

**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):
January 2021

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

DATE:
February 9, 2021

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 flooding occurred within this hydrologic service area.

Summary

January 2021 started a new year, but continued the trend of the winter so far of warmer and drier conditions than normal. By the end of the month, the snow drought continued to grow across Lower Michigan, especially in the lake-effect snow belts where snow totals are typically highest. There were a few stretches of weather cold enough for ice to begin forming on many of the rivers in West Michigan - especially during the final week of the month. No ice jams were noted, and no flooding occurred.

The unusually quiet weather allowed Lake Michigan water levels to continue a typical seasonal fall, and dropped another 4 inches during January. This means water levels are down around 18 inches from the high point this past summer, and are now about 6 inches lower than the annual low-point last February. However, water remains significantly higher (~2.5 ft) compared to long-term average values for this time of year.

Flood Conditions

With another fairly dry and uneventful month, the Grand and Muskegon basins slipped to slightly below normal levels for this time of year. If not for the years of wet weather leading up to this winter, the rivers would be even lower, but the baseflow is elevated due to the higher groundwater tables discharging into the streams. The far southwest corner of the state has been even drier over the last several months than the other areas of Michigan, with even less runoff happening in this area, so the Kalamazoo River was able to spend most of the month between the 10th and 25th percentile (below normal) for this time of year. This may have been a bit artificially lower than reality

because it was during this month that repairs of the Morrow Dam were completed, and the pond was gradually refilled (6 inches/day) until full pond was again reached.

Flood Stage Report

No forecast points exceeded flood stage during the month. Thus, the NWS Form E-3 “Flood Stage Report” was not issued.

River Conditions

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

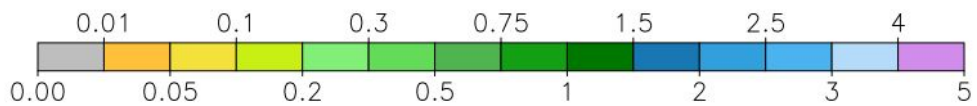
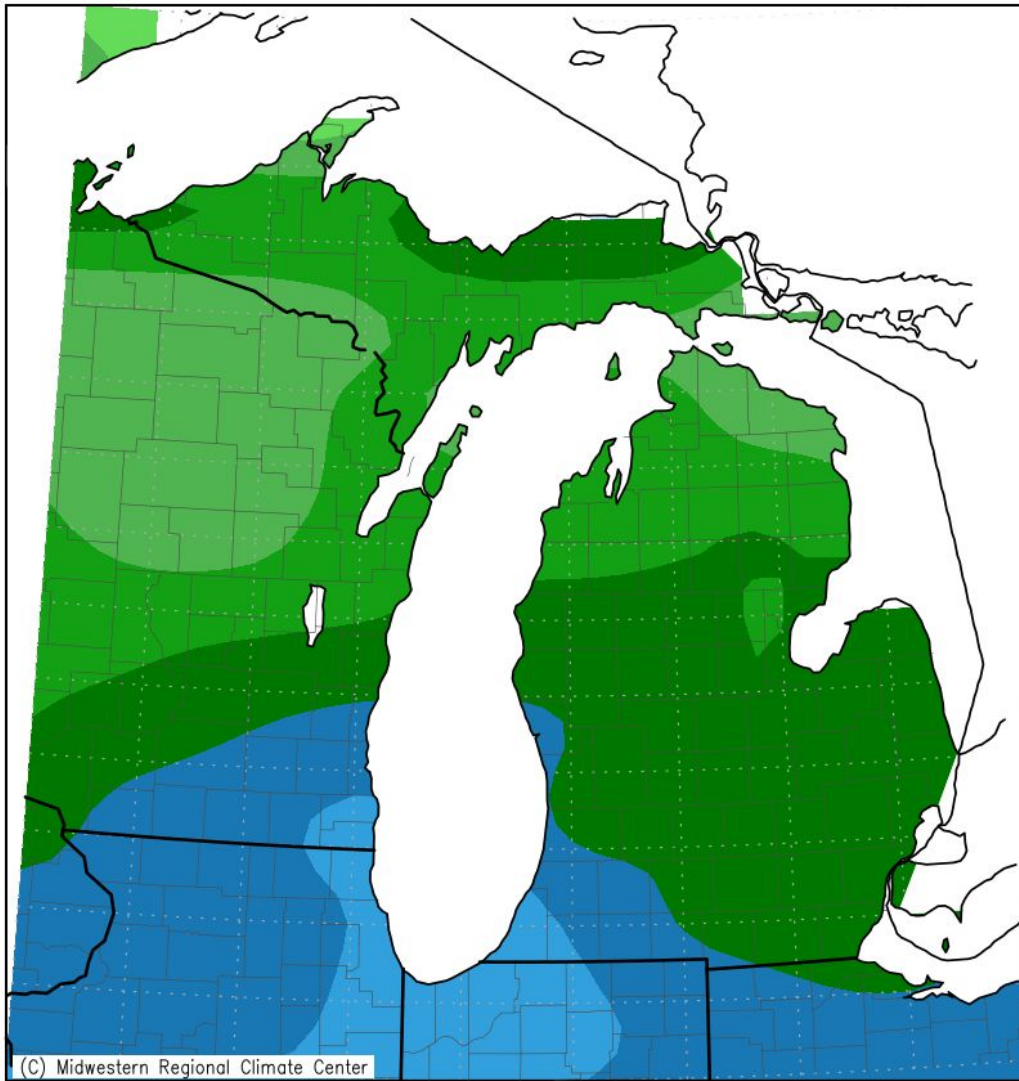
<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	91
Whitehall	White	84
Ewart	Muskegon	N/A (Ice)
Mt. Pleasant	Chippewa	N/A (Ice)
Lansing	Grand	70
Grand Rapids	Grand	77
East Lansing	Red Cedar	77
Hastings	Thornapple	96
Battle Creek	Battle Creek	98
Battle Creek	Kalamazoo	81

General Hydrologic Information

January precipitation amounts for Grand Rapids, Lansing, and Muskegon, Michigan, were 1.37, 1.56, and 1.65 inches, respectively (Figure 1). Monthly departures were -0.72, -0.09, and -0.38 inches, respectively. Yearly departures were -0.72, -0.09 and -0.38 inches for Grand Rapids, Lansing and Muskegon respectively. Percent of mean precipitation for January 2021 is shown in Figure 2.

Temperatures for the month of January at Grand Rapids, Lansing and Muskegon were well above normal. The monthly average temperature departures for these sites were +3.7, +3.0, and +3.8 degrees Fahrenheit, respectively.

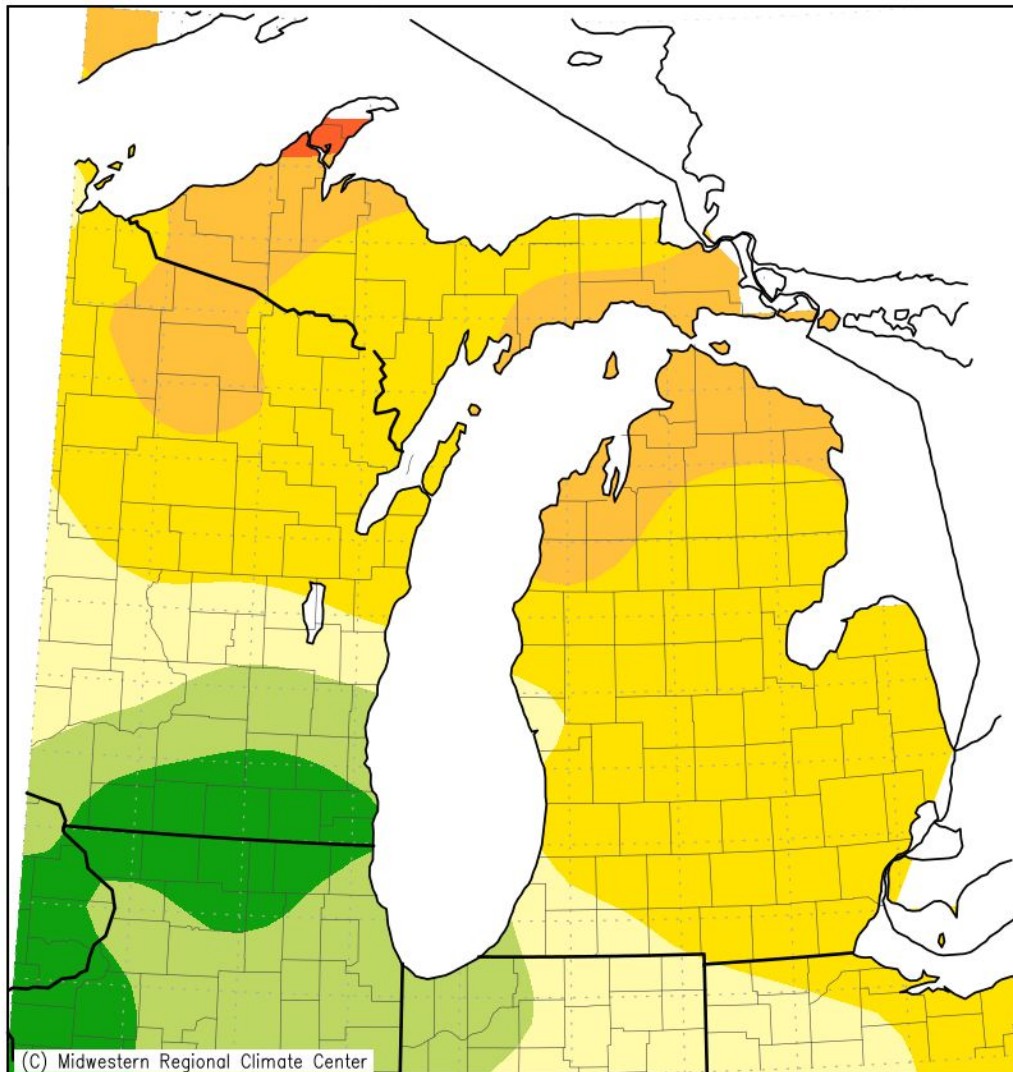
Accumulated Precipitation (in)
January 1, 2021 to January 31, 2021



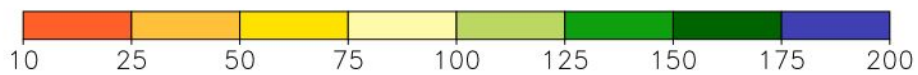
Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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Figure 1. January 2021 Monthly Precipitation Totals.

Accumulated Precipitation: Percent of Mean
January 1, 2021 to January 31, 2021



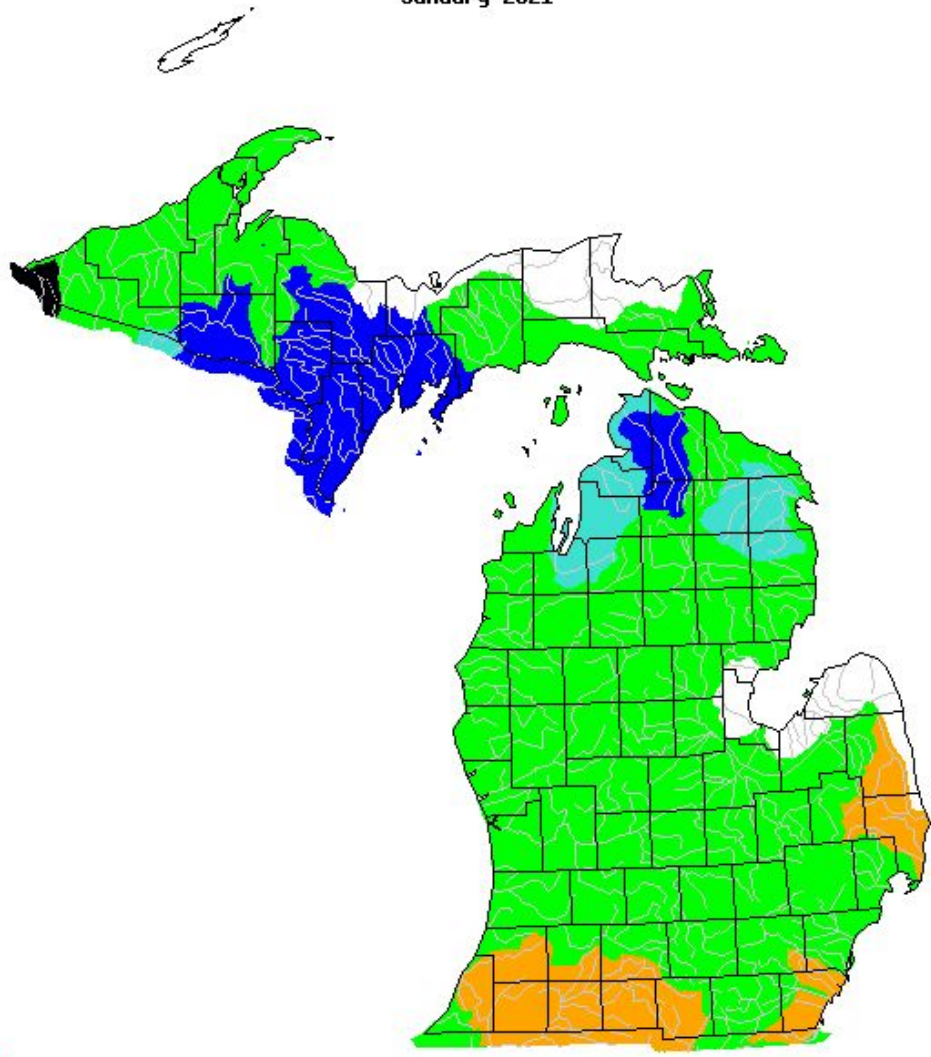
Mean period is 1981–2010.



Midwestern Regional Climate Center
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Figure 2. January 2021 Percent of Mean of Accumulated Precipitation.

January 2021



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 monthly average streamflow for January, grouped by significant hydrologic units. Note streamflows across Lower Michigan widespread near normal for the month, despite several months of near to below normal precipitation. This is due to elevated water tables resulting in elevated base flow in the rivers.

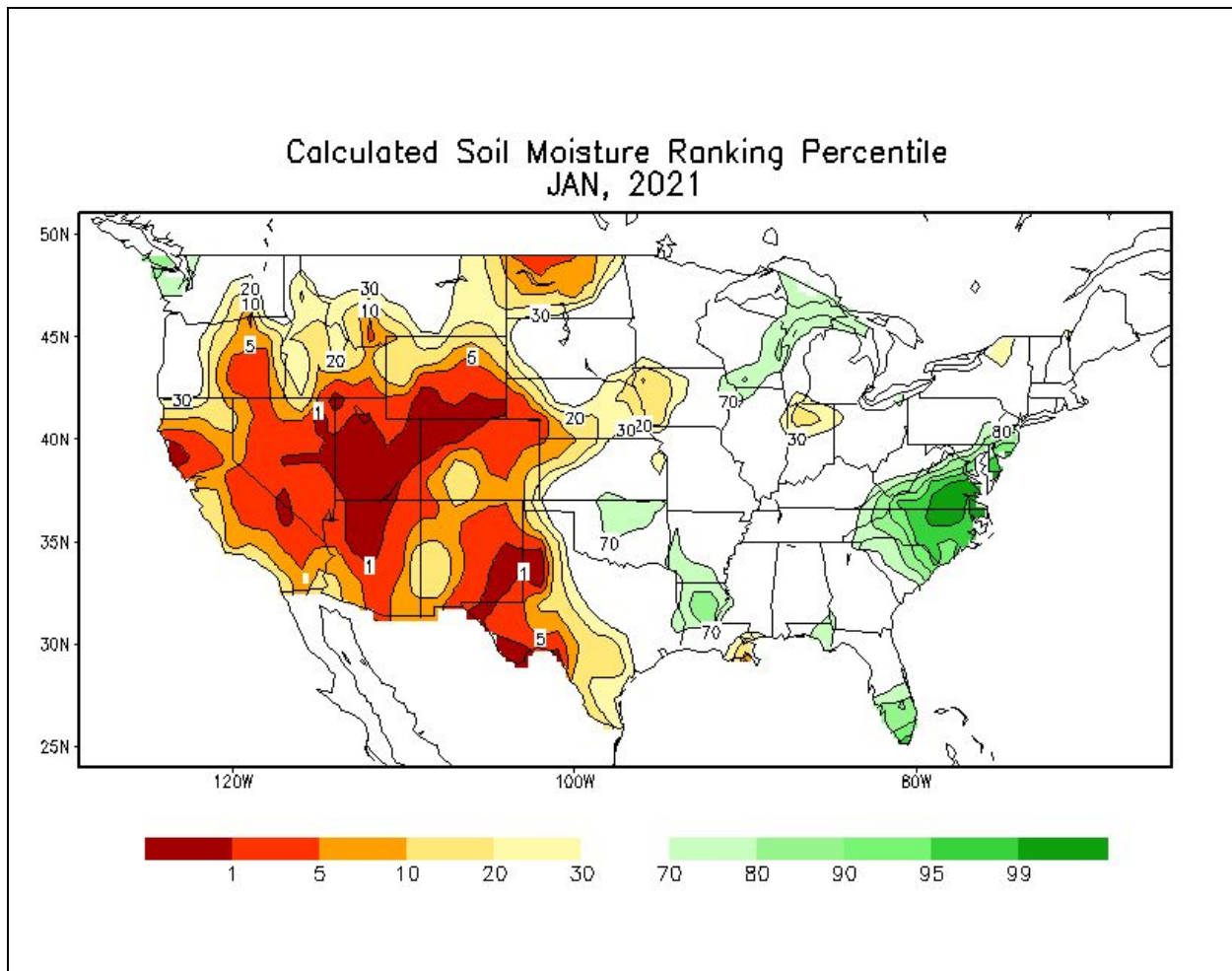


Figure 4. Chart of monthly values of soil moisture, by percentile ranking.

Hydrologic Products issued this month

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

News Articles and Related Documentation

none