

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

DATE:

April 16, 2015

SIGNATURE:

Daniel K. Cobb, MIC

Mark Sekelsky, Lead Forecaster

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

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**

March was another cold month with below normal precipitation. The month started off With considerable ice in the rivers and widespread snow cover, but the combination of a gradual warm up and limited rainfall resulted in little impact.

**Flood Conditions**

No significant flooding occurred. Rivers levels rose considerably as the snow melted steadily and efficiently ran off into area streams due to a frozen ground, but any impacts were relatively minor.

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The following rivers exceeded bankfull during the month of March 2015:

- Looking Glass River near Eagle, Michigan (2 days above bankfull)
- Maple River near Mt. Pleasant, Michigan (8 days above bankfull)
- Sycamore Creek near Holt, Michigan (7 days above bankfull)
- Grand River near Ionia, Michigan (9 days above bankfull)
- Thornapple River near Hastings, Michigan (5 days above bankfull)
- Kalamazoo River at New Richmond, Michigan (1 day above bankfull)
- Red Cedar River near East Lansing, Michigan (1 day above bankfull)

**Flood Stage Report**

No forecast points exceeded flood stage in our HSA during the month of March 2015. As a result, no NWS Form E-3 "Flood Stage Report" was sent.

## **River Conditions**

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	94
Whitehall	White	100
Ewart	Muskegon	63
Mt. Pleasant	Chippewa	70
Lansing	Grand	63
Grand Rapids	Grand	66
East Lansing	Red Cedar	60
Hastings	Thornapple	55
Battle Creek	Battle Creek	69
Battle Creek	Kalamazoo	61

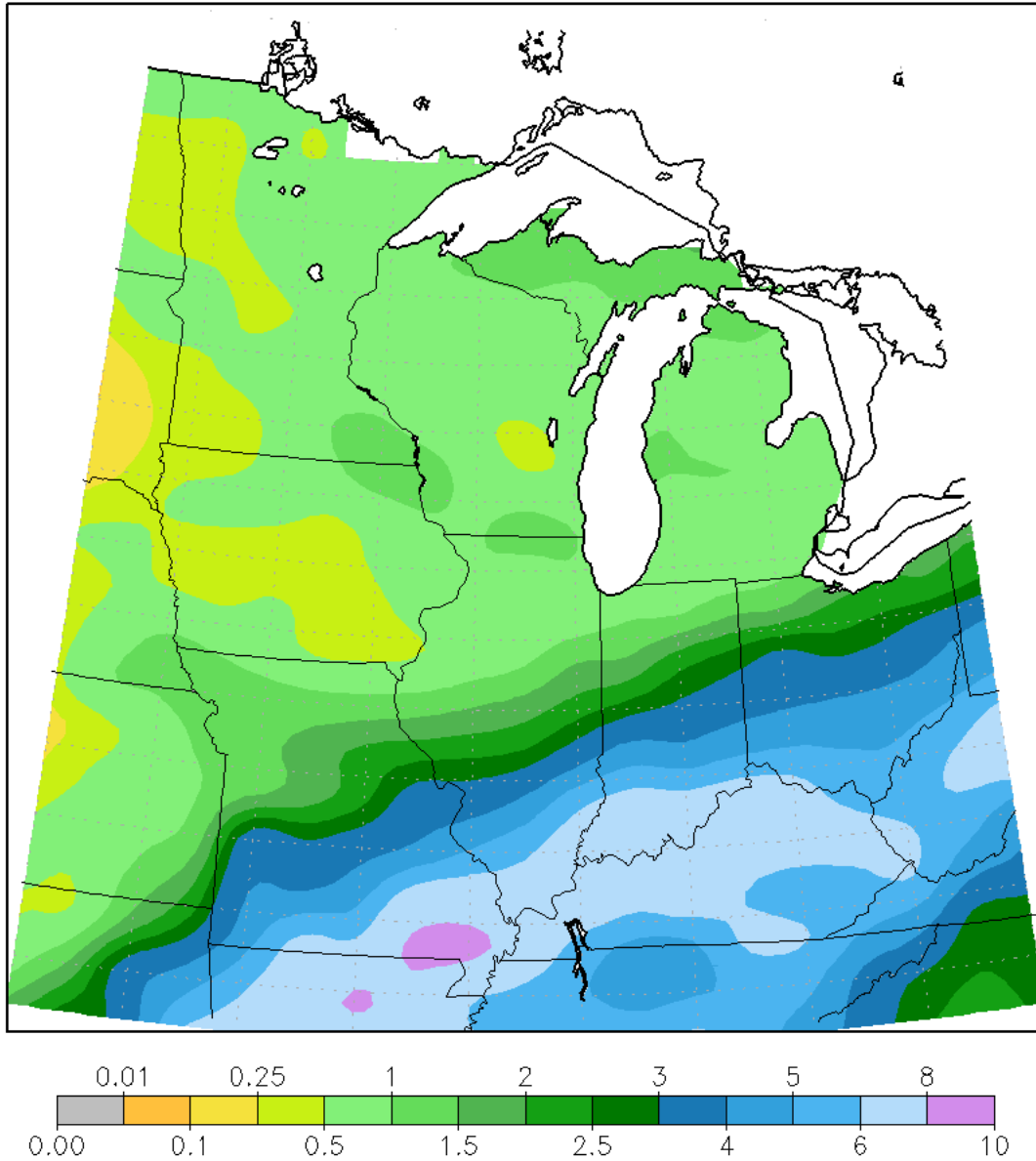
## **General Hydrologic Information**

March 2015 was a cold and dry month. Most locations were 2 to 4 degrees below normal for temperatures and received less than half their normal precipitation. This played an important role in limiting the impacts from the melting snow and ice that broke up on the area rivers. The period which featured the mild pattern which triggered the runoff was accompanied by gradually warming temperatures and abundant sunshine. Well below normal precipitation fell at all sites. March precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan, were 1.05, 0.74, and 1.13 inches, respectively (Figure 1). Precipitation departures for the month at these three sites were 1.32 of an inch below normal at Grand Rapids, 1.32 inches below normal at Lansing, and 1.12 of an inch below normal at Muskegon. Percent of mean precipitation for March 2015 is shown in Figure 2. Yearly precipitation departures were 2.16 inches below normal for Grand Rapids, 2.19 inches below normal for Lansing, and 1.69 inches below normal for Muskegon, Michigan.

Temperatures for the month of March were well below normal at Grand Rapids, Lansing, and Muskegon. The average monthly departures were, 3.2, 2.4, and 2.6 degrees Fahrenheit respectively.

At the start of the month ice was present on many of the rivers. By the end of the month the ice was gone. Snow water equivalent values generally ranged from 1 to 3 inches at the beginning of the month. Much of the water in the snow efficiently ran off into the rivers due to the deep frost depths. This resulted in the river rises which prompted the issuances of several river flood advisories.

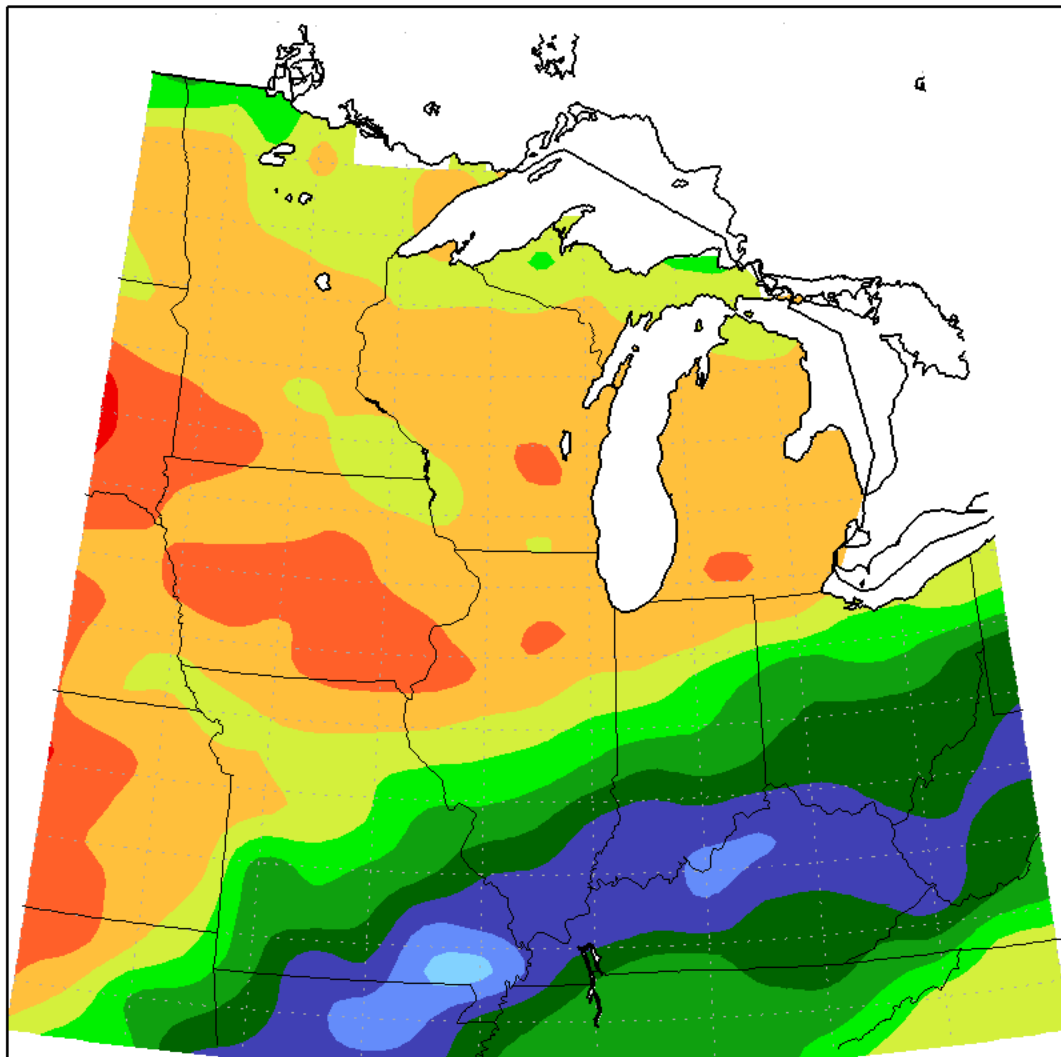
Accumulated Precipitation (in)  
March 1, 2015 to March 31, 2015



Midwestern Regional Climate Center  
Illinois State Water Survey, Prairie Research Institute  
University of Illinois at Urbana-Champaign

Figure 1. March Monthly Precipitation Totals

# Accumulated Precipitation: Percent of Mean March 1, 2015 to March 31, 2015



Mean period is 1981–2010.



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Figure 2. March Percent of Mean of Accumulated Precipitation

**Hydrologic Products issued this month:**

2 Hydrologic Outlook (ARBESFGRR)  
28 Hydrologic Summaries (ARBRVAGRR)  
27 River Flood Advisories(ARBFLSGRR)

**News Articles and Related Documentation**

None