

NWS **U.S. Department of Commerce**
FORM NOAA, NATIONAL WEATHER SERVICE
E-5

HSA OFFICE:
Grand Rapids, MI

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

REPORT FOR
(MONTH & YEAR):
August 2024

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

DATE:
September 3rd, 2024

SIGNATURE:
Joe Ceru,
Meteorologist

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

Flows continued to trend downward over the month despite peaks from storm systems. While there were some scattered storms through the month, the most impactful systems that brought heavy rainfall to the region occurred at the beginning and at the end of the month. However, no forecast point went above flood stage. Forecast points through the northern river basins (Muskegon, White, Pere Marquette) ended the month at near normal flow. Points southward especially along the Grand and Kalamazoo ended with above normal flow. The summer was wet as a whole with a lack of any drought impact.

Flood Conditions

The month began with flows well above normal, especially in the northern river basins. Flows dropped the first few days of the month. However, that was short lived as successive storm systems moved through the region. The largest of those was a widespread storm system on August 6th that caused an EF-2 tornado through Three Rivers, MI. That event brought significant rises to the rivers across the region especially to rivers along and south of the I 94 corridor. During that event, Jackson airport received 1.58 inches. Marshall, MI received over 2 inches of rainfall from the 6th through the 7th. That rainfall culminated in The Grand River at Jackson to rise briefly above action stage. However, no rivers went above flood stage.

Following August 6th, flows continued to drop through the month. There was some rainfall interspersed through the month that brought minor peaks. The last significant rainfall event was on August 27th where Jackson received over an inch of rain.

While flows to the Muskegon, Pere Marquette and White continued to drop, all flow remained around normal. Rivers along and southward of the The I-96 corridor were

above normal. River systems in and around Lansing were far above normal with the Red Cedar at East Lansing 535 percent of normal at the end of the month. The Grand River at Lansing ended the month similar to last year and was in the 90th percentile of discharge for this time of year. This is up from this time of year in 2021 and 2022.

The Kalamazoo and Portage River Basins were well above normal. Points along The Kalamazoo River Basin went above the 75th percentile for this time of year. A few points went above the 90th percentile. The Kalamazoo River at Marshall forecast point is the highest it has been at the end of August since 2013 and is in the 90th percentile.

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

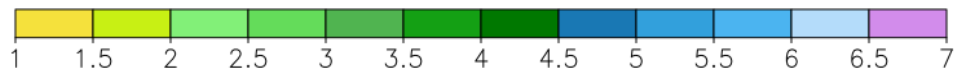
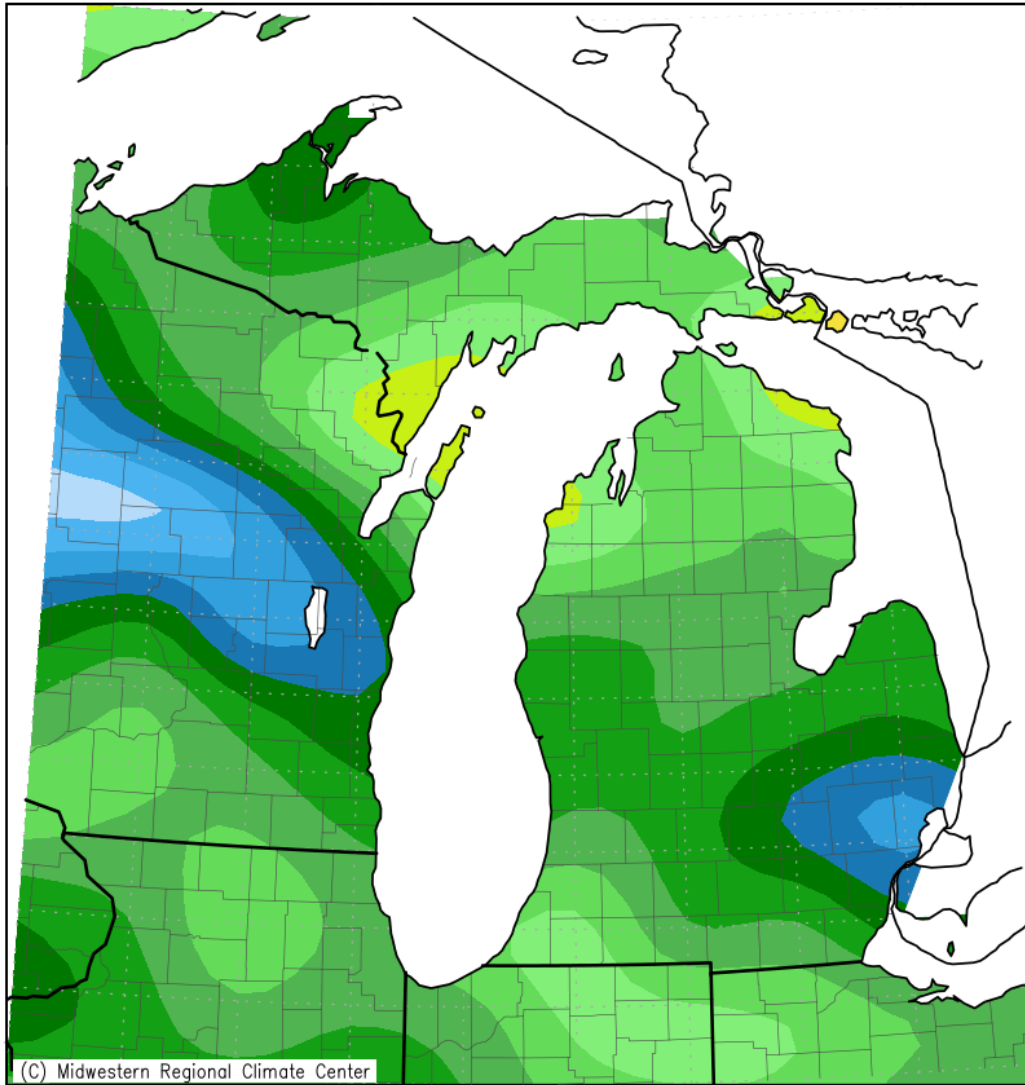
The end of August percentage of normal flow for selected rivers is listed below:

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	102
Whitehall	White	100
Ewart	Muskegon	110
Mt. Pleasant	Chippewa	97
Lansing	Grand	272
Grand Rapids	Grand	128
East Lansing	Red Cedar	535
Hastings	Thornapple	136
Battle Creek	Battle Creek	180
Battle Creek	Kalamazoo	167

General Hydrologic Information

August precipitation amounts for Grand Rapids, Lansing, and Muskegon Michigan were 2.27, 3.25 and 3.55 inches, respectively (Figure 1). Monthly departures were -1.28, -0.23 and +0.45 inches respectively. Percent of mean precipitation for August 2024 is shown in Figure 2. Temperatures for the month of August were warmer than normal at Grand Rapids, Lansing and Muskegon. The monthly average temperature departures for these sites were +0.2, +0.4 and +1.1 Fahrenheit, respectively. The summer overall ended up near normal for temperatures. Rainfall through mid michigan for the summer ended up above normal. Areas along and south of the I 94 corridor were near record for the summer with Kalamazoo, Battle Creek and Jackson all 1.5 to almost 2 times the normal rainfall. That rainfall brought

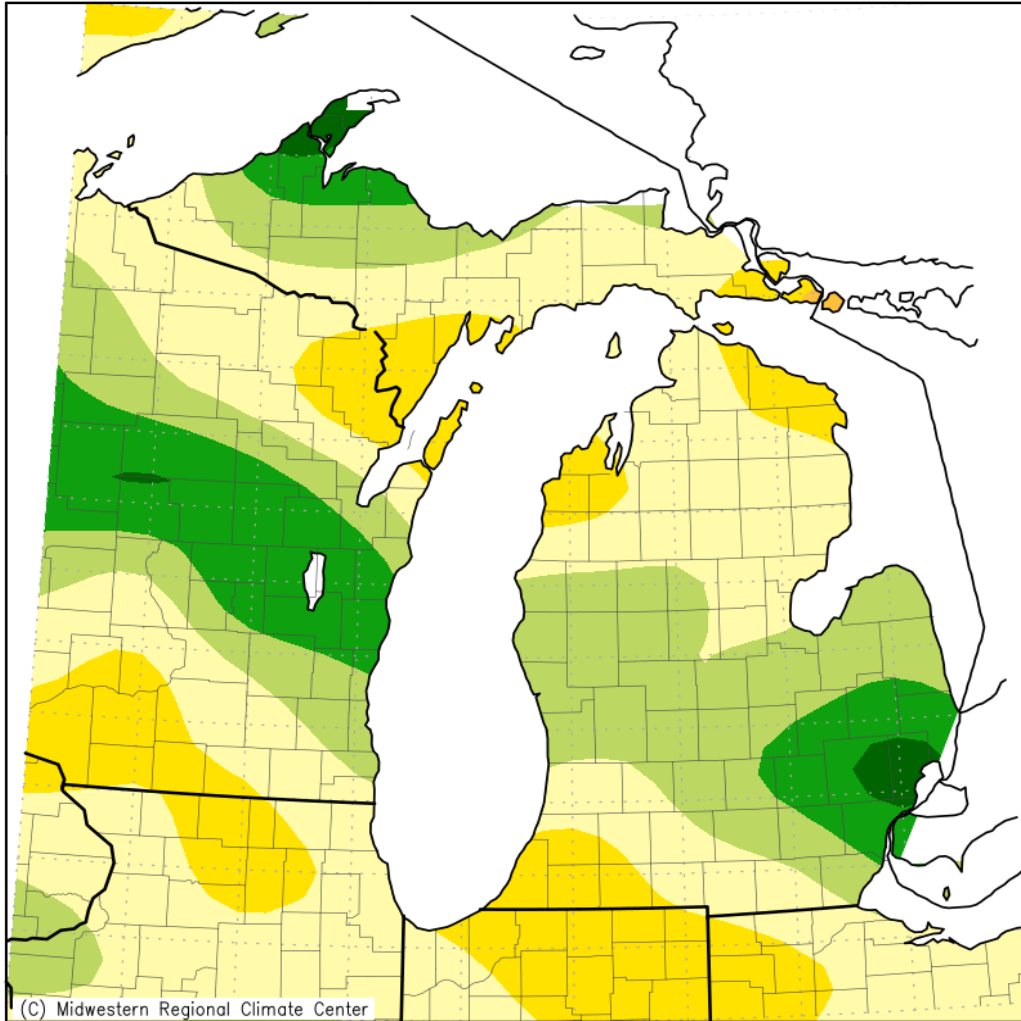
Accumulated Precipitation (in)
August 1, 2024 to August 31, 2024



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 9/1/2024 9:09:03 PM EDT

Figure 1. August 2024 Monthly Precipitation Totals. A large swath of 3 to 4 inches across southern Michigan.

Accumulated Precipitation: Percent of Mean
August 1, 2024 to August 31, 2024



Mean period is 1991–2020.



Midwestern Regional Climate Center

cli-MATE: MRCC Application Tools Environment

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Figure 2. August 2024 Percent of Mean of Accumulated Precipitation.

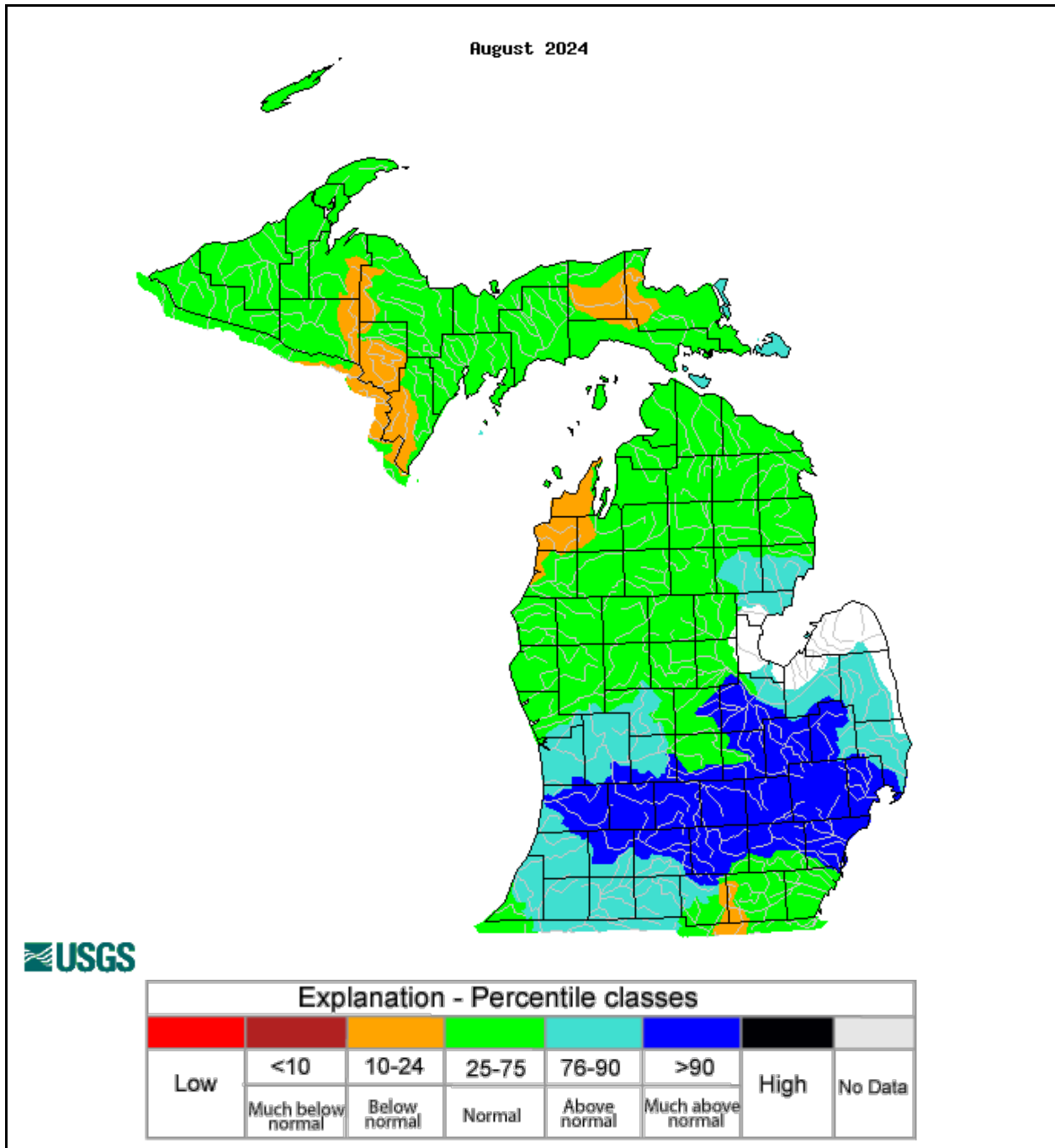


Figure 3. USGS monthly streamflow for August grouped by significant hydrologic units. All river basins are normal or above with the Kalamazoo River Basin being Much above normal.

Calculated Soil Moisture Ranking Percentile
AUG 31, 2024

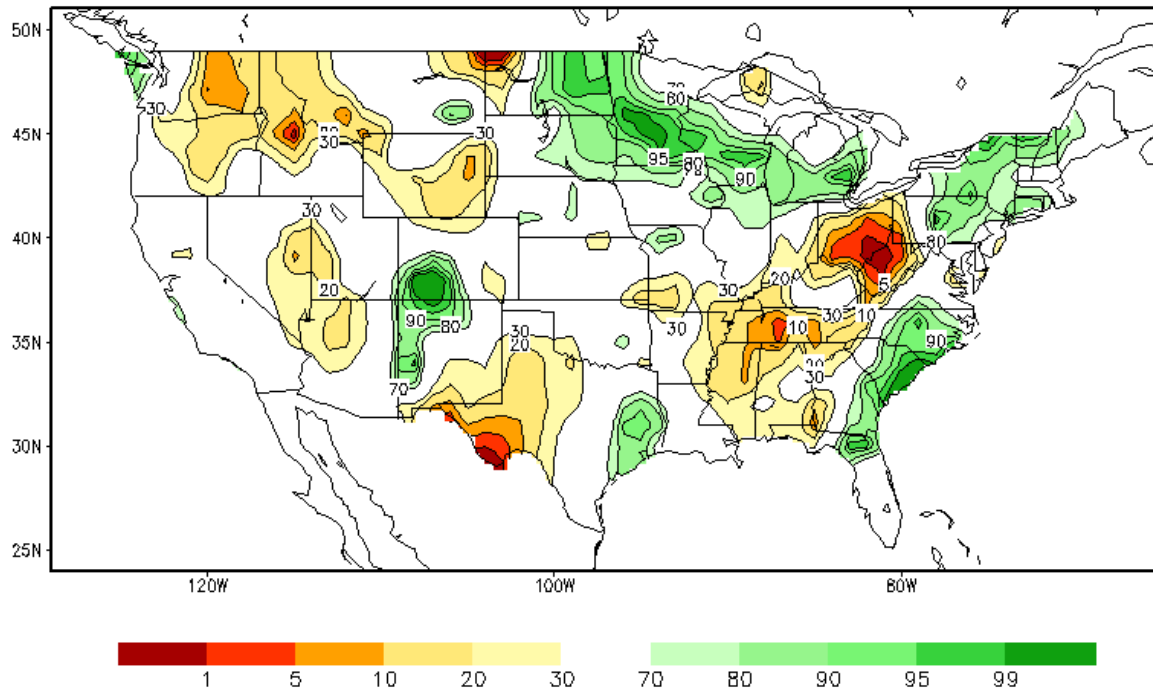
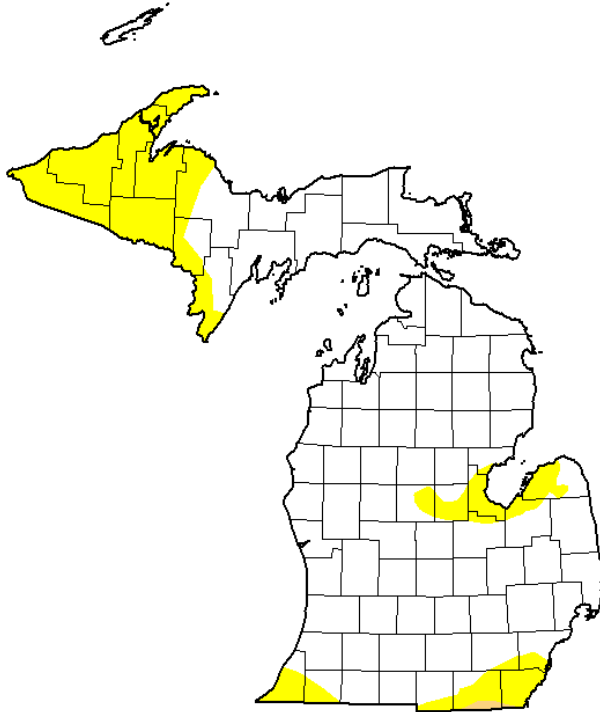


Figure 4. Calculated Soil Moisture Percentile for August, 2024. Soil moisture is above normal across southern lower Michigan.

U.S. Drought Monitor Michigan

August 27, 2024
(Released Thursday, Aug. 29, 2024)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	80.18	19.82	0.24	0.00	0.00	0.00
Last Week 08-20-2024	80.18	19.82	0.00	0.00	0.00	0.00
3 Months Ago 05-28-2024	93.23	6.77	2.92	0.00	0.00	0.00
Start of Calendar Year 01-02-2024	41.22	58.78	6.70	1.20	0.00	0.00
Start of Water Year 09-26-2023	65.01	34.99	4.96	1.31	0.00	0.00
One Year Ago 08-29-2023	71.77	28.23	8.15	1.34	0.00	0.00

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

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NCEI/NOAA



droughtmonitor.unl.edu

Figure 5. U.S. Drought Monitor effectively shows very little drought across the lower peninsula.

Hydrologic Products issued this month

- 31 Hydrologic Summaries (ARBRVAGRR)
- 1 Probabilistic Hydrologic Outlook (ARBESFGRR)
- 0 Event-driven Hydrologic Outlook (ARBESFGRR1)
- 1 Areal Flood Advisory Statements (ARBFLSGRR)
- 0 Flood Warning Statements (ARBFLWGRR)
- 0 Flood Watch Statements (ARBFFAGRR)
- 0 River Statements (ARBRVSGRR)

News Articles and Related Documentation