Climatological Data for October, 1910.

DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

GENERAL SUMMARY.

October, 1910, was unusually mild and pleasant even for the upper Mississippi Valley, where ideal Indian Summer weather generally prevails at that time of the year. It was the warmest October since 1900, and over the central and northern sections it was the driest since 1895. In fact, it was one of the pleasantest months on record. The long periods of clear and warm weather made it agreeable to man and very favorable for prosecuting all outdoor work, and ripening and maturing the late crops. With the exception of light showers in the northern and central sections and excessive and torrential rainfalls in the extreme southern portion of the district between the 3d and 6th, and a cool wave on the 6th and 7th, clear and warm weather generally prevailed until the 18th. Light showers spread over the district between the afternoon of the 18th and the 22d, and light showers in southern and snow flurries in northern sections were general on the 27th or 28th with cool waves on the 22–23d and 28–29th. At many stations in the southern sections the first killing frost did not occur until the 29th, which is 10 days to 2 weeks later than the average date, and, as a result, all vegetation was fully matured.

TEMPERATURE.

The monthly mean temperature was above the normal at every station in the district and the average for the States or parts of States in the district ranged from 47.8° in North Dakota to 58.6° in Missouri, and the monthly departures ranged from +2.2° in Indiana to +5.3° in Minnesota. Temperatures above 90° were recorded on one or more days in all sections, except in Indiana and Wisconsin, where the highest readings were 85° and 87°, respectively. High temperatures prevailed on the first three days and from the 10th to 18th with the 1st, 2d, 3d, 10th, and 16th as the warmest days. A cool wave spread over the district on the 6th and 7th, which caused light frost in the extreme southern portions of Illinois, and another cool wave passed over the district on the 22–23d which caused heavy frosts in southern sections, but the first severe and general freeze did not occur until the 28–29th, when the temperature was below the freezing point at every station in the district, the minimum temperature ranging from 5° at Prentice, Wis., to 28° at Cairo, Ill. The mean temperature for the district, as shown by the reports of 287 stations, was 53.4°, which is 3.9° above the normal. The highest monthly mean was 62.7° at Cobden, Ill., and the lowest, 44.0° at Bottineau, N. Dak. The highest temperature recorded was 95° at Cobden, Ill., on the 1st, and the lowest was 5° at Prentice, Wis., on the 29th.

PRECIPITATION.

The precipitation was below the normal for the district and for all sections except Illinois, Indiana, and the small portion of South Dakota within this district. It was unevenly distributed, both as to time and geographically, there being a wide range in the monthly amounts between the northern and southern sections, and while the precipitation was quite general between the 3d and 6th and the 18th and 22d, there was a long period of dry weather over the larger part of the district between the 6th and 18th. The average amounts for the month for the various sections were as follows, viz, North Dakota, 0.55 inch; Minnesota, 0.98; Wisconsin, 1.30; Iowa, 0.72; Missouri, 1.56; Indiana, 2.70; and Illinois, 2.69 inches. While these figures do not show an unusual range for the sections, the difference in the amounts for separate stations is more striking. While Cairo, Ill., reported 11.57 inches, Dunseith, N. Dak., reported only a trace during the entire month. The difference between the greatest and the least monthly amounts for the respective sections also shows a wide range except in Indiana. In Illinois there was a difference of 11.03 inches between the greatest and least amounts reported. The heavy rainfall was confined to the extreme southern end of the State and was notably deficient in the northwestern part. The official in charge, local office, U. S. Weather Bureau, Cairo, Ill., reports:

> The monthly record of rainfall for October was broken, as well as the greatest amount of precipitation in 24 hours. In fact the rainfall from 5 p. m. of the 3d to noon of the 6th, 10.95 inches, was phenomenal, and greater than any monthly amount in the history of the station, with the exception of January, 1876. The greatest amount in 24 hours was 5.69 inches, which exceeds all previous records at the station.

The cooperative observer at Carbondale writes:

> In 60 hours we had 9.74 inches of rainfall and as a result the streams had the highest water ever known in this locality. In this section the best corn land is in the river bottoms, and much of it is in corn this year. It was practically all overflowed and much loss sustained. The adjoining counties suffered in like manner, entailing a total loss of $25,000 or more.

Rain was more frequent during the last decade of the month, but the amounts were light after the 23d. The first snow of the season in central and southern districts fell on the 27th, 28th, or 29th. The average precipitation for the district, as shown by the records of 302 stations, was 1.23 inch, which is 0.97 inch below the normal. The greatest amount, 11.57 inches, occurred at Cairo, Ill., and the least, a trace, at Dunseith, N. Dak. The greatest amount in 24 hours, 5.69 inches, occurred at Cairo, Ill., on the 3d and 4th. The greatest amount of snowfall was 10.0 inches unmelted at Plymouth, Ind.; at a number of stations, however, no snow fell. Measurable precipitation occurred on an average of four days.

SUNSHINE AND CLOUDINESS.

The average number of clear days was 18; partly cloudy, 6; cloudy, 7. The duration of sunshine was much above the normal over the central and northern sections, and about the average over the southern district.

WIND.

Northwest winds prevailed over the northern half of the district and southwest winds over the southern half. The frequency of the two directions was about equally divided over the district as a whole. The highest velocity reported was 44 miles per hour from the southeast at Minneapolis, Minn., on the 2d.

MISCELLANEOUS.

Destructive forest and brush fires occurred during the fore part of the month in northern Beltrami and eastern Rossau counties, Minn., causing the loss of scores of human lives and much property. The towns of Baudette and Spooner, on the northern border of Beltrami County, were burned on the 7th.

The warm, dry weather was very favorable for ripening corn, finishing thrashing, digging potatoes, and for all other outdoor operations, except that the soil was too dry for satisfactory plowing and in many places the surface water supply was scarce and the water in shallow wells was low.

Corn husking began during the third week and became general during the fourth week of the month, which is earlier than the average date for beginning that work.

Home-grown strawberries were on the market at Dubuque, Iowa, until the closing week of October, and a few boxes were picked at some time during the month at many places in the eastern and southern counties of Iowa.

Much of the Mississippi bottom lands in southeastern Iowa and northeastern Missouri, which is usually overflowed, was planted to tomatoes this year, and the low stage of the river during the summer and fall and the lateness of killing frost per-

mitted the crop to mature and resulted in one of the largest yields known. It is reported that the canning factories are taxed to their utmost to put up the crop.

Potatoes still in the ground in northwestern Indiana on October 28 and 29 were saved from freezing by the snow covering, which existed in localities where temperatures were sufficiently low to have otherwise injured them.

The phenomenally heavy rains in southern Illinois from the 3d to the 6th, inclusive, caused a great deal of damage in that section of the State as shown by the following items taken from the Cairo, Ill., daily papers of October 6, 1910:

The village of Mounds, 7 miles north of Cairo, was partly under water yesterday although it is high above flood stages of the river. The water on the main streets was from a foot to a foot and a half deep. The rains had swelled the little creek north of town to a good sized stream, and it burst its banks at one point allowing the water to pour through the street.—*Cairo Bulletin.*

Washouts on the railroads leading to Cairo have been numerous. Every line leading out of Cairo to the north was out of commission last evening, except the branch of the Illinois Central, via Thebes and Grand Tower. The Mobile and Ohio was under water so deep between Tamms and Murphysboro that trains could not pass through and had to be detoured by the Thebes branch of the Illinois Central via Thebes and Grand Tower. The Illinois Central main line was under water at Wetaug and Ullin, and at Makanda the water was so deep that passenger train No. 5, the last train to attempt it, barely got through Wednesday afternoon (5th). On the Big Four, at Vienna, the water is so deep that traffic has been suspended, and the train out of Cairo at 3:50 p. m. on the 5th failed to get through last night and came back. The country is flooded and places never before known to be under water have been inundated. During the heaviest of the flood, it is said that water 4 feet deep ran over the Central tracks at Ullin, and with a velocity of 20 miles an hour. At the Sycamore Street subway the water ran in faster than the traction company could pump it out, and 3 cars were burned out in trying to run through it. Water poured into the Chicago Mill and Lumber Company's plant, flooding it.—*Cairo Citizen.*

RIVERS.

All of the principal streams in the district showed but little change during the month.

The streams in Minnesota continue very low, but the Minnesota and Mississippi rivers were rising very slowly toward the end of the month. The question of water supply in some of the cities has become serious. This is particularly true of Moorhead, Minn., and Fargo, N. Dak., where it is feared the Red River of the North, which is now less than 1 foot deep in places, will freeze solid, completely shutting off their water supply. The stage of water in the Red River is the lowest of record covering 10 years, and the lowest since 1871, according to the oldest inhabitants. The Minnesota River, at 0.8 foot a greater portion of the month, was the lowest on record at Mankato. The Mississippi River at St. Paul was 1.8 foot above low water most of the month.—*U. G. Purssell, Section Director.*

The Mississippi River changed very little during the month from Dubuque to St. Paul, and it was the fourth month of extremely low water. The maximum stage at Dubuque was 1.4 foot on the 2d and the minimum stage, 0.9 foot from the 10th to the 15th, inclusive. At the close of the month the Mississippi was falling slowly from Dubuque to St. Paul. Navigation on the upper Mississippi remained practically closed, owing to low water, making four months continuously that steamboats have been unable to run between St. Louis and St. Paul. The Wisconsin River was slightly higher during October than for several months previous.—*J. H. Spencer, Local Forecaster.*

At the close of October, the Mississippi River was slightly lower at all stations in the Davenport river district than at the end of the preceding month.—*J. M. Sherier, Local Forecaster.*

DRAINAGE AND ENGINEERING NOTES.

The survey of the Des Moines River was continued by the United States Army Engineers, under the supervision of Mr. A. O. Rowse. During the month of October topography on both sides of the Des Moines River, covering area subject to overflow, soundings and probings of the river bottom, and levels to determine water slope were taken for a distance of 39 miles, completing the field work down to Keosauqua, which is 154 miles below Des Moines measured along the river. Seventeen miles of topography and soundings and 62 miles of profile were platted, showing the water surface at low stages, river bottom, and both banks. Mr. Rowse also examined Tuttle and Swan lakes in Emmet County, and Storm Lake in Buena Vista County, with a view of establishing storage reservoirs from which the stage of the Des Moines River can be regulated and thereby improve the condition for water-power plants along the course of the river. Tuttle Lake is the source of the eastern branch of the Des Moines River. Swan Lake runs through Jack Creek into the West Fork of the Des Moines, and Storm Lake connects with the Des Moines through the Raccoon River. At a moderate expense the surface of these lakes could be raised sufficiently to increase their storage capacity by about 90,000 acre-feet. The extra supply of water would mean a great deal to the commercial interests of the Des Moines River Valley. While at ordinary stages there is enough water in many places along the river for water power, it is not dependable because of frequent low-water stages. The plan of the army engineers is to keep a steady and regular flow of water sufficient for power purposes.

The following is an extract from an article printed in the Springfield, Ill., Record, October 31, 1910, relative to the drainage of Sny Swamp in Illinois:

The Sny Swamp district forms a fringe of bottom land south of Quincy, in Adams, Pike, and Calhoun counties, Ill., along the Mississippi River. The drainage work is being done by the Sny Island Drainage Company of Adams, Pike, and Calhoun counties under the supervision of Chief Engineer Webb P. Bushnell of Quincy. The Sny, or channel district, supposed to have been the former bed of the Mississippi River, is a low marshy tract lying between the half moon chain of bluffs which begins at Quincy and extends to a point 50 miles south opposite Louisiana, Mo. The idea is to dredge out the old channel, damming it at both ends to keep out water from the main stream, and to establish a gigantic pumping station at the southern end of the ditch. The ditch when completed will be 52 miles long, 50 feet wide, and 8 feet deep, and the time of its construction is estimated at 7 years. The Wabash Railroad bridge near Hulls was removed on October 10, 1910, to allow for the passage of the 280-ton dredge used for excavating the ditch. It was also necessary for the Chicago, Burlington and Quincy Railroad to remove a bridge 3 miles east of Hannibal, and another at Quincy Junction, and a Chicago and Alton bridge will have to be removed at a point 8 miles east of Louisiana, Mo., on the Illinois side. Upon the completion of the work, about 50,000 acres of valuable land will be reclaimed for farming purposes.

TABLE 1.—*Climatological data for October, 1910. 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	12	52.4	+ 8.1	89[a]	10	20	21†	55	0.76	− 0.67	0.58	0.0	2	22	3	6	nw.	C. E. Wood.
Bottineau	Bottineau	1,638	14	44.0	+ 1.0	85	9	9	28	60	0.51	− 0.64	0.22	T.	5	9	4	18	nw.	J. A. Kemp.
Cando	Towner	1,488	8	48.6	+ 5.8	85[c]	9	21[c]	28	51[c]	0.71	+ 0.36	0.71	0.0	1					G. Bennett.
Crosby	Williams		3	45.7		85	9	12	20	48	0.26		0.22	T.	2	18	4	9	nw.	H. C. Kaschau.
Devils Lake	Ramsey	1,482	4	47.6	+ 7.1	82	10	17	28	39	0.91	− 0.32	0.60	T.	8	14	7	10	nw.	U. S. Weather Bureau.
Donnybrook	Ward	1,760	10	47.9	+ 4.6	88	9	11	20†	62[b]	0.56	+ 0.15	0.22	T.	4				nw.	C. J. De Vore.
Dunseith	Rolette		12	46.0	+ 3.8	82	9	10	20	54	T.	− 0.67	T.	0.0	0	23	3	5	w.	L. H. Trowbridge.
Edmore	Ramsey	1,524	4	46.6		90	9	12	28	53	0.45		0.40	T.	2	17	12	2	w.	H. R. Aslakson.
Forman	Sargent	1,249	15	53.6	+ 8.7	93	10	14	28	53	0.57	− 0.95	0.32	T.	2	20	4	7	nw.	A. Maltby.
Grafton	Walsh	827	12																	H. La Moure.
Granville	McHenry	1,504	3	47.0		87	9	14	20†	51	0.41		0.25	0.0	3	18	13	0	nw.	W. A. Christiansen.
Hannah	Cavalier	1,568	4	45.2		83	9	9	28	47	0.99		0.49	T.	3	15	6	10	nw.	J. Moffatt.
Hansboro	Towner		2	46.2		83	9	14	28	44	0.42		0.30	0.0	5	20	7	4	nw.	Geo. Dale.
Hillsboro	Traill	901	4	50.6		88	17	20	21	45	0.48		0.34	T.	5	16	7	8	s.	M. H. Norman.
Lakota	Nelson	1,519	3	45.4		81	10	13	20	46	0.40		0.27	T.	5				nw.	C. R. Pettes.
Langdon	Cavalier	1,615	14																	J. Woolner.
Larimore	Grand Forks	1,134	14	49.8	+ 5.6	82[a]	16	18	21	40[a]	0.97	− 0.35	0.67	T.	2	16	4	11	w.	Reuben Gray.
Lisbon	Ransom	1,001	5																	H. K. Adams.
McKinney	Ward	1,640	15	47.0	+ 5.4	89	9	11	28	55	0.20	− 0.47	0.20	T.	1	11	13	7	nw.	N. P. Swenson.
Manfred	Wells	1,605	8	47.7		88	10	15	28	47	0.79		0.50	T.	3	14	13	4	sw.	P. B. Anderson.
Mayville	Traill	975	14																	N. C. McDonald.
Minot	Ward	1,557	11	48.0	+ 3.4	89[a]	9	16	28†	52[a]	0.67	− 0.14	0.46	0.0	3	19	4	8	w.	Wm. J. Farris.
Minto	Walsh	820	16	48.8	+ 6.6	84	16	19	20†	46	0.73	− 0.45	0.49	0.0	2	19	4	8		S. S. Marsh.
Oriska	Barnes	1,270	4	50.4		88	10	15	20	47[b]	0.21		0.09	T.	3				nw.	W. E. Williams.
Park River	Walsh	998	6	48.3		84	16	20	20†	43[a]	0.75		0.70	0.0	2					A. Heyward.
Pembina	Pembina	789	11																	C. W. Shumaker.
Power	Richland	1,020	17	49.8	+ 5.8	88	10†	17	21	51	0.64	− 1.06	0.64	T.	1	14	10	7	w.	J. A. Power.
Pratt	McHenry		5	46.4		86	16	10	28†	59	0.85		0.60	0.0	2	18	9	4	nw.	C. H. Butts.
Towner	do			47.6		85	9†	12	20†	48	0.50		0.25	T.	2	15	11	5	nw.	Belle Bagley.
University	Grand Forks	830	18	47.9	+ 4.2	85	10	16	20	48[a]	0.28	− 1.16	0.12	0.0	2				nw.	W. R. Holgate.
Wahpeton	Richland	962	18																	E. G. Burch.
Walhalla	Pembina	966	5																	C. H. Lee.
Westhope	Bottineau		3																	C. W. Clark.
Willow City	do	1,471	16	45.4	+ 3.2	85	9	11	20†	52[a]	0.33	− 0.22	0.33	0.0	1				w.	M. A. Ostby.
Minnesota.																				
Albert Lea	Freeborn	1,229	20	53.1	+ 5.0	90	11	16	29	45	1.40	− 0.69	1.00	T.	3	14	13	4	nw.	Edward Carey.
Alexandria	Douglas	1,391	16	50.3	+ 4.9	86	17	20	29	42	1.47	− 0.19	1.15	0.1	4	13	4	14	nw.	P. O. Unumb.
Angus	Polk	870	8	47.4		82	10	15	20	49	0.39		0.30	T.	2	6	13	12	n.	John Nadvornik.
Bagley	Clearwater		4	47.1		84	17	16	29	59	0.69		0.40	0.5	4	11	16	4	sw.	Jens Nelson.
Baudette	Beltrami	1,084	1																	Franz W. Schmidt.
Beardsley	Bigstone	1,090	17	55.6[c]	+ 9.1	94[c]	2	23	28†	47[c]	1.24	− 0.69	0.88	0.0	3	13[c]	9[c]	6[c]	nw.	Roy A. Smith.
Beaulieu	Mahnomen	1,200	8																	Elizabeth S. Cooper.
Bird Island	Renville	1,039	20	53.3	+ 5.4	86	2†	16	29	45	1.00	− 0.82	0.37	T.	6	18	3	10	sw.	Dr. F. L. Puffer.
Caledonia	Houston	1,179	17	51.4	+ 2.8	79	16†	23	29†	36	0.65	− 2.00	0.53	0.2	5	21	3	7	sw.	W. D. Belden.
Campbell	Wilkin	984																		J. T. Neisess.
Cass Lake	Cass	1,300	4								1.65		1.60	0.5	2					C. W. Burns.
Collegeville	Stearns	1,282	17	53.6	+ 5.9	84	17	23	29	35	0.52	− 1.45	0.25	0.1	5	19	5	7	sw.	Fridolin Tembreul.
Crookston	Polk	863	20	48.2	+ 4.5	80	17	22	20	37	0.45	− 1.30	0.40	T.	2	16	4	11	s.	A. G. Anderson.
Detroit	Becker	1,364	14	49.4	+ 5.7	87[a]	17	22	28†	49[a]	0.69	− 1.59	0.50	T.	3	22	2	7	s.	George W. Peoples.
Fairmont (near)	Martin	1,240	23	52.8	+ 5.1	84	11	19	29	34	0.82	− 0.96	0.40	T.	3	17	10	4	s.	W. F. Wherland.
Faribault	Rice	1,003	13	52.0	+ 2.4	86	11†	16	29	43	0.68	− 2.10	0.20	0.2	7	18	6	7	nw.	Dr. A. R. T. Wylie.
Farmington	Dakota	902	22	53.7	+ 6.2	86	15†	28	29	41	1.67	− 0.92	1.28	T.	4	17	6	8	nw.	D. F. Akin.
Fergus Falls	Ottertail	1,210	18	50.9	+ 4.8	83	17	24	29	33	1.47	− 0.22	0.67	0.3	8	14	12	5	nw.	Chas. E. Kissenger.
Fort Ripley	Crow Wing	1,136	4	50.1		86	17	12	29	47	0.66	− 0.81	0.30	T.	4	20	1	10	nw.	J. J. Tucker.
Fosston	Polk	1,289	1	49.2		86	17	18	28	39	0.53		0.25	0.1	5	19	6	6	nw.	O. N. Hem.
Fram	Marshall			47.6		80	17	15	6	62[b]	1.36		0.57	T.	4	7[b]	16[b]	6[b]	w.[b]	A. W. Clark.
Glencoe	McLeod	1,000	14	54.3	+ 7.4	86	2	18	29	40	1.06	− 1.77	0.50	T.	4	17	11	3	sw.	C. G. Selvig.
Grand Meadow	Mower	1,338	23	52.4	+ 5.7	89	16	14	29	41	0.83	− 1.69	0.53	T.	4	18	7	6	sw.	C. F. Greening.
Hallock	Kittson	815	11	46.2	+ 2.6	79	9†	15	28	46	1.75	+ 0.61	1.10	T.	4	20	1	10	s.	D. A. Robertson.
Halstad	Norman	870	4	48.6		89	17	18	28	49	1.06		0.65	0.0	5	16	9	6	sw.	Aaron G. Holstrom.
Hinckley	Pine	1,050	5	50.8		85	17	17	29	45	1.26		0.84	0.0	4	8	12	11	sw.	W. R. Newman.
International Falls	Koochiching	1,112	2	46.2		81	18	15	29	44	3.47		1.69	3.0	5	15	10	6	sw.	Rees Roe.
Kelliher	Beltrami		3	48.3		83	17	18	29	47	1.87		1.05	0.2	6	8	18	5	sw.	A. Gilmour.
Lake Crystal	Blue Earth		3	52.8		86	11	15	29	40	0.53		0.20	T.	3	21	3	7	s.	W. P. Cobb.
Leech Lake Dam	Cass	1,301	22	47.3	+ 4.5	81	17	15	29	45	1.53	− 0.54	0.83	0.0	8	4	19	8	w.	Hans Olson.
Little Fork	Koochiching			45.2		86	17	12	29	48	3.33		1.90	1.0	4	22	2	7		O. C. Olson
Long Prairie	Todd	1,209	18	50.4	+ 5.3	90	17	11	23	50	0.55	− 1.71	0.22	T.	3	16	8	7	sw.	R. M. Sheets.
Lynd (2)	Lyon	1,175	18	53.4	+ 5.6	90	11	19	29	49	1.28	− 0.57	0.87	0.8	4	22	7	2	sw.	J. W. Rouse.
Mankato	Blue Earth	747	11								0.74	− 0.94	0.33	T.	4	17	5	9	sw.	Sadie H. Blake.
Mapleplain	Hennepin	1,023	18																	G. W. Richards.
Milaca	Millelacs	1,072	13	49.8	+ 7.1	84	17	14	29	47	0.40	− 2.67	0.21	0.4	4	11	14	6	nw.	C. H. Foss.
Milan	Chippewa	955	16	51.0	+ 4.2	87	17	18	29	45	0.79	− 1.15	0.53	T.	3	8	20	3	se.	O. K. Ojorden.
Minneapolis	Hennepin	918	19	54.0	+ 4.2	84	17	23	29	33	0.86	− 1.72	0.43	0.1	7	16	7	8	s.	U. S. Weather Bureau.
Montevideo	Chippewa	900	20	54.0	+ 6.3	89	2†	20	29	45	0.77	− 1.10	0.28	0.8	5	17	10	4	nw.	Lloyd G. Moyer.
Moorhead	Clay	935	29	50.4	+ 7.6	90	17	21	28	44	0.55	− 1.52	0.38	T.	6	13	11	7	nw.	U. S. Weather Bureau.
Mora	Kanabec		5	49.4		86	17	18	29	48	0.67		0.33	0.7	7	19	7	5	w.	Hans Peterson.
Morris	Stevens	1,170	25	51.0	+ 5.1	85	17	20	29	40	0.92	− 0.60	0.40	T.	6	22	2	7	nw.	D. T. Wheaton.
New London	Kandiyohi	1,215	16	50.6	+ 3.9	82	17	26	31	34	0.77	− 1.05	0.56	T.	4	24	5	2	nw.	Harold Swenson.
New Richland	Waseca	1,180	16	53.2	+ 4.3	88	11	18	29	42[a]	0.88		0.45	T.	4	19[a]	6[a]	5[a]	sw.	N. O. Tyrholm.
New Ulm	Brown	791	30	54.0	+ 5.6	90	15	18	29	47	0.59	− 1.51	0.27	T.	4	15	2	14	s.	Andrew J. Eckstein.
Osakis	Douglas	1,343	3	51.4		86	17	16	29	41	0.80		0.46	0.2	6	14	7	10	w.	J. B. Johnson.
Park Rapids	Hubbard	1,426	20	49.5	+ 6.9	87[f]	17	20[b]	29	49[b]	1.93	− 0.02	1.43	0.1	8	14	4	13	s.	Dr. P. A. Walling.
Pine River Dam	Crow Wing	1,251	23	50.5	+ 6.6	87	17	18	29	41	0.60	− 1.92	0.40	1.5	3	14	14	3	nw.	Neil McKay.
Pokegama Falls	Itasca	1,280	23	47.8	+ 6.4	84	17	21	6†	43	0.51	− 1.64	0.18	T.	4	12	9	9	w.	Arthur L. Mampel.
Red Lake	Beltrami	1,152	2	49.4		84	17	21	21†	37	0.83		0.40	0.0	3	13	14	4	w.	A. C. Goddard.
Red Wing	Goodhue	680	14								0.72	− 2.29	0.28	T.	7	17	3	11	w.	Louis Bach.
Redwood Falls	Redwood	1,050	3	55.2		88	2†	28	28†	41	1.05	− 0.27	0.52	1.1	5	21	6	4	nw.	N. B. Anderson.
Reeds Landing	Wabasha	681	15								0.59	− 2.89	0.26	0.0	4	18	2	11	se.	John Deschneau.
Rochester	Olmsted	991	6	51.6		89	11	16	29	51	0.42		0.26	0.0	2	19	1	11	s.	S. R. Case.
Roseau	Roseau	1,040	3	47.0		81	10	16	28	43	1.52		0.80	T.	4	23	5	3	w.	A. Waag.
St. Charles	Winona	850	19	51.2	+ 3.2	86	16	17	29	42	0.46	− 2.50	0.28	T.	2	21	4	6	se.	S. W. Gleason.
St. Cloud	Sherburne	1,020	32	53.0	+ 3.2	87	17	16	29	41	0.47	− 2.15	0.16	T.	4	19	3	9	nw.	Jos. H. Capser.
St. Paul	Ramsey	837	39	53.6	+ 5.5	83	17	23	29	34	0.75	− 1.59	0.40	0.5	6	14	10	7	s.	U. S. Weather Bureau.
St. Peter	Nicollet	825	17	59.0	+ 9.6	90	11	26	29	60	0.24	− 2.29	0.17	0.0	2	8	9	8	nw.	Chas. C. Cavanaugh.
Sandy Lake Dam	Aitkin	1,234	17	48.8	+ 4.5	82	17	22	29	41	0.86	− 1.36	0.45	0.0	5	13	8	10	se.	U. S. Engineer Corps.
State Sanatorium	Cass		3	49.2		86	17	18	29	35	1.35		1.10	T.	4	20	5	6	w.	Walter J. Marclacy.
Stillwater	Washington	694	5								0.64		0.40	0.0	6	16	2	13	nw.	Oscar Ostrom.

TABLE 1.—*Climatological data for October, 1910. 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.																				
Taylors Falls	Chisago	759	3	53.2	.....	84	17	20	29	41	1.24	.....	0.48	0.5	5	15	7	9	s.	Mpls. Gen. Elec. Co.
Warroad	Roseau	1,069	1	46.2	.....	78	16	15	29	46	1.63	.....	1.20	T	4	23	2	6	w.	John H. Sawyer.
West Concord	Dodge	1,232	1	53.1	.....	87	11	18	29	40	0.12	.....	0.10	T.	2	18	8	5	sw.	H. H. Orcutt.
Willow River	Pine	1,046	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Brandt.
Windom	Cottonwood	1,336	4	53.4	.....	90	11	15	28†	48	0.79	.....	0.56	0.8	4	14	13	4	s.	Taber C. Richmond.
Winnebago	Faribault	1,100	11	54.6	+ 4.9	92	12	16	29	43	0.30	− 2.24	0.20	T.	2	22	5	4	se.	H. H. Haight.
Winnibigoshish	Itasca	1,300	22	49.0	+ 5.6	82	17	22	29	39	1.10	− 0.87	0.71	0.5	6	16	7	8	nw.	John Duncan.
Winona	Winona	700	15	54.4	+ 6.7	85	15	22	29	40	0.87	− 1.08	0.67	T.	5	21	2	8	s.	Perry C. Meyrs.
Worthington	Nobles	979	15	52.2	+ 4.1	86	16	20	29	41	0.98	− 1.13	0.66	1.2	3	21	1	9	sw.	Milton P. Mann.
Zumbrota	Goodhue	917	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. C. Rowell.
South Dakota.																				
Milbank	Grant	1,148	18	52.5	+ 5.0	93	2	21	29	51	2.62	+ 0.97	2.25	T.	3	17	1	13	nw.	I. T. Patridge.
Wisconsin.																				
Antigo	Langlade	1,489	16	49.3	+ 4.0	80	17	20	29	39	3.12	.....	1.00	T.	6	16	1	14	w.	Elton C. Larzelere.
Barron	Barron	1,115	18	49.0	+ 3.3	82	17	17	29	40	1.54	− 1.30	0.63	0.5	5	21	6	4	s.	Wm. A. Kent.
Beloit	Rock	750	23	55.7	+ 4.9	80	16	22	29	36	0.93	− 1.15	0.40	T.	4	22	0	9	w.	Smith Observatory.
Big St. Germain Dam§	Vilas	1,590	1	47.8	.....	82	17	15	29	46	1.73	.....	0.67	2.0	8	18	7	6	nw.	Oscar Brehmer.
Brodhead	Green	812	12	55.2	+ 3.2	87	16	17	29	40	0.77	− 1.30	0.50	0.0	3	20	7	4	nw.	Hecktore D. Kirkpatrick.
Burnett	Dodge	880	6	52.2	.....	82	17	18	29	37	1.05	.....	0.75	T.	5	16[a]	7[a]	7[a]	sw.	Geo. W. Smith.
Darlington	Lafayette	867	5	52.1	.....	81	18	13	29	38	0.70	.....	0.50	0.0	2	21	0	10	nw.	S. P. Nelson.
Deerskin Dam§	Forest	1,625	1	.....	.....	81	17	.....	.....	.....	1.84	.....	0.68	4.9	8	15	10	6	sw.	Wm. E. O'Neal.
Delavan	Walworth	920	17	53.6	+ 5.4	85	16	17	29	38	1.27	− 0.50	0.51	T.	5	18	5	8	sw.	Elwood S. Austin.
Dodgeville	Iowa	1,116	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. W. Butler
Downing	Dunn	983	8	50.6	.....	85	17	22	29†	49[c]	0.22	.....	0.22	T.	1	9[c]	4[c]	15[c]	se.	Eugene F. Stoddard.
Eau Claire	Eau Claire	800	19	52.8	+ 4.2	86	17	21	29	40	1.36	− 1.86	0.62	0.2	8	15	9	7	nw.	Robert D. Whitford
Grand Rapids	Wood	1,021	11	50.5	+ 3.6	83	17	17	29	39	1.59	− 0.26	0.39	T.	7	16	8	7	sw.	Willis B. Raymond.
Grantsburg	Burnett	1,095	19	49.4	+ 2.6	86	15	22	27	47	0.55	− 2.15	0.20	T.	3	13	6	12	sw.	Theodore Olsen.
Hancock	Waushara	1,091	18	52.6	+ 4.2	83	17†	19	29	38	1.22	− 0.99	0.70	T.	4	16	6	9	sw.	Frederick B. Hamilton.
Hatfield	Jackson	973	15	51.2	+ 2.4	83	18†	23	31	46	0.90	− 2.17	0.50	T.	6	18	4	9	s.	Walter S. Woods.
Hayward	Sawyer	1,197	19	48.4	+ 3.3	85	17	17	29	43	0.80	− 2.46	0.37	1.2	5	18	7	6	sw.	William E. Swain.
Hillsboro	Vernon	1,000	19	50.4	+ 2.6	84	16	23	29†	39	0.85	− 1.51	0.35	T.	3	16	10	5	sw.	Emil V. Wernick.
Koepenick	Langlade	1,683	20	48.4	+ 2.6	80	17	12	28	44	3.43	+ 0.26	1.10	4.0	6	.....	.....	.....	sw.	Edward S. Koepenick.
Lac du Flambeau§	Vilas	.....	.....	48.8	.....	80	17	18	28	36	1.96	.....	0.71	5.0	5	14	7	10	n.	W. J. Lovett.
La Crosse	La Crosse	714	38	53.4	+ 3.5	85	16	24	29	38	0.57	− 1.89	0.40	T.	6	15	8	8	s.	U. S. Weather Bureau.
Lake Mills	Jefferson	897	19	52.6	+ 2.9	82	17	19	29	34	0.76	− 1.41	0.46	0.5	6	15	7	9	w.	S. Newton Dexter Smith.
Lancaster	Grant	1,070	20	52.2[d]	+ 2.7	82[c]	17†	20[d]	29[d]	36[d]	1.42	− 0.64	0.78	0.5	4	16[d]	6[d]	5[d]	w.	Edward Pollock.
Long Lake	Oneida	1,592	2	45.1	.....	83	17	18	29	54	2.17	.....	0.70	5.0	9	12	7	12	s.	Louie Frank.
Madison	Dane	974	32	53.6	+ 4.8	81	18	26	29	29	0.63	− 1.79	0.41	0.2	7	14	7	10	sw.	U. S. Weather Bureau.
Mather	Juneau	962	6	49.0	.....	83	17†	19	29	46	1.10	.....	0.48	T.	6	15	8	8	w.	Frank Evans.
Mauston	....do	882	14	52.2	+ 2.3	84	18	22	29	40	0.83	− 1.66	0.65	0.0	3	18	7	6	nw.	Eugene L. Hitchcock.
Meadow Valley	....do	974	19	51.0	+ 3.1	84	17	19	29	43	1.03	− 1.43	0.60	2.0	5	7	18	6	nw.	Charles H. Johnson.
Medford	Taylor	1,420	19	49.2	+ 3.2	81	17†	12	29	41	2.10	− 1.21	0.85	1.5	4	19	4	8	s.	William Zeit.
Merrill	Lincoln	1,267	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Frank M. McElroy.
Minocqua	Vilas	1,604	6	48.0	.....	82	17	15	29	43	1.07	.....	0.50	2.5	8	15	7	9	n.	Benjamin W. Applebee.
Mondovi	Buffalo	738	2	52.2	.....	84	15†	21	29	43	0.83	.....	0.50	T.	5	18	6	7	nw.	Dr. Charles Hebard.
Mount Horeb	Dane	1,226	6	52.2	.....	83	16	20	29	34	0.76	.....	0.45	T.	5	19	2	10	sw.	W. M. Lewis.
Muscoda	Grant	666	1	53.4	.....	87	16	27	29†	42	1.22	.....	0.64	T.	3	16	5	10	s.	Henry Eckstein.
Neillsville	Clark	996	21	51.6	+ 4.7	83	17	17	29	40	1.35	− 1.57	0.59	T.	4	20	0	11	nw.	William Heaslett.
New Richmond	St. Croix	990	5	51.1	.....	86	17	20	29	47	1.03	.....	0.67	T.	4	16	10	5	sw.	Frank A. R. Van Meter.
Osceola	Polk	806	19	50.8	+ 4.0	86	16	22	29	50	0.96	− 1.99	0.32	2.0	5	17	4	10	s.	Charles W. Staples.
Park Falls§	Price	1,492	18	47.8	.....	82	17	11	29	45	1.23	.....	0.43	3.0	7	14	8	9	sw.	Flambeau Paper Co.
Portage	Columbia	809	14	52.8	+ 2.8	83	17†	16	29	42	1.05	− 1.08	0.50	0.0	3	15[h]	2[h]	6[h]	sw.	James Clear.
Prairie du Chien	Crawford	690	23	53.8	+ 1.9	87	16	21	30	45	0.82	− 1.39	0.50	T.	5	18	2	11	s.	Jas. A. Gillis.
Prentice	Price	1,551	12	47.4	+ 2.7	80	17†	5	29	42	1.32	− 1.64	0.40	0.5	6	13	7	11	sw.	Joseph G. Lash.
Rhinelander	Oneida	1,550	4	48.6	.....	81	17†	16	29	44	1.99	.....	0.74	1.5	8	16	4	11	sw.	John Lind.
Sauk City	Sauk	758	2	52.8	.....	82	17	18	29	41	.....	.....	.....	.....	.....	19	3	9	.....	Kilien Derleth.
Shullsburg	Lafayette	1,019	4	52.7	.....	86	17†	18	29	34	0.89	.....	0.47	T.	4	19	2	10	sw.	Harrison B. Chamberlin.
Solon Springs	Douglas	1,083	4	47.9	.....	85	17	20	29	48	1.15	.....	0.40	1.0	4	14[f]	3[f]	8[f]	sw.	John M. Sayles.
Spooner	Washburn	1,104	15	49.6	+ 3.8	82	17	17	29	40	0.87	− 2.10	0.25	1.5	5	19	7	5	s.	Horace A. Bresee.
Stanley	Chippewa	1,082	6	50.6	.....	82	17	18	29	43	1.60	.....	0.50	T.	5	20	4	7	nw.	W. Humphrey Scott.
Stevens Point	Portage	1,113	17	50.0[f]	+ 2.1	83	17	12	31	47[f]	1.60	− 0.93	0.90	0.0	3	15[c]	3[c]	10[c]	nw.	Garry E. Culver.
Sugar Camp Dam§	Oneida	1,582	1	.....	.....	.....	.....	.....	.....	.....	1.83	.....	0.61	7.0	8	.....	.....	.....	w.	Robert Hayes.
Twin Lakes Dam§	Vilas	1,625	1	.....	.....	.....	.....	.....	.....	.....	1.89	.....	0.66	6.0	9	13	12	6	n.	Albert D. Hansen.
Valley Junction	Monroe	930	18	49.6	+ 1.3	82	17	24	29	41	1.71	− 1.11	1.31	1.0	4	14	7	10	w.	Frederick Muermann.
Viroqua	Vernon	1,412	19	53.4	+ 4.4	86	16	22	29	33	0.97	− 1.52	0.50	T.	6	19	6	6	nw.	Henry E. Rogers.
Vudesare	Vilas	1,600	2	46.6	.....	82	17	10	28	45	2.21	.....	1.16	5.5	5	15	11	5	w.	Louis L. Thomas.
Watertown	Jefferson	824	19	53.5	+ 5.0	81	17†	20	29	35	1.00	− 0.91	0.35	T.	6	17	10	4	sw.	Charles J. Salick.
Waukesha	Waukesha	864	14	53.9	+ 3.6	84	17	21	29	38[a]	1.12	− 0.65	0.60	T.	4	15[a]	12[a]	3[a]	sw.	Carroll College.
Wausau	Marathon	1,212	17	52.3	+ 5.4	82	17	20	29	36	2.47	− 0.55	0.77	T.	7	21	4	6	nw.	George H. Halder.
Weyerhaeuser	Rusk	1,297	3	48.3	.....	81	17	13	29	45	1.26	.....	0.45	0.5	6	15	6	10	sw.	Miss Etta Stiles.
Whitehall	Trempealeau	675	18	52.2	+ 3.0	85	15	21	27	46	0.50	− 1.96	0.30	0.0	2	22	0	9	nw.	Hans J. Haugh.
Iowa.																				
Albia§	Monroe	959	12	57.7	+ 4.5	91	2	18	29	49	0.30	− 2.27	0.21	T.	2	23	2	6	sw.	J. I. Chenoweth.
Algona§	Kossuth	1,213	36	53.2	+ 4.5	87	11	15	89	40	1.18	− 0.91	0.75	2.0	5	21	4	6	s.	Dr. F. T. Seeley.
Alta	Buena Vista	1,513	19	54.0	+ 3.7	88	16	20	29	40	0.88	− 1.26	0.50	1.3	4	19	9	3	s.	David E. Hadden.
Amana	Iowa	721	34	53.9	+ 4.0	84	16	18	29	38	0.75	− 1.90	0.27	T.	4	20	6	5	s.	C. Schadt.
Ames	Story	926	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Iowa State College.
Baxter§	Jasper	998	10	57.2[c]	+ 4.0	90	16	15	29	38[f]	0.46	− 2.35	0.16	T.	5	22	4	5	nw.	W. R. Vandike.
Belleplaine	Benton	828	20	54.8	+ 4.4	90	16	15	29	43	0.34	− 2.01	0.16	0.0	4	21	4	6	s.	S. P. Van Dike.
Belmond	Wright	.....	.....	52.5	.....	86	2†	15	29	37	1.25	.....	0.86	T.	5	13	11	4	nw.	Geo. P. Hardwick.
Bloomfield§	Davis	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. R. Davis.
Bonaparte§	Van Buren	.....	19	57.9	+ 2.9	90	16	15	29	43	0.65	− 1.11	0.29	T.	3	.....	.....	.....	.....	B. R. Vale.
Boone	Boone	1,134	5	55.4	.....	89	16	20	29	44	0.88	.....	0.37	T.	4	.....	.....	.....	.....	Carl Fritz Henning.
Britt§	Hancock	1,236	13	53.4	+ 3.1	89	11	16	29	43	1.29	− 0.87	0.52	T.	4	21	6	4	s.	L. M. Goodman.
Buckingham	Tama	.....	10	.....	.....	.....	.....	.....	.....	.....	0.40	− 1.70	0.20	0.0	3	.....	.....	.....	.....	J. S. Guynn.
Burlington	Des Moines	544	14	58.7	+ 3.0	91	16	22	30	46	1.01	− 1.21	0.29	T.	5	24	2	5	sw.	Max E. Poppe, jr.
Carroll	Carroll	1,265	20	54.3	+ 3.3	85	1†	20	28	43	0.65	− 1.59	0.33	0.0	3	23	1	7	nw.	Mrs. Jos. J. Wolfe.
Cedar Rapids	Linn	733	28	54.6	+ 3.2	87	16	20	30	38	0.79	− 1.67	0.56	T.	2	22	3	6	s.	W. J. Greene.
Charles City	Floyd	1,015	19	52.4	+ 4.2	85	11	16	29	41	0.36	− 1.67	0.14	T.	4	14	10	7	nw.	U. S. Weather Bureau
Clear Lake§	Cerro Gordo	1,241	12	55.0	+ 3.2	88	16	22	29	43	0.20	− 2.43	0.20	0.0	1	22	0	9	s.	Oscar Stevens
Clinton	Clinton	593	43	54.2	+ 3.7	85	16	18	29	38	0.73	− 1.67	0.50	0.0	6	17	7	7	sw.	Luke Roberts.
Columbus Junction§	Louisa	595	9	57.0	.....	86	16	21	29	35	0.76	.....	0.32	T.	4	23	4	4	sw.	J. B. Johnston.
Davenport	Scott	580	39	57.1	+ 4.5	88	16	24	29	33	0.61	− 1.78	0.46	T.	7	20	6	5	w.	U. S. Weather Bureau.
Decorah	Winneshiek	875	17	52.0	+ 1.8	83	18	18	29	39	0.85	− 1.57	0.65	0.0	2	.....	.....	.....	.....	F. H. Baker.
Delaware	Delaware	1,083	19	52.8	+ 3.8	89	16†	18	29	33	1.15	− 1.05	0.59	0.0	4	20	6	5	nw.	William Ball.
Des Moines	Polk	861	32	56.4	+ 3.9	86	2	20	29	39	0.68	− 2.00	0.42	T.	4	18	4	9	nw.	U. S. Weather Bureau.
De Soto§	Dallas	866	10	56.8	+ 2.7	91	2	16	29	46	0.89	− 1.44	0.48	T.	4	23	0	8	sw.	R. D. Minard.

TABLE 1.—*Climatological data for October, 1910. 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.																				
Dubuque	Dubuque	639	37	55.0	+ 3.0	82	16	24	29	32	0.89	− 1.79	0.66	0.1	5	19	4	8	nw.	U. S. Weather Bureau.
Earlham	Madison	.....	8	56.0	.....	88	16	15	29	40	1.00	.....	0.52	T.	4	21	1	9	nw.	George Phillips.
Elkader	Clayton	727	31	57.7	+ 8.3	85	11†	31	29	36	0.87	− 1.77	0.62	T.	2	22	2	7	nw.	Chas. Reinecke.
Elma	Howard	.....	1	52.7	.....	83	11	21	29	38	0.42	.....	0.16	T.	4	18	10	3	se.	H. A. Moore.
Estherville	Emmet	1,298	15	52.4	+ 3.6	88	11	15	29	46	0.67	− 1.50	0.42	T.	4	19	0	12	s.	A. O. Peterson.
Fairfield	Jefferson	.....	26	55.6[e]	+ 3.2	84	15	16	29	41[e]	0.63	− 2.29	0.22	T.	5	25	2	4	sw.	R. Monroe McKenzie.
Fayette§	Fayette	1,003	20	52.1	+ 5.4	82	11†	11	29	41	0.87	− 1.78	0.81	T.	3	23	4	4	nw.	R. Z. Latimer.
Forest City§	Winnebago	1,226	16	52.0	+ 2.3	89	11	16	29	45	1.28	− 1.02	0.93	T.	3	22	3	6	s.	J. A. Peters.
Fort Dodge	Webster	1,126	10	54.2	+ 1.9	90	16	21	29	41	1.72	− 1.36	1.32	T.	5	25	6	0	s.	J. F. Monk.
Fort Madison	Lee	516	61	.....	.....	.....	.....	.....	.....	.....	0.87	− 1.75	0.51	0.0	3	20	4	7	sw.	Miss L. A. McCready.
Gilman	Marshall	1,052	11	.....	.....	.....	.....	.....	.....	.....	0.39	− 2.13	0.21	0.0	3	.....	.....	.....	.....	J. L. Wylie.
Grand Meadow	Clayton	1,180	19	53.0	+ 3.8	81	18	19	29	34	0.96	− 1.51	0.51	T.	6	16	10	5	nw.	F. L. Williams.
Greene	Butler	.....	12	53.4	+ 1.3	85	11	15	29	42	0.56	− 1.60	0.20	T.	4	7	17	7	w.	J. L. Cole.
Grinnell	Poweshiek	1,023	18	57.2	+ 6.5	92	16	16	29	41	0.42	− 2.05	0.18	T.	3	20	5	6	w.	D. W. Brainard
Grundy Center§	Grundy	976	19	55.5	+ 3.7	87	16	19	29	43	0.41	− 2.06	0.41	T.	1	18	0	13	nw.	J. B. Calderwood.
Guthrie Center§	Guthrie	1,077	15	55.0	+ 2.6	84	2	20	29	35	1.35	− 0.92	0.80	T.	4	21	6	4	sw.	D. G. Beardsley.
Hampton	Franklin	1,155	20	55.6	+ 4.8	91	16	18	29	41	0.78	− 1.65	0.28	T.	3	15	11	5	nw.	E. C. Grenelle.
Humboldt	Humboldt	1,095	22	.....	.....	88	11†	17	29	42	1.38	− 0.51	0.78	T.	5	24	5	2	nw.	Henry S. Wells.
Independence§	Buchanan	921	46	54.0	+ 4.8	84	11†	15	29	43	0.65	− 1.71	0.25	0.0	3	23	2	6	nw.	George Donohoe.
Indianola	Warren	969	19	57.2	+ 3.5	85	2†	19	29	35	0.42	− 1.68	0.23	T.	4	21	2	8	sw.	John L. Tilton.
Iowa City	Johnson	683	50	54.4	+ 3.3	87	16	16	29†	49	0.57	− 2.21	0.42	0.0	3	21	2	8	nw.	A. G. Smith.
Iowa Falls	Hardin	1,170	17	52.0	+ 2.3	83	2†	15	29	40	0.61	− 1.54	0.25	T.	3	21	2	8	nw.	J. B. Parmelee.
Jefferson§	Greene	.....	11	55.6	.....	89	16	18	29	45	1.53	− 0.69	1.25	0.0	4	.....	.....	.....	.....	G. W. Jackson.
Keokuk	Lee	547	39	59.2	+ 4.7	86	2	22	29	38	0.81	− 1.68	0.40	T.	5	22	2	7	s.	U. S. Weather Bureau.
Keosauqua	Van Buren	644	18	56.0	+ 1.2	90	16	16	29†	56	0.59	− 1.25	0.26	T.	4	13	11	7	.....	J. H. Landes.
Knoxville§	Marion	920	15	57.2	+ 3.5	85	2†	20	29	39	0.28	− 2.14	0.20	T.	2	20	4	7	sw.	Casey & Belville.
Lacona	Warren	.....	11	.....	.....	.....	.....	.....	.....	.....	0.97	− 1.74	0.56	0.0	3	7	21	3	.....	J. B. Alter.
Le Claire	Scott	576	10	.....	.....	.....	.....	.....	.....	.....	0.88	− 1.01	0.48	T.	6	.....	.....	.....	.....	Miss M. T. Disney.
Marshalltown	Marshall	947	18	55.1	+ 2.8	91	16	16	29	45	0.37	− 2.01	0.12	T.	4	23	5	3	nw.	Ralph B. Reasoner.
Mason City§	Cerro Gordo	1,132	13	52.5	+ 2.9	85	11	16	29	44	0.97	− 1.15	0.50	0.0	4	18	9	4	s.	J. S. Mills.
Mount Pleasant§	Henry	729	29	55.1	+ 2.6	84	16	18	29	38	0.81	− 1.07	0.37	T.	5	22	3	6	sw.	J. W. Edwards.
Muscatine	Muscatine	.....	50	.....	.....	.....	.....	.....	.....	.....	0.66	− 2.38	0.35	T.	5	.....	.....	.....	.....	William Molis
New Hampton§	Chickasaw	1,169	13	52.2	+ 1.4	82	15†	25	29	39	0.54	− 1.22	0.23	T.	4	20	3	8	s.	A. F. Kemman.
Newton§	Jasper	944	22	56.0	+ 4.2	85	16	19	29	36	0.44	− 2.29	0.23	0.0	3	20	5	6	w.	J. P. Beatty.
Northwood§	Worth	1,222	14	51.7	+ 2.0	83	11	16	28	40	0.86	− 1.74	0.55	T.	4	23	2	6	sw.	Chas. H. Dwelle.
Olin§	Jones	760	12	56.2	+ 5.0	90	16	27	31	50	0.98	− 1.43	0.44	T.	4	21	3	7	.....	C. M. Miles.
Osage	Mitchell	1,184	23	54.0	+ 6.6	87	11†	15	29	41	0.65	− 1.77	0.25	T.	3	17	2	12	nw.	A. D. Bundy.
Oskaloosa§	Mahaska	843	34	56.2	+ 4.1	87	16	15	29	40	0.31	− 1.89	0.24	T.	3	24	3	4	nw.	Joseph Boyd.
Ottumwa	Wapello	649	15	60.1	+ 5.1	93	16	20	29	43	0.19	− 2.76	0.14	T.	2	7	8	16	w.	W. J. Mesmer.
Pella	Marion	877	8	56.2	.....	89	15	14	29	44	0.29	.....	0.20	T.	3	27	0	4	nw.	John H. Ver Steeg.
Perry§	Dallas	975	9	55.4	.....	87	16	18	29	41	0.72	.....	0.40	T.	3	20	7	4	sw.	Ed. S. Gray.
Plover	Pocahontas	1,426	14	53.2	+ 2.6	87	16	15	29	43	0.92	− 1.60	0.50	T.	3	25	3	3	s.	J. S. Smith.
Pocahontas	do	1,248	6	53.8	.....	87	11†	19	29	40	0.85	.....	0.38	0.0	4	23	5	3	s.	F. E. Hronek.
Ridgeway§	Winneshiek	1,215	12	54.8	+ 2.4	89	16	18	29	44	0.64	− 2.53	0.32	0.2	8	20	8	3	s.	Arthur Betts.
Rockwell City§	Calhoun	.....	14	55.2	+ 3.2	86	16	22	29	40	1.21	− 1.20	0.43	T.	3	23	3	5	.....	C. M. Randall.
Sac City	Sac	1,278	34	55.3	+ 5.3	86	16	26	28	42	0.69	− 1.60	0.44	0.0	3	.....	.....	.....	.....	E. N. Baily.
St. Charles§	Madison	1,070	9	58.2	.....	89	16	18	29	46	0.77	.....	0.52	T.	5	22	4	5	nw.	R. D. Minard.
Sigourney§	Keokuk	877	14	56.4	+ 2.1	86	2†	16	29	40	0.29	− 2.27	0.24	T.	3	13	13	5	nw.	J. T. Parker.
Stockport§	Van Buren	.....	8	55.0	.....	89	16	13	28	47	0.65	.....	0.31	T.	4	23	3	5	s.	C. L. Beswick.
Storm Lake	Buena Vista	1,440	21	56.5[e]	+ 4.2	87	16	25[e]	29	32[e]	0.44	− 1.25	0.41	T.	3	.....	.....	.....	.....	S. B. Fracker.
Stuart	Guthrie	1,216	11	56.2	+ 2.2	83	17	21	28	32	1.07	− 0.90	0.52	T.	3	19	7	5	sw.	J. P. Fox.
Tipton §	Cedar	807	11	56.8	+ 3.9	85	16	22	29	32	0.80	− 1.22	0.53	0.0	4	22	3	6	nw.	F. K. Gregg.
Toledo§	Tama	856	16	54.2	+ 2.1	85	16	15	29	40	0.39	− 1.65	0.22	T.	2	23	2	6	nw.	I. F. Giger.
Wapello§	Louisa	588	12	57.2	+ 2.8	83	2	28	29	44	0.78	− 1.09	0.29	0.0	4	22	5	4	s.	G. W. Schofield.
Washington	Washington	769	28	55.7[e]	+ 3.5	88	16	18	29	40	0.54	− 1.50	0.34	0.0	3	.....	.....	.....	.....	Wm. A. Cook.
Waterloo	Black Hawk	862	27	54.6	+ 4.4	86	16	18	29	43	0.37	− 1.89	0.25	T.	3	20	6	5	s.	M. L. Newton.
Waukee	Dallas	1,039	7	55.8	.....	85	2†	20	29	42	0.89	.....	0.41	T.	6	21	6	4	sw.	Samuel F. Foft.
Waverly§	Bremer	948	14	53.8	+ 1.8	87	13	16	29	42	0.38	− 1.93	0.20	0.0	3	.....	.....	.....	.....	H. S. Hoover.
Webster City§	Hamilton	.....	5	54.1	.....	85	2†	15	29	40	0.97	.....	0.64	T.	3	22	6	3	nw.	C. D. Carpenter.
West Bend§	Palo Alto	1,197	17	53.1	+ 4.2	87	11	17	29	40	0.88	− 0.96	0.43	T.	5	17	9	5	s.	Joseph Dorweiler.
Whitten§	Hardin	1,036	13	53.8	+ 2.2	85	16	16	29	38	0.43	− 1.89	0.23	T.	3	18	5	8	nw.	F. P. Butler.
Winterset§	Madison	1,129	19	56.8	+ 3.5	85	2†	22	29	32	1.04	− 1.20	0.71	T.	4	19	5	7	s.	Robert S. Cooper.
Missouri.																				
Gorin	Scotland	700	24	.....	.....	.....	.....	.....	.....	.....	0.60	− 1.75	0.32	T.	3	22	3	6	sw.	J. W. Pulliam.
Hannibal	Marion	534	18	58.2	+ 2.3	86	2	22	29	40	1.14	− 0.50	0.62	T.	5	22	3	6	sw.	U. S. Weather Bureau.
Louisiana	Pike	500	32	57.2	+ 1.3	85	2†	17	29	47	1.08	− 1.19	0.40	T.	6	24	3	4	nw.	J. T. Farrell.
Mexico	Audrain	797	33	58.0	+ 1.5	89	2	20	29	41	1.22	− 1.00	0.46	T.	5	26	0	5	s.	J. F. Llewellyn.
Steffenville	Lewis	576	17	60.6	+ 3.8	91	2	20	29	39	1.65	− 0.32	1.00	T.	4	24	3	4	w.	Frank Hall.
Sublett	Adair	1,000	30	57.9	+ 2.7	86	18	15	29	34	T.	− 2.76	T.	T.	0	21	8	2	sw.	Lewis Spriggs.
Warrenton	Warren	865	20	59.2	+ 3.8	87	1†	22	29	47	3.63	+ 1.13	1.45	0.0	6	19	7	5	s.	Dr. J. H. Frick.
Indiana.																				
Collegeville	Jasper	.....	11	56.8	+ 2.8	85	3†	21	29	36	2.35	+ 0.38	1.50	T.	4	19	6	6	sw.	Prof. L. C. Klosterman.
Knox	Starke	716	5	56.4	.....	82	3†	22	29	31	2.78	.....	1.58	3.5	8	18	9	4	s.	W. R. R. Tatman.
Laporte	Laporte	810	14	54.8	+ 1.6	82	3	28	30	37	2.54	+ 0.18	1.19	1.0	8	18	4	9	nw.	Wm. N. Walton, jr.
Plymouth	Marshall	790	7	55.6	.....	83	17	23	29	33	3.12	.....	1.31	10.0	8	16	10	5	sw.	J. W. Siders.
Illinois.																				
Aledo	Mercer	738	10	56.5	+ 3.1	85	16	21	29	38	0.87	− 1.04	0.33	T.	5	16	12	3	s.	Wm. B. Frew.
Alexander	Morgan	670	17	58.4	+ 2.5	85	14	21	29	40	1.72	− 0.12	1.06	T.	7	22	4	5	sw.	George H. Hall.
Antioch	Lake	861	9	55.4	.....	84	18	21	29	37	2.37	.....	1.50	T.	3	19	6	6	w.	J. C. James, jr.
Astoria	Fulton	650	11	57.0	+ 3.5	85	2	22	29	43	1.92	+ 0.10	1.25	T.	5	22	4	5	nw.	Ed. V. Bohl.
Aurora	Kane	687	31	54.2	+ 2.8	82	16†	17	29	33	1.20	− 1.31	0.64	T.	4	14	8	8	sw.	W. Holden.
Bement	Piatt	700	3	59.8	.....	86	16	22	29	41	1.79	.....	0.58	T.	5	24	4	3	s.	Rev. C. S. Adams.
Benton	Franklin	598	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. H. Stamper.
Bloomington	McLean	840	19	58.2	+ 2.5	85	14†	20[a]	29	39[a]	1.23	− 0.36	0.45	T.	4	22	2	7	sw.	Prof. H. N. Pearce
Cairo	Alexander	359	33	61.4	+ 2.3	91	1	28	29	31	11.57	− 8.94	5.69	0.0	8	20	4	7	ne.	U. S. Weather Bureau.
Carbondale	Jackson	412	....	60.7	.....	92	1	29	29	39	10.27	+ 7.33	4.42	0.0	6	19	7	5	sw.	State Normal University.
Carlinville	Macoupin	663	20	59.6	+ 3.2	90	1	21	29	41	2.57	+ 0.19	1.00	0.5	6	24	3	4	s.	R. O. Purviance.
Clinton	Dewitt	727	....	58.2	.....	85	16†	21	29	42	2.29	.....	1.33	T.	7	22	5	4	w.	J. F. Ziegler.
Coatsburg	Adams	763	18	56.6	+ 3.9	83	2	22	29	35	1.02	− 1.33	0.32	0.0	5	25	0	6	s.	Dr. J. R. Lambert.
Cobden	Union	656	27	62.7	+ 2.4	95	1	25	29	40	11.43	+ 7.98	5.10	0.0	5	19	6	6	s.	John Buck.
Dakota	Stephenson	929	5	54.3	.....	83	16	10	29	34	0.59	.....	0.24	T.	7	17	9	5	sw.	Rev. G. W. Kerstetter.
Decatur	Macon	685	19	57.5	+ 1.9	87	16†	22	29	40	2.20	+ 0.16	0.98	T.	6	24	2	5	nw.	Prof. J. H. Coonradt.
Dixon	Lee	725	20	55.8	+ 4.1	87	16	19	29	37	0.54	− 1.36	0.28	T.	5	19	9	3	.....	H. V. Bardwell.
Du Quoin	Perry	459	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Knetzger.
Dwight	Livingston	600	17	57.6	+ 5.0	87	16	20	29	37	1.44	− 0.23	0.63	1.0	6	21	4	6	sw.	Ed. O. Welch.
Elgin§	Kane	716	3	55.7	.....	85	16	22	29	35	1.21	.....	0.58	T.	6	7	23	1	sw.	Elgin Observatory.
Galva	Henry	842	18	56.6	+ 3.5	87	16	18	29	45	1.17	− 0.71	0.70	T.	5	22	2	7	sw.	Prof. F. U.White.

TABLE 1.—*Climatological data for October, 1910. 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.																				
Greenville	Bond	635	32	59.2	+ 2.7	84	1†	28	29	36	5.05	+ 2.30	3.02	T.	5	19	5	7	sw.	M. S. Oudyn.
Griggsville	Pike	650	25	59.2[d]	+ 3.3	85[b]	2†	21[c]	29	38[c]	1.65	− 0.56	1.01	T.	4	20	5	6	nw.	Geo. F. Kneeland.
Halfway	Williamson	569	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. L. Hearn.
Havana	Mason	475	18	59.8	+ 3.8	87	2	25	29	39	1.51	− 0.32	0.50	0.0	5	22	7	2	sw.	F. & C. Borgelt.
Henry	Marshall	500	22	57.2	+ 4.5	86	16	18	29	40	1.48	− 0.51	0.95	T.	4	24	0	7	nw.	Dr. F. A. Powell.
Hillsboro	Montgomery	675	16	60.3	+ 2.8	87	15	23	29	38	5.00	+ 2.14	2.50	T.	5	23	0	8	s.	Ira L. Woodward.
Joliet	Will	541	19	56.6	+ 4.4	86	16	21	29	39	1.68	− 0.17	1.16	T.	3	19	3	9	sw.	F. M. Muhlig.
Kishwaukee	Winnebago	730	22	55.1	+ 3.8	87	16	18	29	39	0.84	− 1.74	0.33	T.	8	18	7	6	sw.	Geo. Stevens.
La Grange	Cook	657	18	55.6	+ 3.6	84	16†	22	29†	37	1.44	− 0.03	0.81	T.	4	17	10	4	sw.	Prof. F. E. Sanford.
La Harpe	Hancock	698	31	57.3	+ 2.8	85	16	17	29	48	0.75	− 1.70	0.36	T.	4	20	2	9	sw.	Jno. S. Campbell.
Lanark	Carroll	883	21	53.9	+ 3.6	85	16†	10	29	42	0.66	− 1.35	0.34	T.	6	24	3	4	s.	M. N. Wertz.
La Salle	La Salle	536	33	56.8	+ 4.9	86	16	22	29	34	1.03	− 1.55	0.56	0.2	7	20	4	7	w.	U. S. Weather Bureau.
Lincoln	Logan	482	22	56.7	+ 1.8	85	2	18	29	42	1.40	− 0.43	0.70	T.	5	22	5	4	s.	Prof. C. S. Oglevee.
Martinton	Iroquois	633	23	56.9	+ 4.2	87	16	20	29	41	2.87	+ 0.72	1.15	T.	5	19	6	6	sw.	Jos. H. Peltier.
Mascoutah	St. Clair	425	20	60.9	+ 4.1	91	1†	24	29	46	4.54	+ 1.91	2.87	T.	5	14	13	4	se.	Geo. Henrich.
Minonk	Woodford	745	17	58.5	+ 4.4	88	16	18	29	43	0.93	− 0.55	0.55	T.	3	21	6	4	sw.	O. M. Davison.
Monmouth	Warren	784	18	58.2	+ 4.4	88	16	21	29	48	0.86	− 0.86	0.30	0.0	6	22	3	6	sw.	Hugh R. Moffet.
Morrison	Whiteside	685	16	55.2	+ 2.2	88	16	16	29	40	0.64	− 1.24	0.32	T.	7	22	4	5	sw.	S. A. Maxwell.
Morrisonville	Christian	638	11	57.7	+ 1.2	84	15†	20	29	41[a]	2.44	+ 0.12	1.14	0.3	5	24	4	3	nw.	J. D. Lowis.
Mount Vernon	Jefferson	511	16	59.8	+ 1.8	90	1	26	29†	38	6.65	+ 4.25	4.18	0.0	7	19	5	7	s.	Theo. P. Stelle.
Oregon	Ogle	702	1	56.2	.....	86	16	18	29	36	0.72	.....	0.40	T.	3	22	1	8	s.	Samuel Ray.
Ottawa	La Salle	500	24	56.5	+ 3.4	86	14	22	29	37	1.25	− 0.67	0.59	T.	4	22	3	6	sw.	Miss M. M. Harris.
Pana	Christian	692	24	59.4	+ 4.1	84	16†	22	29	35	2.11	− 0.30	1.15	T.	5	25	2	4	sw.	C. W. Sibley.
Peoria	Peoria	609	33	56.7	+ 4.7	85	16	21	29	38	1.69	− 0.88	0.96	T.	6	21	7	3	s.	U. S. Weather Bureau.
Pontiac	Livingston	546	8	58.6	.....	85	16†	21	29	40	1.69	.....	0.69	T.	4	20	5	6	sw.	Geo. Butterworth.
Riley	McHenry	956	51	55.0	+ 6.2	84	16†	18	29	32	1.51	− 0.69	0.83	T.	7	16	10	5	sw.	John West James.
Rockford	Winnebago	763	18	54.6	+ 4.2	84	16	21	29	37	1.03	− 1.65	0.26	T.	9	24	0	7	.....	Hosmer C. Porter.
Rushville	Schuyler	670	19	59.0	+ 4.2	85	16†	21	29	39	1.19	− 0.45	0.92	T.	3	17	5	9	s.	H. F. Dyson.
St. Charles	Kane	700	15	55.8	+ 3.7	87	16	18	29	38	1.19	− 0.68	0.45	T.	5	14	14	3	sw.	Dr. Wm. H. Bishop.
St. Peter	Fayette	.....	.....	60.2	.....	87	17	24	29	35[a]	4.11	.....	1.75	T.	5	21	5	5	nw.	M. L. Lansford.
Sparta	Randolph	538	24	59.8	+ 2.4	90	1	24	29	36	4.62	+ 2.19	2.18	0.0	6	23	6	2	s.	Jas. A. Caldwell.
Springfield	Sangamon	644	33	58.2	+ 3.6	82	16	29	29	38	1.74	− 0.86	0.87	T.	7	21	4	6	s.	U. S. Weather Bureau.
Streator	La Salle	626	17	56.7	+ 2.9	87	13†	20	29	42[b]	1.43	− 0.01	0.75	T.	4	21	3	7	sw.	Edw. F. Sweetser.
Sullivan	Moultrie	530	10	59.0	+ 2.8	87	16†	21	29	42	2.09	− 0.28	0.68	T.	5	22	6	3	sw.	C. A. Corbin.
Sycamore	De Kalb	855	30	54.6	+ 4.3	87	16	18	29†	45	2.04	− 0.50	1.53	T.	5	18	4	9	sw.	Miss E. J. Davis.
Tiskilwa	Bureau	798	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. I. Smucker.
Walnut	....do	717	19	57.7	+ 3.1	87	16	20	29	36	0.91	− 0.66	0.53	T.	6	20	6	5	s.	O. C. Nussle.
White Hall	Greene	573	2	57.1	.....	83	2†	19	29	43	1.89	.....	0.80	T.	7	23	3	5	sw.	Dr. R. A. Pritchett.
Windsor	Shelby	681	11	58.6	+ 5.2	88	16	21[a]	29	44[a]	2.61	+ 0.63	1.05	0.1	6	19	6	6	sw.	Herbert Rose.
Winnebago	Winnebago	900	23	54.9	+ 3.7	86	16	18	29	37	0.78	− 1.38	0.45	T.	5	22	5	4	sw.	Frank Osborn
Yorkville	Kendall	584	23	54.7	+ 4.4	83	16	19	29	37	1.32	− 0.96	0.72	T.	5	20	2	9	w.	Herman A. Grimwood.
Zion	Carroll	938	16	53.8	+ 2.3	88	16	17	29	36	0.78	− 1.15	0.30	1.0	4	25	0	6	w.	Robt. F. Gillogly.

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

TABLE 2.—*Daily precipitation for October, 1910. District No. 5, Upper Mississippi Valley.*

Stations.	River basins.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
North Dakota.																																	
Amenia	Red																		.18	.58													0.76
Bottineau	Mouse			T.		.05								.02					.02	.22							.20	T.	T.				0.51
Cando	Sheyenne																			.71						T.							0.71
Crosby	Mouse		.04		T.	T.								T.												.22		T.				T.	0.26
Devils Lake	Sheyenne		.09		.72								.07					.02	.57	.03					.05	.06							0.91
Donnybrook	Mouse		.10		.08													T.	.16							.22	T.	T.					0.56
Dunseith	...do																		T.						T.		T.	T.					T.
Edmore	Sheyenne													T.					.40	.05					T.	T.							0.45
Forman	...do																			.25	.32									T.			0.57
Grafton	Red																																
Granville	Mouse		.02											T.				T.	.14							.25							0.41
Hannah	Pembina			.24	T.								T.	.26				T.	.49						T.		T.						0.99
Hansboro	Red			.02	.03	.03								.04						.30													0.42
Hillsboro	...do																	.02		.34					.03	.07		.02					0.48
Lakota	Sheyenne				.01														.27	.01					.06	.05	T.	T.					0.40
Langdon	Pembina																																
Larimore	Red																		.67	.30								T.					0.97
Lisbon	Sheyenne																																
McKinney	Mouse				T.														T.							.0		T.					0.20
Manfred	Sheyenne																	T.	.50	.20						.09		T.					0.79
Mayville	Red																																
Minot	Mouse			T.		T.													.03	.46							.18						0.67
Minto	Red												.24						.49														0.73
Oriska	Sheyenne												.04					.08	.09						T.	T.							0.21
Park River	Red																		.70	.05													0.75
Pembina	...do																																
Power	Sheyenne																		.64					T.				T.					0.64
Pratt	Mouse																		.60							.25							0.85
Towner	...do																	T.	.25							.25		T.					0.50
University	Red																		.12	.11					.05								0.28
Wahpeton	...do																																
Walhalla	Pembina																																
Westhope	Mouse																																
Willow City	...do																		.33							T.							0.33
Minnesota.																																	
Albert Lea	Mississippi			20																1.00	.20	T.						T.					1.40
Alexandria‖	...do		T.	.26																1.15		T.				.03	T.	.03	T.				1.47
Angus	Red				T.									.09					T.	.30					T.	T.		T.					0.39
Bagley	...do																		.40	.20					.08			.01					0.69
Baudette	Rainy																																
Beardsley	Minnesota		T.													.04			.88	.32						T.						T.	1.24
Beaulieu	Red																																
Bird Island	Minnesota		.32	37											T.				.07	.05		.12			.07		T.	T.					1.00
Caledonia‖	Mississippi			.06	.01																T.	.53	.03				T.		.02				0.65
Campbell‖	Red																																
Cass Lake‖	Mississippi																			1.60					T.	T.			.05				1.65
Collegeville	...do		.25	.15												T.			T.	.10		T.			T.		.01	.01					0.52
Crookston‖	Red													T.					T.	.40						.05		T.					0.45
Detroit‖	...do		.04		T.	T.														.50				T.		T.	.15	T.	T.				0.69
Fairmont (near)	Minnesota			.32															.40			.10			T.	T.	T.	T.					0.82
Faribault	Mississippi		T.	.17															.19	.02	.06	.20			.02	.01		T.	T.				0.38
Farmington	...do		1.28	.05															T.	.15	T.	.19			T.		T.	T.	T.				1.67
Fergus Falls	Red		T.	.26															.67	.41				.01	.07	.02		.02	.01			T.	1.47
Fort Ripley‖	Mississippi		.30	.14																.12		T.				.10		T.	T.	T.	T.		0.66
Fosston	Red																		.25	.19					.04	.04		.01					0.53
Fram	...do					.02							.62						.15	.57								T.					1.36
Glencoe	Mississippi		.38	.28														T.	.50			.20			T.		T.	T.					1.06
Grand Meadow	...do			T.															.03	.53	.68	.19					T.	T.	T.				0.83
Hallock	Red			.05										1.10					.35	.25								T.					1.75
Halstad	...do													.24					.06	.65						.02	.09						1.06
Hinckley	St. Croix		.21															.13		.84		.08						T					1.26
International Falls	Rainy		T.											1.69					1.30	.18								.10	.20				3.47
Kelliher	Red				.07									.18					.39	1.05					T.	.03		.15	T.				1.87
Lake Crystal	Minnesota			.20															.17			.16											0.53
Leech Lake Dam	Mississippi		.02	.41										.02					.13	.83					.03	.04		.05					1.53
Little Fork	Rainy	.03											1.90							1.30								.10					3.33
Long Prairie	Mississippi		.18	.15															.22	T.	T.				T.	T.		T.					0.55
Lynd (2)	Minnesota		.13	.87																.20		.08					T.	T.					1.28
Mankato‖	...do			.20	.05															.33	T.	.16											0.74
Mapleplain	Mississippi																																
Milaca	...do		.21	.10																		T.			T.	.05		.04					0.40
Milan	Minnesota		.25																.53			T.			.01			T.					0.79
Minneapolis	Mississippi		.43	.02															.21	T.	.08	.10			T.		.01	.01	T.				0.86
Montevideo‖	Minnesota		.09	.25														T.		.28	.05						T.	T.				.10	0.77
Moorhead	Red												.01						.37	.01				.01	.11	.04		T.					0.55
Mora	St. Croix		.16	.01															.33			.08				.05	.02	.02					0.67
Morris	Minnesota		.14												.05				.43	.15					.02	T.		T.				.16	0.92
New London	Mississippi	.04	.56																.13									.04					0.77
New Richland	Minnesota		T.	.20															.45	T.	.04	.19			T.			T.					0.88
New Ulm‖	...do		.17	.27																T.	.11	.04	T.			T.	T.	1.	T.				0.59
Osakis	Mississippi		.16	.10															.04	.46		.01			.03	T.		T.				T.	0.80
Park Rapids‖	...do		.09	.30		T.								.01						1.43	.02					.03	.04		.01				1.93
Pine River Dam	...do		T.																.40							.15		.05	T.				0.60
Pokegama Falls	...do		.10	.10										T.					.13	.18					T.			T.					0.51
Red Lake	Red			T.										.06					.40	.37					T.								0.83
Red Wing‖	Mississippi			.06	.10															.28	.02	.18	.06			T.		T.	.02				0.72
Redwood Falls	Minnesota		.32	.52															.08	.02		.11											1.05
Reeds Landing‖	Mississippi																			.26		.08	.24						.01				0.59
Rochester‖	...do				T.															.26		.16							T.				0.42
Roseau	Red													.80					.11	.54								.07					1.52
St. Charles‖	Mississippi																			.18		.28							T.				0.46
St. Cloud	...do		.11	.16																.11		T.					.09	T.					0.47
St. Paul	...do		.40	.05															.07		.10	.08				T.	T.	.05	T.				0.75
St. Peter	Minnesota		.07	.17																		T.										T.	0.24
Sandy Lake Dam	Mississippi		.15																.15	.45							.08	.03					0.86
State Sanatorium	...do		.11																.09	1.10						.05							1.35
Stillwater‖	St. Croix		.40	.02	.01															.08		.12	T.			.01	T.	T.	T.				0.64
Taylors Falls	...do		.25	.11															.28		.12						.48	T.					1.24
Warroad	Rainy				.06								1.20						.20	.17					T.	T.	T.						1.63
West Concord	Mississippi			T.																.10	T.	.02			T.			T.	T.				0.12
Willow River	St. Croix																																
Windom	Des Moines		.06	.56																.05		.12											0.79
Winnebago‖	Minnesota			T.	T.															.20	T.	.10	T.						T.				0.30
Winnibigoshish	Mississippi			.08										.02					.18	.71					.06		.05						1.10

TABLE 2.—*Daily precipitation for October, 1910. 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.																																	
Winona	Mississippi			.06																.09	T.	.67	T.				.01	.04	T.				0.87
Worthington‖	Des Moines		.19	.66																		.13						T.					0.98
Zumbrota	Mississippi																																
South Dakota.																																	
Milbank	Minnesota			T.															T.	2.25	.35						T.	.02	T.				2.62
Wisconsin.																																	
Antigo	Wisconsin		.28	1.00	T																	.92	.18				.34	.30	T.				3.12
Barron	Chippewa		.43	.05																		.38					.63		.05				1.54
Beloit	Rock			.10	.40	.10																.33							T.				0.93
Big St. Germain Dam.	Wisconsin		.67	.22										T.						.02		.38	.06			.06	.11	.21	T.	T.			1.73
Brodhead	Rock		.20	T.	.07															T.		.50											0.77
Burnett	...do		.08	.14	.06	T.							T.							T.	T.	.75	.02				T.	T.	T.				1.05
Darlington	...do			.20																		.50											0.70
Deerskin Dam	Wisconsin		.68	.30																T.	T.	.35	.15			.05	.11	T.	.11	.09			1.84
Delavan	Rock		T.	.36	.28	T.														T.	T.	.51					.05	.07	T.				1.27
Dodgeville	...do																																
Downing	Chippewa																			T.		.22				T	T.	T.					0.22
Eau Claire	...do		.62	.06					T.											.14		.32	T.			.08	.12	.01	.01				1.36
Grand Rapids‖	Wisconsin			.28	.39															.18	T.	.31	.36				.02	.05	T.				1.59
Grantsburg	St. Croix		.20	T.													.20			.15						T.	T.						1.55
Hancock	Wisconsin		.25	.15																		.70	.12					T.					1.22
Hatfield	Black		.08	.14																		.50	.04				.10	.04					0.90
Hayward	St. Croix		.37																	.01		.30					.02	.10					0.80
Hillsboro	Wisconsin		T.	.25		T.														T.	*	.35					.25	T.					0.85
Koepenick	...do		.03	.30															.10			1.10					.60	.40					3.43
Lac du Flambeau	Chippewa		.50	.71																T.		.50			.10			.15					1.96
LaCrosse	Mississippi			.07															.01		.16	.26				T.	.02	.05	T.				0.57
Lake Mills	Rock		.03	T.	.2	T.	T.													.91	T	.46	.02					.04					0.76
Lancaster	Mississippi			.78																	*	.57						.07					1.42
Long Lake	Wisconsin		.70	.36																.2	T.	.42	.05			.03	.16	.28	.15	T.			2.17
Madison	Rock		T.	.07	.06	.03														T.	.20	.22					.03	T.	.02				0.63
Mather‖	Wisconsin		T.		.18															.11		.48	.17			T.	T.	.11	.05				1.10
Mauston	...do		.02	.16																		.65											0.83
Meadow Valley	...do	T.	.13																	.10		.60	.05				T.	.15					1.03
Medford	Black		.85																			.70					.40		.15				2.10
Merrill	Wisconsin																																
Minocqua	...do		.50	.20												T.				.05		.06	.07			.04	.05	.10	T.				1.07
Mondovi	Mississippi		.09	.06																.14		.50				T.		.04					0.83
Mount Horeb	Rock			.10	.09	T.														T.	.10	.45						.02	T.				0.76
Muscoda‖	Wisconsin		T.	T.	.64															T.	T.	.52	.06					T.	T.				1.22
Neillsville	Black		.10	.41																		.59						.25					1.35
New Richmond	St. Croix		.67	.11															.21	.04						T.	T.	T.					1.03
Osceola	...do		.32	.09															.15	T.	.20					T.	T.	.20				T.	0.96
Park Falls	Chippewa		.43	.17																.04		T.	.34				.05	T.	.10	.10			1.23
Portage	Wisconsin			.45																		.50						.10					1.05
Prairie du Chien‖	Mississippi				.26															.01		.50	.04			.01		T.	T.				0.82
Prentice	Chippewa		.40	.25																.12		.19					.21	.15	T.				1.32
Rhinelander	Wisconsin		.74	.23																.02		.39	.08				.32	.17	.14				1.99
Sauk City	...do																																
Shullsburg	Mississippi			.28	.02																.12	.47						T.					0.89
Solon Springs	St. Croix		.35											T.					.30			T.			.40			.10					1.15
Spooner	...do		.20	.12																T.		.25				.15	T	.15					0.87
Stanley	Chippewa		.49	.28																T.	T.	.50	T.			T.	.31	.02	T.			T.	1.60
Stevens Point	Wisconsin		.30	.40	T.																	.90											1.60
Sugar Camp Dam	...do		.61	.14																		.35				.13	.11	.35	.07	.07			1.83
Twin Lakes Dam	...do.		.66	.06												.40				.02	T.	.05	.10			T.	.15	.30	.15				1.89
Valley Junction	...do		T.	.11														.08				1.31						.21					1.71
Viroqua	Mississippi			.18																.10	.04	.50	.02				T.	.13					0.97
Vudesare	Wisconsin		1.16	.19	T.											T.				T.	T.	.48	T.				T.	.36	.12				2.31
Watertown‖	Rock			.08	T.	.12	T														.12	.35	.24				T.	.09	T.	T.			1.00
Waukesha	Fox			*	.41															.12	.60							T.					1.13
Wausau	Wisconsin		.55	.38																.12		.77	.22				.36	.07	T.				2.47
Weyerhaeuser	Chippewa		.45	.13																.10	T.	.30	T.				.24	.04					1.26
Whitehall	Mississippi			.20																		.30					T.						0.50
Iowa.																																	
Albia‖	Des Moines				.09		T.															.21	T.						T.	T.			0.30
Algona	...do			.11															.75	.10	.09	.13											1.18
Alta‖	Raccoon			.50																.18	T.	.18							.02				0.88
Amana	Iowa			.24		.01															.23	.27						T.	T.				0.75
Ames	Skunk																																
Baxter	...do			.11	.03															.16	.12	.04						T.					0.46
Belle Plaine	Iowa			.08	T.	T.														.01	.16	.09											0.34
Belmond	...do			.21															.77	.09	.12	.06					T.	T.					1.25
Bloomfield	Mississippi																																
Bonaparte	Des Moines			.29																	.22	.14						T.	T.				0.65
Boone‖	...do			.14	.22															.37		.15						T.	T.				0.88
Britt	Iowa			.16															.52	.48	.13												1.29
Buckingham	Cedar			.14															.06		.20												0 40
Burlington‖	Mississippi				.39		.12														.05	.35	.10						T.	T.			1.01
Carroll‖	Raccoon		.24																.33		.08												0.65
Cedar Rapids‖	Cedar			T.	.23	T.	T.															.56	T.						T.	T.			0.79
Charles City	...do			.14															.06		.12	.04											0.36
Clear Lake	...do			T.															T.	T.	.20												0.20
Clinton	Mississippi			.07	.01	.03														T.	.50	.10						.02					0.73
Columbus Junction	Iowa			.21	.05	T.	T.													T.	.32	.18						T.	T.				0.76
Davenport	Mississippi			.06	.01	.03														.01	.37	.12					.01	T.	T.				0.61
Decorah	...do			.20														T.				.65											0.85
Delaware	...do			.59	.01																.10	.45											1.15
Des Moines	Des Moines			.42		T.													.21	T.	.04	.01						T.	T.				0.68
De Soto	Raccoon			.48		T.													.36		.03	.02						T.					0.89
Dubuque	Mississippi			.20	T.	.02														T.	.56	.10						.01	T.				0.89
Earlham	Raccoon			.52															.42	.02	.04	T.					T.	T.					1.00
Elkader	Mississippi			.25																	.62	T.			T.			T.					0.87
Elma	Wapsipinicon			.16															T.	.05	.06	.15					T.	T.	T.				0.42
Estherville‖	Des Moines			.42	.05														.05			.15						T.	T.				0.67
Fairfield	Skunk			.21	.22	.02														.01	.17							T.					0.63
Fayette	Mississippi			.06																	.48	.33					T.		T.				0.87
Forest City‖	Cedar			T.	.15															.93		.20	T.					T.					1.28
Fort Dodge‖	Des Moines			.12	.11															1.32	.03	.15							T.				1.73
Fort Madison	Mississippi			.31	.05	T.														T.		.51											0.87
Gilman	Iowa			.13																.05	.21												0.39
Grand Meadow	Mississippi			.05		T.														.17	.20							.02	.01				0.96
Greene	Cedar			.20	T.															.12	.11	.13						T.	T.				0.56
Grinnell	Iowa			.17		T.													T.		.18	.07						T.					0.42

TABLE 2.—*Daily precipitation for October, 1910. District No. 5*—Continued.

Stations.	River basins.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Iowa—Cont'd.																																	
Grundy Center	Cedar																					.41						T.					0.41
Guthrie Center	Raccoon			.44															.80		.06	.05						T.	T.				1.35
Hampton	Cedar			.28															.25		.25												0.78
Humboldt	Des Moines			.23															.78	.14	.08	.15					T.	T.					1.38
Independence	Wapsipinicon			.15																	.25	.25											0.65
Indianola	Des Moines			.33															*	.14	.05	T.						T.	T.				0.42
Iowa City‖	Iowa				.13	.02	T.															.42	T.										0.57
Iowa Falls‖	do			T.	.25		T.													.16		.20	T.					T.	T.				0.61
Jefferson	Raccoon			.22															1.25	.02		.04											1.53
Keokuk	Mississippi		T.	.40	T.	.05														.04	.20	.12							T.				0.81
Keosauqua‖	Des Moines				.20		.09														T.	.26	.04						T.	T.			0.59
Knoxville	do			.20		T.														T.	.08							T.					0.28
Lacona	do			.56																	.40	T.							.01				0.97
Le Claire‖	Mississippi				.19	T.	.03														.02	.48	.12					.04	T.	T.			0.88
Marshalltown‖	Iowa			.02	.11	T.														.12		.12							T.	T.			0.37
Mason City	Cedar			.12															.50	.16	.19												0.97
Mount Pleasant	Skunk			.18	.01		.06													T.	.37	.19						T.	T.				0.81
Muscatine‖	Mississippi			T.	.15		.02														.02	.35	.12							T.			0.66
New Hampton	Wapsipinicon		.10	.02																T.	.23	.19						T.					0.54
Newton	Skunk			.23																.07	.14												0.44
Northwood	Cedar			.03															*	.55	.28							T.	T.				0.86
Olin	Wapsipinicon			.32	T.	.04														T.	.44	.18							T.				0.98
Osage	Cedar			.19																.25		.21						T.					0.65
Oskaloosa	Des Moines			.07		T.															.08	.16						T.					0.31
Ottumwa	do			.05		T.															.14	T.						T.					0.19
Pella	do			.05		T.														T.	.20	.04						T.	T.				0.29
Perry	Raccoon			.40															.30		.02							T.					0.72
Plover	Des Moines			.22															.50		T.	.20											0.92
Pocahontas	do		.22																.38	.18	.07												0.85
Ridgeway	Mississippi			.09	.04														.04	.01	.32	.10	T.		T.		.01	.03	T.				0.64
Rockwell City	Raccoon			.38															.43		.40							T.					1.21
Sac City	do			.19																	.44	.06					T.						0.69
St. Charles	Des Moines			.52	.01														.08	.05	.11	T.							T.				0.77
Sigourney	Skunk			.05		T.															.14	.10						T.	T.				0.29
Stockport	do			.28	T.	T.	.04													T.	.20	.13						T.	T.				0.65
Storm Lake	Raccoon			.41																	.02	T.						.01					0.44
Stuart	do			.52															.45		.10							T.					1.07
Tipton	Cedar			.18		.09															.20	.33											0.80
Toledo	Iowa			.17		T.															T.	.22							T.				0.39
Wapello	do			.18			.06													T.	.29	.25						T.	T.				0.78
Washington	Skunk				.20																*	.34											0.54
Waterloo‖	Cedar			.02		T.														.10		.25	T.						T.	T.			0.37
Waukee	Raccoon			.37		.03													.38	.03	.06	.02						T.	T.				0.89
Waverly	Cedar				.07																.20	.11											0.38
Webster City	Des Moines			.23															.64	T.	T.	.10					T.	T.	T.				0.97
West Bend	do			.20															.32	.11	.15	.10						T.					0.88
Whitten	Iowa			.23															T.	.15	.05	T.						T.	T.				0.43
Winterset	Des Moines			.71															.26	.03	.04	T.						T.	T.				1.04
Missouri.																																	
Gorin	Mississippi			.32	T.																.18	.10						T.					0.60
Hannibal	do			.59	.03	.07														T.	.22	.23					T.		T.				1.14
Lousiana	do			.40	.10		.20														.14	.14						.10	T.				1.08
Mexico‖	do				.38		.23														.10	.46	.05					T.		T.			1.22
Steffenville	do			1.00	.10															T.	.35	.20							T.				1.65
Sublett	do					T.																							T.				T.
Warrenton‖	do				.84	1.45	1.16														.05	.09						.04					3.63
Indiana.																																	
Collegeville	Iroquois				1.50	.05	.25															.55							T.				2.35
Knox	Kankakee			.12	1.46		.11														T.	.59	.03			T.		.11	.14	.22			2.78
Laporte	do			.16	1.19		.12														.02	.75						.08	.21	.01			2.54
Plymouth	do			T.	1.31	.02	.11														T.	.53	.04					.09	.29	.73			3.12
Illinois.																																	
Aledo	Mississippi			.17	.04															.05	.28	.33						T.					0.87
Alexander	Illinois			.16	.22	.02	1.06														T.	.20						.05	.01				1.72
Antioch	do			1.50	.25																	.62						T.					2.37
Astoria	do			1.25	.30		.25														.10	.02						T.	T.				1.92
Aurora	do		T.	.52	.12		.24									T.					T.	.32						T.					1.20
Bement	Mississippi				.56	.58	.25																.38					.02	T.				1.79
Benton	do																																
Bloomington	Illinois			.39	.45	.11															T.	.28							T.				1.23
Cairo	Mississippi			1.29	4.47	4.77	.42							.04	.40						T.	.17					T.	.01					11.57
Carbondale	do				4.43	4.25	1.07								.10							.42						.01					10.27
Carlinville	Illinois				.75	1.05	.46															.28						.05	.03				2.57
Carlyle	Mississippi				1.40	2.10	.60															.48						.07	T.				4.70
Chester‖	do			.28	2.96	.98	1.13							T.	.01							.36							T.				5.72
Clinton	Illinois			.01	1.33	.13	.37														.06	.34						.05	T.				2.29
Coatsburg	Mississippi			.05	.20	.15															.30	.32											1.02
Cobden	do			T.	5.10	4.60	1.10							T.	.15							.48											11.43
Dakota	do		.24	.03	.02	T.	.01													T.	.02	.22	T.					.05	T.				0.59
Decatur‖	Illinois			.05	.98	.44	.33															.38						.02	T.				2.20
Dixon‖	Mississippi				.14	.03	.03															.28	.06						T.				0.54
Du Quoin	do																																
Dwight	Illinois			.10	.63	.03	.25														T.	.31					T.	T.	.12				1.44
East St. Louis‖	Mississippi				.62	.03	2.33														.04	.19	.02					.01					3.24
Edwardsville	do			.20	.42	3.05	.50														T.	.25											4.42
Elgin	Illinois			.58	.12	.16																.34						.01					1.21
Galva‖	do				.70	.03	T.															.33	.09					.02	T.				1.17
Grafton‖	Mississippi				.76	.86	1.94															.63	.04					.06					4.29
Greenville	do			.62	.70	3.02	.32															.39						T.	T.				5.05
Griggsville	Illinois			1.01	.20		.29													.15									T.				1.65
Halfway	Mississippi																																
Havana	Illinois			.50	.25		.44														.05	.27											1.51
Henry	do			.85	.10		.25														T.	.28							T.				1.48
Hillsboro‖	Mississippi				.55	1.15	.45															.35	2.50					T.	T.				5.00
Joliet	Illinois			.99	.17	T.														T.	T.	.52						T.	T.				1.68
Kishwaukee	Mississippi		.07	.11	.20	.02	.07													.02	T.	.33						T.	.02				0.84
La Grange	Illinois			T.	.81		.22														.06	.35						T.					1.44
La Harpe	do			.21	.04															T.	.14	.36							T.				0.75
Lanark	Mississippi		T.	.13	.02	T.														.02	.10	.34						.05	T.				0.66
La Salle	Illinois			.51	.05	T.	.18													T.	.11	.15					T.	.02	.10				1.03
Lincoln	do			.10	.70	.06	.25														T.	.29						T.	T.				1.40
Loami	do			.20	.37	.25	.75														T.	.37						T.	T.				1.94
Martinton‖	do			1.15		1.05															.37	.27					.03	T.					2.87
Mascoutah	Mississippi			.81		2.87	.45															.35						.06	T.				4.54

TABLE 2.—*Daily precipitation for October, 1910. 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.																																		
Minonk	Illinois			.55	.12	T.															T.	.26						T.	T.				0.33
Monmouth	Mississippi			.29	.05		.04													.07	.30	.11											0.86
Morrison	do			.07	.10		.05													.03	.03	.32						.04	T.				0.64
Morrisonville	Illinois				1.14	.64	.32															.29	T.					.05	T.				2.44
Mt. Vernon‖	Mississippi				4.18	.45	1.64	.02														.19	.15					.02					6.65
Oregon	do			.05	.27															T.		.40						T.	T.				0.72
Ottawa	Illinois			.59	.09															.52								.05	T.				1.25
Pana	Mississippi				.57	.78	.37															.35						.04	T.				2.11
Peoria	Illinois			.94	.02	.08	.17														.28	.20							T.				1.69
Pontiac	do				.69	.36	.39														T.	.25	T.						T.				1.69
Riley	Mississippi		.07	.62	.21		.07														.01	.51						.02					1.51
Rockford‖	do		.17		.26	.07	.14														.03	.24	.06					.04	.0	T.			1.03
Rushville	Illinois			.92		.14															T.	.13						T.	T.				1.19
St. Charles	do		T.	.45	.20	T.	.15														T.	.37						.02	T.				1.19
St. Peter	Mississippi			T.	1.55	1.75	.35															.38						.08	T.				4.11
Sparta	do			.76	2.18	1.15	.51						.01		.01																		4.62
Springfield	Illinois			.85	.02	.44	.15														.10	.13					.05		T.				1.74
Streator‖	do				.75		.38															.10	.20							T.			1.43
Sullivan	Mississippi			T.	.67	.68	.27															.40						.07	T.				2.09
Sycamore‖	do				1.53	.10	.05									T.					T.	.22	.14					T.		T.			2.04
Tiskilwa	Illinois																																
Walnut	Mississippi			.43	.10															T.	.08	.25						.02	.03				0.91
Warsaw‖	do			.55		.05														.05		.30							T.				0.95
White Hall	Illinois			.37	.12	.39	.41														.45	.13						.02	T.				1.89
Windsor	Mississippi			T.	1.05	.85	.35															.30						.05	.01				2.61
Winnebago	do		.06	.05	.19															.03	T.	.45						T.	T.				0.78
Yorkville	Illinois		T.	.60	.12	.05	.25														T.	.30						T.	T				1.32
Zion	Mississippi		T.	.28																	.10	.30						.10	T.				0.78

TABLE 3.—*Maximum and minimum temperatures at selected stations, October, 1910. 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...	74	29	72	40	.....	.....	78	34	.....	.....	72	45	70	34	78	42	74	40	73	36	73	48	86	49	74	49	72	43
2...	73	36	74	49	.....	.....	75	35	.....	.....	78	49	76	50	80	58	89	55	82	56	89	44	84	50	77	50	76	49
3...	68	28	65	38	.....	.....	71	35	.....	.....	77	52	65	52	71	50	82	50	68	48	66	54	69	43	74	50	66	52
4...	58	30	61	43	.....	.....	63	50	.....	.....	71	47	72	50	70	37	79	48	79	48	76	41	66	40	72	44	73	44
5...	54	35	53	36	.....	.....	62	35	.....	.....	69	43	55	41	62	45	68	44	60	35	59	48	69	39	58	44	68	41
6...	68	30	69	38	.....	.....	.....	34	.....	.....	68	39	66	29	67	32	78	34	73	32	72	33	64	26	67	36	65	27
7...	75	31	77	48	.....	.....	77	43	.....	.....	78	48	78	50	72	45	83	48	84	42	79	34	69	34	77	47	68	44
8...	69	25	66	38	.....	.....	74	35	.....	.....	70	55	73	47	75	40	74	50	70	44	82	48	68	46	71	53	67	48
9...	85	32	82	47	.....	.....	89	37	.....	.....	68	45	76	41	74	48	78	40	80	40	81	45	58	34	69	44	69	36
10...	80	42	82	44	.....	.....	81	44	.....	.....	77	53	77	43	73	44	85	48	85	46	85	43	60	38	81	47	76	50
11...	64	40	60	38	.....	.....	63	36	.....	.....	80	50	64	42	87	46	87	46	78	42	87	42	82	52	83	50	75	40
12...	56	40	62	38	.....	.....	64	37	.....	.....	76	41	61	40	69	44	74	44	65	45	74	48	73	48	64	46	58	40
13...	49	38	50	40	.....	.....	51	37	.....	.....	70	46	53	43	79	43	77	49	60	47	82	48	68	43	81	49	57	38
14...	75	29	75	36	.....	.....	79	31	.....	.....	65	52	63	45	68	45	70	48	68	44	81	46	68	48	65	50	58	45
15...	78	32	76	48	.....	.....	82	41	.....	.....	79	52	74	44	84	44	89	55	82	46	90	43	78	50	82	48	76	47
16...	83	39	82	45	.....	.....	85	41	.....	.....	78	52	76	47	89	55	86	41	83	39	85	49	76	39	82	51	77	38
17...	70	41	72	45	.....	.....	74	45	.....	.....	84	61	80	53	82	56	86	58	90	56	84	51	87	52	83	58	82	52
18...	44	40	52	37	.....	.....	43	41	.....	.....	75	49	50	49	81	41	67	57	71	39	80	58	75	39	81	59	75	58
19...	43	31	37	26	.....	.....	45	32	.....	.....	65	37	40	35	47	38	45	36	40	31	58	42	78	37	60	37	58	35
20...	50	13	46	22	.....	.....	59	19	.....	.....	41	32	40	22	40	35	43	35	42	22	42	36	46	30	44	36	46	29
21...	55	15	55	28	.....	.....	60	29	.....	.....	44	32	48	24	41	34	45	32	54	24	47	35	44	32	41	35	46	28
22...	60	20	56	26	.....	.....	71	27	.....	.....	52	33	48	30	54	27	60	30	56	28	56	31	54	32	54	33	50	36
23...	58	24	56	34	.....	.....	62	27	.....	.....	70	38	55	30	70	31	77	34	62	32	70	37	62	27	66	33	51	34
24...	58	31	51	35	.....	.....	60	35	.....	.....	55	39	51	30	55	34	58	32	46	32	64	34	53	34	55	39	50	33
25...	42	19	44	30	.....	.....	50	27	.....	.....	55	37	45	27	59	30	60	28	44	27	59	31	53	34	55	39	49	35
26...	45	25	46	30	.....	.....	45	32	.....	.....	50	39	48	32	60	39	50	40	50	34	50	41	51	38	50	39	44	29
27...	34	22	32	26	.....	.....	33	26	.....	.....	46	31	36	31	44	27	40	32	38	28	41	31	40	30	39	32	14	25
28...	32	9	36	17	.....	.....	40	16	.....	.....	35	27	35	25	45	24	39	26	38	21	30	28	43	31	34	30	34	25
29...	70	10	66	28	.....	.....	74	16	.....	.....	45	23	52	24	46	14	54	20	52	33	51	18	40	18	45	23	40	22
30...	44	22	46	29	.....	.....	45	26	.....	.....	55	39	46	34	55	28	58	35	52	36	56	21	46	23	61	35	47	36
31...	41	19	42	26	.....	.....	45	26	.....	.....	52	39	45	27	68	28	38	33	48	29	58	27	48	34	58	35	45	27
Mns	59.8	28.3	59.5	35.6	.....	.....	63.0	32.9	.....	.....	64.5	42.8	58.6	37.8	66.6	38.9	67.2	40.9	63.6	37.2	68.1	39.8	63.3	37.7	64.6	42.6	59.8	38.3

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...	72	43	75	48	70	48	66	55	72	42	69	43	77	50	74	43	72	53	71	44	73	54	74	56	70	50	77	58
2...	73	40	71	47	75	46	71	48	69	40	66	47	72	51	85	54	83	54	81	51	82	54	86	57	78	48	86	57
3...	80	60	74	56	69	49	75	58	72	60	64	45	70	52	75	52	71	56	70	48	75	62	73	53	74	57	76	65
4...	70	58	69	41	68	49	68	55	70	45	68	39	64	43	71	41	71	52	70	43	75	58	72	44	70	54	78	62
5...	68	55	63	49	64	46	62	53	66	53	60	34	64	53	71	45	68	52	62	41	69	53	64	50	67	54	72	63
6...	61	41	66	31	64	35	58	45	59	30	61	28	59	32	67	30	63	41	64	32	63	45	65	38	61	43	64	46
7...	67	34	74	42	72	44	63	43	69	40	76	42	68	38	73	42	70	41	71	44	69	45	72	46	67	42	68	40
8...	71	43	71	55	70	47	38	47	65	50	68	53	70	52	72	46	72	43	71	44	74	47	74	47	71	49	74	41
9...	62	37	69	38	65	40	60	44	62	42	65	32	70	50	70	37	65	42	69	37	65	47	70	45	64	43	70	48
10...	69	34	72	42	70	40	67	42	65	49	74	46	69	39	78	45	69	43	72	43	71	42	74	44	68	44	71	45
11...	75	42	82	45	84	48	75	49	80	50	76	47	77	45	87	47	79	44	85	45	79	50	85	47	78	47	78	52
12...	63	45	65	43	57	48	61	46	65	45	58	40	75	55	81	46	70	48	66	44	71	51	82	51	67	49	80	52
13...	71	47	76	41	71	45	69	45	61	41	73	43	68	40	80	51	75	47	78	45	78	50	80	53	72	48	80	51
14...	79	54	69	46	70	49	73	52	65	54	63	43	68	46	69	46	75	50	71	48	80	58	77	56	76	55	85	59
15...	76	46	83	43	84	46	76	50	80	40	77	47	77	43	84	45	83	49	82	44	81	50	83	53	81	50	85	58
16...	85	55	79	45	85	56	80	56	78	54	78	38	77	42	84	52	87	49	83	55	88	60	86	60	82	62	85	62
17...	84	48	86	47	84	53	81	53	83	47	82	53	82	46	81	52	83	55	82	52	83	60	81	56	82	56	84	60
18...	82	52	82	56	83	56	81	57	84	57	80	59	80	55	79	55	82	55	80	56	82	58	81	59	82	62	83	57
19...	79	53	71	43	59	42	69	45	70	47	61	35	78	56	59	39	64	59	60	29	68	45	60	42	68	45	73	47
20...	53	42	45	39	43	39	45	40	48	39	45	34	53	34	39	33	45	41	41	37	46	43	42	38	45	41	47	42
21...	52	41	46	39	44	39	49	41	42	38	39	32	50	36	41	32	43	40	40	34	45	41	43	35	44	41	44	40
22...	57	34	54	30	53	32	52	34	52	33	51	36	50	32	55	30	56	34	53	31	59	35	61	32	55	34	61	33
23...	62	28	65	27	66	32	60	37	62	29	61	29	58	28	68	35	70	33	73	32	70	37	74	35	65	33	73	35
24...	62	36	57	36	58	42	60	49	57	45	53	33	59	38	55	36	60	25	55	37	64	50	62	44	62	49	69	50
25...	58	38	58	43	57	42	52	44	55	35	55	35	55	39	59	34	57	39	58	34	58	39	61	42	55	42	62	38
26...	68	41	54	42	61	43	60	40	52	42	48	35	53	34	59	27	68	39	62	38	77	44	64	43	65	44	82	45
27...	46	32	45	32	44	33	42	32	47	33	39	28	43	31	44	30	44	27	46	30	45	32	43	33	45	34	61	38
28...	36	27	36	29	36	32	35	30	51	29	32	26	41	26	36	25	38	30	35	24	39	29	38	26	37	28	40	28
29...	40	17	42	21	42	24	38	26	40	22	37	17	38	20	48	15	44	22	45	13	43	24	50	20	41	24	49	22
30...	60	29	61	30	64	34	60	31	60	32	55	33	52	29	63	31	63	20	65	28	65	37	68	43	63	35	66	36
31...	65	27	60	27	64	28	63	39	62	25	54	30	59	29	65	30	62	32	66	27	66	36	68	36	63	32	68	46
Mns	66.0	41.3	65.2	40.5	64.4	42.5	62.6	44.7	63.0	41.5	60.9	38.2	63.8	40.8	66.5	39.9	36.2	43.1	65.4	33.5	67.9	46.3	68.1	44.6	65.1	45.0	70.7	47.6

TABLE 3.—*Maximum and minimum temperatures at selected stations, October, 1910. District No. 5*—Continued.

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois. Cairo.		Greenville.		La Salle.		Monmouth.		Mt. 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	77	63	70	58	91	61	84	61	74	51	77	54	90	58	76	51	78	58	73	51
2	86	59	72	41	89	66	84	64	78	51	87	50	88	57	82	55	82	56	76	42
3	76	64	82	45	84	69	82	64	83	65	77	62	88	63	83	63	81	63	80	63
4	79	63	74	62	72	63	75	62	75	64	78	62	77	62	77	62	76	63	73	59
5	73	53	70	50	73	64	70	65	72	55	70	61	74	62	73	54	71	55	69	58
6	63	43	68	50	65	54	66	50	61	43	65	42	61	52	62	39	62	48	62	44
7	67	38	61	34	64	48	65	42	66	37	70	38	64	41	67	36	64	43	69	36
8	73	39	67	34	70	49	70	42	71	42	76	39	69	42	71	38	70	42	72	40
9	70	46	61	45	75	53	73	48	63	45	68	43	73	43	66	46	68	49	63	39
10	69	46	64	35	70	51	70	45	68	39	74	39	72	46	70	38	68	43	71	34
11	77	45	73	40	73	52	74	49	75	44	80	45	77	44	76	43	74	48	78	42
12	78	47	70	45	78	54	78	52	71	49	84	48	80	44	77	46	77	51	64	51
13	81	50	72	42	70	57	78	53	76	54	81	48	80	47	78	50	77	51	74	46
14	84	56	78	49	73	63	74	59	83	53	87	57	78	52	84	54	81	58	80	48
15	84	57	70	53	80	62	80	60	78	52	85	52	87	55	81	52	81	60	78	42
16	84	60	80	55	83	60	82	59	86	58	88	59	83	54	85	56	82	61	86	58
17	82	57	81	53	84	60	80	60	84	60	86	56	87	54	84	59	81	60	85	55
18	84	54	79	51	83	60	82	60	84	58	85	52	87	55	84	56	81	57	83	53
19	70	45	81	54	84	58	81	54	78	48	72	48	87	54	77	48	80	49	78	52
20	46	42	64	51	58	50	56	47	51	46	49	42	65	48	50	45	50	46	52	42
21	44	37	56	45	50	43	47	44	50	43	46	41	53	45	46	42	46	43	48	41
22	61	33	53	40	63	41	58	36	56	37	53	31	63	34	58	34	58	35	53	33
23	72	35	60	37	68	43	66	40	65	34	77	32	70	34	67	31	67	39	64	30
24	70	48	65	39	74	47	68	40	65	50	69	47	76	41	68	46	68	48	63	44
25	64	44	56	43	69	52	65	44	59	43	82	38	70	42	60	39	61	43	58	40
26	83	43	66	39	80	49	78	42	76	42	86	38	77	42	79	41	80	42	73	40
27	49	36	62	37	64	40	65	40	45	34	60	35	66	44	47	32	53	34	53	33
28	39	28	40	31	42	33	42	31	39	28	32	20	40	31	41	27	40	30	39	27
29	46	22	38	31	47	28	46	28	42	22	45	21	50	26	43	21	42	29	41	18
30	69	40	58	28	59	36	61	33	63	32	66	32	63	26	64	33	65	34	61	30
31	68	44	60	30	65	40	65	37	65	34	69	37	76	38	67	33	66	41	64	30
Means	69.9	46.4	66.2	43.5	71.0	51.9	69.8	48.7	67.8	45.7	72.0	44.5	73.3	46.3	69.1	44.2	68.7	47.7	67.2	42.6