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Precipitation Summary for 1992

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Taken as a whole, 1992 was a normal year for precipitation in Wisconsin. The statewide average of 31.1 inches was 98 percent of normal, only 0.7 inch below the 1961–90 average of 31.8 inches. However, when distributed by month and region within Wisconsin, precipitation varied widely across the state during the year. Table 1 compares precipitation for the years 1991 and 1992; table 2 lists monthly totals and a statewide average. Precipitation was measured at more than 200 National Weather Service and other stations around Wisconsin (fig. 1).

Wisconsin experienced a critical moisture deficit in the spring and several serious floods during 1992. These conditions led to highly varied precipitation amounts across the state, ranging from more than 40 inches in southwestern Wisconsin to less than 26 inches in several scattered regions (fig. 2). In general, the central and southwestern parts of the state experienced above normal precipitation; the northern and southeastern sections of Wisconsin were below the long-term average (fig. 3).

The largest precipitation amounts were measured in areas affected by extreme rain events that occurred in Wisconsin in 1992. The highest annual rainfall was reported at La Farge (43.11 inches, of which 9.51 inches fell in a five-day period in mid-September). Several other stations in southwestern Wisconsin had high annual precipitation totals, including Richland Center (39.63 in.), Viroqua (39.43 in.), Genoa Dam (37.53 in.), and Muscoda (37.31 in.).

One notable storm occurred in far northwestern Wisconsin from June 30–July 4; more than 7 inches fell near Drummond and Gurney during this storm period (fig. 4). The storm was associated with intense thunderstorm activity ahead of and north of a deepening low-pressure area that moved through

Table 1. Comparison of precipitation amounts for Wisconsin climatological divisions for 1992 and 1991. "Normal" is the 30-year average from 1961-90. Divisions are shown in figure 1.

Division	Total 1992 (in.)	Departure from normal (in.)	Total 1991 (in.)	Departure from normal (in.)
Northwest	27.9	-3.5	42.6	+11.2
North Central	30.1	-1.8	40.3	+ 8.4
Northeast	31.5	+0.3	36.3	+ 5.1
West Central	32.5	+0.3	38.7	+ 6.5
Central	32.6	+0.6	33.2	+ 1.2
East Central	29.6	-0.9	32.4	+ 1.9
Southwest	35.5	+3.5	39.9	+ 7.9
South Central	32.7	+3.3	36.8	+ 7.4
Southeast	29.7	-2.9	35.3	+ 2.7

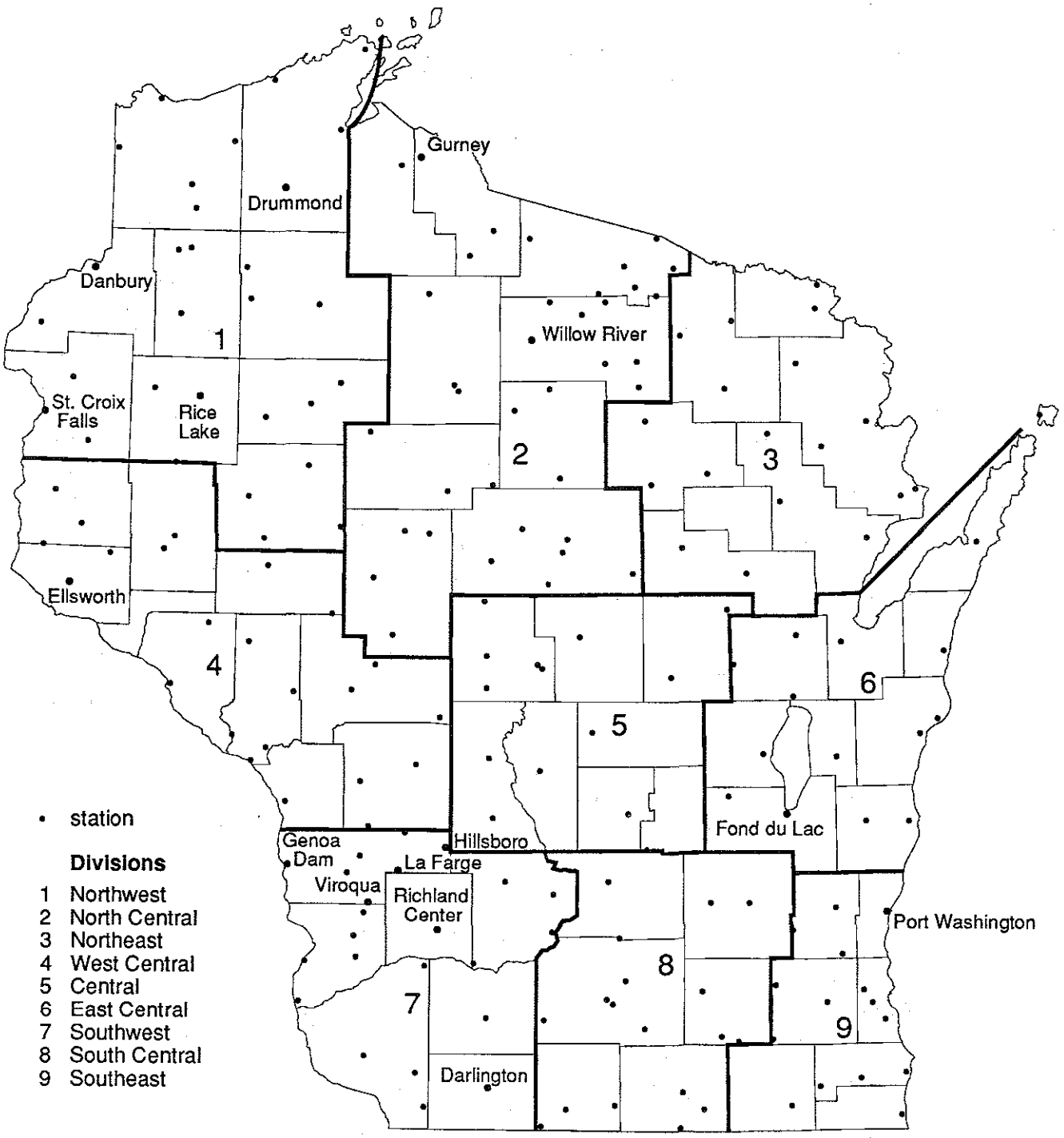


Figure 1. Map of station locations and climatological divisions (adapted from *Climatological Data, Wisconsin,* National Oceanic and Atmospheric Administration, National Climatic Data Center). Only stations that are discussed in text are named on this map.

central Wisconsin on July 3. Rainfall from 7 a.m. on July 1 until 7 a.m. on July 2 exceeded 4 inches at some locations.

Another significant storm occurred from September 14–19 in west-central and southwest Wisconsin. This storm was produced by a number of low-pressure areas that traveled along a slow-moving, at times stationary, front. Two distinct centers of heavy rainfall were observed: one extended from Ellsworth in Pierce County to northern Buffalo and Trempealeau Counties; the other, between Hillsboro and La Farge (fig. 5). Within these centers, isolated reports of 9 to 13 inches were noted by emergency government personnel, and a few unconfirmed reports of 14 to 17 inches over a three-day period were received from farmers in the LaValle–Hillsboro area. The heaviest downpour occurred around 5 a.m. on September 16, when locally heavy rains of 2 to 5 inches fell in Buffalo County in just a fewhours.

Wet conditions in the fall contributed to problems with the yearly corn harvest. University of Wisconsin–Extension specialists noted an unusual amount of mold on the corn because of cold growing-season temperatures, which delayed growth and slowed grain drying in the fall. Wet soil conditions magnified this problem by making it difficult for farmers to work in the fields.

In contrast to the wet conditions in some regions and months, an intense dry spell in May and June over much of Wisconsin contributed to low precipitation totals at other stations around the state. Some locations in southwestern and east-central Wisconsin, including Darlington and Fond du Lac, measured their driest May through June precipitation ever during this drought. The total rainfall in May and June across Wisconsin was less than 80 percent of normal at almost all locations; in some areas, rainfall in these two months was less than 20 percent of normal, leading to severe short-term moisture stress on crops (fig. 6). However, because of the cool temperatures in these months and the presence of adequate soil moisture before the drought, the effect on the crops was less than in the extreme drought year of 1988, when similar water shortages were coupled with higher than normal temperatures.

For the year, the driest areas were centered in northwest Wisconsin and the upper Fox River valley (fig. 2). The driest station in the state in 1992 was St. Croix Falls, where only 21.41 inches were measured. Other stations with low precipitation totals were Danbury (23.12 in.), Rice Lake (24.42 in.), Willow Reservoir (24.52 in.), Port Washington (25.15 in.), and Fond du Lac (25.42 in.).

Due to the abundant autumn rainfall across most of Wisconsin, soils in most parts of the state were moist to very wet by the end of the year. Surface and groundwater levels (measured and published by the U.S. Geological Survey) are also near normal conditions in many parts of the state, reflecting the adequate annual precipitation Wisconsin received in the past several years. However, a few locations continue to show groundwater levels below normal.

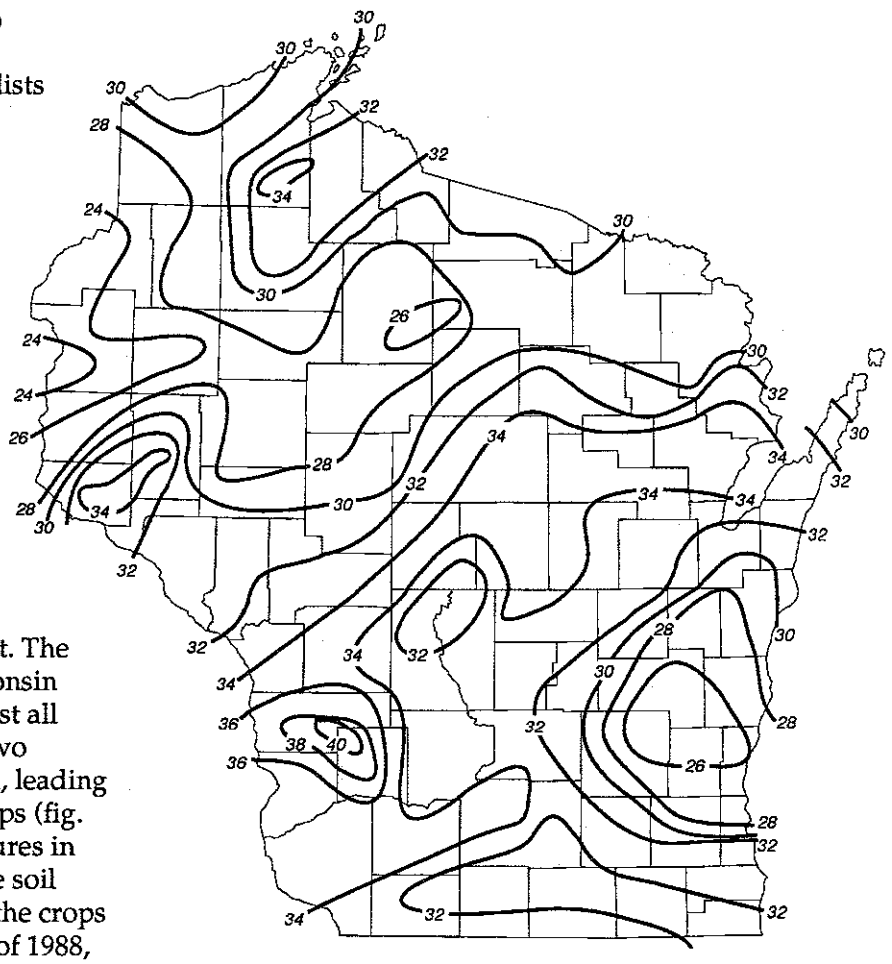


Figure 2. Total precipitation in inches, 1992.

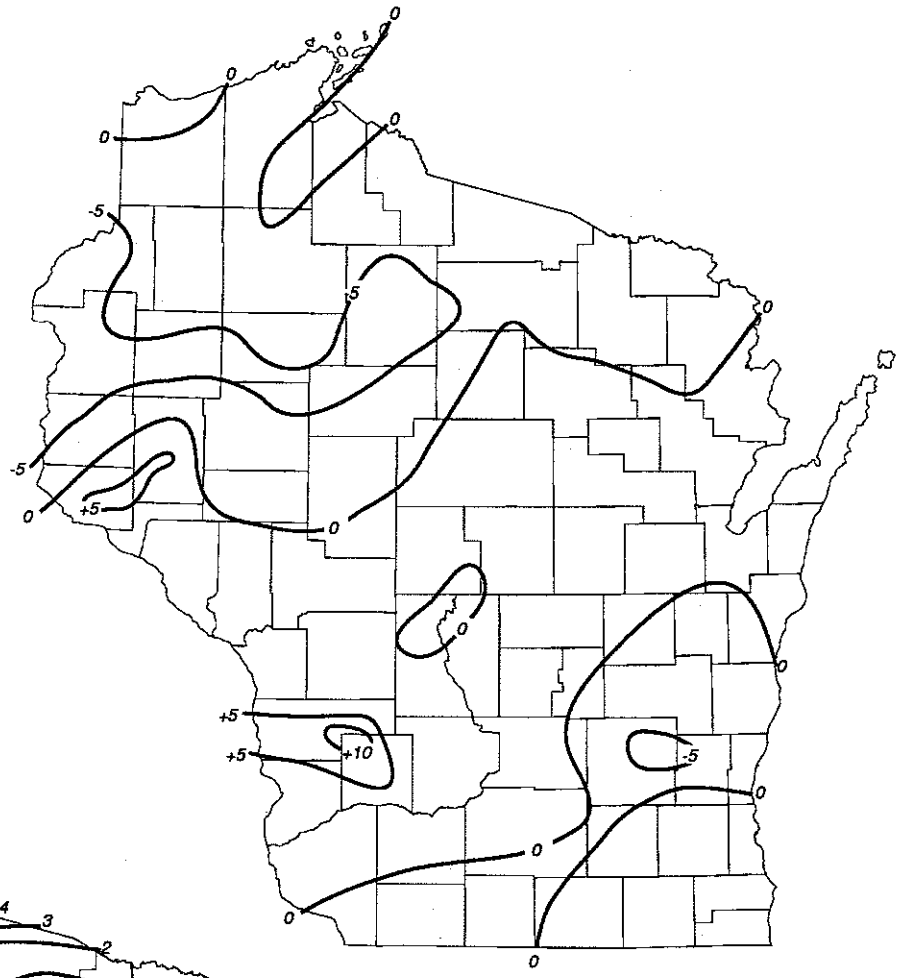


Figure 3. Departure from normal precipitation in inches, 1992.

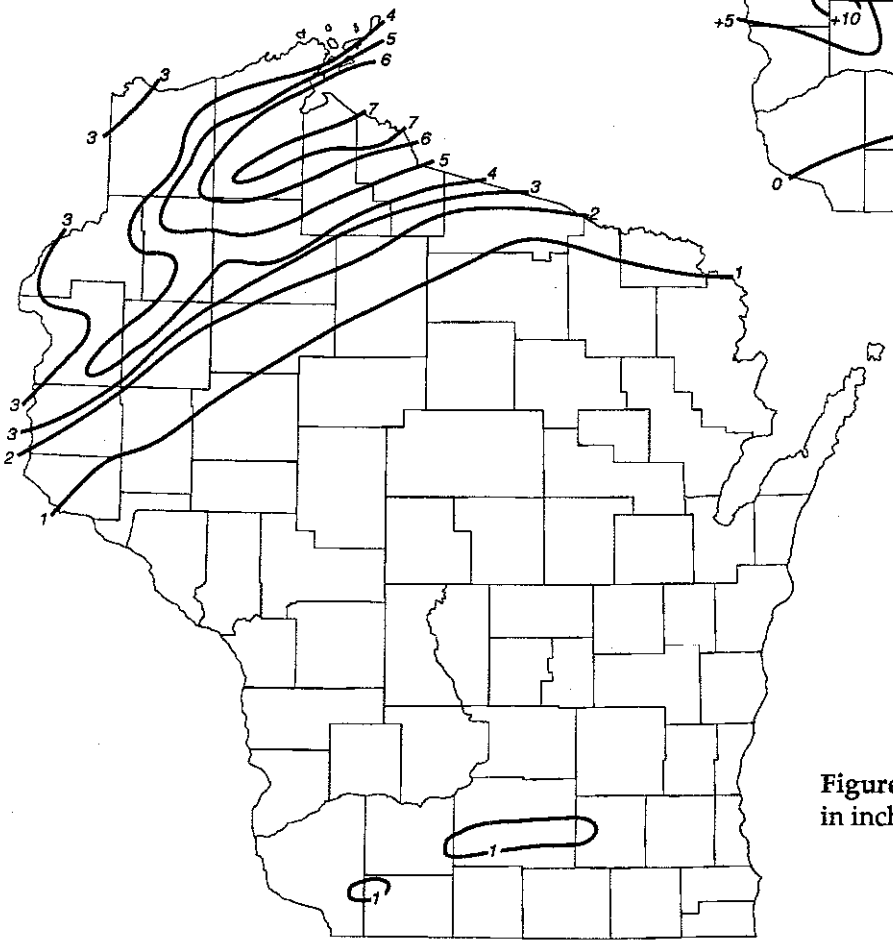
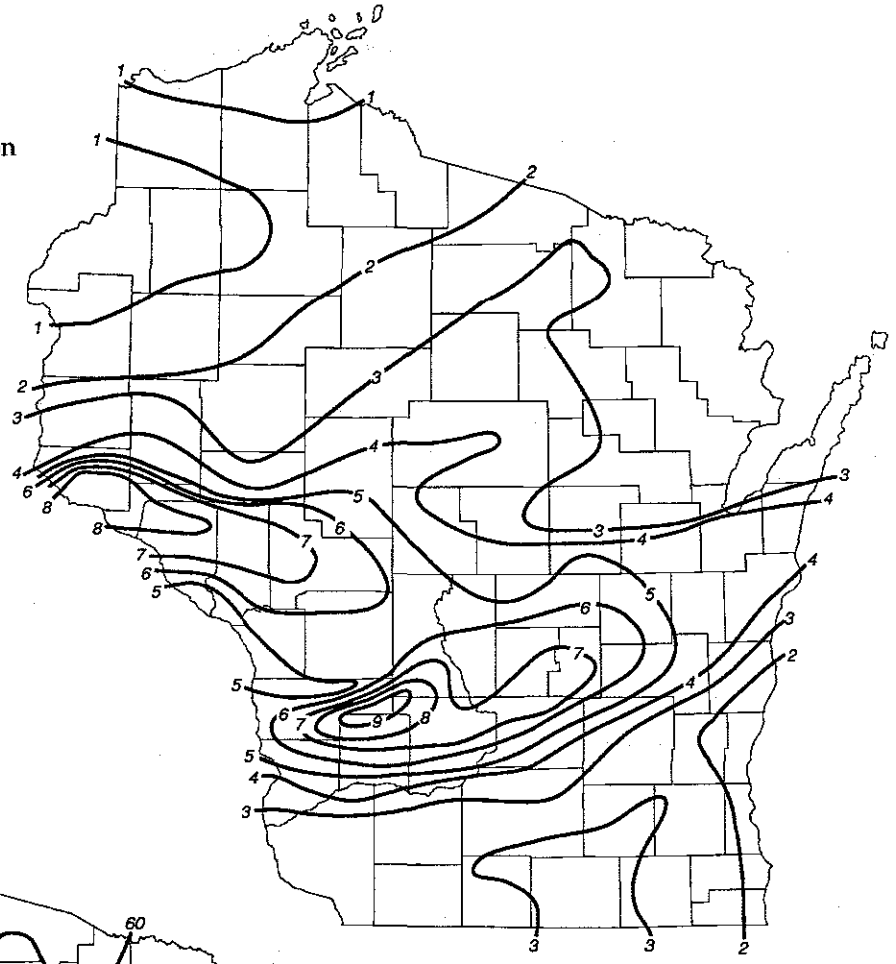


Figure 4. Accumulated precipitation in inches, June 30–July 4, 1992.

Figure 5. Accumulated precipitation in inches, September 14–19, 1992.



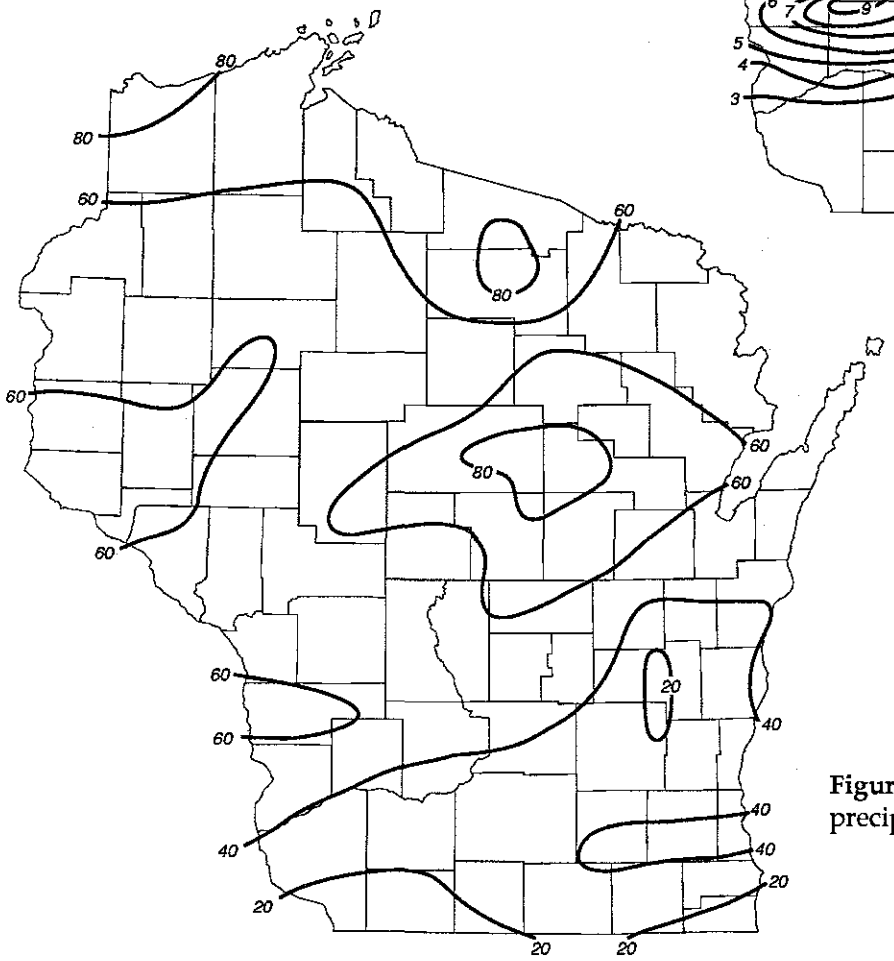


Figure 6. Percentage of normal precipitation for May–June, 1992.

Table 2. Precipitation in 1992, averaged by climatological division

Division*	Monthly totals, 1992 (in inches)												Statistics, 1992			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Normal	Depart	Pct
Northwest	0.66	0.57	1.27	3.32	2.05	2.92	4.93	3.31	2.88	2.64	2.07	1.27	27.87	31.34	-3.47	89
North Central	0.77	0.84	1.77	2.48	2.90	2.57	3.45	3.02	5.53	1.92	3.15	1.67	30.07	31.91	-1.84	94
Northeast	0.99	0.93	1.91	2.93	2.85	1.91	2.68	3.64	5.32	1.47	4.80	2.06	31.49	31.15	0.34	101
West Central	0.74	0.52	2.08	3.56	1.73	2.79	3.97	2.71	7.97	1.81	3.18	1.44	32.50	31.24	0.26	101
Central	0.70	0.69	2.24	2.89	2.44	1.65	3.63	2.44	8.52	1.10	4.21	2.06	32.57	31.96	0.61	102
East Central	0.88	0.82	2.15	3.11	1.35	1.67	3.38	2.09	5.86	1.26	4.69	2.34	29.60	29.52	-0.92	97
Southwest	0.98	0.97	2.47	3.52	1.72	1.70	5.20	2.66	8.08	0.88	5.19	2.09	35.46	32.12	3.34	110
South Central	0.81	1.34	1.84	3.06	1.07	1.13	6.02	2.67	6.14	1.23	4.69	2.58	32.58	32.56	0.02	100
Southeast	0.80	1.19	2.08	2.41	0.88	1.44	4.55	3.30	4.63	1.29	4.78	2.34	29.69	32.57	-2.88	91
Statewide average, 1992	0.80	0.82	1.91	3.05	2.05	2.16	4.15	2.91	5.93	1.65	3.79	1.86	31.08	31.77	-0.69	98
Normal, 1961–90	1.09	0.95	1.96	2.72	3.39	3.83	3.75	4.05	4.01	2.51	1.81	1.48	31.77			
Departure from normal	-0.29	-0.13	-0.05	0.33	-1.34	-1.67	0.40	-1.14	1.92	-0.86	1.98	0.38	-0.69			
Percentage of normal	74	87	97	112	61	56	111	72	148	66	209	126	98			
Cumulative Statistics																
Total	0.80	1.62	3.53	6.58	8.63	10.79	14.94	17.85	23.78	25.44	29.23	31.08				
Departure	-0.29	-0.41	-0.47	-0.13	-1.47	-3.14	-2.74	-3.88	-1.96	-2.83	-0.74	-0.69				
Percentage of normal	74	80	88	98	85	77	85	82	92	90	98	98				

*See fig. 1.

Division averages are based on arithmetic averages of available station precipitation measurements. These data are collected from National Weather Service offices, cooperative observers, and other participating agencies. Some values may differ from those in *Climatological Data, Wisconsin* (published by the National Oceanic and Atmospheric Administration, National Climatic Data Center). Statewide precipitation is calculated using an area-weighted average of climatological division values.

Precipitation totals for individual stations can be obtained from the State Climatology Office, 1225 W. Dayton Street, Madison, Wisconsin 53706; telephone 608/263.2374, FAX 608/262.5964. Please consult the State Climatology Office before using the data for legal or regulatory purposes.

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