CLIMATOLOGICAL DATA FOR JUNE, 1911.

DISTRICT NO. 5, UPPER MISSISSIPPI VALLEY.

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The month under discussion was the warmest and, over a large part of the district, the driest June on record since the establishment of the climatological service. Every station in the upper Mississippi Valley reported a large excess of temperature, and all of the States in the district, except North Dakota and Indiana, reported a deficiency of rainfall. The excess in those States was, however, only 0.23 and 0.13 inch, respectively, and due to heavy local showers at a few stations, and not to general rains. The extremely high temperatures and droughty conditions that prevailed over Iowa, northeastern Missouri, eastern South Dakota, southern Minnesota, and central and southern Illinois were phenomenal, as June is one of the wettest, if not the wettest, month of the year in this section of the country, and the normal temperature for the month is not as high as that for July and August; yet the average temperature for the State of Iowa for the past month is 2.2° higher than the normal for July, and 3.9° higher than the normal for August, which is on an average 2.5° warmer than June. During the past 21 years the average temperature for July, in Iowa, has exceeded the average for the past month but twice, and in August only once. Every State in the district reported temperatures above 100° at one or more stations and on one or more days during the month. At the close of the month the drought was becoming serious in many localities. Pastures were dry and brown, the water supply was failing, and shallow-rooted crops were more or less damaged.

TEMPERATURE.

The mean temperature for June was above normal at every station in the district; the average daily excess being 5.6°, and the average excess in the various States ranged from +3.4° in Indiana to +6.6° in Iowa. The month opened with moderate temperature on the night of the 1st, which was immediately followed by increasing heat over the larger part of the district until the 9th or 10th, culminating in maximum temperatures of 100° or over in parts of Minnesota, Wisconsin, Iowa, Missouri, and Illinois. This was followed by somewhat cooler weather until the 19th, with the minima for that period on the 13th. Excessively warm periods occurred again between the 19th and 23d, and on the last two days of the month, when maximum temperatures in excess of 100° were recorded at one or more stations in all of the States of the district. The 27th was generally the coolest day of the month in North Dakota, and the 28th in other sections; but the temperature on those days was only moderately low, except in the northern parts of North Dakota, Minnesota, and Wisconsin, where freezing temperatures and heavy to killing frosts occurred. Over a large part of the territory the month was the warmest June on record, both as regards the monthly mean and monthly maxima. The monthly mean temperature for the district, as shown by the records of 287 stations, is 72.6°, which is 5.6° above the normal. The highest monthly mean was 80.6° at Steffenville, Mo., and the lowest, 63.4°, at Donnybrook, Hansboro, and McKinney, N. Dak. The highest temperature reported was 108°, at Ottumwa, Iowa, on the 5th, and the lowest, 28°, at Hannah, N. Dak., on the 27th, The following are the highest temperatures, with date, reported in each State of the upper Mississippi Valley, viz: North Dakota, 102°, 9th; Minnesota, 103°, 22d; South Dakota, 102°, 23d; Wisconsin, 104°, 23d; Iowa, 108°, 5th; Missouri, 104°, 10th; Indiana, 102°, 10th; Illinois, 104°, 3d, and other dates.

PRECIPITATION.

There was a marked deficiency of rainfall in all parts of the district, except in the portions of North Dakota and Indiana within the district, where there was a slight excess; but even in those States there was a deficiency of moisture in many localities, the excess being due to some heavy local showers which were sufficient to cause a slight excess. Notwithstanding the fact that nearly all parts of the district suffered more or less from drought, Table No. 3 of this report will show that there were only 5 days during the month on which rain in excess of a trace did not fall at some station in that part of North Dakota within district No. 5; 2 in Minnesota; 3 in Wisconsin; 3 in Illinois, and 7 in Iowa. While the showers were frequent in each of the above-named States, they were widely scattered, or the amounts of rainfall were generally small, thereby causing droughty conditions, which were becoming serious at the close of the month in many localities. In some sections, and especially in southeastern Iowa and parts of northeastern Missouri, there was not enough rain during the entire month to be of any material benefit to vegetation. There were, however, a few localities in all of the States of the district where one or two heavy showers occurred at some time during the month, furnishing moisture sufficient for the time, and the general crop conditions were reported to be good. In North Dakota heavy showers occurred in the vicinity of Grafton, Larimore, Park River, University, and Willow City, the monthly amounts exceeding 7 inches at Larimore and Willow City. In Minnesota the monthly amounts exceeded 6 inches at Bird Island, Minneapolis, and Stillwater, the greatest amount being 8.68 inches at Stillwater, and the least, 1.32 inches, near Fairmont. In Wisconsin the monthly amount exceeded 7 inches at Grand Rapids, Granstburg, New Richmond, and Valley Junction, the greatest amount being 8.58 inches at Valley Junction, and the least, 0.69 inch, at Deerskin Dam and Sugar Camp Dam. In Iowa 1 station reported an amount in excess of 6 inches—Sigourney, 6.31 inches—but there were 20 stations that reported less than 1 inch, the least being 0.06 inch at Keosauqua. In Missouri the amounts

ranged from 0.40 inch at Sublet to 2.56 inches at Louisiana. Four of the 5 stations in Indiana reported more than 5.50 inches, the greatest being 5.94 inches at Knox, while Collegeville, in the Iroquois River Valley, reported only 1.48 inches. In Illinois there were 10 stations that reported 4 inches or over. The greatest amount was 6.64 inches at Peoria, and the least, 0.16 inch, at Wausau. The average monthly amounts and departures for the several States or parts of States of the district were as follows: North Dakota, 3.45 inches, +0.23 inch; Minnesota, 3.81, −0.24; South Dakota, 3.84, −0.34; Wisconsin, 3.58, −0.25; Iowa, 1.97, −2.48; Missouri, 1.40, −2.86; Indiana, 4.68, +0.13; and Illinois, 2.73, −1.06 inches.

The average precipitation for the district, as shown by the records of 303 stations, was 2.99 inches, which is 1.19 inches below the normal. The greatest amount, 8.68 inches, occurred at Stillwater, Minn., and the least, 0.06 inch, at Keosauqua, Iowa. The greatest amount in any 24 consecutive hours, 4.74 inches, occurred at Peoria, Ill., on the 24th. Redwood Falls, Minn., was the only station in the district that reported snow, a trace. Measurable precipitation occurred on an average of 8 days.

SUNSHINE AND CLOUDINESS.

The average number of clear days was 16; partly cloudy, 9; cloudy, 5. The duration of sunshine was much above the average for June.

WIND.

Southeast winds prevailed. The highest velocity reported was 50 miles per hour from the southeast at Minneapolis, Minn., on the 24th, and 50 miles per hour from the northwest at St. Paul, Minn., on the 3d.

RIVERS.

The principal rivers in the upper Mississippi Valley remained at a moderately high stage during the first half of the month, after which they steadily fell, and at the close of the month they were only slightly higher than at the close of June, 1910. Navigation between St. Paul and St. Louis was not interrupted during the month. The stage of the Wisconsin River at Grand Rapids, Wis., ranged from 4.6 feet on the 8th to 0.5 foot on the 28th. At Portage, Wis., it ranged from 7.3 feet on the 10th to 2.8 feet on the 30th, and at Muscoda, Wis., it ranged from 4.8 feet on the 1st to 1.5 feet on the 30th. The stage of the Mississippi River at Prairie du Chien, Wis., ranged from 6.5 feet on the 1st to 2 feet on the 30th; and at Dubuque from 7.1 feet on the 2d to 2.7 feet on the 30th.

MISCELLANEOUS.

Mr. Samuel Ray, cooperative observer, Oregon, Ogle County, Ill., reports: "A tornado passed through the county in the vicinity of Oregon on June 10, 1911, between 3.30 and 4 p. m. The path of greatest destruction ranged from 100 feet to one-fourth of a mile in width. A funnel-shaped cloud was seen by outside observers. One person was killed and five were injured. The property loss was about $10,000 in buildings and orchards."

Mr. Charles H. Dwelle, cooperative observer, Northwood, Worth County, Iowa, reports: "This vicinity was visited by a storm of considerable severity at about 2 a. m., Friday, June 2. The storm traveled from northeast to southwest, and approached the nature of a tornado."

The following is an extract from the Ames Intelligencer, Ames, Iowa, June 29, 1911, relative to a severe wind and rain storm that passed over Ames on the night of Sunday, June 25: "The storm of Sunday night was one of the worst ever remembered by Ames residents, the part coming between midnight and 1 a. m. being of a 'cyclonic' nature. Many say they could distinctly distinguish the funnel-shaped cloud, and, while it did not come low enough to do serious damage, yet the corn north of town that is blown down is reported to be twisted. Considerable damage was done to buildings, windmills, and crops."

Mr. Frank Williams was killed by lightning at 1443 Main Street, Des Moines, Iowa, at 4.45 p. m. Sunday, June 25.

The High School building at Mason City, Iowa, was struck by lightning and burned on the morning of June 16, 1911, causing a loss of $75,000. The barn on the Treno Evers farm, 1 mile west of Allison, Iowa, was struck by lightning and burned at 4 a. m. on June 26. Three head of cattle were killed and 2 horses and 25 tons of hay burned.

DRAINAGE AND ENGINEERING NOTES.

The following, relative to drainage work being done in Worth County, Iowa, appeared in the Times-Republican, Marshalltown, Iowa, June 23, 1911:

NORTHWOOD, IOWA, *June 22, 1911.*—The preliminary work on the survey of a proposed drainage district in Worth County is nearly completed. This district is one of the largest enterprises of its kind in Iowa, embracing all the lands in Worth County of which Deer Creek is the natural outlet, being practically all of Deer Creek and Barton Townships and about 8 square miles on the east line of Grove and 3½ sections of the northeast corner of Kensett Townships. Of this great area of 45,000 acres, at least 15,000 acres need drainage. Surveyor Forbes and his assistants have surveyed and platted every swale of wet land in that territory, and are specifying lines of ditch and tile in every such swale so as to give an outlet for the proper drainage of every farm in the district. This required the running of 400 miles of boundary lines and over 100 miles of ditch lines. Surveyor Forbes expects to have the work finished before July, but after that it will necessarily take some little time to prepare his report.

Work is progressing rapidly on the new concrete dam being erected across the Des Moines River at Humboldt, Iowa. It is the intention to increase the present working force, now numbering over 50 men, and rush the work to completion by the 1st of September, when the construction of the new power house will begin. The low stage of water in the river materially aids the rapid progress of the work.

TABLE 1.—*Climatological data for June, 1911. 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	14	70.2	+ 7.0	98	21†	42	27	41	2.07	− 1.56	0.70	0	6	15	11	4	e.	C. E. Wood.
Bottineau	Bottineau	1,638	16	65.8	+ 9.8	99	19	33	27	39	2.49	− 1.28	0.68	0	13	10	5	15	se.	J. A. Kemp.
Cando	Towner	1,488	10	65.8[e]	+ 5.6	93[e]	19	33[e]	27	37[e]	6.15	+ 4.18	3.50	0	7					E. T. Judd.
Crosby	Divide		5	63.5		93	19	35	27	37	3.97		1.46	0	11	14	9	7	ne.	H. C. Kashau.
Devils Lake	Ramsey	1,482	6	64.9	+ 2.3	94	19	35	27	30	2.82	− 0.71	1.07	0	14	5	15	10	ne.	U. S. Weather Bureau.
Donnybrook	Ward	1,760	12	63.4	+ 3.8	98	19	33	27	39	2.78	− 0.77	0.84	0	10	11	8	11	nw.	C. J. DeVore.
Dunseith	Rolette		14	65.0	+ 4.8	98	19†	32	27	39	2.89	− 0.16	1.19	0	6	21	4	5	e.	L. H. Trowbridge.
Edmore	Ramsey	1,524	6	64.6		92	20	32	27	40	3.07		0.85	0	12	10	11	9	n.	H. R. Aslakson.
Forman	Sargent	1,249	17																	A. Maltby.
Grafton	Walsh	827	20	66.9	+ 4.2	94	19	39	27	39	4.22	+ 0.84	1.70	0	12	9	14	7	nw.	A. R. T. Wylie.
Grandville	McHenry	1,504	5	65.7		98	19	34	27	43	3.10		1.32	0	9	10	15	5	nw.	W. A. Christiansen.
Hannah	Cavalier	1,568	6	66.6[e]		91[e]	19	28[e]	27	37[e]	2.67		0.76	0	9	11	9	10		J. Moffatt.
Hansboro	Towner		3	63.4		98	19	35	27	36	2.42		0.53	0	13	16	7	7	se.	Geo. Dale.
Hillsboro	Traill	901	6	69.9		93	30	43	27†	37	2.63		0.69	0	9	15	15	0	nw.	F. E. Mayall.
Lakota	Nelson	1,519	5																	C. R. Pettes.
Langdon	Cavalier	1,615	16																	J. Woolner.
Larimore	Grand Forks	1,134	16	68.4	+ 6.8	6	19	40	27	38	7.15	+ 3.62	2.10	0	11	18	3	9		J. Dexter Pierce.
Lisbon	Ransom	1,091	7	69.6	+ 7.2	99	21†	44	28	45	3.96	− 0.08	1.33	0	9	12	6	12	se.	H. K. Adams.
McKinney	Renville	1,640	17	63.4	+ 3.1	99	19	30	27	40	2.05	− 2.22	0.70	0	6	8	14	8	se.	N. P. Swenson.
Manfred	Wells	1,605	10	65.4[e]		96[e]	20				3.05		1.11	0	11	11	3	16	se.	P. B. Anderson.
Mayville	Traill	975	15	74.8	+11.9	95	30	48	26	39	2.97	− 0.46	0.65	0	8	22	1	7	sw.	W. C. Gould.
Minot	Ward	1,557	13	66.3	+ 3.5	96	19†	36	27	34	3.63	− 0.13	1.04	0	11	16	0	14	e.	J. J. Bates.
Minto	Walsh	820	18	67.0	+ 3.5	95	19†	40	27	39	4.13	+ 0.76	1.98	0	9	13	9	8	s.	S. S. Marsh.
Oriska	Barnes	1,270	6																	W. E. Williams.
Park River	Walsh	998	8	68.8		98	19	40	27	39	4.75		1.21	0	13	9	19	2	w.	A. Heyward.
Pembina	Pembina	789	13	65.5		92	20	38	27	31	0.70		0.20	0	9	16	3	11	w.	C. W. Shumaker.
Power	Richland	1,020	19	69.5	+ 5.6	98	22	42	6	45	2.99	− 0.90	1.35	0	6	13	13	4	sw.	J. A. Power.
Pratt	McHenry		6	65.7		99	19	32	27	44	2.28		0.50	0	7	25	3	2	nw.	W. B. Ahern.
Towner	do		3																	B. Bagley.
University	Grand Forks	830	19	68.4	+ 5.9	93	30	40	27	32	4.87	+ 0.76	1.55	0	11	11	12	7	n.	H. E. Simpson.
Wahpeton	Richland	962	19	69.7[f]	+ 4.1	100	23	44	27†	41	2.42	− 2.07	0.74	0	9	13	11	6	se.	E. G. Burch.
Walhalla	Pembina	966	7																	C. H. Lee.
Westhope	Bottineau		5	68.8		102	19	33	27	38	2.93		0.87	0	7					C. W. Clark.
Willow City	do	1,471	18	64.2	+ 2.9	95	19	30	27	41	7.47	+ 4.04	4.10	0	7	4	18	8	e.	M. A. Ostby.
Minnesota.																				
Albert Lea	Freeborn	1,229	20	72.6	+ 6.0	98	22†	42	28	37	2.55	− 1.66	1.50	0	4	15	15	0	se.	Edward Carey.
Alexandria	Douglas	1,391	17	69.8	+ 4.9	99	30	44	27†	39	3.08	− 0.74	0.77	0	12	14	5	11	nw.	P. O. Unumb.
Angus	Polk	870	9	66.6		91	30	39	27	36	3.54		0.85	0	12	14	12	4	n.	John Nadvornik.
Bagley	Clearwater		5	71.6		97	22	34	28	38	2.95		0.50	0	9	7	21	2	se.	Jens Nelson.
Beardsley	Bigstone	1,090	17	71.0	+ 6.9	103	22	43	28	42	3.67	− 0.04	1.53	0	7	7	20	3	se.	Roy A. Smith.
Beaulieu	Mahnomen	1,200	9	68.5		95	23	37	28	47	1.32		0.60	0	7	13	14	3	sw.	Dr. P. A. Slattery.
Bird Island	Renville	1,039	21	72.0	+ 6.2	99	8†	45	28	36	6.25	+ 2.52	2.18	0	10	17	9	4	sw.	Dr. F. L. Puffer.
Caledonia	Houston	1,179	18	72.7	+ 6.2	94[b]	9†	50[b]	28	36[e]	1.81	− 2.65	0.46	0	9	19	2	9	nw.	W. D. Belden.
Campbell	Wilkin	984	2	69.1		102	22	42	28	44	3.13		1.10	0	7	15	1	14	se.	J. T. Neisess.
Cass Lake	Cass	1,300	4								2.85		1.30	0	5					C. W. Burns.
Collegeville	Stearns	1,282	18	71.9	+ 5.7	94	22†	47	27	35	5.12	+ 1.65	2.06	0	13	17	5	8	se.	Fridolin Tembreul.
Crookston	Polk	863	21	68.9	+ 5.0	94	30	43	27	35	4.00	+ 0.50	1.30	0	12	21	4	5	s.	A. G. Andersen.
Detroit	Becker	1,364	15	69.3	+ 7.0	100	22	39	28†	41	4.74	+ 0.63	1.03	0	9	16	13	1	sw.	G. W. Peoples.
Ely	St. Louis			65.8		93	30	42	28	37	4.12		1.12	0	12	11	3	16	e.	Rev. W. H. Farrell.
Fairmont (near)	Martin	1,240	24	73.4	+ 7.3	99	8	44	28	35	1.47	− 2.82	0.80	0	9	15	13	2	se.	W. F. Wherland.
Faribault	Rice	1,003	14	72.2	+ 6.9	95	22†	39	28	36	4.10	− 0.53	1.45	0	8	17	10	3	se.	Dr. A. C. Tanner.
Farmington	Dakota	902	23	72.9	+ 6.8	97	30	42	28	38	4.95	+ 1.04	1.03	0	10	15	6	9	s.	E. D. Akin.
Fergus Falls	Ottertail	1,210	19	71.4	+ 6.3	99	22	43	27	31	2.51	− 1.24	0.79	0	13	11	14	5	se.	C. E. Kissinger.
Fort Ripley	Crow Wing	1,136	4	68.0		98	22†	37	28	42	4.32	+ 0.04	1.40	0	9	21	1	8	s.	J. J. Tucker.
Fosston	Polk	1,289	2	67.3		91	19†	41	28	34	2.37		0.51	0	13	8	19	3	se.	O. N. Hem.
Fram	Marshall			66.6		95	19†	36	28	50	3.35		0.87	0	8	5	24	1	se.	A. W. Clark.
Glencoe	McLeod	1,000	15	69.9	+ 4.8	99	8	43	28†	43	5.00	+ 0.80	1.75	0	6	19	10	1	s.	F. B. Reed.
Grand Meadow	Mower	1,338	23	71.4	+ 4.9	96	22†	40	28	38	3.83	− 1.55	1.67	0	9	19	7	4	s.	C. F. Greening.
Gull Lake Dam	Cass	1,215		69.6		99	22	33	5	52	2.45		1.00	0	10	12	15	3	nw.	G. A. Williams.
Hallock	Kittson	815	12	66.2	+ 3.7	93	30	38	27†	39	3.94	+ 0.42	1.30	0	12	15	3	12	n.	D. A. Robertson.
Halstad	Norman	870	5	67.4		94	30	42	6	39	2.98		1.02	0	11	19	4	7	se.	A. G. Holstrom.
Hinckley	Pine	1,050	6	67.7		94	22†	38	28	47	3.99		0.73	0	11	11	15	4	s.	W. R. Newman.
International Falls	Koochiching	1,112	3																	Rees Roe.
Itasca State Park	Clearwater	1,500		69.1		100	20	38	28	46	3.22		1.22	0	9	12	9	9	w.	J. A. Stillwell.
Kelliher	Beltrami		4																	A. Gilmour.
Lake Crystal	Blue Earth		4	72.8		99	22	46	28	37	3.14		1.53	0	7	18	11	1	s.	W. P. Cobb.
Leech Lake Dam	Cass	1,301	23	66.4	+ 3.7	96	22	34	28	38	3.18	− 1.07	0.89	0	14	7	17	6	w.	Hans Olson.
Litchfield	Meeker	1,134	2																	N. Y. Taylor.
Littlefork	Koochiching			65.2		96	22†	30	28	42	3.71		0.85	0	10	10	14	6		O. C. Olson.
Long Prairie	Todd	1,299	19	70.2	+ 5.7	100	22	37	28†	46	3.29	− 0.97	1.10	0	6	16	6	8	se.	A. L. Sheets.
Lynd	Lyon	1,175	19	72.2	+ 6.9	100	23	43	6	39	1.93	− 2.22	0.70	0	4	18	11	1	sw.	J. W. Rouse.
Mankato	Blue Earth	758	12								4.40	− 0.63	2.47	0	6	18	2	10	sw.	Sadie H. Blake.
Milaca	Mille Lacs	1,072	13	67.6	+ 5.5	95	22†	35	28	44	3.69	− 0.81	1.32	0	10	9[b]	16[b]	3[b]	nw.	C. H. Foss.
Milan	Chippewa	955	17	70.2	+ 5.2	98	22	45	27	35	5.75	+ 2.07	2.00	0	10	4	22	4	se.	O. K. Opjorden.
Minneapolis	Hennepin	918	20	73.1	+ 5.5	98	22	50	28	28	6.93	+ 2.92	2.36	0	10	12	9	9	se.	U. S. Weather Bureau.
Montevideo	Chippewa	900	21	72.2	+ 6.0	102	8	44	27	39	5.17	+ 2.44	2.05	0	12	13	12	5	se.	L. G. Moyer.
Moorhead	Clay	935	30	69.2	+ 4.9	98	21	45	27	38	2.62	− 1.51	0.83	0	12	11	14	5	se.	U. S. Weather Bureau.
Mora	Kanabec		6	69.4		96	22†	37	28	45	5.16		1.25	0	16	22	8	0	e.	Hans Peterson.
Morris	Stevens	1,170	26	70.6	+ 4.8	98	22	46	27	36	4.93	+ 1.10	1.25	0	10	19	7	4	nw.	D. T. Wheaton.
New London	Kandiyohi	1,215	17	74.5	+ 7.5	97	24	45	11	38	5.71	+ 1.99	1.60	0	6	20	7	3	sw.	Harold Swensen.
New Richland	Waseca	1,180	17	73.4	+ 6.5	98	22	41	28	35	2.80		1.74	0	6	15	13	2	s.	N. O. Tyrholm.
New Ulm	Brown	791	31	74.5	+ 5.5	102	8†	47	28	43	4.40	+ 0.86	2.00	0	9	17	0	13	s.	A. L. Henle.
Osakis	Douglas	1,343	4	68.8		96	22	40	28	34	3.65		0.95	0	11	15	7	8	e.	J. B. Johnson.
Park Rapids	Hubbard	1,426	21	68.4	+ 5.5	101	22	39	28	41	2.93	− 1.32	0.92	0	15	15	2	13	se.	Dr. P. A. Walling.
Pine River Dam	Crow Wing	1,251	24	68.5	+ 4.4	99	22	38	28	40	2.94	− 1.82	1.30	0	7	13	14	3	s.	Neil McKay.
Pokegama Falls	Itasca	1,280	24	65.8	+ 4.1	98	22	35	28	40	4.49	+ 0.10	1.93	0	10	14	12	4	se.	A. L. Mampel.
Red Lake	Beltrami	1,152	3	68.0		94	22	40	28	34	3.92		1.68	0	9	10	19	1	n.	A. C. Goddard.
Red Wing	Goodhue	680	15								5.34	+ 1.04	2.54	0	10	17	5	8	se.	Louis Bach.
Redwood Falls	Redwood	1,050	4	74.4		102	8	47	27†	38	2.92	− 1.69	0.98	T.	9	21	5	4	sw.	N. B. Anderson.
Reeds Landing	Wabasha	681	16								3.64	− 0.46	1.10	0	9	20	0	10	se.	John Deschneau.
Rochester	Olmsted	991	6	71.4		97	30	40	28	45	3.38		1.05	0	8	18	1	11	s.	S. R. Case.
Roseau	Roseau	1,040	3																	A. Waag.
St. Charles	Winona	850	20	72.3	+ 5.6	96	30	40	27	38	3.94	− 1.20	1.27	0	8	20	4	6	nw.	S. W. Gleason.
St. Cloud	Sherburne	1,020	33	71.8	+ 6.3	98	22	44	28	41	5.28	+ 1.17	1.10	0	10	15	7	8	se.	J. H. Capser.

TABLE 1.—*Climatological data for June, 1911. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit. Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Precipitation, in inches. Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Sky. Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
***Minnesota*—Continued.**																				
St. Paul	Ramsey	837	40	71.8	+ 4.4	96	30	46	28	29	5.79	+ 1.38	1.68	0	13	11	16	3	s.	U. S. Weather Bureau.
St. Peter	Nicollet	825	17	72.9	+ 5.8	99	23	49	27	36	3.55	− 1.04	2.10	0	6	15	11	4	s.	State Hospital.
Sandy Lake Dam	Aitkin	1,234	18	64.3	+ 1.5	93	22	32	28	43	2.13	− 1.57	0.60	0	9	8	18	4	se.	A. Newstrom.
State Sanatorium	Cass		3	70.0		99	22	43	27	32	2.72		0.65	0	12	12	14	4	s.	Dr. W. J. Marcley.
Stillwater	Washington	694	6								8.68		3.19	0	12	18	0	12	sw.	Oscar Ostrom.
Taylors Falls	Chisago	759	4	71.0		96	30	40	28	37	4.81		1.25	0	9	14	10	6	s.	Minneapolis General Elec. Co.
Warroad	Roseau	1,069	2	65.8		92	30	36	27	33	4.63		1.32	0	8	15	5	10	e.	J. H. Sawyer.
West Concord	Dodge	1,232	2																	H. H. Orcutt.
Winnebago	Faribault	1,100	12	74.0	+ 7.0	100	8	44	28	42	1.66	− 3.31	0.71	0	8	10	15	5	se.	H. H. Haight.
Winnibigoshish	Itasca	1,300	23	68.6	+ 5.8	98	22	42	28	36	3.47	− 0.43	1.67	0	11	14	11	5	w.	John Duncan.
Winona	Winona	700	15	75.0	+ 6.9	100	9†	53	1	32	4.91	+ 1.36	2.83	0	9	14	8	8	sw.	P. C. Myers.
Worthington	Nobles	1,593	16	74.0	+ 9.0	101	22	49	14†	42	1.51	− 3.13	0.65	0	7	18	5	7	s.	M. P. Mann.
Zumbrota	Goodhue	917	15	71.3	+ 5.4	95	30	38	28	35	4.31		1.62	0	6	17	11	2	nw.	W. C. Rowell.
South Dakota.																				
Milbank	Grant	1,148	20	70.7	+ 5.5	102	23	40	28	42	3.84	− 0.34	1.25	0	12	19	1	10	nw.	I. T. Patridge.
Wisconsin.																				
Antigo	Langlade	1,489	17	69.4	+ 5.1	95	22†	40	28	41	1.96		0.74	0	6	18	3	9	w.	Elton C. Larzelere.
Barron	Barron	1,115	20	70.2	+ 6.8	94	23†	34	28	41	4.37	− 0.42	0.86	0	9	23[a]	3[a]	3[a]	w.	Wm. A. Kent.
Beloit	Rock	750	45	71.8	+ 3.8	94	10†	52	28†	32	3.95	− 0.10	1.40	0	4	20	0	10	w.	Smith Observatory.
Big St. Germain Dam	Vilas	1,590	1	67.7		98	30†	39	28	51	1.33		0.90	0	5	16	9	5	sw.	Oscar Brehmer.
Brodhead	Green	812	13	73.4	+ 5.8	97	22†	49	1	42	4.04	+ 0.51	0.91	0	7	19	10	1	sw.	Hector D. Kirkpatrick.
Burnett	Dodge	880	7	69.8		95	22†	44	16	32	4.18		0.87	0	12	12	11	7	sw.	Geo. W. Smith.
Cottage Grove	Dane	888									4.18		1.31	0	10	14	13	3	sw.	John E. Mellish.
Darlington	Lafayette	867	5	72.1		97	30	45	27	40	2.93		1.43	0	5	16	9	5	nw.	S. P. Nelson.
Deerskin Dam	Forest	1,625	1	66.2		98	25	39	28	43	0.69		0.16	0	5	22	8	0	w.	Wm. E. O'Neal.
Delavan	Walworth	930	20	69.1	+ 1.7	99	9	45	1	39	3.68	+ 0.22	1.05	0	9	16	7	7	s.	Elwood S. Austin.
Dodgeville	Iowa	1,116	11																	Geo. H. Butler.
Downing	Dunn	983	9	69.2		94	30	36	28	33	5.90		1.85	0	7	11	0	19	se.	Eugene F. Stoddard.
Eau Claire	Eau Claire	800	20	72.0	+ 5.2	95	22†	46	28	31	6.74	+ 2.08	2.08	0	11	18	8	4	nw.	Robert D. Whitford.
Grand Rapids	Wood	1,021	12	71.3	+ 5.0	96	22	43	28	32	5.47	+ 2.35	.66	0	10	12	5	13	sw.	Willis B. Raymond.
Grantsburg	Burnett	1,095	20	70.8	+ 6.0	100	22	37	28	41	7.32	+ 2.52	1.70	0	9	10	9	11	se.	Theodore Olsen.
Hancock	Waushara	1,091	19	72.0	+ 5.4	99	23	44	28	33	7.12	+ 2.87	2.65	0	10	13	10	7	sw.	Frederick B. Hamilton.
Hatfield	Jackson	973	17			95	30†				5.50	+ 1.00	1.77	0	8	5	16	9	sw.	Walter S. Woods.
Hayward	Sawyer	1,197	20	68.9	+ 5.5	98	22	31	28	42	2.49	− 1.64	0.75	0	6	14	9	5	s.	William E. Swain.
Hillsboro	Vernon	1,000	20	70.2	+ 5.1	96	22	39	28	37	2.48	− 1.99	0.60	0	9	13	16	1	sw.	Emil V. Wernick.
Koepenick	Langlade	1,683	20	66.4	+ 1.9	94	22†	33	28	40	1.80	− 2.16	1.00	0	5				sw.	Edward S. Koepenick.
Lac du Flambeau	Vilas		1	70.0		98	22†	43	28	38	1.12		0.75	0	4	22	5	3	w.	W. J. Lovett.
La Crosse	La Crosse	714	39	72.8	+ 4.6	97	30†	46	28	30	2.05	− 2.38	0.59	0	11	7	12	11	s.	U. S. Weather Bureau.
Lake Mills	Jefferson	897	20	71.6	+ 5.0	98	23	50	29	31	2.82	− 1.32	0.88	0	11	10	15	5	n.	S. Newton Dexter Smith.
Lancaster	Grant	1,070	20	72.2	+ 4.6	95	9	51	1	31	3.49	− 0.66	1.26	0	9	13	13	2	sw.	Edward Pollock.
Long Lake	Oneida	1,592	3	66.6		101	30	38	28	45	1.67		0.64	0	11	17	10	3	w.	Louie Frank.
Madison	Dane	974	42	71.4	+ 4.1	94	22	55	29	28	3.64	− 0.46	1.36	0	11	9	12	9	sw.	U. S. Weather Bureau.
Mather	Juneau	962	7	69.6		96	30	43	28	44	6.07		2.05	0	13	11	9	10	w.	Frank Evans.
Mauston	do	882	15	71.3	+ 5.9	94	22†	42	28	31	3.90	− 0.68	1.45	0	9	17	9	4	nw.	Eugene L. Hitchcock.
Meadow Valley	do	974	20	70.5	+ 5.1	96	30	41	28	38	5.53	+ 1.40	1.56	0	11	5	21	4	se.	Charles H. Johnson.
Medford	Taylor	1,420	22	69.2	+ 4.1	95	9	38	28	40	3.25	− 1.85	1.00	0	9	26	3	1	s.	Wm. Zelt.
Merrill	Lincoln	1,267	5																	Wm. T. Hunter.
Minocqua	Oneida	1,604	7	68.8		96	22†	41	28	37	1.70		0.85	0	10	14	11	5	w.	Benjamin W. Applebee.
Mondovi	Buffalo	738	3	71.6		97	22	41	28	35	6.31		1.64	0	11	14	8	8	sw.	Dr. Charles Hebard.
Mount Horeb	Dane	1,226	7	70.5		95	22†	44	7	34	4.15		1.00	0	12	19	5	6	sw.	W. M. Lewis.
Muscoda	Grant	666	2	75.6		100	30†	49	28	36	2.12		0.42	0	8	13	5	12	nw.	Wm. Hessler.
Neillsville	Clark	996	21	71.5	+ 5.6	96	22†	42	28	36	6.49	+ 1.58	1.81	0	8	16	0	14	nw.	Wm. Heaslett.
New Richmond	St. Croix	990	6	70.7		98	23	42	28	36	8.09		2.07	0	10	12	16	2	sw.	Franc A. R. Van Meter.
Osceola	Polk	806	20	71.3	+ 6.6	97	21†	42	28	41	5.06	+ 0.31	1.05	0	7	10	10	10	s.	Charles W. Staples.
Park Falls	Price	1,492	20	69.9		97	22†	35	28	41	1.35		0.59	0	8	12	16	2	w.	Flambeau Paper Co.
Portage	Columbia	809	22	75.4	+ 8.7	104	23	49	28	38	2.85	− 1.26	0.97	0	8	18	5	7	nw.	James H. Martin.
Port Edwards	Wood	969	1	72.0		98	22	41	28	37	5.92		2.25	0	10	18	0	12	sw.	Nekoosa-Edwards Paper Co.
Prairie du Chien	Crawford	690	20	73.4	+ 4.0	100	30	47	28†	44	1.91	− 2.33	0.53	0	10	12	2	16	s.	James H. Gillis.
Prentice	Price	1,551	13	66.2	+ 4.1	92	30†	30	28	39	2.07	− 3.02	1.08	0	6	11	8	10	sw.	Joseph G. Lash.
Rhinelander	Oneida	1,550	5	69.6		98	10	40	28	36	2.45		0.74	0	8	14	10	6	se.	Rhinelander Power Co.
Sauk City	Sauk	758	3	71.8		105	25	40	8	47	3.73		1.25	0	5	10	9	6		Killen Derleth.
Shullsburg	Lafayette	1,019	5	70.6		93	30	45	28	29	3.16		1.49	0	7	11	14	5	sw.	Harrison B. Chamberlain.
Solon Springs	Douglas	1,083	5	66.0		99	22	34	28	49	2.80		0.80	0	7	12	12	6	nw.	John M. Sayles.
Spooner	Washburn	1,104	17	70.0	+ 6.1	96	30	38	28	41	3.86	+ 0.07	1.99	0	8	21	8	1	se.	Horace A. Bresee.
Stanley	Chippewa	1,082	7	69.1		92	22	37	28	34	4.02		1.01	0	8	18	8	4	se.	W. Humphrey Scott.
Stevens Point	Portage	1,113	18	71.4	+ 5.9	96	30†	43	28	40	2.84	− 1.33	2.05	0	3	16	11	3	w.	Garry E. Culver.
Sugar Camp Dam	Oneida	1,582	1								0.69		0.31	0	4				se.	Robert Hayes.
Twin Lakes Dam	Vilas	1,625	1								0.97		0.67	0	3	11	15	4	nw.	Albert D. Hansen.
Valley Junction	Monroe	930	19	71.0	+ 5.7	97	22	40	28	31	8.58	+ 4.44	2.37	0	10	14	10	6	sw.	Frederick Muermann.
Viroqua	Vernon	1,412	21	72.4	+ 6.7	96	30	43	28	34	2.14	− 2.29	0.86	0	9	13	12	5	nw.	Henry E. Rogers.
Vudesare	Vilas	1,600	3	66.2		98	30	36	28	48	1.44		0.50	0	7	17	11	2	se.	Louis L. Thomas.
Watertown	Jefferson	824	20	71.2	+ 5.0	93	10†	50	1	33	3.20	− 0.68	0.74	0	11	15	14	1	sw.	Charles J. Salick.
Waukesha	Waukesha	864	20	70.8	+ 4.7	96	23	45	1	36	2.78	− 0.61	0.65	0	12	10[a]	18[a]	1[a]	sw.	Carroll College.
Wausau	Marathon	1,212	16	69.9	+ 5.3	95	22	42	28	32	3.01	− 1.17	1.05	0	7	19	4	7	w.	George H. Halder.
Weyerhaeuser	Rusk	1,297	9	67.4		95	22†	34	28	38	2.64		0.72	0	8	18	9	3	sw.	Miss Etta Stiles.
Whitehall	Trempealeau	675	20	71.6	+ 5.4	94	22	41	28	38	2.13	− 2.17	0.70	0	7	24	0	6	sw.	Hans J. Haugh.
Iowa.																				
Albia	Monroe	959	13	76.2	+ 6.6	102	30	49	28	48	0.33	− 4.53	0.20	0	2	25	3	2	sw.	J. I. Chenoweth.
Algona	Kossuth	1,213	37	76.8	+ 8.3	98	9†	51	7	34	1.19	− 3.21	0.45	0	5	23	5	2	se.	Dr. F. T. Seeley.
Alta	Buena Vista	1,513	20	75.1	+ 7.5	99	8†	50	28	42	4.08	− 1.14	3.32	0	7	17	12	1	s.	David E. Hadden.
Amana	Iowa	721	35	74.2	+ 4.8	97	9	46	28	36	2.41	− 2.00	0.88	0	6	17	11	2	se.	C. Schadt.
Ames	Story	926	35	76.6	+ 7.2	100	9	50	28	38	2.05	− 2.48	1.21	0	4	13	10	7	s.	Iowa State College.
Baxter	Jasper	998	11	76.5	+ 8.9	105	5	46	28	44	1.07	− 3.43	0.68	0	6	25	4	1	se.	W. R. Vandike.
Belle Plaine	Benton	828	21	74.3	+ 5.2	99	5	45	28	41	3.68	− 0.49	1.24	0	8	15	14	1	sw.	S. P. Van Dike.
Belmond	Wright		1	73.4		97	29†	43	28	35	2.51		1.12	0	6	9	19	2	se.	Geo. P. Hardwick.
Bloomfield	Davis		4	78.4		103	30	49	28	51	0.24		0.24	0	1	27	2	1		Albert Power.
Bonaparte	Van Buren		20	77.2	+ 6.0	100	9†	50	28	36	0.91	− 3.77	0.64	0	4					B. R. Vale.
Boone	Boone	1,134	6	76.1		99	9†	50	28	44	2.66		1.96	0	4	21	4	5	s.	Carl Fritz Henning.
Britt	Hancock	1,236	14	73.8	+ 6.7	97	9	44	28	45	2.03	− 2.05	1.57	0	4	21	8	1	s.	L. M. Goodman.
Buckingham	Tama		11								2.00	− 2.94	1.44	0	5					J. S. Guynn.
Burlington	Des Moines	544	15	77.7	+ 7.2	104	10	54	1	43	1.85	− 3.23	1.15	0	6	22	0	8	s.	Max E. Poppe, jr.

TABLE 1.—*Climatological data for June, 1911. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Iowa*—Continued.**																				
Carroll	Carroll	1,265	21	74.8	+ 6.2	99	28	50	27	47	2.00	− 2.67	1.59	0	3	24	3	3	nw.	Mrs. Jos. J. Wolfe.
Cedar Rapids	Linn	733	29	75.6	+ 5.3	102	9	48	28	42	2.57	− 1.30	1.70	0	8	20	1	9	s.	R. S. Tootgood.
Charles City	Floyd	1,015	20	73.1	+ 4.3	98	30	43	28	34	1.49	− 3.61	0.81	0	10	7	15	8	se.	U. S. Weather Bureau.
Clear Lake	Cerro Gordo	1,241	13	75.8	+ 7.6	98	39†	43	28	37	1.28	− 3.56	0.60	0	3	26	0	4	s.	Oscar Stevens.
Clinton	Clinton	593	44	73.9	+ 4.2	100	10	45	28	41	1.69	− 2.74	0.62	0	11	18	7	5	sw.	Luke Roberts.
Columbus Junction	Louisa	595	10	76.6	+ 7.9	99	10	49	28	31	2.25	− 2.63	1.12	0	5	26	3	1	se.	J. B. Johnston.
Davenport	Scott	580	40	76.1	+ 5.2	98	9	52	28	28	2.00	− 2.11	0.99	0	10	17	7	6	sw.	U. S. Weather Bureau.
Decorah	Winneshiek	875	18	76.2	+ 8.8	103	9†	43	28	45	1.41	− 2.59	0.44	0	9	.....	.....	.....	.....	F. H. Baker.
Delaware	Delaware	1,083	20	72.8	+ 5.0	97	5†	45	28	34	3.17	− 1.01	1.27	0	7	18	11	1	s.	William Ball.
Des Moines	Polk	861	33	77.5	+ 7.1	99	9	52	28	30	0.75	− 4.21	0.44	0	3	8	14	8	e.	U. S. Weather Bureau.
Dubuque	Dubuque	639	38	73.8	+ 4.2	95	22	49	28	29	2.83	− 1.72	1.46	0	11	8	16	6	s.	Do.
Earlham	Madison	.....	9	76.6	.....	103	30	47	27	41	0.43	.....	0.43	0	1	26	3	1	s.	George Phillips.
Elkader	Clayton	727	32	74.7	+ 5.6	100	22†	41	27	44	2.83	− 1.20	0.76	0	8	21	5	4	se.	Chas. Reinecke.
Elma	Howard	.....	2	72.6	.....	99	30	36	28	39	1.64	.....	0.60	0	8	19	10	1	se.	H. A. Moore.
Estherville	Emmet	1,298	16	73.6	+ 6.8	101	8	45	28	47	0.90	− 2.45	0.45	0	5	21	0	9	s.	A. O. Peterson.
Fairfield	Jefferson	.....	27	77.0	+ 7.1	100	22†	49	28	36	0.63	− 4.50	0.21	0	8	23	6	1	se.	R. Monroe McKenzie.
Fayette	Fayette	1,003	21	72.0	+ 4.7	98	30	40	28	37	1.93	− 3.42	0.80	0	6	21	7	2	se.	R. Z. Latimer.
Forest City	Winnebago	1,226	17	73.4	+ 6.2	99	30	45	28	42	1.09	− 3.54	0.67	0	6	22	8	0	se.	J. A. Peters.
Fort Dodge	Webster	1,126	11	75.6	+ 9.0	101	9	48	28	44	3.65	− 0.16	2.60	0	5	17	10	3	s.	J. F. Monk.
Fort Madison	Lee	516	62	.....	.....	.....	.....	.....	.....	.....	0.67	− 3.71	0.28	0	4	15	10	5	sw.	Miss L. A. McCready.
Gilman	Marshall	1,052	12	.....	.....	.....	.....	.....	.....	.....	2.52	− 2.22	1.13	0	8	.....	.....	.....	.....	J. L. Wylie.
Grand Meadow	Clayton	1,180	20	70.9	+ 4.5	91	30	45	28	28	2.76	− 2.04	0.61	0	10	14	13	3	se.	F. L. Williams.
Greene	Butler	.....	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. L. Cole.
Grinnell	Poweshiek	1,023	19	76.3	+ 8.0	102	5	46	28†	52	1.75	− 2.83	0.87	0	7	23	6	1	sw.	D. W. Brainard.
Grundy Center	Grundy	976	20	75.2	+ 7.0	98	9†	43	28	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Calderwood.
Guthrie Center	Guthrie	1,077	16	77.0	+ 8.0	100	29†	52	28	37	0.53	− 3.88	0.37	0	3	22	5	3	sw.	D. G. Beardsley.
Hampton	Franklin	1,155	21	74.6	+ 6.8	98	9†	45	28	36	2.03	− 2.88	1.02	0	5	12	16	2	se.	E. C. Grenelle.
Humboldt	Humboldt	1,095	23	74.7	+ 5.9	99	9	46	28	36	1.93	− 2.78	0.72	0	5	28	2	0	se.	Henry S. Wells.
Independence	Buchanan	921	47	73.1	+ 4.7	95	9†	42	28	30	3.28	− 1.50	2.00	0	10	21	8	1	se.	R. E. Dudley.
Indianola	Warren	969	20	78.2	+ 8.5	100	29†	52	28	31	0.17	− 4.01	0.15	0	3	18	9	3	sw.	Prof. J. L. Tilton.
Iowa City	Johnson	683	51	73.2	+ 3.9	96	8†	43	28	43	2.98	− 1.60	1.70	0	8	19	0	11	sw.	Prof. A. G. Smith.
Iowa Falls	Hardin	1,170	18	72.4	+ 4.9	98	9	42	28	44	1.94	− 2.58	0.98	0	6	22	4	4	sw.	J. B. Parmelee.
Jefferson	Greene	.....	12	76.4	.....	102	30	51	7	39	1.41	− 3.09	1.02	0	3	.....	.....	.....	se.	M. E. Hall.
Keokuk	Lee	547	40	79.3	+ 6.8	101	10	55	28	30	0.65	− 3.70	0.55	0	6	16	13	1	se.	U. S. Weather Bureau.
Keosauqua	Van Buren	644	19	77.8	+ 6.1	105	30	41	1	46	0.06	− 4.49	0.06	0	2	7	19	4	.....	J. H. Landes.
Knoxville	Marion	920	16	78.2	+ 6.6	101	30	50	28	35	0.90	− 3.42	0.65	0	3	22	6	2	se.	Casey & Bellville.
Lacona	Warren	.....	12	.....	.....	.....	.....	.....	.....	.....	1.22	− 3.79	1.00	0	2	11	17	2	.....	J. B. Alter.
Le Claire	Scott	576	11	.....	.....	.....	.....	.....	.....	.....	2.61	− 1.48	0.90	0	12	.....	.....	.....	.....	Miss M. T. Disney.
Marshalltown	Marshall	947	19	75.4	+ 6.7	101	9	48	28	42	3.01	− 1.35	1.21	0	10	23	3	4	se.	Ralph B. Reasoner.
Mason City	Cerro Gordo	1,132	14	72.8	+ 5.6	97	9†	40	28	38	1.53	− 4.36	0.86	0	4	20	9	1	se.	J. S. Mills.
Mount Pleasant	Henry	720	30	76.2	+ 5.8	98	10	49	28	32	1.79	− 2.69	0.65	0	8	15	14	1	sw.	J. W. Edwards.
Muscatine	Muscatine	.....	51	.....	.....	.....	.....	.....	.....	.....	2.33	− 2.53	1.08	0	7	.....	.....	.....	.....	William Molis.
New Hampton	Chickasaw	1,169	14	73.8	+ 7.5	97	30	49	28	33	2.16	− 2.09	0.80	0	7	22	7	1	se.	A. F. Kemman.
Newton	Jasper	944	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. P. Beatty.
Northwood	Worth	1,222	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. H. Dwelle.
Olin	Jones	760	13	73.6	+ 5.4	100	22	42	28	38	1.83	− 1.91	0.92	0	6	.....	.....	.....	.....	M. H. Crissman.
Osage	Mitchell	1,184	24	74.5	+ 8.4	98	20†	43	28	47	2.82	− 1.71	1.34	0	4	18	10	2	nw.	Dr. A. D. Bundy.
Oskaloosa	Mahaska	843	35	77.4	+ 7.9	102	30	51	1†	37	0.60	− 3.51	0.23	0	6	25	3	2	se.	Joseph Boyd.
Ottumwa	Wapello	649	16	79.4	+ 8.2	108	5	45	28	43	0.24	− 3.84	0.24	0	1	20	7	3	s.	Chester Potter.
Pella	Marion	877	9	76.2	.....	99	5†	50	1	41	2.88	.....	1.35	0	7	28	1	1	sw.	J. H. Ver Steeg.
Perry	Dallas	975	10	77.0	+ 6.7	101	30	52	12	44	0.63	− 4.06	0.63	0	1	22	6	2	se.	Ed. S. Gray.
Plover	Pocahontas	1,426	15	74.1	+ 6.5	99	22	46	28	45	1.20	− 3.15	0.52	0	6	26	4	0	s.	J. S. Smith.
Pocahontas	do	1,248	7	73.4	.....	98	9	48	28	34	3.05	.....	1.98	0	7	20	10	0	s.	F. E. Hronek.
Ridgeway	Winneshiek	1,215	13	74.0	+ 5.7	100	22	45	28	32	2.02	− 2.13	0.78	0	12	20	9	1	s.	Arthur Betts.
Rockwell City	Calhoun	.....	15	76.6	+ 8.1	98	8†	55	1†	35	4.15	− 0.11	1.80	0	5	20	1	0	.....	C. M. Randall.
Sac City	Sac	1,278	35	75.0	+ 6.8	97	9	51	28	32	5.95	+ 0.09	2.40	0	7	18	9	3	sw.	E. N. Baily.
St. Charles	Madison	1,070	10	78.2	+ 9.6	101	30	52	28	31	0.17	− 4.17	0.12	0	2	27	2	1	s.	R. D. Minard.
Sigourney	Keokuk	877	15	77.0	+ 6.2	100	25	50	28	36	6.28	+ 2.30	3.45	0	7	3	27	0	se.	J. T. Parker.
Stockport	Van Buren	745	9	77.9	.....	101	9†	49	28	40	0.36	.....	0.19	0	3	22	7	1	s.	C. L. Reswick.
Storm Lake	Buena Vista	1,440	22	75.0	+ 8.0	97	8†	50	28	41	3.56	− 1.23	2.73	0	8	.....	.....	.....	s.	Prof. Warren Ingold.
Stuart	Guthrie	1,216	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. Fox.
Tipton	Cedar	807	12	77.8	+ 7.9	100	22	53	28	31	2.29	− 1.65	1.37	0	7	23	7	0	ne.	F. K. Gregg.
Toledo	Tama	856	17	74.6	+ 5.4	97	9	45	28	37	3.63	+ 0.10	1.30	0	7	24	5	1	se.	I. F. Giger.
Wapello	Louisa	588	13	76.1	+ 6.5	96	10	54	1	30	1.71	− 1.85	0.82	0	6	.....	.....	.....	se.	G. W. Schofield.
Washington	Washington	769	29	76.4	+ 4.7	99	9	50	28	41	2.09	− 1.42	1.23	0	6	12	17	1	se.	Wm. A. Cook.
Waterloo	Blackhawk	862	28	73.1	+ 4.9	97	22	44	28	42	3.02	− 0.84	1.26	0	7	22	2	6	s.	Ralph B. Slippy.
Waukee	Dallas	1,039	8	77.2	.....	100	29†	51	28	32	0.35	.....	0.34	0	2	25	4	1	sw.	Samuel F. Foft.
Waverly	Bremer	948	15	73.4	+ 5.9	98	9†	41	28†	52	2.32	− 1.93	1.70	0	2	16	10	4	s.	Earl C. Moore.
Webster City	Hamilton	.....	6	75.6	.....	100	9	47	28	38	3.90	.....	2.25	0	4	24	6	0	s.	C. D. Carpenter.
West Bend	Palo Alto	1,197	18	75.0	+ 7.6	100	9†	45	28	37	1.33	− 2.89	0.94	0	7	17	13	0	s.	Phil. Dorweiler.
Whitten	Hardin	1,036	14	75.0	+ 7.1	98	5†	45	28	34	3.32	− 1.01	1.53	0	3	22	7	1	se.	Dr. F. P. Butler.
Winterset	Madison	1,129	20	78.6	+ 8.5	101	29†	52	28	35	0.26	− 5.57	0.26	0	1	14	13	3	se.	Dr. Robt. S. Cooper.
Missouri.																				
Gorin	Scotland	700	26	.....	.....	.....	.....	.....	.....	.....	0.64	− 2.99	0.31	0	3	12	14	4	se.	J. W. Pulliam.
Hannibal	Marion	534	19	78.7	+ 5.4	100	10	56	1	32	1.32	− 2.20	0.38	0	10	14	12	4	sw.	U. S. Weather Bureau.
Louisiana	Pike	500	34	78.2	+ 7.0	100	9†	50	13	38	2.56	− 1.63	1.20	0	9	24	3	3	sw.	J. T. Farrell.
Mexico	Audrain	797	34	78.8	+ 5.5	102	10†	54	1	35	1.84	− 3.50	0.65	0	9	16	5	9	s.	J. F. Llewellyn.
Steffenville	Lewis	576	18	80.6	+ 9.0	104	10†	55	1†	40	1.57	− 2.56	0.42	0	5	15	11	3	ne.	Frank Hall.
Sublett	Adair	1,000	32	79.0	+ 7.4	101	30	51	1	34	0.40	− 4.33	0.35	0	2	14	15	1	sw.	Lewis Spriggs.
Vandalia	Audrain	776	1	79.2	.....	101	9†	55	1	40	1.16	.....	0.40	0	4	27	0	3	se.	C. B. Ellis.
Warrenton	Warren	865	22	76.3	+ 3.0	103	16	56	1	34	1.75	− 2.78	0.64	0	8	15	6	9	se.	Dr. J. H. Frick.
Indiana.																				
Collegeville	Jasper	.....	12	73.0	+ 4.7	102	10	44	15	41	1.48	− 2.17	0.36	0	6	12	12	6	e.	Otto Miller.
Knox	Starke	716	6	71.6	.....	97	10	46	15	33	5.94	.....	4.10	0	11	15	11	4	s.	W. R. R. Tatman.
Laporte	Laporte	810	15	70.6[b]	+ 2.1	99[b]	10	47[b]	15	38[b]	5.73	+ 2.43	1.50	0	11	10[b]	4[b]	8[b]	sw.	Wm. M. Walton, jr.
Plymouth	Marshall	790	.8	69.7	.....	93	10	47	15	30	5.58	.....	1.95	0	11	14	10	6	sw.	J. W. Siders.
Illinois.																				
Aledo	Mercer	738	11	75.6	+ 6.2	99	10	47	28	32	1.30	− 2.15	0.74	0	6	12	18	0	se.	William B. Frew.
Alexander	Morgan	670	18	76.8	+ 4.6	98	9†	54	13	36	0.47	− 3.07	0.29	0	7	15	11	4	sw.	George H. Hall.
Antioch	Lake	861	10	71.6	+ 5.3	100	22	50	28	39	4.00	+ 0.82	1.23	0	5	13	8	9	w.	J. C. James.
Astoria	Fulton	650	12	75.0	+ 5.8	98	10	52	1	33	4.01	− 0.03	1.28	0	8	15	12	3	sw.	Edward V. Bohl.

TABLE 1.—*Climatological data for June, 1911. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Illinois—Continued.																				
Aurora	Kane	687	32	71.2	+ 2.3	97	9	47	1†	36	4.64	+ 0.88	1.94	0	8	11	10	9	se.	W. Holden.
Bement	Piatt	700	4	77.1	.....	101	9	51	15†	38	1.71	.....	1.28	0	5	20	6	4	s.	Rev. C. S. Adams.
Bloomington	McLean	840	20	76.3	+ 4.3	102	9	52	28	37	1.66	− 2.03	0.92	0	8	21	2	7	sw.	Prof. H. N. Pearce.
Cairo	Alexander	359	33	79.3	+ 4.1	98	16	62	2	29	2.08	− 2.23	0.84	0	8	9	9	12	sw.	U. S. Weather Bureau.
Carbondale	Jackson	412	6	79.7	.....	102	4	58	1	37	2.24	.....	1.65	0	7	17	6	7	sw.	State Normal University.
Carlinville	Macoupin	663	21	78.4	+ 5.3	102	16	55	1	41	0.90	− 3.34	0.29	0	5	23	6	1	w.	W. T. Eddy.
Clinton	Dewitt	727	1	75.8	.....	99	9†	52	8†	36	1.87	.....	1.24	0	9	16	11	3	sw.	J. F. Ziegler.
Coatsburg	Adams	763	19	79.6	+ 7.6	101	10	54	28	35	3.22	− 1.06	1.88	0	6	22	7	1	s.	Dr. J. R. Lambert.
Cobden	Union	656	28	78.5	+ 3.8	100	4†	59	2†	35	3.59	− 1.36	1.15	0	5	14	6	10	s.	John Buck.
Dakota	Stephenson	929	6	.....	.....	95	10	.....	.....	.....	4.95	.....	1.40	0	11	13	14	3	nw.	Rev. G. W. Kerstetter.
Decatur	Macon	685	20	76.6	+ 4.6	100	9	54	1†	36	2.44	− 1.13	0.83	0	6	21	4	5	sw.	Prof. J. H. Coonradt.
Dixon	Lee	725	21	74.0	+ 4.3	99	9†	49	28	34	3.64	+ 0.18	0.96	0	8	17	10	3	.....	H. U. Bardwell.
Duquoin	Perry	459	23	78.0	+ 2.7	100	4	56	1†	36	1.87	− 1.70	0.48	0	7	13	14	3	sw.	G. H. Knetzger.
Dwight	Livingston	600	18	74.2	+ 4.3	102	9	49	1†	38	1.78	− 1.95	0.91	0	7	15	8	7	sw.	Edward O. Welch.
Elgin	Kane	716	4	73.0	.....	98	9†	48	1	37	1.79	.....	0.69	0	6	7	22	1	sw.	Elgin Observatory.
Galva	Henry	842	19	75.4	+ 5.2	101	10	47	28	42	2.81	− 1.04	1.22	0	10	19	6	5	ne.	Prof. F. U. White.
Greenville	Bond	635	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. S. Oudyn.
Griggsville	Pike	650	26	77.4	+ 4.6	98	9†	57	15†	30	1.19	− 2.88	0.55	0	3	19	10	1	sw.	George F. Kneeland.
Havana	Mason	475	19	79.2	+ 5.3	102	9†	57	15†	35	2.99	− 0.83	1.18	0	7	12	18	0	s.	F. and C. Borgelt.
Henry	Marshall	500	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. F. A. Powell.
Hillsboro	Montgomery	675	17	77.9	+ 4.9	103	10†	55	1	44	1.28	− 2.66	0.65	0	7	21	2	7	s.	Ira L. Woodward.
Joliet	Will	541	20	71.4	+ 2.0	97	9	46	15	37	4.65	+ 1.31	2.21	0	7	20	6	4	sw.	F. M. Muhlig.
Kishwaukee	Winnebago	730	23	72.2	+ 3.6	98	10	49	1†	33	3.70	− 0.41	1.15	0	12	18	10	2	sw.	George Stevens.
La Grange	Cook	657	19	71.8	+ 3.6	98	9†	42	28	40	2.57	− 1.39	0.75	0	6	20	5	5	sw.	Prof. F. E. Sanford.
La Harpe	Hancock	698	32	78.0	+ 6.5	106	10	51	28	40	1.68	− 2.59	1.03	0	5	21	8	1	se.	George E. Campbell.
Lanark	Carroll	883	22	71.0	+ 3.1	96	9†	41	28	40	3.81	− 0.28	1.12	0	13	19	5	6	se.	M. N. Wertz.
Lasalle	Lasalle	536	33	74.5	+ 4.4	100	9	51	28	33	3.32	− 0.07	1.98	0	8	14	11	5	sw.	U. S. Weather Bureau.
Lincoln	Logan	482	23	75.4	+ 3.8	97	9†	48	15	38	2.43	− 1.19	0.90	0	6	16	13	1	s.	Prof. C. S. Oglevee.
Martinton	Iroquois	633	24	74.0	+ 4.0	101	9†	48	15	48	1.90	− 1.70	0.50	0	8	17	6	7	sw.	Joseph H. Peltier.
Mascoutah	St. Clair	425	21	79.0	+ 4.7	104	3†	54	2	42	1.82	− 2.64	0.42	0	9	17	9	4	se.	George Henrich.
Minonk	Woodford	745	18	76.6	+ 6.2	103	9	49	28	43	3.02	− 0.17	1.80	0	9	25	4	1	s.	O. M. Davison.
Monmouth	Warren	784	19	77.4	+ 6.4	102	9†	49	28	38	2.05	− 1.58	0.95	0	7	18	2	10	s.	Dr. J. C. Hutchison.
Morrison	Whiteside	685	17	72.9	+ 4.1	98	10	49	1†	34	2.19	− 1.45	0.73	0	10	19	7	4	se.	S. A. Maxwell.
Morrisonville	Christian	638	12	76.7	+ 5.7	100	10	52	1	36	3.18	− 0.70	1.51	0	7	22	5	3	sw.	J. D. Lowis.
Mount Vernon	Jefferson	511	17	78.6	+ 4.3	99	3†	56	14	36	2.08	− 1.97	1.10	0	7	18	5	7	s.	Theodore P. Stelle.
Oregon	Ogle	702	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Samuel Ray.
Ottawa	Lasalle	500	25	74.5	+ 3.5	99	10	52	14	34	1.71	− 1.83	0.65	0	6	20	6	4	sw.	Miss M. M. Harris.
Pana	Christian	692	25	76.8	+ 5.0	100	10	54	8	35	4.63	+ 0.51	1.63	0	7	24	2	4	sw.	C. W. Sibley.
Peoria	Peoria	609	33	75.5	+ 4.6	100	10	51	28	35	6.64	+ 2.34	4.74	0	7	13	12	5	s.	U. S. Weather Bureau.
Pontiac	Livingston	546	9	75.8	.....	102	9	51	15	38	2.84	.....	1.39	0	8	11	13	6	sw.	George Butterworth.
Riley	McHenry	956	52	71.4[e]	+ 4.2	98[c]	10	49[c]	1†	34[c]	3.17	− 0.79	1.14	0	9	10	13	7	nw.	John West James.
Rockford	Winnebago	763	19	73.0	+ 3.6	98	10	50	28	35	2.39	− 1.71	0.99	0	11	20	1	9	.....	Hosmer C. Porter.
Rushville	Schuyler	670	20	77.1	+ 4.8	99	10	55	28	28	2.32	− 1.24	1.13	0	8	19	7	4	se.	H. F. Dyson.
St. Charles	Kane	700	16	72.2	+ 3.2	100	9	47	1†	37	2.78	− 0.50	1.35	0	9	15	11	4	sw.	Dr. William H. Bishop.
St. Peter	Fayette	.....	9	77.2	.....	102	10	53	19	38	2.83	.....	1.05	0	7	12	17	1	nw.	M. L. Lansford.
Sparta	Randolph	538	25	78.5	+ 4.5	102	10	56	2	36	0.91	− 2.58	0.29	0	9	17	12	1	e.	James A. Caldwell.
Springfield	Sangamon	644	33	77.9	+ 5.6	101	9	58	28	33	3.44	− 0.87	1.85	0	10	13	8	9	s.	Section Center.
Streator	Lasalle	626	18	75.0	+ 4.2	102[b]	9	49	15†	40[b]	4.24	+ 0.82	2.54	0	11	23	3	4	sw.	Edward F. Sweetser.
Sullivan	Moultrie	530	11	77.0	+ 5.7	101	3†	52	15	37	1.29	− 2.59	0.65	0	4	21	9	0	sw.	C. A. Corbin.
Sycamore	De Kalb	855	31	73.2	+ 5.2	103	9†	47	1†	44	2.56	− 1.58	0.75	0	8	20	5	5	se.	Miss E. J. Davis.
Walnut	Bureau	717	20	74.6	+ 3.4	99	10	49	28	31	4.56	+ 0.86	1.84	0	9	19	8	3	s.	O. C. Nussle.
White Hall	Greene	573	3	77.0	.....	100	9†	53	13	36	1.28	.....	0.53	0	7	3	10	17	se.	Dr. R. A. Pritchett.
Windsor	Shelby	681	12	76.2	+ 4.8	101	10	48[a]	15	42[a]	1.49	− 2.27	0.81	0	10	14	11	5	se.	Herbert Rose.
Winnebago	Winnebago	900	24	72.3	+ 3.9	98	9†	46	28	35	3.20	− 0.78	1.20	0	10	20	7	3	sw.	Frank Osborn.
Yorkville	Kendall	584	24	71.0	+ 2.4	97	9†	45	1†	41	5.57	+ 1.61	2.32	0	9	19	7	4	w.	Herman A. Grimwood.
Zion	Carroll	938	17	72.5	+ 4.2	97	9	44	28	35	3.12	− 0.46	2.00	0	5	20	8	2	sw.	Robert F. Gillogly.

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

TABLE 2.—*Daily precipitation for June, 1911. District No. 5, Upper Mississippi Valley.*

Stations.	Watershed.	Day of month.																														Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
North Dakota.																																
Amenia	Red		.35	.36	T.	T.					.25	T.				T.	T.					T.		.03		.70				.38		2.07
Bottineau	Mouse			.56	.04	.11			.19	T.	.12	.12		.10	.20	.16							.16				.03			.02	.68	2.49
Cando	Sheyenne	3.50						.92	.71	.01	.16			T.								.85										6.15
Crosby	Mouse	T.	.74	.01	T.	.16			1.46					.24	.03	.05				.10		.27	.17		.74	T.			T.	T.		3.97
Devils Lake	Sheyenne	.52	.80	.06				.54		.31		.01		.03	.01	.21						.07	.01	T.	.01		T.		.16	T.	.08	2.82
Donnybrook	Mouse		.25	.45					T.	.08	T.			.26		.18						.31		T.	.04	.84			.15	.22		2.78
Dunseith	do			1.19					.25	.15				.15		.40													T.		.75	2.89
Edmore	Sheyenne		.35	.85				.04	.42		.25			.09		.40						.23	.06			.08				.10	.20	3.07
Forman	do																															
Grafton	Red		.54	1.70				.97	.12	.01	.15	.06				.35						.08	.02			.11				.11		4.22
Granville	Mouse		1.32	.07				T.	.10	.37				.26	T.	.13						.10	.21							.54		3.10
Hannah	Pembina		.76	.05				.49		.10	T.	.14				.32					T.	.24							T.	.26	.31	2.67
Hansboro	Red		.40	.02		.05		.20	.40	.53		.03				.35							.15				.04		.15	.08	.02	2.42
Hillsboro	do		.49	.69		.16					.41	.02				.18										.01			.36	.31		2.63
Lakota	Sheyenne																															
Langdon	Pembina																															
Larimore	Red		2.10	.58	1.14				1.08		.93	.08				.26	.23									.17				.55	.03	7.15
Lisbon	Sheyenne		1.33	.55	.25	.03					.36	T.	T.									.15		.27		.05				.97		3.96
McKinney	Mouse		.70						T.		T.			.30									.37		T.	.16			.07		.45	2.05
Manfred	Sheyenne	.02	.62	1.11						.26	.40					.30						.06	.05		.04				.15		.04	3.05
Mayville	Red		.54	.73				.07	T.		.65	.30		T.		.14									T.				.31	.23		2.97
Minot	Mouse		.52	1.04	.16				.05		.28			.08	.28	.22							.43						.02		.55	3.63
Minto	Red		1.98					.60	.50	.17	.10					.25					.13				.20				.20			4.13
Oriska	Sheyenne																															
Park River	Red		1.21	.64	.06			.70	.28	.10	.19	.09				.36						.23	.24			.50					.15	4.75
Pembina	do			.10	.20	T.			.10	.08	.08	.04					.01					T.	.08	T.						.01		0.70
Power	Sheyenne		.43	.47	T.	T.				.17						T.						.07			.50				1.35			2.99
Pratt	Mouse		.50						.37	.18	T.			.18									.38							.34	.33	2.28
Towner	do																															
University	Red	.23	.30	.45	.45				.85	1.02	.53					.44					T.	.10				.03			.18	.29		4.87
Wahpeton	do	.37		.74	.31					.05	.16	.07	.06				T.					.01				.20				.45		2.42
Walhalla	Pembina																															
Westhope	Mouse		.59					.43						.17	.09								.47		.31					.87		2.93
Willow City	do		4.10						.69	.25		.04				1.05						.27							T.	1.07		7.47
Minnesota.																																
Albert Lea	Mississippi	T.	1.50	T.	.40							T.			T.	T.	.40									T.	.25					2.55
Alexandria ‖	do		.37	.65	.25	T.	T.		.08		.06	.11	.33				.10	.26							T.	.02	.08			.77		3.08
Angus	Red	.26	.10	.33	.07				.50	.85	.14	.13				.34									T.	.43	T.		.09	.30		3.54
Bagley	do		.46	.20					.50	.46	.30	.40				.19							.06					.38				2.95
Beardsley	Minnesota	.05	.37	.48		T.				T.		.03					1.16								.05				T.	1.53		3.67
Beaulieu	Red		.15	.03		T.					.14	.12				.08											T.		.20	.60		1.32
Bird Island	Minnesota	.01	1.75		.37					T.	.08	.07					1.12	.04									2.18		.14	.49		6.25
Caledonia ‖	Mississippi		.46	.04	.11								.32				.11	.33									.08			.20	.16	1.81
Campbell ‖	Red		.86	1.10	.04	.02				T.	T.	.46	.15														T.	T.		.50		3.13
Cass Lake ‖	Mississippi		T.		.50					.40		.25														1.30				.40		2.85
Collegeville	do		.50	.61	2.06				.09	T.	.08	.11	.02				.19	.02							.04	.05	.52			.83		5.12
Crookston ‖	Red		.33	.28	1.30				.35	T.	1.10	.12	.02			.09	.14							.02		.05				.20		4.00
Detroit ‖	do		.23	.95	.68		T.			T.	1.03	.18	.08		T.	T.								.05		.60	T.	T.		.94	T.	4.74
Ely	Rainy	T.	.06	T.	.48				.67	T.	1.12	.35	.02			T.				.24				T.	.31	.20	.55	.02		.10		4.12
Fairmont (near)	Minnesota	.02		.36							.04	.14		.01		.04	.03										.80			.03		1.47
Faribault	Mississippi		.75	1.45					.07			.34	.37			.16										T.	.21			.75		4.10
Farmington	do		.63	.08	1.04			.14				T.	.78			T.	1.63	T.							.18	.11	T.		.10	.26		4.05
Fergus Falls	Red	.03	.28	.79	.30	.20				.01	.02	.22		T.		T.	.01					T.			.14	T.	.05		.20	.26		2.51
Fort Ripley ‖	Mississippi		.30	.44	1.40				.30		.29		.15													.35	.29	T.		.80	T.	4.32
Fosston	Red		.13	.42		.04		.12	.08	.03	.15	.51				.13	.02									.38			.16	.20		2.37
Fram	do	T.		.87				.60	.25		.74	.05				.37									.35					.12	T.	3.35
Glencoe	Mississippi		.35		.80												.90									1.75	.90			.30		5.00
Grand Meadow	do		1.67	.03	.37				.21			.20	.51				.62										.20			.02		3.83
Gull Lake Dam	do			1.00	.20			.02			.15	.11		T.		.05									.12	T.	.06		.08	.66		2.45
Hallock	Red		1.10	.25				1.30	.25	.20	.05					.50						.01	.02		.05					.01	.20	3.94
Halstad ‖	do		.40	.44	.07						.78	.04	.02			.06	.05									.08				1.02	.02	2.98
Hinckley	St. Croix		.10	.42	.71		.72		.31			.10	.37			T.	.18								.28		.38			.42		3.99
International Falls	Rainy																															
Itasca State Park	Mississippi		.08	.39	.64	T.			T.	.21						.09								.02		1.22			.22	.35		3.22
Kelliher	Red																															
Lake Crystal	Minnesota	.03	1.53	.07	.15																											
Leech Lake Dam	Mississippi		.03	.88	.04						.28	.53	.05			.08								.02	.03	.89	.02		.02	.21	.10	3.18
Litchfield	do																															
Littlefork	Rainy		.04	.20	.85				.83		.76	.52				.15										.22	.03			.11		3.71
Long Prairie	Mississippi		.52	.47	1.10						T.	T.					T.									T.		.33	.50	.37		3.29
Lynd	Minnesota	.25									.35	T.		T.			.63									T.	.70		T.			1.93
Mankato ‖	do		2.47		.14		.13																				1.20	.06		.40		4.40
Milaca	Mississippi		.14	.53	1.32	.02				.03		.22	.21			T.	.11										.41			.70		3.69
Milan	Minnesota	.05	.23	2.00	.19						.09	.03					.39								T.		1.65		.39	.73		5.75
Minneapolis	Mississippi	.03	.66	.61	.55	T.			.21			.74		T.			1.04								2.36	T.	.52		T.	.21		6.93
Montevideo ‖	Minnesota		.32	.56	2.05					T.	.10	.06	.04				.24	.12								.02	.44			1.06	.16	5.17
Moorhead	Red	.10	.23	.06		.01				.66	.04	.15				T.						.02		.10	.42				.79	.04		2.62
Mora	St. Croix		.13	.40	1.25	.03			.97	.04	.02	.23	.42			.01	.20								.37	.01	.48	.01		.59		5.16
Morris	Minnesota	T.	1.25	.93					.12		.02	.11					1.25								.18		.70		.17	.20		4.93
New London	Mississippi	T.	.85	.38						.35								1.60									1.58	.95				5.78
New Richland	Minnesota	T.	1.74	.04	.43				T.		T.	.12				T.	T.									T.	.28			.19		2.01
New Ulm ‖	do		2.00		.06				T.	T.	.07	T.	.27				.20	.20								T.	.40			1.15	.05	4.40
Osakis	Mississippi		.42	.72	.95				.56	T.	.01	.10				T.	.14										.08	.06	.04	.57		3.65
Park Rapids ‖	do		.30	.92	.20	T.	.01			T.	.25	.01	.11		T.	T.	.07	.01						.11	.04	.22	.04	T.		.56	.08	2.93
Pine River Dam	do		.20	.22	.10	.32			T.		.10	T.				T.										1.30	T.		T.	.70		2.94
Pokegama Falls	do		.27	.52		T.					.22	.46	T.			.09								.03	.82	1.93	.03			.12		4.49
Red Lake	Red		.16	.46	.34				1.68	.08		.45				.20										.33				.22		3.92
Red Wing ‖	Mississippi		.86	.06	2.54				.10		T.		.46	T.	T.		.28	.24									.06	.04		.70		5.34
Redwood Falls	Minnesota	.01	.55		.10						.22	.05					.98										.33	.07		.61		2.92
Reads Landing ‖	Mississippi		.90	.02	1.10				.14				.10				.64	.13									.24			.37		3.64
Rochester ‖	do		.63		.66				.10				.40				1.05	.16									.08			.30		3.38
Roseau	Red																															
St. Charles ‖	Mississippi		.67		1.27				.42				.20				.82			.15								.06	.35			3.94
St. Cloud	do		.40	.43	.88				T.		.16	.12					.59									1.10	.48		.04	1.08		5.28
St. Paul	do	.02	1.59	.51	.70	T.			.45			.63	.01	.01		T.	.84								.06	.02	.67			.28		5.79
St. Peter	Minnesota		2.10	.05	.33							.10															.45			.52		3.55
Sandy Lake Dam	Mississippi		.14	.30	.08				.10			.60				.06										.29	.16			.40		2.13
State Sanatorium	do		.12	.65	.01	.06					.39	.26				.06								.10	.10	.49	.02	.46				2.72
Stillwater ‖	St. Croix		.36	3.19	.86	.06	T.		.32				.30		.01		.64	.33									2.02	.08	T.	.51	T.	8.68
Taylors Falls	do		.15	.89	.54				.48	T.		.07	.64				1.25										.30	T.		.49		4.81

TABLE 2.—*Daily precipitation for June, 1911. District No. 5*—Continued.

Stations.	Watershed.	Day of month.																														Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
***Minnesota*—Contd.**																																
Warroad	Rainy		.75	.60				.94		1.32	.52					.15								.15							.20	4.63
West Concord	Mississippi																															
Winnebago ‖	Minnesota		.02	T.	.45						.02	.01			T.		T.	.04									.71	.01		.40		1.66
Winnibigoshish	Mississippi		.25	.44	.07				.15		.28	.26				.11								.02	.04	1.67	T.			.18		3.47
Winona	do		.83	T.	2.83		T.		.13			.16	.02				.65	.02									.04	T.		.23		4.91
Worthington ‖	Des Moines		.07								.37	.02					.04									.28	.65			.08		1.51
Zumbrota	Mississippi		.82	T.	.92	.10						T.	.40				1.62										T.			.45		4.31
South Dakota.																																
Milbank ‖	Minnesota		.34	.48	1.09	T.			.06		.02	T.	.03				.07	.32							.07		.04		.07	1.25	T.	3.84
Wisconsin.																																
Antigo	Wisconsin			.60	.74		.28		.12			T.	T.						T.								.11	T.		.11		1.96
Barron	Chippewa		.09	.86	.55		.45		.69			.80				T.	.22										.10			.61		4.37
Beloit	Rock					.91						.24					1.40									1.40						3.95
Big St. Germain Dam.	Wisconsin				.90		.13		.12	.11		T.	T.				T.											T.		.07		1.33
Brodhead	Rock		.46				.78					.15					.78	82								.91				.14		4.04
Burnett	do		.32	.45		.32	.66		T.		T.	.06	.05				.49	.01							.66	.87	.13			.16		4.18
Cottage Grove	do		.38	.89	.02		.34		.09			T.	.11				1.31	.32								.33				.39		4.18
Darlington	do	.60					.60		T.			.20					.10	1.43														2.93
Deerskin Dam	Wisconsin	T.	.13		.16				.10	T.		T.	.15														T.	.15				0.69
Delavan	Rock		.39				.22				.10	.21	.05				1.04	1.05							.59	T.	T.			.03		3.68
Dodgeville ‖	do																															
Downing	Chippewa		.55	1.85	.93	T.			.30			.40					1.60										.30					5.90
Eau Claire	do		.34	2.08	1.63		.09		.23		T.	.01	T.		.05	T.	.90	.02									.41	T.		.98		6.74
Grand Rapids ‖	Wisconsin		.16	1.56	1.66	.28	.75		.09	.08				T.			.09	.39										.08		.33		5.47
Grantsburg	St. Croix		.15	.90	.70	1.70			.80	T.		.77					.25										1.30			.75		7.32
Hancock	Wisconsin		.45	2.65	1.75		.65		.05			.08	T.				.40								T.	.37	.53			.22		7.12
Hatfield	Black		.45	1.42	.67	.01		.17									1.77	.03												.98		5.50
Hayward	St. Croix			.72	.75	.25			.25			.20					T.													.32		2.49
Hillsboro	Wisconsin		.60	.05	.60		.41		.17			.08	T.		T.	T.	.38										.08			.11		2.48
Koepenick	do			.40	1.00		.20					.10	T.																	.10		1.80
Lac du Flambeau	Chippewa				.75	.04			.25			T.					.08												T.	T.		1.12
La Crosse	Mississippi		.58	.02	.30	.10	.08		.12			.05	T.		.01	T.	.59										.07			.13		2.05
Lake Mills	Rock		.33	.88	.04		.31		T.		T.	.03	.02				.46	.36							T.	.31	.02			.06		2.82
Lancaster	Mississippi		.48	.08	.17		.92		.11			.20					.16	1.26								.11			T.			3.49
Long Lake	Wisconsin	.04		.04	.64	.02	.02		.15	.52		T.	.05														.12	.03		.04		1.67
Madison	Rock		.47	.35	.24		.34		.02		T.	.07	T.			T.	1.00	.39			T.				.32	.03				.41		3.64
Mather ‖	Wisconsin		.64	.28	2.05	.22	1.02		.14				.17				.59	.47								.11	.19	.02			.17	6.07
Mauston	do		.55	.10	.55		.45		.05								1.45				.15						.25			.35		3.90
Meadow Valley	do	.51	.79	1.56			1.01		.17			.02	T.				.95	.01			.04						.27			.20		5.53
Medford	Black	.50		.70	1.00		.10		.20			.10									.15						.10	.40				3.25
Merrill	Wisconsin																															
Minocqua	do			.08	.85		.17		.28				.05				.05			.06							.04	.02		.10		1.70
Mondovi	Mississippi		.54	1.64	1.26		.04		.39			.04	.04				1.52	.02									.51			.31		6.31
Mount Horeb	Rock		.48	.48	.40		.32		.10			.10	.08				.75	1.00			.10				T.	.04				.30		4.15
Muscoda ‖	Wisconsin		.35	.21	.10		.40		T.	.07			.42				.22	.35									T.					2.12
Neillsville	Black		.34	1.81	.80		1.13					.30					.63										.53			.95		6.49
New Richmond	St. Croix		.17	2.06	1.08	T.			.20			.43	.60		.05	T.	.98								T.	T.	2.07			.45		8.09
Osceola ‖	do			.88	.79				.59			.40		T.			1.05								T.	T.	.72		T.	.63		5.06
Park Falls	Chippewa			.08	.59		.19		.22			.07				T.	.01										.10	T.		.09		1.35
Portage	Wisconsin		.36	.13	.19		.45			.09		T.	.15	T.				.97								T.	T.			.51		2.85
Port Edwards	do		.23	2.25	.92		1.10		.14			.06					.52	.17									.17			.36		5.92
Prairie du Chien ‖	Mississippi		.24	.16	.04		.44	.06	T.	.14			.26					.45	.08								.04	T.				1.91
Prentice	Chippewa		T.	.52	1.08		.08		.04																T.		.31	T.		.04		2.07
Rhinelander	Wisconsin			.41	.74		.50		.25				.02														.45	.01		.07		2.45
Sauk City	do	1.05	.75	.20												1.25														.48		3.73
Shullsburg	Mississippi		.60		.06		.82					.09					.05	1.49									.05					3.16
Solon Springs	St. Croix			.30	.80	T.			.50			.30				T.		.10							T.	.30	.50					2.80
Spooner	do				.20		1.99	.82		.36		.06	.05				T.										.11	T.		.27		3.86
Stanley	Chippewa		.14	.53	1.01		.60		.25		T.	T.	T.			T.	.76										.08			.65		4.02
Stevens Point	Wisconsin			T.	2.05		.65		.14			T.	T.														T.			T.		2.84
Sugar Camp Dam	do								.25	.31		.02																		.11		0.69
Twin Lakes Dam	do	.12			.67							.18	T.															T.				0.97
Valley Junction	do		.73	.53	1.17		2.37	.17			T.	.18					1.61	.12							T.		1.28			.42		8.58
Viroqua	Mississippi		.58	.02	.24		.15		.07		T.	.13	.02				.86		T.								.07	T.		T.		2.14
Vudesare	Wisconsin	.07	T.		.50	.20		.05		T.		T.	.20														T.	.12		.30		1.44
Watertown ‖	Rock		.08	.50	.43	.04	.74						.20				.40	.45								.10		.04			.22	3.20
Waukesha	Fox		.26	.65	.12			.45	.03		T.	.15	.07				.37	.20							.09	.35				.04		2.78
Wausau	Wisconsin		T.	.60	1.05		.50		.20		T.	T.					.20										.20			.26		3.01
Weyerhaeuser	Chippewa			.35	.72	T.	.20		.38	T.		.08					.05										.26	T.		.60		2.64
Whitehall	Mississippi		.70	T.	.10				.30				T.				.13		.30								.30			.30		2.13
Iowa.																																
Albia ‖	Des Moines											T.	T.					.20	.13													0.33
Algona	do	T.	.14	T.	.18	T.	T.				T.	T.	.14			T.	.28										.45					1.19
Alta ‖	Raccoon		.14	T.	.15		.26				.10						.02	.09									3.32					4.08
Amana	Iowa		.88				.54				.02						.13	.26									.58			T.		2.41
Ames	Skunk		.03				.08											.73									1.21		T.			2.05
Baxter	do		.03			T.	.09		.07		T.	T.				T.		.68								.09	.11		T.			1.07
Belle Plaine	Iowa		.93				1.24		.09		.01	.24					.01	.42									.74					3.68
Belmond	do		1.12				.06		T.			.05			T.		.08	.84									.36					2.51
Bloomfield	Mississippi																	.24														0.24
Bonaparte	Des Moines		T.						.06									.21						.16	.48							0.91
Boone ‖	do		T.				.14										T.	.50	.06								1.96					2.66
Britt	Iowa	.03	.37	T.			T.				T.	.06				T.											1.57					2.03
Buckingham	Cedar		1.44				.08											.35								.10	.03					2.00
Burlington ‖	Mississippi			.37						.17		.09						.05								.02	1.15					1.85
Carroll ‖	Raccoon					.24											1.59									.17						2.00
Cedar Rapids ‖	Cedar		.40	1.30			T.	.08	T.	.09		T.	07	T.	T.		T.	.45	.05								.13			T.		2.57
Charles City	do		.81			.09	.14		.03			.07	.02				.02	.12								.01	.18					1.49
Clear Lake	do		.60														.50										.18					1.28
Clinton	Mississippi		.62		.13		.08		.05		.05	.02	.05				.32	.35							.01					.01		1.69
Columbus Junction	Iowa		.73						.10		T.	T.						.30								.40	.72					2.25
Davenport	Mississippi		.99		.30		T.		.05		.04	.22	.02				.17	.08							T.	T.	.10			.03		2.00
Decorah	do		.44	.08			.15		.21		T.		.16		T.	T.	.10	.02									.14			.11		1.41
Delaware	do		1.08				.16		.20		T.	.18	.08					1.27							T.		.20					3.17
Des Moines	Des Moines						T.		T.		T.	T.					.15	.16								.44			T.			0.75

TABLE 2.—*Daily precipitation for June, 1911. 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	Total.
Iowa—Continued.																																
Dubuque	Mississippi		.76	.07			.14		.03		T.	.18	.01			T.	.37	1.09							.05		.09			.04		2.83
Earlham	Raccoon															T.		.43														0.43
Elkader	Mississippi		.05		.13		.65		.15		T.	.22	.16			T.		.76									.11					2.83
Elma	Wapsipinicon	.01	.60	.10	T.		.05		.28			.20	.22			T.	T.										.18			T.		1.64
Estherville ‖	Des Moines		.08		.12						.10						T.	T.									.45	.15				0.90
Fairfield	Skunk		.01			.18	.03		.05		.10							.18								.03				.05		0.63
Fayette	Mississippi		.70		T.							.15	.17			T.	.25	.55									.11					1.93
Forest City ‖	Cedar				.11		.07		.04		T.	.08	.12														.67	T.		T.		1.09
Fort Dodge ‖	Des Moines		.10				.10										T.	.75	.10								2.60					3.65
Fort Madison	Mississippi		T.						.28									.10							.11	.18						0.67
Gilman	Iowa		.04				.30		.10		.01	.01						.87						.06			1.13					2.52
Grand Meadow	Mississippi		.61		.10		.29		.38		T.	.23	.17			T.	.22	.60									.13			.03		2.76
Greene	Cedar																															
Grinnell	Iowa		.05				.40				.03	.04					T.	.87								.10	.26		T.			1.75
Grundy Center	Cedar																															
Guthrie Center	Raccoon	.05	T.				.11								T.	T.	T.	.37									T.		T.			0.53
Hampton	Cedar		.88			.05						.02					1.02									.06						2.03
Humboldt	Des Moines		.40				.35									.02		.38									.72					1.93
Independence	Wapsipinicon		2.00				.05		.12		.02	.02	.16				.02	.68									.12			.09		3.28
Indianola	Des Moines						.01				.01					T.		.15								T.			T.			0.17
Iowa City ‖	Iowa		.80	.90			.10		.30					T.			.21	.41									.21			.05		2.98
Iowa Falls ‖	do		.64	T.			.07		T.			T.	T.					.91	.07	m.							.23			.02		1.94
Jefferson	Raccoon						.05											1.02									.34					1.41
Keokuk	Mississippi		T.				.03		.02		.02	.01					T.	T.						.02	.55		T.					0.65
Keosauqua ‖	Des Moines						T.					T.	T.					.02	.04						T.	T.	T.			T.		0.06
Knoxville	do					T.	.20				.05	T.						.65									T.		T.			0.90
Lacona	do						1.00		T.		T.	T.					T.	.22											T.			1.22
LeClaire. ‖	Mississippi		.08	.54	.10		.10	.09		.04		.11	.03	T.			T.	.10	.32							.90	.20			T.	T.	2.61
Marshalltown ‖	Iowa		.40	.08			.09		.02		.01	T.	.01				.01	1.00	.18						T.		1.21	T.				3.01
Mason City	Cedar		.86		T.	T.						.16					.28										.23					1.53
Mount Pleasant	Skunk		T.						.48		.04	.04				T.		.05						.33	.20	.18	.47			T.		1.79
Muscatine ‖	Mississippi		.38	70					T.	.25		.02		T.			.45	.03									.40					2.33
New Hampton	Wapsipinicon		.80				.08		.07			.22	.33					.50									.16			T.		2.16
Newton	Skunk																															
Northwood	Cedar																															
Olin	Wapsipinicon		.92				T.		.09		T.	.20	.06				T.	.37									.19					1.83
Osage	Cedar	T.	1.20	.11					.17			T.					T.	T.									1.34					2.82
Oskaloosa	Des Moines					.11	.02				.03	T.						.21							.08	.15			T.			0.60
Ottumwa	do										T.						T.	.24											T.			.24
Pella	do					.47	.27		T.		.01	T.					T.	.77	.01							.97	.38		T.			2.88
Perry	Raccoon																	.63								T.						.63
Plover	Des Moines		.17	.04			.12				.05					T.		.30								T.	.52					1.20
Pocahontas	do		.64	.06			.20				.07					.03		.07									1.98					3.05
Ridgeway	Mississippi	.03	.75	.10			.09		.16			.45	.02			T.	.04	.03							.05		.22			.08		2.02
Rockwell City	Raccoon		.65	T.			.95											.10								.65	1.80	T.				4.15
Sac City	do		.50				.37								T.	.06	.22	2.40								.34	2.06					5.95
St. Charles	Des Moines						.05										.12												T.			0.17
Sigourney	Skunk		.04			T.	T.		T.		.05	.01					.01	.25								3.45	2.47					6.28
Stockport	do		.04			T.			T.		T.							.19						T.	.13	T.						0.36
Storm Lake	Raccoon	T.	.21	.08			.24			.01	.08					T.		.21								.83	1.90					3.56
Stuart	do																															
Tipton	Cedar		1.37						.27		.03	T.					T.	.45							.07		.07			.03		2.29
Toledo	Iowa	T.	1.10				.20		.03		T.	.10					.03	.87									1.30		T.			3.63
Wapello	do		.82						.14		.02	T.	T.					.08								.34	.31					1.71
Washington	Skunk		.30						.22		.26							.08								*	1.23					2.09
Waterloo ‖	Cedar		1.26	.26			.82		T.	T.			.03						.45	T.							.05	T.		.15		3.02
Waukee	Raccoon								T.		T.				T.			.34								.01			T.			0.35
Waverly	Cedar		1.70														.62												T.			2.32
Webster City	Des Moines		.40				.18		T.								T.	2.25								T.	1.07					3.90
West Bend	do		.14	.02	.07	T.	.04				.07	T.					.05										.94					1.33
Whitten	Iowa		1.53				T.					T.						1.29									.50					3.32
Winterset	Des Moines						T.											.26											T.			0.26
Missouri.																																
Gorin	Mississippi																	.31							.07		.26					0.64
Hannibal	do					.37	.04				.11	.13			.06	T.	T.	.10	T.					.13	.01		.17	.20	T.			1.32
Louisiana	do						.05					.47			.11				.03					.20	1.20	.05	.30	.15				2.56
Mexico ‖	do					.05	.41	.04				.42			.03	.13			T.						.04	.65		.07				1.84
Steffenville	do						.30				T.				T.			.05	.40						.42	.40						1.57
Sublett	do						.05						T.	T.		T.		T.							.35							0.40
Vandalia	do										.40				.20											.34	.22					1.16
Warrenton ‖	do						.32	.07				.04				.11			.03						T.	.64	.29	.25				1.75
Indiana.																																
Collegeville	Iroquois		.35		.15							T.	T.		.15			.30							T.	.17	.30					1.48
Knox	Kankakee		.05	.18	.16		T.					.06	.07	.05	.13		.11	1.03							.84	3.26		T.				5.94
Laporte	do		.04	.17					.10					.30		.80	.85	.55							1.50	1.20	.02	.20				5.73
Plymouth	do		T.	.48	.30		T.					.34	.04	.14	.24		.58	1.04							.41	1.95	.06	T.				5.58
Illinois.																																
Aledo	Mississippi		.74						.07			.07					T.	.07							.14		.21					1.30
Alexander	Illinois					T.	T.					T.						.02	.07					.02	.02	.05	.24	.05				0.47
Antioch	do		1.20									.75	.25				.60	1.20							T.							4.00
Astoria	do		.05			.75			T.		.02	.18	T.				T.	.75						.16	1.28	T.	.82					4.01
Aurora	do		.59				T.		T.			.25	.10			T.	.05	1.20							1.26	.68	.51					4.64
Bement	Mississippi						.09																		1.28	.03	.13	.18				1.71
Bloomington	Illinois		.26							.08		.01	.01					.88	.04		.31						.07					1.66
Cairo	Mississippi				T.	T.	.21										T.	.54	.02	.84			.02	.42	.02	.01						2.08
Carbondale	do				.03		1.65								T.			.11	.02	T.				.04	.38	T.		.01				2.24
Carlinville	Illinois					T.									T.				.14					.15	.24	.08	.29					0.90
Carlyle	Mississippi						.30								T.			.02	.50						.60	.40	.40	.50				2.72
Chester ‖	do	.04				T.	.12	.04								.02		.04	.76	.14					.52	.30	.24	.60				2.82
Clinton	Illinois		.06			.15	.03					T.	T.					.06	.01					.04	1.24	T.	.10	.18				1.87
Coatsburg	Mississippi						.54					.45						1.88						.25	.07		.03					3.22
Cobden	do				.60		1.15								T.			.83		T.				.23	.78	T.		T.				3.59
Dakota	do		.52		.04		.80		.01			.20					.20	1.30							.30	1.40	.01			.17		4.95
Decatur ‖	Illinois			T.			.46					.01	T.					T.	.02						.64	.83		.48				2.44
Dixon ‖	Mississippi		T.	.83				.52		T.		.53	.10	T.	T.			.48	.10							.96	.12			T.		3.64
Du Quoin	do						.30								.01			.48	.20					.38	.29			.21				1.87

TABLE 2.—*Daily precipitation for June, 1911. District No. 5*—Continued.

Stations.	Watershed.	Day of month.																														Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Illinois—Continued.																																
Dwight	Illinois		.43				.01					.08						.18						.05	.91		.12					1.78
East St. Louis ‖	Mississippi						.35	T.							.15				.22	.09				.01	.28	.38	.14	.37				1.99
Edwardsville	do						.37								.05				.30						.30	T.	.19	.31				1.52
Elgin	Illinois		.14									.19	.10		T.		T.	.69							.14	.53						1.79
Galva ‖	do		1.22						.01		.05	.02	.05	T.			.30	.07							1.02	.01	.06			T.		2.81
Grafton ‖	Mississippi						.64	.08								.10			.08	.32					.06	.04	.14	.62				2.08
Greenville	do																															
Griggsville	Illinois						T.					.52			T.	T.	T.	T.	T.					T.	.12		.55	T.				1.19
Havana	do		.10			.28					T.	.23	T.					.83						.17	1.18		.20					2.99
Henry	do																															
Hillsboro	Mississippi						.10												.08	.05					.25	.15	.35	.30				1.28
Joliet	Illinois		.39			.04						.17					T.	2.21							1.68	.03	.13					4.65
Kishwaukee	Mississippi		.56				.24				.06	.14	.01				.10	1.15			.01				1.10	.29	.03			.01		3.70
La Grange	Illinois		.17						T.			.20	T.					.60							.75	.42	.43					2.57
La Harpe	do		T.			T.		.01	T.		T.							.14						.25	.25		1.03					1.68
Lanark	Mississippi		.98		.11		.52		.05		.04	.29	.05				.08	1.12							.19	.18	.05			.15		3.81
La Salle	Illinois		.66				.21		T.		.03	.24	T.			.01		.04						T.	1.98	T.	.15			T.		3.32
Lincoln	do						.25						T.					.15	.25					.90	.77		.11	T.				2.43
Loami	do				T.							T.							.39					.20	.22	T.	.35					1.16
Manteno	do		1.08	.05	T.		T.			.04		.06	.02					.08							.79	.16	.06	.18				3.12
Martinton ‖	do		.38		.02	T.	.12				T.	T.	T.				.35	.06						.15	.50		.32					1.90
Mascoutah	Mississippi						.42								.14			.16	.14					.12	.40	.16	.10	.18				1.82
Minonk	Illinois		.29								.10	.01	.10				.30	.28						.04	1.80		.10					3.02
Monmouth	Mississippi	.57				.15					.10							.26						T.		.73	.22			.02		2.05
Morrison	do		.73				.07		.05		T.	.39	.05		T.		.03	.45							.05	.26	.11					2.19
Morrisonville	Illinois						.01					T.							1.51					.04	.55	.21	.23	.63				3.18
Mount Vernon ‖	Mississippi	T.					1.10									T.			.20	.09					.16	.35	.05	.13				2.08
Oregon	do																															
Ottawa	Illinois	.65					.08					.42	.02														.52	.02				1.71
Pana	Mississippi						.77						.08					T.	.76					T.	1.05	.34	.71	.92				4.63
Peoria	Illinois		.96			T.					.26	.09	T.			T.		.55						.03	4.74	T.	.01					6.64
Pontiac	do		.23								T.		T.	.04			.32	1.39	.08					.42	.24			.12				2.84
Riley	Mississippi		.24				.08		T.		.18	.13	T.		T.		.15	.92			.18				.15	1.14	T.			T.		3.17
Roberts	Illinois		.17									T.	T.				.50	.91	.15					.28	1.89	T.	T.					3.90
Rockford ‖	Mississippi		.09	.32	T.		.04	.22		T.		.01	.21	T.			.01	.99	.03			.15				.32	T.	T.			T.	2.39
Rushville	Illinois		T.			.45		.02			.11						T.	.25						.06	.35	.78	.30					2.32
St. Charles	do		.30				.14		T.			.12	.10		T.		.05	.60							.55	.80		.12		T.		2.78
St. Peter	Mississippi						.10											.25	.76					T.	1.05	.32	.15	.20				2.83
Sparta	do						.03								.02		T.		.25	.01				.03	.12	.04	.12	.29	T.			0.91
Springfield	Illinois			.01		.13	.04					T.	T.					.03	.38					.36	.67	1.24	.45	.13				3.44
Streator ‖	do			.64				T.		T.		.20	.02	.08			T.	.14	.20			.34			.24	2.30	.04	.04				4.24
Sullivan	Mississippi						.45											T.						.65	.10		.09					1.29
Sycamore ‖	do			.38				.11			.08	.07						.70	.02							.75		.45				2.56
Tiskilwa	Illinois		.32									.18	.06				.13	.05							1.33		.15					2.22
Walnut	Mississippi		.61			.05	1.84		.01			.06	T.					.44							1.25	.18	.12					4.56
Warsaw ‖	do						T.										T.								.16							0.16
White Hall	Illinois						.38					.05			.01	T.			.24					T.	.07	T.	.41	.12				1.28
Windsor	Mississippi			.01			.02					.02			.01			.30	.02					.04	.81	.01	.25					1.49
Winnebago	do		.52				.23		T.		T.	.22	.05				.03	1.17			T.				.88	.04	.02			.04		3.20
Yorkville	Illinois		.75				.20					.10	.05				T.	2.32			.40				.95	.45	.35					5.57
Zion	Mississippi		1.02		.02				T.		T.	.07						2.00									.01			T.		3.12

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

TABLE 3.—*Maximum and minimum temperatures at selected stations for June, 1911. 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....	80	53	81	52	84	54	81	54	78	49	78	59	85	50	77	58	78	55	80	54	77	57	84	53	78	58	82	54
2....	75	54	70	52	74	59	70	53	68	55	73	59	75	60	79	54	82	58	77	60	86	59	76	56	71	60	74	59
3....	72	53	73	54	82	55	72	50	74	55	76	55	84	58	80	62	83	57	81	56	85	61	74	53	79	59	71	52
4....	81	52	77	56	81	58	83	50	75	56	83	59	75	62	82	61	87	56	81	59	83	63	80	56	81	59	81	57
5....	66	61	70	51	78	61	67	60	74	58	88	63	80	60	93	59	90	63	78	57	98	64	82	51	91	62	81	54
6....	79	42	77	50	81	42	82	48	78	50	78	54	80	47	80	52	85	50	78	46	75	54	82	59	78	56	79	54
7....	75	52	75	58	82	52	80	54	72	54	79	60	79	53	81	50	89	53	80	52	85	55	82	47	79	57	80	51
8....	79	58	69	59	90	54	83	58	72	48	90	65	84	61	88	57	102	66	90	65	102	62	82	64	87	63	78	59
9....	74	56	72	58	85	66	70	58	73	53	88	69	80	63	95	70	92	67	88	58	100	71	85	66	93	70	84	59
10....	79	52	78	56	82	54	77	56	74	58	81	63	77	60	88	70	82	58	80	56	85	68	79	63	83	68	77	61
11....	75	50	71	53	73	52	73	55	68	56	76	54	69	54	74	54	73	55	71	54	79	64	73	62	70	55	74	56
12....	78	51	73	52	78	54	78	49	72	53	76	58	73	54	75	53	78	55	76	54	75	56	69	49	76	59	73	58
13....	74	54	71	50	79	49	74	55	72	54	77	55	71	52	77	50	79	52	70	50	86	54	75	56	76	56	77	53
14....	74	52	74	51	79	49	76	53	74	53	81	55	78	50	82	55	81	59	80	50	82	55	79	59	81	59	83	50
15....	78	54	74	59	80	53	78	60	77	53	81	61	70	60	82	52	85	55	74	58	87	56	74	52	79	57	79	54
16....	80	51	73	55	80	58	77	52	74	55	72	61	76	60	78	60	72	60	80	57	75	64	80	55	69	61	80	65
17....	81	49	78	49	85	50	81	52	80	58	80	58	80	55	79	65	84	58	84	52	85	63	82	52	83	60	85	55
18....	94	59	88	58	90	45	94	54	83	58	88	64	87	56	82	55	90	58	88	53	90	58	86	52	87	62	85	52
19....	99	64	94	65	97	57	96	65	92	61	90	66	92	60	89	60	93	60	94	56	92	60	92	54	89	63	93	58
20....	95	65	92	65	96	56	96	70	89	65	92	68	93	64	92	59	95	62	94	60	98	64	95	55	91	68	92	62
21....	75	63	74	62	99	63	70	66	80	64	93	68	88	71	93	64	98	68	98	66	100	68	96	69	93	67	89	65
22....	74	58	67	59	99	59	71	55	72	62	94	68	89	68	96	65	101	62	96	60	101	66	99	59	95	67	98	62
23....	68	56	66	56	79	64	67	58	70	58	94	79	73	62	93	64	95	68	78	62	102	68	91	51	94	72	91	61
24....	81	58	80	60	96	60	83	60	89	60	93	58	87	63	92	63	99	67	93	61	99	79	89	66	89	71	87	54
25....	82	60	85	61	89	61	80	55	80	58	87	70	89	66	91	64	94	74	86	68	87	72	82	62	86	70	82	61
26....	60	55	61	44	72	58	60	55	63	55	79	63	69	60	80	63	78	61	70	48	77	66	73	58	77	58	77	59
27....	71	33	65	35	73	45	69	36	63	38	69	47	67	43	64	49	70	44	68	45	68	51	63	48	60	51	62	47
28....	65	48	60	45	75	44	70	47	71	44	63	49	68	46	78	40	73	48	67	46	75	47	69	38	68	46	69	42
29....	82	50	81	53	87	54	83	52	80	54	83	55	85	56	90	59	93	47	84	56	96	53	74	45	84	58	78	46
30....	86	57	82	65	96	65	87	60	84	58	92	75	94	64	96	70	93	66	95	72	99	65	93	61	96	73	91	65
Mns..	77.7	54.0	75.0	54.8	84.3	55.0	77.6	55.0	75.9	55.1	82.5	61.3	79.9	57.9	84.2	58.6	85.8	58.7	82.0	56.4	87.6	61.4	81.3	55.7	82.1	61.5	81.1	56.2

Date.	Wisconsin.														Iowa.													
	Delavan.		Eau Claire.		La Crosse.		Madison.		Mauston.		Spooner.		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.	Min.	Min.	Max.	Min.	Max.	Min
1....	84	45	83	52	82	54	80	56	80	52	80	55	81	50	77	55	85	54	77	54	83	57	81	56	81	55	83	57
2....	76	56	77	60	72	61	72	60	74	58	81	61	78	60	81	61	78	58	78	60	78	61	95	65	76	62	86	66
3....	88	59	79	61	82	66	76	59	74	62	79	53	72	57	87	65	99	62	86	66	96	68	95	74	87	62	98	71
4....	92	63	80	61	84	64	82	64	80	61	82	54	75	60	88	70	93	74	85	68	93	74	97	76	91	66	97	77
5....	95	58	86	60	91	63	90	62	90	60	85	60	86	57	95	64	96	62	94	63	95	69	98	70	94	65	98	74
6....	80	63	82	60	77	59	75	63	85	61	78	51	84	61	79	56	82	63	77	58	85	65	84	64	79	64	89	71
7....	80	54	82	59	81	54	80	58	80	55	81	51	81	49	85	51	85	58	83	53	82	60	87	60	81	59	89	66
8....	83	50	86	55	86	58	79	55	80	57	80	50	73	57	97	66	92	61	91	62	85	60	99	69	85	61	91	63
9....	99	64	94	68	95	75	93	67	93	68	88	66	73	62	98	86	102	60	96	72	98	72	99	77	95	73	100	77
10....	97	67	91	70	86	73	90	72	90	70	85	66	89	70	88	65	93	74	84	66	98	76	87	75	89	74	101	78
11....	82	56	78	61	77	57	77	56	80	60	74	54	84	56	79	63	82	64	77	59	84	64	84	65	81	58	87	69
12....	70	52	72	56	71	56	66	55	70	54	75	54	65	54	80	55	75	59	77	56	73	57	80	59	70	56	76	64
13....	74	52	78	50	77	52	74	57	76	52	76	48	74	52	81	53	80	57	78	55	80	58	83	57	77	57	84	57
14....	81	52	81	58	81	59	78	61	80	60	79	56	77	53	83	54	82	61	81	56	82	60	84	61	80	60	84	58
15....	85	52	80	54	81	55	80	57	82	51	75	55	79	49	86	56	90	57	85	54	88	63	89	61	84	57	86	60
16....	73	52	73	62	79	63	74	60	74	62	76	61	75	60	85	66	86	63	81	64	86	65	96	69	78	66	97	67
17....	66	55	81	61	76	61	69	60	72	61	81	58	88	57	82	64	74	66	78	61	72	64	73	66	71	63	93	68
18....	86	52	86	60	86	57	82	61	85	54	85	52	84	58	87	56	82	60	84	55	82	60	83	62	83	61	84	65
19....	90	53	89	61	89	62	85	63	87	62	89	60	87	59	91	60	88	60	90	59	88	60	87	60	87	60	88	64
20....	92	61	93	66	92	63	89	69	90	60	92	65	90	62	93	72	92	63	93	59	93	67	90	62	90	66	93	65
21....	93	59	92	66	94	66	89	65	90	64	92	78	91	64	95	74	98	70	94	66	96	70	94	65	93	70	95	74
22....	96	68	95	67	97	69	91	71	94	68	95	79	95	68	97	82	100	66	96	68	98	72	96	71	95	70	95	71
23....	95	66	94	67	96	68	93	72	94	70	95	57	94	66	96	71	96	70	95	67	95	74	93	66	93	71	91	75
24....	81	68	90	64	91	68	84	69	88	62	93	52	88	57	95	82	97	71	96	69	83	71	93	69	84	72	84	71
25....	85	68	86	68	88	68	81	70	84	70	86	69	86	66	94	84	96	69	91	68	94	72	95	72	90	69	96	71
26....	85	68	81	67	83	66	84	68	87	68	75	63	81	66	87	72	86	70	81	64	90	70	82	70	85	70	93	75
27....	78	60	74	54	86	56	69	56	75	58	65	50	70	58	72	60	74	62	65	49	74	56	72	60	70	55	83	69
28....	75	48	70	46	76	46	72	55	72	42	70	38	69	42	78	62	80	48	77	43	77	52	79	52	74	49	84	55
29....	80	54	79	53	85	60	77	55	76	52	78	50	72	48	98	64	93	52	94	64	89	62	99	71	85	60	94	71
30....	93	65	95	68	97	73	91	68	92	68	96	69	94	62	98	84	101	66	98	72	96	74	99	74	95	72	96	73
Mns..	81.7	56.5	83.6	60.5	83.9	61.7	80.8	62.1	82.5	60.1	82.2	57.8	81.8	58.0	87.7	65.8	88.6	62.7	85.2	61.0	87.1	65.1	89.1	65.9	84.1	63.4	90.5	68.1

TABLE 3.—*Maximum and minimum temperatures at selected stations for June, 1911. District No. 5*—Continued.

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois.															
					Cairo.		Greenville.		La Salle.		Monmouth.		Mount Vernon.§§		Peoria.		Springfield.		Winnebago.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	80	56	.....	.....	82	67	.....	.....	81	55	88	52	95	59	82	54	81	59	82	49
2	90	67	73	49	88	62	.....	.....	72	61	78	60	98	65	77	59	84	61	73	59
3	96	77	85	59	96	69	.....	.....	93	62	100	71	99	69	96	65	100	73	88	56
4	97	74	.....	.....	98	74	.....	.....	96	72	98	70	98	73	96	73	98	74	91	66
5	97	72	.....	.....	95	72	.....	.....	95	67	101	67	99	69	98	66	99	73	96	64
6	85	69	76	60	86	65	.....	.....	81	64	89	68	95	63	84	66	86	67	80	62
7	88	67	73	55	88	71	.....	.....	80	58	91	59	89	65	84	60	88	65	82	55
8	91	66	80	57	91	68	.....	.....	86	54	88	57	89	61	87	58	91	58	83	50
9	99	74	98	60	92	69	.....	.....	100	67	102	66	94	62	100	69	101	68	98	65
10	100	72	99	70	97	70	.....	.....	98	74	102	73	93	66	100	72	101	72	98	72
11	87	68	85	67	92	74	.....	.....	83	60	88	65	88	70	84	63	89	69	80	56
12	77	61	74	55	84	70	.....	.....	72	60	74	62	81	62	72	59	75	64	70	54
13	84	57	73	55	84	66	.....	.....	80	60	85	51	89	58	82	59	85	60	77	53
14	85	61	75	51	84	65	.....	.....	80	59	85	58	87	56	83	56	84	63	81	55
15	89	64	79	47	90	67	.....	.....	85	54	91	55	89	57	88	53	89	59	86	53
16	98	69	.....	.....	98	72	.....	.....	83	66	95	66	96	64	92	69	98	67	81	60
17	86	67	.....	.....	96	67	.....	.....	74	63	84	64	97	70	84	64	91	70	69	61
18	78	64	.....	.....	83	68	.....	.....	82	62	89	62	76	66	83	64	80	65	80	56
19	87	63	.....	.....	81	68	.....	.....	88	58	91	56	84	66	87	61	87	60	87	56
20	91	59	88	55	87	68	.....	.....	93	64	98	60	93	60	93	60	92	66	92	62
21	96	65	90	55	90	70	.....	.....	96	64	99	74	97	61	95	65	96	68	95	60
22	95	70	95	70	88	73	.....	.....	97	71	101	66	98	67	96	69	96	70	98	70
23	88	71	.....	.....	87	72	.....	.....	94	71	97	65	90	73	92	66	88	71	97	67
24	85	72	80	67	82	72	.....	.....	79	71	85	69	87	70	80	70	82	70	79	66
25	95	73	78	67	83	72	.....	.....	87	72	95	69	88	72	86	70	86	70	90	68
26	96	76	87	67	87	74	.....	.....	87	73	94	67	89	73	87	73	88	69	88	70
27	84	69	80	65	85	70	.....	.....	78	57	78	64	88	66	79	60	84	67	74	55
28	86	59	71	52	91	68	.....	.....	75	51	85	49	94	63	78	51	83	58	78	46
29	93	72	90	60	92	71	.....	.....	85	59	95	62	97	69	88	60	89	63	83	55
30	95	72	87	49	95	72	.....	.....	94	68	98	68	97	65	94	68	93	70	96	65
Mns	89.9	67.5	82.5	58.7	89.1	69.5	.....	.....	85.8	63.2	91.5	63.2	91.8	65.3	87.6	63.4	89.5	66.3	85.1	59.5

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR JUNE, 1911.

DISTRICT NO. 6, MISSOURI VALLEY.

MONTROSE W. HAYES, District Editor.

GENERAL SUMMARY.

In most of the district dry, hot weather prevailed, and in that portion lying in South Dakota, Nebraska, Kansas, Iowa, and Missouri the temperatures were unusually high, and the precipitation was as light as has ever been recorded in June. At the close of the month agricultural and stock raising interests in practically all of the country to the east of the foothills of the Rocky Mountains were being deleteriously affected by the extreme heat and lack of rain. In much of this territory the rainfall has been deficient throughout the growing season, the subsoil is very dry, and the moisture received by the surface stratum during June soon evaporated under the influence of intense sunshine, high temperatures, and a rather high movement of dry winds. The small streams in the territory lying at a lower elevation than 2,000 feet are very low, and some of them have gone dry. In South Dakota there is a scarcity of water for stock. Pasturage is short everywhere to the east of the foothills. There were several hailstorms in Montana and Wyoming, but in the remainder of the drainage area the month was free from severe local storms, a natural sequence of the deficient rainfall.

TEMPERATURE.

At the headwaters of the various rivers tributary to the Missouri the mean temperature for the month was either normal or not markedly higher than the seasonal average, but in the remainder of the district unusually warm weather prevailed, and in South Dakota, Nebraska, Kansas, Missouri, and western Iowa the mean was higher than in any other June since state-wide observations have been made. As a rule, the last 15 days were the hottest, but during the first 15 there were few days with a mean temperature below the normal, and there were several days with abnormally high temperatures. In no areas of any considerable extent were there well-marked periods of cool weather or of temperatures that were especially higher than at one or more other times during the month. However, in most of Kansas the 25th was the hottest day, and in parts of Nebraska and western Iowa the 29th was the hottest. To the east of the foothill country there were comparatively few stations that had maximum temperatures of less than 100°. The highest temperature recorded was 116° at Clay Center, Kans., on the 25th.

PRECIPITATION.

In Montana, the mountain country of Wyoming and Colorado, and in southwestern North Dakota there were localities that had more than the normal precipitation, but in the remainder of the district there was a decided deficiency, that was most pronounced from South Dakota southward and southeastward. In this region of especially deficient precipitation the month just ended was the driest of all the Junes in which the observations were sufficiently extensive to render the conditions comparable. Large areas in Missouri and Kansas had less than 20 per cent of the normal rainfall, restricted localities had even less, and individual stations, confined to no particular section, had mere sprinkles. Progressing in a northerly and westerly direction the deficiency decreased, but in all the country east of the foothills it was unusually great. In Colorado and Wyoming most of the rain occurred during the latter half of the month, and in eastern Nebraska and western Iowa light showers were fairly general from the 14th to the 17th. In the remainder of the district the showers were very widely scattered, both geographically and through the month.

RIVERS.

The rivers continued exceptionally low. The Mississippi at St. Louis was lower than ever before recorded in June, and the highest stage for the month (10.5 feet) was lower than the lowest readings for 45 of the last 50 years.

The following remarks, taken from the reports of the section directors of the various States that lie entirely or partly in the Missouri River drainage area, are considered of especial interest in view of the dry weather that has prevailed over a large part of the drainage area:

Montana.—The precipitation was quite irregularly distributed, but generally was in excess of the normal. In a few localities there was a marked excess, while in others there was a decided deficiency. The monthly totals as a rule were lightest in the eastern counties, but comparatively few stations had less than 2 inches and many of the mountain stations had more than 4 inches. June has been wetter 7 times in the last 17 years, and the average for the driest June of this period was about 1 inch in 1900; the average of June of this year was 2.65 inches, or 0.24 inch above the normal. The rains were well distributed through the month and most of the moisture was absorbed by the soil. Hail storms occurred in various localities, but most of them were light and did little damage. The severest reported was in northern Yellowstone County, near Lavina. Its path was about 1 mile wide; within it growing wheat was destroyed and sheep were killed by hailstones, many of which were as large as hen's eggs.

Wyoming.—Dry weather prevailed during the first two weeks; general rains occurred on the 14th and 15th, filling the streams and restoring vegetation to normal condition. Hail occurred at a number of stations on the 8th, 9th, 22d, and 23d.

Colorado.—Droughty conditions prevailed during the greater portion of the month, and there was little rain before the 15th. Scattered showers occurred during the latter half of the month, and the greater part of the monthly precipitation occurred from the 15th to the 17th, inclusive. The monthly amounts were considerably less than the normal, except at some of the extreme western stations.

North Dakota.—The average precipitation was 2.81 inches, or 0.84 inch below the normal. Although the rains were fairly well distributed geographically and through the month, some localities were in great need of moisture at the close of the month.

South Dakota.—Over the western portion of the State showers were insufficient and drought of a varying degree of severity prevailed most of the time, resulting in short pasturage, scarcity of water for live stock