

**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

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**

During the month of July, flash flood warnings were issued for 4 counties in our Hydrologic Service Area (HSA). Flood advisories were issued for 15 counties in our HSA. All rivers remained below flood stage.

**Flood Conditions**

The biggest single rainfall event occurred during the afternoon into the early evening of Wednesday, July 2<sup>nd</sup>. A series of thunderstorms moved across the area, resulting in rainfall amounts of up to 5 inches in East Grand Rapids, 3.18 inches at our forecast office in Grand Rapids, and over 3 inches in Kalamazoo. There were numerous reports of 2 to 3 inches of rain over our HSA from that event. A flood advisory was issued at 3:17 PM EDT for Kent County. At 5:27 PM EDT a flood advisory was issued for Eaton, Ingham, and Barry Counties. At 6:46 PM EDT a flood advisory was issued for Calhoun, Jackson, Kalamazoo, and Van Buren Counties. At 7:36 PM EDT the flood advisory for Calhoun and Kalamazoo Counties was upgraded to a flash flood warning. At 8:33 PM EDT the flood advisory for Jackson County was upgraded to a flash flood warning. At 9:06 PM EDT a flood advisory was re-issued for Kent County and added Ottawa County. Numerous reports of flooded intersections and water covering roads were received in the advisory and warned areas. In Kalamazoo, Michigan, flash flooding caused water levels to reach the windows of cars, which became submerged underwater beneath the Norfolk Southern Railroad viaduct on East Michigan Avenue, near the East Michigan Avenue and Riverview Drive intersection.

Late in the afternoon and into the evening of July 16<sup>th</sup> a line of thunderstorms with very heavy rain moved into our HSA. At 5:36 PM EDT a flood advisory was issued for Lake County. At 6:20 PM EDT a flood advisory was issued for Clare, Gratiot, Isabella, Mecosta, and Osceola Counties. At 7:01 PM EDT the flood advisory for Isabella County was upgraded to a Flash Flood Warning. Numerous reports of flooded intersections and water covering roads were received for this event. Rainfall reports ranged from several inches to a high of 6.34 inches in Isabella County. Several roads were washout in Isabella County with some roads reported to be under 3 feet of water.

## **Flood Stage Report**

No rivers exceeded flood stage this month.

## **River Conditions**

River levels by the end of July were near to above normal for our HSA.

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	89
Whitehall	White	102
Evert	Muskegon	181
Mt. Pleasant	Chippewa	101
Lansing	Grand	100
Grand Rapids	Grand	99
East Lansing	Red Cedar	112
Hastings	Thornapple	116
Battle Creek	Battle Creek	130
Comstock	Kalamazoo	100

## **General Hydrologic Information**

July 2008 will be most remembered for the heavy rain during the first half of the month and for relatively pleasant temperatures throughout the month.

July precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan were 5.42, 3.15, and 3.14 inches, respectively. Precipitation totals for the month at these three sites were 1.86 inches above normal at Grand Rapids, 0.47 of an inch above normal at Lansing, and 0.82 of an inch above normal at Muskegon, Michigan. A record rainfall of 3.18 inches was set at Grand Rapids on Wednesday July 2<sup>nd</sup>, which broke the old record of 1.41 inches set in 1962. A record rainfall of 1.73 inches was also set at Lansing on Wednesday July 2<sup>nd</sup>, which broke the old record for the day of 1.60 inches set in 1902. For the year, precipitation totals were above normal at Grand Rapids, Lansing, and Muskegon, Michigan. Yearly precipitation totals were 6.94 inches above normal for Grand Rapids, 1.88 inches above normal for Lansing, and 7.91 inches above normal for Muskegon, Michigan.

Temperatures for the month of July were near normal at Grand Rapids, Lansing, and Muskegon, with average monthly departures of +0.7, +0.7 and -0.1 degrees Fahrenheit, respectively.

**Hydrologic Products issued this month:**

- 3 Flash Flood Warnings (ARBFFWGRR)
- 5 Flash Flood Statements (ARBFFSGRR)
- 20 Flood Advisories (ARBFLSGRR)
- 1 River Flood Warning (ARBFLWGRR)
- 1 River Flood Statement (ARBFLSGRR)
- 20 Hydrologic Statements (ARBRVSGRR)
- 31 Hydrologic Summaries (ARBRVAGRR)
- 31 Daily River and Lake Summaries (ABRRVDGRR)