

NWS FORM E-5

U.S. DEPARTMENT OF COMMERCE
NOAA, NATIONAL WEATHER SERVICE

HSA OFFICE:
Grand Rapids, MI

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

REPORT FOR (MONTH & YEAR):
March 2018

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

DATE:
April 15th, 2018

SIGNATURE:
Daniel K. Cobb, MIC
Mark Sekelsky, Lead Forecaster

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

The month started off with some flooding still ongoing from February's major event. Fortunately March featured well below normal precipitation. In addition...little or no snowpack exists to add runoff as temperatures warmed seasonally. As a result...the water levels largely receded in all rivers. Below normal conditions were observed by the end of the month..

Flood Conditions

Wednesday, February 28th

At 840 PM the flood warning was continued for the following rivers:

- Grand River At Jackson affecting Jackson County
- Grand River At Robinson Township affecting Ottawa County
- Maple River At Maple Rapids affecting Clinton County
- Grand River Near Comstock Park affecting Kent County
- Looking Glass River Near Eagle affecting Clinton County
- Portage River Near Vicksburg affecting Kalamazoo County
- St Joseph River At Burlington affecting Calhoun County

Thursday, March 1st

At 1211 PM the flood warning was cancelled for the following river:

Maple River at Maple Rapids

And was continued for the following rivers:

- Grand River At Jackson affecting Jackson County
- Grand River At Robinson Township affecting Ottawa County
- Grand River Near Comstock Park affecting Kent County
- Looking Glass River Near Eagle affecting Clinton County
- Portage River Near Vicksburg affecting Kalamazoo County
- St Joseph River At Burlington affecting Calhoun County

Thursday, March 1st

At 834 PM the flood warning was cancelled for the following rivers:

Grand River at Jackson
St Joseph River at Burlington

And was continued for the following rivers:

Grand River At Robinson Township affecting Ottawa County
Grand River Near Comstock Park affecting Kent County
Looking Glass River Near Eagle affecting Clinton County
Portage River Near Vicksburg affecting Kalamazoo County

Friday, March 2nd

At 1116 AM the flood warning was continued for the following rivers:

Grand River At Robinson Township affecting Ottawa County
Grand River Near Comstock Park affecting Kent County
Looking Glass River Near Eagle affecting Clinton County
Portage River Near Vicksburg affecting Kalamazoo County

Friday, March 2nd

At 849 PM the flood warning was continued for the following rivers:

Grand River At Robinson Township affecting Ottawa County
Grand River Near Comstock Park affecting Kent County
Looking Glass River Near Eagle affecting Clinton County
Portage River Near Vicksburg affecting Kalamazoo County

Saturday, March 3rd

At 1100 AM the flood warning was continued for the following rivers:

Grand River At Robinson Township affecting Ottawa County
Grand River Near Comstock Park affecting Kent County
Looking Glass River Near Eagle affecting Clinton County
Portage River Near Vicksburg affecting Kalamazoo County

Saturday, March 3rd

At 100 PM the flood warning was cancelled for the following rivers:

Grand River At Robinson Township affecting Ottawa County

Saturday, March 3rd

At 813 PM the flood warning was continued for the following rivers:

Grand River Near Comstock Park affecting Kent County
Looking Glass River Near Eagle affecting Clinton County
Portage River Near Vicksburg affecting Kalamazoo County

Sunday, March 4th

At 1050 AM the flood warning was cancelled for the following rivers:

Grand River Near Comstock Park affecting Kent County
And was continued for the following rivers:
Looking Glass River Near Eagle affecting Clinton County
Portage River Near Vicksburg affecting Kalamazoo County

Sunday, March 4th

At 743 PM the flood warning was continued for the following rivers:

- Looking Glass River Near Eagle affecting Clinton County
- Portage River Near Vicksburg affecting Kalamazoo County

Monday, March 4th

At 720 AM the flood warning was cancelled for the following rivers:

- Looking Glass River Near Eagle affecting Clinton County
- And was continued for the following rivers:
- Portage River Near Vicksburg affecting Kalamazoo County

The flood warning continued for the Portage River Near Vicksburg until March 25, when it was cancelled at 500 PM.

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

- Looking Glass River near Eagle, Michigan (15 days above bankfull)
- Flat River at Smyrna, Michigan (1 days above bankfull)
- Thornapple River above Hastings, Michigan (5 days above bankfull)
- Thornapple River near Caledonia, Michigan (1 days above bankfull)
- Grand River at Ionia, Michigan (13 days above bankfull)
- Grand River at Jackson, Michigan (4 days above bankfull)
- Grand River at Ada, Michigan (2 days above bankfull)
- Grand River near Comstock Park, Michigan (5 days above bankfull)
- Grand River at Grand Rapids, Michigan (5 days above bankfull)
- Grand River at Robinson Township, Michigan (4 days above bankfull)
- Kalamazoo River near New Richmond, Michigan (6 days above bankfull)
- Kalamazoo River at Comstock, Michigan (3 days above bankfull)
- Portage River near Vicksburg, Michigan (26 days above bankfull)
- St. Joseph River at Burlington, Michigan (5 days above bankfull)

Flood Stage Report

5 forecast points exceeded flood stage in our HSA during the month of March 2018. A NWS Form E-3 “Flood Stage Report” was issued.

River Conditions

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

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	81
Whitehall	White	82
Evart	Muskegon	72
Mt. Pleasant	Chippewa	69
Lansing	Grand	78
Grand Rapids	Grand	69
East Lansing	Red Cedar	71
Hastings	Thornapple	59
Battle Creek	Battle Creek	84
Battle Creek	Kalamazoo	95

General Hydrologic Information

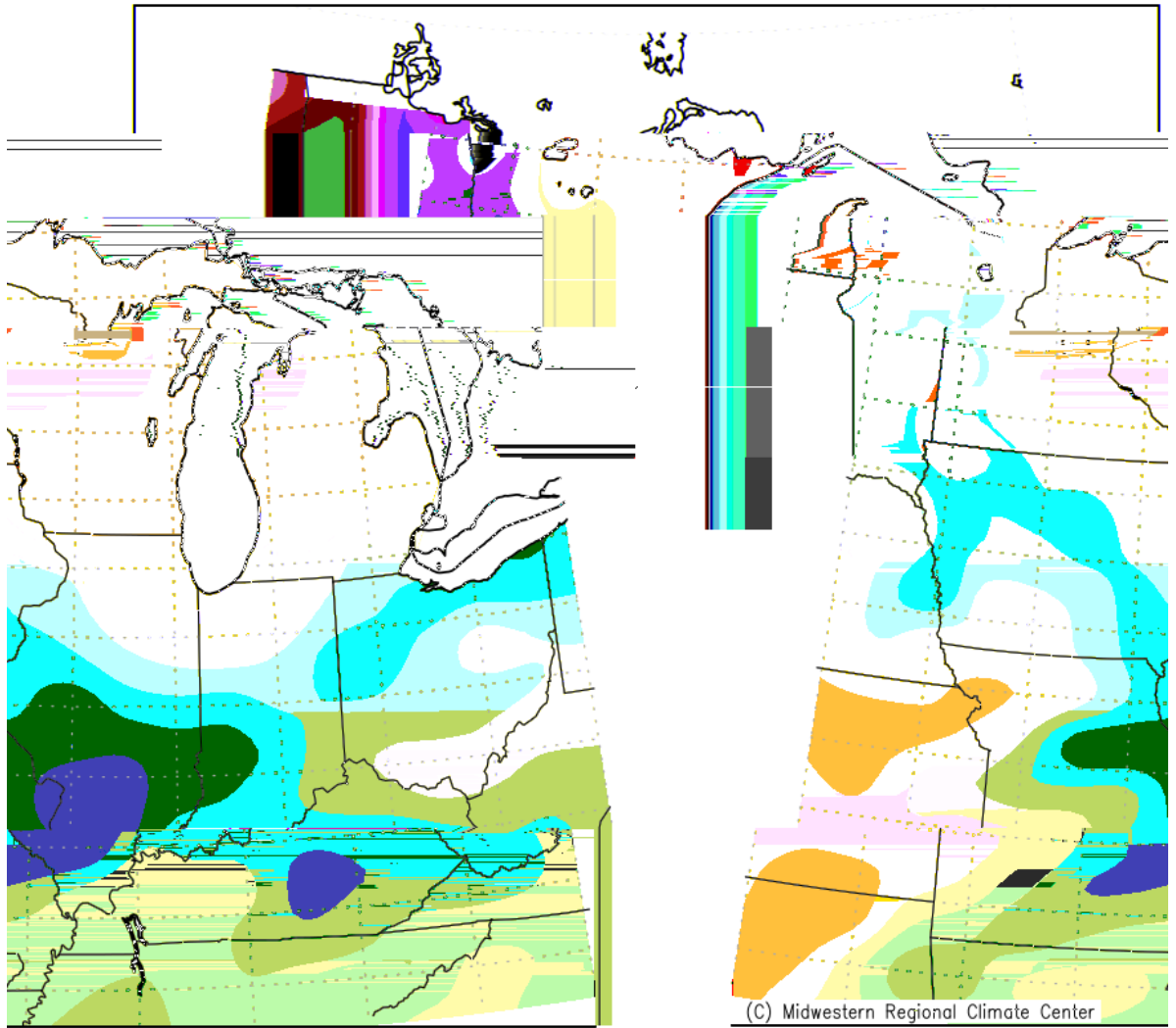
The month of March featured well below normal precipitation and temperatures. Little or no snowmelt occurred due to the lack of snowpack. The river levels largely receded through the month.

March precipitation for Grand Rapids, Lansing, and Muskegon, Michigan, was 1.16, 1.29, and 1.30 inches, respectively (Figure 1). Monthly departures were -1.21, -0.77 and -0.95 inches respectively. Yearly departures were 1.96, 2.72, and 2.13 inches for Grand Rapids, Lansing and Muskegon respectively. Percent of mean precipitation for March 2018 is shown in Figure 2.

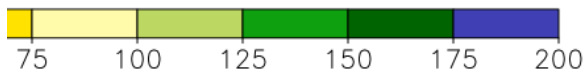
Snowfall was below normal for the month of March at Grand Rapids, Lansing, and Muskegon, Michigan with 4.9 inches (3.4 inches below normal), 5.3 inches (1.7 inches below normal), and 6.1 (2.9 inches below normal), respectively.

Temperatures for the month of March were below normal at Grand Rapids, Lansing and Muskegon. The average monthly temperature departures for these sites were 1.3, 2.0 and 1.0 degrees Fahrenheit respectively.

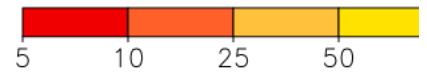
Accumulated Precipitation: Percent of Mean
 March 1, 2018 to March 31, 2018



period is 1981–2010.



Regional Climate Center
 Survey, Prairie Research Institute
 Illinois at Urbana–Champaign



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Figure 2. March 2018 Percent of Mean of Accumulated Precipitation

Hydrologic Products issued this month:

31 Hydrologic Summaries (ARBRVAGRR)
1 Probabilistic Hydrologic Outlook (ARBESFGRR)
21 Hydrologic Statements (ARBRVSGRR)
50 River Flood Warning Statements (ARBFLSGRR)

News Articles and Related Documentation

None