

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 6, 2019

SIGNATURE:

Daniel K. Cobb, MIC

Andrew Dixon, Service Hydrologist

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**

In general, February 2019 continued the trend from January of colder than normal temperatures, with a very active storm track and above-average snowfall. There were several brief but significant warmups that melted a lot of the snowpack. The most significant of these was right on the heels of the bitter cold arctic outbreak that was in place to start the month. Temperatures warmed into the upper 40s, with windy conditions, on February 4, and the general snowdepths around the area went from around 1 foot down to an inch or less in the span of 48 hours. In addition, about an inch of rain fell over the period of a few days. Another warmup near the end of the month melted more than half of the snowpack that had redeveloped (only about 6 inches area-wide).

**Flood Conditions**

In general, rivers in the Muskegon and Kalamazoo basins started the month below long-term median flows, while the Grand River basin started the month above-average for streamflows. Even though manageable amounts of water were passing through the rivers, freezeup ice jams carried over from January into early February along the Muskegon River at Bridgeton and Newaygo. The rain and snowpack meltdown in the first week of the month sent big rises through all of the area rivers, and by the 2<sup>nd</sup> week of the month virtually all streams were more than 90<sup>th</sup> percentile flows for this time of year. While the freezeup ice jam threat diminished on the Muskegon River, the warmup and rising water led to a breakup ice jam threat around the area, since virtually all of the rivers had frozen up after the bitter cold temperatures. A significant breakup ice jam occurred in the City of Portland on February 6, and held in place for the rest of the month of February, causing prolonged flooding. No significant ice jams formed elsewhere around the area, but the overall rise was enough to cause minor flooding on the Grand River at Comstock Park and in Robinson Township. During the frequent cold snaps throughout the rest of the month, a freezeup ice jam formed on the Muskegon River near the city of Paris, as well as on the Looking Glass River near Eagle. Finally, the smaller snowmelt event near the end of the month caused the Grand River at Robinson Township to again rise to around flood stage, with minor flooding once again occurring.

## **Flood Stage Report**

The forecast points on the Muskegon River at Bridgeton and Newaygo, the Grand River at Portland, Comstock Park, and Robinson Township, and the Looking Glass River near Eagle reached or exceeded flood stage during the month. Thus, the NWS Form E-3 “Flood Stage Report” was issued.

## **River Conditions**

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

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	125
Whitehall	White	*
Ewart	Muskegon	92
Mt. Pleasant	Chippewa	85
Lansing	Grand	148
Grand Rapids	Grand	198
East Lansing	Red Cedar	196
Hastings	Thornapple	261
Battle Creek	Battle Creek	246
Battle Creek	Kalamazoo	131

\* Ice affected gauge – no discharge values available

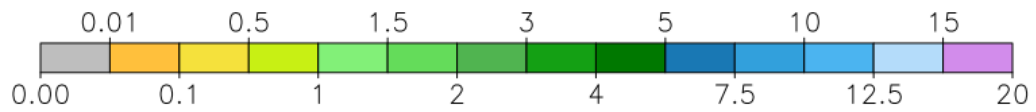
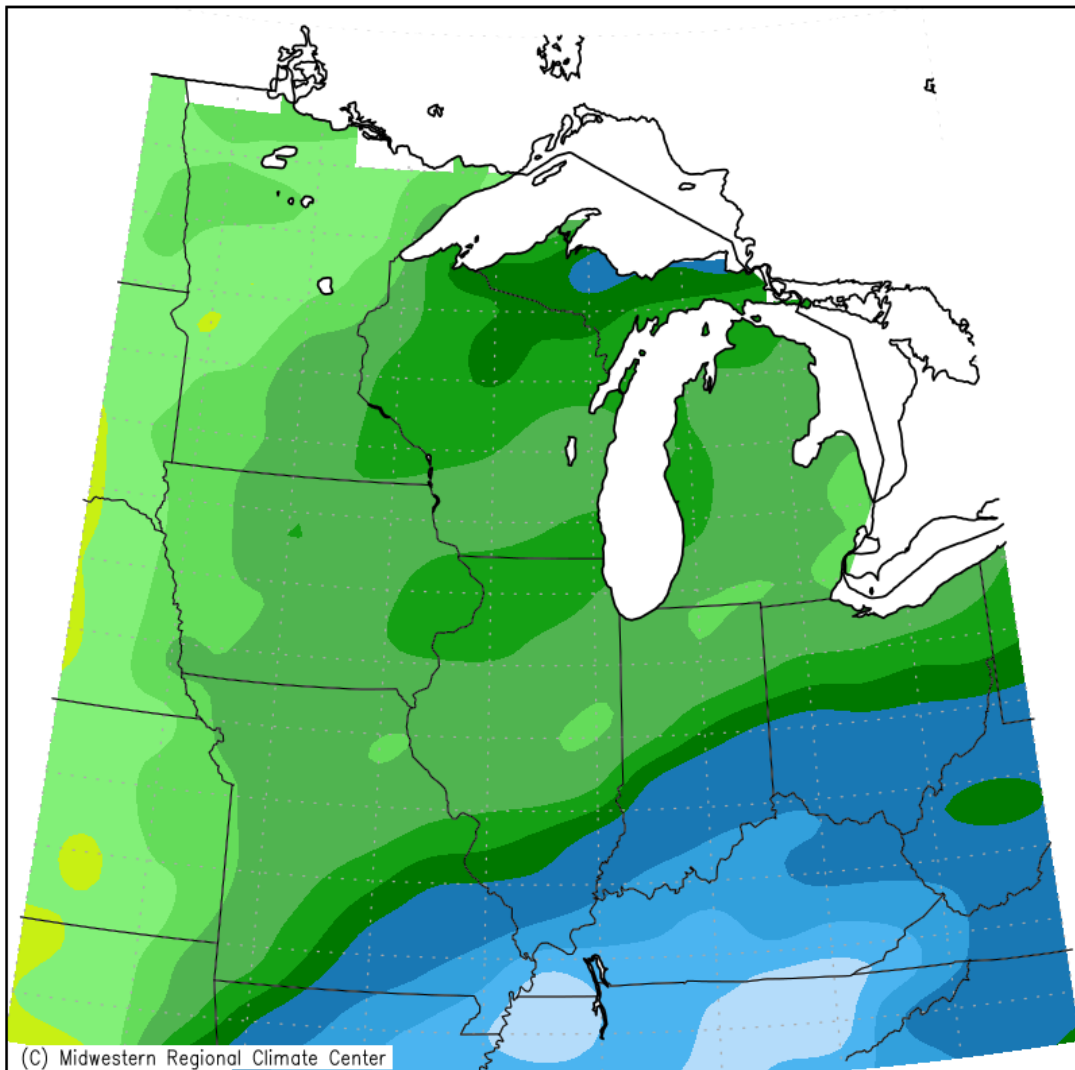
## **General Hydrologic Information**

The month of February featured above-average precipitation over the entire area, especially over the Muskegon River Basin.

February precipitation amounts for Grand Rapids, Lansing, and Muskegon, Michigan, were 3.43, 2.72, and 3.60 inches, respectively (Figure 1). Monthly departures were +1.64, +1.25 and +1.77 inches, respectively. Yearly departures were +2.45, +1.32 and +2.31 inches for Grand Rapids, Lansing and Muskegon respectively. Percent of mean precipitation for January 2019 is shown in Figure 2.

Temperatures for the month of February were below average at Grand Rapids, Lansing and Muskegon. The average monthly temperature departures for these sites were -1.2, -0.7 and -1.2 degrees Fahrenheit, respectively.

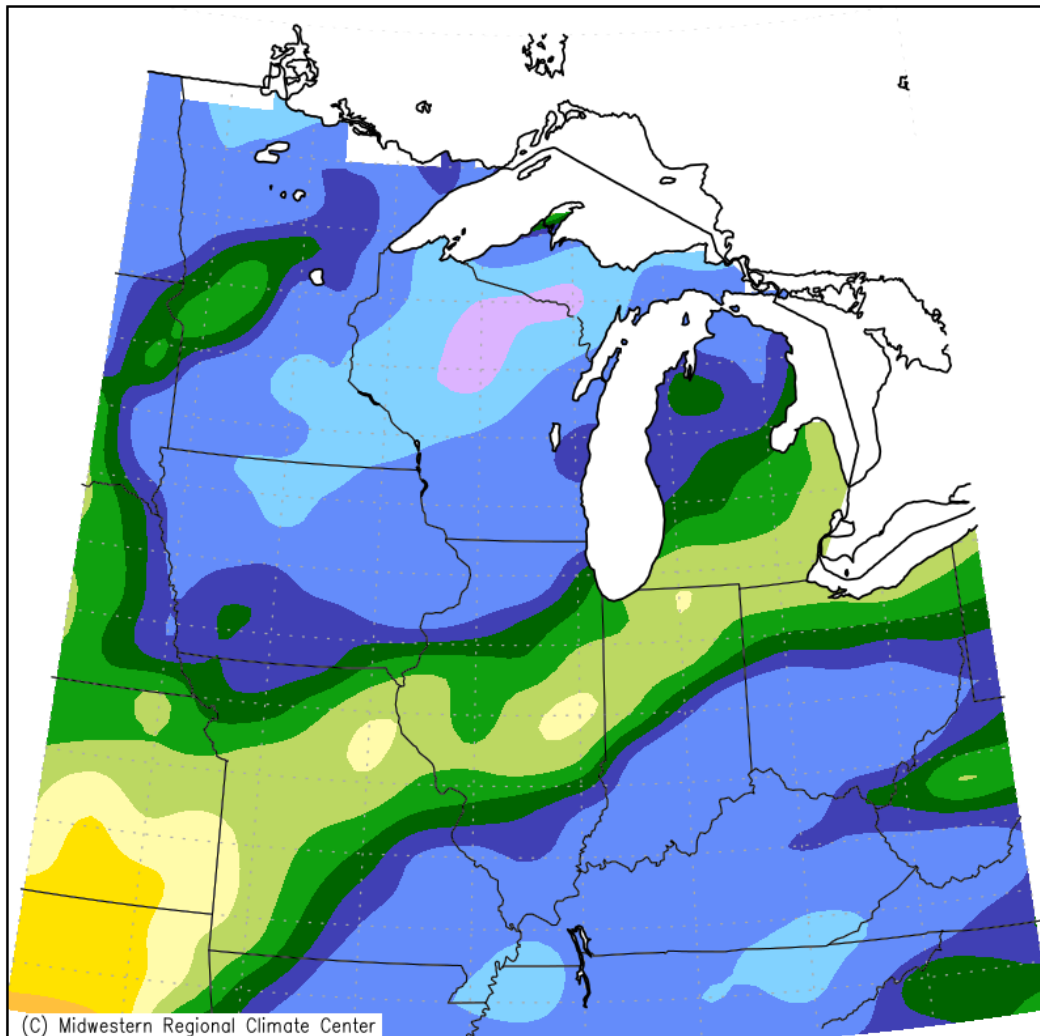
Accumulated Precipitation (in)  
February 1, 2019 to February 28, 2019



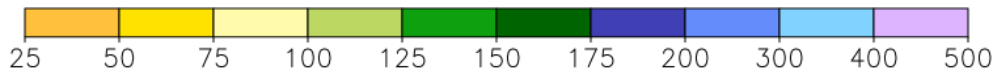
Midwestern Regional Climate Center  
Illinois State Water Survey, Prairie Research Institute  
University of Illinois at Urbana-Champaign

Figure 1. February 2019 Monthly Precipitation Totals

Accumulated Precipitation: Percent of Mean  
February 1, 2019 to February 28, 2019



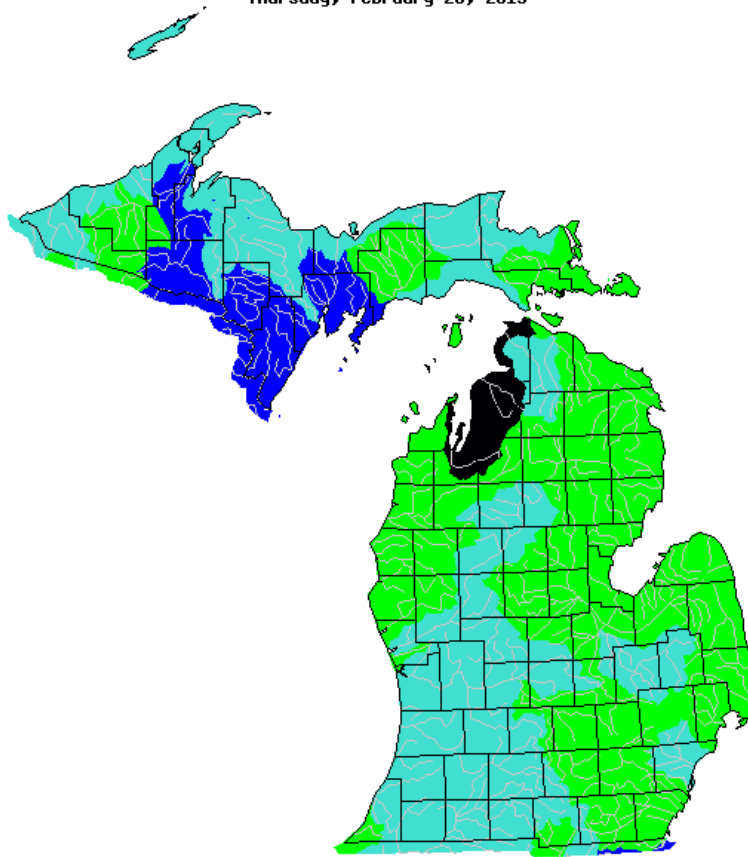
Mean period is 1981–2010.



Midwestern Regional Climate Center  
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Figure 2. February 2019 Percent of Mean of Accumulated Precipitation

Thursday, February 28, 2019



Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Figure 3. USGS 28-day average streamflow by significant hydrologic units. Note generally above-average flows across most of Southwest and Central Lower Michigan.

**Hydrologic Products issued this month:**

- 27 Hydrologic Summaries (ARBRVAGRR)
- 1 Probabilistic Hydrologic Outlook (ARBESFGRR)
- 0 Event-driven Hydrologic Outlook (ARBESFGRR)
- 0 Daily River Forecasts (ARBRVDGRR)
- 40 Areal Flood Advisory Statements (ARBFLSGRR)
- 11 Flood Warning Statements (ARBFLWGRR)
- 0 Flood Watch Statements (ARBFFAGRR)

62 River Statements (ARBRVSGRR)

**News Articles and Related Documentation**

<https://www.portland-michigan.org/337/FloodIce-Jam-2019>

<https://www.youtube.com/watch?v=tyTxzMQmN1s>

<https://www.woodtv.com/news/ionia-county/photos-ice-jam-flooding-in-portland/1759918880>

<https://www.mlive.com/news/grand-rapids/2019/02/aerial-photos-show-grand-river-ice-causing-flooding-problems-in-portland.html>

<https://www.michiganradio.org/post/unpredictable-ice-jams-pose-threat-even-more-flooding-portland-mich>

<https://fox17online.com/2019/02/26/537908/>