

**MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS**

DATE:  
December 4, 2009

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).

**X**

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

**Summary**

No significant flooding occurred during the month of November. Several rivers exceeded bankfull but did not reach flood stage. High river levels the early part of November were carry over from high water at the end of October.

**Flood Conditions**

**Sunday, November 1<sup>st</sup>**

At 10:52 AM EST, a river flood advisory was cancelled for the Muskegon River near Croton, Michigan, and the Little Muskegon River near Morley, Michigan. A river flood advisory continued for Sycamore Creek at Holt, Flat River near Smyrna, Chippewa River near Mt. Pleasant, Rogue River near Rockford, and the Kalamazoo River near New Richmond, Michigan.

At 1:08 PM EST, a river flood advisory was cancelled for Sycamore Creek near Holt, Michigan.

At 8:14 PM EST, a river flood advisory continued for the Flat River near Smyrna, Chippewa River near Mt. Pleasant, Rogue River near Rockford, and the Kalamazoo River near New Richmond, Michigan.

**Monday, November 2<sup>nd</sup>**

At 5:54 AM EST, the river flood advisory was cancelled for the Rogue River near Rockford, and the Chippewa River near Mt. Pleasant, Michigan.

At 11:40 AM EST, a river flood advisory continued for the Flat River near Smyrna, and the Kalamazoo River near New Richmond, Michigan.

At 9:03 PM EST, a river flood advisory was issued for the Pere Marquette River near Scottville, Michigan. A river flood advisory continued for the Flat River near Smyrna, and the Kalamazoo River near New Richmond, Michigan.

Tuesday, November 3<sup>rd</sup>

At 10:10 AM EST, a river flood advisory continued for the Pere Marquette River near Scottville, Flat River near Smyrna, and the Kalamazoo River near New Richmond, Michigan.

At 7:00 PM EST, the river flood advisory for the Kalamazoo River near New Richmond expired.

At 8:06 PM EST, a river flood advisory continued for the Pere Marquette River near Scottville, and the Flat River near Smyrna, Michigan.

Wednesday, November 4<sup>th</sup>

At 8:56 AM EST, the river flood advisory for the Pere Marquette River near Scottville, Michigan expired.

At 10:30 AM EST, the river flood advisory continued for the Flat River near Smyrna, Michigan.

Thursday, November 5<sup>th</sup>

At 10:25 AM EST, the river flood advisory continued for the Flat River near Smyrna, Michigan.

Friday, November 6<sup>th</sup>

At 7:00 AM EST, the river flood advisory for the Flat River near Smyrna, Michigan, expired.

**Flood Stage Report**

No rivers exceeded flood stage this month. The following rivers exceeded bankfull:

- Sycamore Creek near Holt, Michigan
- Chippewa River near Mt. Pleasant, Michigan
- Flat River near Smyrna, Michigan
- Rogue River near Rockford, Michigan
- Kalamazoo River near New Richmond, Michigan

**River Conditions**

River levels by the end of November were near to slightly 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	140
Whitehall	White	115
Ewart	Muskegon	125
Mt. Pleasant	Chippewa	106
Lansing	Grand	130
Grand Rapids	Grand	137
East Lansing	Red Cedar	109
Hastings	Thornapple	99
Battle Creek	Battle Creek	112
Comstock	Kalamazoo	127

## **General Hydrologic Information**

November 2009 had below normal precipitation and above normal temperatures. November precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan were 1.48, 0.99, and 1.47 inches, respectively. Precipitation totals for the month at these three sites were 1.87 inches below normal at Grand Rapids, 1.67 inches below normal at Lansing, and 1.76 inches below normal at Muskegon, Michigan. Yearly precipitation totals were 5.43 inches above normal for Grand Rapids, 7.23 inches above normal for Lansing, and 4.61 inches above normal for Muskegon, Michigan. November will be remembered for its significant lack of snowfall. Snowfall totals for the month at Grand Rapids, Lansing, and Muskegon were below normal with readings of 0.7 (-7.0), Trace (-5.1), and Trace (-8.7) of an inch, respectively. At the end of the month the snow depth was 0 inches at Grand Rapids, Lansing, and Muskegon, Michigan.

Temperatures for the month of November were significantly above normal at Grand Rapids, Lansing, and Muskegon, with average monthly departures of +5.7, +5.3 and +4.9 degrees Fahrenheit, respectively. November 2009 tied for the 6th warmest on record in Grand Rapids, the 4th warmest on record in Lansing, and the 8th warmest in Muskegon, Michigan. Ground temperatures across the HSA were above freezing at the end of the month.

## **Hydrologic Products issued this month:**

- 5 Hydrologic Statements (ARBRVSGRR)
- 12 River Flood Advisories (ARBFLSGRR)
- 30 Hydrologic Summaries (ARBRVAGRR)
- 30 Daily River and Lake Summaries (ABRRVDGRR)
- 1 Probabilistic Hydrologic Outlook (ARBESFGRR)