

**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):  
**July 2024**

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

DATE:  
August 16th 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**

The biggest story of the month was the heavy rainfall and subsequent flooding from the remnants of the Tropical System Beryl. Beryl brought heavy rainfall along a line from south of Kalamazoo extending to Lansing with the line continuing past Flint. There were reports ranging from 3 to over 6 inches from this one system causing flooding in East Lansing, which had 4 inches of rain in 2 hours. Beryl's rainfall contribution brought the monthly rainfall totals to double their normal values. A second rainfall event through the middle of the month brought flooding to Grand Rapids, Kalamazoo and Jackson.

**Flood Conditions**

While the month began with near normal flows, the month ended as one of the top ten rainiest June's on record for Ludington, Muskegon, Kalamazoo and Jackson climate sites. Grand Rapids, Lansing, Muskegon and Kalamazoo climate sites were all above normal with Kalamazoo being over three inches above normal.

The first half of the month was fairly quiet. Flows along the rivers dropped from above normal flows. Several events moved through that brought heavy rainfall. The first that occurred was on the 8th. This precursor event brought showers and storms through the southern portion of the state with a focus in the Kalamazoo region. That event was closely followed by the remnants of Beryl which brought widespread rainfall from the 9th through the 11th. That heavy rainfall caused flooding across southern Michigan, including areas along the I 94 corridor and in and around Lansing. This included river forecast points at Jackson and near Lansing specifically at Holt on the Sycamore Creek. Another event on the 15th, brought urban and small stream flooding and prompted a flood warning to be issued for southern Grand Rapids. Flows were able to recover through the last week of the month with several small but impactful events on the 25th and 29th that caused brief rises along the rivers. All regions ended the month with well

above normal flows, especially in and around Lansing and along the Kalamazoo River. with the driest region being in central Michigan just west of Saginaw Bay which ended the month in DO, abnormally dry drought status.

### **Flood Stage Report**

Several river gauges went above flood stage. Jackson River forecast point on the Grand River went over flood stage twice. The first time it peaked above moderate flood stage. Holt at Sycamore creek went above flood stage. Burlington on the St. Joseph River went above flood stage as well. Thus, the NWS Form E-3 “Flood Stage Report” was issued.

### **River Conditions**

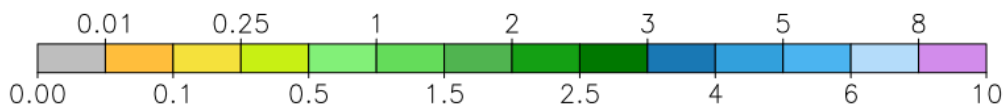
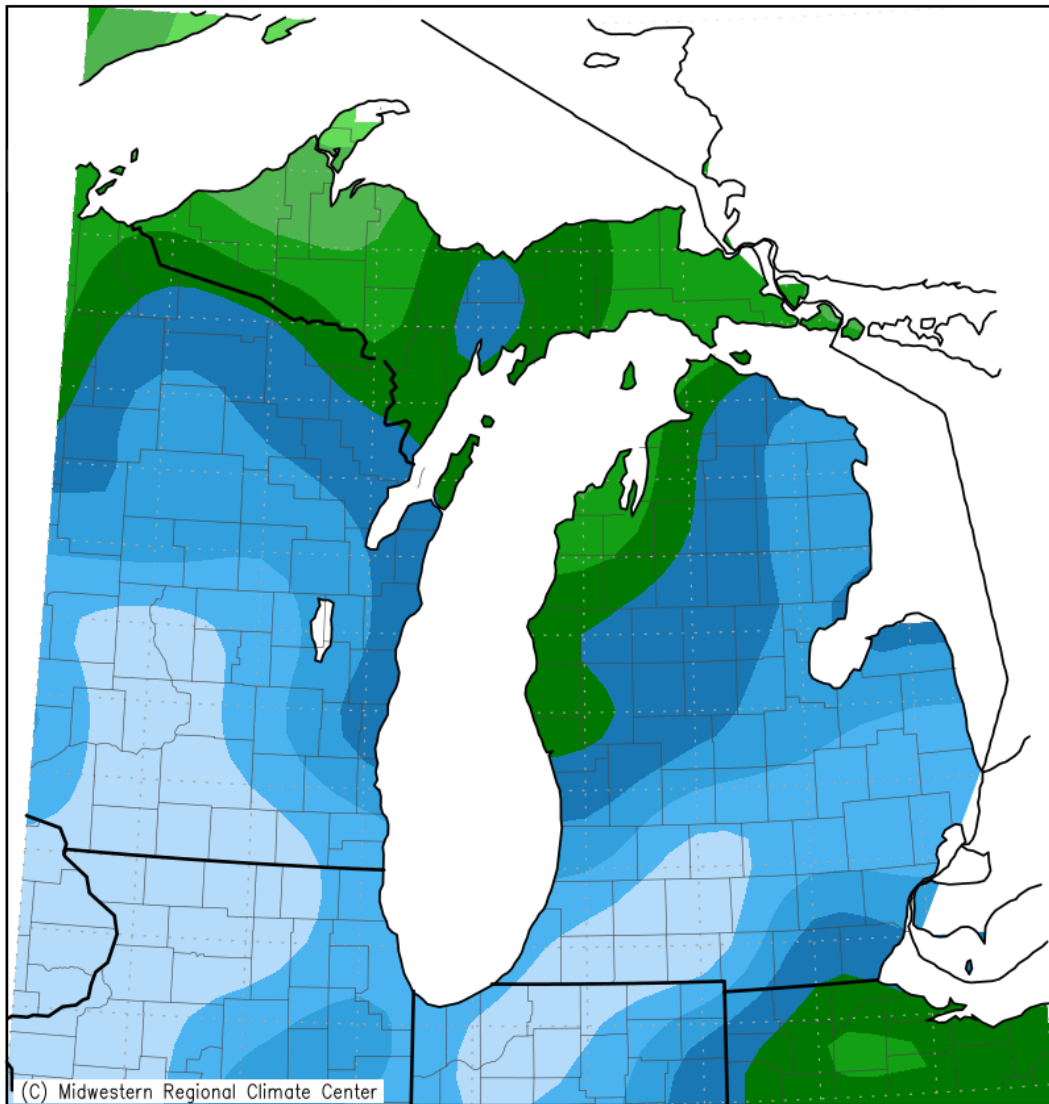
The end on July percentage of normal flow for selected rivers is listed below:

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	133
Whitehall	White	116
Ewart	Muskegon	138
Mt. Pleasant	Chippewa	106
Lansing	Grand	500
Grand Rapids	Grand	167
East Lansing	Red Cedar	364
Hastings	Thornapple	216
Battle Creek	Battle Creek	213
Battle Creek	Kalamazoo	241

### **General Hydrologic Information**

July precipitation amounts for Grand Rapids, Lansing, and Muskegon Michigan were 5.71, 5.77 and 2.44 inches, respectively (Figure 1). Monthly departures were +1.85, +2.83 and -0.31 inches respectively. Percent of mean precipitation for July 2024 is shown in Figure 2. Temperatures for the month of July were colder below normal at Grand Rapids, Lansing and Muskegon. The monthly average temperature departures for these sites were -1.3, -0.4 and -0.6 Fahrenheit, respectively. Some areas had double the normal rain totals.

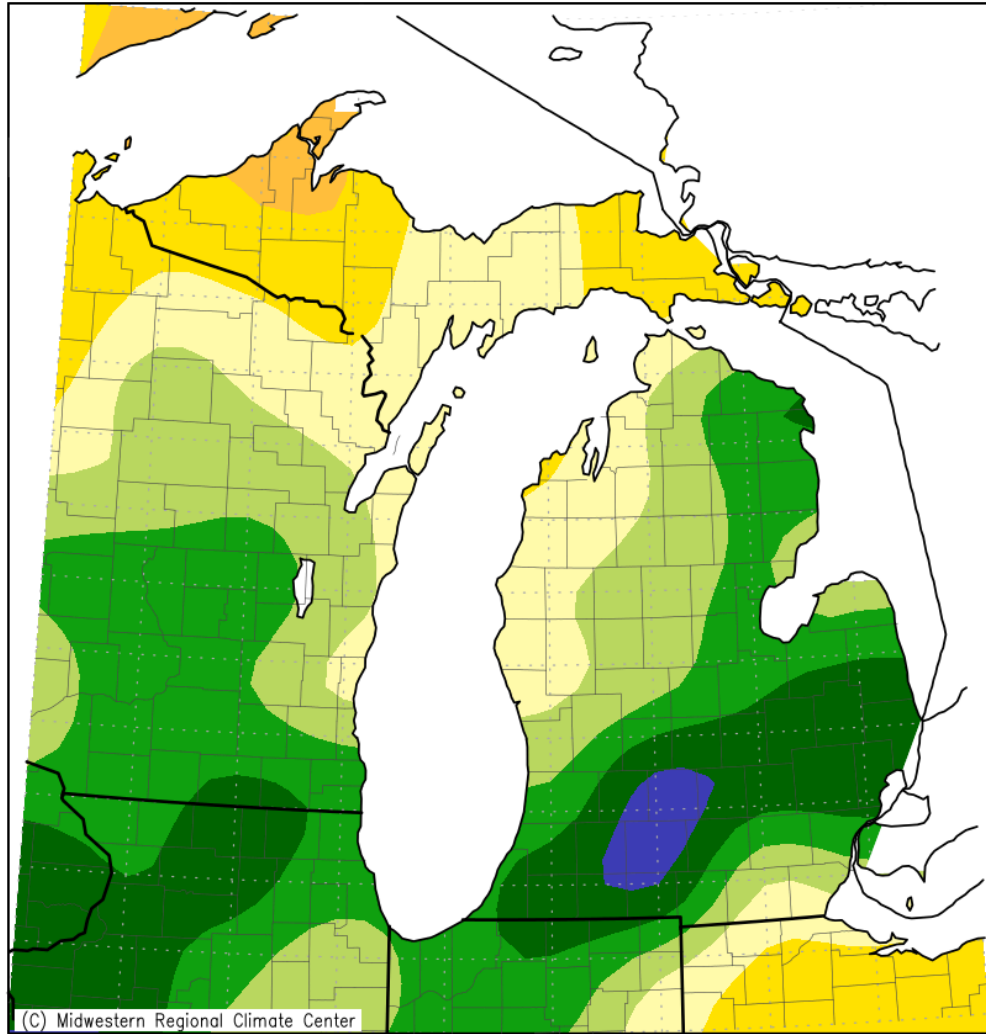
Accumulated Precipitation (in)  
July 1, 2024 to July 31, 2024



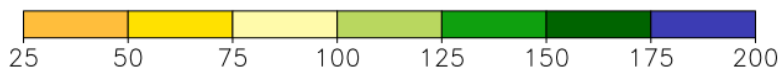
Midwestern Regional Climate Center  
cli-MATE: MRCC Application Tools Environment  
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Figure 1 July 2024 Monthly Precipitation Totals. A large swath of 4 to 8 inches across southern Michigan.

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



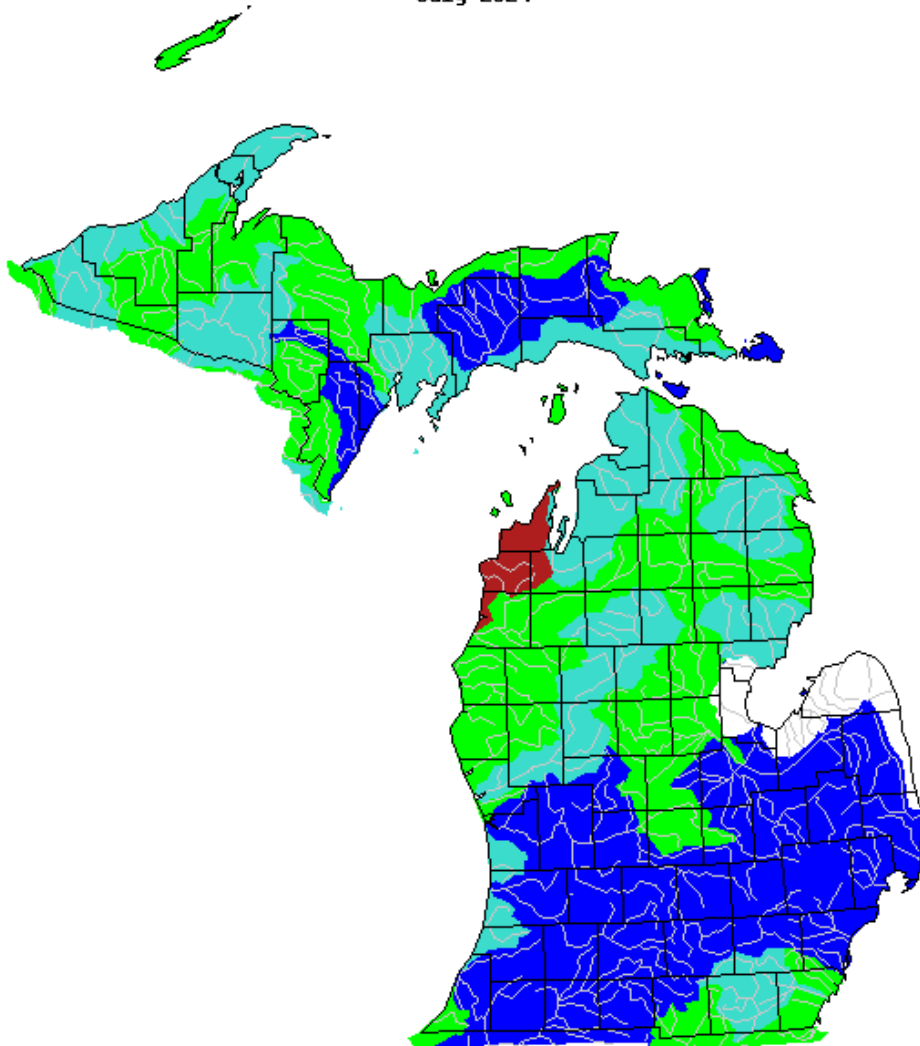
Mean period is 1991–2020.



Midwestern Regional Climate Center  
cli-MATE: MRCC Application Tools Environment  
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Figure 2. July 2024 Percent of Mean of Accumulated Precipitation. Precipitation was well above normal across lower Michigan.

July 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 July, grouped by significant hydrologic units. The River basins across the region are much above normal.

Calculated Soil Moisture Ranking Percentile  
JUL, 2024

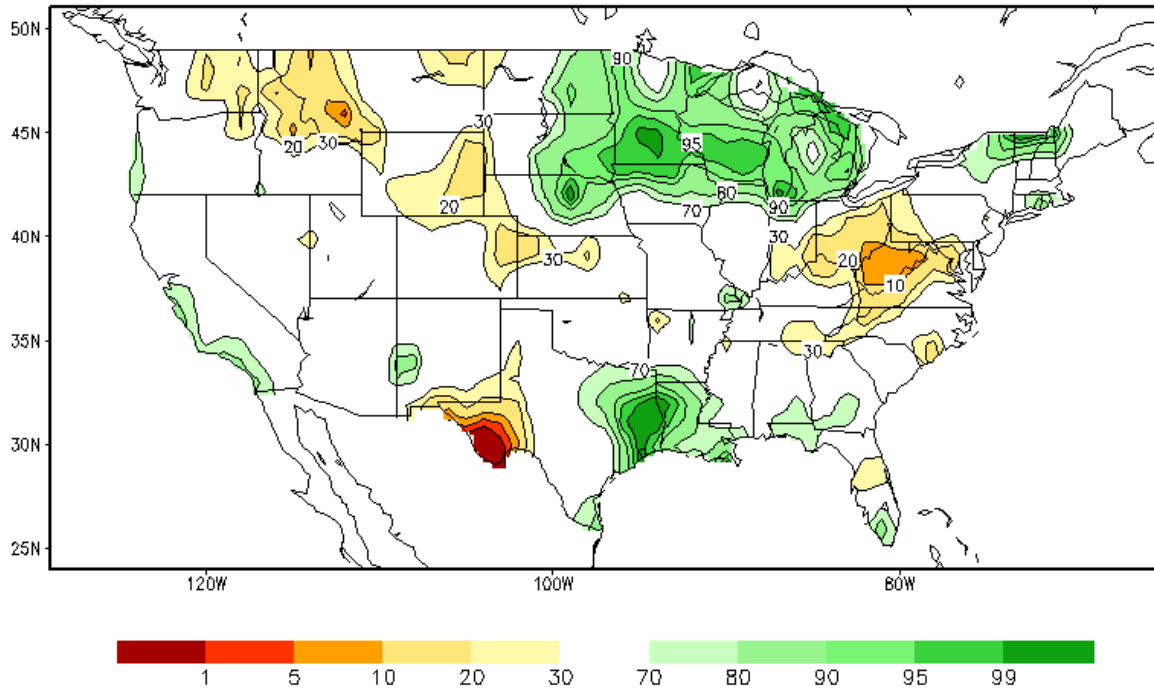


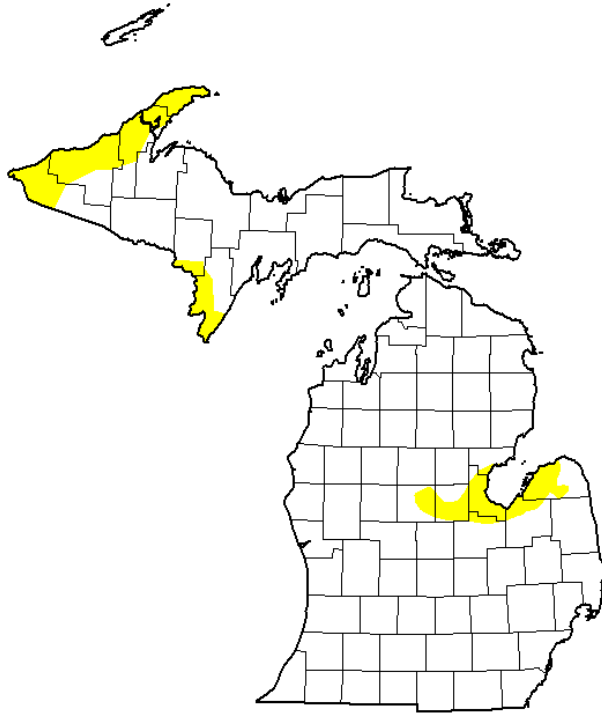
Figure 4. Calculated Soil Moisture Percentile for July, 2024. Soil moisture is above normal across Michigan.

## U.S. Drought Monitor Michigan

July 30, 2024

(Released Thursday, Aug. 1, 2024)

Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	91.61	8.39	0.00	0.00	0.00	0.00
Last Week 07-23-2024	97.03	2.97	0.00	0.00	0.00	0.00
3 Months Ago 04-30-2024	78.82	21.18	9.02	2.92	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 08-01-2023	38.18	61.82	13.95	2.58	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:*

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National Drought Mitigation Center



[droughtmonitor.unl.edu](https://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)
- 1 Event-driven Hydrologic Outlook (ARBESFGRR1)
- 6 Areal Flood Advisory Statements (ARBFLSGRR)
- 12 Flood Warning Statements (ARBFLWGRR)
- 0 Flood Watch Statements (ARBFFAGRR)
- 0 River Statements (ARBRVSGRR)

### News Articles and Related Documentation

[Flooding in SW Michigan from remnants of Beryl](#)

[Flooding in mid Michigan from remnants of Beryl](#)

[July 15th, 2024 Grand Rapids flooding](#)

[Flooding in SW Michigan due to Beryl](#)