CLIMATOLOGICAL DATA FOR NOVEMBER, 1911.

DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

GENERAL SUMMARY.

The month takes rank as one of the notably cold Novembers of recent years. Not since 1896 has the temperature averaged so low, and, with that exception, the month was the coldest of its name since 1880. There was much cold, windy, and generally disagreeable weather, and many days were of a decidedly wintry character, the conditions partaking largely of the nature of a winter month. The temperature variations were often sudden and of a marked character, and the extremes, both high and low, in the southern part of the district were almost if not quite of a record-breaking nature. The month was somewhat wetter than usual and a high percentage of the precipitation was in the form of snow. As a result of the adverse conditions prevailing generally, much inconvenience and great monetary loss was sustained in many parts of the district. In the North Dakota area the month was especially severe. Delay was experienced in railway traffic, much grain was left uncut and unthrashed, and stock suffered considerably; in southern Wisconsin and northern Illinois severe local storms wrought great damage on the 11th, and in the latter State and in the Indiana area the work of harvesting the corn crop progressed but slowly, and at the close of the month much of it remained in the fields. The wet weather in those States caused a great quantity of corn to mold and rot.

The most important event of the month was the severe cold wave of the 11th and 12th. It goes on record as one of the most notable cold waves that ever visited the district. The area most affected included the southern quarter, but severe conditions prevailed elsewhere, only to a lesser degree. In southern Wisconsin, eastern Iowa, and northern Illinois the cold wave was ushered in by a series of violent local storms, some of which were of a tornadic character. In Rock County, Wis., 8 persons were killed, a dozen or more injured, and property damaged to an estimated extent of $1,000,000; in Cass County, Ill., the financial loss is placed at about $125,000, but no lives were lost, and in several other counties in that State the loss was considerable. A detailed report on some of those storms appears elsewhere.

TEMPERATURE.

The month was cold throughout the district, and in most parts of it decidedly so. At only a few stations did the deficiency in the mean temperature amount to less than 3°, while over a very considerable part of the district it exceeded 6°, reaching more than 10° over a part of the North Dakota area and in northern Minnesota. The average temperature for the district, 27°, is about 6.6° less than the normal, and about 3° less than the average last year. As usual, the warmest part of the district was southern Illinois, where at a few stations the mean temperature was above 40°, Cobden, with a mean of 43.2°, being the warmest station. Northward from southern Illinois the mean temperature decreased at a uniform and rather rapid rate to the International Boundary, where the average temperature for the month was close to 10°, Hannah, N. Dak., the coldest reporting station, having a mean of 10.9°.

There was a remarkable difference in the highest temperatures experienced during the month in the southern and northern parts of the district. The 11th, with a maximum temperature well above 70° over a large part of the former section, was one of the warmest, if not the warmest, November day on record for that part of the district. At some of the warmest stations the highest temperature exceeded 80°, Hannibal, Mo., reporting the extreme reading observed during the month, 82°. From the latitude of northern Iowa northward the temperature did not, as a rule, rise above 50° at any time during the month, and over a considerable area in northern Minnesota the highest temperatures barely exceeded 40°. A fact worthy of note in this connection was the remarkable contrast in temperature conditions on the 11th. With a summer warmth prevailing in the southern part of the district, accompanied by temperatures of record-breaking character, this day in parts of the North Dakota area was extremely cold, the highest temperatures scarcely exceeding zero.

Over practically all the North Dakota area the 4th was the mildest day of the month; in Minnesota the highest temperatures in most instances were experienced between the 4th and 10th; in Iowa they occurred generally on the 10th, 11th, 25th, 26th, or 30th, while over the remainder of the district they were recorded almost universally on the 11th. Five cold waves swept over the district during the month. Only two, however, were of widespread character and of sufficient strength to affect the entire district, the remaining three being confined, in their greatest intensity, to the region north of the latitude of St. Paul. The cold wave of the 11th–12th was much the severest of those experienced during the month. In many respects it was one of the most remarkable cold waves in the history of the Weather Bureau. For magnitude and rapidity the fall in temperature has seldom, if ever, been equaled in the last 40 years, over the area most affected. The morning of the 11th in southeastern Iowa, the Missouri area, southern Wisconsin and Illinois was like April or May, with all the accompaniments of showery conditions at that time of the year. By midday the temperature was in the seventies over most of the area named, and the weather seemed hot and sultry. The wave of falling temperature entered northwestern Illinois about 12 noon, and 10 hours later had completed its southward sweep to the Ohio River, causing drops in temperature of from 60° to 68° in about 18 hours, which is one of the most phenomenal falls on record in this district.

The cold wave of the 14th–15th affected only the northern part of the district with marked severity, but it caused some very low temperatures in North Dakota and

Minnesota, a few stations experiencing readings lower than 30° below zero. Angus, Minn., reported a temperature of 36° below zero on the 15th, which is within 3° of the lowest temperature on record for Minnesota for November. It is probable that this is the lowest temperature ever recorded in the district so early in the season.

Like its predecessor, the next cold wave that visited the district, that of the 22d–23d, affected only the region north of St. Paul, Minn. Some stations in that territory experienced the coldest weather of the month at that time.

The cold wave of the 27th–28th overspread the entire district and relatively was most severe in the more southerly parts of the district. In the Missouri area the minimum temperatures observed on the morning of the 29th were within a degree or two of the lowest on record for November. There was a return to more seasonable conditions on the last day of the month, and the weather at that time was exceptionally pleasant in all parts of the district. At a few stations it was the mildest day of the month.

PRECIPITATION.

More than the usual amount of precipitation occurred over the district, considered as a whole, but the excess was not marked save in southern Wisconsin, northern Illinois, and extreme eastern Iowa, where the month was one of the wettest Novembers of record. At Dubuque, Iowa, the precipitation was the greatest of any November in the last 20 years. The average amount for the district was 2.02 inches, which exceeds the normal by about 0.40 inch. The heaviest fall reported was 5.47 inches, at Dixon, Ill., and the least was 0.10, at Pratt, N. Dak. In general, less than 1 inch occurred along and near the western boundary of the district as far south as Iowa, but thence eastward and southward there was a progressive increase. Over a considerable area in northern Illinois, where the amounts were greatest, more than 5 inches was reported. Much, if not all, the precipitation over the northern half of the district was in the form of snow, of which the average fall in that section was about 10 inches. At a few stations in northern Wisconsin, where the snowfall was heaviest, more than 2 feet were measured, and Vudesare in that region reported 37.6 inches. Only a trace of snow fell at two or three stations in Iowa, where the fall was lightest.

The distribution of precipitation was quite favorable in point of time. The 2d, 25th, and 30th were perhaps the only days without an appreciable amount in some part of the district. The most important wet periods covered the 5th–6th, 8th–11th, 17th–19th, 22d–23d, and 26th–28th. Snow flurries occurred generally over the northern States of the district on the 1st, as the result of the approach of a cold high pressure area from the Northwest. This high was of exceptional magnitude and was accompanied, at Des Moines, Iowa, on the 2d by the highest barometric reading ever recorded at that station in November. Mostly fair weather was the rule from the 2d until the afternoon of the 5th, when a well-defined storm began to affect the weather of the district, causing general precipitation during the next 24 hours. The fall for the entire storm was heaviest at Cairo, Ill., and the amounts diminished regularly toward the north. Another period of unsettled and stormy weather set in on the 8th and proved the most important of the month, culminating in severe local storms and a cold wave of marked severity, mention of which is made elsewhere. Excessive precipitation, the only occurrence of the kind during the month, was reported from stations in Illinois on the 11th. A brief period of fair weather on the 12th and 13th was terminated on the 14th as the result of the approach of a disturbance from the North Pacific. The principal effect of this storm, however, was to cause snows north of the latitude of St. Paul. By the morning of the 17th, another storm center had advanced from Colorado to eastern Iowa, having been attended during the preceding 24 hours by light to copious precipitation over practically the entire district. This was one of the chief disturbances of the month. The 17th, under the influence of southerly winds, was one of the mildest days of the month in the eastern and southern parts of the district. Quickly following the last-named depression was another of minor intensity, which traversed about the same path as its predecessor. Quite general snows occurred on the 18th and 19th as a result of its presence. The next disturbance of importance manifested itself by the morning of the 22d, when it existed in trough-like form, stretching from Manitoba to Texas. Its eastward passage was marked by the occurrence of general precipitation in the southern States of the district, but only small and scattered amounts were reported in the north. The last storm of the month was of a slow-moving character. On the 26th, it was present over South Dakota, causing snow on that date over the North Dakota area and in Minnesota, but the remainder of the district did not come under its influence until a day or two later, so far as precipitation is concerned. Not until it had moved well to the eastward did any amounts of importance occur, when they were in the form of snow. This was the principal snow storm of the month over some of the southern sections. There was a return to fair weather on the 30th, and that day, Thanksgiving Day, was one of the most pleasant of the month in all sections.

RIVERS.

The Mississippi River fell steadily throughout the month, the stage at Dubuque decreasing from 11.8 feet on the 1st to 3.5 feet on the 30th. At Keokuk the stage permitted resumption of work on the power dam, which had been retarded by the high water. The river closed at Fort Ripley on the 12th, which is three weeks earlier than in 1910. At Prairie du Chien, Wis., and Le Claire and Davenport, Iowa, the river froze on the 25th, but the ice bridge opposite Davenport was broken during the high temperature of the 26th. At Dubuque the river remained open throughout the month, but heavy ice was running from that point to below Prairie du Chien during the last half. The Wisconsin River was open at Muscoda and Portage at the close of the month. The Illinois River was above flood stage during a part of the month. No damage resulted at Peoria, but at La Salle there was a considerable loss. About 15 per cent of the corn crop in the valley was destroyed. The Fox River at Ottawa, Ill., was frozen over on the 30th.

MISCELLANEOUS.

Northwesterly winds prevailed over the greater part of the district, and the wind movement was greater than usual for November. The highest velocity reported was 54 miles an hour at Hannibal, Mo., on the 11th in connection with the severe storm of that date.

There does not appear to have been a decided excess or deficiency in the sunshine anywhere in the district, but the amount for the district, as a whole, was probably somewhat less than normal. The average number of clear days was 10; partly cloudy, 7; cloudy, 13.

TABLE 1.—*Climatological data for November, 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	17.9	− 7.5	50	5	− 15	15†	50	0.75	+ 0.07	0.40	7.5	2	14	4	12	nw.	C. E. Wood.
Bottineau	Bottineau	1,638	16	12.2	−10.2	50	4	− 18	15	47	0.28	+ 0.33	0.08	10.5	6	8	8	14	nw.	A. J. Carlson.
Cando	Towner	1,488	10	15.8[d]	−11.7	56[f]	4	− 27[f]	15	44[f]	0.28	− 0.27	0.24		2					E. T. Judd.
Crosby	Divide		5	14.7		50	4	− 15	10	35	0.57		0.19	5.2	8	18	7	5	sw.	H. C. Kashau.
Devils Lake	Ramsey	1,482	6	15.4	− 7.2	50	4	− 20	15	30	0.47	− 0.24	0.17	5.9	10	8	11	11	w.	U. S. Weather Bureau.
Donnybrook	Ward	1,760	12	16.0	−13.4	53	4	− 17	15	36	0.72	− 0.02	0.30	5.6	7	16	3	11	nw.	C. J. De Vore.
Dunseith	Rolette		14																	L. H. Trowbridge.
Edmore	Ramsey	1,524	6	15.1		53	4	− 33	15	55	0.20		0.20	2.0	1	17	5	8	n.	H. R. Aslakson.
Fessenden	Wells	1,610		12.9[d]		47[e]	6†	− 12[d]	13†	39[e]	0.37		0.20	2.5	4	14	7	9	nw.	G. T. Seymour.
Forman	Sargent	1,249	17	19.2	− 7.0	57	4	− 24	23	49	1.22	+ 0.70	0.62	13.2	4	12	4	14	nw.	A. Maltby.
Grafton	Walsh	827	20	15.6	− 6.0	47	4	− 31	15	40	0.57	− 0.22	0.11	6.8	8	11	5	14	s.	A. R. T. Wylie.
Granville	McHenry	1,504	5	18.2		52	4	− 14	15	37	0.36		0.20	5.0	4					W. A. Christianson.
Hannah	Cavalier	1,568	6	10.8		50	4	− 33	15	38	0.80		0.40	8.0	3				nw.	J. Moffatt.
Hansboro	Towner		3	13.8		50	4	− 20	15	34	0.40		0.14	5.3	5	17	3	10	nw.	Geo. Dale.
Hillsboro	Traill	901	6	18.4		47	4†	− 15	15	36	1.32		0.50	12.5	11	10	11	9	nw.	F. E. Mayall.
Lakota	Nelson	1,579	5	12.7		50	4	− 26	15	39	0.52		0.12	11.5	9	14	9	4	nw.	C. R. Pettes.
Langdon	Cavalier	1,615	16																	J. Woolner.
Larimore	Grand Forks	1,134	16																	J. M. Freeman.
Lisbon	Ransom	1,091	7	18.0	−13.2	50	7	− 9	12	42	1.00	+ 0.31	0.30	10.0	4	15	3	12	nw.	H. K. Adams.
McKinney	Renville	1,640	17	15.8[d]	− 7.1	41[e]	8	− 18	16	39[e]	0.45	− 0.19	0.20	4.5	3	8	14	8	nw.	N. P. Swenson.
Manfred	Wells	1,605	10	15.1		51	4	− 21	23	51	0.77		0.20	6.6	9	8	12	10	nw.	P. B. Anderson.
Mayville	Traill	975	15	18.8	− 7.9	49	4	− 16	15	32	1.03	+ 0.30	0.60		5	17	3	10	nw.	W. C. Gould.
Minot	Ward	1,557	13	19.7	−11.7	53	4	− 11	24	52	0.46	− 0.27	0.15	4.0	8	18	3	9	w.	J. J. Bates.
Minto	Walsh	820	18	15.2[d]	− 8.9	46[f]	4	− 24	15	33[f]	0.64	+ 0.03	0.27	4.5	5	17	2	11	nw.	S. S. Marsh.
Oriska	Barnes	1,270	6																	J. J. Taylor.
Park River	Walsh	998	8																	A. Heyward.
Pembina	Pembina	789	13																	C. W. Shumaker.
Power	Richland	1,020	19	17.4	− 8.5	53	4	− 14	15	41	0.72	+ 0.14	0.60	7.5	6	9	6	15	nw.	J. A. Power.
Pratt	McHenry		6	15.7		48	4	− 22	15	40	0.10		0.10		1	24	0	6	nw.	W. B. Ahern.
Towner	do		3																	B. Bagley.
University	Grand Forks	830	19	16.5	− 9.1	46	4	− 24	15	39	1.10	+ 0.34	0.40	9.5	6	13	7	10	nw.	U. S. Weather Bureau.
Wahpeton	Richland	962	19	14.6	−13.6	40	7	− 10	15	35	0.48	− 0.05	0.45	4.5	4	7	9	14	nw.	E. G. Burch.
Walhalla	Pembina	966	7	16.6		49	4	− 21	15	34	0.90		0.30	9.0	4	16	6	8	w.	Ivan DeL. Lee.
Westhope	Bottineau		5	15.0		51	4	− 19	15	40	0.25			2.5		0	27	3	nw.	W. A. Meddaugh.
Willow City	do	1,471	18	13.8[d]	− 6.9	54	4	− 25[g]	15	42[g]	0.52	+ 0.06	0.20	4.5	5	9	17	4	nw.	M. A. Ostby.
Minnesota.																				
Albert Lea	Freeborn	1,229	20	24.6	− 7.0	44	8	0	12	35	0.48	− 1.07	0.42	1.0	4	5	14	11	nw.	Edward Carey.
Alexandria	Douglas	1,391	17	18.4	− 9.7	45	5†	− 6	12	35	0.96	+ 0.23	0.40	10.5	9	8	5	17	nw.	P. O. Unumb.
Angus	Polk	870	9	14.4		45	4†	− 36	15	42	1.17		0.40	11.0	7	17	4	9	n.	John Nadvornik.
Bagley	Clearwater		5	18.0[c]		52[c]	9	− 30[c]	15	42[c]	0.92		0.70	9.5	7	5	13	12	w.	Jens Nelson.
Baudette	Beltrami	1,084	1	17.8		45	5	− 17	15	31	0.87		0.28	5.5	13	13[a]	0[a]	16[a]	nw.	C. S. Dahlquist.
Beardsley	Bigstone	1,090	17																	R. J. Buckley.
Beaulieu	Mahnomen	1,200	9	16.4		47	6	− 30	15	41	1.30		0.60	11.0	5	11	10	9	n.	Dr. P. A. Slattery.
Bemidji	Beltrami	1,400	9								0.79		0.41		6					C. W. Warfield.
Bird Island	Renville	1,039	21	20.5	− 9.8	46	5	− 9	24	41	1.02	+ 0.16	0.54	6.6	8	6	3	21	nw.	Dr. F. L. Puffer.
Caledonia	Houston	1,179	18	24.8	− 8.2	44	5†	3	29	36	1.64	− 0.07	0.48	3.7	9	6	2	22	nw.	W. D. Belden.
Campbell	Wilkin	984	2	16.0		50	7	− 10	15†	39	1.98		0.60	17.5	12	9	0	21	nw.	J. T. Neisess.
Cass Lake	Cass	1,300	4								0.79		0.40	7.5	4					C. W. Burns.
Collegeville	Stearns	1,282	18	22.6	− 8.5	42	10	− 2	12	32	1.31	+ 0.47	0.45	18.2	9	14	4	12	nw.	Fridolin Tembreull.
Crookston	Polk	863	21	16.1	− 9.2	46	8	− 20	15	34	1.58	+ 0.89	0.30	14.5	10	15	2	13	s.	A. G. Andersen.
Detroit	Becker	1,364	15	14.8	−11.6	47	4	− 22	15	38	1.22	+ 0.50	0.40	11.5	5	13	1	16	nw.	G. W. Peoples.
Ely	St. Louis																			Rev. E. F. Stidd.
Fairmont (near)	Martin	1 240	24	24.5	− 6.7	48	30	− 1	12	33	1.02	− 0.30	0.50	6.5	7	11	9	10	nw.	W. F. Wherland.
Faribault	Rice	1,003	14																	Dr. A. B. Moulton.
Farmington	Dakota	902	23	22.6	− 8.2	44	10	− 8	24	35	1.12	− 0.19	0.18	7.9	10	6	4	20	nw.	E. D. Akin.
Fergus Falls	Otter Tail	1,210	19	19.4	− 8.6	45	8	− 8	15	36	1.56	+ 0.77	0.50	13.4	16	8	11	11	nw.	C. E. Kissinger.
Fort Ripley	Crow Wing	1,136	4	17.6		42	8	− 15	24	40	1.17	+ 0.47	0.35	10.0	9	12	0	18	nw.	J. J. Tucker.
Fosston	Polk	1,289	2	16.0		50	5	− 26	15	38	1.01		0.30		7	19	6	5	nw.	O. N. Hem.
Glencoe	McLeod	1,000	15	24.0	− 8.0	44	4	− 4	12	39	0.70	− 0.34	0.60	7.0	2	10	16	4	nw.	F. B. Reed.
Grand Meadow	Mower	1,338	23	24.7	− 5.9	46	10†	− 3	12	32	1.64	+ 0.28	0.73	6.0	15	6	8	16	nw.	C. F. Greening.
Gull Lake Dam	Cass	1,215		15.6		42	9	− 14	21	36	1.15		0.22	15.2	11	10	3	17	s.	G. A. Williams.
Hallock	Kittson	815	12	15.3	−10.6	45	5	− 32	15	36	0.90	+ 0.26	0.25	4.0	6	20	0	10	n.	D. A. Robertson.
Halstad	Norman	870	5	14.6		47	4†	− 17	15	45	0.70		0.36	2.5	4	19	0	11	nw.	A. G. Holstrom.
Hinckley	Pine	1,050	6	20.9		43	8	− 10	19	34	1.50		1.00	15.0	4	1	6	23	n.	W. R. Newman.
International Falls	Koochiching	1,112	3	18.2		45	5†	− 15	15	40	2.05		1.20	15.5	5	11	6	13	w.	Rees Roe.
Itasca State Park	Clearwater	1,500		19.6		47	30	− 25	15	45	0.94		0.50	7.0	5	9	9	12	nw.	J. A. Stillwell.
Lake Crystal	Blue Earth		4	24.7		46	8†	1	12†	36	0.37		0.27	1.0	2	12	3	15	nw.	W. P. Cobb.
Leech Lake Dam	Cass	1,301	23	17.6	− 8.1	43	25	− 17	16	35	1.19	+ 0.13	0.37	11.9	9	5	7	18	sw.	Hans. Olson.
Littlefork	Koochiching			17.4		43	5	− 21	16	40	1.07		0.45	5.0	5	10	7	13		O. C. Olson.
Long Prairie	Todd	1,299	19	18.8	− 8.9	50	2	− 10	15†	40	0.60	− 0.34	0.40	6.0	2	11	3	16	nw.	A. L. Sheets.
Lynd	Lyon	1,175	19	22.6	− 8.6	50	5	− 4	12	38	0.42	− 0.53	0.17	5.0	6	11	10	9	nw.	J. W. Rouse.
Mankato	Blue Earth	758	12								0.27	− 0.97	0.16	1.5	2	7	2	21	sw.	Sadie H. Blake.
Mapleplain	Hennepin	1,023	18																	G. W. Richards.
Milaca	Mille Lacs	1,072	13	18.8	−12.4	42	7†	− 10	24	42						5[b]	11[b]	12[b]	nw.	C. H. Foss.
Milan	Chippewa	955	17	18.7	−10.7	45	4†	− 9	18†	39	1.35	+ 0.42	0.80	13.5	5	3	16	11	nw.	O. K. Opjorden.
Minneapolis	Hennepin	918	20	23.0	− 9.1	44	9	0	24	35	1.25	+ 0.07	0.80	12.1	11	7	4	19	w.	U. S. Weather Bureau.
Montevideo	Chippewa	900	21	21.0	− 9.6	53	9	− 5	24	37	2.26	+ 1.42	1.08	23.5	9	13	6	11	nw.	L. G. Moyer.
Moorhead	Clay	935	30	17.2	− 7.2	48	4	− 12	15	34	1.03	+ 0.05	0.42	9.0	10	10	8	12	nw.	U. S. Weather Bureau.
Mora	Kanabec		6	20.2		43	7†	− 15	19	38	1.78		0.60	16.0	13	12	3	15	nw.	Hans Peterson.
Morris	Stevens	1,170	26	19.0	− 9.3	45	7†	− 8	18	35	1.37	+ 0.70	0.90	13.3	9	14	3	13	nw.	D. T. Wheaton.
New London	Kandiyohi	1,215	17	21.2	− 8.6	42	6†	− 10	24	40	0.85	− 0.02	0.80	16.0	2	8	12	10	sw.	Harold Swensen.
New Richland	Waseca	1,180	17	24.8	− 7.7	44	5	0	12†	38	0.38		0.28	1.0	3	7	10	13	nw.	N. O. Tyrholm.
New Ulm	Brown	791	31	23.2	− 8.6	46	7	− 1	24	39	0.83	− 0.29	0.15	5.6	11	7	0	23	nw.	A. L. Henle.
Osakis	Douglas	1,343	4	18.8		43	8	− 8	24	35	0.77		0.26	11.7	6	11	3	16	nw.	J. B. Johnson.
Park Rapids	Hubbard	1,426	21	15.9	− 9.7	43	8	−14	15†	37	0.89	− 0.12	0.15	5.7	11	9	1	20	nw.	Dr. P. A. Walling.
Pine River Dam	Crow Wing	1,251	24	17.4	− 9.6	40	7†	−16	16	35	0.46	− 0.55	0.20	7.5	5	5	14	11	e.	Neil McKay.
Pokegama Falls	Itasca	1,280	24	18.6	− 6.1	40	8	−14	19	35	0.37	− 0.47	0.17	7.1	9	5	16	9	nw.	A. L. Mampel.
Redlake	Beltrami	1,152	3	17.8		48	6	−27	15	36	1.31		0.64	14.6	4	6	11	13	w.	A. C. Goddard.
Red Wing	Goodhue	680	15								1.34	−0.36	0.54	7.6	11	9	1	20	nw.	Louis Bach.
Redwood Falls	Redwood	1,050	4	23.0		55	9	− 3	24	38	1.30	+ 0.34	0.40	11.0	9	12	6	12	nw.	N. B. Anderson.
Reeds Landing	Wabasha	681	16								1.09	− 0.33	0.52	9.5	11	8	0	22	nw.	John Deschneau
Rochester	Olmstead	991	6	23.8		46	9	− 1	25	42	1.63		0.50	16.3	5	8	4	18	nw.	S. R. Case.
Roseau	Roseau	1,040	3																	A. Waag.
St. Charles	Winona	850	20	24.7	− 6.7	46	10	− 3	24	34	1.74	+ 0.50	0.70	11.6	8	5	8	17	se.	S. W. Gleason.

TABLE 1.—*Climatological data for November, 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.		
***Minnesota*—Contd.**																				
St. Cloud	Sherburne	1,020	33	20.9	− 8.8	41	10	− 8	24	34	1.65	+ 0.59	0.45	20.3	10	6	14	10	nw.	J. H. Capser.
St. Paul	Ramsey	837	40	22.8	− 8.1	45	9	− 2	24	35	1.12	− 0.18	0.66	12.1	11	4	12	14	nw.	U. S. Weather Bureau.
St. Peter	Nicollet	825	17	24.4	− 8.8	46	25	− 6	24	41	0.20	− 0.93	0.10	2.0	2	10	4	16	n.	State Hospital.
Sandstone	Pine																			A. D. Hale.
Sandy Lake Dam	Aitkin	1,234	18	19.6	− 7.7	40	8	−12	16	35	0.63	− 0.63	0.16	5.7	7	11	5	14	nw.	A. Newstrom.
State Sanatorium	Cass		3	18.9		47	9	−12	15	41	2.21		1.40	12.9	10	10	10	10	w.	Dr. L. B. Ohlinger.
Stillwater	Washington	694	6								1.08		0.50	9.6	5	10	4	16	s.	Oscar Ostrom.
Taylors Falls	Chisago	759	4	22.4		42	7	−14	19	35	1.30		0.60	12.0	3	10	4	16	n.	Minneapolis General Electric Co.
Thief River Falls	Pennington		1					−24	15		0.70		0.21	9.0	6	8	7	15	n.	E. W. Lown.
Tracy	Lyon																			B. L. English.
Warroad	Roseau	1,069	2	16.6		47	4	−23	14	40	1.95		1.10	14.0	5	17	1	12	w.	J. H. Sawyer.
Winnebago	Faribault	1,100	12	25.0	− 9.8	47	30	0	12	43	0.48	− 0.90	0.28	T.	3	9	8	13	se.	H. H. Haight.
Winnibigoshish	Itasca	1,300	23	19.2	− 6.8	42	7	−14	16	36	1.22	+ 0.13	0.51	12.0	9	10	5	15	nw.	John Duncan.
Winona	Winona	700	15	27.2	− 6.4	47	10	2	19	31	1.17	− 0.28	0.46	7.5	11	5	12	13	nw.	P. C. Myers.
Worthington	Nobles	1,592	16	22.6	− 9.0	47	7	− 4	12†	39	0.24	− 0.96	0.09	1.5	4	11	3	16	nw.	M. P. Mann.
Zumbrota	Goodhue	917	15	23.4[c]	− 8.7	45[c]	10	− 5[c]	24	33[c]	0.67		0.40	3.0	5	7	12	11	nw.	W. C. Rowell.
South Dakota.																				
Milbank	Grant	1,148	20	18.7	−11.5	50	5†	− 6	12†	39	1.28	+ 0.52	0.90	9.0	8	11	2	17	nw.	I. T. Patridge.
Wisconsin.																				
Antigo	Langlade	1,489	17	24.8	− 6.6	60	11	− 2	16	33	2.34		1.40	17.4	10	8	7	15	w.	Elton C. Larzelere.
Barron	Barron	1,115	20	22.4	− 7.1	44	8	−10	16†	29	1.39	+ 0.01	0.50	13.2	8	7	15	8	sw.	Wm. A. Kent.
Beloit	Rock	750	45	32.4	− 4.5	74	11	6	29	56	4.13	+ 2.22	1.35	7.5	7	11	0	19	w.	Smith Observatory.
Big St. Germain Dam	Vilas	1,590	1	24.0		42	8†	−12	16	47	4.12		1.20	19.5	10	10	10	10	sw.	Oscar Brehmer.
Brodhead	Green	812	13	31.0	− 6.9	74	11	1	29	35	4.02	+ 2.21	1.00	4.0	6	10	8	12	nw.	Hector D. Kirkpatrick.
Burnett	Dodge	880	7	28.4		71	11	1	29	33	3.22		0.74	5.1	13	5	7	18	nw.	Geo. W. Smith.
Cottage Grove	Dane	888									3.93		0.79	7.3	13	8	12	10	sw.	John E. Mellish.
Darlington	La Fayette	867	5	30.0		72	11	0	29	40	3.25		0.80	2.0	6	7	4	19	nw.	S. P. Nelson.
Deerskin Dam	Forest	1,625	1	22.6		54	11	− 5	12	50	3.66		1.40	25.5	7	11	6	13	w.	Wm. E. O'Neal.
Delavan	Walworth	920	20	30.2	− 3.4	73	11	2	29	31	3.83	+ 1.98	1.03	8.0	9	7	10	13	sw.	Elwood S. Austin.
Dodgeville	Iowa	1,116	11	29.8	− 5.1	66	11	− 1	29	35						10[a]	4[a]	15[a]	sw.	Thomas Gibbon.
Downing	Dunn	983	9	22.2		44	10	−10	19	31	2.10		1.20	20.0	3	2	4	24	w.	Eugene F. Stoddard.
Eau Claire	Eau Claire	800	20	25.2	− 6.9	44	10	− 2	19	29	1.79	+ 0.12	0.54	13.2	12	3	11	16	nw.	Robert D. Whitford.
Grand Rapids	Wood	1,021	12	25.2	− 7.5	63	11	− 3	29	39	2.46	+ 0.78	0.73	10.2	9	10	2	18	sw.	Willis B. Raymond.
Grantsburg	Burnett	1,095	20	20.5	−10.3	44	7	−12	16†	39	2.57	+ 1.13	1.50	24.7	8	13	1	16	sw.	Theodore Olsen.
Hancock	Waushara	1,091	19	27.5	− 5.5	66	11	− 1	29	32	2.54	+ 1.14	0.75	10.0	9	3	9	18	nw.	Frederick B. Hamilton.
Hatfield	Jackson	973	17	24.2	− 8.2	48	11	− 8	19	35	1.51	− 0.10	0.55	6.0	11	3	13	14	nw.	Walter S. Woods.
Hayward	Sawyer	1,197	20	23.8[j]	− 5.4	42[j]	10	−15[j]			1.60	+ 0.06		11.0		5[j]	7[j]	8[j]		William E. Swain.
Hillsboro	Vernon	1,000	20	25.4	− 7.4	66	11	− 5	29	45	2.12	− 0.49	0.70	7.0	7	12	11	7	e.	Emil V. Wernick.
Koepenick	Langlade	1,683	20	23.8	− 7.6	60	11	−10	16†	40	4.30	+ 2.32	1.00	27.0	8	0	17	13	nw.	Edward S. Koepenick.
Lac du Flambeau	Vilas		1	23.4		44	11	− 4	13	32	2.03		1.12	16.0	6	10	0	20	n.	W. J. Lovett.
La Crosse	La Crosse	714	39	27.6	− 6.2	47	10	3	29	32	2.55	+ 1.03	0.77	4.7	11	2	7	21	nw.	U. S. Weather Bureau.
Lake Mills	Jefferson	897	20	30.0	− 4.7	73	11	4	29	32	4.71	+ 2.60	1.87	8.1	14	8	7	15	nw.	S. Newton Dexter Smith.
Lancaster	Grant	1,070	20	28.4	− 5.5	69	11	− 1	29	46	2.54	+ 0.78	1.37	3.0	5	3[f]	8[f]	13[f]	w.	Edward Pollock.
Long Lake	Oneida	1,592	3	22.6		56	11	−15	16	40	1.99		0.74	19.7	15	7	7	16	s.	Louis Frank.
Madison	Dane	974	42	29.1	− 5.1	70	11	4	29	50	3.56	+ 1.76	0.84	6.8	12	4	6	20	nw.	U. S. Weather Bureau.
Mather	Juneau	962	7	24.0		63	11	− 3	29	34	2.40		0.58	11.0	10	7	9	14	w.	Frank Evans.
Mauston	do	882	15	29.0	− 5.7	66	11	6	13	32	2.15	+ 0.51	0.75	4.0	8	9	9	12	nw.	Eugene L. Hitchcock.
Meadow Valley	do	974	20	26.0	− 6.3	63	11	− 4	29	35	2.58	+ 1.05	0.63	9.5	10	4	14	12	nw.	Charles H. Johnson.
Medford	Taylor	1,420	22	22.9	− 7.3	45	11	− 3	29†	29	2.60	+ 1.03	1.40	19.0	8	11	11	8	s.	Wm. Zelt.
Merrill	Lincoln	1,267	5	25.8		61	11	− 8	16	34	2.63		1.20	19.8	6	10	7	13	sw.	J. M. Wilson.
Minocqua	Oneida	1,604	7	22.8		45	11	−13	16	35	1.96		0.81	16.5	13	3	5	22	w.	Benjamin W. Applebee.
Mondovi	Buffalo	738	3	24.6		47	10	−12	19	35	1.13		0.40	10.0	11	11	7	12	nw.	Dr. Chas. Hebard.
Mount Horeb	Dane	1,226	7	28.8		71	11	0	29	31	3.35		0.73	4.5	11	3	5	22	nw.	W. M. Lewis.
Muscoda	Grant	666	2	28.0		70	11	1	29†	39	2.41		0.82	1.0	9	10	6	14	w.	Wm. Hessler.
Neillsville	Clark	996	21	24.2	− 7.1	44	9	− 5	12	34	1.42	− 0.32	0.80	10.0	3	9	0	21	nw.	Wm. Heaslett.
New Richmond	St. Croix	990	6	21.1		42	10	− 9	24	36	2.09		0.60	16.5	10	0	15	15	nw.	Franc A. R. Van Meter.
Osceola	Polk	806	20	22.4	− 7.3	44	7†	−13	19	34	1.46	+ 0.07	0.93	14.0	7	4	5	21	s.	Charles W. Staples.
Park Falls	Price	1,492	20	22.6		41	10	− 9	16	41	1.45		0.63	12.2	10	3[a]	6[a]	20[a]	w.	Flambeau Paper Co.
Portage	Columbia	809	22	29.6	− 6.2	68	11	4	29	31	2.71	+ 1.17	0.51	5.4	9	5	4	21	nw.	James H. Martin.
Port Edwards	Wood	969	1	25.9		65	11	0	24	35	2.51		0.62	9.3	9	22	0	8	w.	Nekoosa-Edwards Paper Co.
Prairie du Chien	Crawford	690	20	29.0	− 7.4	58	10	4	13†	39	2.27	+ 0.70	0.60	3.0	8	10	2	18	s.	James A. Gillis.
Prairie du Sac	Sauk	750	3	29.8		68	11	− 1	29	30	2.82		0.53	5.5	10	7	8	15	sw.	Wisconsin River Power Co.
Prentice	Price	1,551	13	20.9	−10.8	42	11	−12	16†	38	2.27	+ 0.52	0.41	13.7	9	5	2	23	sw.	Joseph G. Lash.
Rhinelander	Oneida	1,550	5	24.4		58	11	− 5	15	36	1.72		0.79	19.0	10	6	4	20	sw.	Rhinelander Power Co.
Shullsburg	Lafayette	1,019	5	29.2		71	11	0	29	41	3.26		0.94	3.0	7	5	10	15	w.	Harrison B. Chamberlain.
Solon Springs	Douglas	1,083	5	20.6		42	10	− 17	16	38	1.60		0.60	10.0	7	9	16	5	sw.	John M. Sayles.
Spooner	Washburn	1,104	17	21.0	− 9.3	43	10	− 7	16†	33	1.68	+ 0.15	0.81	13.5	9	13	6	11	w.	Horace A. Bresee.
Stanley	Chippewa	1,082	7	23.4		44	10	− 7	16	30	1.98		0.90	11.8	7	7	3	20	nw.	W. Humphrey Scott.
Stevens Point	Portage	1,113	18																	Garry E. Culver.
Sugar Camp Dam	Oneida	1,582	1								1.82		0.78	18.0	10	7[a]	2[a]	7[a]	w.	Robert Hayes.
Twin Lakes Dam	Vilas	1,625	1								2.45		0.72	21.8	9	13	11	6	nw.	Albert D. Hansen.
Valley Junction	Monroe	930	19	26.8	− 6.2	63	11	− 1	29	33	2.26	+ 0.62	0.59	6.9	10	7	5	18	w.	Frederick Muermann.
Viroqua	Vernon	1,412	21	27.0	− 6.0	62	11	0	29	35	3.10	+ 1.43	0.72	7.5	12	5	8	17	sw.	Henry E. Rogers.
Vudesare	Vilas	1,600	3	21.1		52	11	− 9	16	35	4.03		0.62	37.6	13	6	10	14	w.	Louis L. Thomas.
Watertown	Jefferson	824	20	29.6	− 4.4	75	11	2	29	28	4.27	+ 2.47	1.12	7.0	13	7	9	14	nw.	Charles J. Salick.
Waukesha	Waukesha	864	20	30.9	− 5.3	71	11	3	29	42	4.17	+ 2.41	2.20	4.8	8	6	14	10	sw.	Carroll College.
Wausau	Marathon	1,212	16	26.4	− 5.9	61	11	− 1	16†	39	2.57	+ 0.87	1.00	14.0	8	11	7	12	w.	George H. Halder.
Weyerhaeuser	Rusk	1,297	9	21.0		47	9	− 12	19	37	2.22		1.00	20.6	13	3	11	16	sw.	Miss Etta Stiles.
Whitehall	Trempealeau	675	20	26.2	− 7.7	48	10	− 10	19	35	1.51	+ 0.12	0.60	12.1	6	7	0	23	w.	Hans J. Haugh.
Iowa.																				
Albia	Monroe	959	13	32.1	− 6.6	72	11	1	30	44	1.62	− 0.15	0.50	2.5	6	9	8	13	sw.	J. I. Chenoweth.
Algona	Kossuth	1,213	37	26.6	− 6.2	50	6	0	12	37	0.31	− 0.97	0.12	1.5	4	11	8	11	nw.	Dr. F. T. Seeley.
Alta	Buena Vista	1,513	20	25.4	− 7.1	57	26	− 4	12	40	0.44	− 0.79	0.18	1.5	9	12	8	10	nw.	David E. Hadden.
Amana	Iowa	721	35	30.4	− 3.4	70	11	0	29	51	1.95	+ 0.22	0.78	1.5	9	10	9	11	nw.	C. Schadt.
Ames	Story	926	35	31.2	− 2.9	54	10	2	12	35	1.25	+ 0.06	0.60		4	10	13	7	nw.	Iowa State College.
Baxter	Jasper	998	11	30.3	− 7.0	53	26	2	12†	33	1.50	+ 0.17	0.48	1.5	8	13	7	10	sw.	W. R. Vandike.
Belle Plaine	Benton	828	21	29.7	− 5.2	69	11	− 3	29	50	2.08	+ 0.36	0.67	2.0	7	11	5	14	nw.	S. P. Van Dike.

TABLE 1.—*Climatological data for November, 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.
Iowa—Continued.																				
Belmond	Wright		1	27.2		50	25†	1	12†	39	0.95		0.39	1.6	9	2	17	11	nw.	Geo. P. Hardwick.
Bloomfield	Davis		4	33.4		72	11	2	29	48	2.45		0.67	0.8	10	9	2	19	nw.	Albert Power.
Bonaparte	Van Buren		20	32.8	− 5.7	75	11	2	29	56	2.61	+ 0.81	0.65	2.0	8					B. R. Vale.
Boone	Boone	1,134	6	26.2		53	26	1	12†	45	1.01		0.52	T.	4	13	5	12	nw.	Carl Fritz Henning.
Britt	Hancock	1,236	14	25.6	− 8.0	50	25	0	12	38	0.62	− 0.49	0.33	0.9	6	10	9	11	nw.	L. M. Goodman.
Buckingham	Tama		11								1.45	0.00	0.46	T.	5	10	12	8		J. S. Guynn.
Burlington	Des Moines	544	15	32.2	− 7.5	77	11	4	29†	36	3.74	+ 1.96	1.10	5.0	8	13	7	10	w.	Max E. Poppe, jr.
Carroll	Carroll	1,265	21	28.2	− 6.0	57	26	− 3	12	36	0.18	− 0.95	0.18		1	9	5	16	nw.	Mrs. Jos. J. Wolfe.
Cedar Rapids	Linn	733	29	29.4	− 6.5	72	11	3	29†	39	2.12	+ 0.72	0.81	2.3	8	15	4	11	w.	Chas. B. Graf.
Charles City	Floyd	1,015	20	26.6	− 6.4	48	10	3	12	34	1.35	− 0.04	0.72	1.6	9	3	8	19	nw.	U. S. Weather Bureau.
Clear Lake	Cerro Gordo	1,241	13	26.3	− 7.8	48	26	1	17	29			0.30		2				nw.	Oscar Stevens.
Clinton	Clinton	593	44	31.6	− 4.1	76	11	3	29	54	4.53	+ 2.69	1.57	4.5	8	8	8	14	w.	Luke Roberts.
Columbus Junction	Louisa	595	10	32.7	− 6.3	74	11	2	29	51	4.43	+ 2.92	1.75	3.5	8	16	7	7	nw.	J. B. Johnson.
Davenport	Scott	580	40	32.2	− 5.3	76	11	5	29	62	3.84	+ 2.08	1.70	2.5	11	10	6	14	w.	U. S. Weather Bureau.
Decorah	Winnishiek	875	18	27.0	− 6.5	50	11	4	12†	32	1.75	+ 0.20	0.55	1.0	5					F. H. Baker.
Delaware	Delaware	1,083	20	28.4	− 4.4	68	11	0	29	48	3.23	+ 1.66	1.82	1.1	8	8	10	12	nw.	William Ball.
Des Moines	Polk	861	33	32.3	− 4.5	55	26	4	12	38	1.22	− 0.26	0.49	1.9	8	7	7	16	nw.	U. S. Weather Bureau.
Dubuque	Dubuque	639	38	30.7	− 5.3	70	11	5	29	54	3.04	+ 1.23	1.12	2.9	11	5	8	17	nw.	Do.
Earlham	Madison		9	33.0		58	26	1	12	34	0.86		0.44	1.8	6	13	2	15	nw.	George Phillips.
Elkader	Clayton	727	32	27.2	− 6.0	47	11	− 2	29	42	2.31	+ 0.66	0.75	2.0	5	9	5	16	nw.	Chas. Reinecke.
Elma	Howard		2	26.1		45	9†	1	12	31	1.85		0.80	0.2	3	6	12	12	nw.	H. A. Moore.
Estherville	Emmet	1,298	16	24.4	− 6.9	49	26	− 1	12	35	0.90	− 0.34	0.30	5.0	9	10	14	6	nw.	A. O. Peterson.
Fairfield	Jefferson		27	32.4	− 4.5	75	11	4	29	56	3.82	+ 1.54	1.24	2.1	9	15	5	10	nw.	R. Monroe McKenzie.
Fayette	Fayette	1,003	21	27.4	− 5.4	62	11	2	29	49	1.77	+ 0.15	0.71	1.5	6	11	7	12	nw.	R. Z. Latimer.
Forest City	Winnebago	1,226	17	24.0	− 8.4	48	30	0	12	42	0.48	− 0.75	0.25	T.	5	7	7	16	nw.	J. A. Peters.
Fort Dodge	Webster	1,126	11	27.8	− 7.4	56	26	0	12	45	0.44	− 0.78	0.15	0.2	5				nw.	J. F. Monk.
Fort Madison	Lee	516	62								3.08	+ 0.94	1.40	4.0	6	8	8	14	w.	Miss L. A. McCready.
Gilman	Marshall	1,052	12																	J. L. Wylie.
Grand Meadow	Clayton	1,180	20	27.4	− 5.6	62	11	0	29	44	2.35	+ 0.79	0.66	3.0	10	6	7	17	nw.	F. L. Williams.
Grinnell	Poweshiek	1,023	19	31.6	− 4.6	64	11	0	29	48	1.91	+ 0.28	0.62	1.5	7	14	6	10	w.	D. W. Brainard.
Grundy Center	Grundy	976	20	30.3	− 3.7	52	9†	3	12†	37	1.36	+ 0.14	0.55	1.0	4	17	0	13	nw.	J. B. Calderwood.
Guthrie Center	Guthrie	1,077	16	31.6	− 5.7	58	26	− 8	12	33	0.66	+ 0.49	0.38	0.5	5	18	1	11	nw.	D. G. Beardsley.
Hampton	Franklin	1,155	21	28.0	− 5.4	58	4	− 4	12	35	1.15	− 0.41	0.46	0.8	7	7	14	9	nw.	E. C. Grenelle.
Humboldt	Humboldt	1,095	23	29.6	− 4.4	58	27	0	12	38	0.60	− 0.77	0.25	T.	4	15	2	13	nw.	Henry S. Wells.
Independence	Buchanan	921	47	29.0	− 3.6	64	11	0	29	46	1.97	+ 0.65	0.63	1.5	7	10	6	14	nw.	R. E. Dudley.
Indianola	Warren	969	20	32.8	− 5.5	56	26	4	12†	35	1.26	− 0.16	0.42	0.8	9				nw.	Prof. J. L. Tilton.
Iowa City	Johnson	683	51	29.3	− 6.4	75	11	− 1	29	41	3.01	+ 0.75	1.18	1.0	7	11	6	13	nw.	Prof. A. G. Smith.
Iowa Falls	Hardin	1,170	18	25.9	− 7.2	51	26	2	12†	42	1.01	− 0.24	0.44	1.3	7	12	5	13	nw.	J. B. Parmelee.
Jefferson	Greene		12	31.2		58	26	− 1	12	35	0.52	− 0.79	0.28	0.5	7	9	10	11	nw.	Ora M. Hall.
Keokuk	Lee	547	40	34.8	− 4.6	79	11	4	29	65	2.88	+ 1.03	1.12	2.0	10	10	11	9	nw.	U. S. Weather Bureau.
Keosauqua	Van Buren	644	19	31.6	− 7.3	78	11	3	29	59	2.43	+ 0.93	0.53	2.0	10					J. H. Landes.
Knoxville	Marion	920	16	33.2	− 4.3	64	11	3	29	48	1.84	+ 0.55	0.40	4.2	9	11	3	16	nw.	Casey & Bellville.
Lacona	Warren		12								1.55	+ 0.08	0.40	4.7	13	6	20	4		J. B. Alter.
Le Claire	Scott	576	11								4.99	+ 3.52	1.19	3.5	12					Miss M. T. Disney.
Marshalltown	Marshall	947	19	28.4	− 7.6	54	26	− 1	12	43	1.74	+ 0.45	0.53		11	9	6	15	nw.	Ralph B. Reasoner.
Mason City	Cerro Gordo	1,132	14	26.6	− 6.2	48	10	2	12	34	0.82	− 0.82	0.40	0.5	4	6	9	15	nw.	J. S. Mills.
Monroe	Jasper			32.2		54	9	− 4	12	41	1.68		0.56	T.	4	14	2	14	nw.	J. A. Dibel.
Mount Pleasant	Henry	729	30	33.0	− 4.4	75	11	8	12†	54	3.55	+ 1.99	1.22	1.3	9	14	4	12	sw.	J. W. Edwards.
Muscatine	Muscatine		51								4.22	+ 1.92	1.03	2.2	9					William Molis.
New Hampton	Chickasaw	1,169	14	26.6	− 8.1	47	10	1	12	30	0.90	− 0.50	0.65	T.	2	10	6	14	s.	A. F. Kemman.
Northwood	Worth	1,222	15	25.6	− 7.6	47	10	0	12	33	1.98	+ 0.50	0.50	5.0	10	13	7	10	nw.	Chas. H. Dwelle.
Olin	Jones	760	13	30.6	− 6.2	73	11	0	29	45	2.99	+ 1.75	1.30	T.	5	12	9	9	nw.	Dr. F. W. Port.
Osage	Mitchell	1,184	24	27.0	− 3.9	46	10†	1	12	33	1.19	− 0.24	0.53	0.5	4	15	5	10	s.	Lester Coonradt.
Oskaloosa	Mahaska	843	35	32.2	− 4.8	69	11	− 1	29	54	1.40	− 0.09	0.48	1.8	8	8	7	15	nw.	Joseph Boyd.
Ottumwa	Wapello	649	16	33.2	− 6.3	73	11	4	29	56	0.91	− 0.69	0.36		10	7	8	15	nw.	Chester Potter.
Pella	Marion	877	9	32.7		66	11	3	29	47	1.70		0.56	1.6	8	17	1	12	nw.	J. H. Ver Steeg.
Perry	Dallas	975	10	31.6	− 6.2	56	9†	1	12	43	0.96	− 0.49	0.43	0.2	4	14	8	8	nw.	Ed. S. Gray.
Plover	Pocahontas	1,426	15	27.4	− 6.9	54	26	− 2	12	37	0.35	− 1.27	0.20	1.0	3	16	5	9	nw.	J. S. Smith.
Pocahontas	do	1,248	7	28.4		55	26	− 1	12	38	0.48		0.20	0.5	5	15	8	7	nw.	F. E. Hronek.
Ridgeway	Winneshiek	1,215	13	27.9	− 9.3	50	25	2	29	34	2.04	+ 0.22	0.75	1.0	12	10	6	14	s.	Arthur Betts.
Rockwell City	Calhoun		15	30.2	− 4.8	55	9	− 5	11	35	0.90	− 0.20	0.75		2	20	3	7		C. M. Randall.
Sac City	Sac	1,278	35	29.2	− 4.3	56	26	− 1	12	37	0.73	− 0.38	0.40	3.0	6	9	5	16	nw.	E. N. Baily.
St. Charles	Madison	1,070	10	34.2	− 6.9	60	26	3	12	41	1.36	− 0.07	0.50	1.4	9	15	7	8	nw.	R. D. Minard.
Sigourney	Keokuk	877	15	31.6	− 7.3	70	11	0	29	49	2.21	+ 0.66	0.90	4.0	8	2	18	10	nw.	J. T. Parker.
Stockport	Van Buren	745	9	32.6		74	11	3	29	55	2.61		0.66	4.0	9				nw.	C. L. Beswick.
Storm Lake	Buena Vista	1,440	22	28.7	− 7.4	55	5	− 3	12	38	0.36	− 0.66	0.18	0.2	5				nw.	Prof. Warren Ingold.
Tipton	Cedar	807	12	30.4	− 6.4	71	10	4	29	50	3.79	+ 1.97	1.28	3.3	8				nw.	F. K. Gregg.
Toledo	Tama	856	17	30.3	− 6.1	62	11	2	28	49	1.73	+ 0.22	0.60	1.5	6				nw.	I. F. Giger.
Wapello	Louisa	588	13																	G. W. Schofield.
Washington	Washington	769	29	32.4	− 3.8	74	11	1	29	50	2.79	+ 1.38	1.12		11	10	11	9	nw.	Wm. A. Cook.
Waterloo	Black Hawk	862	28	28.0	− 7.7	50	26	3	29†	42	1.19	− 0.26	0.43	1.2	7	13	3	14	nw.	Ralph B. Slippy.
Waukee	Dallas	1,039	8	31.9		55	26	3	12	33	1.50		0.61	0.7	11	16	4	10	nw.	Samuel F. Foft.
Waverly	Bremer	948	15	28.1	− 7.0	49	10†	3	12	45	1.42	+ 0.02	0.55		5	10	12	8	nw.	Earl C. Moore.
Webster City	Hamilton		6	30.0		53	26	2	12	34	0.93		0.43	0.5	5	10	9	11	sw.	C. D. Carpenter.
West Bend	Palo Alto	1,197	18	27.9	− 4.6	52	26	0	12	35	0.61	− 0.73	0.24	1.3	6	10	10	10	nw.	Phil. Dorweiler.
Whitten	Hardin	1,036	14	28.6	− 6.9	51	10†	0	12†	37	1.25	+ 0.12	0.80	1.0	3	7	9	14	nw.	Dr. F. P. Butler.
Winterset	Madison	1,129	20	32.8	− 4.0	58	26	2	12	33	1.18	− 0.11	0.50	0.3	5	10	6	14	nw.	Dr. Robt. S. Cooper.
Missouri.																				
Gorin	Scotland	700	25								2.34	+ 0.34	0.90	0.7	6	8	6	16	nw.	J. W. Pulliam.
Hannibal	Marion	534	19	36.6	− 3.9	82	11	6	29	66	2.30	+ 0.35	0.87	2.3	12	10	12	8	sw.	U. S. Weather Bureau.
Louisiana	Pike	500	34	37.1	− 6.6	81	11	6	29	50	1.95	− 0.29	0.72	0.7	7	16	11	3	sw.	J. T. Farrell.
Mexico	Audrain	797	34	36.8	− 6.0	81	11	5	29†	36	2.48	+ 0.04	0.62	4.1	9	14	1	15	s.	J. F. Llewellyn.
Steffenville	Lewis	576	19	37.0	− 6.3	81	11	2	29	51	2.32	+ 0.53	0.67	2.2	9	8	9	13	se.	Frank Hall.
Sublett	Adair	1,000	32	34.8	− 5.9	75	11	2	29	53	2.75	+ 0.91	1.00	0.5	7	8	7	15	nw.	Lewis Spriggs.
Vandalia	Audrain	776	1	38.0		81	11	10	12	46	1.74		0.86	0.4	3	7	5	18	nw.	C. B. Ellis.
Warrenton	Warren	865	22	37.0	− 5.7	78	11	7	30	36	2.48	+ 0.21	0.72	1.5	8	7	8	15	nw.	Prof. J. H. Frick.
Indiana.																				
Collegeville	Jasper		12	36.6	− 4.4	78	11	9	13	48	3.73	+ 1.23	1.57	3.0	7	4	13	13	w.	Otto Miller.
Knox	Starke	716	6	35.3		74	11	8	16	59	3.79		1.30	8.5	11	9	11	10	s.	W. R. R. Tatman.
Laporte	Laporte	810	15	30.6		72	11	10	12	27	3.94	+ 1.16		9.0		9	11	10		Wm. M. Walton, jr.
Plymouth	Marshall	790	8	34.2		72	11	9	13	55	4.10		1.02	15.5	13	8	13	9	sw.	J. W. Siders.

TABLE 1.—*Climatological data for November, 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.																				
Aledo	Mercer	738	11	32.2	− 5.4	76	11	2	29	45	4.06	+ 1.99	1.19	1.3	10	9	6	15	nw.	William B. Frew.
Alexander	Morgan	670	18	37.4	− 4.8	78	11	2	29	61	2.47	+ 0.39	1.17	2.4	9	10	8	12	nw.	George H. Hall.
Antioch	Lake	861	10	31.7	− 5.5	73	11	8	29	42	5.29	+ 3.11	1.70	4.0	8	4	7	19	s.	J. C. James.
Astoria	Fulton	650	12	34.4	− 5.9	79	11	4	29	57	2.33	+ 0.43	0.58	4.6	10	10	10	10	nw.	Edward V. Bohl.
Aurora	Kane	687	32	33.5	− 3.8	76	11	8	16	39	2.78	+ 0.33	1.08	1.2	8	6	11	13	sw.	W. Holden.
Beardstown	Cass	448																		Mrs. L. M. Rice.
Bement	Piatt	700	4	37.6		74	11	9	13	61	2.53		1.18	2.7	7	15	6	9	s.	Rev. C. S. Adams.
Bloomington	McLean	840	20	34.8	− 5.7	75	11	7	29	35	3.71	+ 1.11	1.67	2.5	8	13	2	15	sw.	Prof. H. N. Pearce.
Cairo	Alexander	359	33	42.6	− 4.3	78	11	18	13	42	3.30	− 0.72	1.56	0.1	11	9	6	15	s.	U. S. Weather Bureau.
Carbondale	Jackson	412	6	42.6		75	11	11	12	62	3.34		1.35	0.9	7	14	6	10	sw.	State Normal University.
Carlinville	Macoupin	663	21	38.6	− 4.0	78	11	11	30	61	2.18	− 0.38	0.64	1.2	8	11	15	4	nw.	W. T. Eddy.
Carlyle	Clinton	470	26								3.51	+ 0.17	1.10	1.0	8					J. E. Rogan.
Chester	Randolph	380	5								3.37		1.08		13					F. A. Gollon.
Clinton	Dewitt	727	1	36.2		75	11	10	13	60				0.5	7	16	10	4	nw.	J. Frank Ziegler.
Coatsburg	Adams	763	19	35.5	− 5.5	78	11	3	29	50	2.60	+ 0.54	0.91	2.0	6	6	6	18	s.	Dr. J. R. Lambert.
Cobden	Union	656	28	43.2	− 3.7	79	12	12	13	64	4.34	+ 0.12	1.35	T.	7	7	5	18	s.	John Buck.
Dakota	Stephenson	929	6	30.5		72	11	− 1	29	32	4.04		1.40	4.9	10	6	10	14	sw.	Rev. G. W. Kerstetter.
Decatur	Macon	685	20	36.6	− 4.6	75	11	10	13	34	3.31	+ 0.77	0.90	2.5	10	14	8	8	nw.	Prof. J. H. Coonradt.
Dixon	Lee	725	21	30.8	− 5.7	75	11	4	29	40	5.47	+ 3.71	1.80	2.0	9	7	14	9		H. U. Bardwell.
Duquoin	Perry	459	23	41.6	− 3.7	77	11	15	12†	42	2.68	− 0.19	1.30	2.5	6	13	10	7	nw.	G. H. Knetzger.
Dwight	Livingston	600	18	35.2	− 4.1	76	11	10	13	59	2.57	+ 0.03	0.98	1.4	9	8	3	19	w.	Edward O. Welch.
East St. Louis	St. Clair	418									3.27		0.95	0.3	7					W. McK. Brown.
Edwardsville	Madison	554	12								2.17	− 1.06	0.65	2.5	7					W. H. Morgan.
Elgin	Kane	716	4	33.6		74	11	10	13†	59	2.46		1.22	T.	7	3	13	14	sw.	Elgin Observatory.
Ewing	Franklin										3.06		1.31	0.4	6	10	10	10	s.	Ewing College.
Fairview	Fulton																			Abram Wilson.
Galva	Henry	842	19	32.0	− 5.6	72	11	0	29	41	2.76	+ 0.94	1.03	5.5	9	10	7	13	nw.	Prof. F. U. White.
Grafton	Jersey	422	18								3.10	+ 0.72	0.73	1.5	8					R. C. Goodrich.
Greenville	Bond	635	33	37.8	− 4.7	75	11	14	12†	38	3.52	+ 0.15	0.90	2.5	12	9	6	15	se.	M. S. Oudyn.
Griggsville	Pike	650	26	38.0	− 3.9	78	11	6	29	43	2.15	− 0.05	0.78		5	10	7	13	s.	George F. Kneeland.
Havana	Mason	475	19	37.3	− 4.6	79	11	9	29	45	2.01	− 0.11	0.56	0.8	7	11	16	3	s.	F. & C. Borgelt.
Henry	Marshall	500	23	35.2	− 3.4	77	11	6	29	42	2.61	+ 0.24	1.04	3.0	6	13	8	9	nw.	Dr. F. A. Powell.
Hillsboro	Montgomery	675	17	37.1	− 6.7	74	11	12	13	60	2.71	+ 0.09	0.95	2.0	6	14	1	15	s.	Ira L. Woodward.
Joliet	Will	541	20	32.6	− 6.1	74	11	4	16	48	2.87	+ 0.57	1.29	3.6	12	11	4	15	nw.	F. M. Muhlig.
Kishwaukee	Winnebago	730	23	32.2	− 4.7	75	11	2	29	39	4.57	+ 2.31	0.97	3.4	10	6	6	18	sw.	George Stevens.
La Grange	Cook	657	19	34.6	− 3.5	76	11	9	29	56	2.90	+ 0.54	1.32	1.5	8	10	6	14	sw.	Prof. F. E. Sanford.
La Harpe	Hancock	698	32	34.2	− 5.3	78	11	4	29	46	1.88	− 0.08	0.71	5.7	9	11	10	9	nw.	George E. Campbell.
Lanark	Carroll	883	22	31.0	− 4.8	75	11	− 2	29	40	3.98	+ 1.95	1.20	4.0	9	12	6	12	s.	M. N. Wertz.
La Salle	Lasalle	536	33	33.2	− 4.6	76	11	9	29	62	2.26	− 0.38	0.86	1.1	12	10	7	13	w.	U. S. Weather Bureau.
Lincoln	Logan	482	23	36.2	− 4.8	76	11	8	29	59	1.59	− 0.69	0.53	1.9	7	9	13	8	s.	Prof. C. S. Oglevee.
Loami	Sangamon	624	11								3.25	+ 1.10	1.30	1.5	8	11	1	18	se.	H. C. Foster.
Macomb	McDonough													3.6	9					State Normal University.
Manteno	Kankakee	711									3.10		1.11	6.6	10	21	4	5	sw.	J. F. Schmeltzer.
Martinton	Iroquois	633	24	33.2	− 6.3	74	11	9	13	32	2.00	− 0.45	0.58	2.7	9	8	9	13	w.	Joseph H. Peltier.
Mascoutah	St. Clair	425	21	41.0	− 3.4	78	11	14	12†	62	2.68	− 0.59	0.77	2.0	7	16	9	5	nw.	George Henrich.
Minonk	Woodford	745	18	35.7	− 3.8	76	11	7	29	61	2.11	+ 0.16	0.70	1.5	9	10	2	18	nw.	M. H. Pfaffle.
Monmouth	Warren	784	19	32.9	− 5.8	78	11	2	29	54	3.00	+ 1.16	1.16	3.0	8	13	3	14	w.	Dr. J. C. Hutchison.
Morris	Grundy																			E. G. Cryder.
Morrison	Whiteside	685	17	32.5	− 5.3	75	11	0	29†	39	5.12	+ 3.18	1.09	5.5	12	8	11	11	nw.	S. A. Maxwell.
Morrisonville	Christian	638	12	37.4	− 5.3	76	11	10	13	61	2.74	+ 0.63	1.37	2.2	7	11	12	7	nw.	J. D. Lowis.
Mount Vernon	Jefferson	511	17	39.1	− 5.9	80	11	12	13	35	2.63	− 0.29	1.02	1.0	5	13	2	15	nw.	Theodore P. Stelle.
Nashville	Washington																			Prof. John M. Avery.
Oregon	Ogle	702	2	32.0		74	11	2	29	36	5.21		1.50	4.0	9	5	4	21	w.	Samuel Ray.
Ottawa	Lasalle	500	25	34.8	− 4.2	77	11	11	29	34	2.28	− 0.09	0.62	5.0	10	6	2	22	sw.	Miss Maude M. Harris.
Pana	Christian	692	25	37.8	− 4.0	75	11	10	12	61	2.59	− 1.03	1.18	1.2	7	19	5	6	nw.	C. W. Sibley.
Peoria	Peoria	609	33	33.3	− 4.2	77	11	6	29	60	3.01	+ 0.37	1.40	2.7	11	8	8	14	s.	U. S. Weather Bureau.
Pontiac	Livingston	546	9	35.6		76	11	12	12†	60	2.95		1.35	1.0	7	8	7	15	w.	George Butterworth.
Quincy	Adams	481		36.4		78	12	8	29†	33	1.92		0.65	0.4	9	17	3	10	nw.	Fred J. Brinkoetter.
Riley	McHenry	956	52	32.2	− 2.2	73	11	4	29	45	4.70	+ 2.69	0.96	3.7	12	8	6	16	nw.	John West James.
Roberts	Ford	774														11	10	9	s.	R. E. Bradbury.
Rockford	Winnebago	763	19	32.2	− 4.4	74	11	3	29	38	4.30	+ 1.83	1.36	4.5	8	15	0	15		Hosmer C. Porter.
Rushville	Schuyler	670	20	35.8	− 4.5	79	11	4	29	44	2.12	+ 0.03	0.82	4.0	8	7	8	15	s.	H. F. Dyson
St. Charles	Kane	700	16	34.0	− 3.7	76	11	10	13†	58	3.82	+ 1.35	1.80	3.0	8	5	17	8	nw.	Dr. William H. Bishop.
St. Peter	Fayette	500	10	39.0	− 4.5	77	11	14	12†	59	3.00	+ 0.72	0.95	1.7	7	10	9	11	nw.	M. L. Lansford.
Sparta	Randolph	538	25	40.6	− 4.2	75	11	13	12†	60	2.71	− 0.76	0.82	1.0	7	14	5	11	nw.	James A. Caldwell.
Springfield	Sangamon	644	33	36.0	− 4.7	76	11	10	29	57	3.10	+ 0.44	1.20	2.6	13	9	10	11	s.	U. S. Weather Bureau.
Streator	Lasalle	626	18			79	11				2.86	+ 0.56	1.15		10	21	3	6	sw.	Miss Lora Sweetser.
Sullivan	Moultrie	530	11	36.6	− 5.8	76	11	10	13.	33	3.02	+ 0.44	1.10	4.0	5	9	14	7	nw.	C. A. Corbin.
Sycamore	Dekalb	855	31	30.9	− 5.0	72	11	3	29	34	3.74	+ 1.32	1.20	2.7	11	14	6	10	w.	Miss Edna J. Davis.
Tiskilwa	Bureau	798	27								2.05	− 0.15	0.90	4.2	5					F. I. Smucker.
Walnut	do	717	20	33.0	− 5.6	75	11	3	29	35	3.15	+ 1.25	1.01	4.6	11	9	12	9	s.	O. C. Nussle.
Warsaw	Hancock	501	13								2.35	− 0.15	0.83	2.0	6					W. R. Kirkbride.
Waterloo	Monroe										2.79		0.86	0.4	7					Prof. James E. Raibourne.
White Hall	Greene	573	3	36.8		79	11	7	29	37	2.94		1.01	3.1	7	12	6	12	w.	Dr. R. A. Pritchett.
Windsor	Shelby	681	12	37.8	− 3.8	77	11	11	13	59	2.80	− 0.19	0.90	1.7	7	7	13	10	nw.	Herbert Rose.
Winnebago	Winnebago	900	24	31.8	− 4.2	75	11	2	29	37	4.65	+ 2.49	1.33	4.0	9	9	11	10	sw.	Frank Osborn.
Yorkville	Kendall	584	24	33.2	− 3.0	75	11	5	16	50	2.08	− 0.30	1.00	2.1	9	10	9	11	w.	Herman A. Grimwood.
Zion	Carroll	938	17	30.4	− 5.8	75	11	0	29	51	3.41	+ 1.55	1.02	8.0	8	12	5	13	w.	Robert F. Gillogly.

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

TABLE 2.—*Daily precipitation for November, 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										T.	.35	.40		T.	T.	T.		T.	T.				T.					T.			0.75
Bottineau	Mouse							.03		T.	.08	T.			.06	T.			.02	.06			T.	.02			T.	T.				0.27
Cando	Sheyenne									.04												.24										0.28
Crosby	Mouse				T.		T.		.03	.04				.08	.10			.05		.19							.05		.03			0.57
Devils Lake	Sheyenne						.01	T.		.10	.11	.03		T.	.06	T.			.01	.02			.10				.02	.01				0.47
Donnybrook	Mouse						.16		T.	.15	T.			.30	T.			.02					.02				.02	.05				0.72
Dunseith	do																															
Edmore	Sheyenne						T.				.20																					0.20
Fessenden	James	T.						.04			.05	.20				T.			T.	.08												0.37
Forman	Sheyenne							T.	T.			.62				.30			.10								.20					1.22
Grafton	Red						.11				.02	.11	.07	.09						.10	.02			.05			T.	T.				0.57
Granville	Mouse	.01								.10				T.		.20							T.				.05					0.36
Hannah	Pembina						T.			.40	T.				.30					.10			T.									0.80
Hansboro	Red									.07				.13						.14			.05					.01				0.40
Hillsboro	do					.04	.03				.15	.50	.10		.05					.20			.05				.10	.05	.05			1.32
Lakota	Sheyenne					T.				T.	.12	.09			.08	T.			.02	.05	.05		.08					.03				0.52
Langdon	Pembina																															
Larimore	Red																															
Lisbon	Sheyenne							T.	.30	T.	T.	.30	.30	.10	T.					.30	T.							T.	T.		T.	1.00
McKinney	Mouse						T.			.20					.10	.15		T.					T.				T.					0.45
Manfred	Sheyenne					.10				.10	.20	.10			.10	T.			.05	.05			.02				.05					0.77
Mayville	Red					.09	.08						.13	T.		T.			T.	.13			T.				.60	T.				1.03
Minot	Mouse	.04						.06		T.	.07	T.	T.	.15	T.			.04		.05				.04			.01	T.	T.			0.46
Minto	Red										*	.27			.05					.27			.05									0.64
Oriska	Sheyenne																															
Park River	Red																															
Pembina	do																															
Power	Sheyenne									T.	*	.60					.05		.05									.05				0.75
Pratt	Mouse					T.	T.				T.	T.		.10																		0.10
Towner	do																															
University	Red					T.	.20			T.	.05	.40			.10					.20			.07				.08	T.				1.10
Wahpeton	do								.01			.45					.01										.01					0.48
Walhalla	Pembina	T.									.20	.10			.30					.30												0.90
Westhope	Mouse																															
Willow City	do						.07			.20	.10				.10			T.	T.	.05			T.									0.52
Minnesota.																																
Albert Lea	Mississippi	T.		T.			.42			T.		.02	.01		T.		.03	T.		T.									T.			0.48
Alexandria ‖	do	T.					.06	.04		.02	T.	.07	.08	T.	.14	T.		.40		T.	.08							.07				0.96
Angus	Red					.07						.40			.30					.25			.05				.08	.02				1.17
Bagley	do					.15					*	*	.70		T.					.02							*	.05				0.92
Baudette	Rainy						.08	T.	.01	.05	.14	.28	.07		.04			.01			.01		.05	.02			.10	.01				0.87
Beardsley	Minnesota																															
Beaulieu	Red	T.					.20	T.		T.		.30	.30							.30	.10		T.	.10			T.					1.30
Bemidji	Mississippi						.11			.12	.08	.41				.04					.03											0.79
Bird Island	Minnesota	T.		.01			.29			.06		.03	T.		.06		.54			.01								.02				1.02
Caledonia ‖	Mississippi	T.					.48			.01	.48	.30	.05			T.		.02	T.	T.	.05	T.			T.				.20	.05		1.64
Campbell ‖	Red						.06			.10	.07	.20	.10	.10	.05			.60		.05				.15				.20	.30			1.98
Cass Lake ‖	Mississippi	T.					.30							.40		T.					.05		.04						T.			0.79
Collegeville	do	.01					.24			.04		.04			.15		.45	.26		.10	.02							T.				1.31
Crookston ‖	Red						.09		.04	T.	.10	.20	.20			.15				.20	.30			.10				.20				1.58
Detroit ‖	do	T.					T.	T.			.23	.40	.10	T.	T.					T.	.26		.23					T.				1.22
Ely	Rainy																															
Fairmont (near)	Minnesota	T.		T.			.28			.09		T.			.50			.05		.03								.05	.02			1.02
Faribault	Mississippi																															
Farmington	do	T.		T.	.01	T.	.18			T.		.08	T.		.13		.13	.13		.12	.18							.12	.04			1.12
Fergus Falls	Red					.02	.07			.12	.03	.50	.10	.06	.05		.07	.31		.10	.02		.03	.01			.03	.04				1.56
Fort Ripley ‖	Mississippi	T.					T.	.12	.10	T.	.10		.12	T.	.09	.04		.35		T.	.15						T.	.10				1.17
Fosston	Red					.01						.10	.30		.13					.20			.14				.13					1.01
Fram	do																															
Glencoe	Mississippi	T.		T.								T.			.10		.60			T.												0.70
Grand Meadow	do	.02		.04	.03	.04	.73	.02	T.	.08	.02	.04	.03	T.	.09		.08	.28	T.	.07	T.			T.					.07			1.64
Gull Lake Dam	do		T.				.05	.05		.20	.08	.20	.02	.01				.22		.20							.02	.10				1.15
Hallock	Red					.05	.25		T.	T.	.20	.10			.10					.20			T.					T.				0.90
Halstad ‖	do						.05			.01										T.	.28			.36								0.70
Hinckley	St. Croix												.10	.20					1.00		.20											1.50
International F	Rainy						.20	T.	T.	.40	1.20					T.				T.	T.		.10	T.			T.	.15				2.05
Itasca State Park	Mississippi						.12			.12		.50			.10					.10												0.94
Lake Crystal	Minnesota			T.			.27					T.						T.		.10								T.				0.37
Leech Lake Dam	Mississippi	T.					.16			.14	T.	.37	.14		.11			T.	T.	.07				.05			.08	.07				1.19
Little Fork	Rainy						.21			.16	.13	.45			.12																	1.07
Long Prairie	Mississippi												.20	T.	T.	T.	.40			T.												0.60
Lynd	Minnesota	T.		T.			T.						.04		.09	.05	.17			.04								.03				0.42
Mankato ‖	do				T.		T.	.16					T.				T.	.11														0.27
Milaca	Mississippi																															
Milan	Minnesota			T.								.10			.15		.80	.20									.10					1.35
Minneapolis	Mississippi	T.		.01	T.	.01	.05		.01	.04		.05			.12		.72	.08		.13	T.			T.			.03		T.			1.25
Montevideo ‖	Minnesota			T.			.06	.02				T.	.18	T.		.12	*	1.08		.10	.10			T.				.60				2.26
Moorhead	Red						.03		.04	.24	.17	.39			.04		T.			.08	T.		.01				.01	.02				1.03
Mora	St. Croix	T.				.01	.09	.01	.01	.06		.05		.10	.15		.40	.60		.10	.05							.15				1.78
Morris	Minnesota						.04				.03	.10			.10		.80	.10		.10			.05						.05			1.37
New London	Mississippi	T.							T.			T.					.80										.05					0.85
New Richland	Minnesota	T.		T.		T.	.28	T.	T.			T.	T.		T.		T.	.04	T.	.06	T.							T.	T.			0.38
New Ulm ‖	do	T.	T.		.03	T.	.15		.02	.07	T.	T.	.05			.13	.03	.15		.10	.05			T.	T.			.05	T.			0.83
Osakis	Mississippi	T.					.08				T.	.08	T.	T.	T.		.26	.21		.10			T.				T.	.04				0.77
Park Rapids ‖	do						.09	.04		.09	.10	.10	.10	T.	.05	.05		.04			.15			T.				.08	T.			0.89
Pine River Dam	do	T.					.08			.06	T.	.20			.08			T.		.04							T.					0.46
Pokegama Falls	do	T.					.12	T.		.15	.04	.17	T.		.05	T.		.08		T.	.03			T.			.07	.06				0.77
Red Lake	Red										T.	.64			.27					.20							.20					1.31
Red Wing ‖	Mississippi	.02			T.		.26	.16		.04	.02		.02		T.	.04		.54	T.	T.	.18	T.			T.			.04	.02	T.		1.34
Redwood Falls	Minnesota	T.		.05			.20					.10			.10		.40	.20		.10								.10	.05			1.30
Reeds Landing ‖	Mississippi	T.			.04		.52	.04		.02		.04	.04					.20	.03		.07								.02	T.		1.09
Rochester ‖	do	T.			T.		.35	.23		T.	T.	T.	T.			.50		.45		T.					T.				.10	T.		1.63
Roseau	do																															
St. Charles	do	T.					.70	.05				T.	.09		.13		.08	.53		.09									.07			1.74
St. Cloud	do	T.				T.	.23			.16		.06	.03	.07	.03		.45	.43		.05							T.	.14				1.65
St. Paul	do	T.		.01		.02	.06		.01	.03		.06	T.		.10		.58	.08		.14				T.			.03		T.			1.12
St. Peter	Minnesota												T.		.10					.10												0.20
Sandstone	St. Croix																															
Sandy Lake Dam	Mississippi						.10			.16	.04	.12			.06			.07	T.									.08				0.63
State Sanatorium	do						.18	.01		.12	.10	1.40			.10			.10	T.	.05			T.	.10			.05	T.				2.21

TABLE 2.—*Daily precipitation for November, 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.																																
Stillwater ‖	St. Croix						.21	T.	T.	.12	T.			T.	.05	T.		.50			.20							T.				1.08
Taylors Falls	do						.20	T.					T.	T.	T.		.50	.60		T.												1.30
Thief River Falls	Red						.04		.01	.04		.20			.20					.21							T.	T.				0.70
Tracy	Minnesota																															
Warroad	Rainy					T.	.37		T.	.18	.10	1.10										T.					.20					1.95
West Concord	Mississippi																															
Winnebago ‖	Minnesota	T.			T.		.28	T.			.10	T.	T.			T.	T.	T.		.10			T.					T.	T.			0.48
Winnibigoshish	Mississippi					T.	.14			.10		.51	.11		.08					.02			T.	.11			.12	.03				1.22
Winona	do																															
Worthington ‖	Des Moines	T.		T.	T.		.09	.05				T.			T.	T.		.05		.05				T.				T.	T.			0.24
Zumbrota	Mississippi	T.			T.		.40			.01		T.	T.		T.	T.	T.	.10	.08	.08	T.	T.		T.				T.	T.			0.67
South Dakota.																																
Milbank ‖	Minnesota						T.	.03			T.	.09	.06		.04			.90	.04	.08								.04				1.28
Wisconsin.																																
Antigo	Wisconsin	T.			T.		.20			.20		.20	.01	T.	.10	.02	T.	1.40	.10		.01			T.	T.			T.	.10			2.34
Barron	Chippewa	.02					.27			T.		T.		.05	.18		.30	.50		.05								.02				1.39
Beloit	Rock						.82			.77	.44				.05			1.35		.25									.45			4.13
Big St. Germain Dam.	Wisconsin	.09					.89			.11	.20	.38	.51	.06	.21	T.		1.20	T.					T.					.47			4.12
Brodhead	Rock	T.					.90			.95		1.00			T.			.60		T.			.17						.40			4.02
Burnett	do	.02			T.		.61	.12		.35	.40	.74	.05		.03		.02	.48	T.	T.	.09		.11					T.	.20			3.22
Cottage Grove	do	T.					.50	.14		.54	.30	.60	.03		.04	T.	T.	.52	.30		.11		.14	.40	T.				.31			3.93
Darlington	do						.70	T.		.80		.80							.40	T.		.35							.20			3.25
Deerskin Dam	Wisconsin	.05					.34				.45	T.	.20					.52	.70	T.				T.				T.	1.40			3.66
Delavan	Rock	T.					.70			.78		1.03			.06		.59	.03		.13			.08						.43			3.83
Dodgeville	do									.90	.40	.10					T.	T.		.10												
Downing	Chippewa	T.			T.		.10	T.		T.		T.	T.		T.		.80	1.20	T.	T.	T.			T.					T.			2.10
Eau Claire	do	.01			.03		.29			.06	T.	.12	.08	T.	.17		.35	.54	T.	.08	.04			T.				T.	.02			1.79
Grand Rapids ‖	Wisconsin		T.				.41	.15			.73	.15		T.		.02		.40	.20		.20								.20	T.		2.46
Grantsburg	St. Croix	.02					.10						.30	.20	.15			1.50			.20							.10				2.57
Hancock	Wisconsin						.75	.02		.37	.38	.02	T.	T.		T.	.20	.30	T.	T.	.10								.40			2.54
Hatfield	Black	.02					.55		.04	.10	.20		.02		.08		.20	.05		.05									.20			1.51
Hayward	St. Croix						.35			T.		*	*		*			*				1.05						.10	.10			1.60
Hillsboro	Wisconsin	T.			T.		.62			.70		.05	T.		T.		.10	.05	T.	.30	T.							.30				2.12
Koepenick	do						1.00			.20		.40	.20		.30			1.20	.40										.60			4.30
Lac du Flambeau	Chippewa			.25						T.		.30	.10		.18			1.12	.08													2.03
La Crosse	Mississippi	T.		T.		.14	.59		T.	.43	.31	T.	T.		.01		.48	.29	T.	.15	.02			T.				.05	.08			2.55
Lake Mills	Rock	T.			T.		.88	.04		.42	.30	1.87	.02		.10			.37	T.	.03	.12		.07	.01				T.	.40	.08		4.71
Lancaster	Mississippi						.77				1.37							.20		.10								.10				2.54
Long Lake	Wisconsin	.04					.37	.02		.04	.20	.09	.08	.03	.17	.06		.74	.02					T.	.02			.01	.10	T.		1.99
Madison	Rock	T.			T.	.13	.48		.04	.74		.84	T.		.02		.12	.38	T.	.11	T.		.08	T.	T.			.40	.22			3.56
Mather ‖	Wisconsin	T.					.44	.10		.02	.58	.22	.02			.02		.40			.20								.40			2.40
Mauston	do	T.					.40	.20		.10	.45	.05					T.	.75		T.	.10								.10			2.15
Meadow Valley	do	T.					.47	.05		.05	.57	.29			T.		.15	.63	T.	.05	.18								.14			2.58
Medford	Black						.30			T.		.40		.10	.10		.10	1.40			.10								.10			2.60
Merrill	Wisconsin						.15					.10	.08		.20			1.20											.50			2.23
Minocqua	do	T.					.10	.03		.06	.08	.45	.04	.03	.15	.05	T.	.81	.03	T.				T.	T.			.07	.06			1.96
Mondovi	Mississippi	.01			T.		.40	.03		T.	.05	.01	T.	.07	T.	.06	.40	T.	.05	.01				T.			T.	.04				1.13
Mount Horeb	Rock						.72			.73	.40	.55	.05		.05			.30		.05			.08					.10	.32			3.35
Muscoda ‖	Wisconsin						.45	.24		.19	.82	.12	.08			T.		.31	T.		.08								.12			2.41
Neillsville	Black	T.			T.		.42											.80		T.								.20				1.42
New Richmond	St. Croix	T.			.05		.38			.06			.10	.10	.20			.60		.40	.10							.10				2.09
Osceola ‖	do			T.	T.	.11	.05		T.	T.		.15		.07	.07		.93	T.		.08				T.			T.		T.			1.46
Park Falls	Chippewa	.02					.26			.06		.13	.09		.16			.63	.04									.02	.04			1.45
Portage	Wisconsin	T.			T.		.44	.09		.45	.27	.51	T.	T.	.01		T.	.51	T.	T.	.12								.31			2.71
Port Edwards	do						.46			.06	.62	.45	.05				.20	.50			.10								.07			2.51
Prairie du Chien ‖	Mississippi						.45	.12		.20	.58		.18			T.		T.	.60		.04								.10			2.27
Prairie du Sac	Wisconsin	T.					.31	.20		.40	.53	.50	.05		.05			.45			.13								.20	T.		2.82
Prentice	Chippewa	.11			.05		.33					.39	.27	T.	.23	T.	.36	.41	.12					T.								2.27
Rhinelander	Wisconsin	.03					.30			.02	.02	.13	.13	T.	.15	.06		.79	T.					T.					.09			1.72
Shullsburg	Mississippi						.66			.94		.63						.53			.02		.13						.35			3.26
Solon Springs	St. Croix						.30			.30		T.	.10		T.	.10	T.	.60		T.	T.						.10	.10				1.60
Spooner	do	.06					T.		T.	T.		.05	.06	.07	.13		.43	.81			.03							.04				1.68
Stanley	Chippewa				T.		.30			.15		.22	T.	T.	.12	T.	.20	.90		T.									.09			1.98
Stevens Point	Wisconsin																															
Sugar Camp Dam	do	.08					.36				.22	.04	.07	.03	.06	.04		.78						T.					.14			1.82
Twin Lakes Dam	do	.04					.33	.09		.26			.15	.15	.25			.72	T.					T.					.46			2.45
Valley Junction	do						.41			.09	.59	.32	.05		T.		.10	.19	T.	.14	.12								.25			2.26
Viroqua	Mississippi	T.					.72	.07		.12	.64	.60	.05	T.	.04		T.	.36	.02	.15	.13			T.					.20			3.10
Vudesare	Wisconsin	.12					.30	T.		.26	.30	.47	.32	T.	.18	.24	T.	.62	.40	.45	T.		T.	.12	T.			T.	.25			4.03
Watertown ‖	Rock		T.				.56	.37		.10	.62	.05	1.12	T.		.03		.42	.12	T.	.25	T.		.18					.35	.10		4.27
Waukesha	Fox	T.					.84				.48	2.20	T.		.08			.15	T.		.20		.02						.20			4.17
Wausau	Wisconsin	T.			T.		.32			.05	.17	1.00	.12	T.	.09	T.	T.	.77			T.								.05			2.57
Weyerhaeuser	Chippewa	.15	T.		T.		.27			.12		.10	.20	.10	.07		.60	.40	T.	.03	.12			T.				.05	.01			2.22
Whitehall	Mississippi	T.		T.	T.		.30			T.			T.		.01		.20	.60		.20									.20			1.51
Iowa.																																
Albia ‖	Des Moines		T.				.49			.50			T.					.25	T.	T.				.13	T.				.10	.15		1.62
Algona	do	.05		T.			T.		T.	.11		T.	T.			T.	T.	.12		.03									T.			0.31
Alta ‖	Raccoon	.07			.01		.18	.02			T.	.01	.05					.04	T.	.04				T.					.02	T.		0.44
Amana	Iowa	T.				.06	.57			.78		.20						.17		.03			.02	T.				.01	.11			1.95
Ames	Skunk	T.				T.	.60		T.	.14		T.						.27		.24				T.					T.			1.25
Baxter	do	T.				.03	.45		.08	.36	.02	.01						.36		.19				T.					T.			1.50
Belle Plaine	Iowa	T.				.31	.40			.67		.07						.43		.10			T.					T.	.10			2.08
Belmond	do	.02						.39	T.	.02		.04	.03			.02		.36		.05									.02			0.95
Bloomfield	Mississippi					.07	.49			.67	.12	.51						.21		.02			.20	.08			T.	.08				2.45
Bonaparte	Des Moines			T.			.52			.55	.05	.65						.20					.47	.09					.08			2.61
Boone ‖	do																															
Britt	Iowa	T.		T.			.33			.02		.01	T.			T.		.17		.07								T.	.02			0.62
Buckingham	Cedar					.46	.04		.25	.40							.30	T.		T.				T.				T.				1.45
Burlington ‖	Mississippi						.80			.47	.25		1.10					.42	T.	T.	T.			.20					.30	.20		3.74
Carroll ‖	Raccoon						.18																									0.18
Cedar Rapids ‖	Cedar		T.	T.			.57	T.		.51	.30		.30				T.	.17	T.		.08			.06	T.				.13	T.		2.12
Charles City	do					.10	.35		.03	.03		.02					.35	.38		.07									.02			1.35
Clear Lake	do						.30																									
Clinton	Mississippi						.90		*	1.57		1.10						.24	.05				T.	.81					.36			4.53

TABLE 2.—*Daily precipitation for November, 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.																																
Columbus Junction	Iowa					.05	.66			1.75		1.20						.29		.05			.30	T.					.13			4.43
Davenport	Mississippi					.59	.10		.13	1.57		.72	T.		T.	T.	.18	.12		.02			.25	T.	T.			.10	.06			3.84
Decorah	do					T.	.54	T.		.55	T.	.12	T.	T.	T.	T.	.44	T.		.10	T.		T.	T.								1.75
Delaware	do						.60	.02		1.82	.14	.34				T.		.23		.04									.04			3.23
Des Moines	Des Moines	T.		T.		.49	T.		.20	.10		.02					.29	.04	T.	.03				T.				T.	.05			1.22
Dubuque	Mississippi					.33	.19		.12	1.01	T.	.80	T.			T.	.10	.05		.04			.05	T.				.18	.17			3.04
Earlham	Raccoon	.05				T.	.44		.04	.20		T.	T.				T.	T.	.08					T.					.05			0.86
Elkader	Mississippi						.56			.75		.30	T.		T.	T.		.55		T.									.15			2.31
Elma	Wapsipinicon	T.		T.		T.	.60			.80		T.	T.		T.	T.	T.	.45		T.				T.					T.			1.85
Estherville ‖	Des Moines	.10	.05				.30	T.		.10		T.	T.	T.	.10	.05	.05	T.	T.	.10								.05				0.90
Fairfield	Skunk					.14	.63		T.	1.24	T.	.70						.12	.42	.04			.42	T.				T.	.11			3.82
Fayette	Mississippi	T.				.15	.37			.71	T.	T.	T.		T.	T.	T.	.45		.02				T.				T.	.07			1.77
Forest City ‖	Cedar	T.			T.		.03	.10		.05	T.	T.				T.		.25		.05				T.				T.	T.			0.48
Fort Dodge ‖	Des Moines	T.						.07		.14		.05	T.					.15		.03												0.44
Fort Madison	Mississippi					T.	.85		T.			1.40						.21		.20			.22						.20			3.08
Gilman	Iowa																															
Grand Meadow	Mississippi						.66	.02		.66	.22	.12	.02		.03			.50	T.	.05				T.					.07			2.35
Grinnell	Iowa					.10	.52		.20	.43		T.						.51		.05								T.	.10			1.91
Grundy Center	Cedar	T.				T.	.55			.35		T.						.36		.10				T.					T.			1.36
Guthrie Center	Raccoon	T.		T.			.38		.01	.12		.03						.12	T.										T.			0.66
Hampton	Cedar					.40	.05		.10	.06	.05	T.					.46	T.		.03								T.				1.15
Humboldt	Des Moines	T.		T.			.25		.12			T.	T.					.14		.09												0.60
Independence	Wapsipinicon	T.					.63	.06		.65	.15					T.		.33		.10				T.					.05			1.97
Indianola	Des Moines	.01				.13	.29		.20	.22		.03						.32	.03	T.				T.				T.	.03			1.26
Iowa City ‖	Iowa						.65	T.		1.18	.23	T.	.47					.31	T.		T.			.11					.06	T.		3.01
Iowa Falls ‖	do	T.			T.		.44	.05		T.	.10	.05	T.				T.	.24	.03		.10				T.				T.	T.		1.01
Jefferson	Raccoon	.04		T.			.28		.03	.05		.01	T.					.09	.02	T.									T.			0.52
Keokuk	Mississippi	T.				.60	.19		.10	.15		1.12			T.			.26		.04			.26	T.				.04	.12			2.88
Keosauqua ‖	Des Moines						.53		.44	.26			.51					.12	T.		.03		.42		.01				.06	.05		2.43
Knoxville	do					.10	.40		.20	.34		T.					T.	.03		.40			.07	T.				.10	.20			1.84
Lacona	do	.03				.12	.40	.14		.06		.10	.03					.30	.06	.10			.01					.10	.10			1.55
LeClaire ‖	Mississippi						.85	.02		.92	1.19	.01	1.05	T.		T.	T.	.32	.03		.03			.28	T.				.27	.02		4.99
Marshalltown ‖	Iowa	.01	T.				.53	.03		.22	.24	.02	.02					.48	T.	T.	.14				T.				.02	.03		1.74
Mason City	Cedar						.33				.04							.40		.05												0.82
Monroe	Des Moines						.53			.56	.05							.54														1.68
Mount Pleasant	Skunk					T.	.57		T.	1.22	.27	.62	T.		T.		T.	.18		.02			.39	.13					.15			3.55
Muscatine ‖	Mississippi					.70				1.03	.95		.60					.28	.05		.03			.36					.22	T.		4.22
New Hampton	Wapsipinicon	T.				T.	.65	T.		.25			T.		T.		T.			T.									T.			0.90
Northwood	Cedar			.05		.11	.27			.50		.20	.10				.20	.40		.10									.05			1.98
Olin	Wapsipinicon						.65			1.30		.60	T.					.26		T.			.18	T.					T.			2.99
Osage	Cedar						.53			.11								.50		.05												1.19
Oskaloosa	Des Moines					.48			.08	.38							.21	T.		.02			.20					*	.03			1.40
Ottumwa	do					.13	.23		.07	.16		.02						.03		.06			.13					.01	.07			0.91
Pella	do	T.				.04	.52		.04	.56		T.					T.	.31	T.	.08			.11	T.				T.	.04			1.70
Perry	Raccoon						.43			.10		T.						.41	T.	.02				T.					T.			0.96
Plover	Des Moines			T.			.10		T.	.05		T.					T.	.20														0.35
Pocahontas	do			T.			.16			.04							.03	.20	T.	.05												0.48
Ridgeway	Mississippi	.01		T.			.75			.29	.20	.01	.01		.01		.67	.01	T.	.03	T.			.01					.04			2.04
Rockwell City	Raccoon			T.		.75				.15																						0.90
Sac City	do			.05		T.	.40		T.	.03		T.	.05				T.		.10										.10			0.73
St. Charles	Des Moines	.05		T.			.31		.18	.21		.04	.01				T.	.50	.05					T.					.01			1.36
Sigourney	Skunk					.03	.55			.90		.25						.20		.06			.10						.12			2.21
Stockport	do						.66			.55	.05	.68						.21		.02			.24	.14					.06			2.61
Storm Lake	Raccoon	.18		T.			.09					T.						.02	.01	.06				T.					T.			0.36
Tipton	Cedar						.68		1.28	.03	.95							.49		.06			.09						.21			3.79
Toledo	Iowa	T.					.55			.60	.10							.33		.10								.05				1.73
Wapello	do																															
Washington	Skunk					*	.62		*	1.12		.56						*	.10	.05			.16				*	.18				2.79
Waterloo ‖	Cedar	T.				.43	.02		.12	.28	T.	T.			T.	T.	.23	T.		.09					T.				.02			1.19
Waukee	Raccoon	T.		T.		.05	.56	.02	.08	.25	.01	T.					.01	.44	.01	.04				T.					.03			1.50
Waverly	Cedar	T.				.15	.55			.52								.10		.10												1.42
Webster City	Des Moines				.01			.43			T.		T.	T.					.38	.05							.06					0.93
West Bend	do	.02					.16		.08			T.						.24		.10									.01			0.61
Whitten	Iowa	T.		T.		T.	.80				.15	T.					T.	.30		T.									T.			1.25
Winterset	Des Moines					T.	.50		.10	.25		T.					T.	.30	.03	T.				T.					T.			1.18
Missouri.																																
Gorin	Mississippi					.60				.25		.90						.10					.42						.07			2.34
Hannibal	do					.64	.18		T.	.01	.01	.87			.01		.03	.16	.02	T.			.17	T.	T.			.08	.12	T.		2.30
Louisiana	do					.25	.35			T.	.20		.72		.05			.33		T.				T.					.05			1.95
Mexico ‖	do						.82	.01			.01	T.	.62					.43		.01	T.			.22					.35	.01		2.48
Steffenville	do	T.				.22	.67		T.	.23		.45	.05					.30	T.	T.			.10	T.	T.				.20	.10		2.32
Sublett	do	T.				T.	.50	.20		1.00	T.	.40						.50					.10	T.					.05			2.75
Vandalia	do						.86											.84												.04		1.74
Warrenton ‖	do						.72	T.					.70					.36	.08	.01				.32					.27	.02		2.48
Indiana.																																
Collegeville	Iroquois						.44				.08	.85	T.	T.	.15	.10	T.	1.57		T.				T.	T.				.54	T.	T.	3.73
Knox	Kankakee		.06				.43				.09		.88		.21	.14		1.30			.05			.05	T.				.45	.13		3.79
Laporte	do	.10	T.			*	*	*	*	*	*	*	*	1.80		.20	T.	.75		.20				.07	.20				.32	.30		3.94
Plymouth	do		.46				.43	.07			.11	T.	.31		.22	.08		1.02			.23			.18	.08				.60	.31		4.10
Illinois.																																
Aledo	Mississippi						.71			1.19	.19	.90	.09		T.			.47		.04			.06	.24					.17			4.06
Alexander	Illinois					.16	.38			T.	.05	T.	1.17		.02			.26		.01			T.	T.				T.	.40	.02		2.47
Antioch	do						.60			.15	.58	1.70	.25		T.		.83				.60		.58									5.29
Astoria	do					.03	.58			.01	.03	.51	.50		T.		T.	.30	T.	.04			T.	.03				T.	.30			2.33
Aurora	do					.50				T.	.12	.90	.18		.11	T.		.55						.09	T.				.33			2.78
Beardstown ‖	do																															
Bement	Mississippi						.51			T.	.07		.15					1.18		T.				.12	T.				.35	.15		2.53
Bloomington	Illinois					.04	.46			T.	.03	1.07	.39				T.	.64		T.			T.	.03	T.				.45	T.		3.71
Cairo	Mississippi				.55	.99	.57			T.	T.	.13	.13					.12	.01	T.			.03	.62	T.			.11	.04	T.		3.30
Carbondale	do					.20	.85				T.	T.	1.35		T.			.06		.11				.62					.15	T.		3.34
Carlinville	Illinois					.22	.38			T.	.03		.64					.62		T.			.09	.14					.06			2.18
Carlyle	Mississippi					.30	.60						1.10					.50		.05				.55					.37	.04		3.51
Chester ‖	do						1.08				.04	T.	.78	.04	T.	.02		.08	.22	.06				.42	.04	.01			.56	.02		3.37
Clinton	Illinois																															
Coatsburg	Mississippi					.30	.48				T.	.91	T.					.53					.08						.30			2.60
Cobden	do					.24	1.35				T.	1.10						.55		.12	T.			.60					.38	T.		4.34

TABLE 2.—*Daily precipitation for November, 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—Contd.																																	
Dakota	Mississippi		T.				.80	.02		.91		1.40	T.		.01			.48		.05			.01	.09					.27	T.		4.04
Decatur	Illinois					.10	.41			.05	T.	.90	.40		.04		T.	.83		.05			.06		T.				.47			3.31
Dixon ‖	Mississippi						.70	.15		.40	1.10	.10	1.80			T.	T.	.75	T.					.18					.29			5.47
Du Quoin	do					1.30				T.		.53	T.		T.			.06		T.			.35						.27	.17		2.68
Dwight	Illinois						.45			T.	.05		.98		.02	T.		.69		T.	.01			.05	T.				.30	.02		2.57
East St. Louis ‖	Mississippi						.90						.95					.10	.20					.51					.56	.05		3.27
Edwardsville	do					.10	.65						.12					.50		.03				.27					.50			2.17
Elgin	Illinois					.62					.17		1.22		T.			.06			.05		.02						.32			2.46
Ewing	Mississippi					.11	1.20			T.	T.	T.	.72		T.			.33						.36					.34	T.		3.06
Fairview	Illinois																																
Galva	do					T.	.67			.61	.06	1.03	.12		T.		T.	.02		.02			.01	T.					.22			2.76
Grafton ‖	Mississippi						.72						.40					.40	.21	T.	.08			.73	T.				.46	.10		3.10
Greenville	do					.60	.35			.10	.06	.90	.15					.85		.09			.10					.10	.12	.10		3.52
Griggsville	Illinois					.15	.78			T.	T.	.67	T.		T.			.30		T.			T.	T.	T.				.25	T.		2.15
Havana	do					T.	.56			.06	.03	.39	.27					.42		T.				T.					.28			2.01
Henry	do						.63			T.	T.	.60	.44		T.	T.		.47		T.				.07					.40	T.		2.61
Hillsboro	Mississippi					.18	.48				T.		.95		T.			.65		T.				.15					.30			2.71
Joliet	Illinois	T.				.04	.43			T.	.06	1.29	.03		.15	.02	.60	.09		.05			.01	T.				T.	.10			2.87
Kishwaukee	Mississippi						.79			.66	.71	.97	.23		.02			.84		.05			.12						.18			4.57
La Grange	Illinois						.60			T.	.10	T.	1.32		.06	T.		.76	T.	T.	.01			.02					.03			2.90
La Harpe	do					.34	.37			.27		.30	.13					.18		.02			T.	.13					.14			1.88
Lanark	Mississippi						.81	.01		.96	.19	1.20	T.		T.	T.	T.	.53		.05			.07						.16			3.98
La Salle	Illinois	T.				.18	.28			.05	T.	.86	T.		.01	T.	.25	.30		.01			.04	.02	T.			.09	.17			2.26
Lincoln	do					T.	.53			T.	.12		.02		T.			.30	T.	.02				T.					.50	.10		1.59
Loami	do					.10	.43			T.	T.	1.30	.30		T.			.50	T.	T.			T.	.02	T.			.10	.50	T.		3.25
Macomb	do					.20				.18	T.	.71	.24					.26	.01	.03			T.	.11					.34			
Manteno	do						.43			T.	.07		1.11		.12	.10		.75		.04				.04	.03				.36	.05		3.10
Martinton ‖	do						.37	T.			.05	T.	.08			.04	T.	.58	.30		T.			.10	T.				.28	.20		2.00
Mascoutah	Mississippi					.20	.67			T.			.77					.30		.02				.45	T.				.27	T.		2.68
Minonk	Illinois				T.		.35			.02	.03		.70		T.	T.		.52		.01				.05	T.				.38	.05		2.11
Monmouth	Mississippi					.20	.50		.57	.02		1.16						.16		T.			.16					.23				3.00
Morris	Illinois																																
Morrison	Mississippi						1.01			1.09	.91	.88	.03			.02		.37		.03			.02	.31					.40	.05		5.12
Morrisonville	Illinois					.11	.40			T.	.03		1.37					.52		.03			T.		T.				.28	T.		2.74
Mount Vernon ‖	Mississippi						1.02					T.	.84					.24						.30						.23		2.63
Nashville	do																																
Oregon	do						.80			.62	.86	1.50			T.			.70		.20		T.	T.	.20					.27	.06		5.21
Ottawa	Illinois						.62			.05	.03	.44	.36		.02	.03		.51		.02			T.				.20					2.28
Pana	Mississippi					T.	.40			T.	.03		1.18					.56		T.				.03					.37	.02		2.59
Peoria	Illinois					.41	.24			.04		1.40	T.		T.		.02	.53		.03			.02	.01				.25	06			3.01
Pontiac	do	T.					.45			T.	.04	T.	1.35		T.	T.		.70		T.				.02	T.				.35	.04		2.95
Quincy ‖	Mississippi						.65	.03		.02			.64					.23	T.		.02			.22					.08	.03		1.92
Riley	do						.64			.34	.92	.91	.36		.02	.02		.96	T.		.07			.13		T.			.32	.01		4.70
Roberts	Illinois																																
Rockford	Mississippi						.72			1.36		1.08			T.		.56	.02		.05			.03	T.					.48			4.36
Rushville	Illinois					.47	.13			.15	.03	.82			T.		.04	T.		T.			.08	T.					.40			2.12
St. Charles	do	T.					.55	T.		T.	.17	T.	1.80		.08	T.		.75	T.	T.	.08			.04	T.				.35	T.		3.82
St. Peter	Mississippi					.30	.65			T.	T.		.80					.60		T.				.25					.30	.10		3.00
Sparta	do					.23	.82			T.	T.		.58	T.				.25		.06				.47	T.			T.	.30	T.		2.71
Springfield	Illinois					.49	.07			.08	.01	1.18	.02		.02		.02	.58		.08			.01	T.				.43	.11			3.10
Streator ‖	do						.43	.07		T.	.02		1.15			.01	T.	.61	T.		.01			.06	T.				.40	.10		2.86
Sullivan	Mississippi						.45			T.	.08		1.10					.84		T.				T.	T.				.55			3.02
Sycamore ‖	do						.55	.15		.24	.32	T.	.80			.01		1.20			.02			.15					.25	.05		3.74
Tiskilwa	Illinois						.63					.90			.02	T.				T.			.10						.40			2.05
Walnut	Mississippi						.61			.76	.18	.77	.24		T.	.02		.48		.02	.01			.16	T.				.51			3.15
Warsaw ‖	do						.83			.22		.67						.25					.17						.21			2.35
Waterloo	do					.25	.61			T.		T.	.71		T.			.19		.01				.53	T.			T.	.49	T.		2.79
White Hall	Illinois					.20	.55					.78	.23		T.			.64		T.			.04	T.	T.			T.	.50			2.94
Windsor	Mississippi						.53			T.	.20		.50					.90		T.				.20					.45	.02		2.80
Winnebago	do						.80			1.10	.32	1.28	.05					.50			.10		.10						.40			4.65
Yorkville	Illinois	T.					.50			T.	T.	.05	1.00		.15	.02		.25		.03	.05			T.					.03			2.08
Zion	Mississippi						.35			.75		1.02	.05		T.	T.		.57		.08			.03					T.	.56			3.41

* 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 November, 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....	24	0	25	1	31	7	27	−1	.....	.....	36	15	27	15	29	13	39	13	28	12	25	16	31	14	27	17	27	14
2....	37	0	35	8	35	−1	37	5	.....	.....	32	15	33	7	33	12	37	9	33	4	36	12	29	13	31	17	36	17
3....	43	2	40	17	35	2	51	14	.....	.....	32	19	34	16	32	19	39	20	35	14	44	13	33	16	35	18	33	14
4....	50	9	50	21	32	16	53	18	.....	.....	38	24	44	20	40	25	43	15	48	18	42	26	34	13	39	30	38	19
5....	44	18	41	29	45	22	50	31	.....	.....	39	27	43	20	42	24	46	24	40	28	38	23	36	19	43	28	34	24
6....	40	21	44	24	37	32	37	21	.....	.....	40	33	38	33	40	34	46	33	42	34	46	26	36	24	39	36	37	32
7....	35	18	41	21	50	29	38	19	.....	.....	40	33	43	30	43	30	50	28	46	26	45	32	40	31	41	32	42	30
8....	40	20	40	25	42	20	41	20	.....	.....	39	33	46	31	39	26	44	28	46	32	44	31	36	24	40	30	41	28
9....	10	6	30	3	34	24	20	17	.....	.....	40	33	38	36	42	36	53	34	40	9	41	32	40	32	45	38	38	32
10....	0	−14	4	− 9	24	− 2	4	− 9	.....	.....	42	10	21	1	46	-18	22	9	10	1	28	13	32	7	39	14	38	8
11....	2	−17	2	− 7	25	− 1	11	− 4	.....	.....	24	10	8	5	46	14	10	8	8	− 1	18	13	22	13	29	11	21	11
12....	3	−15	4	−11	15	− 9	10	− 8	.....	.....	15	− 2	8	− 6	17	− 3	10	− 3	6	− 6	10	1	13	− 2	12	3	13	− 2
13....	3	−14	5	− 9	10	− 8	10	2	.....	.....	13	2	8	− 7	32	2	23	0	10	− 6	32	1	13	5	21	4	16	− 6
14....	5	−10	8	−15	13	0	16	−10	.....	.....	26	10	9	− 2	30	22	26	12	12	− 5	31	10	11	3	33	12	17	3
15....	5	−18	9	−20	16	− 6	31	− 5	.....	.....	25	− 1	9	−20	24	7	27	4	8	−12	20	8	13	− 7	15	2	19	−12
16....	18	−14	26	− 4	24	− 4	24	− 8	.....	.....	21	10	23	−10	26	4	24	13	24	1	26	9	18	−16	27	5	18	−14
17....	16	−16	17	−10	18	4	32	− 4	.....	.....	25	13	12	− 2	30	19	23	15	22	1	26	18	13	− 7	30	11	21	0
18....	21	− 5	16	3	18	− 4	40	0	.....	.....	23	3	15	− 4	22	4	15	− 3	15	1	27	3	20	3	19	4	21	8
19....	28	12	28	11	25	8	35	20	.....	.....	22	4	20	− 6	31	5	35	5	25	2	35	4	20	−15	25	0	22	− 7
20....	25	12	28	10	20	10	41	11	.....	.....	28	14	26	7	32	-14	31	5	26	3	31	8	25	5	29	14	22	3
21....	26	9	27	7	20	− 1	36	13	.....	.....	27	12	31	− 3	32	7	34	2	33	2	36	6	23	−12	30	6	26	6
22....	22	12	25	2	24	15	21	18	.....	.....	31	22	28	2	36	26	33	15	29	8	43	14	28	12	35	20	28	23
23....	19	−11	15	−10	29	− 3	28	−10	.....	.....	28	6	12	− 5	28	5	10	1	8	− 2	10	6	18	6	20	5	26	4
24....	[illegible]	−11	34	10	39	− 4	41	−11	.....	.....	28	2	26	− 3	27	1	24	− 5	32	− 2	27	− 1	24	− 5	30	− 2	27	0
25....	[illegible]	12	37	25	42	10	43	25	.....	.....	36	20	37	6	41	18	42	5	38	17	43	18	37	10	38	17	40	15
26....	32	20	34	19	30	27	34	27	.....	.....	34	25	35	24	46	23	37	25	34	25	39	23	36	30	36	22	32	20
27....	15	15	23	− 1	30	16	27	18	.....	.....	34	20	26	18	45	25	24	15	25	6	27	23	32	15	34	17	31	14
28....	16	−14	15	−12	20	− 4	25	− 5	.....	.....	24	10	10	−10	27	9	13	0	7	− 6	23	11	18	1	17	5	20	− 4
29....	28	−10	32	12	37	− 5	39	12	.....	.....	33	3	28	− 5	25	2	25	− 1	35	6	42	3	30	4	39	4	33	0
30....	30	9	32	20	.....		29	39	25	.....	37	19	32	7	40	19	38	10	37	17	45	11	36	12	37	15	40	14
Mns..	23.6	0.9	25.6	5.3	28.6	7.3	31.4	8.0	.....	.....	30.4	14.8	25.7	6.5	34.1	15.3	30.8	11.2	26.7	7.6	32.7	13.8	26.6	8.3	31.2	14.5	28.6	9.8

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.	Max.	Min.	Max.	Min.	Max.	Min.
1....	35	23	33	18	31	22	32	21	36	24	31	14	37	22	31	15	31	28	25	19	33	21	33	23	31	22	33	23
2....	36	17	34	17	35	20	33	19	36	18	31	10	31	16	32	11	33	18	33	13	35	18	33	16	36	19	35	18
3....	35	15	39	14	36	18	34	20	35	16	36	14	38	16	32	17	37	18	34	17	38	24	33	25	36	21	42	26
4....	38	15	34	27	36	28	35	31	35	30	33	26	35	21	44	27	40	23	42	28	40	34	46	33	39	22	43	35
5....	49	30	41	32	45	27	45	31	43	22	39	25	37	26	45	27	48	28	44	27	51	37	45	32	49	31	46	36
6....	47	40	42	36	44	38	46	37	46	37	37	33	41	34	41	36	46	32	42	38	49	42	47	39	46	41	55	41
7....	47	35	42	33	42	30	44	33	45	35	40	27	41	35	44	32	43	35	43	30	46	34	48	35	42	33	51	36
8....	47	24	41	25	43	26	43	29	42	24	40	26	41	24	44	28	46	26	41	28	49	28	48	30	44	27	52	34
9....	46	36	41	36	45	40	46	36	43	36	39	32	38	34	47	37	51	27	48	40	51	40	53	44	49	39	56	45
10....	56	44	44	21	47	29	51	40	46	33	43	15	44	29	46	17	63	33	48	22	62	44	48	31	60	37	64	45
11....	73	43	37	24	43	16	70	20	66	34	34	15	61	35	36	7	72	35	44	10	76	14	48	10	70	16	79	14
12....	43	12	26	5	16	8	20	7	34	10	17	4	48	9	10	0	16	10	10	3	20	9	16	4	16	8	17	11
13....	25	7	22	4	32	6	27	7	28	6	12	2	18	− 1	36	2	34	8	35	6	31	12	38	11	31	9	32	13
14....	29	24	31	17	31	26	30	24	30	24	31	12	28	15	39	23	46	12	35	20	34	26	45	30	34	27	39	28
15....	30	20	29	4	26	11	30	16	28	12	25	3	27	14	24	10	26	21	23	12	30	22	32	21	30	20	34	26
16....	32	12	23	0	34	11	32	14	28	10	22	7	23	− 1	31	13	42	18	35	15	42	21	43	21	36	19	48	23
17....	43	29	32	22	34	21	39	27	33	25	31	20	30	20	31	16	38	20	34	13	48	26	41	27	39	23	59	29
18....	31	19	29	10	22	13	27	17	30	16	27	14	32	19	29	12	30	18	26	11	33	20	38	23	27	15	37	29
19....	32	15	23	− 2	28	9	28	12	25	10	24	3	29	6	39	18	37	17	35	12	36	18	48	30	35	14	44	28
20....	32	19	26	15	29	22	30	24	30	25	24	6	31	11	37	18	35	19	33	15	37	19	43	32	36	23	42	30
21....	32	16	29	17	32	23	31	22	28	24	28	16	32	20	37	13	35	18	33	11	37	20	42	23	36	20	41	25
22....	35	22	39	22	43	27	35	24	37	20	35	25	35	18	36	24	39	17	42	25	43	31	46	27	39	31	52	32
23....	35	22	31	17	27	14	30	19	35	20	25	6	36	21	26	8	23	22	25	9	31	19	27	12	32	19	32	16
24....	30	15	22	− 1	30	7	28	14	35	20	20	5	25	6	35	4	30	9	31	5	31	13	36	11	32	13	32	14
25....	38	22	36	11	43	21	40	22	40	18	34	1	33	13	49	20	46	10	48	20	44	25	53	26	47	23	48	26
26....	42	27	37	18	42	26	42	32	40	25	36	12	35	16	50	22	51	23	45	23	52	32	53	31	48	29	55	34
27....	42	30	35	30	35	27	37	32	35	25	32	17	36	30	37	18	36	25	34	22	44	29	37	21	42	29	49	27
28....	32	20	32	13	27	10	32	17	35	22	18	7	34	19	19	4	22	21	22	6	29	15	21	9	29	13	27	15
29....	21	2	33	4	35	3	23	4	30	11	30	3	27	0	39	2	28	3	37	3	23	5	36	6	29	5	22	4
30....	34	15	35	16	40	22	36	19	35	21	32	11	37	15	48	21	42	3	43	22	39	22	48	28	40	22	38	17
Mns..	38.2	22.3	33.3	17.0	35.1	20.0	35.9	22.3	36.3	21.8	30.2	11.8	34.7	18.1	36.5	16.8	38.9	19.9	35.7	17.5	40.5	24.0	40.9	23.7	38.7	22.7	43.5	26.0

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

Date.	Missouri, Hannibal.		Indiana, Laporte.		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	39	24	43	30	51	33	48	26	37	23	35	25	47	32	41	22	42	24	35	23
2	35	20	34	27	37	25	38	21	35	19	39	16	31	20	36	17	34	20	35	18
3	38	26	38	19	44	29	41	26	38	22	37	18	45	20	38	19	39	25	36	16
4	45	34	41	20	44	36	44	35	40	34	45	32	50	28	41	31	47	35	39	31
5	47	34	.....	.....	52	41	49	40	51	36	53	33	57	34	50	36	49	38	50	32
6	58	46	.....	.....	69	52	58	46	52	45	50	39	64	44	52	42	56	44	47	40
7	53	36	.....	.....	58	46	54	38	49	34	53	34	60	43	51	30	51	38	50	36
8	56	36	.....	.....	56	45	54	40	50	28	53	27	66	42	51	28	53	36	45	25
9	60	48	.....	.....	60	44	54	23	51	39	51	35	58	44	54	40	53	41	50	43
10	72	47	.....	.....	67	57	64	50	63	48	60	39	68	42	62	48	66	47	57	43
11	82	16	72	.....	78	36	75	37	76	14	78	24	80	57	77	17	76	19	75	38
12	19	11	.....	10	36	19	37	14	18	13	24	10	28	14	18	12	19	13	38	11
13	31	16	.....	.....	31	18	28	14	29	13	31	11	32	12	29	12	28	13	29	9
14	45	28	.....	.....	50	30	42	27	32	26	34	24	48	15	33	25	40	25	33	23
15	39	28	30	15	66	38	49	28	29	20	34	23	60	29	34	23	39	27	30	20
16	56	27	32	12	63	33	49	27	36	19	50	18	59	28	44	22	47	25	37	16
17	61	30	53	26	63	35	57	33	53	27	50	32	60	28	53	28	56	32	45	30
18	40	29	38	26	56	32	41	30	32	24	36	25	43	28	36	27	40	30	31	16
19	47	31	35	21	54	36	40	33	36	19	35	22	44	37	38	21	41	30	30	15
20	44	31	35	28	52	40	45	31	38	23	37	25	46	36	37	26	40	33	33	23
21	43	27	38	25	50	32	42	26	38	22	40	19	46	25	38	22	38	27	35	20
22	52	34	40	21	55	35	50	30	43	30	44	29	54	25	45	30	48	30	34	28
23	34	20	35	28	48	28	42	26	39	22	33	20	46	30	40	20	42	22	32	16
24	33	16	30	20	30	25	32	26	30	20	31	12	31	21	31	18	31	20	30	22
25	49	26	39	17	50	24	42	25	44	26	45	12	47	21	45	22	45	25	41	24
26	58	34	48	25	60	36	57	32	49	31	52	34	59	24	50	28	54	34	49	28
27	47	29	46	31	55	41	51	37	51	34	44	34	50	32	53	32	54	36	46	33
28	29	14	43	28	48	23	40	20	34	21	34	19	32	28	32	18	39	19	39	21
29	20	6	30	12	25	19	23	15	24	9	19	2	24	17	19	6	20	10	22	2
30	38	19	32	12	45	18	37	16	36	17	40	15	40	15	35	13	37	16	34	14
Mns	45.7	27.4	[1]39.6	[1]21.6	51.7	33.5	46.1	29.6	41.1	25.3	42.2	23.6	49.2	29.0	42.1	24.5	44.1	27.8	39.6	23.9

[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.