

**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):  
**April 2024**

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

DATE:  
May 17th, 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**

April 2024 began the month with below normal flows. There were several precipitation events throughout the month. The biggest event brought some points to above action stage though no points reached flood stage. Beneficial rains at the end of the month brought flows for most river gauges to around normal. While most of southern lower Michigan is not in any drought stage, the monthly streamflows overall for much of Lower Michigan is below normal.

**Flood Conditions**

Flows began the month of April below normal. The lack of snowfall continues to have an influence on flows for this time of year, though the impact is lessening. While there were several significant precipitation events, the biggest came towards the end of the month. Those beneficial rains brought stream flows, which for most of the month were well below normal, to around normal for most river forecast points. The Ionia gauge on the Grand River did reach action stage. The Holt gauge at Sycamore Creek, went above action stage. However no forecast points reached flood stage

Precipitation was below normal for the month at the major climate sites. Typically Michigan receives several inches of snow in April. However, as per the trend, there was only a trace of snowfall across the area. Though the lack of snowpack continues to have an effect, the mean flows begin to dip this time of year as most snowpack would typically be melted. That decrease in mean flow, along with the beneficial rains at the end of the month brought most of southern lower Michigan out of drought conditions. However as you can see in Figure 3, the monthly flows were below normal for the Muskegon and Pere Marquette river basins.

### **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 April percentage of normal flow for selected rivers is listed below:

| <u>Location</u> | <u>River</u>   | <u>% of Normal</u> |
|-----------------|----------------|--------------------|
| Scottville      | Pere Marquette | 111                |
| Whitehall       | White          | 120                |
| Evert           | Muskegon       | 106                |
| Mt. Pleasant    | Chippewa       | 155                |
| Lansing         | Grand          | 100                |
| Grand Rapids    | Grand          | 92                 |
| East Lansing    | Red Cedar      | 104                |
| Hastings        | Thornapple     | 90                 |
| Battle Creek    | Battle Creek   | 100                |
| Battle Creek    | Kalamazoo      | 89                 |

### **General Hydrologic Information**

April precipitation amounts for Grand Rapids, Lansing, and Muskegon Michigan were 2.67, 3.35 and 2.33 inches, respectively (Figure 1). Monthly departures were -1.32, +0.09 and -1.14 inches respectively. Percent of mean precipitation for April 2024 is shown in Figure 2. Grand Rapids had a trace of snowfall total for the month, which is 2.0 inches below normal. Lansing had a trace of snowfall which is 1.7 inches below normal. Muskegon had a trace of snowfall which is 1.8 inches below normal

Temperatures for the month of April were above normal at Grand Rapids, Lansing and Muskegon. The monthly average temperature departures for these sites were +3.1, +3.5 and +4.6 Fahrenheit, respectively.

Accumulated Precipitation (in)  
April 1, 2024 to April 30, 2024

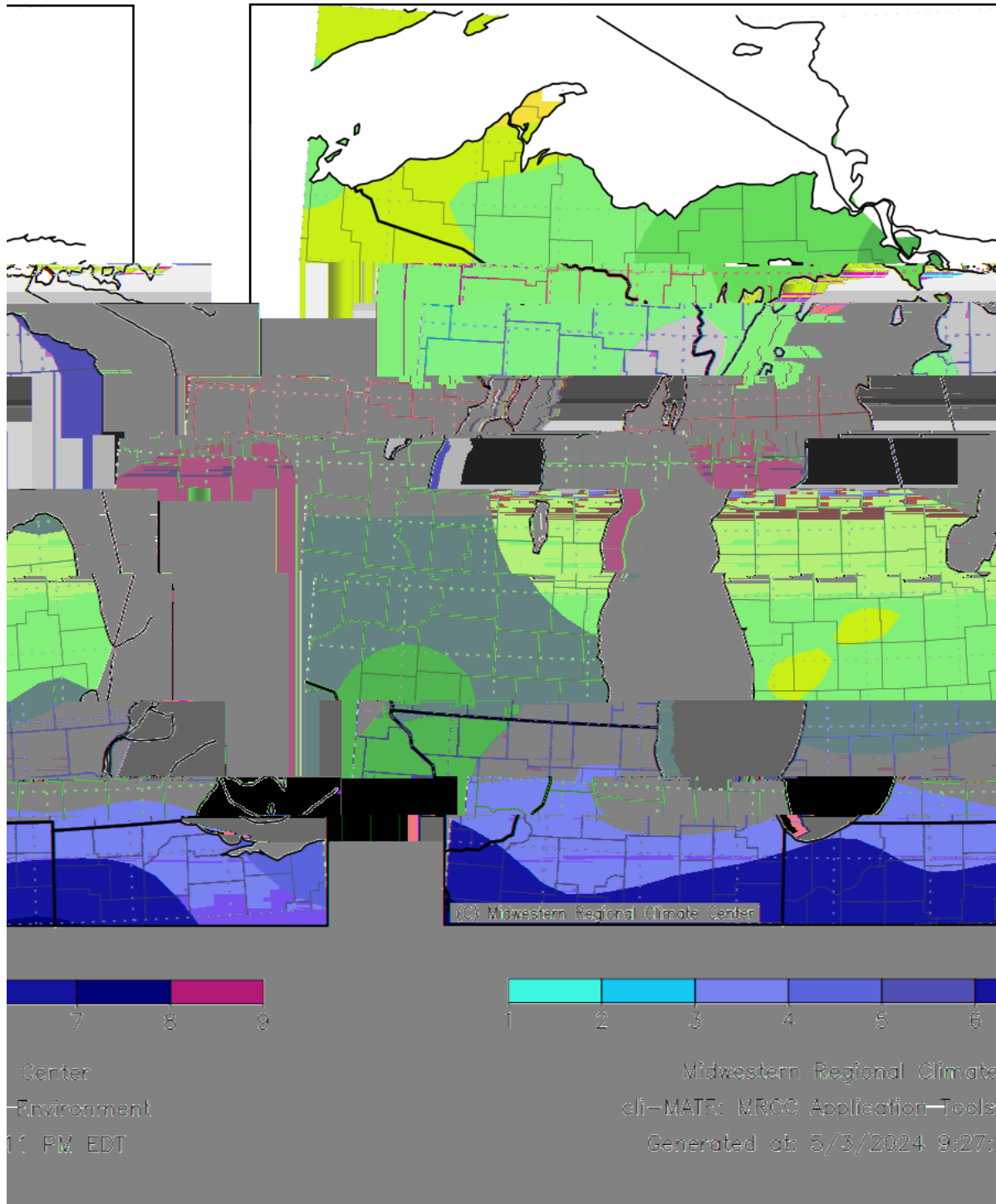
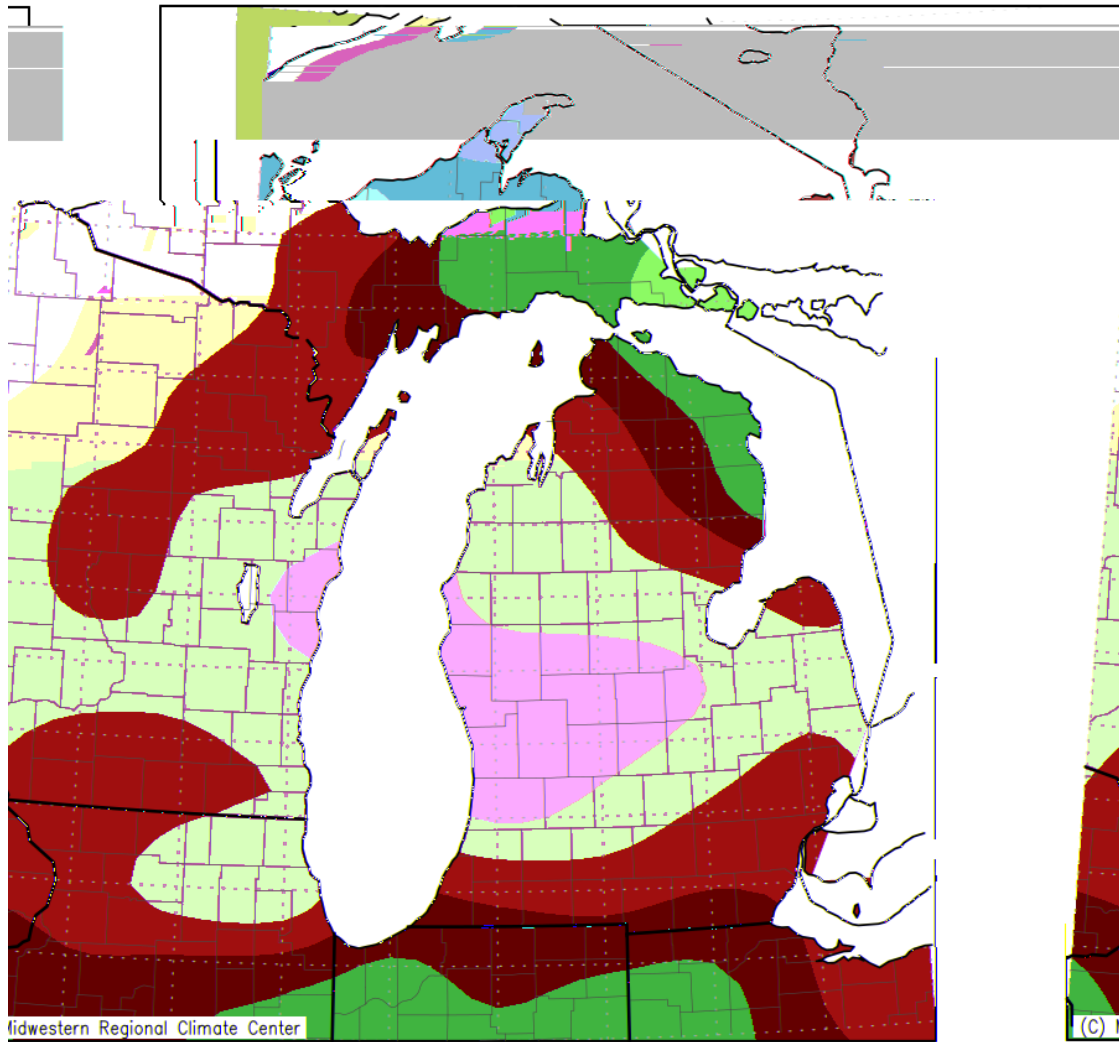
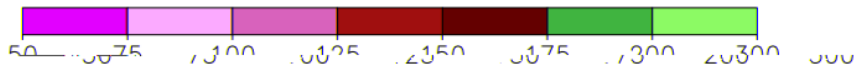


Figure 1. April 2024 Monthly Precipitation Totals.

# Accumulated Precipitation: Percent of Mean April 1, 2024 to April 30, 2024



Mean period is 1991–2020.



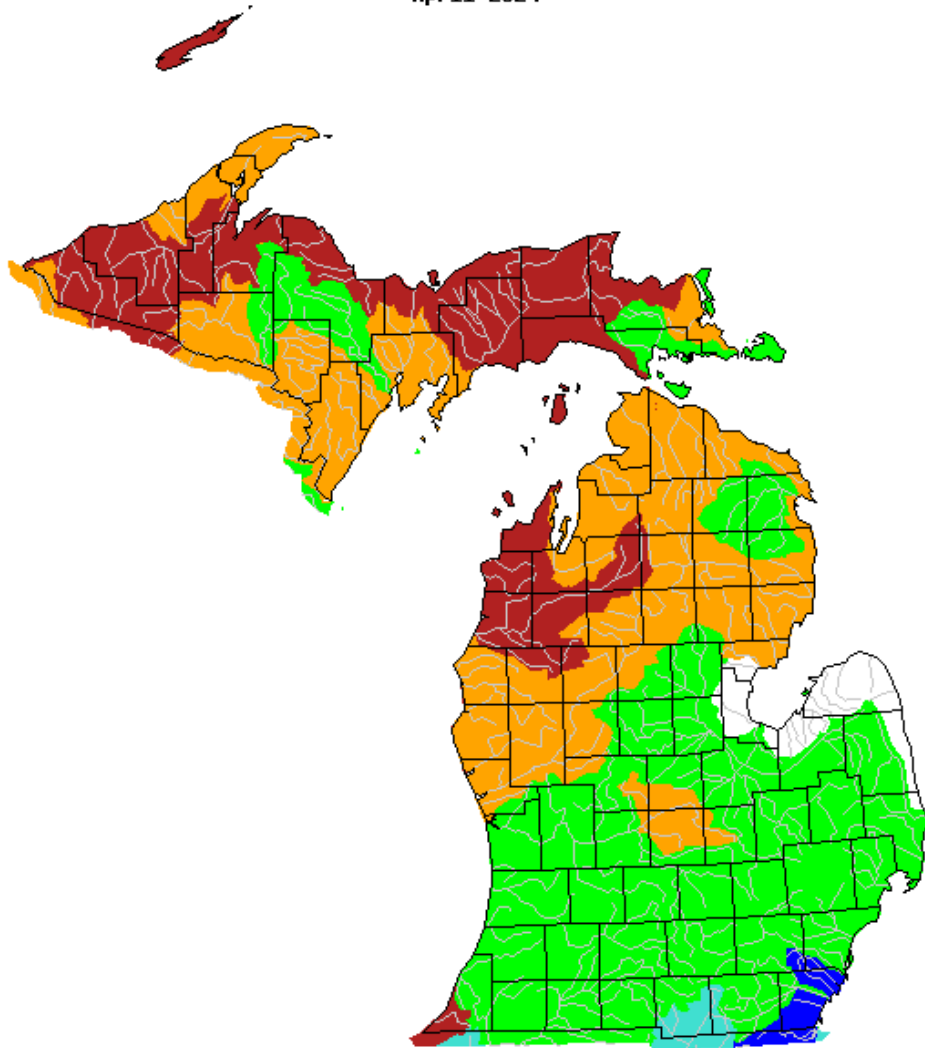
Midwestern Regional Climate Center

cli-MATE: MRCC Application Tools Environment

Generated at: 5/3/2024 9:28:19 PM EDT

Figure 2. April 2024 Percent of Mean of Accumulated Precipitation. Precipitation was just above to just below mean precipitation across most of southern lower Michigan.

April 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 April, grouped by significant hydrologic units. The Grand and Kalamazoo River Basins are normal with the Muskegon and Pere Marquette River basins below normal.

### Calculated Soil Moisture Ranking Percentile APR, 2024

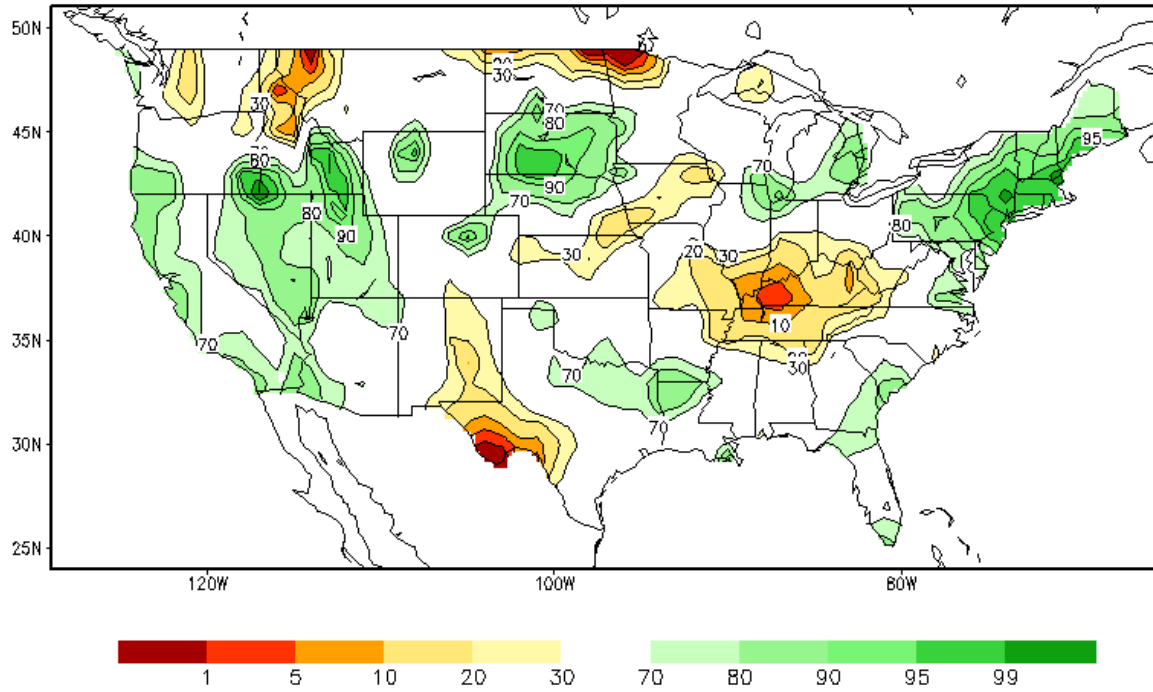


Figure 4. Calculated Soil Moisture Percentile for April, 2024. This supports conditions becoming more normal through much of lower Michigan.

## U.S. Drought Monitor Michigan

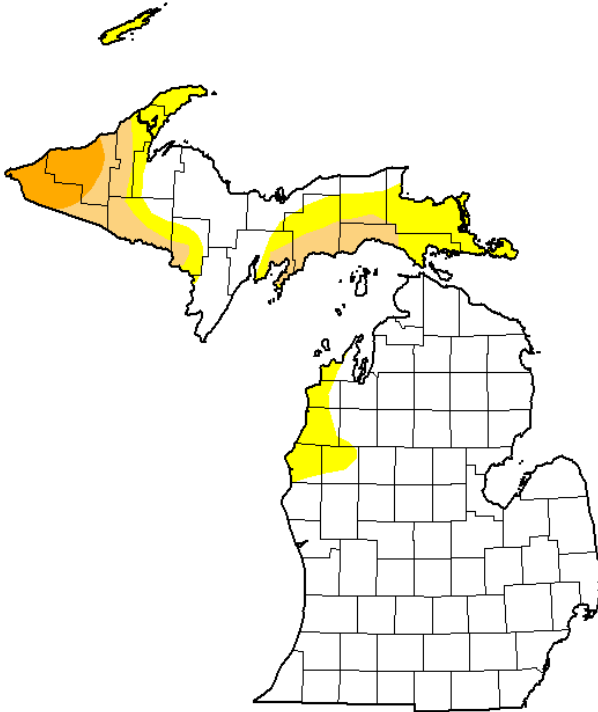
April 30, 2024

(Released Thursday, May 2, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

|   | None   | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4   |
|---|--------|-------|-------|-------|-------|------|
| Current                                 | 78.82  | 21.18 | 9.02  | 2.92  | 0.00  | 0.00 |
| Last Week<br>04-23-2024                 | 78.82  | 21.18 | 9.02  | 2.92  | 0.00  | 0.00 |
| 3 Months Ago<br>01-30-2024              | 44.65  | 55.35 | 12.06 | 1.20  | 0.00  | 0.00 |
| Start of<br>Calendar Year<br>01-02-2024 | 41.22  | 58.78 | 6.70  | 1.20  | 0.00  | 0.00 |
| Start of<br>Water Year<br>09-26-2023    | 65.01  | 34.99 | 4.96  | 1.31  | 0.00  | 0.00 |
| One Year Ago<br>05-02-2023              | 100.00 | 0.00  | 0.00  | 0.00  | 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>

### Author:

Curtis Riganti  
National Drought Mitigation Center



[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