

**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):  
**May 2024**

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

DATE:  
June 5th, 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**

There were several precipitation events in early May that brought flows above normal. However, a dry second half of the month dropped flows to below normal through multiple river basins. The Grand, Pere Marquette and Kalamazoo river basins ended the month around normal albeit with a few points below normal. The Muskegon river basin ended the month below normal. The only region in Michigan that is in a drought status is an area just north of Ludington that is in D0 abnormally dry.

**Flood Conditions**

No forecast point exceeded flood stage during the month. That said, it was a bit of a roller coaster this month. Several storm systems moved through the region in which rainfall brought flows above normal. However, after May 11th, flows began to drop considerably. This drop seemed to be correlated with two things; First, precipitation was around an inch below normal for Grand Rapids, Muskegon and Lansing. Along with this there was a persistent warmth through May. May 2024 as a whole was warmer than 85% of the months of May on record. So while there was no dramatic heat, it was warm and dry in general. Given those conditions, flows continued to drop with only some end of the month precipitation giving a little reprieve.

**Flood Stage Report**

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

**River Conditions**

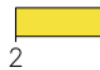
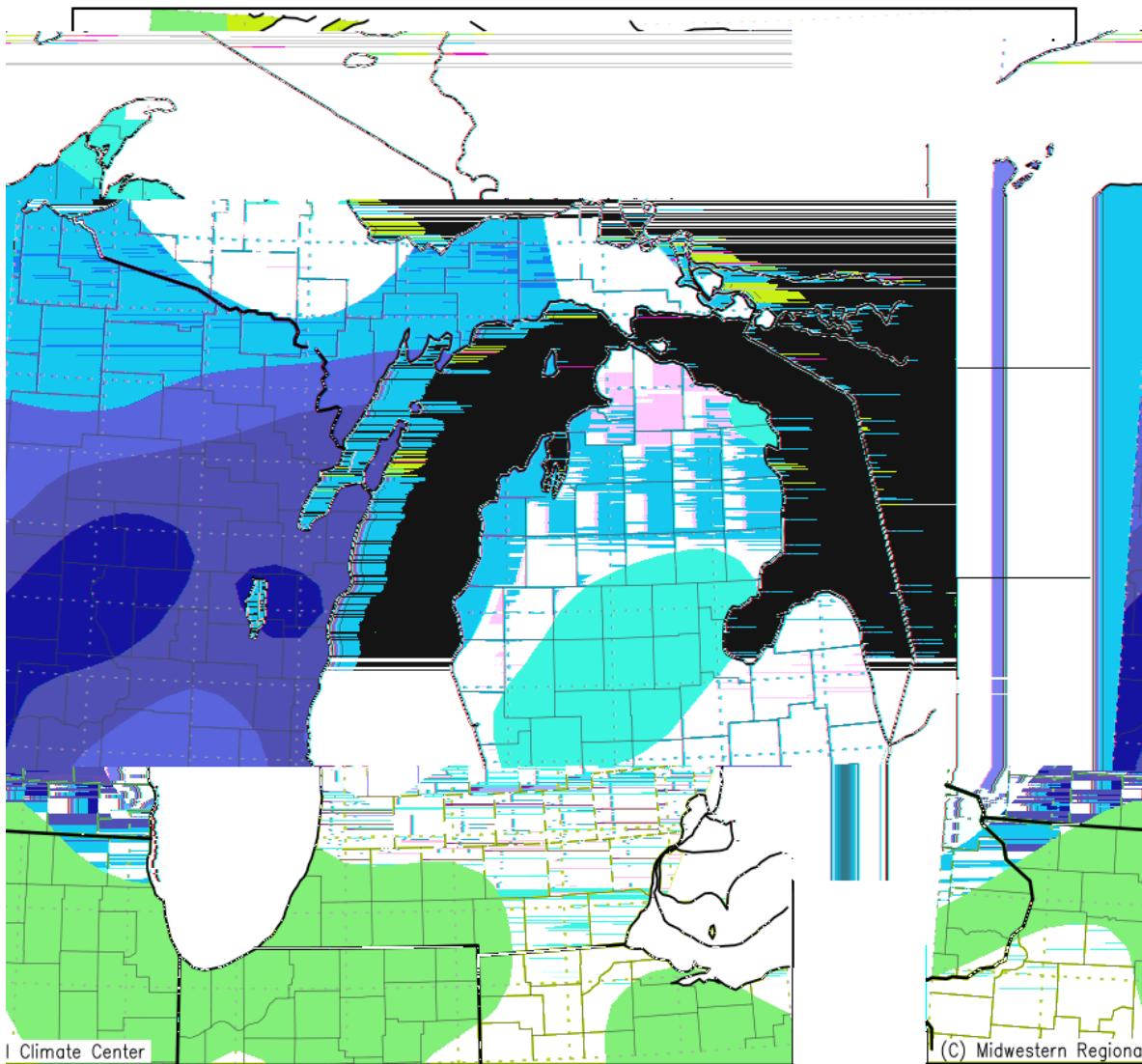
The end of May percentage of normal flow for selected rivers is listed below:

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	78
Whitehall	White	73
Ewart	Muskegon	71
Mt. Pleasant	Chippewa	111
Lansing	Grand	92
Grand Rapids	Grand	73
East Lansing	Red Cedar	94
Hastings	Thornapple	100
Battle Creek	Battle Creek	79
Battle Creek	Kalamazoo	99

### **General Hydrologic Information**

May precipitation amounts for Grand Rapids, Lansing, and Muskegon Michigan were 3.16, 2.78 and 2.28 inches, respectively (Figure 1). Monthly departures were -0.84, -0.88 and -1.10 inches respectively. Percent of mean precipitation for May 2024 is shown in Figure 2. Temperatures for the month of May were above normal at Grand Rapids, Lansing and Muskegon. The monthly average temperature departures for these sites were +2.9, +3.7 and +4.6 Fahrenheit, respectively.

# Accumulated Precipitation (in) May 1, 2024 to May 31, 2024

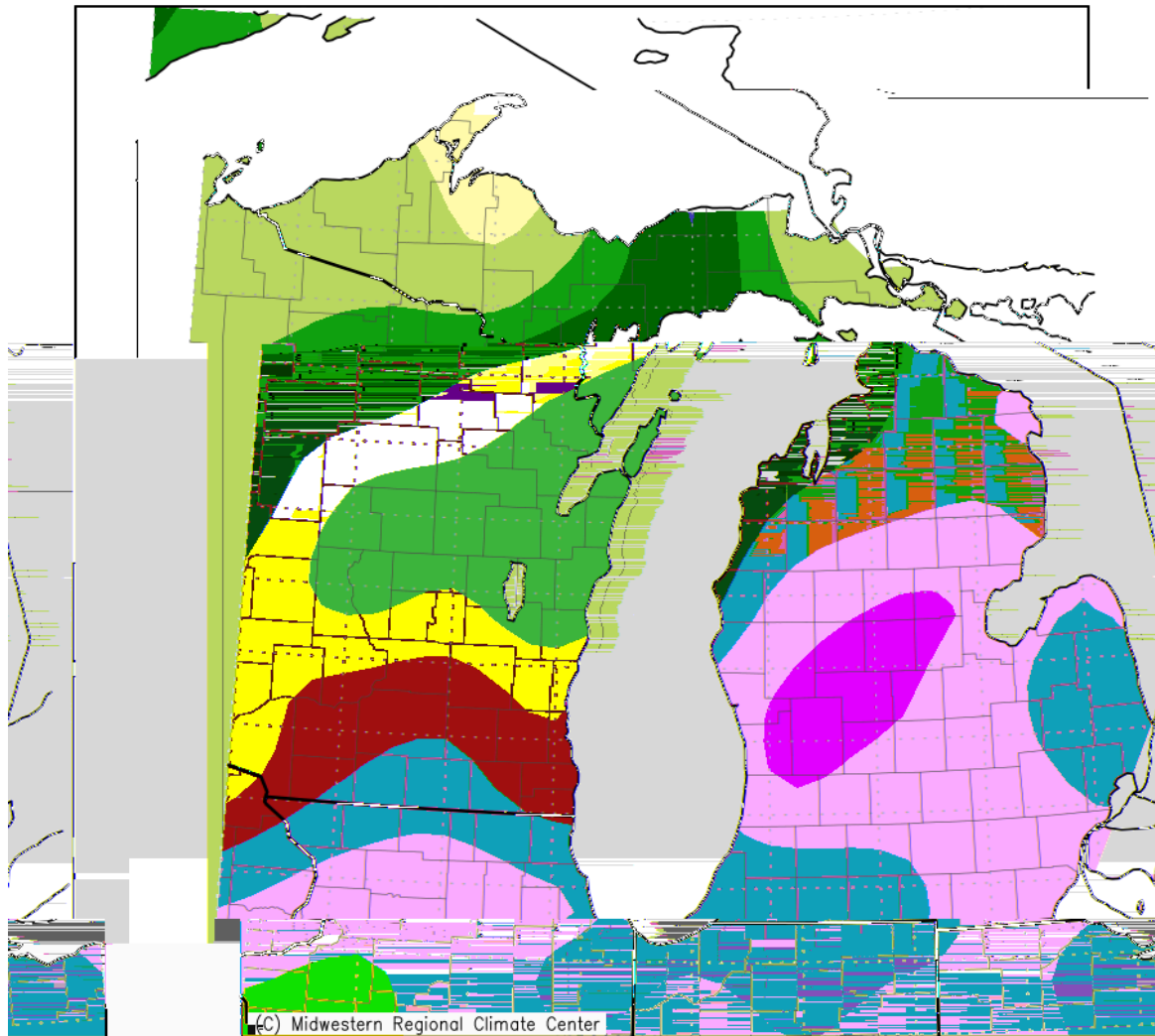


Midwestern Regional Climate Center  
li-MATE: MRCC Application Tools Environment  
Generated at: 6/1/2024 2:39:15 PM EDT

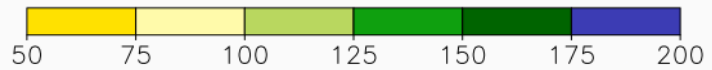
c

Figure 1 May 2024 Monthly Precipitation Totals. Lower than normal precipitation through Central Michigan.

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



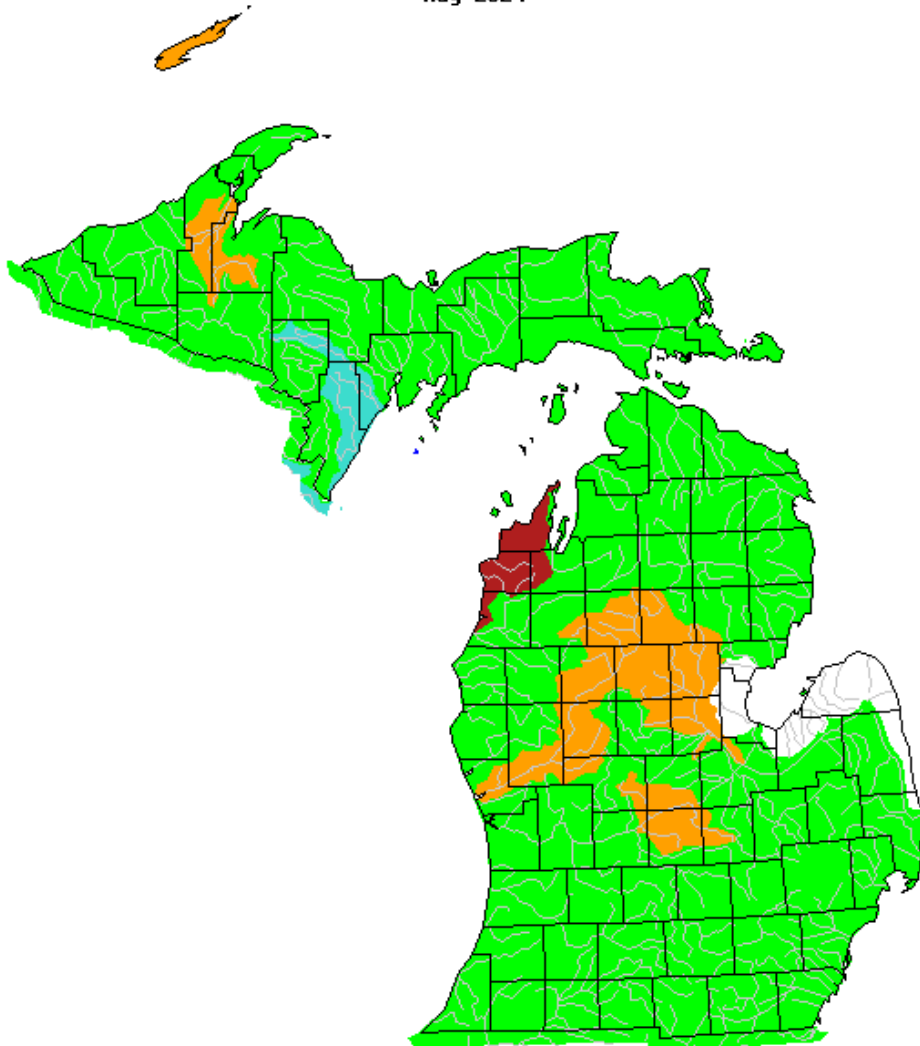
Mean period is 1991–2020.



Midwestern Regional Climate Center  
cli-MATE: MRCC Application Tools Environment  
Generated at: 6/1/2024 2:36:30 PM EDT

Figure 2. May 2024 Percent of Mean of Accumulated Precipitation. Precipitation was well below normal across most of southern lower Michigan.

May 2024



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 streamflow for May, grouped by significant hydrologic units. The Grand and Kalamazoo River Basins are normal with the Muskegon River Basin below normal.

Calculated Soil Moisture Ranking Percentile  
MAY, 2024

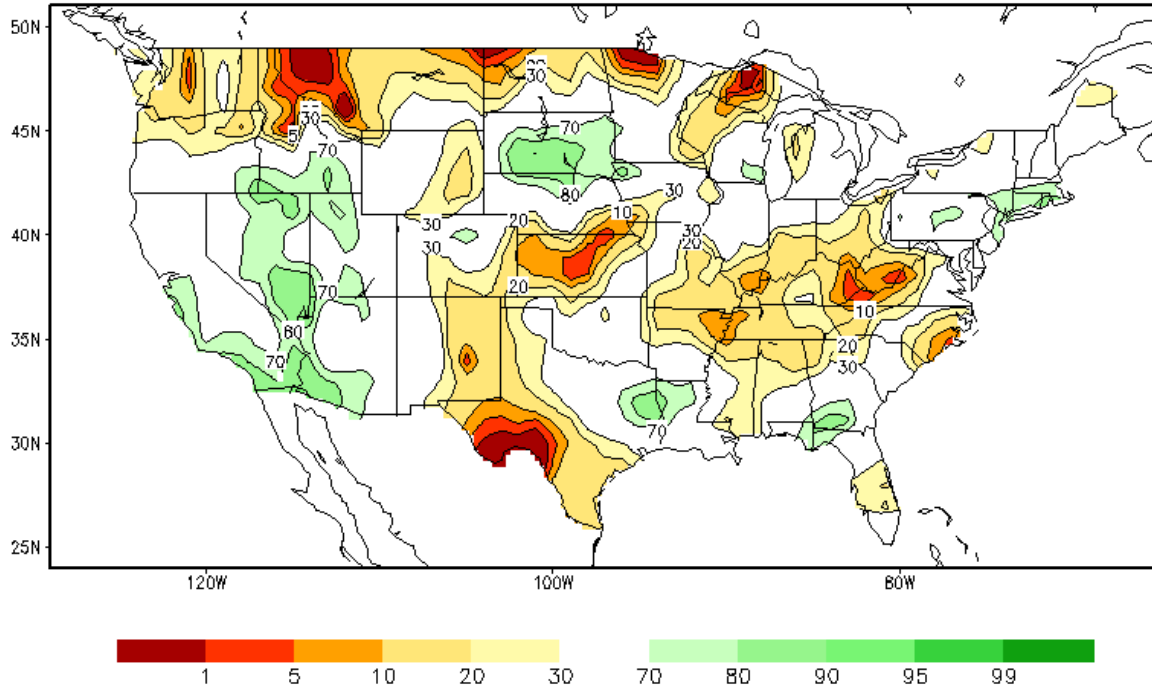


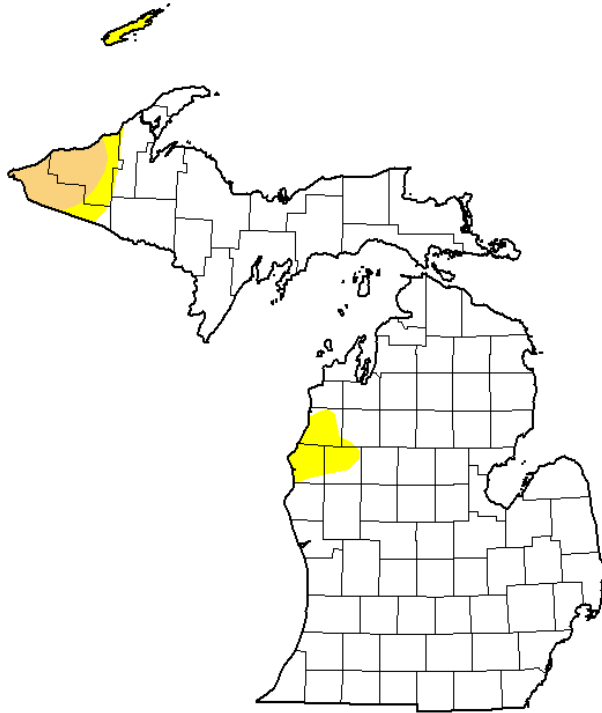
Figure 4. Calculated Soil Moisture Percentile for May, 2024. Soil moisture is mostly normal with below normal along the northern Lake Michigan coastline.

**U.S. Drought Monitor  
Michigan**

**May 28, 2024**

(Released Thursday, May. 30, 2024)

Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	93.23	6.77	2.92	0.00	0.00	0.00
<b>Last Week</b> 05-21-2024	90.04	9.96	2.92	0.00	0.00	0.00
<b>3 Months Ago</b> 02-27-2024	4.31	95.69	30.52	3.21	0.00	0.00
<b>Start of Calendar Year</b> 01-02-2024	41.22	58.78	6.70	1.20	0.00	0.00
<b>Start of Water Year</b> 09-26-2023	65.01	34.99	4.96	1.31	0.00	0.00
<b>One Year Ago</b> 05-30-2023	80.31	19.69	0.00	0.00	0.00	0.00

*Intensity:*

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme 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>*

*Author:*

Rocky Bilotta  
NCEI/NOAA



[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

Figure 5.U.S. Drought Monitor showing only a small D0, abnormally dry, region along the lake shore near and north of Ludington. .

**Hydrologic Products issued this month**

- 31 Hydrologic Summaries (ARBRVAGRR)
- 2 Probabilistic Hydrologic Outlook (ARBESFGRR)
- 0 Event-driven Hydrologic Outlook (ARBESFGRR1)
- 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**