	Joseph Boyd.
Ottumwa	Wapello	649	17	34.8	+ 7.0	62	5	4	12	35	1.10	− 0.21	1.10	2.0	1	22	6	3	nw.	Chester Potter.
Pella	Marion	877	10	31.4	+ 5.9	58	5†	4	12	38	0.66	− 0.17	0.40	1.5	3	24	0	7	s.	J. H. Ver Steeg.
Perry	Dallas	975	11	31.1	+ 6.9	59	28†	2	12	41	0.47	− 0.53	0.17	T.	4	16	11	4	nw.	S. J. Brumfield.
Pocahontas	Pocahontas	1,248	8	27.8	.....	50	14†	0	8†	38	1.31	.....	0.65	1.1	5	22	2	7	nw.	F. E. Hronek.
Rockwell City	Calhoun	.....	16	29.5	+ 6.9	55	1	2	8	35	0.55	− 0.47	0.55	0	1	29	1	1	.....	C. M. Randall.
Sac City	Sac	1,278	36	29.0	+ 6.3	54	4	0	12	37	0.85	− 0.31	0.48	T.	4	14	9	8	nw.	E. N. Baily.
St. Charles	Madison	1,070	11	32.6	+ 6.3	60	28	2	12	41	0.33	− 1.29	0.17	0.5	3	21	3	7	nw.	R. D. Minard.
Sigourney	Keokuk	877	16	31.2	+ 4.9	54	5†	2	12	37	0.97	− 0.44	0.50	2.0	3	6	22	3	s.	J. T. Parker.
Stockport	Van Buren	745	10	34.0	.....	61	5	3	12	36	0.54	− 0.85	0.47	1.0	3	18	4	9	s.	C. L. Beswick.
Storm Lake	Buena Vista	1,440	23	28.4	+ 7.0	55	1	0	8	38	0.97	+ 0.14	0.52	1.3	3	18	6	7	w.	Chauncy Case.
Tipton	Cedar	807	13	31.7	+ 6.3	55	5	4	12	30	0.90	− 0.76	0.47	T.	3	19	8	4	sw.	F. K. Gregg.
Toledo	Tama	856	18	30.5	+ 6.8	55	5†	0	12	38	0.80	− 0.22	0.53	T.	4	22	3	6	sw.	I. F. Giger.
Wapello	Louisa	588	14	34.6[c]	+ 6.7	57	1	6	12	34	0.38	− 0.93	0.21	0	3	.....	.....	.....	sw.	G. W. Schofield.
Washington	Washington	769	30	32.2	+ 7.6	58	5†	2	12	36	0.80	− 0.53	0.80	.....	2	11	13	7	sw.	Wm. A. Cook.
Waterloo	Black Hawk	862	29	27.4	+ 5.4	55	28	1	12	45	0.80	− 0.51	0.50	T.	5	21	2	8	nw.	Ralph B. Slippy.
Waukee	Dallas	1,039	9	30.0	.....	59	28	− 1	12	37	0.59	.....	0.40	0.8	4	23	3	5	sw.	Samuel F. Foft.
Waverly	Bremer	948	16	28.0	+ 6.4	54	28	− 1	12	42	1.50	+ 0.32	.....	.....	2	.....	.....	.....	nw.	Earl C. Moore.
Webster City	Hamilton	.....	7	29.4	.....	55	28	0	12	37	0.55	.....	0.33	T.	4	15	11	5	nw.	C. D. Carpenter.
West Bend	Palo Alto	1,197	19	26.8	+ 6.2	54	1	− 2	12	33	1.35	+ 0.46	0.80	9.0	3	18	6	7	s.	Phil Dorweiler.
Whitten	Hardin	1,036	15	26.5	+ 4.9	49	1	− 2	12	33	1.13	+ 0.01	0.62	T.	3	12	14	5	nw.	Dr. F. P. Butler.
Winterset	Madison	1,129	21	31.6	+ 5.6	57	28	2	12	38	0.66	− 0.73	0.30	0.3	4	16	8	7	s.	Dr. R. S. Cooper.
Missouri.																				
Gorin	Scotland	700	26	.....	.....	.....	.....	.....	.....	.....	0.40	− 1.62	0.36	0	2	12[a]	9[a]	9[a]	sw.	J. W. Pulliam.
Hannibal	Marion	534	20	35.5	+ 4.2	63	5	8	12	39	0.46	− 1.19	0.24	T.	4	20	4	7	sw.	U. S. Weather Bureau.
Louisiana	Pike	500	35	35.4	+ 4.8	63	1	6	12	41	0.98	− 0.94	0.68	T.	3	20	5	6	n.	J. T. Farrel.
Mexico	Audrain	797	35	33.9	+ 1.7	64	1	7	12†	43	0.66	− 1.44	0.25	0.1	5	23	2	6	sw.	J. F. Llewellyn.
Palmyra	Marion	617	1	34.7	.....	63	1†	6	12	41	0.51	.....	0.51	T.	1	15	13	3	sw.	W. B. Markell.
Steffenville	Lewis	576	20	36.6	+ 6.7	63	4	6	11	37	0.60	− 1.20	0.30	T.	3	19	7	5	s.	Frank Hall.
Sublett	Adair	1,000	33	33.1	+ 4.2	61	5	3	12	34	0	− 1.70	0	0	0	11	14	6	nw.	Lewis Spriggs.
Vandalia	Audrain	776	2	35.8	.....	63	1	9	12	39	0.25	.....	0.25	0	1	21	2	8	w.	C. B. Ellis.
Warrenton	Warren	865	23	34.4	+ 2.2	65	5	8	12†	41	0.48	− 1.78	0.30	0.2	5	13	9	9	nw.	Prof. J. H. Frick.

TABLE 1.—*Climatological data for December, 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.
Indiana.																				
Collegeville	Jasper	.....	13	32.4	+ 5.4	58	5	1	12	37	0.24	− 2.14	0.24	T.	1	12	9	10	sw.	Otto Miller.
Knox	Starke	716	7	33.6	.....	58	5†	3	12	32	0.90	.....	0.35	0.5	9	13	8	10	sw.	W. R. R. Tatman.
Laporte	Laporte	810	16	32.4	+ 6.1	56	5†	3	12	36	1.10	− 1.38	0.43	3.0	5	15	6	10	sw.	Wm. M. Walton, jr.
Plymouth	Marshall	790	9	32.0	.....	56	5†	2	12	28	0.93	.....	0.27	T.	8	11	9	11	sw.	J. W. Siders.
South Bend	St. Joseph	726	19	32.6	+ 5.4	58	5†	5	12	33	0.90	− 2.08	0.36	0.5	7	6	12	13	sw.	Henry H. Swaim.
Illinois.																				
Aldo	Mercer	738	12	33.2	+ 5.9	58	5†	3	12	36	0.74	− 0.57	0.29	0.8	5	18	8	5	s.	William B. Frew.
Alexander	Morgan	670	19	35.1	+ 4.3	61	1	3	12	38	0.53	− 1.33	0.35	0.1	4	14	10	7	w.	George H. Hall.
Antioch	Lake	861	11	30.4	+ 4.5	52	5†	0	12	28	1.31	− 0.24	0.40	1.0	5	9	3	19	w.	J. C. James.
Astoria	Fulton	650	13	33.8	+ 4.6	62	5	6	12	31	0.97	− 0.85	0.50	T.	4	17	8	6	nw.	Edward V. Bohl.
Aurora	Kane	678	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. Holden.
Beardstown	Cass	448	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. L. M. Rice.
Bement	Piatt	700	5	35.0	.....	58	1†	4	12	36	0.88	.....	0.60	T.	2	20	6	5	sw.	N. N. Stevenson.
Bloomington	McLean	840	21	34.0	+ 4.9	57	1	4	12	31	0.85	− 1.33	0.39	T.	7	13	7	11	sw.	Prof. H. N. Pearce.
Cairo	Alexander	359	40	39.4	+ 0.9	64	5	17	9	27	1.54	− 1.79	0.58	3.2	7	15	5	11	s.	U. S. Weather Bureau.
Carbondale	Jackson	412	7	37.8	.....	64	5	12	9†	35	0.75	− 1.43	0.23	0.5	7	18	8	5	nw.	State Normal University.
Carlinville	Macoupin	663	22	36.2	+ 3.9	60	1	8	12	38	0.32	− 1.97	0.20	T.	2	16	8	7	s.	Blackburn College.
Carlyle	Clinton	470	27	.....	.....	.....	.....	.....	.....	.....	0.60	− 1.68	0.27	T.	3	.....	.....	.....	.....	Hervey O. Jones.
Chester	Randolph	380	20	.....	.....	.....	.....	.....	.....	.....	0.74	− 1.80	0.28	T.	6	.....	.....	.....	.....	Charles S. Gollon.
Clinton	De Witt	727	2	34.2	.....	59	1	4	12	35	1.00	.....	0.51	T.	6	19	7	5	sw.	J. Frank Ziegler.
Coatsburg	Adams	763	20	33.6	+ 4.7	62	5	5	12	29	0.97	− 0.76	0.37	T.	4	18	3	10	s.	Dr. J. R. Lambert.
Cobden	Union	656	29	38.0	+ 1.5	62	5	11	9	35	0.79	− 2.72	0.24	1.0	5	19	0	12	s.	John Buck.
Dakota	Stephenson	929	7	29.2	.....	53	2	− 2	12	34	1.31	.....	0.70	1.5	5	8	12	11	sw.	Elmer G. Smith.
Decatur	Macon	685	21	34.8	+ 4.4	61	1	5	12	36	0.97	− 1.17	0.39	T.	6	20	6	5	sw.	Prof. J. H. Coonradt.
Dixon	Lee	725	22	30.0	+ 4.5	58	1	2	12†	43	1.34	− 0.30	0.65	T.	5	15	2	14	.....	H. U. Barwell.
Du Quoin	Perry	459	19	38.3	+ 2.8	64	5	12	9†	33	0.44	− 2.13	0.20	T.	4	19	9	3	nw.	G. H. Knetzger.
Dwight	Livingston	600	19	33.2	+ 4.5	57	1	2	12	32	0.83	− 0.87	0.34	T.	6	12	5	14	nw.	Edward O. Welch.
East St. Louis	St. Clair	481	1	.....	.....	.....	.....	.....	.....	.....	0.64	.....	0.31	T.	5	.....	.....	.....	.....	W. McK. Brown.
Edwardsville	Madison	554	13	.....	.....	.....	.....	.....	.....	.....	0.64	− 1.35	0.30	0.2	4	.....	.....	.....	.....	W. H. Morgan.
Elgin	Kane	716	5	31.2	.....	54	2†	1	12	32	0.87	.....	0.48	T.	5	10	10	11	sw.	Elgin Observatory.
Ewing	Franklin	449	1	.....	.....	.....	.....	.....	.....	.....	0.65	.....	0.35	T.	5	.....	.....	.....	.....	Ewing College.
Fairview	Fulton	733	1	.....	.....	.....	.....	.....	.....	.....	0.75	.....	0.38	T.	6	.....	.....	.....	.....	Abram Wilson.
Galva	Henry	842	20	32.0	+ 6.0	56	5†	2	12	34	0.78	− 0.75	0.30	0.2	4	16	6	9	sw.	Prof. F. U. White.
Grafton	Jersey	422	19	.....	.....	.....	.....	.....	.....	.....	0.42	− 1.96	0.20	0.5	5	.....	.....	.....	.....	R. C. Goodrich.
Greenville	Bond	635	34	36.8	+ 4.1	62	1	10	12	35	0.52	− 2.16	0.20	T.	4	21	5	5	w.	H. W. Reidemann.
Griggsville	Pike	650	27	36.2	+ 4.7	63	5	7	12	39	0.72	− 0.90	0.56	T.	2	22	1	8	sw.	George F. Kneeland.
Havana	Mason	475	20	34.0	+ 2.9	61	5	6	12	35	0.81	− 1.17	0.56	T.	5	18	7	6	nw.	L. L. Eutenener.
Henry	Marshall	500	24	33.7	+ 4.8	58	1†	3	12	31	1.19	− 0.64	0.56	0	6	17	7	7	sw.	Dr. F. A. Powell.
Hillsboro	Montgomery	675	18	37.2	+ 5.2	63	1	8	12	36	0.50	− 1.85	0.26	T.	2	22	1	8	s.	Ira L. Lockwood.
Joliet	Will	609	21	31.6	+ 4.2	56	1†	2	12	32	1.01	− 1.04	0.48	0.5	7	14	4	13	sw.	F. M. Muhlig.
Kishwaukee	Winnebago	730	24	30.6	+ 4.7	55	2	0	12	34	1.45	− 0.43	0.52	1.5	6	11	10	10	sw.	George Stevens.
La Grange	Cook	657	20	32.0	+ 5.3	55	1†	2	12	31	1.02	− 0.73	0.46	T.	6	14	8	9	sw.	Prof. F. E. Sanford.
La Harpe	Hancock	698	33	33.6	+ 5.4	62	5	6	12	36	0.57	− 1.69	0.35	T.	2	19	9	3	nw.	George E. Campbell.
Lanark	Carroll	883	23	30.4	+ 5.3	55	2	− 1	12	34	1.58	− 0.04	1.18	2.0	4	19	5	7	s.	M. N. Wertz.
La Salle	La Salle	536	7	32.4	+ 4.9	57	5	3	12	31	0.98	− 1.30	0.48	T.	8	10	9	12	w.	U. S. Weather Bureau.
Lincoln	Logan	575	24	34.4	+ 3.3	60	1	3	12	35	0.63	− 1.39	0.37	T.	4	19	6	6	s.	Prof. C. S. Oglevee.
Loami	Sangamon	624	12	.....	.....	.....	.....	.....	.....	.....	0.45	− 1.18	0.32	T.	4	17	13	11	nw.	H. C. Foster.
Macomb	McDonough	700	8	.....	.....	.....	.....	.....	.....	.....	0.76	.....	0.26	T.	5	.....	.....	.....	.....	State Normal University.
Manteno	Kankakee	711	1	.....	.....	.....	.....	.....	.....	.....	1.15	.....	0.37	T.	6	15	7	9	sw.	J. F. Schmeltzer.
Martinton	Iroquois	633	25	33.6	+ 5.1	60	1	2	12	33	0.56	− 1.82	0.25	T.	4	13	5	13	sw.	Joseph H. Peltier.
Mascoutah	St. Clair	425	22	38.4	+ 3.8	62	5	12	9†	39	0.35	− 2.00	0.17	T.	4	17	8	6	se.	George Henrich.
Mononk	Woodford	745	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. R. Morris.
Monmouth	Warren	784	20	33.6	+ 6.1	62	5	3	12	36	0.77	− 0.78	0.27	T.	5	20	5	6	w.	Prof. J. C. Hutchinson.
Morris	Grundy	518	1	32.4	.....	56	1	2	12	31	1.05	.....	0.40	T.	7	13	7	13	sw.	E. G. Cryder.
Morrison	Whiteside	685	18	31.6	+ 6.4	54	2†	1	12	35	1.03	− 0.42	0.41	0.5	5	19	5	7	sw.	S. A. Maxwell.
Morrisonville	Christian	638	13	35.0	+ 4.3	61	1	5	12	36	0.51	− 1.44	0.25	T.	3	16	10	5	sw.	J. D. Lowis.
Mount Vernon	Jefferson	511	18	34.0[b]	+ 0.9	64	5	11[d]	9†	37[d]	0.69	− 1.90	0.33	0	3	16	2	13	sw.	Theodore P. Stelle.
Nashville	Washington	503	12	.....	.....	.....	.....	.....	.....	.....	0.56	− 1.77	0.25	T.	4	.....	.....	.....	.....	H. M. Potter.
Oregon	Ogle	702	3	31.0	.....	57	14	− 1	12	33	1.41	.....	0.40	0.7	6	12	7	12	s.	Samuel Ray.
Ottawa	La Salle	500	26	32.1[d]	+ 3.2	49[h]	15†	4	12	29[h]	1.18	− 0.79	0.45	T.	5	15	3	13	sw.	Miss Maude M. Harris.
Pana	Christian	692	26	35.2	+ 3.2	59	5†	8	12	40	0.99	− 1.60	0.60	T.	4	20	5	6	.....	Dr. G. N. Gilbert.
Paw Paw	Lee	930	.....	.....	.....	.....	.....	.....	.....	.....	1.29	.....	0.52	0.5	6	.....	.....	.....	.....	A. C. McBride.
Peoria	Peoria	609	56	32.7	+ 4.6	58	5	5	12	33	1.13	− 1.24	0.57	T.	6	13	9	9	s.	U. S. Weather Bureau.
Pontiac	Livingston	546	10	33.6	+ 4.4	57	1	3	12	31	0.69	− 1.41	0.34	T.	6	10	7	14	w.	George Butterworth.
Quincy	Adams	481	6	34.0	.....	62	5	8	12†	39	0.60	.....	0.35	T.	3	.....	.....	.....	.....	Fred J. Brinkoetter.
Riley	McHenry	956	53	29.7[a]	+ 6.3	53[a]	2	− 1[a]	12	32[a]	1.08	− 0.71	0.45	2.0	8	10	8	13	sw.	John West James.
Roberts	Ford	774	1	.....	.....	.....	.....	.....	.....	.....	0.76	.....	0.33	T.	5	19	7	5	sw.	R. E. Bradbury.
Rockford	Winnebago	763	20	30.5	+ 2.8	55[a]	1	− 1	12	33[a]	1.14	− 0.77	0.55	0.4	5	16	7	8	.....	Dr. John R. Porter.
Rushville	Schuyler	670	21	34.4[a]	+ 3.1	62[a]	5	7[a]	12	36[a]	0.91	− 0.83	0.45	T.	4	11	14	6	.....	H. F. Dyson.
St. Charles	Kane	700	17	31.5	+ 5.5	53[a]	1†	0	12	31[a]	1.11	− 0.86	0.50	T.	6	13	7	11	sw.	Dr. William H. Bishop.
St. Peter	Fayette	500	10	35.5	+ 2.0	61	1†	8	12	37	0.67	− 1.55	0.27	T.	4	18	6	7	nw.	M. L. Lansford.
Sparta	Randolph	538	26	39.0[j]	+ 3.4	62[i]	5†	11[j]	12	38[j]	0.61	− 1.78	0.25	T.	5	17	6	8	s.	James A. Caldwell.
Springfield	Sangamon	644	32	34.6	+ 3.3	60	1	8	12	31	0.31	− 2.12	0.17	T.	5	14	9	8	s.	U. S. Weather Bureau.
Streator	La Salle	626	19	31.8	+ 4.3	56	1†	3	12	42	0.78	− 0.97	0.41	0.1	5	15	6	10	sw.	Miss Lora Sweetser.
Sullivan	Moultrie	530	12	34.0[a]	+ 3.7	62[a]	1	5[a]	12	37[a]	0.77	− 1.29	0.40	T.	4	12	12	7	sw.	C. A. Corbin.
Sycamore	De Kalb	855	32	31.4	+ 5.9	60	6	− 1	12	40	.....	.....	.....	T.	.....	17	2	12	sw.	George E. Valentine.
Tiskilwa	Bureau	798	28	.....	.....	.....	.....	.....	.....	.....	0.75	− 1.15	0.45	T.	3	.....	.....	.....	.....	F. I. Smucker.
Walnut	Bureau	717	21	32.2	+ 5.1	55	5	2	12	34	1.26	− 0.32	0.67	T.	4	15	4	12	w.	O. C. Nussle.
Warsaw	Hancock	501	14	.....	.....	.....	.....	.....	.....	.....	0.41	− 1.17	0.21	T.	2	.....	.....	.....	.....	W. R. Kirkbride.
Waterloo	Monroe	719	1	.....	.....	.....	.....	.....	.....	.....	0.48	.....	0.24	T.	4	.....	.....	.....	.....	Prof. James E. Raibourn.
White Hall	Greene	573	4	36.2	.....	64	5	7	12	40	0.55	− 0.78	0.36	T.	5	22	4	5	ne.	Frank Dillman.
Windsor	Shelby	681	13	34.8	+ 3.6	62	1	6	12	37	0.68	− 1.60	0.38	T.	4	16	6	9	sw.	Herbert Rose.
Winnebago	Winnebago	900	25	30.2	+ 4.9	54	2†	− 1	12	35	1.60	− 0.25	0.70	3.0	5	18	1	12	sw.	Frank Osborn.
Yorkville	Kendall	584	25	31.4	+ 5.0	55	1†	1	12	32	1.53	− 0.22	0.65	T.	7	11	8	12	w.	Herman A. Grimwood.

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for December, 1912. District No. 5, Upper Mississippi Valley.*

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.
North Dakota.																																	
Amenia	Red					T.			T.		T.					T.		.25	.08	.05	.05				T.	.37							0.80
Bottineau	Mouse			.04	.34	T.	.19				.04	.28				.73	.20	.17	.08	.50	.22						.10	.02			.16	.06	3.13
Bowbells	do																																
Cando	Sheyenne			.04							.01						.02			.04													0.11
Crosby	Mouse				.13		T.										.09	.03		.05	.04					T.							0.34
Devils Lake	Sheyenne	T.		.03		T.	T.	.05			.04				.20	.04	.14	.04		.20	T.	T.									T.		0.74
Donnybrook	Mouse			.10	T.		.05	.05			.05				T.				.10	.25													0.60
Dunseith	do			.04	.09			.10								.15	.07	.07	.02	.08											T.	T.	0.62
Edmore	Sheyenne																																
Fessenden	Wells			T.			.02				T.					.11		.13			T.					.04					T.	T.	0.30
Forman	Sheyenne					.02	.01				.02						.01	.02															0.08
Grafton	Red					.03		.11										.10	.02	.01	.10										T.	.03	0.40
Granville	Mouse																																
Hannah	Pembina			T.	.10			.10									.20	T.		.30										.30			1.00
Hansboro	Red			.02	.02			.05										.10			.13												0.32
Hillsboro	do			T.				T.			T.					.08		.20		.10	.30				.10	.30							1.08
Lakota	Sheyenne			.01		T.	T.	.02		.01						.25		.12		.20	.02	.02					T.				.05		0.70
Langdon	Pembina																																
Larimore	Red				.01			.01	.02							.32		.08	.01	.01	.18	.01	.02								.01	.01	0.69
Lisbon	Sheyenne				T.			T.										.30	T							.05						T.	0.35
McKinney	Mouse				.20		.05	T.			T.				T.					.15													0.40
McLeod	Sheyenne										T.																						T.
Manfred	do			T.	.02		.10	.02		.10					.38		.10	.05		.05						.05					T.		0.87
Mayville	Red				T.			T.							T.	.30		T.	.04		.04				T.	.16							0.54
Milnor	do	T.				T.		T.			.02						T.	.25		T.					T.								0.27
Minot	Mouse			T.	.03			.02			T.					.02	.02	.08	T.	.01	.05					.01							0.24
Minto	Red			.03				.20								.15	.01		.15														0.54
Oriska	Sheyenne	T.		T.			T.	T.		T.	T.	T.			T.	.10			.15	T.	T.				*	.35					T.		0.60
Park River	Red			T.	T.			.20								T.	T.	.15	T.	.15											T.		0.50
Pembina	do																				.20	.10									.12		0.42
Power	Sheyenne				.10						.10					T.	.30			.10					.20						T.		0.80
Towner	Mouse				.05		.05								T.	T.		.10		.05													0.25
University	Red			.02		T.		.04			T.				T.	.01	.02	.25	T.	.05	.02				T.						T.	T.	0.41
Wahpeton	do					T.																											T.
Walhalla	Pembina			.05	.05			.10		T.							.10	T.	.10	.40												T.	0.80
Westhope	Mouse				.02		.10				.05						.15	.05		.05													0.42
Willow City	do		.10	.10			.10	T.			.10					T.	.10		.10	.30													0.90
Minnesota.																																	
Albert Lea	Mississippi	.60	.20			.20						.05							.15	.30													1.50
Alexandria ‖	do		T.				.20	T.				T.						.10	T.		T.										T.	0.30
Angus	Red			.02												T.		.20		.10					T.						T.	T.	0.32
Bagley	do					.04		.06							.12		.05	.15	.12						.30							.03	0.87
Baudette	Rainy	T.		T.	.05		T.	.04			T.							.13	T.	.01		T.				.06	.02				.10		0.41
Beardsley	Minnesota	T.				.20											T.								T.						T.		0.20
Bemidji ‖	Mississippi		.01							.02							.08	.17		.03		.05									.14		0.50
Bird Island	Minnesota	.01				.16		T.			T.					.04	T.	.11	T.	.01													0.33
Brainerd	Mississippi	.11				.07		.08									T.	.43			.08	T.				T.							0.77
Caledonia ‖	do	T.	1.05			T.	.53		T.			T.				.05	T.	.15	.02		.03	.02		.05				T.					1.90
Campbell ‖	Red						.10	T.		T.	.10					T.	T.	.30	T.		.10					T.	T.					.05	0.65
Cass Lake ‖	Mississippi				.06									T.				.16	.10	.08						.23						.04	0.67
Collegeville	do	.03				17										.03		.27															0.50
Crookston ‖	Red	T.	T.		.10			.10				T.				.30		.30	10		30					.40		T.				T.	1.60
Detroit ‖	do		T.	T.	.07	T.						T.				T.	.08	T.	.15	T.	.05	T.	T.			.40		T.				T.	0.75
Ely	Rainy	.06		.01		T.	T.	.08			T.				.10	T.		.27	T.	T.	.08	T.		T.		.29	T.				T.		0.89
Fairmont (near)	Minnesota	.38				.30												.40	T.	T.		T.											1.08
Faribault	Mississippi																																
Farmington	do	.44	T.			.30	.05	.05								T.	.07	.30	.05	.04	.06							T.					1.36
Fergus Falls	Red					.20		.08			.01					.01		.16	.04	.15	.08				.10	.06		.02			.14		1.05
Fort Ripley ‖	Mississippi	T.	.11				.01		.15							T.	T.	.16	.04		.09	T.											0.56
Fosston	Red			.09		.04		.09				.01				.06		.16	.03		.05	.01			.20						.03		0.77
Glencoe	Mississippi					.30												.50		T.													0.80
Grand Meadow	do	.48	.18			.46	.07	T.	T.			T.					T.	.23	.07	T.	.08												1.57
Gull Lake Dam	do	.13				T.	.03	.11								.05		.26	T.	T.	.09					.11							0.78
Hallock	Red			T.				.10										.30													.10		0.50
Halstead ‖	do															.22		.10			.06					.27					T.		0.65
Hinckley	St. Croix	.10				.30												.20				.10									.05		0.75
International Falls	Rainy					.05	.02	.02										.05	.02	T.		.02				.20				.10	.10		0.58
Itasca State Park	Mississippi					.20		.10									.10	.30								.20							0.90
Lake Crystal	Minnesota																																
Leech Lake Dam	Mississippi			.11		.03	T.	.06								.02	T.	.29	.02	.04	.08			.01		.33						.01	1.00
Littlefork	Rainy					.34												.30	.17						.16						.17		1.14
Long Prairie	Mississippi																																
Lynd	Minnesota	.03				.07					T.							.23															0.33
Mankato ‖	do		.42				.25					.02						.31	.08		.03												1.11
Mapleplain	Mississippi	.50				.25	.03	T.			T.	T.			T.	.15	.03	.62	T.	.07	.11	T.						T.			T.		1.76
Milaca	do																																
Milan	Minnesota					.30		.05			.15					.10		.15													.10		0.85
Minneapolis	Mississippi	.50			T.	.35		.01			T.				.08	.10	.23	.54	T.	.09	.03						T.						1.93
Montevideo ‖	Minnesota						.15	T.				.08				.01	T.	.18	T.		.01											.02	0.45
Moorhead	Red			T.		.06	T.	T.			T.					T.	.22	.08	.03	.06	.02	T.			.42						.06		0.95
Mora	St. Croix	.14	.01			.20	.05	.15									T.	.45		.10	.03	T.									T.		1.13
Morris	Minnesota					.07					.01				T.			.20			.05				.01						.01		0.35
New London	Mississippi	.06				.30	T.									T.	T.																0.36
New Richland	Minnesota	.42				.32					T.						T.	.36		.06	T.												1.16
New Ulm	do	.15	.20			.05	.25									T.	T.	.20	.03	T.	.05												0.93
Osakis	Mississippi	.02				.02		.03								T.		.14	T.	.01	.05	T.				.01		T.			T.		0.28
Park Rapids ‖	do								.13									.16	.02		.10		.02			.30		.01				.05	0.79
Pierz	do	T.																.04		T.	.13		T.										0.17
Pine River Dam	do	.10				.10		.05										.15								.06							0.46
Pokegama Falls	do	.15		.09		.03		.03								T.	T.	.21		.06	.04	T.				.17					T.	T.	0.78
Red Lake	Red			.06			T.	T.								T.		.35	T.	.20	T.	T.			T.	T.	T.			T.	.10	T.	0.71
Red Wing ‖	Mississippi		.44			.04	.34		T.			T.	T.			.04		.20	.10		.08	.06						T.					1.30
Redwood Falls	Minnesota					.30		T.										.30			.15												0.75
Reeds Landing ‖	Mississippi		.73				.43									.22		.12	.05		.05	.01											1.61
Rochester ‖	do		.59				.36											.23	.09														1.27
Roseau ‖	Red	T.			T.			T.		T.								T.	T.		.30	T.									.20	T.	0.50
St. Charles	Mississippi	.55	.42			.06			T.									.23	T.		.06			T.				T.					1.32
St. Cloud	do	.20				.03	.21	.04									.04	.17	.02	.06	.05												0.82
St. Paul	do	.47				.21		T.	T.						.08	.11	.25	.32	T.	.05	.05						T.	T.					1.54
St. Peter	Minnesota	.10				.40	.10											.35	.10														1.05

TABLE 2.—*Daily precipitation for December, 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.
Minnesota—Contd.																																	
Sandy Lake Dam	Mississippi	.20		T.		.05		.09								.03		.51			.05	T.				.13							1.12
State Sanatorium	do		.03			.10		.10								.05		.35	T.		.32	T.				.25					.02	T.	1.22
Stillwater ‖	St. Croix	.05	.41				.20									.05	.30		.21		T.	.10											1.32
Taylors Falls	do	.50				.25		.15										.40		.18													1.48
Thief River Falls ‖	Red																																
Tracy	Minnesota																																
Warren	Red						.10				T.							.20		.30	.10						T.				.02	T.	0.72
Warroad	Rainy					T.	T.	.05										.15		.20		T.					.05				.20		0.65
Winnebago ‖	Minnesota	T.	.70			T.	.20										.30		T.	T.	T.							T.					1.20
Winnibigoshish	Mississippi	T.		.10			.01	.15								.04		.52		.04		.03				.58					.02		1.49
Winona	do	.47	.20			.24	.05	T.				T.				.09	T.	.29	.03		.08			T.				T.					1.45
Worthington ‖	Des Moines						.07											.09		T.	T.												0.16
Zumbrota	Mississippi	.50				.25		T.				T.					T.	.26		.03	T.							T.					1.04
South Dakota.																																	
Milbank	Minnesota					T.	.07	T.	T.			.07						.22	.07	.07		.02											0.52
Sisseton	do					T.		.04				.02						.02		T.												T.	0.08
Wisconsin.																																	
Antigo	Wisconsin	.34				.22	.27	.05	.05		T.					T.		.60	.20		.30	.02											2.05
Barron	Chippewa	.25	.30			.08	.15	.10								.20		*	*	.75	T.	T.											1.83
Beloit	Rock	*	1.08		*	.06												.04			.05												1.23
Big St Germain Dam	Wisconsin	.13	.38			.11	.45	.10	.09		.02					T.		.16	.05	T.	.14	.02	T.	T.								T.	1.65
Brodhead	Rock	.46	.55													T.		.35			.01						T.	T.					1.37
Burnett	do	*	1.08			T.	T.	T.								.07		.32	T.	T.	T.						T.				T.		1.47
Cornell	Chippewa	.46	.24			.15	.11		.01							.16		.31	T.	T.	T.												1.38
Cottage Grove	Rock	.35	1.15			.11			.02			T.				.10	T.	.43	.01		.07						.01				T.		2.25
Darlington	do	.30	.60			.10															.10												1.10
Deerskin Dam	Wisconsin	.30	.58			.08	.41	.96	.04							T.		.08	.10		.02	T.										T.	1.67
Delavan	Rock	*	1.59			.13						T.						.33	T.	.04							T.			T.			2.09
Dodgeville	do																																
Downing	Chippewa	.20					.10	T.								T.		1.20	T.														1.50
Eau Claire	do	.62	.13			.32	.37	.03				T.				.26		.42	T.		.22							T.					2.37
Glen Flora	do	.76	T.			.13	.14	.16	T.							T.		.30			.27	T.											1.76
Grand Rapids ‖	Wisconsin		.92			.10	.44	T.								.19	.07	.32			T.	.02											2.06
Grantsburg	St. Croix					.40										T.		.60															1.00
Hancock	Wisconsin	.30			.35	.35	.25						T.			.25	T.	.25	T.		T.	T.											1.75
Hatfield	Black		.90				.71									.13		.07			.22												2.03
Hayward ‖	St. Croix	.50						T.								.10	.02	.30	.02	.10	.40												1.44
Hillsboro	Wisconsin	.85				.25	T.					T.				.10	T.	.02			T.												1.22
Koepenick	do	1.00	.10			.60	.20	.30										.40	.20	.10	.10												3.00
Lac du Flambeau	Chippewa																																
La Crosse	Mississippi	1.00	.01			.80	T.	T.	.01			T.				.07	.05	.12	T.	.03	.02			.02				T.					2.13
Lake Mills	Rock	.40	.82			.02			T.							.02		.53		T.	.09						.01	T.			T.		1.89
Lancaster	Mississippi	.72				.50																		.01									1.23
Long Lake	Wisconsin	.45	.60	T.		.10	.47	.08	.05		T.							.18	.07		.12	.03	.01									.03	2.19
Madison	Rock	.33	.58		T.	.07	T.	T.	T.		T.	T.				.01	.12	.17	T.	.06	.01						T.	T.			T.		1.35
Marshfield	Wisconsin															.23	T.	.46	T.	T.	.10	T.											
Mather ‖	do		1.02				.52		.04							.10	.06	.30	.03	T.	.05	.05		.05				T.					2.22
Mauston	do		.70			.20	T.									.25		.30															1.45
Meadow Valley	do	.53	.40			.09	.25	T.								.09		.22			T.												1.58
Medford	Black		1.45			.30	.10	.10										.40			.20												2.55
Merrill	Wisconsin																																
Minocqua	do	.25	.15			.17	.45	.15	.07		.03	T.				T.		.20	.05	T.	.10	.06	T.									T.	1.68
Mondovi	Mississippi	.47	.34			.20	.30		T.			T.				.10	.01	.33	.01		.08												1.84
Mount Horeb	Rock	.36	.65			.15						T.				.05		.50			.10												1.81
Muscoda ‖	Wisconsin		.80			.05	.20										.04	.17			.07	T.											1.33
Neillsville	Black	.45	.75					.55								.22	.20	T.			T.												2.17
New Richmond	St. Croix	.31				.10		.21								.24		.40		.20	.20												1.66
Osceola	do	T.				.15	.03	T.								T.		.40		.10	.10												.78
Park Falls	Chippewa	.21	.38			.25	.28	.09	T.		T.					T.		.36	.02	T.	.15	.02	T.									T.	1.76
Portage	Wisconsin	.34	.75			.07		T.								.15	T.	.43			.04												1.78
Port Edwards	do	.78				.44	.14	T.								.99	T.	.20	T.	T.	.10	T.											2.65
Prairie du Chien ‖	Mississippi		.78				.12									T.		.16	T.	T.	.04												1.10
Prairie du Sac	Wisconsin	.47	.84			.15										.08	T.	.34			.12							T.					2.00
Prentice	Chippewa	.07	.23			.13	.16	.11	.06									.27	.16	.07	.11	.07	T.									T.	1.44
Rhinelander	Wisconsin	.47	.59			.10	.51	.07	.04		T.							.05	.05	.01	.09	.04										T.	2.02
Shullsburg	Mississippi	.36	.80			T.			T.									.25	T.		.05			T.									1.46
Solon Springs	St. Croix	1.00				.20		.20								T.	T.	1.20	T.	.10	.40	.10											3.20
Spooner	do	.40				.57	.18	.17									T.	.68			.09	T.											2.09
Stanley	Chippewa	.25				*	.20	T.					T.																				
Stevens Point	Wisconsin	1.00				*	.50	T.									T.	.76			.30												2.56
Sugar Camp Dam	do	.34	.60			.55		.15	.05									.60			.40			.10									2.79
Tomahawk	do																																
Trout Lake	do	*	.75			.05	.42	.05		T.	T.							.25	.10	T.	.15	.08	T.				T.				T.	T.	1.85
Twin Lakes Dam	do	.65	T.			T.	.30	.10	.05		T.							.35	.05	T.			T.	T.				T.				T.	1.50
Valley Junction	do	.90				.32	.45	T.				T.				.22		.16	T.		.10												2.15
Viroqua	Mississippi	.55	.45			.30	.25	T.	.05			.02				.05	.02	.34	T.		.03			T.				T.					2.06
Vudesare	Wisconsin	.35	.30		.30	.26	.20	.21		.10	.09							.50	.20	T.	.10	.09	T.	T.								T.	2.70
Watertown ‖	Rock		.97			.08	.05										.14	.35	T.		.15						T.			T.			1.74
Waukesha	Fox	*	1.42			.12									T.		.55			.10											.01		2.20
Wausau	Wisconsin	.45	.60			.10	.12	.05	.06							.10		.23	.08		.13	.04											1.96
Weyerhauser	Chippewa	*				.30	.08	.08								.07	T.	.80		.01	.08							T.					1.42
Whitehall	Mississippi	1.00				.20	T.	T.								.10		.20			.20												1.70
Iowa.																																	
Albia ‖	Des Moines		.80															T.		T.													.80
Algona	do	.68			T.	.30	T.										.15	.05	.05		T.												1.23
Altal ‖	Raccoon		.44			.23	.18											.01	.01														.87
Amana	Iowa	.64	.30			.03			T.									T.			T.												.97
Ames	Skunk	.48	.07		.02	.35				T.							T.	.02															.94
Baxter	do	.37	.06		.02	.19			T.									.03	T.	T.													.67
Belle Plaine	Iowa	.52	.15			.06														.03	T.												.76
Belmond	do	.50	.10			.18											.04	.08	.03	.05	.01			.03			T.						1.02
Bloomfield	Mississippi	.30	.03	.02	.02	.01																											.38
Bonaparte	Des Moines	.43	.04	.07																													.54
Boone ‖	do		.24				T.												T.		T.												.24
Britt	Iowa	.57	T.			.34	T.	T.									.11	.07	.01	.04								T.					1.14
Buckingham	Cedar	.56	T.			T.													T.	T.													.56

TABLE 2.—*Daily precipitation for December, 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.																																	
Burlington‖	Mississippi	.33		.35	T.													.03															.71
Carroll‖	Raccoon		.53		T.													.05															.58
Cedar Rapids‖	Cedar		.69			T.	T.					T.						T.	T.		T.							T.	T.				.69
Charles City	do	.68			.02	.18			T.		T.						.06	.01	.01	.03				.01				T.					1.00
Clear Lake	do	.40				.30											.05																.75
Clinton	Mississippi	.32	.57	T.		.08			T.									.32			T.							T.					1.31
Columbus Junction	Iowa	.28	.20	T.	T.				T.												T.												.48
Davenport	Mississippi	.31	.04	.02	.04	.01			T.								.14	T.	T.	T.	T.							T.		T.			.56
Decorah	do	.67				.43						T.				.03	T.	.07	T	.08													1.28
Delaware	do	.36	.49			.14												.07			.01							T.					1.07
Des Moines	Des Moines	.22			.01	.07			T.								T.	T.	T.		T.						T.						.30
Dubuque	Mississippi	.61	.21			.05	T.		T.							T.	.09	.01	.01	.02	T.							T.					1.00
Earlham	Raccoon	.25	.06			.09											T.																.40
Elkader	Mississippi	.56				.12										T.		.12			.08												.88
Elma	Wapsipinicon.	.60	.10			.30	T.				T.	T.						T.	.20		.30												1.50
Estherville‖	Des Moines	T.	.60			T.	.20										.45																1.25
Fairfield	Skunk	.40	.03			.01																											.44
Fayette	Mississippi	.78	T.			.31	T.				T.							.08			.04									T.			1.21
Forest City‖	Cedar	.58				.14											.15			.20													1.07
Fort Dodge‖	Des Moines		.45			.05	.23											.15	T.		T.												.88
Fort Madison	Mississippi	.30		.25											T.		T.																.55
Gilman	Iowa																																
Grand Meadow	Mississippi	.50	.20			.39	.01		T.		T.					.01		.16	.02		.05							.02					1.36
Grinnell	Iowa	.15			T.	.05												.05			T.												.25
Grundy Center	Cedar	.57	.75			.52													T.		T.												1.22
Guthrie Center	Raccoon	.22	.04		T.	.28						T.						T.	T.														.54
Hampton	Cedar	.45	.08		.12	.28											.03		.05														1.01
Humboldt	Des Moines					.80										.05		.10			.05												1.00
Independence	Wapsipinicon	.46	.10			.08												T.			T.												.64
Indianola	Des Moines	.20	.20		T.	.07											T.		T.														.47
Iowa City ‖	Iowa		.75															T.															.75
Iowa Falls ‖	do	T.	.43			.04	.23											.05	T.	T.	.05			T.				T.					.80
Jefferson	Raccoon	.24	.04		T.	T.						T.					.06	.03	T.														.37
Keokuk	Mississippi	.23	T.	.27		T.			T.			T.					T.		T.								T.						.50
Keosauqua ‖	Des Moines		.32		.05	T.												T.															.37
Knoxville	do	.52	.15		.10	T.												.05	T.														.82
Laconia	do	.72	.08		.05				T.									.05	T.														.90
Lansing ‖	Mississippi	T.	T.			.10	.44									.01					.09	.04											.68
Le Claire ‖	do		.71		.06	.19				T.								.31	T.		T.	T.						T.	T.		.01		1.28
Marshalltown ‖	Iowa																																
Mason City	Cedar	.50				.16												.16		.07													.89
Monroe	Skunk	.44	T.		.05	T.			T.									.04	T.	T.	T.						T.						.53
Mount Pleasant	do	.46	.12	.16	T.				T.								T.	.30															1.04
Muscatine ‖	Mississippi		.91		.04													.05										T.			T.		1.00
New Hampton	Wapsipinicon	.65		.05		.42																											1.12
Nora Springs	Cedar	.65	.03			.38			T.								.17	.02	T.	.03	T.						T.	T.					1.28
Northwood	do	.50	.05			.20	.20										T.	.40	.10	.20	.10							T.					1.75
Olin	Wapsipinicon	.40	.80			.10												.10				T.											1.40
Osage	Cedar	.60	T.			.36																T.											.96
Oskaloosa	Des Moines	.53	.13														.03																.69
Ottumwa	do	1.10		T.					T.								T.					T.			T.								1.10
Pella	do	.40	.25			.01	T.	T.	T.									T.	T.		T.						T.	T.					.66
Perry	Raccoon	.13	.14			.17												.03	T.	T.													0.47
Pocahontas	Des Moines	.65				.55											.05	.04		.02													1.31
Rockwell City	Raccoon	.55																															.55
Sac City	do	.13			.48	.18											T.	.06		T.													.85
St. Charles	Des Moines	.17	.15		T.	.01											T.	T.	T.								T.						.33
Sigourney	Skunk	.50	.45		.02	T.																											.97
Stockport	do	.43	.04	.07		T.											T.													T.			0.54
Storm Lake	Raccoon	.43				.52					T.						.02	T.	T.									T.					.97
Tipton	Cedar	.47	.31							T.								.12		T.	T.							T.					.90
Toledo	Iowa	.53	.15			.50	T.											.02	T.	T.													.80
Wapello	do	.15	.21	.02																													.38
Washington	Skunk	.05	.75																														.80
Waterloo ‖	Cedar	.05	.50			.01	.20		T.									T.	T.		.04												.80
Waukee	Raccoon	.02	.11		T.	.17			T.								.02	T.	T.														.59
Waverly	Cedar					1.50																											1.50
Webster City	Des Moines	.33	.10		T.	.11												.01		T.													.55
West Bend	do	.80				.25											.30	T.															1.35
Whitten	Iowa	.62	.11			.40												T.	T.	T.	T.												1.13
Winterset	Des Moines	.30	.13		.10	.13	T.											T.	T.														.66
Missouri.																																	
Gorin	Mississippi	.36		.04																													0.40
Hannibal	do	.10		.11	.01				T.								.24	T.	T.								T.			T.			0.46
Louisiana	do	.12		.18														.68	T.									T.					0.98
Mexico ‖	do	T.	.25		.11	.14												.15		T.								.01			T.		0.66
Palmyra	do				.51	T.												T.									T.						0.51
Steffenville	do	.20	.10	.30													T.	T.															0.60
Sublett	do																																0.00
Vandalia	do				.25																												0.25
Warrenton	do	T.	.13		.01	.03												.30										.01					0.48
Indiana.																																	
Collegeville	Iroquois								T.											T.											.24		0.24
Knox	Kankakee	.06	.35		.02	.03	.04		.02			T.				T.		.14		T.	T.						T.	T.		.02	.22		0.90
Laporte	do	T.	.43			.22			.05							T.		.15						T.			T.	T.	.25	T.			1.10
Plymouth	do	.03	.27			.23	T.		.01			T.				T.	T.	.17		T.							T.	.01		.02	.19		0.93
South Bend	do	.02	.36			.06	.05		T.			T.				T.		.15		T.	T.						T.			.04	.22		0.90
Illinois.																																	
Aledo	Mississippi	.13	.29	.16		.06												.10	T.								T.						0.74
Alexander	Illinois	T.	.08	T.	.05	.05			T.									.35	T.														0.53
Antioch	do	.20	.35	T.		.22												.40			.14						T.				T.		1.31
Astoria	do	T.	.21	.18		.08			T.								T.	.50	T.								T.	T.		T.			0.97
Aurora	do																																
Beardstown ‖	do																																
Bement	Mississippi		.60			T.				T.								.28	T.								T.	T.		T.			0.88

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

tations.	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.																																	
Bloomington	Illinois	.12	.20	.06	.06	.01			T.									.39													.01		0.85
Cairo	Mississippi	.26	.03		T.	.27		T.			T.						T.	.01	T.					.34			.05			.58	T.		1.54
Carbondale	do	.12	.23			.09												.05	T.					.04						.15	.07		0.75
Carlinville	Illinois	T.	.12			T.												.20	T.														0.32
Carlyle	Mississippi	.25		.27													.08											T.					0.60
Chester ‖	do		.24			.04	.12											.06		T.										.02	.26		0.74
Clinton	Illinois	.05	.33	T.	.06	.04			T.									.51	T.								T.	T.		T.	.01		1.00
Coatsburg	Mississippi	.30	.08	.37													T.	.22															0.97
Cobden	do		.24			.15												.05	T.					.12						.23			0.79
Dakota	do	.22	.48			.17						T.				T.		.40	T.		.04							T.			T.		1.31
Decatur	Illinois	.20	.30		.04	.03												.39	T.											.01			0.97
Dixon ‖	Mississippi	.20	.65	T.	.05	.06												.38	T.		T.							T.					1.34
Du Quoin	do	.20				.04		T.									.05		T.								T.			.15		T.	0.44
Dwight	Illinois	.03	.20		.06	.05			T.									.34									T.	T.			.15		0.83
East St. Louis ‖	Mississippi	.04	.31			.01												.26	T.									T.			.02		0.64
Edwardsville	do	.04	.30	T.	T.													.28										T.	.02	T.			0.64
Elgin	Illinois	.02	.21			.09												.48			T.						T.				.07		0.87
Ewing	Mississippi	T.	.23		T.	.05		T.										.06	T.								T.			.15	.16	T.	0.65
Fairview	Illinois	.05	.09	.15	.06	.02			T.									.38	T.								T.	T.			T.		0.75
Galva	do	.18	.05	.25		T.			T.								T.	.30									T.	T.					0.78
Grafton ‖	Mississippi	.04	.10			.04												.20										.04			T.		0.42
Greenville	do		.20			.04											T.	.20	T.								T.	T.		.08		T.	0.52
Griggsville	Illinois	T.	T.	T.		.16										T.		.56	T.								T.	T.					0.72
Havana	do	T.	.12	.06	.05	.02												.56	T.														0.81
Henry	do	.12	.22	.19		.06												.56													.04		1.19
Hillsboro	Mississippi	T.	.24			T.												.26	T.											T.	T.		0.50
Joliet	Illinois	.20	.03	.13	T.	T.											.12	.36		T.	T.						.05				.12		1.01
Kishwaukee	Mississippi	.38	.52	T.		.13						T.				T.		.36			.02						T.				.04		1.45
La Grange	Illinois	.05	.29	.05		.10			T.									.46									T.				.07		1.02
La Harpe	do	T.	.35	.22		T.												T.	T.								T.						0.57
Lanark	Mississippi	.28	.90			.10			T.							T.	T.	.30	T.		T.							T.			T.		1.58
La Salle	Illinois	.13	.07	.19	.05	T.			T.								.32	.16	T.	T.	T.						T.	T.		.04	.02		0.98
Lincoln	do	T.	.14	T.	.10	.02			T.									.37	T.												T.		0.63
Loami	do	.05	.06	T.	.02													.32	T.									T.		T.			0.45
Macomb	do	.12	.11	.26	.04				T.									.23									T.				T.		0.76
Manteno	do	.04	.33		.08	.17												.37									T.				.16		1.15
Martinton	do	T.	.25		.06				T.									.17									T.		T.	.08			0.56
Mascoutah	Mississippi	.02				.15												.17		T.										.01			0.35
Minonk	Illinois																																
Monmouth	Mississippi	.27	.06	.04		.13												.27							T.								0.77
Morris	Illinois	.08	.15	.10	.10	.06												.40													.16		1.05
Morrison	Mississippi	.15	.32	T.		.10			T.									.41			T.										.05		1.03
Morrisonville	Illinois	.11	.15			T.												.25	T.								T.	T.		T.			0.51
Mt. Vernon ‖	Mississippi		.18			T.												.18													.33		0.69
Nashville	do	T.	.25	T.				T.										.17		T.					.01			T.		.13			0.56
Oregon	do	.38	.40	.15	T.	.14												.33			.01												1.41
Ottawa	Illinois	.14	T.	.40		.07												.45													.12		1.18
Pana	Mississippi		.60			.02											.33										T.			.04			0.99
Paw Paw	Illinois	.09	.45	.08	T.	.08			T.									.52	T.								T.	T.			.07		1.29
Peoria	do	.24		.22	.06	T.			T.								.53	.04	T.								T.	T.		.04	T.		1.13
Pontiac	do	.03	.14		.07	.03			T.									.34		T.							T.	T.			.08		0.69
Quincy ‖	Mississippi		.23		.35					T.								.02													T.		0.60
Riley	do	.12	.30	.02		.10			T.			T.						.45			.01						.01				.07		1.08
Roberts	Illinois	T.	.33		.06	.06			T.									.29	T.								T.	T.		T.	.02		0.76
Rockford	Mississippi	.10	.55			.08			T.			T.				T.	T.	.38	T.	T.	.03						T.	T.					1.14
Rushville	Illinois																																‡0.91
St. Charles	do	.10	.32	T.	.06	.08			T.			T.						.50	T.	T.	T.						T.				.05		1.11
St. Peter	Mississippi	.05	.10			T.												.25	T.								T.			.27	T.		0.67
Sparta	do	.10	.25			.03		T.										.12	T.											.11		T.	0.61
Springfield	Illinois	.11		.02	.01	T.			T.								.15	.02	T.									T.		T.			0.31
Streator ‖	do	.04	.12		.13	T.				T.								.41		T.								T.	T.		.08		0.78
Sullivan	Mississippi	.05	.40															.25	T.								T.		07				0.77
Sycamore	do																																
Tiskilwa	Illinois	.05	.25															.45									T.	T.					0.75
Walnut	Mississippi	.33	.34	.12					T.									.47	T.								T.				T.		1.26
Warsaw ‖	do	.20		.21																													0.41
Waterloo	do	.01	.23		T.													.18	T.								T.	T.		.06			0.48
White Hall	Illinois	.02	T.	.11	.04	.02												.36	T.									T.					0.55
Windsor	Mississippi	.03	.35															.20	T.								T.			.10			0.68
Winnebago	do	.40	.70			.11		T.	T.							T.		.35			.04												1.60
Yorkville	Illinois	.10	.10	.30	.10	.18												.65									T.				10		1.53

* 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 December, 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....	21	19	31	2	30	18	19	15	10	0	49	34	32	30	46	39	45	34	35	8	41	28	40	29	49	26	44	31
2....	20	−4	17	1	24	−8	33	1	12	−5	37	4	22	2	46	12	38	3	22	1	26	9	31	4	26	10	35	10
3....	25	4	27	13	24	−8	33	15	10	8	43	20	28	10	37	19	46	21	36	18	43	9	34	15	42	21	32	12
4....	24	16	30	9	31	−8	28	22	−2	−2	44	22	35	15	42	30	54	32	40	20	36	23	40	19	43	26	33	20
5....	8	−5	9	−4	24	8	20	5	0	−12	44	10	7	7	39	22	15	15	25	−2	32	10	42	19	38	15	40	18
6....	36	−6	28	−1	36	4	40	1	−5	−10	25	−5	28	−4	25	1	35	−6	24	−3	33	−2	38	−4	16	−1	35	−3
7....	21	7	37	−10	42	−3	35	19	−2	−18	40	8	29	2	37	10	44	12	38	−3	43	−2	31	10	40	15	25	5
8....	25	−26	30	−12	36	−11	35	−12	0	−15	30	−8	16	−13	36	2	25	−5	12	−8	21	−1	13	−11	15	0	15	−10
9....	39	−21	46	23	52	−3	48	12	10	−8	40	2	42	−8	37	4	49	6	44	12	43	2	40	−2	41	8	35	5
10....	15	10	24	−8	25	19	20	19	12	−2	39	7	15	10	33	22	30	15	37	0	21	19	38	5	38	5	31	3
11....	4	−24	−4	−14	20	−12	10	−9	18	−5	25	−3	8	−8	24	−2	3	−7	2	−8	4	−3	8	−8	5	−2	10	−8
12....	21	−23	25	−6	34	−10	34	−4	12	−5	19	−9	17	−6	16	−5	31	−3	20	−9	28	−5	12	−11	22	−4	12	−8
13....	28	3	30	10	42	−3	38	9	16	−8	36	18	25	0	38	16	46	3	32	13	36	−1	26	−6	35	21	24	−6
14....	35	0	37	23	45	13	41	13	20	−5	46	28	34	10	37	32	53	26	44	18	52	16	40	−4	45	27	42	15
15....	28	10	32	21	24	22	40	21	22	0	45	28	39	12	37	20	35	33	37	20	43	26	38	20	42	31	40	10
16....	26	9	24	19	40	17	27	22	30	5	32	24	28	18	35	32	33	22	30	18	37	24	27	17	33	30	30	12
17....	24	16	23	17	35	20	27	13	32	8	30	24	25	18	35	27	32	25	27	22	28	26	28	20	31	24	25	10
18....	23	4	23	11	25	20	33	−5	30	10	29	20	23	20	30	17	23	23	24	16	28	22	25	18	27	17	20	8
19....	21	4	19	9	33	19	23	12	24	12	29	20	23	15	28	10	32	11	26	10	30	13	20	13	29	20	18	6
20....	11	3	13	−4	29	8	27	8	22	8	25	11	12	9	27	7	16	9	14	−2	15	13	13	7	27	11	22	5
21....	10	−9	5	−8	20	0	25	−4	18	5	19	8	9	−3	26	−4	21	4	12	−2	21	4	17	2	19	3	25	8
22....	32	−16	32	−3	25	−8	38	3	15	0	28	−8	32	−5	26	0	28	−5	29	−10	25	−4	20	−14	30	−5	15	−12
23....	23	8	26	14	36	0	32	15	10	−5	31	19	27	0	31	8	33	20	26	10	31	2	29	15	30	20	20	5
24....	26	5	34	18	35	15	39	15	5	−8	34	16	27	15	36	9	35	20	33	15	35	6	28	−2	31	10	28	3
25....	20	11	24	7	34	19	25	17	6	−10	32	23	23	20	35	20	32	15	34	7	35	12	32	20	33	25	25	20
26....	12	0	15	4	28	−3	35	9	15	−8	29	12	18	13	28	23	28	7	17	0	36	18	26	15	29	14	20	15
27....	34	0	36	8	39	0	43	15	22	−5	32	15	23	3	26	11	40	4	33	0	35	10	25	10	25	15	25	10
28....	32	10	35	17	40	3	37	25	30	−2	38	22	36	8	43	16	43	9	37	9	32	17	36	−6	42	15	34	3
29....	28	5	28	15	53	15	39	18	32	8	33	21	29	11	33	14	35	15	33	10	33	18	28	−2	31	20	32	10
30....	30	4	37	18	50	3	39	16	30	10	37	17	35	3	33	15	42	22	37	8	40	14	30	−5	38	13	34	8
31....	28	5	32	16	.....	15	35	18	32	8	38	20	24	11	37	19	42	19	31	15	49	17	33	−6	34	20	30	5
Mns..	23.5	0.6	26.0	6.5	33.7*	5.3	32.5	10.5	15.7	−1.6	34.1	13.5	24.9	6.9	33.5	14.4	34.3	12.9	28.5	6.5	32.6	11.0	28.6	5.7	31.8	14.5	27.6	6.8

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....	48	42	44	13	45	39	49	39	51	41	42	34	42	35	52	33	53	23	50	30	54	45	53	33	53	44	59	46
2....	47	15	50	7	47	24	39	19	51	24	42	14	45	20	34	11	31	26	30	18	54	22	33	19	53	24	46	24
3....	39	20	46	20	39	20	41	23	37	24	32	15	35	20	44	21	39	22	41	22	41	22	43	22	40	24	42	24
4....	45	22	44	22	45	26	45	27	34	27	40	22	42	23	47	26	43	27	38	26	45	33	39	28	40	29	47	35
5....	40	33	45	12	44	29	43	27	54	28	40	32	38	29	38	11	54	31	44	8	59	24	55	20	55	20	64	24
6....	34	6	13	4	48	13	27	12	28	14	38	8	40	13	25	3	24	20	16	7	29	19	25	15	25	17	32	22
7....	37	4	35	7	34	9	41	15	38	14	28	7	30	8	42	12	42	17	41	13	42	18	43	18	40	18	47	22
8....	37	3	10	−8	36	11	33	7	38	6	24	−2	28	6	32	1	22	20	24	5	38	11	30	9	35	10	38	11
9....	34	3	35	3	36	3	39	7	34	6	28	−4	30	−1	39	7	38	9	37	8	37	10	44	10	37	10	41	10
10....	38	19	36	0	35	27	38	17	36	21	28	20	30	24	37	24	38	11	36	13	41	26	38	26	38	25	43	29
11....	20	0	3	−10	26	1	17	2	21	2	20	−8	25	−2	25	2	15	10	8	0	26	7	26	9	25	2	29	11
12....	14	4	18	−12	14	−4	24	0	18	−2	5	−14	10	−8	25	0	28	3	21	−1	22	4	31	4	25	1	28	6
13....	34	12	30	7	37	13	40	21	40	18	26	6	30	9	45	23	46	3	44	21	48	22	50	30	46	22	47	25
14....	43	20	43	15	50	22	45	23	45	27	42	15	45	19	45	25	46	26	43	24	49	30	52	29	46	28	55	31
15....	37	33	40	28	37	30	40	34	41	35	42	24	44	33	40	31	44	28	39	30	48	36	48	33	44	34	49	34
16....	36	28	32	27	37	27	36	34	36	32	34	15	38	22	36	26	39	30	36	31	42	32	41	29	39	35	44	29
17....	33	30	33	25	34	30	36	31	35	30	30	24	36	26	33	27	37	30	33	29	41	33	37	30	38	32	44	30
18....	32	12	28	12	33	19	32	21	31	20	30	16	34	20	28	21	30	29	29	21	33	27	31	26	32	26	35	28
19....	29	10	27	20	27	16	32	23	30	20	21	15	23	9	32	14	35	26	32	20	35	27	39	22	33	26	43	25
20....	28	16	24	3	25	20	28	12	26	16	22	17	24	19	32	13	24	23	21	7	34	16	34	19	31	12	35	20
21....	22	0	23	0	24	7	30	6	25	7	22	6	24	10	30	7	38	13	33	5	38	15	43	16	33	12	45	18
22....	21	−5	18	−2	19	0	27	2	23	5	16	−8	18	0	32	−1	34	10	32	−1	33	14	37	15	31	8	39	20
23....	32	9	32	15	34	11	37	23	34	22	30	6	31	8	35	21	41	10	32	21	42	25	45	25	40	25	45	25
24....	30	8	31	2	30	12	37	13	36	18	33	16	30	11	38	16	46	18	39	11	48	22	52	22	42	19	53	24
25....	37	22	33	8	42	26	45	28	43	29	33	21	38	22	48	23	49	18	43	23	45	31	49	25	49	30	49	31
26....	28	18	35	12	35	23	33	18	34	19	27	18	36	20	33	20	33	27	36	14	39	21	36	26	33	21	39	24
27....	22	14	25	11	27	15	27	18	26	17	23	15	25	17	35	12	30	20	30	13	30	19	41	16	30	19	33	18
28....	40	7	43	8	44	26	46	16	46	22	40	2	37	15	45	21	54	19	52	17	53	27	58	28	49	21	58	29
29....	36	10	37	10	40	10	35	19	42	26	40	6	38	7	34	20	45	20	38	17	47	32	43	26	45	23	48	35
30....	33	10	40	12	34	12	39	17	36	23	29	−2	30	9	40	15	44	20	41	16	43	23	46	20	41	22	50	24
31....	37	19	35	8	35	25	40	25	38	29	28	18	34	15	41	21	42	20	42	21	44	31	47	26	42	29	45	33
Mns..	33.6	14.3	31.9	9.0	35.3	17.5	36.2	18.7	35.7	20.0	30.2	11.4	32.6	14.8	36.8	16.3	38.2	19.6	34.9	15.8	41.3	23.4	41.6	21.8	39.0	21.5	44.3	24.7

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

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois.															
					Cairo.		Mascoutah.		La Salle.		Galva.		Carbondale.		Peoria.		Springfield.		Winnebago.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	63	46	56	37	60	46	61	45	57	44	54	41	62	44	58	43	60	44	52	40
2	46	23	54	34	60	41	59	37	57	26	54	25	59	36	53	23	57	26	54	23
3	43	23	45	30	52	34	54	22	40	25	38	21	52	23	42	23	48	25	38	22
4	50	38	50	30	59	43	59	35	46	35	48	33	59	35	51	36	53	39	42	32
5	63	24	56	40	64	55	62	49	57	32	56	41	64	52	58	29	58	31	54	34
6	34	21	56	20	58	31	61	25	32	21	56	22	60	26	33	23	34	24	54	19
7	49	23	37	16	44	33	50	24	41	19	41	17	48	27	43	20	44	22	37	15
8	40	14	37	20	45	23	44	26	38	13	38	12	42	28	37	13	40	14	35	11
9	38	11	29	7	34	17	37	12	34	12	35	8	35	12	35	11	34	12	34	8
10	44	32	42	18	41	27	52	26	40	25	41	29	44	25	42	28	45	29	39	25
11	32	14	35	15	39	27	44	25	26	6	30	11	39	25	29	11	30	13	27	7
12	27	8	32	3	28	19	28	12	21	3	21	2	29	12	21	5	23	8	18	−1
13	49	27	42	12	43	21	53	16	46	21	46	12	46	15	46	18	48	21	44	16
14	52	31	45	22	52	31	56	25	48	29	47	26	52	29	49	28	50	28	44	24
15	51	32	41	32	58	37	58	32	48	36	49	34	60	35	49	30	51	35	43	31
16	46	26	40	34	57	33	50	21	43	33	41	28	53	21	45	27	47	30	40	33
17	46	33	44	36	59	42	57	39	44	35	41	33	58	41	44	35	46	36	40	33
18	37	30	40	30	43	33	51	30	35	28	34	24	42	31	35	28	36	29	35	25
19	45	24	32	24	45	28	46	25	34	27	35	25	45	27	36	28	38	28	41	23
20	35	25	29	18	49	34	46	28	34	19	32	20	51	30	33	21	37	25	31	18
21	42	20	36	28	41	29	46	18	33	16	35	11	44	19	36	15	39	19	30	10
22	38	23	40	30	44	26	43	18	31	17	32	13	48	16	31	19	34	24	28	10
23	47	27	38	11	36	27	40	21	42	23	42	21	35	23	43	21	43	25	30	19
24	52	24	38	25	30	23	53	19	45	22	46	18	43	18	47	21	48	24	40	14
25	50	32	43	25	44	27	53	26	44	31	44	26	49	27	46	28	49	29	45	28
26	40	27	35	22	41	34	43	28	38	23	39	26	50	33	38	23	39	27	39	27
27	37	22	33	23	41	27	39	23	28	20	29	15	39	24	28	20	29	21	29	17
28	58	31	36	20	53	28	61	22	50	25	53	22	55	20	54	21	54	25	48	19
29	48	37	38	26	45	36	50	31	42	31	43	28	44	20	42	32	40	32	45	27
30	48	26	39	33	48	34	51	31	41	28	40	22	50	32	42	27	45	28	38	24
31	48	28	40	33	50	36	50	35	42	30	43	30	51	35	43	30	44	31	39	29
Mean	45.1	25.9	40.5	24.3	47.2	31.7	50.2	26.6	40.5	24.4	41.4	22.5	48.6	27.1	41.6	23.8	43.3	25.9	39.1	21.4

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
§ § Instruments are read in the morning; the m ximum temperature then read is charged to the preceding day, on which it almost always occurs.