

## 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

DATE:  
May 20th, 2018

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 hydrologic events occurred during the month of April. One heavier rain event was forecasted for the middle part of the month, which triggered a few warnings. Less than expected rain fell resulting in lower crests than forecasted.

### Flood Conditions

#### Friday, April 13th

At 932 PM a flood warning was issued for the following rivers:

Portage River near Vicksburg affecting Kalamazoo County. Flood Stage is 5.0 ft. The river was forecasted to rise to 5.1 ft on the 15<sup>th</sup>. Heavy rainfall of 1 to 2 inches was forecasted to cause the river to exceed flood stage.

#### Saturday, April 14th

At 1041 AM the flood warning was continued for the following rivers:

Portage River near Vicksburg affecting Kalamazoo County. Flood Stage is 5.0 ft. The river was forecasted to rise to 5.1 ft on the 15<sup>th</sup>. Heavy rainfall of 1 to 2 inches was forecasted to cause the river to exceed flood stage.

At 152 PM a flood advisory was upgraded to a flood warning for the following rivers:

Muskegon River at Bridgeton affecting Newaygo County. Flood Stage is 13.0 ft. The river was forecasted to rise to 13.3 ft on the 15<sup>th</sup>. Heavy rainfall of 1 to 2 inches was forecasted to cause the river to exceed flood stage.

At 152 PM a flood advisory was upgraded to a flood warning for the following rivers:

Muskegon River at Newaygo affecting Newaygo County. Flood Stage is 11.0 ft. The river was forecasted to rise to 11.1 ft on the 15<sup>th</sup>. Heavy rainfall of 1 to 2 inches was forecasted to cause the river to exceed flood stage.

#### Saturday, April 14th

At 912 PM the flood warning was continued for the following rivers:

Muskegon River at Bridgeton affecting Newaygo County. Minor flooding was forecasted.  
Muskegon River at Newaygo affecting Newaygo County. Minor flooding was forecasted.  
Portage River near Vicksburg affecting Kalamazoo County. Minor flooding was

forecasted.

Sunday, April 15th

At 1145 AM the flood warning was continued for the following rivers:

Muskegon River at Bridgeton affecting Newaygo County. Minor flooding was forecasted.

At 1145 AM the flood warning was cancelled for the following rivers:

Muskegon River at Newaygo affecting Newaygo County.

Portage River Near Vicksburg affecting Kalamazoo County.

Sunday, April 15th

At 947 PM the flood warning was cancelled for the following rivers:

Muskegon River at Bridgeton affecting Newaygo County.

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The following rivers exceeded bankfull during the month of April 2018:

- Looking Glass River near Eagle, Michigan (16 days above bankfull)
- Thornapple River above Hastings, Michigan (6 days above bankfull)
- Grand River at Ionia, Michigan (12 days above bankfull)
- Grand River near Comstock Park, Michigan (4 days above bankfull)
- Maple River at Maple Rapids, Michigan (12 days above bankfull)

**Flood Stage Report**

No forecast points exceeded flood stage in our HSA during the month of April 2018. Thus, the NWS Form E-3 "Flood Stage Report" was not issued.

**River Conditions**

The end of the April percentage of normal flow for selected rivers is listed below:

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	97
Whitehall	White	95
Ewart	Muskegon	141
Mt. Pleasant	Chippewa	114
Lansing	Grand	115
Grand Rapids	Grand	108
East Lansing	Red Cedar	95
Hastings	Thornapple	87
Battle Creek	Battle Creek	100
Battle Creek	Kalamazoo	96

## **General Hydrologic Information**

The month of April featured near normal precipitation. One major precipitation event in the middle part of the month resulted in considerable rises on the rivers, but no forecast points exceeded flood stage. The river levels largely receded through the month.

April precipitation for Grand Rapids, Lansing, and Muskegon, Michigan, was 2.85, 3.07, and 3.11 inches, respectively (Figure 1). Monthly departures were -0.50, 0.04 and 0.20 inches respectively. Yearly departures were 1.46, 2.76, and 2.33 inches for Grand Rapids, Lansing and Muskegon respectively. Percent of mean precipitation for April 2018 is shown in Figure 2.

Snowfall was above normal for the month of April at Grand Rapids, Lansing, and Muskegon, Michigan with 6.0 inches (4.1 inches above normal), 2.7 inches (0.8 inches above normal), and 7.5 (5.2 inches above normal), respectively.

Temperatures for the month of April were well below normal at Grand Rapids, Lansing and Muskegon. The average monthly temperature departures for these sites were -7.9, -7.1 and -8.3 degrees Fahrenheit respectively.

Accumulated Precipitation (in)  
April 1, 2018 to April 30, 2018

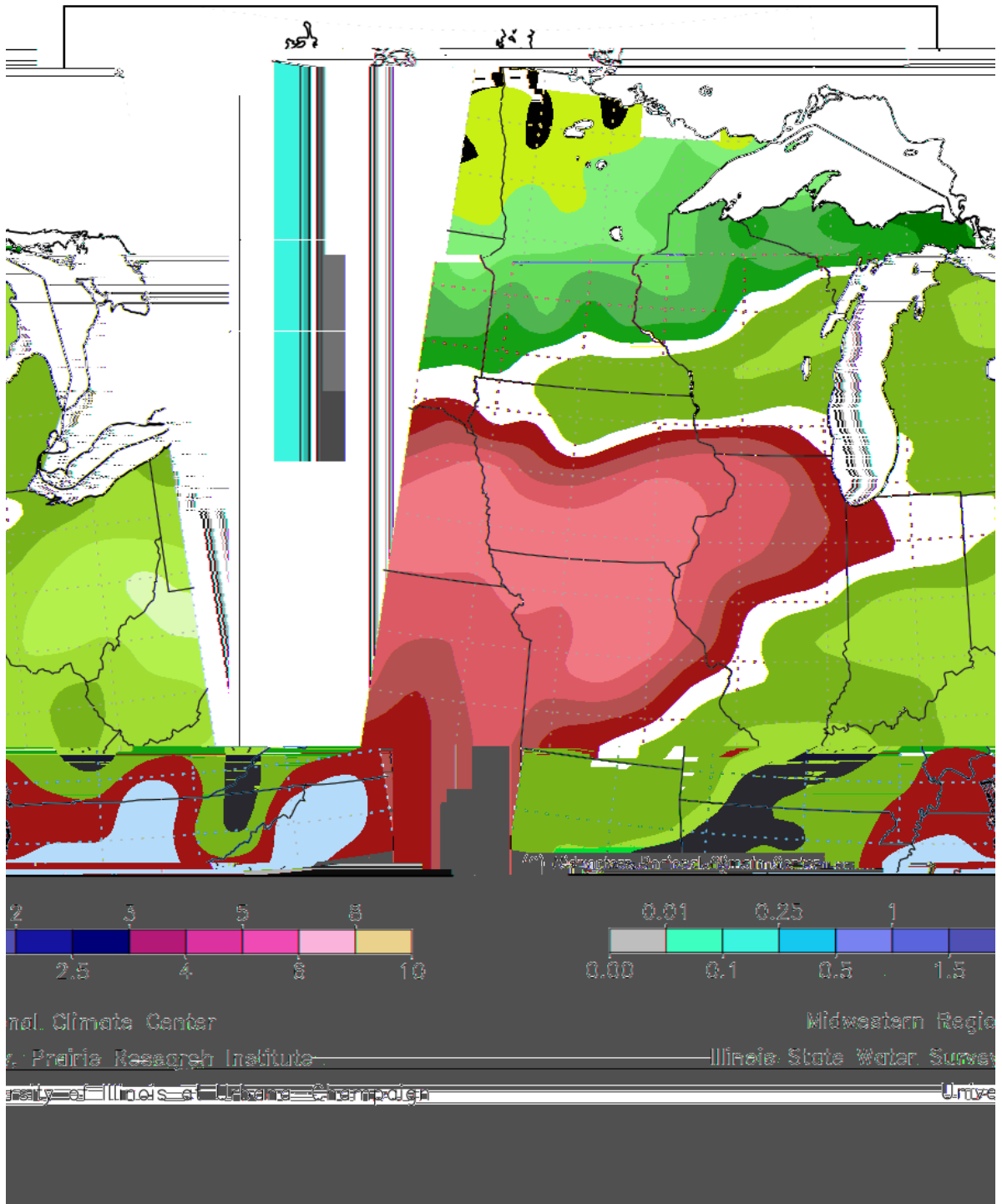


Figure 1. April 2018 Monthly Precipitation Totals

# Accumulated Precipitation: Percent of Mean April 1, 2018 to April 30, 2018

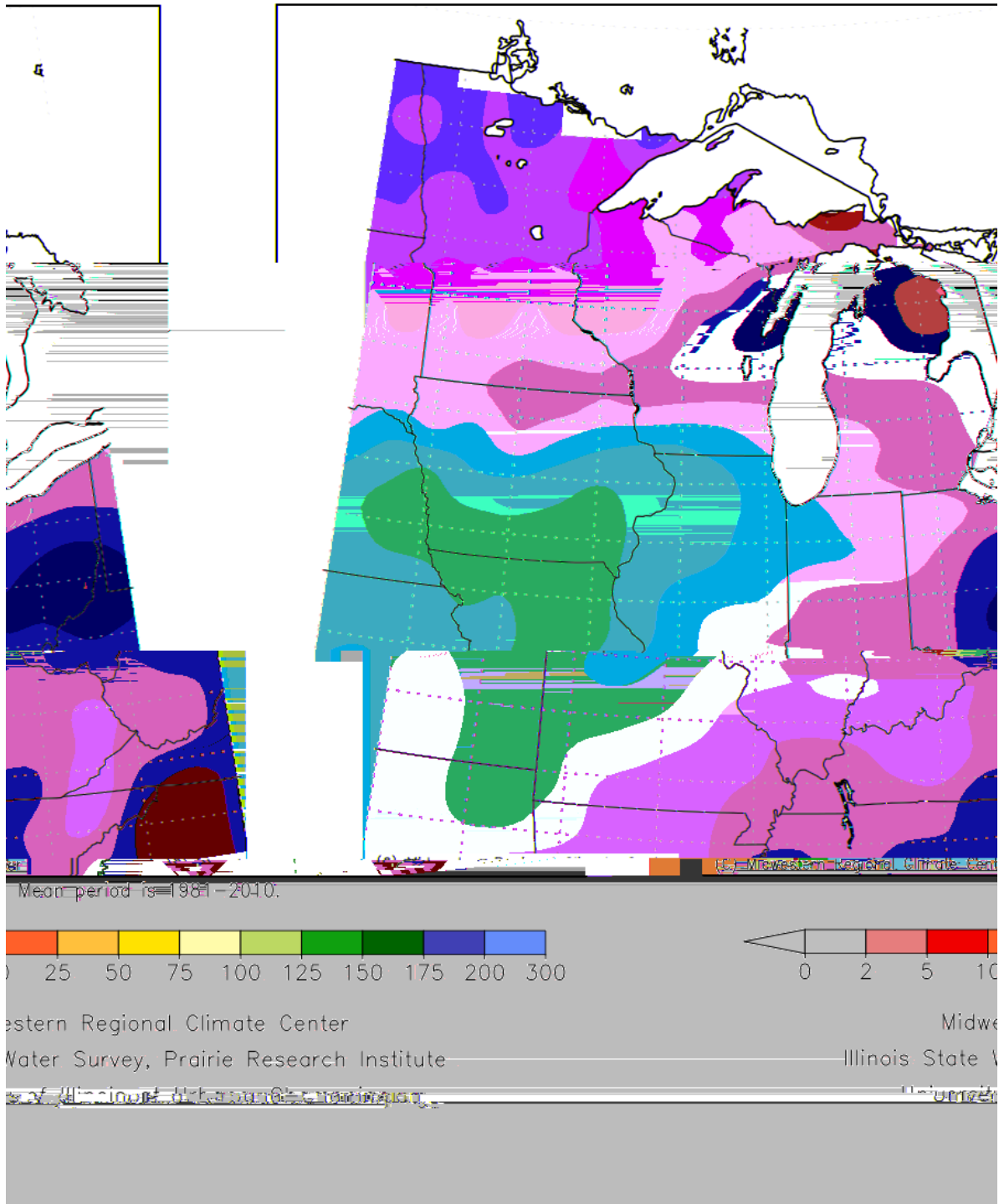


Figure 2. April 2018 Percent of Mean of Accumulated Precipitation

**Hydrologic Products issued this month:**

30 Hydrologic Summaries (ARBRVAGRR)  
1 Probabilistic Hydrologic Outlook (ARBESFGRR)  
30 Daily River Forecasts (ARBRVDGRR)  
25 Hydrologic Statements ARBRVSGRR)  
39 River Flood Advisory Statements (ARBFLSGRR)  
4 River Flood Warning Statements ( ARBFLSGRR)  
2 River Flood Warnings (ARBFLWGRR)

**News Articles and Related Documentation**

None