

## MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

TO: NATIONAL WEATHER SERVICE (W/OS31)  
HYDROMETEOROLOGICAL INFO CENTER  
1325 EAST-WEST HIGHWAY, RM 13468  
SILVER SPRING, MD 20910

DATE:  
July 30, 2014

SIGNATURE:  
Daniel K. Cobb, MIC  
Mark Sekelsky

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (WSOM E-41).

**X**

An X inside this box indicates that no significant flooding occurred within this Hydrologic Service Area.

### Summary

No river flooding occurred in the Grand Rapids Hydrologic Service Area (HSA) during the month of June 2014. There were several rounds of heavy rain throughout the month. This resulted in some rivers exceeding bankfull along with minor urban and poor drainage flooding. One Flash Flood warning was issued. Reports of significant hydrologic impacts were not received.

### Flood Conditions

#### Sunday, June 8<sup>th</sup>

At 11:56 AM EDT the Hydrology section of the AFD mentions the potential for heavy rain associated with a slow moving system for the middle part of the week.

#### Wednesday, June 11th

At 2:54 PM EDT a flood advisory was issued for Kent County in west central Lower Michigan. The heavy rain from thunderstorms caused minor urban and poor drainage flooding around the city of Grand Rapids.

At 4:28 PM EDT flood advisories were issued for Clinton and Ingham Counties in central Lower Michigan. Brief heavy downpours cause minor poor drainage flooding

At 5:29 PM EDT a flood advisory was issued for Allegan County in west central Lower Michigan. Rainfall rates of an inch per half hour cause minor flooding.

At 6:20 PM EDT a flood advisory was issued for Eaton County in south central Lower Michigan. Rainfall amounts of 2 to 3 inches results in poor drainage flooding.

At 8:29 PM EDT a flood advisory is issued for Montcalm and Newaygo counties. 1 to 2 inches of rain causes poor drainage flooding

By midnight all the advisories had expired or had been cancelled.

#### Sunday, June 15<sup>th</sup>

At 3:21 PM the Hydrology section of the AFD mentions the potential for 1 to 2 inches of rain for the middle to end of the week that may cause minor flooding and impact river levels into the weekend.

#### Wednesday, June 18th

At 2:43 AM EDT a flash flood watch is issued for much of Southwest Lower Michigan valid through Thursday Morning.

At 5:36 AM a flood advisory was issued for Ionia, Kent, Muskegon and Ottawa counties. Thunderstorms produce 2 to 4 inches of rain. This leads to minor flooding, especially in urban areas.

At 7:33 AM EDT a flash flood warning was issued for parts of Ottawa and Muskegon counties. Rainfall amounts of 2 to 4 inches combined with the potential for up to another 2 inches triggered the flash flood warning.

At 8:57 AM EDT the flash flood warning was continued. Several rain gages had over 3 inches of rain and more was on the way. Highest amount would be 5.00 inches in Norton Shores of western Muskegon county

At 11:12 AM EDT the flood advisory is cancelled.

At 1:35 PM EDT the flash flood warning was allowed to expire

At 5:17 PM EDT the flash flood watch remained in effect

At 10:02 PM EDT the flash flood watch is cancelled

#### Thursday, June 19th

At 8:57 PM EDT a river flood advisory was issued for the Rogue river below for river levels to exceed bankfull. This was based on runoff from recent heavy rains and a forecast for over a half inch of rain.

#### Friday, June 20th

At 9:38 AM EDT the flood advisory was continued for the Rogue River.

At 11:46 PM EDT the flood advisory for the Rogue River was cancelled.

#### Saturday, June 21th

At 11:41 PM EDT flood advisory issued for parts Kent county along with Ottawa county. Thunderstorms produce locally over 2 inches of rain in an hour. This leads to minor urban and poor drainage flooding.

#### Monday, June 23rd

At 5:52 PM EDT a flood advisory was issued for Kalamazoo and Van Buren counties in Southwest Michigan. Rainfall rates with thunderstorms are estimated to have topped 2 inches per hour leading to minor urban and poor drainage flooding.

At 6:43 PM EDT a flood advisory was issued for Barry and parts of Allegan counties. Thunderstorms with heavy rainfall cause minor flooding in poor drainage areas.

At 10:27 PM EDT all the flood advisories were cancelled.

#### Tuesday, June 24<sup>th</sup>

At 10:14 PM EDT a river flood advisory was issued for the Grand River at Ionia. Minor impacts are forecasted

#### Wednesday, June 25th

At 3:39 AM EDT the river flood advisory was continued for the Grand River affecting Ionia.

At 11:01 AM EDT the river flood advisory was continued for the Grand River affecting Ionia.

At 10:23 PM EDT the river flood advisory was continued for the Grand River affecting Ionia.

Thursday, June 26th

At 10:06 AM EDT the river flood advisory for the Grand River at Ionia was extended. Minor impacts were forecasted.

At 10:22 PM the flood advisory for the Grand River at Ionia was extended

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The following rivers exceeded bankfull during the month of June 2014:

- Rogue River near Rockford, Michigan(1 day above bankfull)
- Grand River near Ionia, Michigan (3 days above bankfull)

**Flood Stage Report**

No forecast points exceeded flood stage in our HSA during the month of June 2014.

**River Conditions**

The end of the month percentage of normal flow for selected rivers is listed below:

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	143
Whitehall	White	162
Evert	Muskegon	132
Mt. Pleasant	Chippewa	150
Lansing	Grand	135
Grand Rapids	Grand	216
East Lansing	Red Cedar	170
Hastings	Thornapple	250
Battle Creek	Battle Creek	223
Battle Creek	Kalamazoo	150

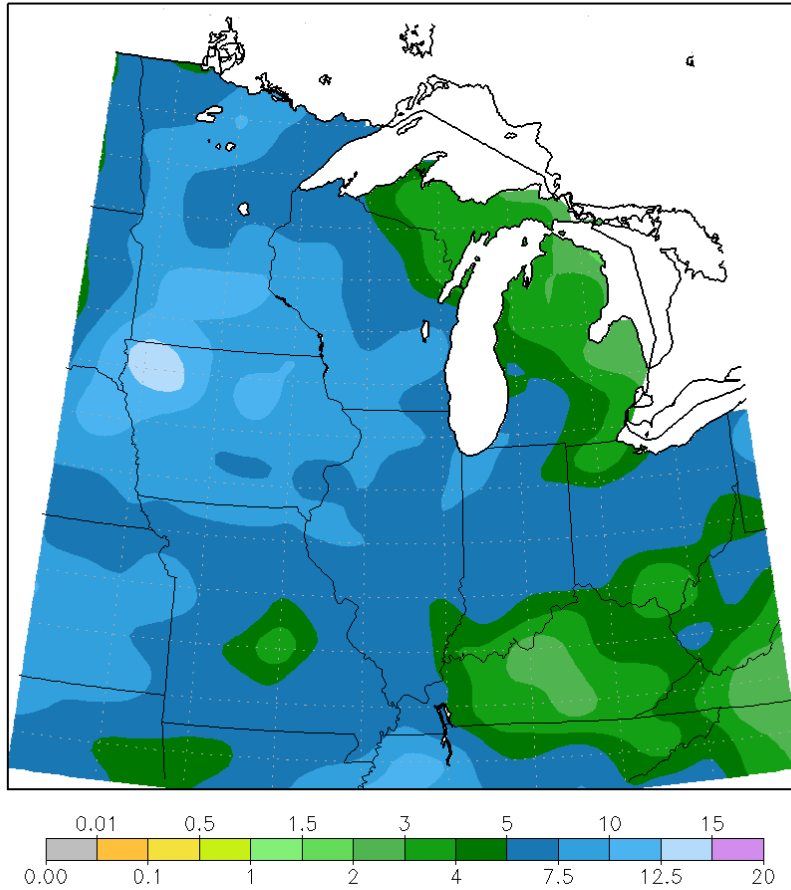
## **General Hydrologic Information**

June 2014 was a warmer and wetter than normal month across the region. The greatest precipitation departures above normal were generally in the lower reaches of the Grand, Muskegon and Kalamazoo basins.

June precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan, were 5.15, 6.40, and 7.02 inches, respectively (Figure 1). Precipitation totals for the month at these three sites were 1.38 of an inch above normal at Grand Rapids, 2.95 inches above normal at Lansing, and 4.47 of an inch above normal at Muskegon, Michigan. Percent of mean precipitation for June 2014 is shown in Figure 2. Yearly precipitation totals were 1.07 of an inch above normal for Grand Rapids, 2.59 inches above normal for Lansing, and 5.50 of an inch above normal for Muskegon, Michigan.

Temperatures for the month of June were near normal at Grand Rapids, Lansing, and Muskegon, Michigan, with average monthly departures of 1.8, 1.2 and 1.9 degrees Fahrenheit, respectively.

Accumulated Precipitation (in)  
June 1, 2014 to June 30, 2014



Midwestern Regional Climate Center  
Illinois State Water Survey, Prairie Research Institute  
University of Illinois at Urbana-Champaign

Figure 1. June Monthly Precipitation Totals

Accumulated Precipitation: Percent of Mean  
June 1, 2014 to June 30, 2014

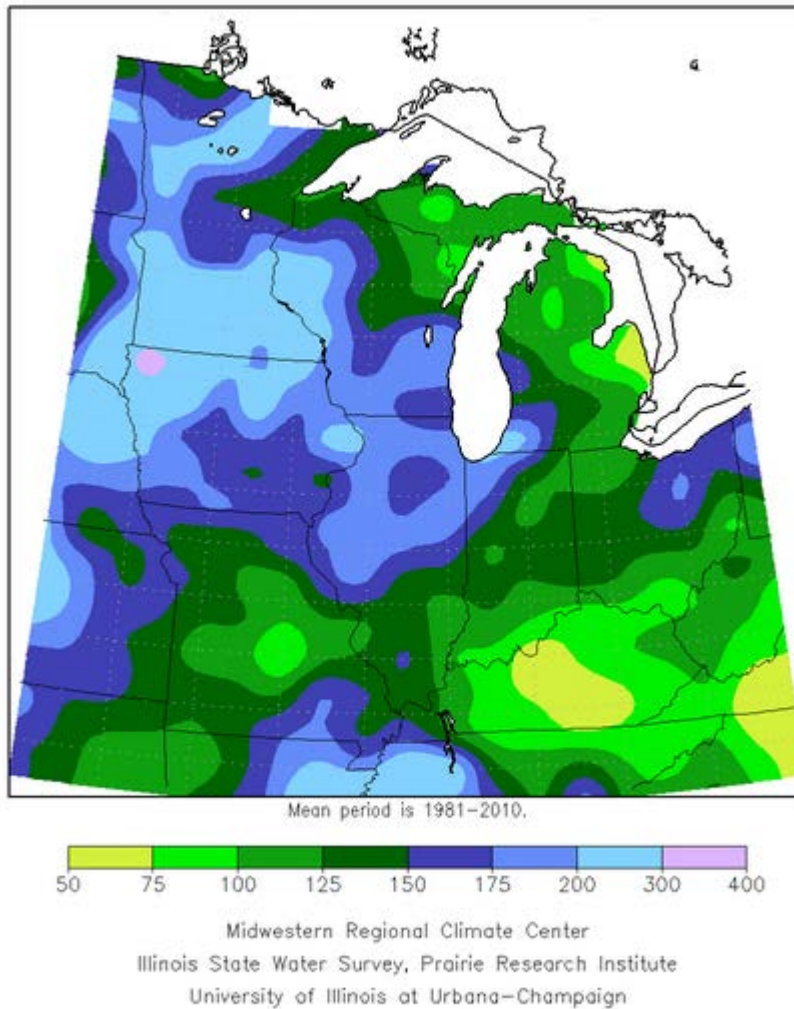


Figure 2. June Percent of Mean of Accumulated Precipitation

**Hydrologic Products issued this month:**

- 3 Flash Flood Watches (ARBFFAGRR)
- 18 Areal Flood Statements (ARBFLSGRR)
- 1 Flash Flood Warning (ARBFFWGRR)
- 2 Flash Flood Statements (ARBFFSGRR)
- 11 River Flood Advisories (ARBFLSGRR)
- 5 Hydrologic Statements (ARBRVSGRR)
- 1 Hydrologic Outlook (ARBESFGRR)
- 30 Hydrologic Summaries (ARBRVAGRR)