

June 2008 Climate Narrative For Southwest Lower Michigan

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Overview

June 2008 will be remembered for the period of severe weather and flooding that occurred during the first half of the month. June was relatively warm with most of the warmth occurring during the first half of the month. Overall, temperatures ranged from about 0.5 degrees above normal near the Lakeshore areas, to around 2.5 degrees above normal elsewhere (table 1, fig 3, 4, and 5). Rainfall was above normal for the area...with many areas seeing 1 to 3 inches above normal. Some local areas near Holland, and also near Ludington were likely 3 to 7 inches above normal (fig 1 and 2).

The active weather set up across the area on the 5th as a line of strong thunderstorms marched through most of the area. A warm front lifted north into the area, and waves of showers and thunderstorms occasionally moved through over the next few days. This setup continued into the 9th, when a cold front swept through the area. These waves produced some severe weather, the strongest of which occurred the afternoon of the 6th, the evening of the 7th, and the afternoon of the 8th.

Wind damage was the main hazard that occurred with the storms. The worst damage on the 6th occurred in Eaton and Clinton counties when estimated winds of up to 80 mph occurred. On the 7th, the worst damage was located in Eaton county just east of Grand Ledge where numerous trees were knocked down due to 70 mph straight-line winds. Many locations across the area saw some wind damage on the 8th with a squall line that moved through the area. A couple of tornadoes occurred on the 8th. An EF-1 tornado tracked from far eastern Eaton County to the western portions of the City of Lansing. An EF-0 tornado touched down in Osceola County.

Flooding was also an issue, mainly during the evening of Saturday the 7th and on Sunday the 8th. A band of showers and thunderstorms set up across Milwaukee, Holland, Grand Rapids, Hastings, and Lansing. This band remained stationary, while individual thunderstorms moved over the same areas for a few hours. Rainfall amounts from three, to locally seven inches of rain fell within a three to six hour period. This caused flash flooding across Allegan, Ottawa, Kent, and Barry Counties. The City of Holland was the hardest hit where many washouts of roads occurred, and some low lying locations saw water rise to the level of car windows. Six fatalities were reported across the area as a result of the severe weather and flooding from the 7th and the 8th.

A short break in the severe weather occurred then from the evening of the 9th, through the afternoon on the 12th. A cold front was slowly approaching the area from the west. Waves of showers and thunderstorms lined up along the front from Wisconsin, all the way down through Missouri, and then moved over the northwest corner of the area north of Pentwater to Tustin the evening of the 12th. The front stalled out just west of the area, and allowed showers and thunderstorms to continue moving over the same areas from the evening of the 12th until daybreak on the 13th.

The first wave of storms produced strong and localized winds of 85-100 mph just north of Big Sable Point and knocked down hundreds of trees in the Nordhouse Dunes area. As additional heavy rainfall occurred through the night, roads began washing out in Northern Mason, Northern Lake, and extreme Northwest Osceola Counties. When the rain finally ended, up to 11 inches of rain fell. The heaviest amounts were found from the Ludington State Park area to extreme North Central Mason County. This rain fell within about 8 hours, and caused dozens of road washouts/sinkholes across the Northwest portion of the county. Flooding also occurred around Hamlin Lake. The worst of the damage was the washing out of many portions of U.S. Highway 31 between Scottville and Manistee. The highway was closed for a few days until it could be repaired.

Additional showers and storms occurred through the 15th as an upper system remained in the area. This rainfall and severe weather remained more localized. After the 15th, the weather quieted down some as cool air moved in over the area, and the warm and moist air stayed south of the area. Another upper system moved in from the 20th through the 23rd. Scattered showers and thunderstorms during the afternoon and evening hours.

The last few days of the month then closed out with a couple of warm and humid days on the 26th and 27th. A couple of cold fronts came through Friday night and Saturday. Some isolated severe weather accompanied these fronts, with wind damage being the main hazard. The worst damage was found across Lake County as a result of 60 to 70 mph winds. Power was out to a good portion of the county.

Location		Temperature (degrees F)	Precipitation (inches)	Snowfall (inches)
Grand Rapids	<i>Reported</i>	68.9	5.66	0.0
	<i>Normal</i>	67.1	3.67	0.0
	<i>Departure</i>	1.8	1.99	0.0
Lansing	<i>Reported</i>	68.1	4.89	0.0
	<i>Normal</i>	66.2	3.60	0.0
	<i>Departure</i>	1.9	1.29	0.0
Muskegon	<i>Reported</i>	65.3	4.76	0.0
	<i>Normal</i>	64.9	2.58	0.0
	<i>Departure</i>	0.4	2.18	0.0

Table 1. Temperature, precipitation, and snowfall totals and averages for June 2008.

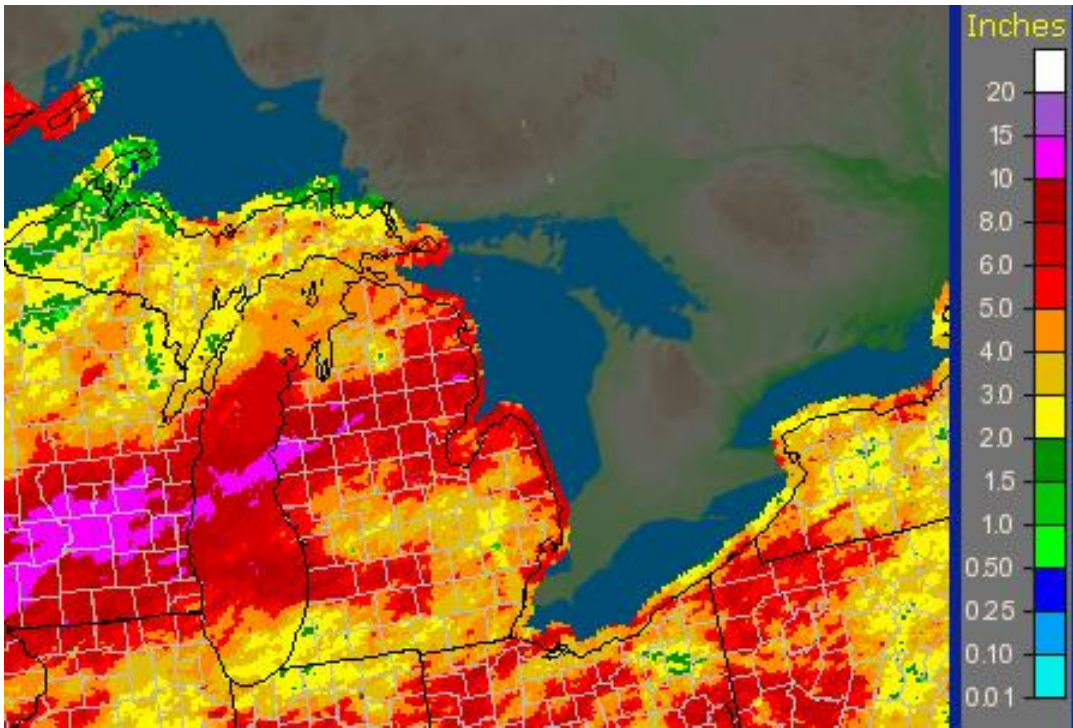


Fig 1. Precipitation totals

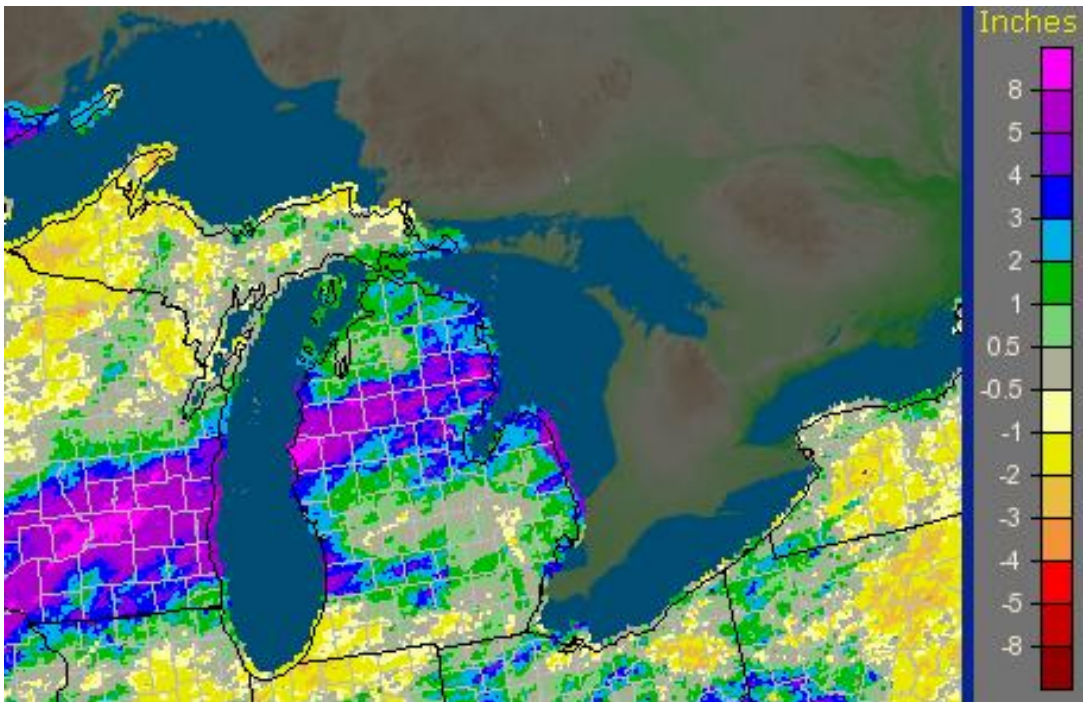
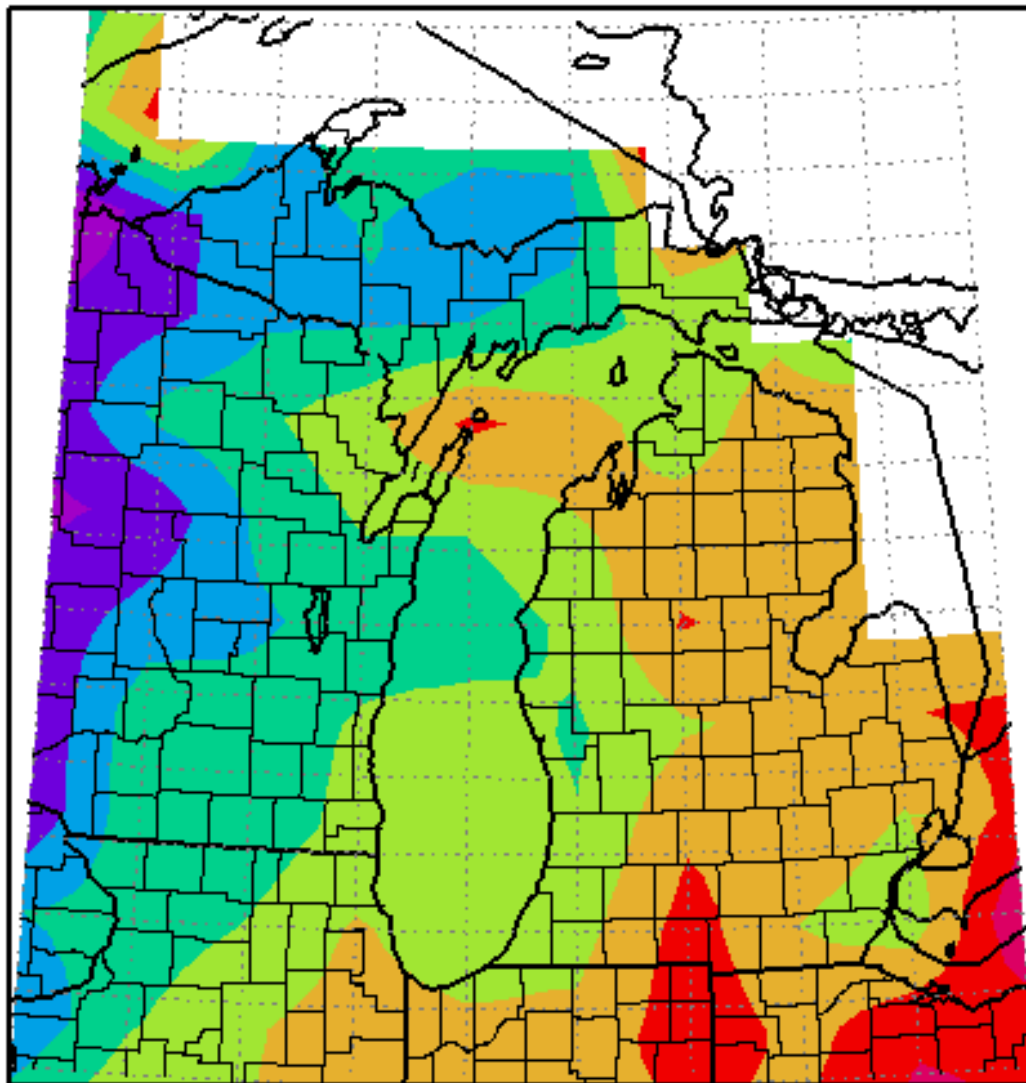


Fig 2. Precipitation departure from normal

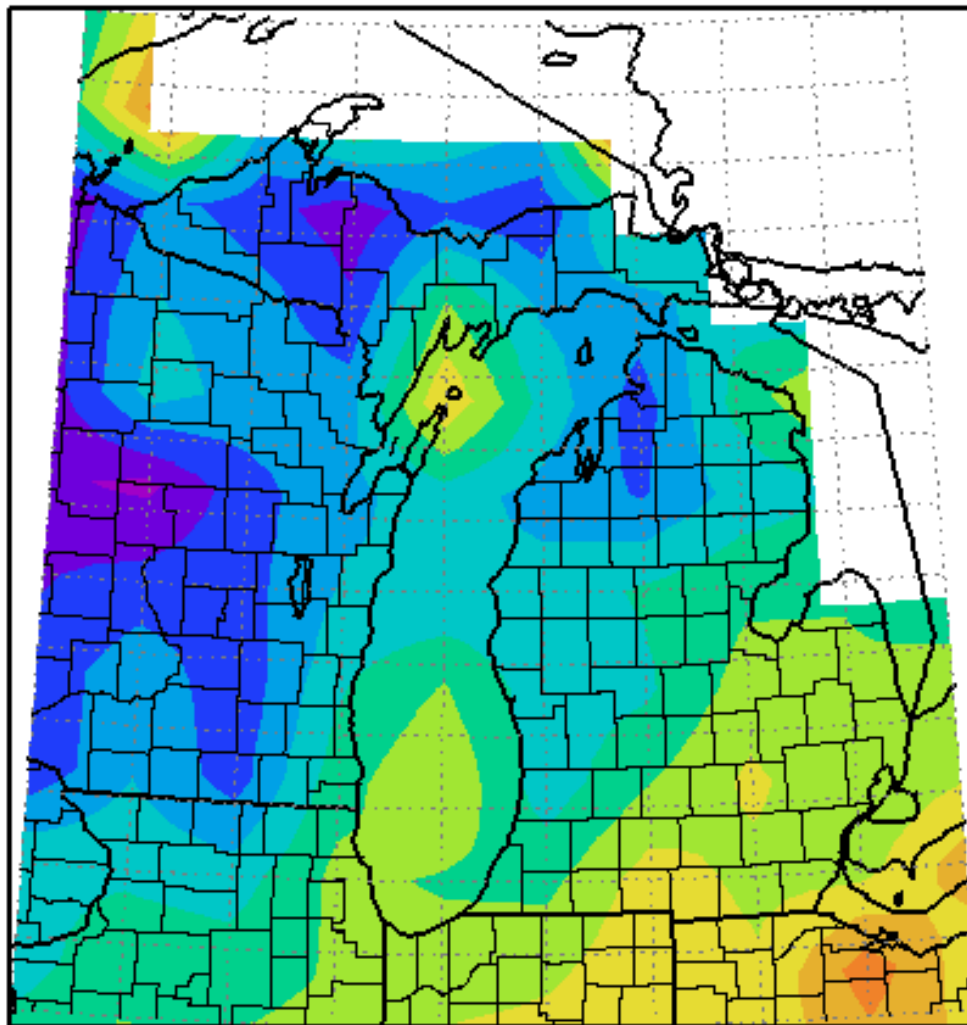
Average Temperature Departure from Mean in Degrees F
June 1, 2008 to June 30, 2008



NOAA Midwestern Regional Climate Center
Illinois State Water Survey
Champaign, Illinois

Fig 3. Average temperature departure from mean

Average High Temp Departure from Mean in Degrees F
June 1, 2008 to June 30, 2008



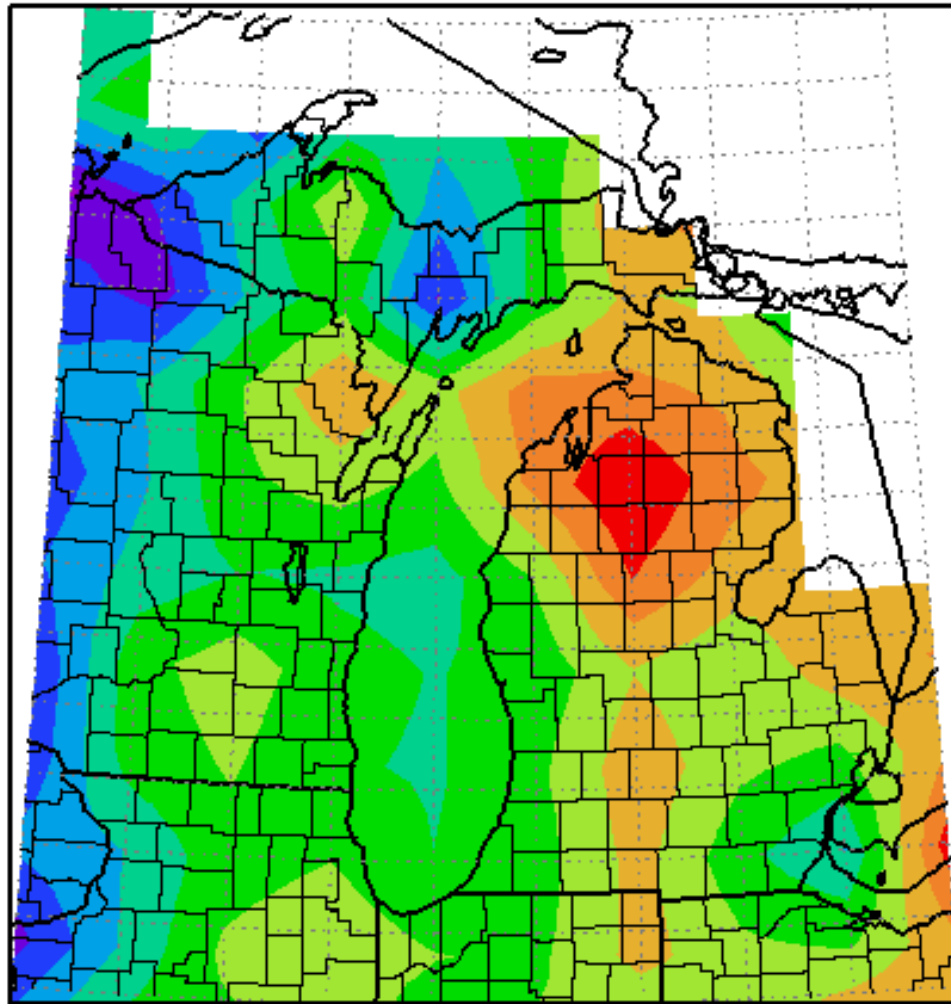
NOAA Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

Fig 4. Average high temperature departure from mean

Average Low Temp Departure from Mean in Degrees F
June 1, 2008 to June 30, 2008



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Illinois State Water Survey
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Fig 5. Average low temperature departure from mean