Climatological Data for August, 1909.

DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

TEMPERATURE.

The most striking features of the climatic conditions for August, 1909, were the uniformly high temperatures, the excessive precipitation in the northern, and the severe drought and high precentage of sunshine that prevailed over the southern portion of the district.

The temperatures were considerably above the normal in all sections, and were high during the larger part of the month, the 29th and 30th being the only cool days. The maximum temperatures were 90° or above on twenty days over the southern portion of the district and on five to ten days as far north as southern Minnesota. They were 100° or above at several stations in Missouri, Iowa, Illinois, and southern Wisconsin, the highest being 105° at Mascoutah, St. Clair County, Ill., on the 28th. In southern Iowa, Missouri, and southern Illinois, there were only a few days on which the maximum temperature was below 90°. On most of the days it ranged from 90° to 100°, and exceeded the latter value at a number of stations on several days. The minimum temperatures were also high in all sections until the 29th, when a cool wave passed over the district, which caused light frosts on low ground as far south as southern Iowa and light to heavy frosts over North Dakota, Minnesota, Wisconsin, and northern Illinois, with a minimum temperature of 27° at McKinney, Ward County, N. Dak. The cool wave continued on the 30th, but the temperature was again high on the 31st with maximum temperatures above 90° in southern sections.

The monthly mean temperature for the district, as shown by the records of 294 stations, was 73.2°, which is 3.8° above the normal. The highest monthly mean temperature was 82.8° at Chester, Randolph County, Ill.; and the lowest monthly mean temperature was 61.6° at Portal, Ward County, N. Dak. The highest temperature reported was 105° at Mascoutah, St. Clair County, Ill., on the 28th, and the lowest, 27° at McKinney, Ward County, N. Dak., on the 29th. The average monthly maximum was 94°, and the average monthly minimum was 44°. The greatest daily range was 55° at McKinney, Ward County, N. Dak. The average of the greatest daily ranges was 36°.

PRECIPITATION.

The rainfall was very unevenly distributed. Over southern Iowa, Missouri, and central and southern Illinois the amounts were generally less than half an inch, and, in a few places, there was only a trace of rain during the entire month. In Iowa there was a deficiency of rainfall in all but the northeast and extreme north-central counties; yet at least a trace of rain fell in some part of the State on every day of the month except the 19th and 20th. During the second decade, showers were frequent and the rainfall heavy over the northeast and north-central counties; but over the remainder of the State the showers were extremely local and the rainfall generally very light. The monthly rainfall ranged from a trace in Jefferson County to 8.21 inches in Chickasaw County. Droughty conditions prevailed during the entire month over the southern half of the State, and considerable damage was done to growing crops. The ground was dry and hard and the surface water supply was scarce. In Missouri, there was a total absence of well developed lows during August. The depressions that crossed or passed near the State were shallow and gave little or no rain. Drought prevailed in all parts of the district during the entire month, except over limited areas where local showers temporarily relieved the conditions, and at several stations there was no rain at all. At the close of the month the ground was hard and parched, and no plowing had been done. The corn crop had received serious damage. "The forests, untouched by the coloring agent of autumn, were beginning to drop their leaves, which were curled up and parched."

In Minnesota the rainfall was very unevenly distributed. It ranged from nearly 10.50 inches at Leech Lake Dam, in Cass County, to about 1 inch in northern Kandiyohi County. At Detroit, in Becker County, and at St. Charles, in Winona County, the rainfall was nearly 10 inches; in central St. Louis County, about 8 inches; and in Rice, Dodge, Mower, and Freeborn counties, from 8 to 8.50 inches. In a number of southwestern counties it was less than 2 inches. There was an excess of over 6 inches in Cass and southwestern Winona County, and a deficiency of over 2 inches in the southwestern and extreme northwestern counties. The precipitation was, however, fairly well distributed through the month. Showers were more or less general on the 1st and 3d, from the 7th to the 13th, on the 17th, from the 22d to the 25th, and on the 28th.

In Wisconsin the distribution was more uneven than usual for a summer month. The total rainfall ranged from 1.5 inches, in the extreme southwest corner of the State, to nearly 10 inches in the Rock River Valley and at La Crosse on the Mississippi River. The rainfall at Delavan, in Walworth County, during the 13th and 14th, 5.92 inches, was one of the heaviest that has ever been reported from that station.

In North Dakota, the precipitation was somewhat unevenly distributed geographically, but was quite uniform throughout the month. The greater part of the precipitation, however, occurred during the first seventeen days. The 22d to the 25th, inclusive, were generally rainy. The heaviest precipitation occurred in Walsh County, and the least in Ward County.

The average rainfall for that portion of the State in District No. 5, was nearly one-half inch below the normal.

In Illinois the rainfall was nearly normal, or excessive in a few instances, over the northern tier of counties; but was deficient in the central and almost negligible in the southern counties. At Cairo there was only 0.01 inch during the entire month, and it was the driest month on record at that station.

Following are some excessive amounts of rainfall in one hour or less, viz: At Devils Lake, N. Dak., on the 6th, 1.07 inches fell in forty-five minutes, and on the 23d, 0.68 inch fell in fifteen minutes. At St. Paul, Minn., 0.84 inch fell in thirty-five minutes on the 13th. At La Crosse, Wis., 1.56 inches fell in one hour on the 11th. During the night of the 13-14th, 1.93 inches fell in one hour, and 2.45 inches in one hour and forty minutes. At Madison, Wis., on the 9th, 0.45 inch fell in twenty-five minutes. At Springfield, Ill., on the 15th, 0.43 inch fell in ten minutes, and on the 25th, 0.75 inch fell in forty minutes. At Charles City, Iowa, 1.07 inches fell in thirty minutes on the 12th, and 1.01 inches in forty minutes on the 15th.

Excessive amounts for twenty-four hours may be found in the climatological tables. There was an unusual amount of sunshine over the southern sections of the district. The average number of clear days in Missouri was 23, with 6.5 partly cloudy, and only 1.5 cloudy days. About the same ratio of clear, partly cloudy, and cloudy days was maintained over southern Iowa and southern Illinois.

There were a few local wind and hail storms; the most noticeable one passed over Winnebago County, Ill., on the 1st, doing considerable damage.

The average precipitation for the district, as shown by the records of 311 stations, was 3 inches, which is 0.20 inch below the normal. The greatest amount, 10.43 inches, occurred at Leech Lake Dam, Cass County, Minn.; and the least, a trace, at Donnybrook, Ward County, N. Dak., and at Fairfield, Jefferson County, Iowa. The greatest amount in twenty-four hours, 5.92 inches, occurred at Delavan, Walworth County, Wis. Measurable precipitation occurred on an average of six days. The average number of clear days was 18; partly cloudy, 9; cloudy, 4. Southwest winds prevailed.

TABLE 1.—*Climatological data for August, 1909. District No. 5, Upper Mississippi Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Dakota.																				
Amenia	Cass	954	11	70.8	+ 4.7	95	14†	39	29	42	2.89	− 0.33	1.30	0.0	5	19	3	9	se.	C. E. Wood.
Bottineau	Bottineau	1,638	13	66.6	+ 3.2	96	20	36	29	47	1.38	− 0.18	1.06	0.0	6	16	4	11	nw.	J. A. Kamp.
Cando	Towner	1,488	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. T. Judd.
Crosby	Williams	.....	2	67.6	.....	98	20	31	28	50	0.85	.....	0.80	0.0	4	27	3	1	nw.	B. Lancaster.
Devils Lake	Ramsey	1,482	3	67.4	+ 2.3	90	2	39	31	36	3.60	+ 0.86	1.30	0.0	10	14	13	4	se.	U. S. Weather Bureau.
Donnybrook	Ward	1,760	9	68.8	+ 4.4	102	13	29	31	53	T.	− 2.88	T.	0.0	0	.....	.....	.....	se.	F. S. Gieselman.
Dunseith	Rolette	.....	11	68.2	+ 4.6	100	20	35	28	55	1.22	− 1.08	0.48	0.0	3	.....	.....	.....	e.	L. H. Trowbridge.
Edmore	Ramsey	1,524	3	68.3	.....	94	2	33	29	57	3.83	.....	1.10	0.0	8	16	14	1	n.	H. R. Aslakson.
Forman	Sargent	1,249	14	75.4	+ 8.1	97	2	37	29	43	0.95	− 2.33	0.50	0.0	4	15	14	3	nw.	A. Maltby.
Grafton	Walsh	827	11	67.4	+ 3.1	93	22	37	29	43	5.70	+ 3.28	1.36	0.0	8	16	13	2	s.	H. Lamoure.
Granville	McHenry	1,504	2	68.8	.....	96	13†	31	29	52	1.52	.....	0.50	0.0	4	18	13	0	se.	W. A. Christiansen.
Hamilton	Pembina	824	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. Wallace.
Hannah	Cavalier	1,568	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Moffatt.
Hansboro	Towner	.....	1	67.0	.....	95	14	33	29	48	0.93	.....	0.54	0.0	3	22	7	2	se.	Geo. Dale.
Hillsboro	Traill	901	3	70.6	.....	93	2	40	29†	39	4.76	.....	0.85	0.0	9	23	4	4	nw.	M. H. Norman.
Lakota	Nelson	1,519	2	65.6	.....	92	2	35	29†	38	3.16	.....	0.85	0.0	9	13	16	2	se.	C. R. Pettes.
Langdon	Cavalier	1,615	13	66.1	.....	93	21	31	29	43	2.66	.....	0.56	0.0	7	17	0	14	nw.	J. Woolner.
Larimore	Grand Forks	1,134	13	68.7	+ 4.7	95	20	38	29	41	3.28	+ 0.26	1.32	0.0	8	10	12	9	s.	M. Naylor.
Lisbon	Ransom	1,091	4	70.6	.....	93	3	33	29	39	2.91	.....	0.80	0.0	11	20	2	9	ne.	H. K. Adams.
McKinney	Ward	1,640	14	65.7	+ 2.1	100	20	27	29	55	0.26	− 1.12	0.26	0.0	1	19	11	1	se.	M. P. Swenson.
Manfred	Wells	1,605	7	68.5	.....	95	13†	32	29	46	2.19	.....	1.30	0.0	9	17	11	3	se.	P. B. Anderson.
Mayville	Traill	975	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. N. Pope.
Milnor	Sargent	.....	1	66.2	.....	90	1†	36	29†	38	1.60	.....	1.10	0.0	2	18	4	9	se.	O. B. Jorgenson.
Minot	Ward	1,557	10	69.6	+ 3.8	98	13	32	29	51	0.55	− 1.81	0.18	0.0	9	24	3	4	e.	J. J. Bates.
Minto	Walsh	820	15	69.0	+ 4.4	93	2†	37	29	44	2.65	+ 0.11	1.10	0.0	6	19	5	7	se.	S. S. Marsh.
Oriska	Barnes	1,270	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. E. Williams.
Park River	Walsh	998	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Heyward.
Pembina	Pembina	789	10	67.2	+ 4.4	91	14	33	29	37	1.43	− 1.18	0.54	0.0	7	20	2	9	s.	F. C. Warner.
Portal	Ward	1,954	14	61.6	− 2.5	90	6	31	22	48	0.73	− 1.09	0.30	0.0	3	16	0	15	nw.	M. S. Davis.
Power	Richland	1,020	16	70.2	+ 3.3	92	2†	34	29	51	3.93	+ 1.40	0.94	0.0	11	16	10	5	se.	J. A. Power.
Pratt	McHenry	.....	4	66.5	.....	99	20	29	31	51	1.68	.....	1.42	0.0	3	24	7	0	nw.	C. H. Butts.
Towner	....do	1,475	2	68.8	.....	97	20	32	29	47	0.50	.....	0.32	0.0	4	21	10	0	sw.	B. Bagley.
University	Grand Forks	830	17	68.6	+ 3.7	93	2	37	29†	39	2.59	+ 0.07	0.78	0.0	11	18	9	4	n.	C. W. Stewart.
Wahpeton	Richland	962	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. G. Burch.
Walhalla	Pembina	966	4	69.0[a]	.....	101[a]	1	34[a]	29	48[a]	3.91	.....	1.75	0.0	5	16	14	1	s.	E. L. Howard.
Westhope	Bottineau	.....	2	68.0	.....	98	20	34	31	47	0.63	.....	0.58	0.0	2	24	2	5	se.	J. D. Currie.
Willow City	....do	1,471	15	66.9	+ 2.8	96	20	32	20†	51	0.82	− 1.02	0.24	0.0	7	12	19	0	se.	M. A. Ostby.
Minnesota.																				
Albert Lea	Freeborn	1,229	19	75.0	+ 6.1	98	1	47	29	41	8.24	+ 4.56	2.30	0.0	10	15	15	1	se.	Edward Carey.
Alexandria§§	Douglas	1,391	15	72.6	+ 5.6	96	27	45	29	34	1.38	− 2.25	0.72	0.0	7	17	2	12	nw.	P. O. Unumb.
Angus	Polk	870	7	67.6	.....	92	2	35	29†	40	3.53	.....	1.30	0.0	10	21	6	4	s.	F. A. Wilson.
Bagley	Clearwater	.....	3	67.5	.....	89	27	37	29	38	5.91	.....	2.38	0.0	9	13	12	6	se.	Edward T. Teitsworth.
Baudette	Beltrami	.....	.....	66.4	.....	91	27	40	20	37	2.88	.....	0.78	0.0	10	19	4	8	sw.	Franz W. Schmidt.
Beardsley	Bigstone	1,090	16	73.2	+ 5.5	96	27	36	29	40	6.67	+ 3.13	3.51	0.0	7	8	20	3	se.	Roy A. Smith.
Beaulieu	Mahnomen	1,200	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. L. A. Parkinson.
Bird Island	Renville	1,039	19	73.4	+ 4.6	92	10	42	29	35	4.07	+ 0.63	3.32	0.0	7	20	1	10	sw.	Dr. F. L. Puffer.
Caledonia§§	Houston	1,179	16	72.5	+ 3.9	90	1	50	29	25	6.21	+ 2.56	3.58	0.0	9	15	11	5	se.	W. D. Bedlen.
Campbell§§	Wilkin	984	....	71.1	.....	95	27	36	29	40	3.65	.....	1.92	0.0	11	17	2	12	se.	J. T. Nelsess.
Cass Lake§§	Cass	1,300	3	.....	.....	.....	.....	.....	.....	.....	6.59	.....	2.29	0.0	10	.....	.....	.....	.....	C. W. Burns.
Collegeville	Stearns	1,282	16	72.3	+ 5.7	90	2†	46	31	35	2.58	− 0.39	1.16	0.0	6	16	10	5	nw.	Fridolin Tennbreull.
Crookston§§	Polk	863	19	69.2	+ 3.7	92	2	39	31	31	3.38	− 0.07	0.65	0.0	12	19	3	9	s.	A. G. Anderson.
Detroit§§	Becker	1,364	13	69.8	+ 5.3	92	2	38	29†	40	9.89	+ 6.14	5.40	0.0	8	19	10	2	.....	G. W. Peoples.
Fairmont, (near)	Martin	753	22	73.8	+ 4.7	90	27	43	29	27	3.52	+ 0.60	1.80	0.0	6	20	10	1	s.	W. F. Wheeland.
Faribault	Rice	1,003	12	72.0	+ 3.2	91	1†	43	29	34	8.59	+ 4.90	3.71	0.0	11	18	7	6	se.	A. R. T. Wylie.
Farmington	Dakota	902	21	73.0	+ 4.6	93	2	45	29	29	3.54	+ 0.08	1.36	0.0	9	19	3	9	s.	E. D. Akin.
Fergus Falls	Ottertail	1,210	17	72.4	+ 4.7	92	27	45	29	31	4.66	+ 1.82	1.45	0.0	13	15	13	3	se.	Chas. E. Kissenger.
Fort Ripley	Morrison	1,135	3	70.4	.....	91	5†	42	29	42	3.17	.....	1.32	0.0	7	20	1	10	s.	J. J. Tucker.
Fosston	Polk	1,288	....	67.8	.....	88	1†	40	29	35	4.19	.....	2.64	0.0	4	.....	.....	.....	.....	O. N. Hem.
Glencoe	McLeod	1,006	13	73.6	+ 5.8	91	15†	45	29	34	2.63	− 0.65	0.98	0.0	6	19	12	0	sw.	C. G. Selvig.
Grand Meadow	Mower	1,338	22	73.8	+ 5.4	96	1	45	29	33	8.34	+ 5.15	3.85	0.0	11	16	10	5	se.	C. F. Greening.
Hallock	Kitson	815	10	67.8	+ 3.8	93	21	34	31	44	2.12	− 1.46	0.62	0.0	9	19	6	6	n.	D. A. Robertson.
Halstad§§	Norman	870	3	68.9	.....	93	2	38	29	39	3.57	.....	1.38	0.0	11	18	5	8	sw.	A. G. Holstrom.
Hinckley	Pine	1,050	4	71.8[b]	.....	88[b]	27	45[b]	31	29[b]	7.68	.....	3.96	0.0	9	12[a]	13[a]	5[a]	e.	W. R. Newman.
International Falls	Koochiching	.....	1	66.1	.....	92	27	38	20	33	6.08	.....	1.40	0.0	11	11	11	9	sw.	Rees Roe.
Kelliher	Beltrami	.....	3	66.8	.....	90	27	39	20	39	6.24	.....	2.02	0.0	11	14	12	5	ne.	A. Gilmour.
Lake Crystal	Blue Earth	.....	2	73.2	.....	90	2	44	29	27	2.52	.....	0.94	0.0	7	22	7	2	s.	W. P. Cobb.
Leech Lake Dam	Cass	1,300	21	66.6	+ 3.3	88	27	43	20	34	10.43	+ 6.86	3.08	0.0	13	4	20	7	se.	Hans Olesen.
Litchfield	Meeker	1,129	1	71.6	.....	90	27	44	29	27	1.55	.....	0.78	0.0	4	17	10	4	s.	N. Y. Taylor.
Little Falls	Morrison	1,117	3	72.2	.....	92	2†	45	29	36	3.36	.....	1.06	0.0	9	15	13	3	se.	Maurice Coleman.
Long Prairie	Todd	1,299	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. W. Sheets.
Lynd (2)	Lyon	.....	17	72.8	+ 4.8	94	25	37	29	38	1.46	− 2.05	0.38	0.0	6	22	6	3	sw.	Jacob Rouse.
Mankato§§	Blue Earth	747	10	.....	.....	.....	.....	.....	.....	.....	5.27	+ 1.89	2.25	0.0	10	15	5	11	sw.	Sadie H. Blake.
Milaca	Millelacs	1,072	12	69.8	+ 3.9	89	2†	41	29	36	2.81	− 0.40	1.40	0.0	8	12	16	3	nw.	C. H. Foss.
Milan	Chippewa	995	15	71.3	+ 3.6	93	27	38	29	36	3.47	+ 0.53	2.10	0.0	5	8	21	2	se.	O. K. Opjorden.
Minneapolis (1)	Hennepin	918	18	73.8	+ 4.0	93	2	48	31	31	2.09	− 1.60	0.63	0.0	13	15	8	8	s.	U. S. Weather Bureau.
Minneapolis (2)**§	Hennepin	850	16	73.1	+ 4.5	96	2	45	29	....	2.26	− 1.45	0.56	0.0	10	17	10	4	se.	J. H. Ashenbeck.
Montevideo§§	Chippewa	900	19	73.9	+ 4.9	95	27	40	29	36	2.49	− 0.06	1.01	0.0	5	18	7	6	se.	Lloyd G. Moyer.
Moorhead	Clay	935	28	70.8	+ 4.9	92	27	40	29	33	3.91	+ 0.81	1.43	0.0	11	23	4	4	se.	U. S. Weather Bureau.
Mora	Kanabec	.....	4	69.8	.....	90	27	38	29	35	2.85	.....	0.83	0.0	9	21	7	3	sw.	Hans Peterson.
Morris	Stevens	1,170	24	73.1	+ 5.7	95	27	42	29	34	1.56	− 1.50	0.63	0.0	8	25	3	3	s.	D. T. Wheaton.
New London	Kandiyohi	1,215	15	74.5	+ 5.4	95	2†	42	31	43	1.01	− 2.01	0.66	0.0	5	23	5	3	s.	Harold Swenson.
New Richland	Waseca	1,180	15	74.8	+ 4.5	95	1	44	29	33	5.77	.....	1.38	0.0	11	22	8	1	nw.	N. O. Tyrholm.
New Ulm§§	Brown	791	29	75.4	+ 4.0	95	2†	44	29	35	3.35	− 0.04	1.18	0.0	8	19	0	12	s.	A. J. Eckstein.
Osakis	Douglas	1,343	2	71.5	.....	92	27	42	29	35	2.11	.....	1.04	0.0	9	24	5	2	s.	John B. Johnson.
Park Rapids§§	Hubbard	1,426	19	68.6	+ 4.7	90	2	43	29	35	7.84	+ 4.11	3.58	0.0	10	19	0	12	nw.	Dr. P. A. Walling.
Pine River Dam	Crow Wing	1,251	22	69.0	+ 3.4	88	5†	45	20	38	5.55	+ 1.40	1.80	0.0	9	11	11	9	nw.	Neil McKay.
Pokegama Falls	Itasca	1,290	22	66.6	+ 3.6	89	27	41	20	38	6.33	+ 2.68	2.93	0.0	12	11	13	7	s.	Arthur L. Mampel.
Red Lake	Beltrami	.....	1	67.4	.....	89	2	40	31	39	6.65	.....	2.47	0.0	8	7	12	12	nw.	A. C. Goddard.
Red Wing	Goodhue	708	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. A. Whittier.
Red Wing (river)§§	....do	680	10	.....	.....	.....	.....	.....	.....	.....	1.78	− 1.77	0.60	0.0	10	18	0	13	se.	Louis Bach.
Redwood Falls	Redwood	1,033	2	75.4	.....	95	27	42	29	33	1.25	.....	0.50	0.0	6	22	7	2	nw.	N. B. Andersen.
Reeds Landing§§	Wabasha	681	11	.....	.....	.....	.....	.....	.....	.....	3.70	− 0.18	0.98	0.0	9	19	1	11	se.	John Deschneau.
Rochester§§	Olmstead	991	5	72.8	.....	97	2	43	29	36	5.36	.....	2.04	0.0	10	15	7	9	s.	S. R. Case.
Roseau	Roseau	1,040	2	65.4[c]	.....	92[c]	21	34[c]	29	42[c]	2.26	.....	1.12	0.0	9	16	8	4	se.	
St. Charles§§	Winona	850	18	72.6	+ 3.7	96	1†	46	29	36	9.91	+ 7.29	4.45	0.0	10	24	1	6	n.	S. W. Gleason.
St. Cloud	Sherburne	1,020	31	72.3	+ 4.5	91	15†	44	31	36	2.43	− 1.13	1.36	0.0	8	18	6	7	se.	Jos. H. Capser.
St. Paul	Ramsey	837	38	73.3	+ 3.8	92	2	48	31	30	2.89	− 0.57	1.00	0.0	11	13	15	3	e.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for August, 1909. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit. Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Precipitation, in inches. Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days .01 inch or more.	Sky. Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
Minnesota—Cont'd.																				
St. Peter	Nicollet	840	16	75.2	+ 5.4	93	2†	52	19	38	3.32	− 0.10	2.17	0.0	5	24	3	4	s.	Charles A. Cavanaugh.
Sandy Lake Dam	Aitkin	1,234	16	67.8	+ 3.0	85	3†	40	29	33	6.95	+ 3.00	3.23	0.0	12	18	10	3	se.	J. W. Comstock.
Shakopee	Scott	750	14																	
State Sanitorium	Cass		1	69.9[a]		88	2†	45[a]	31	26[a]	7.27		3.36	0.0	10	17	9	4	w.	Dr. W. J. Marcley.
Stillwater§§	Washington	694	4								3.33		0.84	0.0	11	14	3	14	sw.	W. B. Nease.
Taylors Falls	Chisago		2	73.0		94	3	42	29	33	3.69		2.01	0.0	7	16	9	6	s.	Mpls. Gen. Elec. Co.
Wabasha	Wabasha	662	17	74.2	+ 4.2	96	6	47	30	38	3.73	+ 0.32	1.00	0.0	7				s.	Herman Yost.
Warroad	Roseau			65.8[a]		90	27	37[a]	29	42[a]	1.66		1.32	0.0	7	18	9	4	e.	John Sawyer.
West Concord	Dodge	1,232	1	72.8		94	1	44	29	37	8.47		4.07	0.0	7	16	12	3	nw.	O. H. Orcutt.
Willow River	Pine	1,046	11	67.0	+ 1.6	89	27	43	19†	31	5.91	+ 1.38	4.20	0.0	9	16	7	8	n.	J. A. Brandt.
Windom	Cottonwood	1,336	3	75.0		94	26	36	29	42	2.70		1.12	0.0	7	13	17	1	s.	Taber C. Richmond.
Winnebago§§	Faribault	1,100	10	74.9	+ 4.3	94	26	43	29	34	3.60	− 0.40	0.71	0.0	10	13	8	9	se.	H. H. Haight.
Winnibigoshish	Itasca	1,300	21	69.5	+ 5.4	88	27	45	31	31	7.24	+ 3.67	3.53	0.0	13	16	7	8	se.	John Duncan.
Winona	Winona	680	14	75.8	+ 3.3	98	6	49	30	37	7.16	+ 3.93	3.42	0.0	9	17	7	7	se.	P. C. Meyers.
Worthington§§	Nobles	979	14	72.6	+ 4.4	89	14	41	29	31	2.10	− 1.42	0.90	0.0	3	18	8	5	s.	W. I. Carpenter.
Zumbrota	Goodhue	979	14	73.6	+ 4.5	95	2	42	29	34	4.85		2.45	0.0	11	17	10	4	nw.	W. C. Rowell.
South Dakota.																				
Millbank	Grant	1,148	20	72.4	+ 3.9	97	27	36	29	46	3.45	+ 0.70	1.04	0.0	6	18	3	10	nw.	T. T. Patridge.
Wisconsin.																				
Antigo	Langlade	1,489	14	68.4	+ 3.3	92	24	41	30	32	2.31		0.76	0.0	8	14	11	6	sw.	E. C. Larzeler.
Barron	Barron	1,115	16	68.4	+ 3.6	88	6	42	30	34	4.08	+ 0.52	0.96	0.0	10	18	11	2	nw.	W. A. Kent.
Beloit	Rock	750	19	72.6[b]	+ 2.8	92[b]	8	50	30	28	8.51	+ 5.00	3.60	0.0	7	22	1	8	n.	Smith Observatory.
Brodhead	Green	812	11	73.6	+ 3.1	94	8	48	30	36	8.15	+ 4.13	2.52	0.0	10	21	8	2	sw.	H. D. Kirkpatrick.
Burnett	Dodge	880	5	70.4		92	8	47	29	36	3.90		1.05	0.0	9	15	13	3	se.	Geo. W. Smith.
Delavan	Walworth	920	16	72.4	+ 2.7	93	5	46	29	34	9.80	+ 6.70	5.92	0.0	10	13	9	9	nw.	E. S. Austin.
Dodgeville	Iowa	1,116	10																	Geo. H. Butler.
Downing	Dunn	983	6	69.9	+ 5.5	92	7	39	29	39	3.50	− 1.44	1.18	0.0	5	11	3	17	sw.	E. F. Stoddard.
Eau Claire	Eau Claire	800	18	73.2	+ 3.7	94	2†	45	30	35	2.22	− 1.23	1.39	0.0	8	18	8	5	nw.	R. D. Whitford.
Ellsworth	Pierce	1,068	1																	H. G. Woods.
Glidden	Ashwood	1,519																		George Sell.
Grand Rapids	Wood	1,021	10	71.8	+ 4.0	96	6	44	29	38	3.28	− 1.36	1.30	0.0	9	21	4	6	s.	W. B. Raymond.
Grantsburg	Burnett	1,095	18	70.4	+ 4.2	92	6†	40	31	45	3.28	− 0.34	0.70	0.0	8	12	10	9	ne.	Theodore Olsen.
Hancock	Waushara	1,091	17	71.3	+ 2.8	93	6†	45	29	32	3.96	+ 0.90	1.08	0.0	6	16	6	9	nw.	F. B. Hamilton.
Hatfield	Jackson	973	1								2.22		1.34	0.0	5	16	5	10	s.	W. S. Woods.
Hayward	Sawyer	1,197	18	68.3	+ 3.8	88	6†	40	20	35	3.83	+ 0.27	1.40	0.0	8	11	12	8	sw.	W. E. Swain.
Hillsboro	Vernon	1,000	18	70.7	+ 3.4	92	1†	40	30	43	4.61	+ 1.40	3.00	0.0	6	11	16	4	se.	E. V. Wernick.
Koepenick	Langlade	1,683	18	65.7	+ 1.3	91	24	39	20	36	3.24	− 0.30	1.03	0.0	7	0	25	6	nw.	E. S. Koepenick.
La Crosse	La Crosse	714	37	74.1	+ 4.1	94	2	47	31	33	8.76	+ 5.35	3.96	0.0	11	14	8	9	s.	U. S. Weather Bureau
Lake Mills	Jefferson	897	18	72.0	+ 2.9	93	8	46	30	33	4.40	+ 0.87	1.60	0.0	7	13	14	4	sw.	S. N. D. Smith.
Lancaster	Grant	1,070	19	73.6	+ 4.0	93	2	45	29	34	3.49	+ 0.97	1.82	0.0	5	17	10	4	s.	Edward Pollock.
Long Lake	Oneida	1,592	1	65.0		89	24	35	30	37	1.85		0.67	0.0	11	11	11	9	n.	Louie Frank.
Madison	Dane	974	31	72.6	+ 3.0	91	8	48	31	26	4.39	+ 1.18	2.01	0.0	8	13	13	5	s.	U. S. Weather Bureau.
Mather	Juneau	962		69.6		97	6	36	30	50	1.94		1.19	0.0	5	7	10	14	w.	Frank Evans.
Mauston	....do	882	13	71.6	+ 3.6	91	5†	45	30	37	6.18	+ 2.97	4.65	0.0	5	20	7	4	se.	E. L. Hitchcock.
Meadow Valley	....do	974	18	70.8	+ 3.9	97	6	37	30	45	2.52	− 0.79	1.14	0.0	8	8	20	3	nw.	C. H. Johnson.
Medford	Taylor	1,430	18	71.2	+ 4.0	95	7†	42	29	39	2.15	− 1.49	1.30	0.0	5	17	9	5	w.	William Zeit.
Merrill	Lincoln	1,267	3	71.4		97	26	45	29	42	2.11		0.63	0.0	9	21	7	3	ne.	F. M. McElroy.
Minocqua	Oneida	1,604	5	67.7		86	5†	45	31	28	1.40		0.80	0.0	3	16	11	4	sw.	Charles W. Hooper.
Mondovi	Buffalo	738	1	72.2		95	6	43	30	37	2.62		0.77	0.0	9	22	5	4	nw.	Dr. Charles Hebard.
Mount Horeb	Dane	1,226	5	73.4		94	1†	47	30	38	5.35		2.99	0.0	7	17	7	7	e.	W. M. Lewis.
Muscoda	Grant	666		73.8		99	5	42	30	42	5.12		3.10	0.0	4	11	13	7	e.	Henry Eckstein.
Neillsville	Clark	996	20																	William Heaslett.
New Richmond	St. Croix	990	4	72.9		94	2†	43	29	37	3.71		0.96	0.0	10	13	12	6	sw.	F. R. Van Meter.
Osceola§§	Polk	806	18	71.8	+ 5.0	93	6	39	29	39	3.66	+ 0.25	1.45	0.0	8	14	7	10	e.	C. W. Staples.
Portage	Columbia	809	13	72.1	+ 3.5	92	8	46	29	33	4.24	+ 1.10	2.35	0.0	6	19	9	3	sw.	James Clear.
Prairie du Chien§§	Crawford	690	22	75.8	+ 4.9	100	2	42	29	36	3.42	− 0.09	1.69	0.0	11	17	10	4	nw.	John Ducharme.
Prentice	Price	1,551	11	66.7[c]	+ 2.2	96[c]	26	30	29	41[c]	1.93	− 2.58	0.74	0.0	8	11	10	10	s.	J. G. Lash.
Rhinelander	Oneida	1,550	4	67.8		92	24	43	30	35	3.83		1.70	0.0	13	10	13	8	se.	John Lind.
Sauk City	Sauk	758	1	74.8[c]		101[c]	6	48[c]	29†	45[c]	4.64		1.97	0.0	4	13[c]	10[c]	5[c]		K. Derleth.
Shullsburg	Lafayette	1,019	3	72.4		90	2†	46	29	30	6.51		3.40	0.0	9	16	7	8	sw.	H. B. Chamberlin.
Solon Springs	Douglas	1,083	2	67.7		89	27	42	20†	36	3.80		2.60	0.0	5	17	6	8	sw.	J. M. Sayles.
Spooner	Washburn	1,104	14	69.0	+ 2.6	88	24†	43	29	29	5.35	+ 3.12	1.30	0.0	13	20	8	3	sw.	H. A. Bresee.
Stanley	Chippewa	1,082	5	69.4		90	6†	41	29	33	4.29		2.28	0.0	7	21	3	7	se.	L. E. Scott.
Stevens Point	Portage	1,113	16	71.2[d]	+ 3.7	95	6†	44[d]	29	38	2.82	− 0.20	1.00	0.0	7	14	6	10	nw.	G. E. Culver.
Valley Junction	Monroe	930	17	71.2	+ 4.2	94	6	35	30	41	3.89	+ 0.18	2.77	0.0	6	16	7	8	w.	F. Muermann.
Viroqua	Vernon	1,412	18	73.4	+ 4.9	96	2	46	29	34	7.34	+ 3.65	3.05	0.0	9	15	10	6	se.	H. E. Rogers.
Vudesare	Vilas	1,600	1	65.6		88	25	39	17†	40	3.11		1.30	0.0	8	18	8	5	sw	L. L. Thomas.
Watertown§§	Jefferson	824	17	70.4	+ 2.1	92	8	46	30	32	3.06	+ 0.33	1.05	0.0	7	15	14	2	se.	Charles J. Salick.
Waukesha (1)	Waukesha	970	13								3.73	+ 0.56	1.15	0.0	8					A. V. B. Dey.
Waukesha (2)	....do	864	1	72.2		93	8	47	30	35	3.43		0.84	0.0	7	11	19	1	s.	Carroll College.
Wausau	Marathon	1,212	17	70.0	+ 4.3	93	6†	47	20†	32	2.50	− 1.23	1.27	0.0	11	16	9	6	s.	H. A. Beilke.
Weyerhaeuser	Rusk	1,297	2	68.2		89	6	39	30	37	2.80		0.78	0.0	12	17	10	4	nw.	Miss Etta Stiles.
Whitehall	Trempealeau	675	17	71.4[h]	+ 3.2	91[h]	24	42	30	36	2.90	− 0.78	0.88	0.0	8					H. A. Towner.
Iowa.																				
Albia§, §§	Monroe	959	10	76.4	+ 3.0	95	27	43	29	32	1.04	− 3.11	1.03	0.0	2	18	9	4	sw.	J. D. Chenoweth.
Algona§	Kossuth	1,213	34	74.8	+ 3.9	93	15	44	29	31	2.36	− 1.56	1.05	0.0	6	25	2	4	s.	Dr. F. T. Seeley.
Alta§§	Buena Vista	1,513	17	75.2	+ 4.7	93	27	43	29	31	2.37	− 1.60	0.84	0.0	8	19	12	0	s.	David E. Hadden.
Alta (near)	Buena Vista										2.96	− 0.63	0.76	0.0	9					W. J. Minard.
Amana	Iowa	721	31	75.2	+ 4.3	96	14	45	30	34	1.00	− 2.61	0.50	0.0	5	22	8	1	se.	C. Schadt.
Ames	Story	926	27																	Iowa State College.
Baxter§	Jasper	998	8	75.2	+ 3.3	96	14	46	29	33	0.71	− 3.84	0.28	0.0	6	25	5	1	sw.	W. R. Vandike.
Belle Plaine	Benton	828	18	74.6	+ 3.8	97	14	44	29†	32	1.05	− 3.10	0.78	0.0	3	19	10	2	s.	S. P. Van Dike.
Bloomfield§	Davis			80.4		103	15	44	29	43	0.82		0.55	0.0	2	20	11	0	sw.	C. R. Davis.
Bonaparte§	Van Buren		17	78.4	+ 4.1	98	13†	46	29	39	0.17	− 4.48	0.11	0.0	3					B. R. Vale.
Boone§§	Boone	1,134	3	76.2		96	14	44	29	29	0.86		0.39	0.0	6	19	8	4	s.	Carl Fritz Henning.
Britt§	Hancock	1,236	11	74.2	+ 4.2	94	11	41	29	31	2.12	− 1.93	0.71	0.0	7	11	19	1	s.	George P. Hardwick.
Buckingham	Tama		8								1.10	− 3.93	0.46	0.0	8	15	16	0		W. A. Daniel.
Burlington§, §§	Des Moines	544	12	79.1	+ 5.0	100	14†	51	29	34	0.87	− 4.57	0.59	0.0	3	28	2	1	s.	Max E. Poppe, jr.
Carroll§§	Carroll	1,265	18	74.8	+ 3.7	95	14	39	28	38	0.30	− 3.41	0.23	0.0	2	26	5	0	s.	Mrs. Joseph J. Wolfe.
Cedar Rapids§§	Linn	733	26	76.6	+ 3.9	98	15	50	29†	31	1.16	− 2.34	0.86	0.0	4	20	9	2	se.	W. J. Greene.
Charles City	Floyd	1,015	20	73.6	+ 2.9	93	2	44	29	34	6.88	+ 3.46	2.74	0.0	10	15	9	7	s.	U. S. Weather Bureau.
Clear Lake§	Cerro Gordo	1,241	9	75.4	+ 3.7	94	2	46	29	41	3.39	− 0.92	1.35	0.0	7	24	3	4	s.	Oscar Stevens.
Clinton	Clinton	593	40	74.4	+ 3.1	95	14	47	30	32	5.20	+ 1.55	2.80	0.0	9	18	10	3		Luke Roberts.
Columbus Junction§	Louisa	595	7	77.0	+ 4.6	96	14†	48	29	29	0.50	− 5.72	0.50	0.0	1	25	6	0	s.	J. B. Johnston.
Davenport	Scott	580	36	77.3	+ 4.3	96	14	51	29	30	2.34	− 1.30	1.19	0.0	5	17	11	3	sw.	U. S. Weather Bureau.
Decorah	Winneshiek	975	15	75.4	+ 5.2	100	2	43	30	40	4.93	+ 1.89	1.60	0.0	8					F. H. Baker.
Delaware	Delaware	1,083	17	73.0	+ 3.4	93	14	45	29	31	4.04	+ 0.50	1.57	0.0	10	17	13	1	se.	William Ball.

TABLE 1—*Climatological data for August, 1909. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit. Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Precipitation, in inches. Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Sky. Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
Iowa—Cont'd.																				
Des Moines	Polk	861	31	78.1	+ 5.1	96	14	50	29	29	0.14	− 3.47	0.11	0.0	3	14	14	3	sw.	U. S. Weather Bureau.
De Soto§	Dallas	866	8	77.2	+ 4.2	97	14†	44	30	41	0.74	− 4.23	0.49	0.0	2	29	1	1	sw.	R. D. Minard
Dows§	Wright	1,142	8	74.9	+ 5.2	95	14	43	29	38	0.59	− 3.69	0.31	0.0	4	21	5	5	s.	G. R. Flett.
Dubuque	Dubuque	639	35	75.0	+ 3.0	93	14	51	30	26	1.50	− 1.54	0.60	0.0	8	15	8	8	s.	U. S. Weather Bureau.
Earlham	Madison	.....	6	76.4	+ 6.4	98	15	41	30	39	0.88	− 4.25	0.41	0.0	5	30	0	1	se.	George Phillips.
Elkader	Clayton	727	27	72.0	+ 1.0	102	2	42	30	42	2.17	− 0.73	0.44	0.0	9	13	18	0	se.	Charles Reinecke.
Elma	Howard	.....	.....	73.0	.....	93	2	53	21	35	5.48	.....	1.87	0.0	8	10	19	2	se.	H. A. Moore.
Estherville§§	Emmet	1,298	12	73.6	+ 3.4	94	11†	42	29	37	1.85	− 1.75	1.00	0.0	6	15	0	16	s.	A. O. Peterson.
Fairfield	Jefferson	.....	14	79.8[a]	+ 8.5	96	14	50[a]	29	31[a]	T.	− 4.08	T.	0.0	0	17	10	4	ne.	R. M. McKenzie.
Fayette	Fayette	1,003	18	73.8	+ 4.7	97	2	41	30	38	2.55	− 0.72	0.85	0.0	11	24	3	4	se.	R. Z. Latimer.
Forest City§, §§	Winnebago	1,226	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Peters.
Fort Dodge§§	Webster	1,126	8	77.2	+ 5.8	97	29	43	29	35	0.65	− 4.99	0.22	0.0	4	22	2	7	se.	J. F. Monk.
Fort Madison	Lee	516	59	.....	.....	.....	.....	.....	.....	.....	0.18	− 3.61	0.18	0.0	1	13	15	3	s.	Miss L. A. McCready.
Gilman	Marshall	1,052	9	.....	.....	.....	.....	.....	.....	.....	1.35	− 2.43	0.65	0.0	4	.....	.....	.....	.....	J. L. Wylie.
Grand Meadow	Clayton	1,180	17	72.2	+ 3.3	89	1†	45	29†	28	4.23	+ 0.90	1.43	0.0	9	11	14	6	sw.	F. L. Williams.
Greene	Butler	.....	9	75.8	+ 4.3	98	2	43	29	41	3.84	− 0.03	1.66	0.0	8	10	16	5	e.	J. L. Cole.
Grinnell	Poweshiek	1,023	16	77.4	+ 5.8	101	14	46	30	36	2.04	− 2.58	1.59	0.0	5	16	12	3	sw.	D. W. Brainard.
Grundy Center§	Grundy	976	17	75.6	+ 4.6	95	14†	42	29†	37	1.55	− 2.02	0.68	0.0	8	18	12	1	s.	J. B. Calderwood.
Guthrie Center§	Guthrie	1,077	13	76.4	+ 4.2	95	14	42	29	35	1.26	− 3.06	1.00	0.0	4	26	4	1	sw.	D. G. Beardsley.
Hampton	Franklin	1,155	18	76.6	+ 6.0	95	15	45	29	34	3.15	− 0.22	1.30	0.0	10	13	15	3	sw.	E. C. Grenelle.
Humboldt	Humboldt	1,095	17	75.4	+ 7.5	98	2	40	29	35	0.75	− 2.69	0.30	0.0	6	30	1	0	sw.	Henry S. Wells.
Independence§	Buchanan	921	43	74.3	+ 4.2	95	15	45	29†	36	1.91	− 1.28	0.83	0.0	9	19	10	2	s.	George Donohoe.
Indianola	Warren	969	17	78.0[a]	+ 5.2	96	14	48[a]	29	29[a]	0.97	− 3.71	0.50	0.0	5	19	7	5	sw.	John L. Tilton.
Iowa City§§	Johnson	683	49	77.5	+ 5.8	100	13†	48	29	38	1.88	− 2.36	0.85	0.0	6	22	7	2	s.	K. E. Guthe.
Iowa Falls§§	Hardin	1,170	15	73.7	+ 3.8	93	11†	40	29	36	1.19	− 2.19	0.81	0.0	7	24	2	5	sw.	J. B. Parmelee.
Jefferson§	Greene	.....	.....	78.6	.....	96[f]	11†	42[f]	29	38[f]	.....	.....	.....	0.0	.....	.....	.....	.....	s.	G. W. Jackson.
Keokuk	Lee	547	37	79.5	+ 4.9	98	15	52	30	32	0.68	− 2.56	0.66	0.0	2	24	6	1	s.	U. S. Weather Bureau.
Keosauqua§§	Van Buren	644	16	77.8	+ 3.3	98	15†	43	30	44	0.23	− 3.59	0.12	0.0	2	7	21	3	.....	J. H. Landes.
Knoxville§	Marion	920	12	77.2	+ 3.5	95	13	49	30	32	1.25	− 3.42	0.92	0.0	3	18	8	5	sw.	Casey & Belville.
Lacona	Warren	.....	9	.....	.....	.....	.....	.....	.....	.....	1.46	− 3.36	0.60	0.0	3	.....	.....	.....	.....	J. B. Alter.
Le Claire	Scott	576	.....	.....	.....	.....	.....	.....	.....	.....	2.66	− 0.93	0.93	0.0	8	.....	.....	.....	sw.	Miss Margaret T. Disney
Marshalltown§§	Marshall	947	16	75.6	+ 3.8	98	15†	42	29	39	0.76	− 2.88	0.60	0.0	5	6	25	0	se.	Miss Agnes Musil.
Mason City§	Cerro Gordo	1,132	11	72.8	+ 2.8	90	1†	43	29	35	5.13	+ 1.53	1.34	0.0	10	14	13	4	se.	J. S. Mills.
Mount Pleasant§	Henry	729	26	77.2	+ 3.9	94	14	49	29	28	0.21	− 3.86	0.17	0.0	2	22	9	0	sw.	J. W. Edwards.
Muscatine	Muscatine	.....	49	.....	.....	.....	.....	.....	.....	.....	2.61	− 1.77	1.90	0.0	7	.....	.....	.....	s.	William Molis.
New Hampton§	Chickasaw	1,169	11	72.1	+ 2.6	89	1†	48	30	30	8.21	+ 5.18	4.30	0.0	10	20	10	1	s.	A. F. Kemman.
Newton§	Jasper	944	19	77.4	+ 5.2	96	14	49	29	30	0.81	− 3.37	0.54	0.0	2	23	6	2	s.	J. P. Beatty.
Northwood§	Worth	1,222	12	.....	.....	.....	.....	45[f]	29	.....	6.07	+ 2.03	1.50	0.0	10	17	10	4	nw.	Charles H. Dwelle.
Olin§	Jones	760	11	71.2	+ 0.5	92	15	46	30	33	5.20	+ 0.49	2.00	0.0	5	16	7	8	s.	C. M. Miles.
Osage	Mitchell	1,184	17	75.0	+ 7.0	96	1	44	29	35	6.87	+ 3.84	2.00	0.0	11	19	4	8	sw.	A. D. Bundy.
Oskaloosa§	Mahaska	843	24	76.9	+ 5.0	96	14	45	30	35	0.12	− 3.10	0.11	0.0	2	28	1	2	sw.	Joseph Boyd.
Ottumwa	Wapello	649	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pella	Marion	877	6	74.9	+ 0.5	95	14	40	29	40	0.23	− 3.95	0.08	0.0	4	25	4	2	sw.	John H. Ver Steeg.
Perry§	Dallas	975	7	76.1	+ 3.6	96	14	43	29	36	0.31	− 5.11	0.12	0.0	4	14	17	0	se.	J. A. Harvey.
Plover	Pocahontas	1,426	12	75.4	+ 4.5	97	15	37	29	34	0.90	− 3.63	0.42	0.0	5	27	4	0	se.	J. S. Smith.
Pocahontas§	....do	.....	4	74.8	.....	93	27	43	29	32	2.07	.....	1.17	0.0	4	18	10	3	s.	F. E. Hronek.
Ridgeway§	Winneshiek	1,215	10	75.4	+ 3.4	96	1†	47	29	33	6.20	+ 2.48	3.66	0.0	11	20	9	2	s.	Arthur Betts.
Rockwell City§	Calhoun	.....	12	77.7	+ 5.4	97	27	45	29	34	0.05	− 4.03	0.05	0.0	1	30	1	0	.....	C. M. Randall.
Sac City	Sac	1,278	26	76.2	+ 5.7	94	27	45	29	30	0.29	− 3.28	0.20	0.0	3	22	6	3	se.	E. N. Baily.
St. Charles§	Madison	1,070	7	78.1	+ 4.9	98	16	49	29	31	0.80	− 3.53	0.62	0.0	3	26	4	1	sw.	R. D. Minard.
Sigourney§	Keokuk	877	12	78.0	+ 4.2	98	14	46	29	33	2.67	− 1.18	2.42	0.0	3	4	27	0	sw.	J. T. Parker.
Stockport§	Van Buren	.....	6	76.9	.....	95	14†	50	29†	31	0.71	− 4.35	0.71	0.0	1	23	6	2	sw.	C. L. Beswick.
Storm Lake	Buena Vista	1,440	12	76.0	+ 5.3	93	15	43	29	33	2.66	− 0.66	1.21	0.0	6	24	7	0	s.	S. B. Fracker.
Stuart	Guthrie	1,216	10	77.4	+ 4.2	95	15	46	29†	38	0.27	− 3.44	0.20	0.0	2	18	12	1	.....	
Tipton§	Cedar	807	10	78.8	+ 2.6	100	14	53	29	32	2.72	− 1.94	2.00	0.0	4	25	6	0	sw.	F. K. Gregg.
Toledo§	Tama	856	14	75.6	+ 3.6	95	13†	42	30	33	1.14	− 2.56	0.47	0.0	3	24	6	1	se.	I. F. Giger.
Wapello§	Louisa	588	10	76.2	+ 2.7	92	24	52	30	29	1.50	− 3.50	1.24	0.0	3	21	10	0	s.	G. W. Schofield.
Washington	Washington	769	27	77.0	+ 3.9	97	14	46	29	32	0.26	− 3.45	0.24	0.0	2	11	17	3	sw.	Wm. A. Cook.
Waterloo§§	Black Hawk	862	25	76.4	+ 5.5	98	15	45	29	35	1.94	− 1.67	0.72	0.0	8	19	10	2	sw.	M. L. Newton.
Waukee	Dallas	1,039	5	77.0	.....	95	14	45	29	29	0.94	− 4.37	0.65	0.0	4	16	14	1	sw.	Samuel F. Foft.
Waverly§	Bremer	948	12	74.4	+ 3.6	92	24	46	29	30	1.73	− 1.23	0.50	0.0	10	11	14	6	s.	H. S. Hoover.
Webster City§	Hamilton	.....	3	76.6	.....	98	11†	40	29	37	2.66	.....	0.77	0.0	5	22	9	0	se.	C. D. Carpenter.
West Bend§	Palo Alto	1,197	14	75.0	+ 5.4	93	15	42	29	30	1.07	− 2.87	0.29	0.0	6	21	8	2	s.	Joseph Dorweiler.
Whitten§	Hardin	1,036	10	75.4[c]	+ 4.5	96[c]	14	43[c]	29	32[c]	1.00	− 2.75	1.00	0.0	1	.....	.....	.....	.....	F. P. Butler.
Wilton Junction§	Muscatine	683	13	76.4	+ 3.9	96	14†	45	31	33	1.71	− 2.58	0.64	0.0	4	20	10	1	w.	William Lang.
Winterset§	Madison	1,129	17	78.3	+ 5.7	96	11†	46	29	32	0.43	− 3.30	0.35	0.0	3	19	10	2	s.	Robert S. Cooper.
Zearing§	Story	.....	4	76.2	.....	98	14†	39	29	40	0.60	.....	0.31	0.0	5	.....	.....	.....	sw.	Orley Reese.
Missouri.																				
Darksville	Randolph	826	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Broaddus.
Gorin	Scotland	.....	23	.....	.....	.....	.....	.....	.....	.....	0.13	− 2.83	0.13	0.0	1	22	9	0	sw.	J. W. Pulliam.
Hannibal	Marian	534	18	79.0	+ 4.0	98	12	52	31	40	0.09	− 3.29	0.08	0.0	2	22	8	1	sw.	U. S. Weather Bureau.
Louisiana	Pike	500	31	78.2	+ 3.6	102	12†	40	30	52	0.51	− 2.48	0.26	0.0	4	29	2	0	nw.	J. T. Farrell.
Mexico	Audrain	797	31	79.4	+ 3.4	101	28	46	30	39	0.22	− 2.59	0.14	0.0	3	23	4	4	s.	J. F. Llewellyn.
Sublett	Adair	1,000	29	79.3	+ 3.5	99	27	50	29†	39	0.10	− 3.43	0.10	0.0	1	23	7	1	s.	Lewis Spriggs.
Steffenville	Lewis	576	15	79.4	+ 5.2	98	15	44	30	35	0.05	− 3.33	0.05	0.0	1	19	9	3	sw.	Frank Hall.
Indiana.																				
Collegeville	Jasper	.....	0	74.6	.....	92	8	48	31	35	6.97	+ 4.67	2.90	0.0	9	3	20	8	ne.	Prof. L. C. Klosterman.
Knox§	Starke	716	0	72.4	.....	88	8†	49	21†	28	5.70	.....	1.66	0.0	9	21	10	0	s.	W. R. R. Tatman.
Laporte	Laporte	810	4	75.4	+ 3.6	99	8	48	30	38	3.32	+ 0.54	2.12	0.0	5	20	9	2	n.	Chas. D. Rakestraw.
Plymouth	Marshall	790	0	71.4	.....	89	8	49	21†	31	4.95	.....	1.91	0.0	6	18	11	2	sw.	J. W. Siders.
Illinois.																				
Aledo	Mercer	738	9	75.8	.....	94	14	50	29	28	0.44	.....	0.35	0.0	3	8	22	1	s.	William B. Frew.
Alexander	Morgan	670	16	78.0	+ 2.7	97	13	48	30	37	0.66	− 2.57	0.28	0.0	3	26	5	0	sw.	George H. Hall.
Antioch	Lake	861	8	72.5	.....	95	8	45	30	35	6.55	.....	2.85	0.0	6	14	8	9	e.	J. C. James, jr.
Ashton	Lee	830	14	75.0	+ 3.8	96	24	45	30	35	3.75	− 0.06	1.12	0.0	9	13	15	3	nw.	E. J. Yenerich.
Astoria	Fulton	650	9	74.8	+ 2.1	94	14	46	30	33	2.18	− 1.34	1.65	0.0	3	21	9	1	sw.	Edward V. Bohl.
Aurora	Kane	687	30	73.2	+ 2.1	94	3	43	30	33	2.92	− 0.52	0.93	0.0	9	14	9	8	ne.	W. Holden.
Bement	Piatt	700	10	77.8	.....	98	12	51	21†	37	3.86	.....	1.94	0.0	4	23	5	3	ne.	Rev. C. S. Adams.
Benton	Franklin	598	7	80.9	.....	102	28	56	21†	39	0.15	.....	0.10	0.0	2	7	12	12	s.	F. H. Stamper.
Bloomington	McLean	840	17	77.4	+ 3.4	98	12†	48	30	36	2.51	− 0.21	1.00	0.0	4	24	5	2	sw.	Prof. H. N. Pearch.
Cairo	Alexander	359	33	81.0	+ 4.0	99	28	61	30	26	0.01	− 2.92	0.01	0.0	1	24	6	1	ne.	U. S. Weather Bureau.
Cambridge	Henry	824	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John H. Seaton.
Carlinville	Macoupin	663	19	78.9	+ 2.9	99	12†	48	30	43	0.47	− 2.45	0.27	0.0	4	27	4	0	ne.	R. O. Purviance.
Chester	Randolph	380	5	82.8	.....	103	2†	56	30	37	0.09	.....	0.05	0.0	4	26	3	2	w.	F. A. Gollon, jr.
Chicago	Cook	824	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Weather Bureau.
Coatesburg	Adams	763	15	78.0	+ 2.8	96	15†	49	30	34	0.98	− 2.50	0.40	0.0	3	30	1	0	s.	Dr. J. R. Lambert.
Cobden	Union	656	26	80.8	+ 3.3	102	28	54	37	37	1.39	− 2.32	0.85	0.0	2	25	6	0	n.	John Buck.

TABLE 1.—*Climatological data for August, 1909. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Illinois—Cont'd.																				
Colchester	McDonough	694	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Eli V. Kinsey.
Dakota	Stephenson	929	....	72.6	.....	92	3	48	29	32	7.49	.....	2.07	0.0	10	11	11	9	e.	Harold Leitzel.
Decatur	Macon	685	17	77.7	+ 2.9	98	12	49	30	37	2.20	− 0.94	2.11	0.0	3	26	3	2	ne.	Prof. J. H. Coonradt.
Dixon[a]	Lee	725	19	75.9	+ 3.7	99	15	49	30	43	1.13	− 1.90	0.45	0.0	5	23	5	3	s.	Mrs. E. E. Shaw.
Du Quoin	Perry	459	18	81.2	+ 3.3	103	28	52	30	43	0.17	− 2.42	0.13	0.0	2	23	8	0	sw.	G. H. Knetzger.
Dwight	Livingston	600	15	75.8	+ 2.8	96	8†	48	30	36	3.53	+ 0.89	1.54	0.0	6	13	11	7	ne.	Edward O. Welsh.
Galva	Henry	842	17	76.8	+ 4.1	100	12	48	29	36	0.90	− 2.54	0.40	0.0	7	25	3	3	se.	Prof. F. U. White.
Greenville[a]	Bond	635	26	79.7	+ 4.0	97	12†	54	30	34	1.55	− 1.42	1.00	0.0	4	24	4	3	se.	M. S. Oudyn.
Griggsville[a]	Pike	650	22	78.6	+ 3.3	97	15	51	30	33	0.33	− 2.40	0.33	0.0	1	21	10	0	se.	George F. Kneeland.
Halfway	Williamson	569	13	80.4	+ 1.9	103	28	54	30	38	0.95	− 1.48	0.73	0.0	3	25	3	3	w.	E. L. Hearn.
Havana	Mason	475	16	80.2	+ 4.2	102	12	52	30	35	1.95	− 1.18	1.57	0.0	3	17	14	0	sw.	F. & C. Borgelt.
Henry	Marshall	500	20	76.0	+ 3.5	96	12	49	30	33	3.93	+ 0.89	2.80	0.0	5	16	10	5	ne.	Dr. F. A. Powell.
Hillsboro	Montgomery	675	14	79.0	+ 2.6	98	12†	49	30†	43	1.04	− 2.27	0.60	0.0	3	25	4	2	se.	Ira L. Woodward.
Joliet	Will	541	17	73.7	+ 1.9	92	8	49	30	31	2.95	− 0.47	0.73	0.0	8	17	9	5	sw.	F. M. Muhlig.
Kishwaukee	Winnebago	730	19	73.8	+ 2.9	92	3†	46	30	33	6.41	+ 2.95	1.41	0.0	11	17	13	1	sw.	George Stevens.
Knoxville.§	Knox	775	19	75.4	+ 2.9	98	14	45	30	35	0.98	− 3.11	0.68	0.0	2	21	8	2	sw.	C. N. Butt.
La Grange	Cook	657	16	75.4	+ 4.0	96	8	49	30	32	6.45	+ 2.74	3.50	0.0	6	14	10	7	ne.	Prof. F. E. Sanford.
La Harpe	Hancock	698	30	77.0	+ 2.5	97	12†	50	29†	37	3.31	− 0.48	1.80	0.0	3	28	2	1	se.	John S. Campbell.
Lanark	Carroll	883	18	74.0	+ 3.6	98	15	43	30	40	1.92	− 1.52	1.09	0.0	8	18	10	3	se.	M. N. Wertz.
La Salle	La Salle	536	33	75.6	+ 3.6	94	14	51	30	28	4.00	+ 1.14	1.48	0.0	7	15	9	7	sw.	U. S. Weather Bureau.
Lincoln	Logan	482	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Martinton	Iroquois	633	21	75.4	+ 3.3	96	8	48	30	44	7.31	+ 3.83	3.80	0.0	6	25	4	2	w.	Joseph H. Peltier.
Mascoutah	St. Clair	425	18	81.4	+ 5.2	105	28	48	23	50	0.07	− 2.59	0.03	0.0	3	24	7	0	nw.	George Henrich.
Minonk	Woodford	745	15	77.0	+ 3.8	100	12	43	31	42	3.32	+ .012	2.00	0.0	4	21	10	0	w.	O. M. Davison.
Monmouth	Warren	784	16	.....	.....	.....	.....	.....	.....	.....	0.38	− 3.61	0.20	0.0	2	26	4	1	sw.	Hugh R. Moffet.
Morrison	Whiteside	685	13	73.5	+ 1.6	93	14	48	29	35	3.14	− 0.69	1.03	0.0	8	18	10	3	s.	Harold A. Maxwell.
Morrisonville	Christian	638	9	76.6	+ 1.4	96	13	45	30	41	0.40	− 2.44	0.20	0.0	3	29	2	0	ne.	J. D. Lowis.
Mount Vernon	Jefferson	511	14	80.7	+ 3.5	104	28	53	31	40	0.30	− 2.44	0.11	0.0	4	25	5	1	s.	Theodore P. Stelle.
Oregon	Ogle	702	....	74.2	.....	94	15	46	30	36	4.73	.....	1.65	0.0	9	18	3	10	sw.	Samuel Ray.
Ottawa	La Salle	500	23	76.0	+ 3.6	96	8†	49	30	32	3.59	+ 0.40	1.50	0.0	6	21	0	10	sw.	Miss Maud M. Harris.
Pana[d]	Christian	692	22	76.9	+ 2.4	96	15	48	30	31	1.74	− 1.61	1.27	0.0	4	30	1	0	ne.	C. W. Sibley.
Peoria	Peoria	609	33	77.0	+ 4.5	97	14	50	30	38	0.79	− 2.14	0.74	0.0	4	21	7	3	sw.	U. S. Weather Bureau.
Pontiac	Livingston	546	7	77.6	.....	96	14	50	30	34	3.75	.....	1.95	0.0	7	16	12	3	sw.	George Butterworth.
Riley	McHenry	956	50	73.3	+ 3.9	94	3	50	29	28	6.25	+ 2.83	2.12	0.0	12	12	14	5	sw.	John West James.
Rockford	Winnebago	763	13	73.6	+ 2.1	93	1	50	30	29	7.69	+ 4.28	2.30	0.0	9	22	7	2	.....	Hosmer C. Porter.
Rushville	Schuyler	670	8	78.0	+ 3.8	96	14†	51	30	33	0.81	− 2.47	0.81	0.0	1	27	3	1	s.	H. F. Dyson.
St. Charles	Kane	700	12	73.7	+ 2.7	93	8	48	30	34	6.58	+ 2.68	1.62	0.0	12	16	13	2	ne.	Dr. Wm. H. Bishop.
Springfield	Sangamon	644	28	78.4	+ 4.4	96	12	53	30	32	1.62	− 1.18	0.94	0.0	4	24	5	2	s.	U. S. Weather Bureau.
Staunton	Macoupin	625	....	80.0	.....	100	12†	48	31	45	0.39	.....	0.39	0.0	1	26	5	0	sw.	William F. Schaefer.
Streator	La Salle	626	15	76.6	+ 3.4	96	9†	48	30†	41	3.31	+ 0.23	1.10	0.0	5	27	2	2	sw.	Edward F. Sweetser.
Sullivan	Moultrie	530	9	78.0	.....	98	12†	43	30	41	1.30	.....	0.71	0.0	2	23	8	0	sw.	C. A. Corbin.
Sycamore	De Kalb	855	28	74.4	+ 4.6	96	8	46	30	37	7.08	+ 3.53	2.07	0.0	9	20	3	8	se.	Miss E. J. Davis.
Tilden	Randolph	500	23	80.2	+ 4.2	102	26†	51	31	42	0.07	− 3.12	0.06	0.0	2	27	4	0	s.	James A. Caldwell.
Tiskilwa	Bureau	798	14	74.0	+ 1.8	92	15	42	29	30	4.50	+ 0.33	3.00	0.0	7	23	3	5	e.	F. I. Smucker.
Walnut[b]	....do	717	17	77.2	+ 3.5	96	5†	50	29	32	3.09	− 0.30	1.46	0.0	6	17	13	1	se.	O. C. Nussle.
White Hall	Green	573	....	77.6	.....	97	12†	48	31	43	1.48	.....	0.51	0.0	4	28	3	0	w.	Dr. R. A. Pritchett.
Windsor	Shelby	681	10	77.3	+ 3.1	99	12†	46	21†	46	1.20	− 2.39	1.10	0.0	3	17	13	1	s.	Herbert Rose.
Winnebago	Winnebago	900	21	74.1	+ 3.3	93	1†	46	30	33	6.82	+ 3.31	1.37	0.0	10	19	8	4	sw.	Frank Osborn.
Yorkville	Kendall	584	21	74.8	+ 4.2	99	7	42	30	41	2.09	− 1.17	1.00	0.0	7	19	8	4	w.	Herman A. Grimwood.
Zion	Carroll	938	13	73.3	+ 3.3	95	14	46	30	42	2.24	− 0.89	1.62	0.0	4	24	5	2	sw.	Robert F. Gillogly.

[a] Precipitation included in that of the next measurement.
[b] Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
‖ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for August, 1909. District No. 5, Upper Mississippi Valley.*

Stations.	River basins.	Day of month																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
North Dakota.																																	
Amenia	Red	T.		.40		.12			T.		1.30	.15			T.	T.								.92	T.	T.							2.89
Bottineau	Mouse		.06			T.	.05	T.	.07		.12							.02							1.06								1.38
Cando	Sheyenne																																
Crosley	Mouse		T.				T.	.80	.01	.02				T.			.02																0.85
Devils Lake	Sheyenne		.48	.01	.55	.20	1.10	T.			T.		0.1	.33	.01		T.							.87	0.4								3.60
Donnybrook	Mouse														T.		T.						T.										T.
Dunseith	do							.32			.48	T.	T.												.42								1.22
Edmore	Sheyenne		.05		1.10		.05	.90	T.			.23			.20	.90									.40								3.83
Forman	do		.06			T.		.32	T.	T.	T.	T.	T.			.50		.07						T.									0.95
Grafton	Red		1.07	.30		.20	1.05	1.02			.10				.60										1.36								5.70
Granville	Mouse		T.					T.		T.	.49			.41	.50										.12								1.52
Hamilton	Pembina																																
Hannah	do																																
Hansboro	Red		.21					.18																.54									0.93
Hillsboro	do			.42	.55	.01		.81			.67	.52											.65	.28	.85								4.76
Lakota	Sheyenne		.18		.61	.05	.35	.13			.20			.63		T.	T.	T.					.16		.85								3.16
Langdon	Pembina	.41		.31		.42	.56	.56			.22														.18								2.66
Larimore	Red			.39		.30	.01		1.32		.27	T.	T.	.01										.33	.65								3.28
Lisbon	Sheyenne			.06				.15	.18		.22	.37			.66	.80		.38					.02	.02		.05							2.91
McKinney	Mouse		T.				T.																	.26									0.26
Manfred	Sheyenne				.10	.04	.02	.07			.16			.08	.30		T.							.12	1.30								2.19
Mayville	Red																																
Milnor	Sheyenne															1.10									.50								1.60
Minot	Mouse		.02	.01		.05			.03	.02					.10	.01		T.							.18	.07							0.55
Minto	Red		.70		1.10			.27			.09													.14	.35								2.65
Oriska	Sheyenne																																
Park River	Red																																
Pembina	do	.11		.19		.04	T.	.54			.01	T.			.53					T.				.01	T.								1.43
Portal	Mouse							.30				.25															.18						0.73
Power	Sheyenne	.03			.38		.07	.94			.70	.58		.07		.04	.02					.59		.51	T.	T.							3.93
Pratt	Mouse							T.			.24						.02							1.42									1.68
Towner	do		.05		T.		.05								.08										.32								0.50
University	Red		.47	.03	.09	.25	.02	.78	.01		.21			.06										.27	.40								2.59
Wahpeton	do																																
Walhalla	Pembina		.50		.50		1.75	T.			.16											1.00											3.91
Westhope	Mouse		.05	T.				T.			.58						T.																0.63
Willow City	do		.07	.02	.07			.20			.24						.04								.18								0.82
Minnesota.																																	
Albert Lea	Mississippi			.09					T.	.50		.30	2.30	1.85	1.70	.30		1.00					.10	.10									8.24
Alexandria‖	do			.15				.14	.72		.04	T.						.11					.18		T.	.04							1.38
Angus	Red	T.		1.30	.30	.23	.03	.58			.14										T.	.03		.11	.72	.09							3.53
Bagley	do	1.18		.15			T.	.62			2.07	.31									.05		.02	.41	1.05	T.					.05		5.91
Baudette	Rainy	.25		.30			.78	.22	.06		.22											.20	.34	T.	.46	.05							2.88
Beardsley	Minnesota		1.32					3.51	1.39					.03				.30						.10	.02								6.67
Beaulieu	Red																																
Bird Island	Minnesota			.04				.03	T.	.05		.42		3.32				T.					T.	.15	.06								4.07
Caledonia	Mississippi		.36	.05						T.	.05	2.60	.98	.39	1.50		0.2						.26			T.		T.					6.21
Campbell‖	Red	.06		.10				.50	1.92		.20	T.				.12		.04					.16	.43	.07	.05							3.65
Cass Lake‖	Mississippi	.91		.02				.33	1.07		.76	2.29										.13		.11	.60	.37							6.59
Collegeville	do							1.16							1.14								.04	.02	.08			.14					2.58
Crookston‖	Red	.38		.25	.15	.14	.17	.22	.65		.30	.37			T.									.10	.54	.11							3.38
Detroit‖	do			.11	T.			2.00	.91	T.	T.	5.40											.05	.62	.70	.10					T.		9.89
Fairmont	Minnesota			.12				T.	T.	.52			1.80	.64				T.						.19					.25			T.	3.52
Faribault	Mississippi	.37		.15				T.	T.		.29	2.85	.98	3.71		.01		.02					.11	.08					.02				8.59
Farmington	do	.46		.04				T.		T.	1.36	.47		.40	T.			.58					.04	.14					.05				3.54
Fergus Falls	Red	T.		.23			.59	.40	.72		.36	.44				.03	.01	.03					.15	1.45	.21	.04							4.66
Fort Ripley‖	Mississippi	.08						.16	.97			1.32	T.									T.			.15	.09			.40				3.17
Fosston	Red							6.8			2.64													.40	.47								4.19
Glenoe	Mississippi	.30		T.				T.		T.	.65	.98	.08	.44										.18									2.63
Grand Meadow	do			.09						.65		.90	.75	3.85	.55	.45		.05					.60	.20				.25	T.				8.34
Hallock	Red		.25		.10		.62				.25			.62								.02		.01	.20	.05							2.12
Halstad‖	do			.40		.32	.09	.02	.42		.90	.58			T.	.01							.13	.10	.16	.44							3.57
Hinckley	St. Croix	.13	1.11	1.49					.54		2.50	1.46			.22								T.		.05			.18					7.68
International Falls	Rainy			1.21			1.40	.22	.27		.16	.05			.34								.77	.13	.78	T.			.75		T.		6.08
Kelliher	Red	.24		.13		T.	.62	.85	.17		2.02	T.							.07					.49	1.57	T.	.03	T.			.05		6.24
Lake Crystal	Minnesota									.26		.47	.94	.40				T.					.11	.11				.23					2.52
Leech Lake Dam	Mississippi	1.09		.35			1.19	.76	1.17		3.08	1.55	.02									.01		.62	.26			.29			.04		10.43
Litchfield	do			.78								.10										.58		.09									1.55
Little Falls	do			T.			.12	.06	1.03		.56	1.06						.02				T.	T.	.08	.08	T.		.35					3.36
Long Prairie	do																																
Lynd(2)	Minnesota			.28				.17		.36		.12	.15	.38											T.								1.46
Mankato‖	Minnesota		.09								.10	.14	.50	2.25	.24			1.42					.03	.25	T.				.25				5.27
Milaca	Mississippi	T.		.03				.03	1.40		.56	.56											.11	.05	.07								2.81
Milan	Minnesota			.43				2.10	.07					.71				.16						T.	T.			T.					3.47
Minneapolis(1)	Mississippi	.11	.01	.10				.04	.10		.22	.43		.04				.36					.17	.22				.07	.22				2.09
Minneapolis(2)	do	.12		.08				T.	.18		.23	.56		.04				.41					.18	.23				T.	.23				2.26
Montevideo‖	Minnesota			.47				.40	.34					.96	.05			.11								.16			T.				2.49
Moorhead	Red		.45	.14	.04		.08	.31	.02		1.22	.44		T.		.03								1.15	.03								3.91
Mora	St. Croix	.38		.03					.72		.73	.83		.01										0.6	.04				.05				2.85
Morris	Minnesota			.26				.63	.26					.11		T.	.02	.14						.12		.02		T.					1.56
New London	Mississippi			.05					.66				.07					.14							.09								1.01
New Richland	Minnesota			.04						.97	.06	.35	1.20	.94	1.38	.02		.66						.08		T.		T.	.07				5.77
New Ulm‖	do			.11					T.		.25	.26	1.18	.22	.23			.75					T.			T.			.35				3.35
Osakis	Mississippi			.13			.05	.38	1.04		.16							.05					.06	.19	.05	T.		T.					2.11
Park Rapids‖	do	.48		.03	T.			3.58	.76	T.		1.31		.02				T.	T.			T.	.07	.12	1.17	.30	T.					7.84
Pine River Dam	do	.35		.20			.55	1.80			.95	.50		.20							T.		T.	.35	.65			T.					5.55
Pokegama Falls	do	T.		.44			.12	.91	.66		1.48	1.45		T.	.02							.04		.18	.28				.66		.09		6.33
Red Lake	Red				T.		1.75	.68	.15		2.47												.10	.20	.95	.35							6.65
Red Wing	Mississippi																																
Red Wing (river)‖	do	.12		.02						T.	.18	.60	.16	.02	.26			.20					.20		.02					T.			1.78
Redwood Falls	Minnesota			.03				T.		.20		.50	T.	.29				.02						.21	T.								1.25
Reeds Landing‖	Mississippi				.52						.88	.22	.06	.44	.34			.18					.98						.08				3.70
Rochester‖	Mississippi	.06		T.	T.				T.	.50	.10	.24	2.04	.56	1.48				.02				.26		T.				.10				5.36
Roseau	Rainy	.25			.03	1.12	.07				.14				.03							.30			.18	.14							2.26
St. Charles‖	Mississippi									.15	.28	4.45	1.50	.90	2.02	.01	.05						.50						.05				9.91
St. Cloud	do	.31		T.					1.36		.10	.13				.08		.16					.04			T.			.25				2.43
St. Paul	do	.04		.07			.22	T.	.02		.16	.24		1.00				.42					.22	.22					.28				2.89
St. Peter	Minnesota			T.						T.	T.	4.12	2.17	.43				T.					.21	T.					.10				3.32
Sandy Lake Dam	Mississippi	.26	T.				.10	.76	.42		3.23	.58	.03		.57								.05	.20	.70						.05		6.95
Shakopee	Minnesota																																
State Sanitorium	Mississippi	.30					3.36	.35	.70		.92	.32											.05	.79	.43	.05							7.27
Stillwater‖	St. Croix	.20		.06	T.			.20	.08		.52	.84	T.		T.			.26					.44		.38	T.	.01		.34				3.33
Taylors Falls	do		.03		.42				.10		.49	2.01		T.									.34	.30									3.69
Wabasha	Mississippi								T.		.92	1.00	T.	.43	.22	T.		.18					.75		T.				.23				3.73

TABLE 2.—*Daily precipitation for August, 1909. District No. 5*—Continued.

Stations.	River basins.	Day of month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Minnesota—Cont'd.																																	
Warroad	Rainy						1.32			.10			.02								.02			.15	T.	.02				.03			1.66
West Concord	Mississippi	.36									.20	3.20	.87	2.53	.82								.49										8.47
Willow River	St. Croix		.78	.02			T.		.45		2.18	2.02			.10								.15	.15					.06				5.91
Windom	Des Moines			.47				T.	.16	.38	.03	.09	1.12	.45		T.																T.	2.70
Winnebago‖	Minnesota			.36					T.	.60	.71	.48	.66	T.	.31	.03		T.						.17	.01				.27				3.60
Winnibigoshish	Mississippi	.14		.80			.30	.23	1.10		2.42	1.11				T.						.06		.52	.30	.08			.14		.04		7.24
Winona	...do	T.		T.					T.	.06	.80	1.03	.66	.25	3.42	T.		.03					.81						.10				7.16
Worthington	Des Moines			.90					T.	.90	T.		T.				.30								T.							T.	2.10
Zumbrota	Mississippi	.22		.12					.06	T.	.30	2.45	.37	.34	.43			.16					.03	T.					.37				4.85
South Dakota.																																	
Milbank	Minnesota	T.		.36				1.04	.71	T.				.98	.14			.22								T.	T.						3.45
Wisconsin.																																	
Antigo	Wisconsin	.38			.08			.03	.05		T.	.37	T.													T.	.54	.10	.76				2.31
Barron	Chippewa	.08	.65				.96		.24		.78		T.		.07									.30	.12				.10				4.08
Beloit	Park	.26								.82		1.99	*	.51	*	3.60										.13		1.20					8.51
Brodhead	...do	.10			.25					.82		.60	1.55	1.05	2.52	.30										0.4		.92					8.15
Burnett	...do	.03		.55	.10					T.		.50	.02		1.05	.66				.06			T.					.93	T.				3.90
Delavan	...do	.26		.01						.70		.99		*	5.92	.56										.08	.04	1.23	.01				9.80
Dodgeville	...do																																
Downing	Chippewa		T.	.70							.59	1.18	T.	.20	.83	T.							T.										3.50
Eau Claire	...do			.10					T.		.32	1.39		.13	.02					T.			.15	.04		T.			.07				2.22
Ellsworth	Mississippi																																
Gliddon	Chippewa																																
Grand Rapids	Wisconsin		.09					*	.03	.06	.07	1.30	.02	T.	.75	T.							.43	T.					.53				3.28
Grantsburg	St. Croix		.50	.10					.40		.70	.70												.18	.05				.65				3.28
Hancock	Wisconsin	.75										.91	T.	T.	.75								.35				.12	1.08					3.96
Hatfield	Black									.03		.50	.07	1.34									.28										2.22
Hayward	St. Croix	.62		T.			T.	T.	.25		.70	1.40						.37				T.		.08	.26			.15					3.83
Hillsboro	Wisconsin								.04		T.	.75	T.	*	3.00	T.		T.		T.			.61					.10	.11				4.61
Koepenick	Wisconsin	.85			1.03				.04		.15	.40											.11						.66				3.24
La Crosse	Mississippi	T.		.03					.06		.27	3.18	.40	.98	2.98	T.		T.					.51			.01		.04	.20				8.76
Lake Mills	Park	1.60		T.	.03					.57	T.	.52	.14		1.42					T.			T.					.12	T.				4.40
Lancaster	Mississippi									T.		1.01	.38	T.	1.82	.04			T.				.24										3.49
Long Lake	Wisconsin	.27		T.	.06				.24	.01	T.	.67	.04	.04		.14									.21				.07		.10	T.	1.85
Madison	Park	T.		T.					.10	.78	T.	.78	.06	.28	1.73	T.		T.		T.			.08					.58	T.				4.39
Mather‖	Wisconsin									T.		.08	.03		1.19	T.							.34						.30				1.94
Mauston	...do											.75			4.65	.08							.50						.20				6.18
Meadow Valley	...do				T.					.07		.33	.03	.08	1.14								.44			.06			.37				2.52
Medford	Black											1.30		.08		.30					.12								.35				3.15
Merrill	Wisconsin	.02		.02	T.				.47		T.	.61	T.	.08	.11								.15	.02					.63				2.11
Minocqua	...do	.40		T.							T.	.80		T.		T.										T.		.20			T.	T.	1.40
Mondovi	Mississippi			.17							.38	.77	T.	.25	.12			.07					.73	.03					.10				2.62
Mt. Horeb	Park			T.					T.	.10		.86	T.		2.99	.36		.02		T.			.22					.80	T.				5.35
Muscoda‖	Wisconsin									T.		*	3.10	*	1.60						T.		.30	T.				T.	.12				5.12
Neilliville	Black																																
New Richmond	St. Croix		.22	.64				.96	.11		.30	.91	.04	T.		.05								.40				.08					3.71
Osceola‖	...do	T.	T.	.43			.10		.41	.30	.45			T.		T.							.22	.60		T.		.15					3.66
Portage	Wisconsin	.09							T.			.75		2.35									.17					.22	.06				4.24
Prairie du Chien‖	Mississippi	*	.03		T.				T.	.03	.19	.01	1.69	.06	1.07		T.		.01				.25	.02	T.				T.	.06			3.42
Prentice	Chippewa	.17		.11					.17		.35	.11		T.										.20				.74			.08		1.93
Rhinelander	Wisconsin	1.11		.02	.05				.21	.02	.02	1.68	.02				.04						.01		.19				.43		T.	.03	3.83
Sauk City	...do								.29			1.97		*	1.45	T.							T.					.93					4.64
Shullsburg	Mississippi			.02	.08					.32		.57	.60		3.40	.64							.04					.84				T.	6.51
Solon Springs	St. Croix	.40		.20				.30			2.60			.30				T.							T.			T.			T.		3.80
Spooner	...do	.54	.20	.20			1.30		.30		.62	.92		.24		.20								.20	.14				.44		.05		5.35
Stanley	Chippewa			T.	.96				.01		.43	1.85			.44								T.	.13		T.			.47				4.29
Stephens Point	Wisconsin				.14							1.00			.66								.38	T.			.28	.11	.25				2.82
Valley Junction	...do			T.					.08			.32	T.	T.	2.77		T.			T.			.58	T.			.10	T.	.04				3.89
Viroqua	Mississippi								.02	T.	.04	1.90	1.10	.32	3.05	T.					.18		.72					.01					7.34
Vudesare	Wisconsin	.25			.18				.10		.40	.56	T.	T.	T.	1.30								.27							.05	T.	3.11
Watertown‖	Park		.43		.05								.88		1.05	.09	.06						T.						.50				3.06
Waukesha (1)	Fox	.27		1.09	.06					.20		.71			.68	.55												.17					3.73
Waukesha (2)	...do	.62		.44						.25		.54			.84	.50												.24					3.43
Wausau	Wisconsin	.13		.06					.02		T.	1.27	T.		.18								.15	.02		.12		.08	.46		.01		2.50
Weyerhaeuser	Chippewa	.03	T.	.04			.01		.18		.18	.73		.10		.44			T.					.28	.01				.78		.02		2.80
Whitehall	Mississippi									T.	.11	.47	T.	.29	.59			.11					.85	.05					.43				2.90
Iowa.																																	
Albia	Des Moines						1.03																				.01	T.	T.				1.04
Algona	...do			.30					.08	.46			1.05	.32	T.									.15				T.				T.	2.36
Amana	Iowa										T.		T.			.18		.09					.19			.04		.50	T.				1.00
Ames	Skunk																																
Baxter	...do			T.		.17							.06										.16	.01		T.		.28	.03				0.71
Belle Plaine	Iowa			.05														T.					.78			T.		.22	T.				1.05
Bloomfield	Mississippi					.55																						.27					.82
Bonaparte	Des Moines															.04										.11		.02					0.17
Boone	...do			T.								T.	T.	.14		.04							.11	.07				.39	.11	T.			0.86
Britt	Iowa			.22		.07							.66	.26	.15	T.							.05	.71								T.	2.12
Buckingham	Cedar									.04			.07		.46			.05	.02				.20			0.4		.22				T.	1.10
Burlington	Mississippi																.59									.08	.20			T.			0.87
Carroll	Raccoon		.23																				.07										0.30
Cedar Rapids	Cedar			T.							T.	T.	T.		T.	T.		T.					.20			.03		.86	T.			.07	1.16
Charles City	...do			T.					T.	2.74			2.16	.32	.04	1.02		.29					.17	.04			.05	T.				.05	6.88
Clear Lake	...do									.60			1.35	.15	.25								.55	.46				.03					3.39
Clinton	Mississippi	.10									.80				2.80	.03		.03								.29		1.10				.05	5.20
Columbus Jct.	Iowa																	T.					T.			T.		.50					0.50
Davenport	Mississippi	T.	T.	T.									T.	.07				.01	T.				T.			1.19		.99	T.			.08	2.34
Decorah	...do									.15	.04	1.01	1.60	1.55	.20	T.		T.					.21						.17				4.93
Delaware	...do									T.		.12	.13	1.57		.30		.12	T.				.27			4.8		.68	.01			.36	4.04
Des Moines	Des Moines			T.		T.										.02		T.					.11			T.		T.	.01				0.14
De Soto	Raccoon			T.																			.49			T.		.25					0.74
Dows	Iowa												.20											.31				.08					0.59
Dubuque	Mississippi	T.		T.					.01	T.		T.	.15	.39	.24	T.		.05	T.				.09			T.		.55	T.			.02	1.50
Earlham	Raccoon														T.	.01							.41	.03		T.		.03	.40				0.88
Elkader	Mississippi									.40	.19	.20	.41	.28	.44		.12									.08		.05					2.17
Elma	Wapsipinicon			T.						.85	T.	T.	.91	1.87	.62	T.	.12						.11	.50			T.					.50	5.48
Estherville	Des Moines			.24						T.			.20	.15	1.00										.12				.14			T.	1.85
Fairfield	Skunk															T.										T.		T.					T.
Fayette	Mississippi			T.					.56	.29	.07	T.	.04	.80	.30			.13					.10					.13	.03			.10	2.55
Forest City	Cedar																																
Fort Dodge	Des Moines			.19						.22			.17						T.					.07									0.65
Ft. Madison	Mississippi					T.										T.										.18							0.18
Gilman	Iowa			T.		.15					T.							T.					.45			T.		.65	.10				1.35
Grand Meadow	Mississippi			T.						.44	.20	.28	1.09	.51	1.43			.13					.13					.02					4.23
Greene	Cedar									1.66			.80	.20		T.		.89					.10	.07			.04	.08				T.	3.84

TABLE 2.—*Daily precipitation for August, 1909. District No. 5*—Continued.

Stations.	River basins.	Day of month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Iowa—Cont'd.																																	
Grinnell	Iowa			.10		.10									.04								.21					1.59					2.04
Grundy Center	Cedar			T.							.08		.23		.16	.12		.05					.68	.13		T.		.10	T.				1.55
Guthrie Center	Raccoon			.05														T.					1.00	.19			.02		T.				1.26
Hampton	Cedar			T.					.26	.63			1.30		.15	.16		.05					T.	.18			.02	.38				.02	3.15
Humboldt	Des Moines			.11	T.					.16			.30	.05	.07		T.							.06									0.75
Independence	Wapsipinicon									.01				.12	.05	.04		.04					.83			.04		.73	.05				1.91
Indianola	Des Moines					.04										.50		T.					.26	T.				.14	.03				0.97
Iowa City	Iowa													T.		.08			.16				T.	T.		.09	.85	.35	.35				1.88
Iowa Falls	do			T.	T.		T.			.01				.81	T.	.13			.02					.11	.06			T.	.05				1.19
Jefferson	Raccoon																																
Keokuk	Mississippi																									.66	.02		T.				0.68
Keosauqua	Des Moines						.11																			T.	T.	.12					0.23
Knoxville	do					.92					T.		.10			T.		T.					.23					T.	T.				1.25
Lacona	do															.44							.42					.60					1.46
Le Claire	Mississippi	.20								.10			.64		.02			.03					T.			T.	.93	.02	.72	T.			2.66
Marshalltown	Iowa													.03					.01				.10	.02					.60				.076
Mason City	Cedar			.08		T.				1.34		.07	1.27	.37	.75			.30				.50	.40					.05					5.13
Mt. Pleasant	Skunk			T.												T.	.04									T.		.17	T.				0.21
Muscatine	Mississippi		.04															.02							.05	.10	1.90	.42	.08				2.61
New Hampton	Wapsipinicon									4.30	.12		.45	2.49	.28	T.		.17						.04			.08	T.	.12			.16	8.21
Newton	Skunk	.27											T.										.54					T.					0.81
Northwood	Cedar			.06					T.	1.03		T.	1.30	1.22	1.50			.53				.02	.26					.06				.09	6.07
Olin	Wapsipinicon	.80												1.80													2.00	.40			.20		5.20
Osage	Cedar			T.	.68				T.	.35			1.20	.15	2.00	.64		.70					.33	.18				.37				.27	6.87
Oskaloosa	Des Moines					T.					.01					T.		T.					T.			T.	T.	.11	T.				0.12
Pella	do					T.							T.			.07		T.					.08			.01	T.	.07	T.				0.23
Perry	Raccoon			.10		T.												T.					.12	.02					.07				0.31
Plover	Des Moines			.42									.15	.15		.08		.10															0.90
Pocahontas	do								T.	1.17			.46	.20	.24									T.									2.07
Ridgeway	Mississippi	.02		.07					T.	.53	.06	1.12	2.54	1.24	.16	T.		.13					.18	T.					.15				6.20
Rockwell City	Raccoon								.05				T.																				0.05
Sac City	do			.20											.07			.02															0.29
St. Charles	Des Moines					.05																	.62					.13	T.				0.80
Sigourney	Skunk															.20							T.			.05		2.42					2.67
Stockport	do															T.										T.	T.	.71	T.				0.71
Storm Lake	Raccoon			.34					1.21	.23					.78			.03						T.					.07				2.66
Tipton	Cedar								T.			.02											T.	T.		2.00		.41				.29	2.72
Toledo	Iowa					T.																	.47	T.				.47	.20				1.14
Wapello	Iowa															.06		T.								1.24		.20					1.50
Washington	Skunk																									.02		.24					0.26
Waterloo	Cedar			T.						.08	.07		.07	T.		.03		.13					.73					.78	.06			T.	1.94
Waukee	Raccoon	T.		T.							.01												.23					.65	.05				0.94
Waverly	Cedar									.46			.30	.02	.01	.50		.20					.04	.03				.13	.04				1.73
Webster City	Des Moines			T.		.43							.77			.24								.68				.54					2.66
West Bend	do			.27					.29				.20	.28		T.	.02							.01								T.	1.07
Whitten	Iowa						T.						T.	T.		T.		T.					1.00					T.					1.00
Wilton Junction	Cedar	.15																								.63	.64	.29					1.71
Winterset	Des Moines			T.		T.										T.							.35	T.		T.		.05	.03				0.43
Zearing	Iowa					.31												.04					.12	.04				.09					0.60
Missouri.																																	
Darksville	Chariton																																
Gorin	Mississippi					.13																											0.13
Hannibal	do						T.									.08										.01			T.				0.09
Louisiana	do					.10	.12								.26		.03									T.							0.51
Mexico	do				.02	T.	.14										.06									T.				T.			0.22
Steffenville	Mississippi																									.10							0.10
Sublett	Chariton																										.05						0.05
Warrenton	Mississippi																																
Indiana.																																	
Collegeville	Iriquois	.01		.02	T.	1.00				T.	.01		2.90	2.22	.11					T.						.15	.55		T.				6.97
Knox	Kankakee		.09	1.57	T.							T.	.66	.28	1.33	T.	.34									.10	.18	1.15					5.70
Laporte	do												.44		2.12	.15												.40	.21				3.32
Plymouth	do			.30	T.								.45		1.61		.53									T.	.15	1.91	T.				4.95
Illinois.																																	
Aledo	Mississippi										T.							T.								.35	.03	.06					0.44
Alexander	Illinois																.11	T.								.27	.28						0.66
Antioch	do	1.61								.32		.65			2.85		.80											.32					6.55
Ashton	Mississippi	.61			.04				T.			.06	.06	1.12	T.	.68										.34	T.	.75				.09	3.75
Astoria	Illinois		T.		T.												.52							T.		1.65	.01		T.				2.18
Aurora	do		.09	.04	.54							.37	.56	.54	.36	.13										.29						T.	2.92
Beardstown	do																																
Bement	Mississippi				.14												.23									1.94	1.55						3.86
Benton	do															.10														.05			0.15
Bloomington	Illinois										T.			.52			.26									1.00			.73				2.51
Cairo	Mississippi						.01									T.																	0.01
Cambridge	do																																
Carlinville	Illinois					T.	.03							T.			.13		T.							.04	.27						0.47
Carlyle	Mississippi																																
Chester	do						.05							T.	.01	T.	.02										.01			T.			0.09
Chicago	Illinois																																
Coatsburg	Mississippi										.40						.25		T.							.33							0.98
Cobden	do															.54	.85																1.39
Colchester	Illinois																																
Dakota	do	.03			.60					.36		.26	1.60	1.36	2.07	.50										.11		.60	T.			T.	7.49
Decatur	do				T.												.04									2.11	.05						2.20
Dixon	Mississippi	.45		T.								.11	.08	T.	.11												T.	.38	T.			T.	1.13
Du Quoin	do						T.										.04		.13														0.17
Dwight	Illinois	.18		T.	.31						.06	.26		1.54												1.18		T.					3.53
Galva	do		.08	.03										.22				T.								.40	.02	.14	.01				0.90
Grafton	Mississippi																1.14		.14														1.28
Greenville	do					.31	T.				.02						1.00									.22							1.55
Griggsville	Illinois					T.													T.							.33							0.33
Halfway	Mississippi						.73		T.			T.				.15	.07													T.			0.95
Havana	Illinois															1.57										.16	.22		T.				1.95
Henry	do	.27									.13			2.80		T.		T.								.50		.23	T.			T.	3.93
Hillsboro	Mississippi																.04								.40	.60							1.04
Joliet	Illinois	T.		.19	.46					.50		.73	.08			.63										.31		.05	T.				2.95
Kishwaukee	Mississippi	1.05			.30					.13		.11	1.41	.40	1.33	.56		T.								.17		.94	T.			.01	6.41
Knoxville	Illinois	.30																T.								.68							0.98
La Grange	do	T.		.08						T.		1.10	.60		3.50	.38										.27		.52					6.45
La Harpe	do																.60									1.80	.91		T.				3.31
Lanark	Mississippi	T.	T.	T.	.15					T.		.05	.13	.02				.44								.36		1.09				.08	1.92
La Salle	Illinois	.72		.43	.30						.29	T.	1.05	.43				T.								.78	T.	T.	T.			T.	4.00
Lincoln	do																																

TABLE 2.—*Daily precipitation for August, 1909. District No. 5*—Continued.

Stations.	River basins.	Day of month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Illinois—Cont'd.																																	
Loami	Illinois																.50									.03	.70						1.23
Martinton	...do			.98	.27					.03		3.80	1.13			T.										1.10							7.31
Mascoutah	Mississippi						.02								T.	.02			.03														0.07
Minonk	Illinois	.22		T.							T.		T.	2.00				T.								.95	.15	T.	T.				3.32
Monmouth	Mississippi		T.													T.										.20	.18						0.38
Morrison	...do		T.						.50		1.03		.06		T.	.04										.47	.10	.81				.13	3.14
Morrisonville	Illinois																.02	T.								.18	.20						0.40
Mt. Vernon	Mississippi					.10	.04					.11							.05									T.					0.30
Oregon	...do	1.00			.12					T.		.20	.45	.46	.05	1.65										.45		.35	T.			T.	4.73
Ottawa	Illinois	.13		.23	1.50							.69		.89											.15								3.59
Pana	Mississippi																.10		.09							.28	.27						1.74
Peoria	Illinois	.02		T.										.02		.01		T.								.74			T.				0.79
Pontiac	...do		.06		.05						.05		.27	1.95												1.25	.12		T.				3.75
Riley	Mississippi	.04		.36	.07					1.10		.62	.43	.29	2.12	.44										.11		.60	T.			.07	6.25
Rockford	...do	T.	1.49		.39						T.		.72	1.58	1.63	.67	T.									T.	.14	.16	.91				7.69
Rushville	Illinois					T.																				.81							0.81
St. Charles	...do	.04	.03	T.	.15					.19		1.13	.50	1.22	1.62	.86										.46		.36	.02			T.	6.58
Springfield	Illinois															.60		.07								.94	.01						1.62
Staunton	Mississippi													T.			.39																0.39
Streator	Illinois		1.10		.53						.30			1.10					T.							T.	.28						3.31
Sullivan	Mississippi																T.									.59	.71						1.30
Sycamore	...do		.48		.33						.26		.62	.90	.72	2.07											.55		1.15				7.08
Tilden	...do						.01					T.							.06														0.07
Tiskilwa	Illinois	.06		.29							.48			3.00				T.	T.							.41	.24		T.			.02	4.50
Walnut	Mississippi	.05		T.							.54	.03		.98												1.46	T.		T.			.03	3.09
Warsaw	...do																									.15							0.15
White Hall	Illinois					.45	.49		T.		.03						.51									T.							1.48
Windsor	Mississippi																.10									.50	.60						1.20
Winnebago	...do	.75		T.	.75					T.		1.00	.67	.28	1.37	.85										.17		.95				.03	6.82
Yorkville	Illinois	.02			.50					T.			.15	1.00	.01	.01										.40							2.09
Zion	Mississippi	.40										.02													.20		1.62						2.24

TABLE 3.—*Maximum and minimum temperatures at selected stations, August, 1909. District No. 5, Upper Mississippi Valley.*

Date.	North Dakota.										Minnesota.																	
	Bottineau.§§		Devils Lake.		Lisbon.§§		Minot.§§		Pembina.§§		Collegeville.		Crookston.§§		Grand Meadow.		Montevideo.§§		Moorhead.		New Ulm.§§		PineRiverDam.		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...	87	55	88	55	91	62	91	53	89	55	86	58	87	60	96	65	93	65	88	62	93	62	83	55	88	61	84	58
2...	86	56	90	66	93	60	89	68	87	63	90	65	92	68	95	64	92	67	92	68	95	67	87	60	92	68	85	62
3...	82	50	81	60	81	64	86	49	84	62	85	67	78	67	93	68	85	67	80	62	87	70	81	44	85	70	81	69
4...	80	56	84	59	89	53	84	53	86	60	86	58	86	58	92	59	87	56	87	55	88	58	87	58	85	60	86	55
5...	84	53	85	61	91	59	88	56	84	60	87	64	90	60	94	69	91	63	90	64	93	60	88	65	91	61	86	64
6...	78	62	79	58	86	70	82	64	82	61	86	65	84	70	92	67	91	67	84	68	92	63	86	63	90	67	80	63
7...	65	55	68	52	75	66	66	55	64	58	85	67	65	63	92	62	80	67	73	59	88	69	79	62	86	70	81	63
8...	77	47	76	47	78	55	79	44	81	44	78	62	77	58	82	63	79	65	78	58	83	72	76	62	81	71	79	61
9...	81	56	78	55	79	60	84	55	79	48	78	63	80	56	85	65	78	63	81	61	82	68	78	57	79	68	78	60
10...	69	69	78	66	92	63	92	58	79	61	78	63	72	63	82	62	93	68	85	68	92	69	69	61	82	66	74	59
11...	85	60	79	62	81	63	89	64	84	56	84	64	75	61	80	59	92	73	81	68	90	72	73	53	83	62	71	58
12...	86	62	78	60	85	66	91	64	79	62	87	63	83	60	82	67	85	71	85	65	87	70	78	56	75	65	73	60
13...	92	53	89	65	89	68	93	63	84	61	82	61	82	65	80	70	86	68	86	66	82	72	86	58	80	69	79	59
14...	91	56	86	63	83	64	93	63	91	61	89	63	84	66	90	69	90	68	88	64	88	69	88	59	85	70	85	65
15...	90	55	86	60	90	65	91	54	83	63	90	65	85	63	92	64	93	70	88	64	94	69	85	61	89	69	82	62
16...	79	60	78	58	86	57	78	58	84	59	86	59	82	61	86	65	87	60	84	60	89	66	80	59	82	65	84	59
17...	81	55	77	57	82	60	84	55	79	62	85	62	82	63	85	64	87	65	86	62	85	65	84	64	83	64	87	62
18...	91	44	85	54	84	50	91	45	84	51	84	59	84	53	86	63	84	60	83	52	84	65	76	59	82	65	79	60
19...	79	47	78	52	80	56	84	48	74	47	81	59	75	53	84	52	85	55	80	56	87	57	75	60	79	60	73	59
20...	96	52	87	53	87	49	98	54	81	48	79	55	83	55	85	53	85	53	85	54	85	56	81	45	80	57	76	49
21...	87	55	90	54	90	59	89	64	89	60	81	62	90	59	83	55	87	58	90	62	89	59	84	58	84	62	85	63
22...	79	38	75	49	77	49	80	41	81	47	78	61	76	62	83	58	83	57	78	52	86	64	81	54	81	64	81	58
23...	89	56	80	60	91	62	87	55	82	56	79	59	83	54	85	63	89	61	88	62	84	65	79	56	78	65	77	56
24...	73	55	71	56	67	65	72	51	72	55	90	67	68	62	90	64	87	63	72	62	91	69	80	60	90	71	76	65
25...	78	50	80	55	86	47	83	52	78	47	84	63	79	54	90	67	87	60	82	56	82	67	78	64	81	67	80	62
26..	90	48	86	52	90	53	95	49	82	46	85	62	85	57	91	65	94	62	88	56	95	65	82	58	89	64	81	54
27...	78	55	80	54	91	59	78	62	78	68	90	68	89	60	86	70	95	65	92	65	95	68	88	60	89	73	88	68
28...	56	40	64	46	68	47	70	43	68	43	88	58	65	53	81	55	75	56	68	49	76	61	79	57	78	57	82	59
29...	74	36	72	40	77	33	83	32	72	33	72	47	71	43	70	45	76	40	73	40	75	44	88	50	71	50	68	49
30...	71	39	72	43	78	54	78	43	69	44	81	54	73	55	76	48	80	55	76	52	83	48	77	56	78	54	78	54
31...	66	40	65	39	69	40	70	35	71	37	81	46	62	39	75	55	72	49	67	42	73	56	66	46	65	48	70	45
Mns	80.6	52.6	79.5	55.2	83.6	57.5	85.9	53.3	80.2	54.3	83.7	60.9	79.6	58.7	85.9	61.8	85.8	62.0	82.5	59.2	86.9	64.0	80.7	57.4	82.6	64.0	79.6	59.4

Date.	Wisconsin.														Iowa.													
	Delavan.		Eau Claire.		La Crosse.		Madison.		Mauston.		Spooner.		Wausaw.		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...	87	64	89	62	94	65	88	64	88	58	83	57	82	58	89	63	93	68	92	62	91	69	93	68	91	68	92	69
2...	87	59	94	64	94	66	86	64	88	57	85	65	82	60	91	65	94	67	93	64	92	67	90	71	91	66	94	69
3...	91	59	89	70	83	70	87	65	84	68	82	67	83	64	85	68	86	70	88	71	90	71	89	73	85	78	93	70
4...	91	65	89	61	88	65	87	70	87	62	82	57	84	61	86	62	93	69	89	63	90	72	88	72	89	69	93	74
5...	93	68	93	58	92	59	87	67	91	54	85	59	89	57	89	60	92	61	91	57	90	68	87	68	88	65	91	71
6...	91	69	94	65	93	65	89	65	91	58	86	66	93	61	88	63	90	66	90	64	90	66	88	68	89	63	88	70
7...	89	57	93	64	92	64	90	64	90	60	84	67	91	63	87	64	90	62	89	62	90	67	88	67	89	65	89	68
8...	92	62	86	69	88	71	91	66	90	68	79	65	87	69	82	68	91	66	87	66	92	72	91	67	90	69	91	70
9...	81	70	83	66	84	72	78	70	80	70	78	60	81	63	88	70	91	72	83	70	93	74	92	71	85	73	93	72
10...	79	57	80	63	82	61	80	64	83	66	67	61	77	62	90	71	85	64	85	69	86	66	90	71	84	69	91	72
11...	77	57	75	55	78	59	72	60	74	60	75	56	79	56	92	72	94	63	83	66	94	64	95	72	81	64	95	66
12...	79	65	74	65	82	70	77	67	74	68	75	61	70	61	87	69	93	66	82	69	93	71	94	75	88	71	97	75
13...	85	64	80	67	82	69	83	65	80	65	74	61	73	62	85	72	96	72	84	70	96	72	95	73	89	70	97	73
14...	88	67	85	69	88	71	85	70	84	68	84	68	77	65	90	69	98	73	88	72	94	78	96	75	93	73	96	77
15...	91	67	88	66	91	69	88	72	90	65	84	60	86	61	93	68	97	76	91	66	91	76	96	75	92	74	98	75
16...	85	65	86	66	85	67	82	66	83	62	76	56	78	61	88	67	93	69	85	66	83	70	94	72	87	69	96	71
17...	86	59	84	62	82	65	78	62	80	58	82	59	79	57	85	66	85	65	82	64	88	66	92	69	81	66	90	68
18...	85	57	85	63	85	63	83	64	85	58	79	60	84	58	83	63	90	65	84	63	88	66	88	69	86	64	89	70
19...	85	51	80	57	86	59	82	65	84	54	76	53	80	53	83	54	90	62	82	58	82	65	85	63	84	63	88	68
20...	78	58	90	51	79	57	74	58	75	50	74	45	73	47	82	53	80	60	80	55	82	63	84	65	78	59	84	64
21...	79	51	84	54	81	57	77	54	80	50	82	58	81	52	84	53	85	59	84	55	82	60	87	58	81	59	83	58
22...	80	56	81	62	83	60	78	58	81	58	80	53	78	58	85	65	77	61	85	60	84	62	75	64	78	60	86	58
23...	86	57	80	60	81	66	83	63	83	60	84	56	81	53	84	66	89	59	84	63	88	67	90	68	85	62	90	68
24...	90	61	92	69	92	67	89	64	90	58	88	64	93	63	90	63	95	63	90	61	93	68	92	67	92	67	94	67
25...	82	64	86	67	90	68	84	68	86	70	88	62	90	65	92	63	90	66	89	62	81	71	89	73	83	69	88	64
26...	91	67	89	63	90	69	87	68	87	65	85	58	88	58	92	66	93	70	91	68	91	72	91	72	90	70	92	64
27...	79	63	88	72	84	73	78	68	85	74	86	70	85	56	92	70	86	70	87	70	85	70	94	72	79	59	97	75
28...	80	63	85	66	78	59	76	62	78	66	85	61	80	64	83	73	78	68	78	53	80	60	78	62	79	62	88	72
29...	74	46	73	46	72	49	71	55	70	48	68	43	79	47	72	44	74	50	72	44	73	51	75	50	72	52	76	52
30...	74	48	76	45	74	49	70	53	72	45	73	46	70	49	79	48	77	50	76	48	76	56	79	51	73	51	79	52
31...	77	55	72	54	71	47	71	48	68	56	56	44	68	51	74	57	77	51	73	49	77	56	79	59	76	52	91	59
Mns	84.3	60.4	84.3	62.0	84.6	63.6	81.6	63.5	83.6	60.6	79.5	58.6	81.2	58.9	86.1	63.4	88.5	64.4	85.1	62.3	87.6	67.0	88.5	67.7	84.8	65.3	90.6	68.4

TABLE 3.—*Maximum and minimum temperatures at selected stations, August, 1909. District No. 5*—Continued.

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois. Cairo.		Greenville.		La Salle.		Mt. Vernon.§§		Peoria.		Springfield.		Winnebago.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	89	66	91	70	84	71	89	65	90	65	90	67	89	64	89	66	93	64
2	91	67	91	63	88	72	91	67	91	64	93	67	92	63	92	68	93	60
3	93	67	94	63	89	73	92	71	92	66	91	68	94	66	90	70	92	64
4	93	73	92	68	91	74	92	72	92	70	91	70	93	70	93	73	91	64
5	89	69	87	66	93	75	92	72	90	66	93	70	92	63	92	71	90	63
6	90	69	91	63	85	69	89	69	88	63	92	70	90	64	89	66	90	68
7	89	68	95	63	88	71	90	66	90	65	90	65	90	65	90	65	90	59
8	91	69	99	62	90	73	92	70	92	66	95	67	93	66	92	69	93	64
9	95	70	87	67	90	73	92	71	93	70	94	68	93	66	94	71	89	71
10	92	70	85	61	93	74	93	75	84	66	95	70	88	68	89	72	87	67
11	94	72	87	58	93	76	93	69	90	62	94	69	94	64	94	66	88	59
12	98	73	91	65	95	78	97	74	93	71	99	76	97	72	96	74	90	68
13	96	71	90	67	93	77	95	76	89	71	98	74	95	71	96	74	86	66
14	95	77	85	66	91	77	95	75	94	76	97	74	97	75	96	77	93	68
15	97	74	92	69	95	78	96	77	92	73	99	80	95	72	96	71	90	70
16	94	71	86	63	95	78	93	71	89	66	96	81	93	67	93	71	86	68
17	72	66	76	60	88	75	89	67	82	62	95	71	86	59	88	65	82	64
18	86	68	80	60	86	72	87	72	85	62	86	68	87	66	87	68	84	60
19	86	66	88	60	88	70	89	70	87	67	95	65	89	62	89	69	84	62
20	85	63	92	57	91	72	89	67	79	59	93	64	82	59	84	64	78	58
21	83	60	90	60	82	64	84	57	79	53	83	64	83	55	81	57	82	52
22	86	54	86	52	85	62	86	58	83	58	86	54	87	59	84	57	81	56
23	89	62	93	55	90	65	91	59	86	63	94	54	89	60	88	62	88	58
24	95	66	92	58	91	70	93	64	91	65	95	60	94	64	93	63	93	60
25	94	75	90	61	92	75	93	73	79	72	99	76	88	70	92	71	78	66
26	94	73	96	65	96	75	93	71	89	71	101	71	89	70	88	71	92	66
27	97	75	91	67	96	74	97	73	83	72	101	71	94	74	95	74	82	66
28	90	69	94	65	90	73	97	69	86	63	104	74	89	63	92	69	83	66
29	78	57	80	58	82	67	83	62	74	53	88	65	76	53	76	58	75	47
30	78	55	80	48	84	61	84	54	77	51	86	55	79	50	77	53	76	46
31	92	72	86	55	89	65	92	58	77	53	92	53	88	50	88	56	77	50
Means	90.7	67.3	89.0	61.8	90.1	71.9	91.2	68.2	86.6	64.6	93.7	67.7	89.8	64.2	89.8	67.1	86.3	61.9