July 2008 Climate Narrative
For Southwest Lower Michigan

By William Marino

Overview

July 2008 was the second wet month (above normal precipitation) in a row for Southwest Michigan. Most areas received between 3 and 6 inches of rain (table 1 and figure 1). The above normal precipitation can be seen in figure 2. The last time both June and July were wet was in 1994. Most of that heavy rain fell during the first half of the month. Temperatures were for the most part pleasant throughout the month. The month started cool and wet. Around the 15th that turned around and it was warmer than normal from the 15th through the 21st. Cooler weather then returned but precipitation was on the light side. From the 28th through the end of the month warmer than normal temperatures returned. There were some heavy thunderstorms during the early morning hours of the 30th, mostly near and north of Interstate 96.

The warmest weather of the month was from the 15th through the 18th.
Highs across the area were in the upper 80s to lower 90s. Baldwin had the highest temperature of the month for any site in Southwest Michigan when it hit 94 degrees on the 17th.

The average temperature for July can be seen in table 1 and figure 3. While the average temperature for the month was near normal (figure 4), the number of hot days, highs in the 90s, was unusually low. Grand Rapids normally has 5 days with highs of 90 degrees or higher in July. July 2008 had none. The last time this occurred was in 2000.

Rainfall was above normal across the area (see figure 2 again). The areas with the heaviest precipitation were near and south of Interstate 96 and west of US-131. Most of the precipitation fell during the first two weeks of July.

The biggest single rainfall event occurred during the afternoon into the early evening of July 2nd (figure 5). A series of thunderstorms continued to follow the same path, resulting in rainfall amounts of up to 5 inches in East Grand Rapids and 3.18 inches at the NWS site at the Gerald R. Ford Airport. There were numerous reports of over 2 inches of rain from that event. Numerous reports of flooded intersections and water covering roads were received.

As for severe weather, the same thunderstorms that caused the heavy rain and flooding on July 2nd were responsible for the most severe weather reports for the month (figure 6). There were 54 severe weather events reported in the Grand Rapids County Warning Area (CWA) on that one day. These reports were a mixture of large hail and damaging winds. There were some reports of hail up to the size of golf balls covering the ground in Montcalm County. Hail was reported to have damaged a farmer's corn crop in Eaton County.

There was another significant severe weather event late in the afternoon on the 16th. In southern Isabella County, over 6 inches of rain fell (figure 7) and washed out some roads. There were 81 total severe weather reports for the month of July and 22 reports of large hail and damaging winds were received on the 16th alone (figure 8).

An EF0 tornado was confirmed in Clare County (figure 9) at 3:17 AM on the 30th, after officials at the NWS did a storm survey the next day. A barn was blown down and a carport roof blown off. One large willow tree was uprooted. Several other trees were snapped off or uprooted.

July 2008 Southwest Michigan Climate Data

Location		Temperature (degrees F)	Precipitation (inches)	Snowfall (inches)
Grand Rapids	*Reported*	72.1	5.42	0.0
	Normal	71.4	3.56	0.0
	Departure	+0.7	+1.86	0.0
Lansing	*Reported*	71.0	3.15	0.0
	Normal	70.3	2.68	0.0
	Departure	+0.7	+0.47	0.0
Muskegon	*Reported*	69.8	3.14	0.0
	Normal	69.9	2.32	0.0
	Departure	-0.1	+0.82	0.0

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

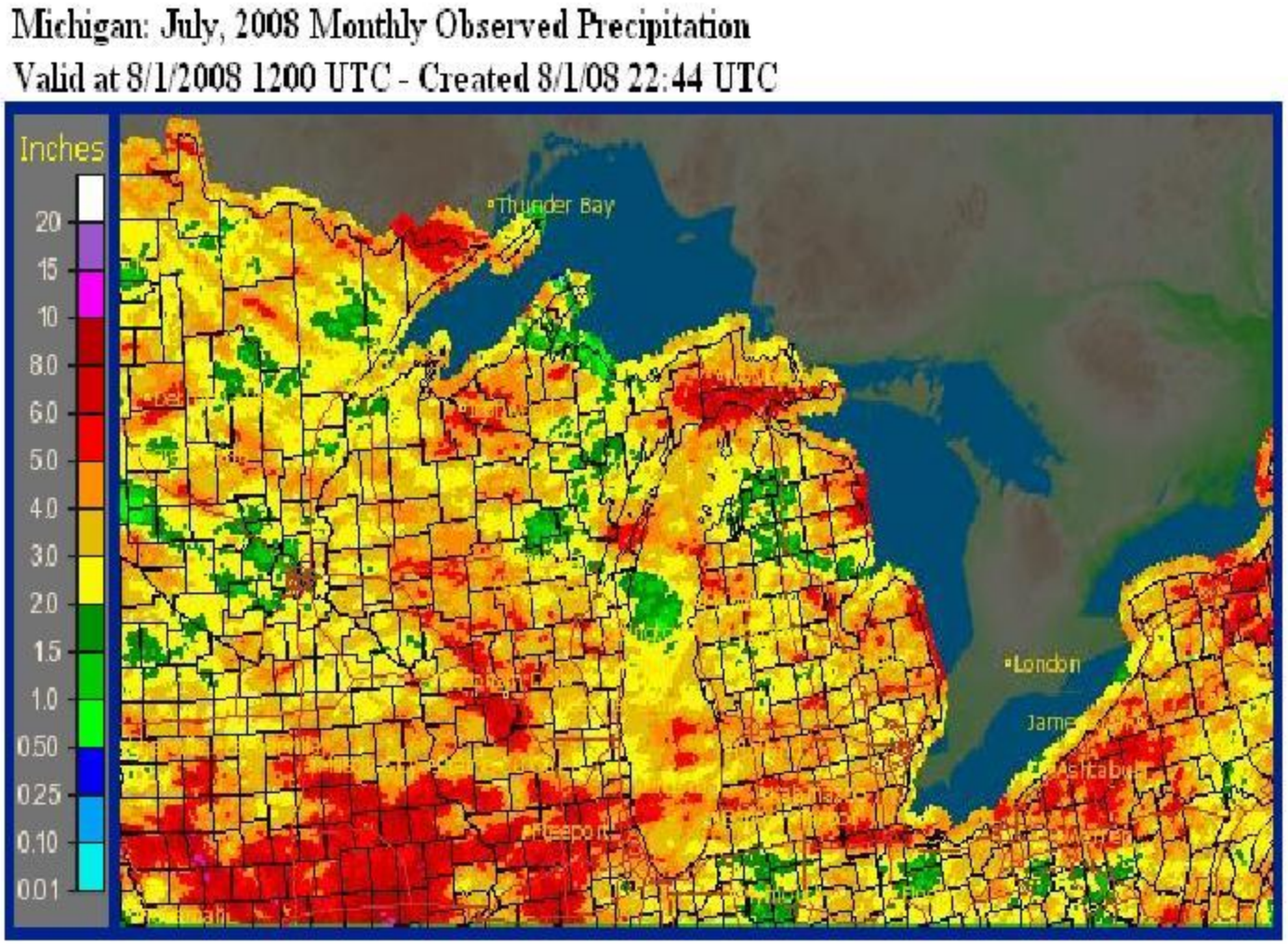

Figure 1. Precipitation totals

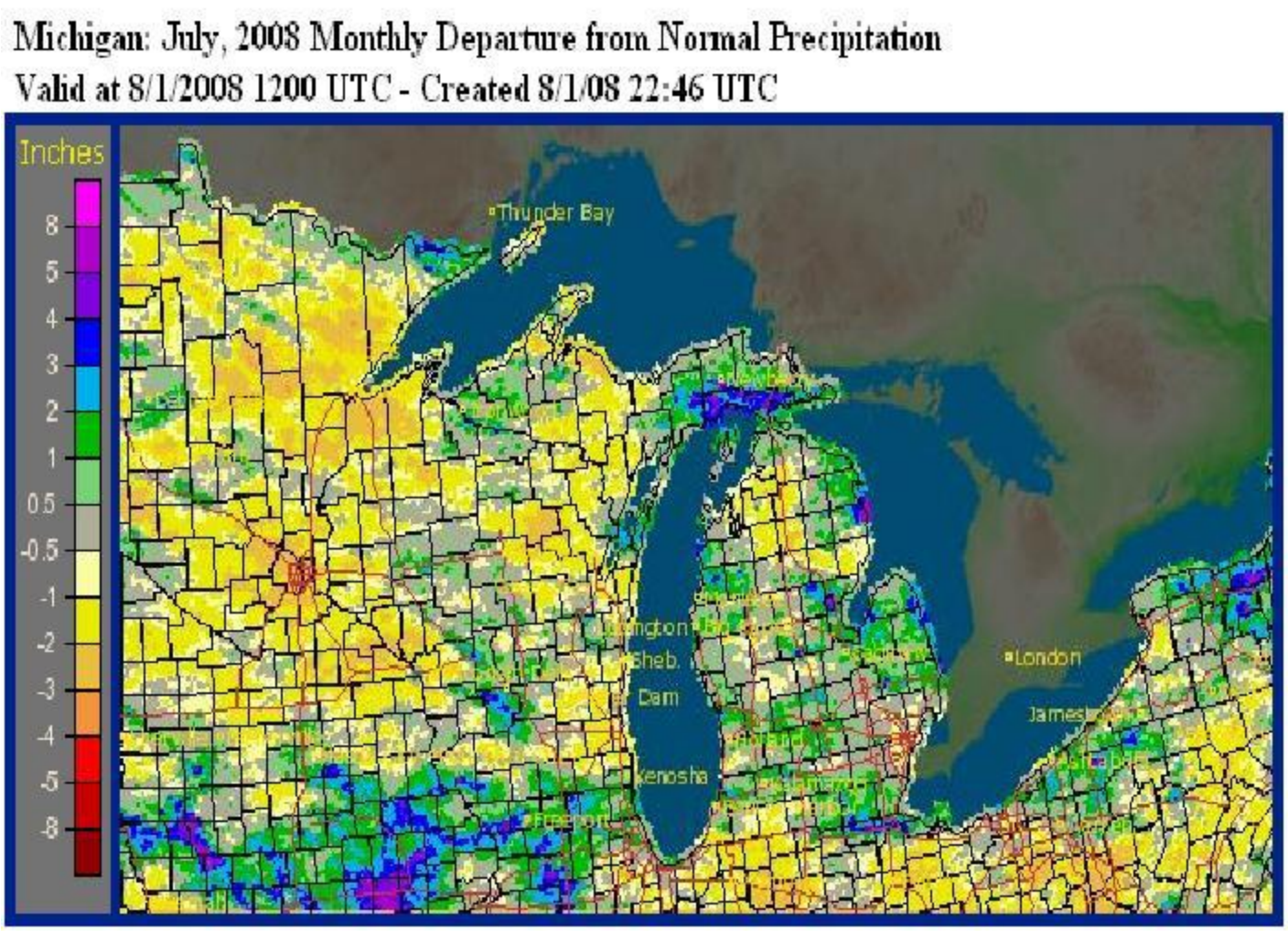

Figure 2. Precipitation departure from normal

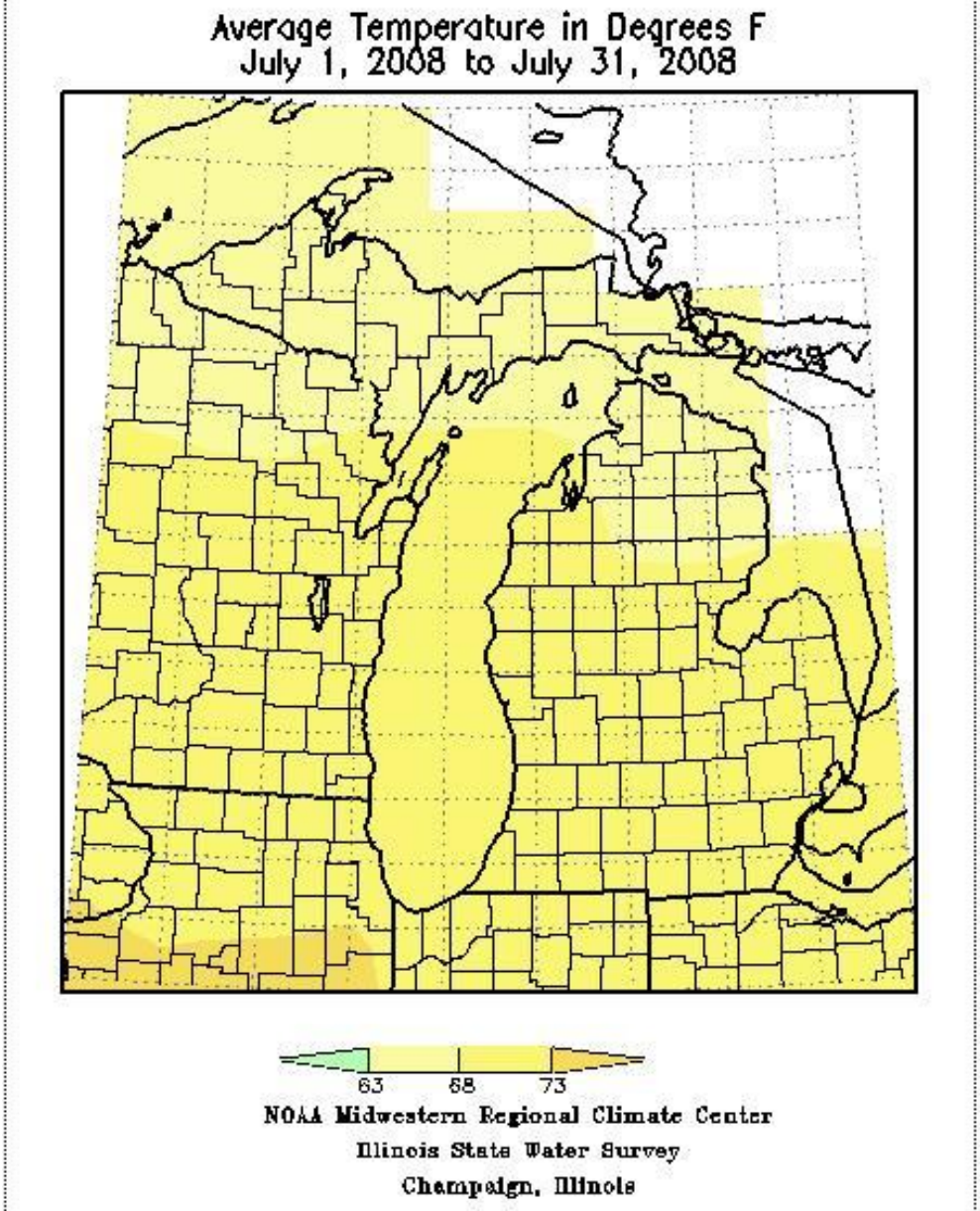

Figure 3. Michigan Average Temperature for July 2008

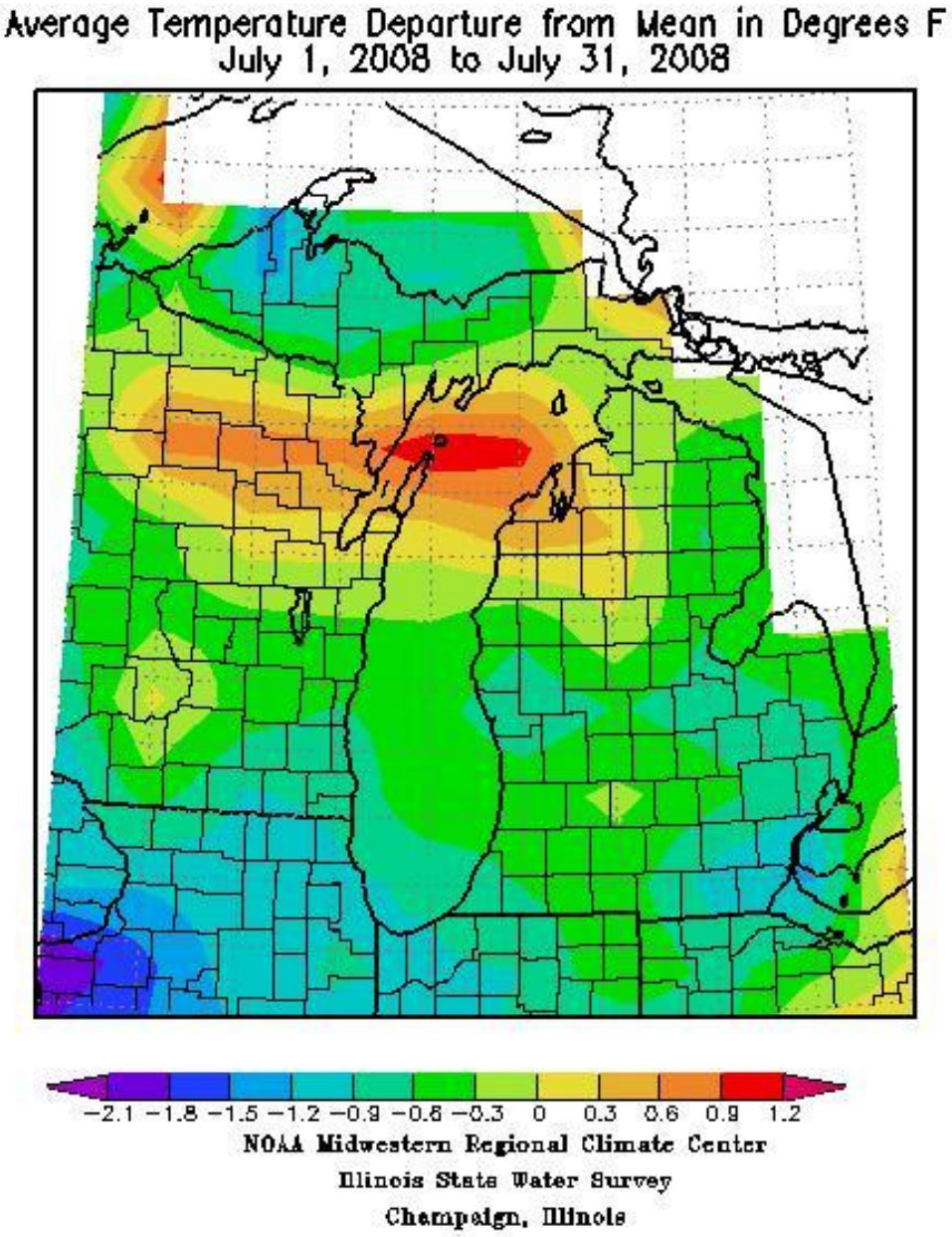

Figure 4. Michigan Temperature Departure from the Mean for July 2008

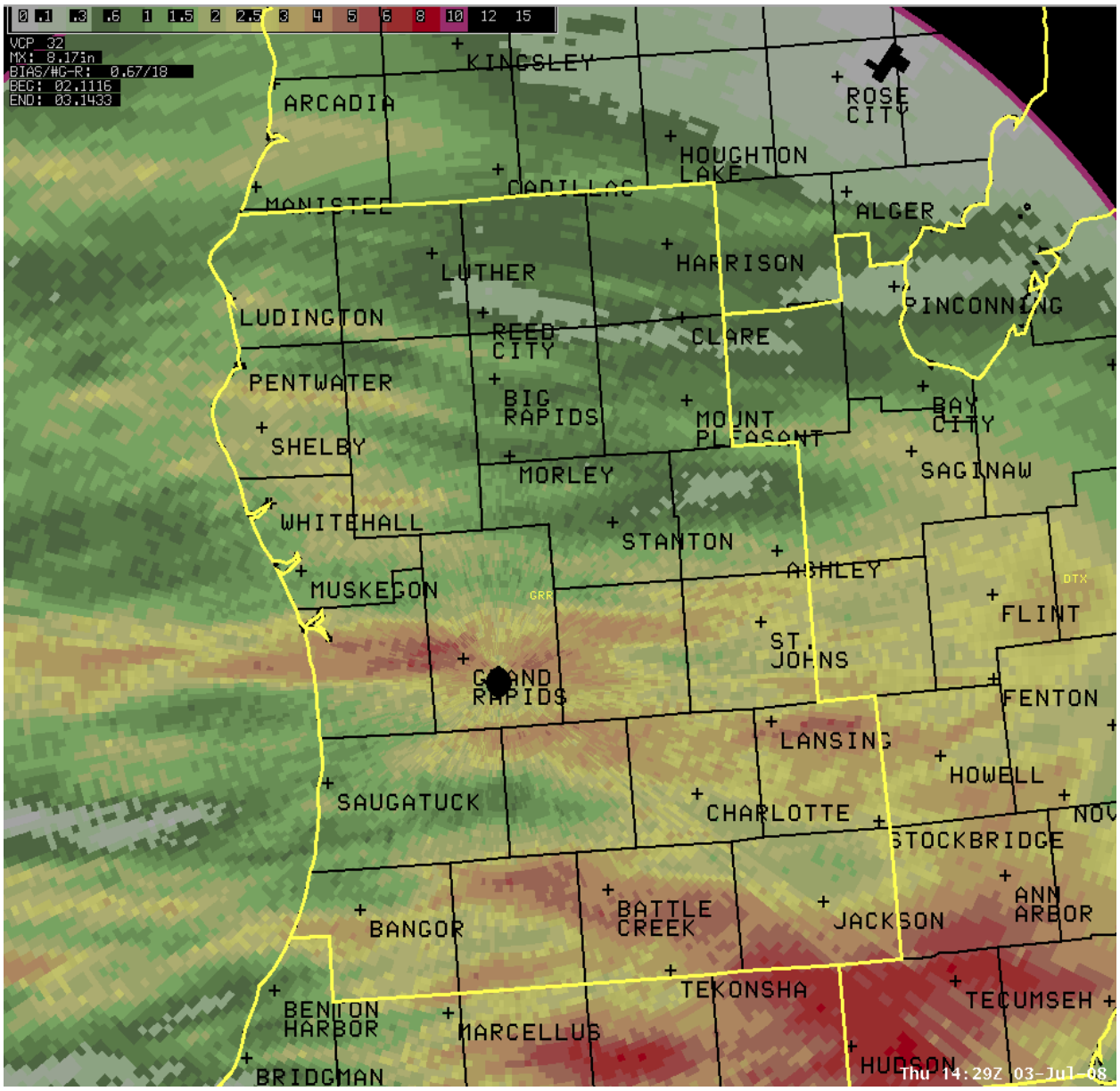

Figure 5. Storm Total Rainfall for July 2, 2008 from the GRR Doppler Radar

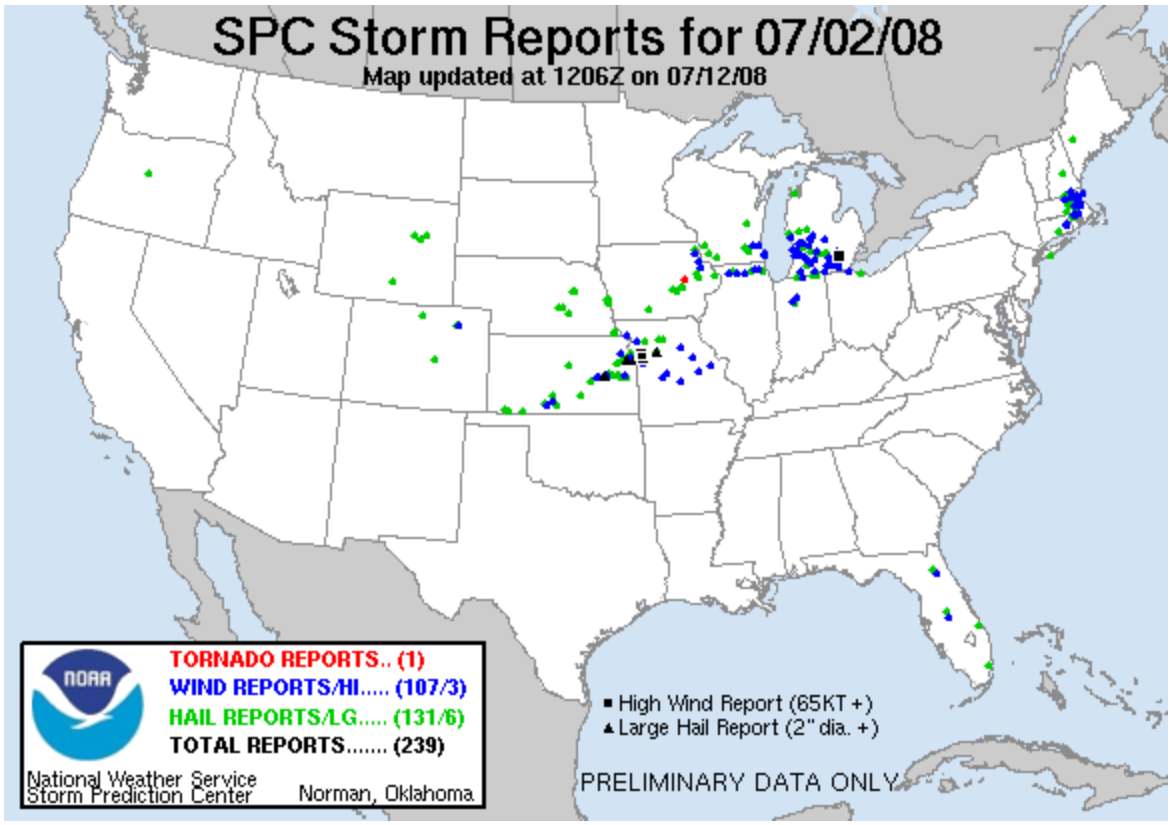

Figure 6. Severe Weather Events on July 2, 2008

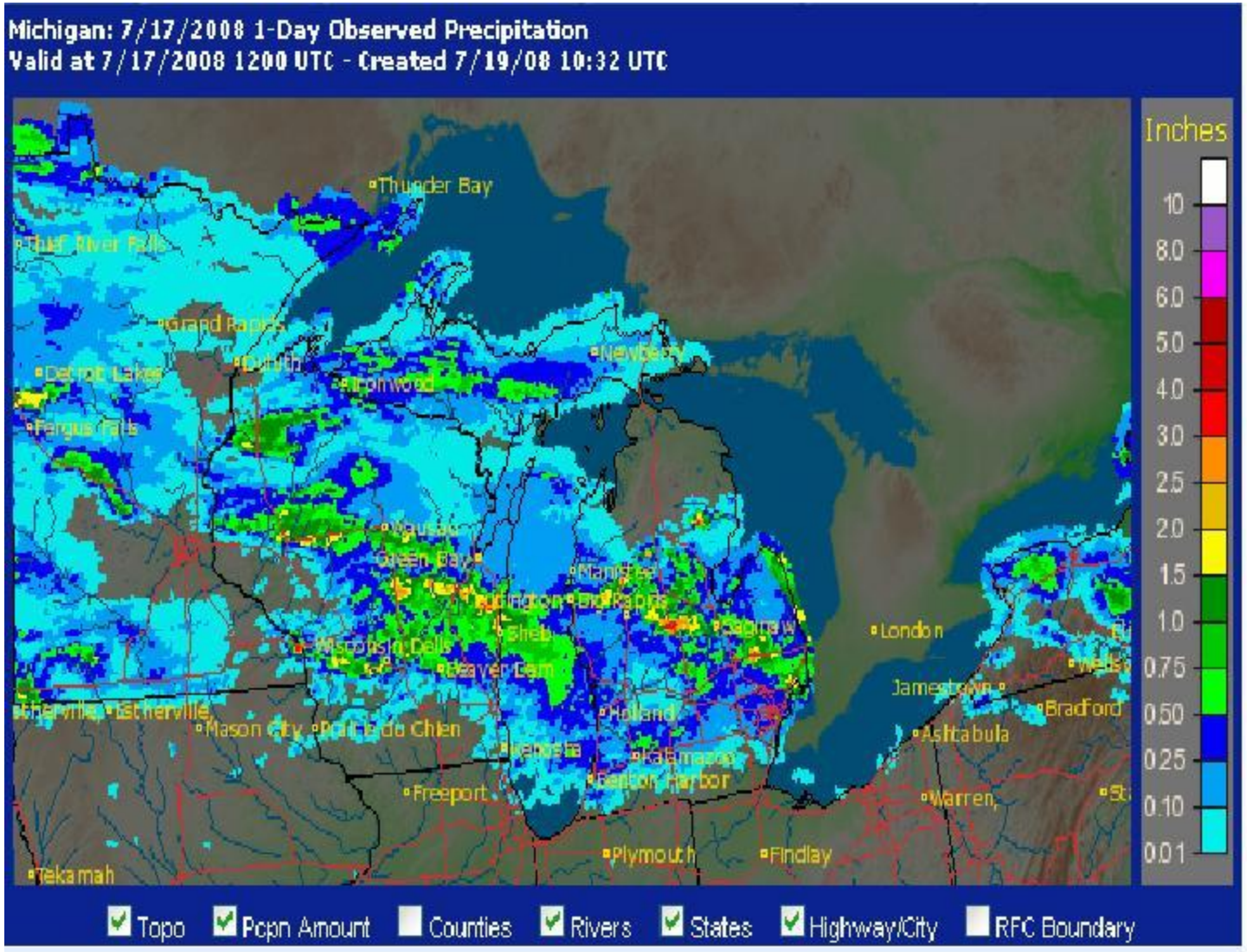

Figure 7. Regional Rainfall for July 16th into the 17th , 2008

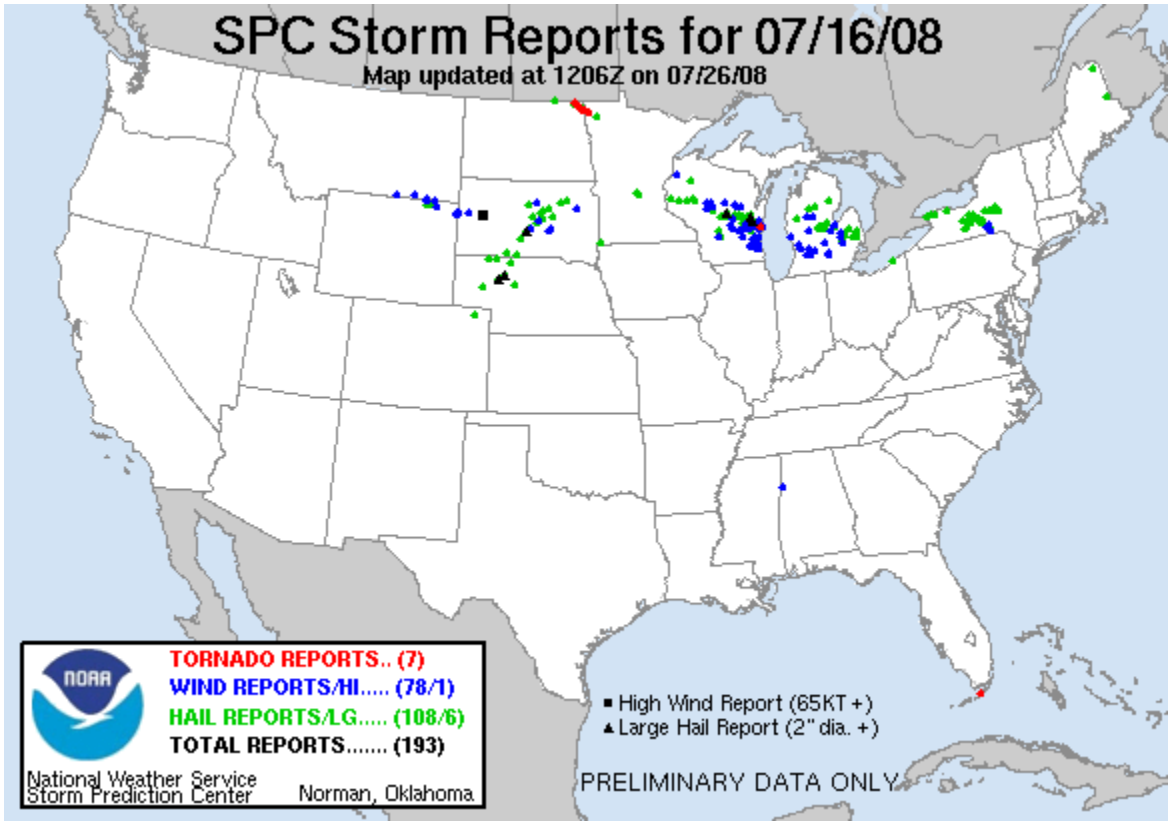

Figure 8. Severe Weather Events on July 16th, 2008

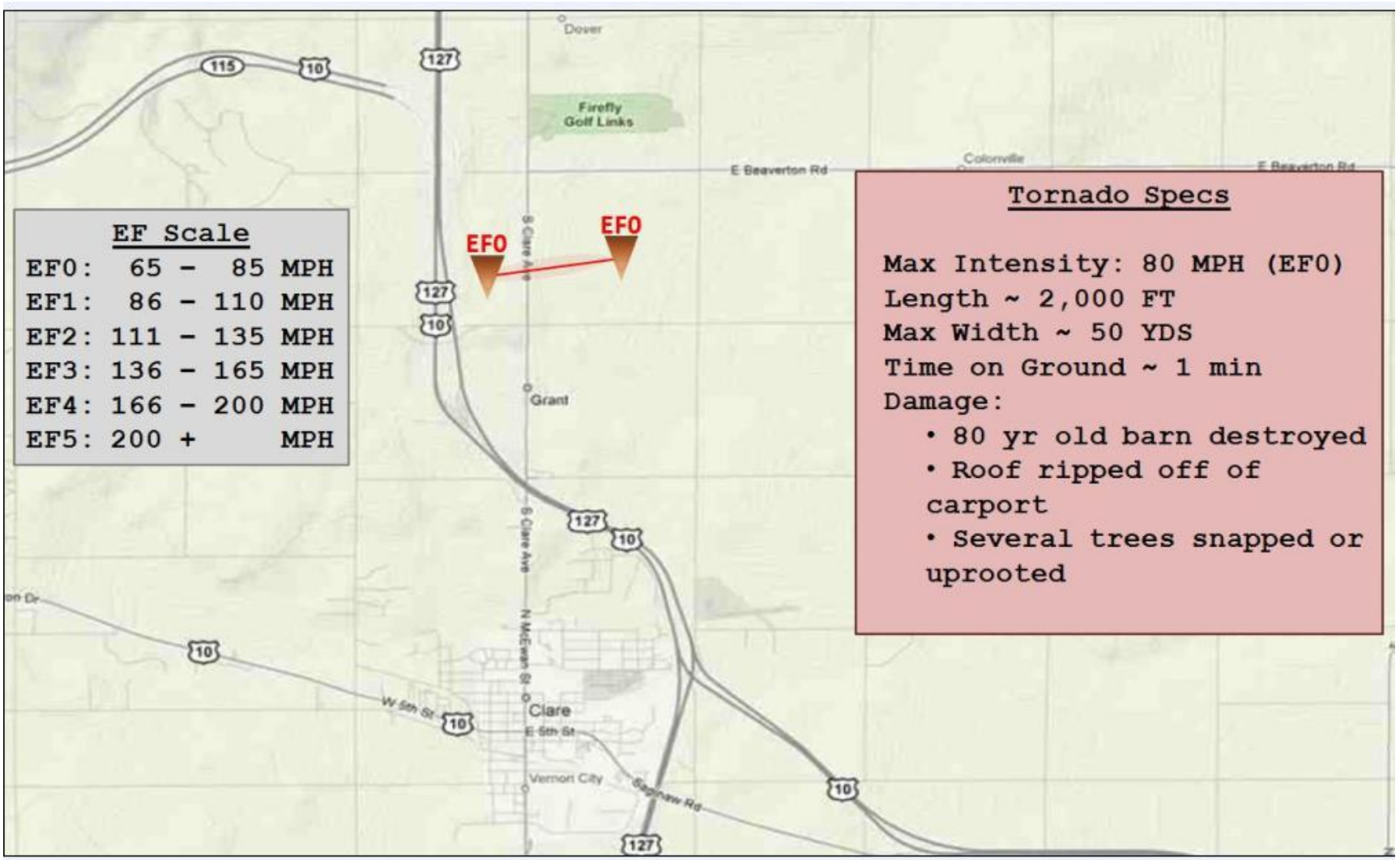

Figure 9. EF0 Tornado in Clare County on July 30th, 2008