

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

TO: NATIONAL WEATHER SERVICE (W/OS31)
HYDROMETEOROLOGICAL INFO CENTER
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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

No significant flooding occurred during the month of March. Many rivers exceeded their banks but none exceeded flood stage.

Flood Conditions

The following rivers exceeded bankfull during the month of March:

- Grand River at Ionia, Michigan (26 days above bankfull)
- Sycamore Creek near Holt, Michigan (20 days above bankfull)
- Red Cedar River near East Lansing, Michigan (2 days above bankfull)
- Looking Glass River near Eagle, Michigan (5 days above bankfull)
- Maple River near Maple Rapids, Michigan (21 days above bankfull)
- Thornapple River near Hastings, Michigan (10 days above bankfull)
- Grand River near Lowell, Michigan (6 days above bankfull)
- Portage River near Vicksburg, Michigan (30 days above bankfull)
- St. Joseph River near Burlington, Michigan (20 days above bankfull)
- Grand River at Comstock Park, Michigan (5 days above bankfull)
- Grand River at Grand Rapids, Michigan (3 days above bankfull)

Spring flood and water resources outlooks were issued on March 3rd and March 25th. The spring flood and water resources outlooks called for a near normal potential for spring flooding. No significant spring flooding occurred during the month of March.

On March 4, 2011, at 9:44 PM EST, a river flood warning was issued for the Grand River at Jackson, Michigan. The river crested below flood stage at 11.86 feet, flood stage is 14 feet.

On March 20, 2011, at 11:55 AM EDT, a river flood warning was issued for the Maple River near Maple Rapids, Michigan. The river crested below flood stage at 8.13 feet, flood stage is 9 feet.

Flood Stage Report

No rivers in Southwest Lower Michigan exceeded flood stage during the month of March.

River Conditions

River levels by the end of March were near to below normal across 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	89
Ewart	Muskegon	72
Alma	Pine	77
Lansing	Grand	91
Grand Rapids	Grand	118
East Lansing	Red Cedar	84
Hastings	Thornapple	87
Battle Creek	Battle Creek	100
Battle Creek	Kalamazoo	84

General Hydrologic Information

March 2011 had near to slightly below normal temperatures and above normal precipitation with below normal snowfall.

March precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan were 4.01, 2.94, and 3.17 inches, respectively. Precipitation totals for the month at these three sites were 1.42 inches above normal at Grand Rapids, 0.61 of an inch above normal at Lansing, and 0.81 of an inch above normal at Muskegon, Michigan.

Snowfall totals for March at Grand Rapids, Lansing, and Muskegon, Michigan were 1.2, 1.3, and 0.8 of an inch, respectively. Snowfall totals for the month at these three sites were 7.8 inches below normal at Grand Rapids, 7.4 inches below normal at Lansing, and 10.3 inches below normal at Muskegon, Michigan. The snowpack was gone by the end of the month.

Temperatures for the month of March were near to slightly below normal at Grand Rapids, Lansing, and Muskegon, Michigan, with average monthly departures of -0.8, -1.3 and -0.8 degrees Fahrenheit, respectively.

Frost depths across the HSA were zero.

Hydrologic Products issued this month:

- 3 Flood Watches (ARBFFAGRR)
- 2 River Flood Warnings (ARBFLWGRR)
- 3 River Flood Statements (ARBFLSGRR)
- 83 River Flood Advisories (ARBFLSGRR)
- 67 Hydrologic Statements (ARBRVSGRR)
- 3 Probabilistic Hydrologic Outlooks (ARBESFGRR)
- 31 Hydrologic Summaries (ARBRVAGRR)