

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

DATE:

April 15th, 2017

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

The wet weather continued for the region during the month of March. Southern parts of the hydrologic service area saw the heaviest rain. Snow melt this month was limited and no major ice impacts were noted. Despite the wetter than normal conditions the flooding was mainly confined to minor impacts.

Flood Conditions

Thursday, February 28th

At 9:20 PM EDT, a flood watch was issued for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was forecasted to crest at 5.2 feet Thursday morning.

Wednesday, March 1st

At 11:45 AM EDT, the flood watch was upgraded to a flood warning for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was forecasted to crest at 5.1 feet on during the evening.

Thursday, March 2nd

At 11:25 AM EDT, the flood warning continued for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at 5.1 feet and forecasted to fall slowly.

Thursday, March 2nd

At 10:23 PM EDT, the flood warning continued for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at 5.1 feet and forecasted to fall slowly.

Friday, March 3rd

At 11:36 AM EDT, the flood warning was cancelled for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was estimated at 4.95 feet and forecasted to fall slowly.

Saturday, March 4th

At 10:39 AM EDT, a flood warning was issued for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at 5.1 feet and forecasted to fall slowly.

Saturday, March 4th

At 8:20 PM EDT, the flood warning was continued for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at 5.1 feet and forecasted to fall slowly.

Sunday, March 5th

At 10:30 AM EDT, the flood warning was extended for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at 5.1 feet and forecasted to fall slowly.

Sunday, March 5th

At 10:17 PM EDT, the flood warning was extended for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at 5.1 feet and forecasted to fall slowly.

Monday, March 6th

At 2:46 PM EDT, the flood warning was extended for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at flood stage and forecasted to fall slowly.

Monday, March 6th

At 8:19 PM EDT, the flood warning continued for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at flood stage and forecasted to fall slowly.

Tuesday, March 7th

At 10:48 AM EDT, the flood warning cancelled for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at 4.97 and forecasted to fall slowly.

Thursday, March 30th

At 4:27 PM EDT, a flood warning was issued for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was forecasted to crest at 5.1 feet Friday morning.

Thursday, March 30th

At 10:31 PM EDT, the flood warning was continued for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at 5.1 feet. The river was forecasted to crest at 5.4 feet by Friday evening.

Friday, March 31st

At 12:16 PM EDT, the flood warning was continued for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at 5.1 feet. The river was forecasted to crest at 5.3 feet by Friday evening.

Friday, March 31st

At 4:03 PM EDT, the flood warning was continued for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at 5.4 feet. The river was estimated near crest and forecasted to fall on Saturday.

Friday, March 31st

At 9:28 PM EDT, the flood warning was continued for the Portage River near Vicksburg. Flood stage is 5.0 feet. The river was at 5.4 feet. The river forecasted to rise to near 5.5 feet overnight.

The following rivers exceeded bankfull during the month of March 2017:

- Pere Marquette River near Scottville, Michigan (2 days above bankfull)
- Muskegon River near Evart, Michigan (3 days above bankfull)
- Chippewa River near Mount Pleasant, Michigan (2 days above bankfull)
- Muskegon River at Croton, Michigan (2 days above bankfull)
- Looking Glass River near Eagle, Michigan (16 days above bankfull)
- Sycamore Creek at Holt, Michigan (8 days above bankfull)
- Maple River at Maple Rapids, Michigan (15 days above bankfull)
- Red Cedar River near Williamston, Michigan (2 days above bankfull)
- Grand River at Jackson, Michigan (1 day above bankfull)
- Grand River at Ionia, Michigan (20 days above bankfull)
- Thornapple River near Hastings, Michigan (7 days above bankfull)
- Portage River at Vicksburg, Michigan (7 days above bankfull)

Flood Stage Report

One forecast point exceeded flood stage in our HSA during the month of March 2017. See NWS Form E-3 “Flood Stage Report” for more details

River Conditions

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

| <u>Location</u> | <u>River</u> | <u>% of Normal</u> |
|-----------------|----------------|--------------------|
| Scottville | Pere Marquette | 91 |
| Whitehall | White | 97 |
| Evart | Muskegon | 114 |
| Mt. Pleasant | Chippewa | 157 |
| Lansing | Grand | 206 |
| Grand Rapids | Grand | 141 |
| East Lansing | Red Cedar | 304 |
| Hastings | Thornapple | 265 |
| Battle Creek | Battle Creek | 256 |
| Battle Creek | Kalamazoo | 201 |

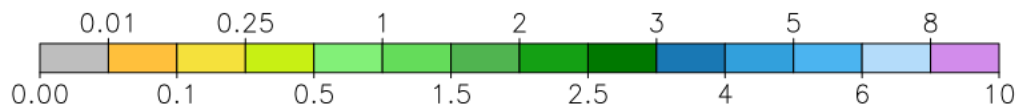
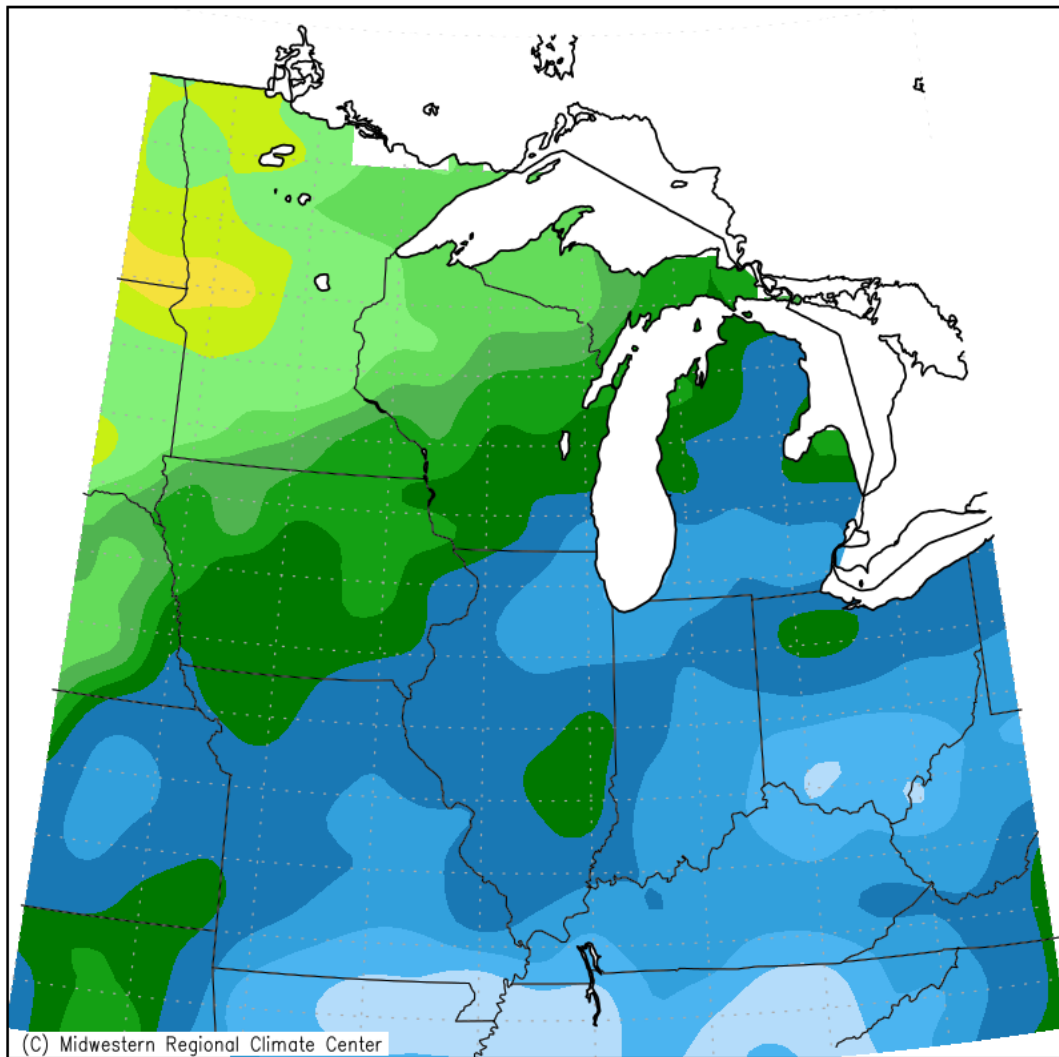
General Hydrologic Information

Above normal precipitation fell during the month of March across the hydrologic service area. The greatest departures occurred in southern parts of the region, over the Kalamazoo and Grand River basins.

March precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan, were 3.27, 3.63, and 2.61 inches, respectively (Figure 1). Monthly departures were 0.90 inches, 1.57 inches, and 0.36 inches respectively. Yearly departures were 2.58, 4.73, and 2.20 inches for Grand Rapids, Lansing and Muskegon respectively. Percent of mean precipitation for March 2017 is shown in Figure 2.

Temperatures for the month of March were cooler than normal at Grand Rapids and Lansing. The average monthly temperature departures were, -0.6 and -0.2 degrees Fahrenheit respectively. The temperature at Muskegon was above normal with a departure of 0.6 degrees Fahrenheit.

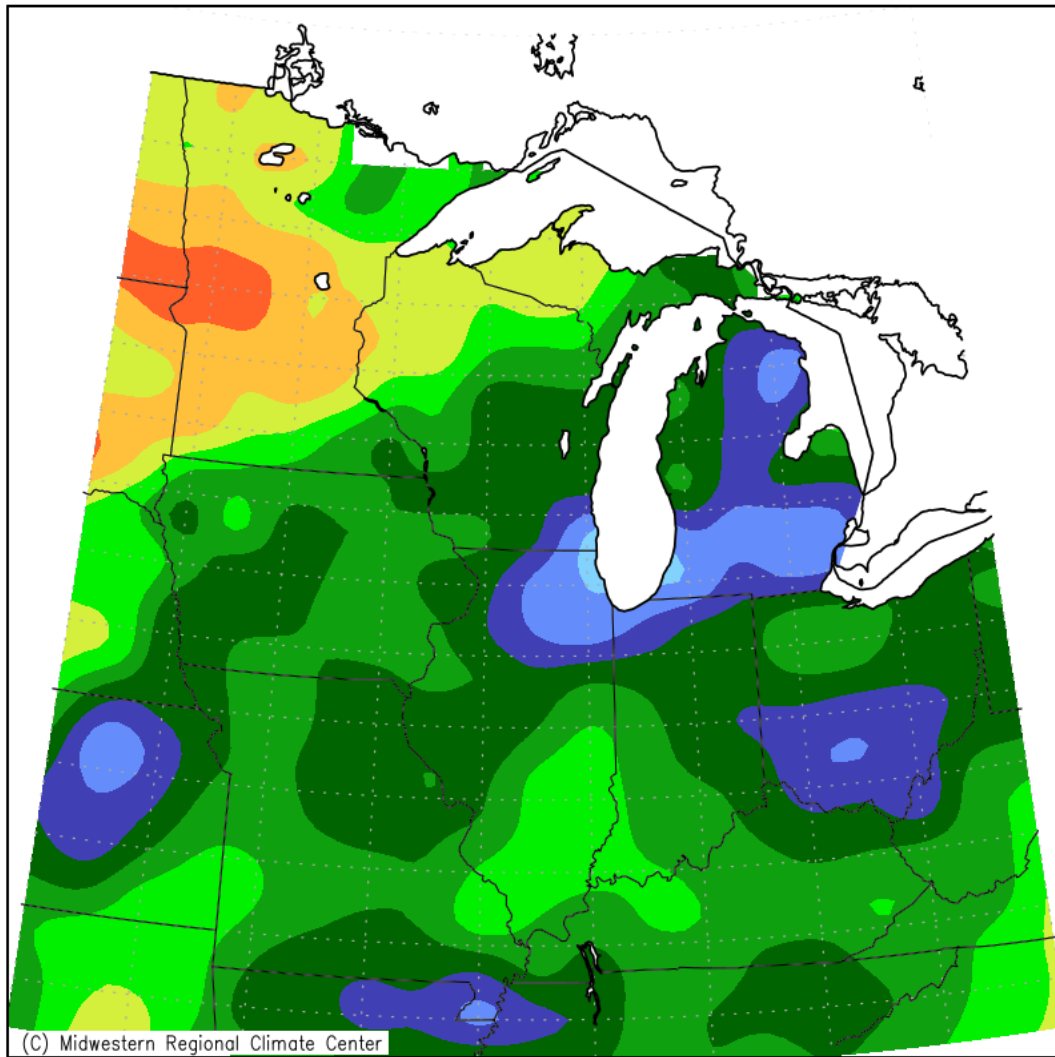
Accumulated Precipitation (in)
March 1, 2017 to March 31, 2017



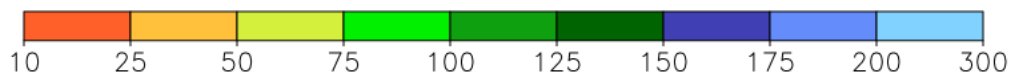
Midwestern Regional Climate Center
Illinois State Water Survey, Prairie Research Institute
University of Illinois at Urbana-Champaign

Figure 1. March Monthly Precipitation Totals

Accumulated Precipitation: Percent of Mean
March 1, 2017 to March 31, 2017



Mean period is 1981–2010.



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Figure 2. March Percent of Mean of Accumulated Precipitation

Hydrologic Products issued this month:

- 31 Hydrologic Summaries (ARBRVAGRR)
- 1 Probabilistic Hydrologic Outlook (ARBESFGRR)
- 4 Flood Warnings (ARBFLWGRR)
- 8 River Flood Statements (ARBFLSGRR)
- 41 River Flood Advisory Statements (ARBFLSGRR)
- 25 Hydrologic Statements (ARBRVSGRR)
- 1 River Flood Watch (ARBFFAGRR)