

**MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS**

REPORT FOR (MONTH & YEAR):  
**August 2013**

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

DATE:  
September 6, 2013

SIGNATURE:  
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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).

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

**Summary**

One flash flood warning and several flood advisories were issued during the month of August 2013. Only street flooding with several stalled vehicles was reported for the flash flood warning issued for Calhoun County on August 22<sup>nd</sup>. Minor street flooding was reported for the areal flood advisories issued for Van Buren, Barry, Eaton, Calhoun, Ingham, Kalamazoo, Jackson, Clare, Osceola, Gratiot, Montcalm, Clinton, Ionia, Mecosta, and Isabella Counties. Some of the more notable street flooding occurred on August 28<sup>th</sup> around Lansing, Michigan located in Ingham County. In the Lansing area, social media indicated street flooding reaching the hoods of cars at a Ford dealership on Cedar Street, flooding to a depth of several feet on portions of the Villa Montee Apartments parking lot, and a temporary closing of Interstate 127 at the M-43 overpass. Local authorities reported no significant damage with these events.

**Flood Conditions**

Thursday, August 22<sup>nd</sup>

At 3:07 PM EDT an areal flood advisory was issued for Calhoun and Kalamazoo Counties until 9:00 PM EDT. Slow moving thunderstorms with very heavy rainfall were moving across the advisory area.

At 3:44 PM EDT a flash flood warning was issued for Calhoun County until 9:30 PM EDT. Slow moving thunderstorms with very heavy rainfall were moving across the warned area.

At 4:14 PM EDT the areal flood advisory for Calhoun County was cancelled when it was upgraded to a flash flood warning. The areal flood advisory for Kalamazoo County continued until 9:00 PM EDT.

At 5:40 PM EDT the flash flood warning continued for Calhoun County until 9:30 PM EDT. Radar precipitation estimates indicated that between 2.5 and 3 inches of rain had fallen over the warned area over a 4 hour period. Local media reported street flooding with several stalled vehicles at an underpass located near Upton Avenue and Dickman Road in Battle Creek, Michigan (Figures 3 and 4). Water depths at the underpass were in excess of 3 feet deep.

At 6:00 PM EDT the areal flood advisory for Kalamazoo County was cancelled.

At 6:35 PM EDT the flash flood warning for Calhoun County was cancelled.

Wednesday, August 28<sup>th</sup>

At 12:02 AM EDT an areal flood advisory was issued for Clinton, Eaton, Ingham, Ionia, Barry and Jackson Counties until 6:00 AM EDT. Thunderstorms with very heavy rainfall were moving over the advisory area.

At 3:46 AM EDT the areal flood advisory continued for Clinton, Eaton, Ingham, Ionia, Barry and Jackson Counties until 6:00 AM EDT. Social media reported street flooding reaching the hoods of cars at a Ford dealership on Cedar Street (Figure 5), flooding to a depth of several feet on portions of the Villa Montee Apartments parking lot (Figures 6 and 7), and temporarily closing Interstate 127 at the M-43 overpass near Lansing, Michigan.

At 6:02 AM EDT the areal flood advisory for Clinton, Eaton, Ingham, Ionia, Barry and Jackson Counties was allowed to expire.

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The following rivers exceeded bankfull, but remained below flood stage, during the month of August 2013:

- Grand River at Jackson, Michigan (2 days above bankfull)
- Looking Glass River near Eagle, Michigan (1 day above bankfull)

**Flood Stage Report**

No rivers exceeded flood stage during the month of August.

**River Conditions**

River levels across the HSA were near to above normal at the end of the month. 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	110
Whitehall	White	127
Ewart	Muskegon	154
Mt. Pleasant	Chippewa	165
Lansing	Grand	255
Grand Rapids	Grand	194
East Lansing	Red Cedar	223
Hastings	Thornapple	248
Battle Creek	Battle Creek	479
Battle Creek	Kalamazoo	238

**General Hydrologic Information**

August 2013 had temperatures below normal, and precipitation below normal for Muskegon and Grand Rapids, but above normal for Lansing, Michigan. August precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan, were 1.90, 4.77, and 1.94 inches, respectively (Figure 1). Precipitation totals for the month at these three

sites were 1.69 inches below normal at Grand Rapids, 1.54 inches above normal at Lansing, and 1.45 inches below normal at Muskegon, Michigan (Figure 2). Yearly precipitation totals were 7.60 inches above normal for Grand Rapids, 11.83 inches above normal for Lansing, and 10.67 inches above normal for Muskegon, Michigan.

On August 27<sup>th</sup>, Lansing set both a record daily rainfall and a daily record for the month of August, by recording 3.39 inches. This daily rainfall of 3.39 inches broke the old record for August 27<sup>th</sup> of 1.50 inches set back in 1869. The previous daily record for the month of August was 3.08 inches on August 21<sup>st</sup> in 1975.

Temperatures for the month of August were below normal at Grand Rapids, Lansing, and Muskegon, Michigan, with average monthly departures of -0.7, -0.6 and -0.4 degrees Fahrenheit, respectively.

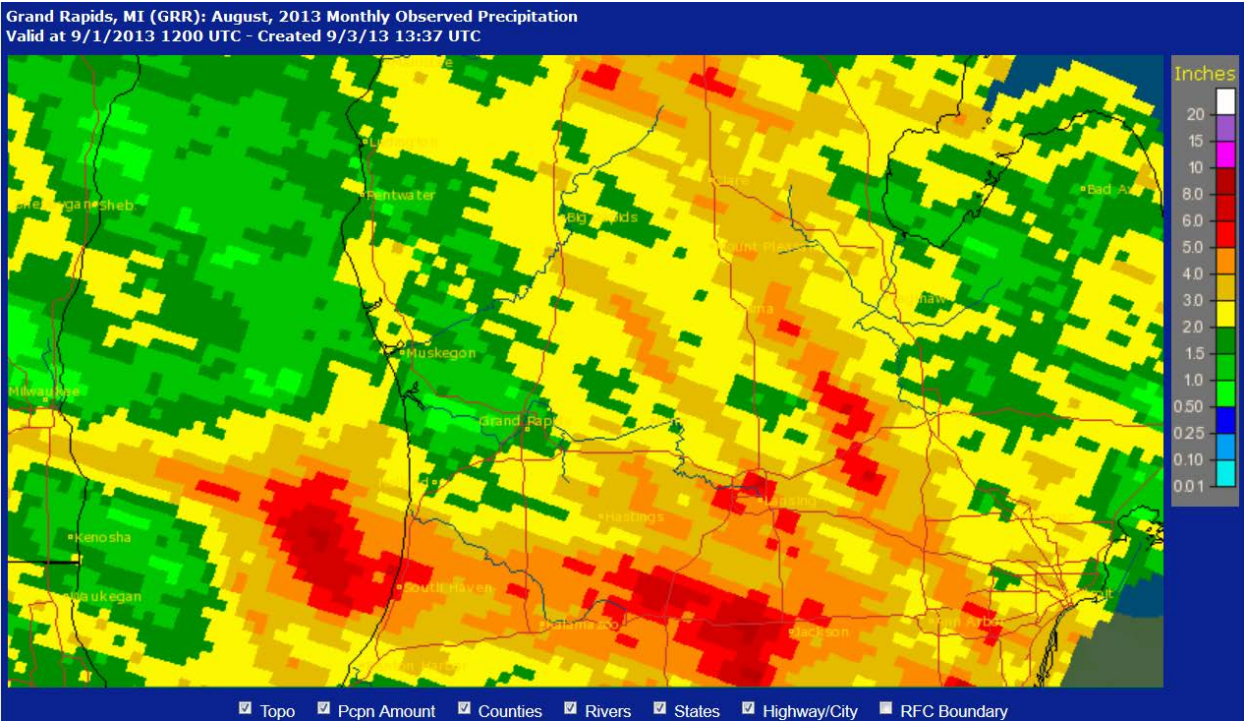


Figure 1. August Monthly Precipitation Totals

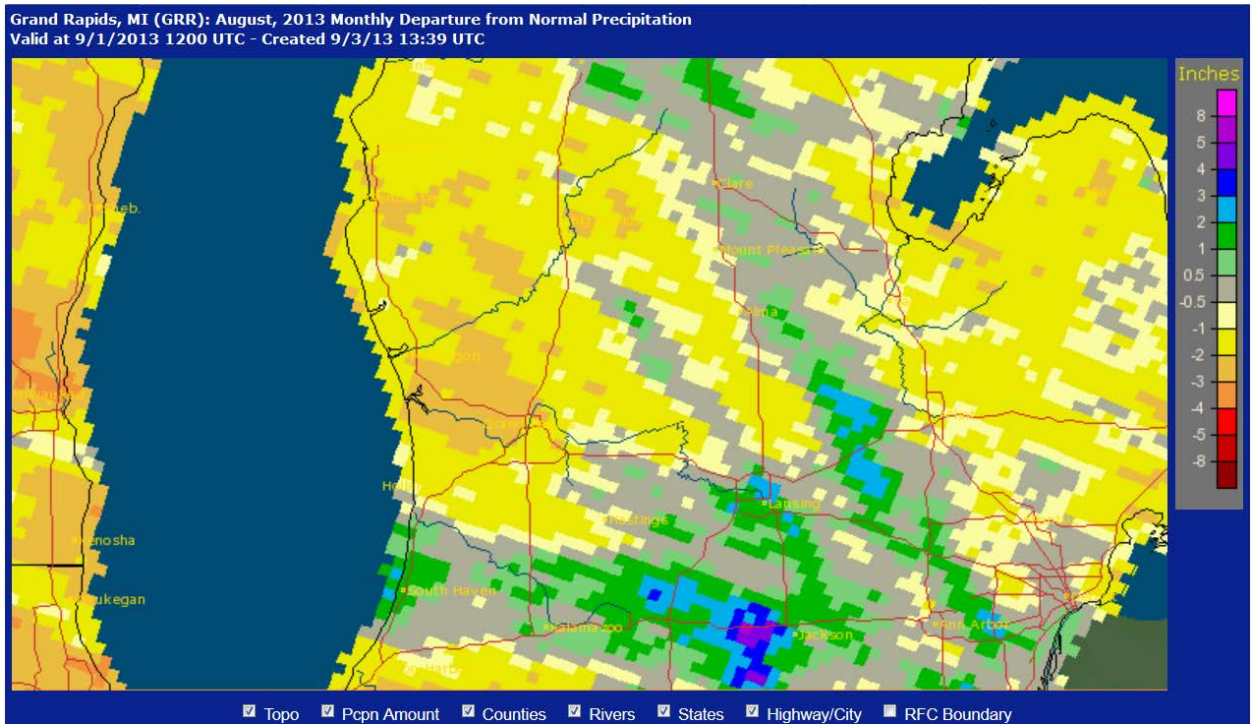


Figure 2. August Monthly Departure from Normal Precipitation Totals

**Hydrologic Products issued this month:**

- 1 Flash Flood Warning (ARBFFWGRR)
- 2 Flash Flood Statements (ARBFFSGRR)
- 28 Areal Flood Advisories (ABRFLSGRR)
- 11 River Flood Advisories (ARBFLSGRR)
- 2 River Forecast Statements (ARBRVSGRR)
- 1 Hydrologic Outlook (ARBESFGRR)
- 31 Hydrologic Summaries (ARBRVAGRR)
- 31 Daily River and Lake Summaries (ARBRVDGRR)