

## MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

DATE:  
April 6, 2012TO: NATIONAL WEATHER SERVICE (W/OS31)  
HYDROMETEOROLOGICAL INFO CENTER  
1325 EAST-WEST HIGHWAY, RM 13468  
SILVER SPRING, MD 20910SIGNATURE:  
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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).

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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 March in our Hydrologic Service Area (HSA). River flood advisories for high river levels were issued for Sycamore Creek and portions of the Grand, Maple, Thornapple, Looking Glass, Muskegon, Pere Marquette, and Chippewa Rivers, but no significant flood damages were reported during these events. A river flood warning was issued for the Portage River near Vicksburg, Michigan, but the river crested below flood stage.

**Flood Conditions****Saturday, March 24<sup>th</sup>**

At 10:48 AM EDT a river flood warning was issued for the Portage River near Vicksburg, Michigan. The river stage at the time of issuance was at 4.7 feet, and the forecast called for the river to crest near 5.1 feet on Sunday. Flood stage is 5 feet.

**Sunday, March 25<sup>th</sup>**

At 10:27 AM EDT the river flood warning for the Portage River near Vicksburg, Michigan, continued with the river stage at 4.8 feet and a forecast to crest near flood stage early Monday morning.

**Monday, March 26<sup>th</sup>**

At 10:03 AM EDT the river flood warning for the Portage River near Vicksburg, Michigan, was cancelled when the river crested below flood stage at 4.8 feet.

Several rivers in our HSA exceeded their banks but did not reach flood stage during the month of March.

River flood advisories were issued for the following rivers that exceeded bankfull, but remained below flood stage, during the month of March:

- Grand River at Ionia, Michigan (18 days above bankfull)
- Grand River at Jackson, Michigan (1 day above bankfull)
- Sycamore Creek near Holt, Michigan (1 day above bankfull)
- Maple River near Maple Rapids, Michigan (13 days above bankfull)

- Thornapple River near Hastings, Michigan (5 days above bankfull)
- Grand River at Lowell, Michigan (3 days above bankfull)
- Looking Glass River near Eagle, Michigan (1 day above bankfull)
- Muskegon River near Ewart, Michigan (11 days above bankfull)
- Muskegon River near Croton, Michigan (5 days above bankfull)
- Pere Marquette River near Scottville, Michigan (5 days above bankfull)
- Chippewa River near Mt. Pleasant, Michigan (1 day above flood stage)

The March Spring Flood and Water Resources Outlook indicated the risk of flooding from late winter into spring was near to below average.

### **Flood Stage Report**

No rivers exceeded flood stage during the month of March.

### **River Conditions**

River levels across the HSA were below to near normal at the end of the month. Very little ice formed on the rivers in our HSA and no ice jams were reported during the month of March. 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	73
Whitehall	White	72
Ewart	Muskegon	91
Mt. Pleasant	Chippewa	83
Lansing	Grand	99
Grand Rapids	Grand	89
East Lansing	Red Cedar	67
Hastings	Thornapple	98
Battle Creek	Battle Creek	108
Battle Creek	Kalamazoo	110

### **General Hydrologic Information**

March 2012 had significantly above normal temperatures and near to above normal precipitation. Snowfall for the month was below normal.

March precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan, were 3.14, 2.78, and 3.39 inches, respectively (Figure 1). Precipitation totals for the month at these three sites were 0.77 of an inch above normal at Grand Rapids, 0.72 of an inch above normal at Lansing, and 1.14 inches above normal at Muskegon, Michigan (Figure 2). Yearly precipitation totals were 2.09 inches above normal for Grand Rapids, 1.21 inches above normal for Lansing, and 2.25 inches above normal for Muskegon, Michigan.

Snowfall for the month of March at Grand Rapids, Lansing, and Muskegon, Michigan were 2.8 inches (5.5 inches below normal), 0.6 of an inch (6.4 of an inch below normal), and 5.6 inches (3.4 inches below normal), respectively. Snow depth across the HSA

ranged from zero in our southern counties to just over 4 inches in our more northern counties at the end of March (Figure 3).

At the end of March, frost depths across the HSA were at zero.

Temperatures for the month of March were significantly above normal at Grand Rapids, Lansing, and Muskegon, Michigan, with average monthly departures of +15.1, +14.2 and +14.7 degrees Fahrenheit, respectively. As a result, March 2012 became the warmest March on record.

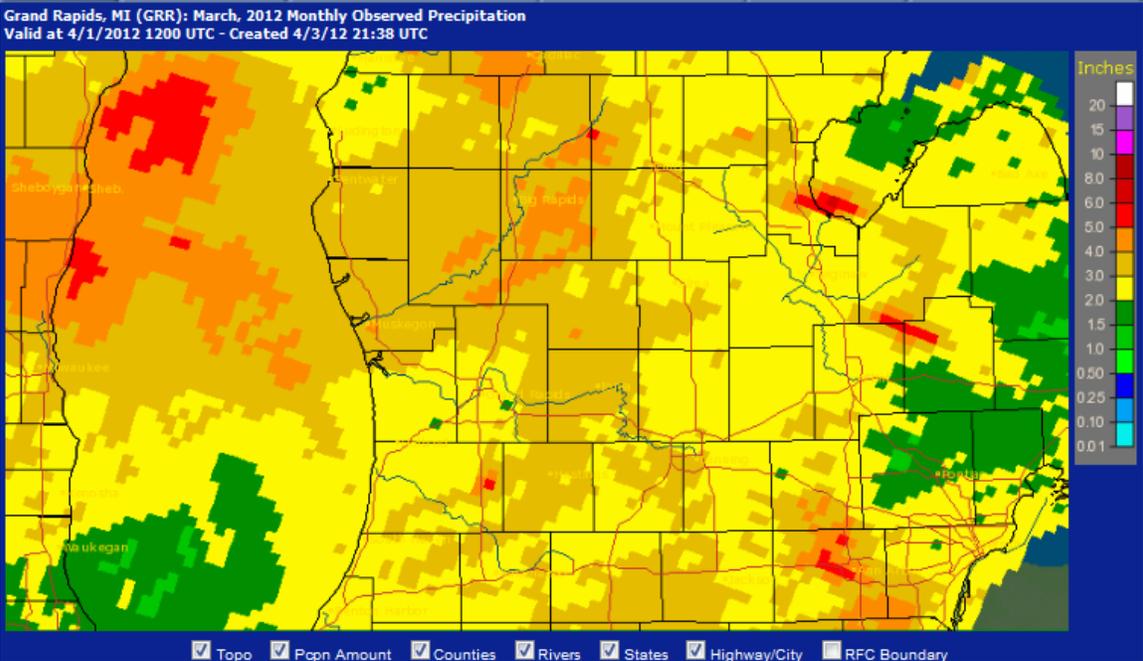


Figure 1. March 2012 Monthly Precipitation Totals

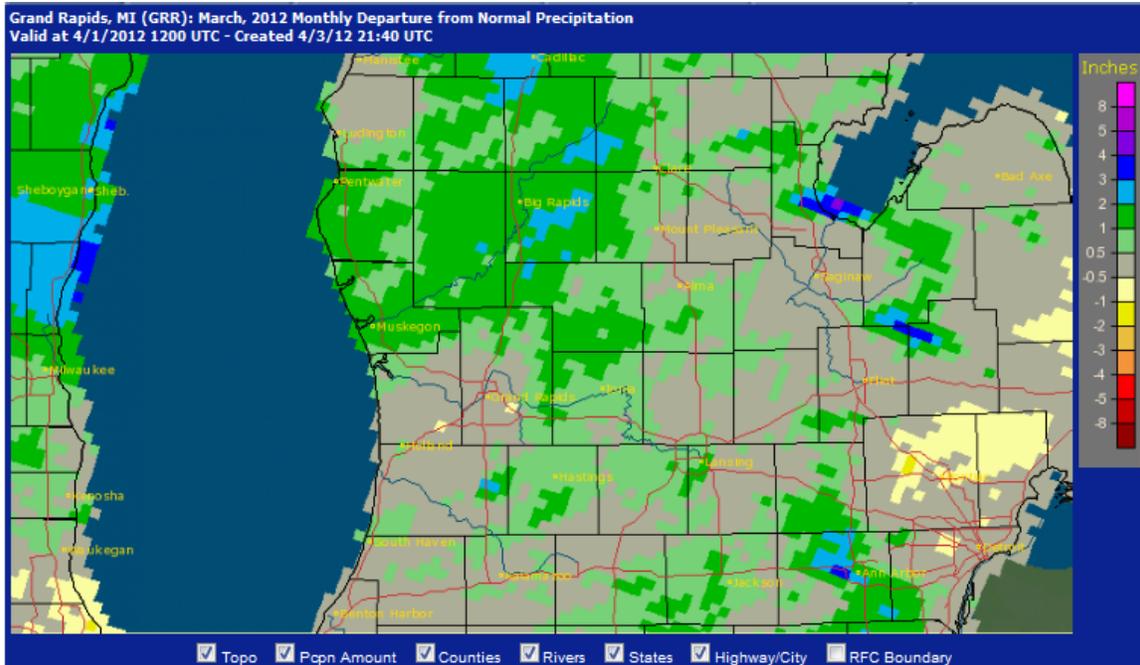


Figure 2. March 2012 Monthly Departure from Normal Precipitation Totals

### Snow Depth

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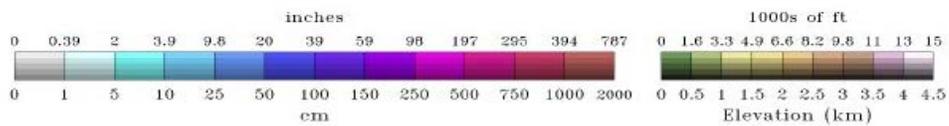
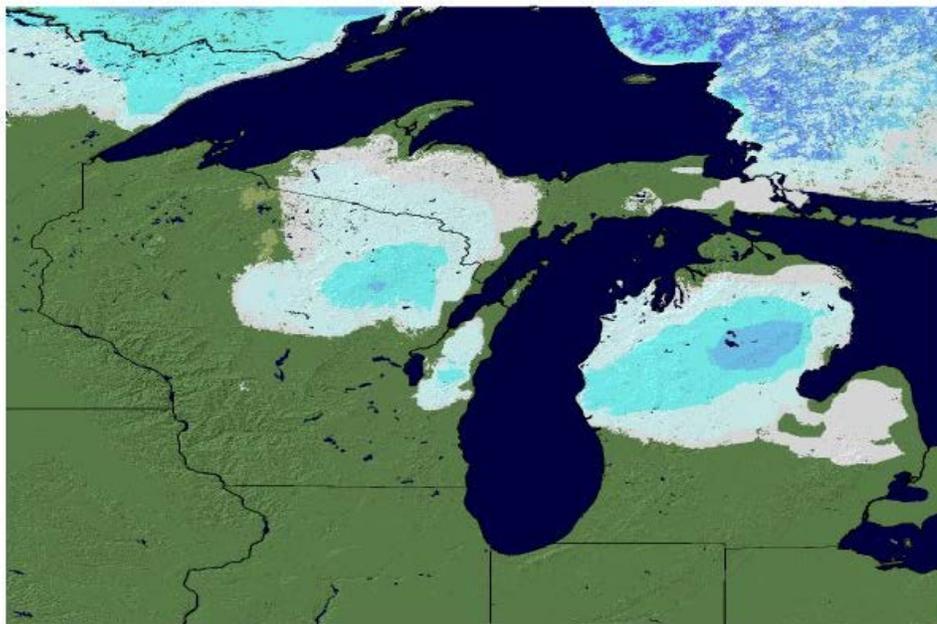


Figure 3. Snow Depth at the end of March.

**Hydrologic Products issued this month:**

- 1 River Flood Warning (ABRFLWGRR)
- 3 River Flood Statements (ARBFLSGRR)
- 48 River Flood Advisories (ARBFLSGRR)
- 13 Hydrologic Statements (ARBRVSGRR)
- 2 Probabilistic Hydrologic Outlooks (ARBESFGRR)
- 31 Hydrologic Summaries (ARBRVAGRR)