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): **June 2024**
TO:	NATIONAL WEATHER SERVICE (W/OS31) HYDROMETEOROLOGICAL INFO CENTER 1325 EAST-WEST HIGHWAY, RM 13468 SILVER SPRING, MD 20910	DATE: July 18th, 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).

X An **X** inside this box indicates that no flooding occurred within this hydrologic service area.

Summary

June got off to a fairly normal start with a few days of light rainfall. However there were several large storm systems that moved through the latter half of the month beginning on the 17th. That event caused minor flooding in the Kalamazoo area and brought the Jackson gauge on the Grand River to briefly above flood stage. The month ended as one of the top ten rainiest June on record for multiple climate sites. River flows at the end of the month were well above normal with multiple rivers having readings over two hundred percent of normal.

Flood Conditions

While the month began with near normal flows, the month ended as one of the top 10 rainiest June on record for Ludington, Muskegon, Kalamazoo and Jackson. Grand Rapids, Lansing, Muskegon and Kalamazoo were all above normal with Kalamazoo being over 3 inches above normal.

The first half of the month was fairly quiet. That changed when rainfall on the 17th, brought urban and small stream flooding and prompted a flood warning to be issued for the Kalamazoo area. Flood advisories were issued for the Lansing and Jackson area as well. However, only the Jackson gauge forecast point on the Grand River went above flood stage.

Following the rain event on the 17th, a dry period brought flows back down allowing the river systems to recover. Several rain events occurred towards the end of the month. Storms on the 25th and the 29th had rain rates of 1.5 to 3 inches. These occurred through southwest Michigan, especially along the I 94 corridor. This prompted flood advisories to be issued. While these caused several gauges to go to action stage

none reached flood stage. Areas in central Michigan north of Lansing ended as the driest regions and began the month of July in a D0 drought status. However overall Lower Michigan for June ended with river flows well above normal especially the Red River and the Kalamazoo.

Flood Stage Report
Jackson River forecast point on the Grand River briefly went ahead minor flood stage. Thus, the NWS Form E-3 "Flood Stage Report" was issued
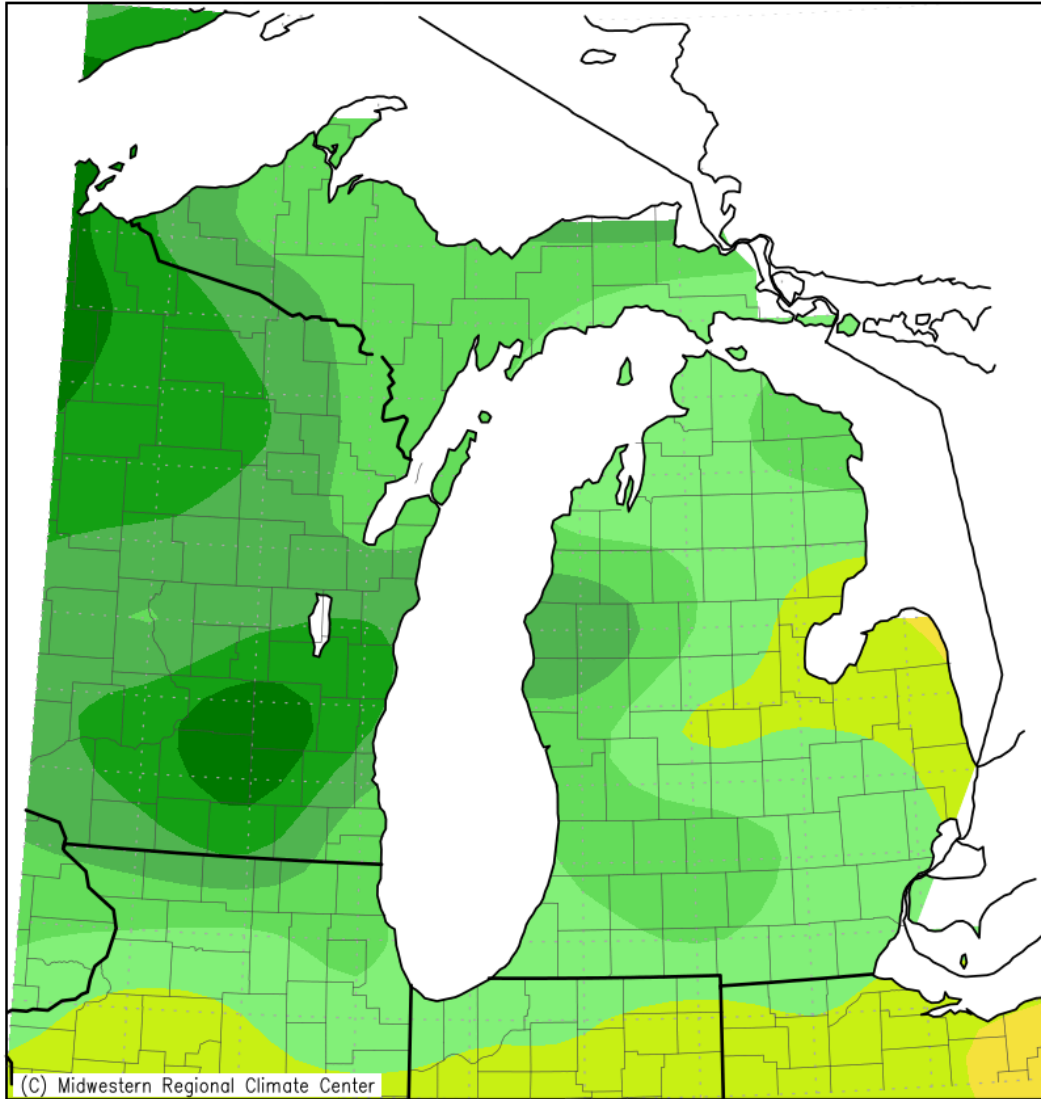
River Conditions
The end of May percentage of normal flow for selected rivers is listed below:

Location	River	% of Normal
Scottville	Pere Marquette	144
Whitehall	White	120
Evart	Muskegon	127
Mt. Pleasant	Chippewa	138
Lansing	Grand	232
Grand Rapids	Grand	115
East Lansing	Red Cedar	274
Hastings	Thornapple	163
Battle Creek	Battle Creek	208
Battle Creek	Kalamazoo	282

General Hydrologic Information

June precipitation amounts for Grand Rapids, Lansing, and Muskegon Michigan were 4.85,4.92 and 5.04 inches, respectively (Figure 1). Monthly departures were +0.91, +1.16 and +1.99 inches respectively. Percent of mean precipitation for June 2024 is shown in Figure 2. Temperatures for the month of June were above normal at Grand Rapids, Lansing and Muskegon. The monthly average temperature departures for these sites were +1.6, +2.0 and +2.8 Fahrenheit, respectively. For the three main climate sites it was warmer than 85% of Past Junes on record.
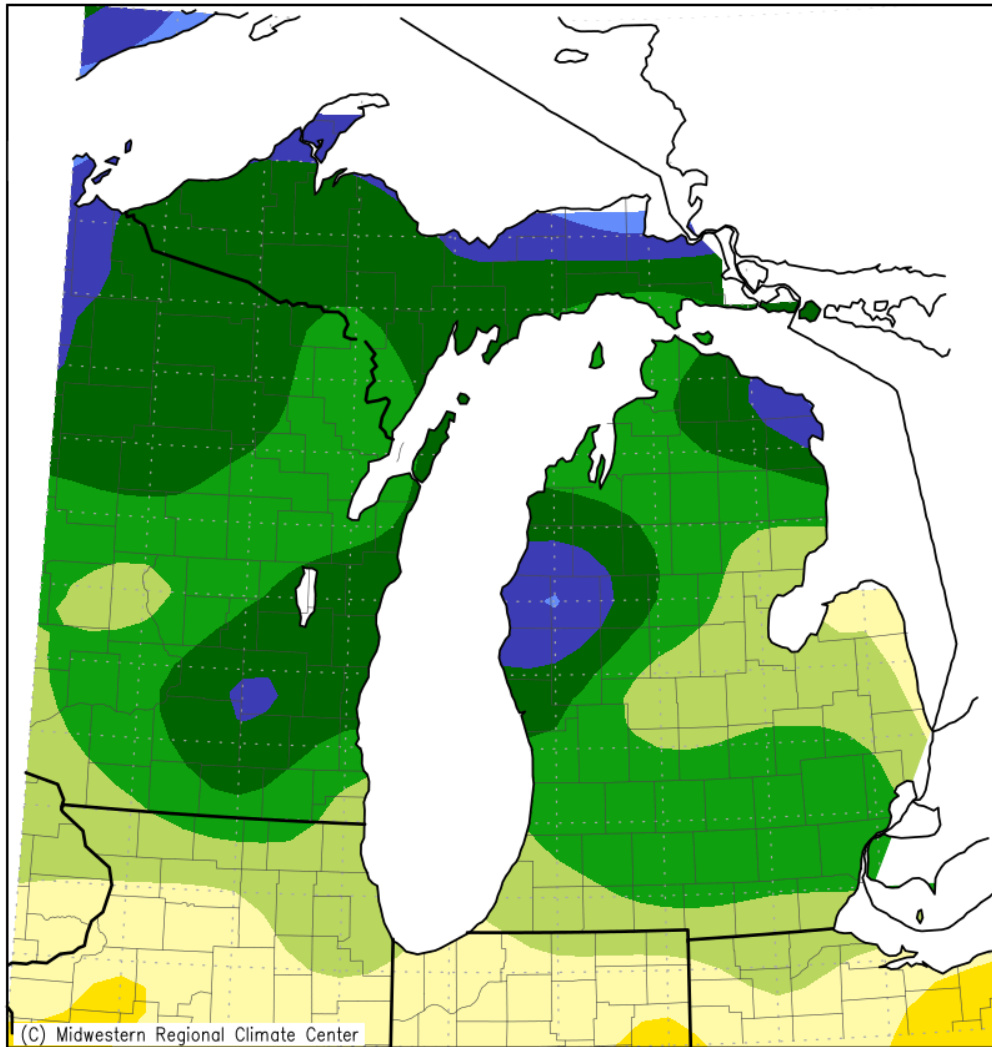
Accumulated Precipitation (in)
June 1, 2024 to June 30, 2024

(C) Midwestern Regional Climate Center
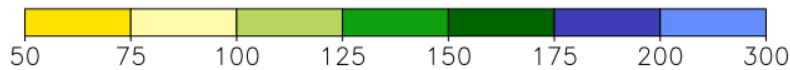
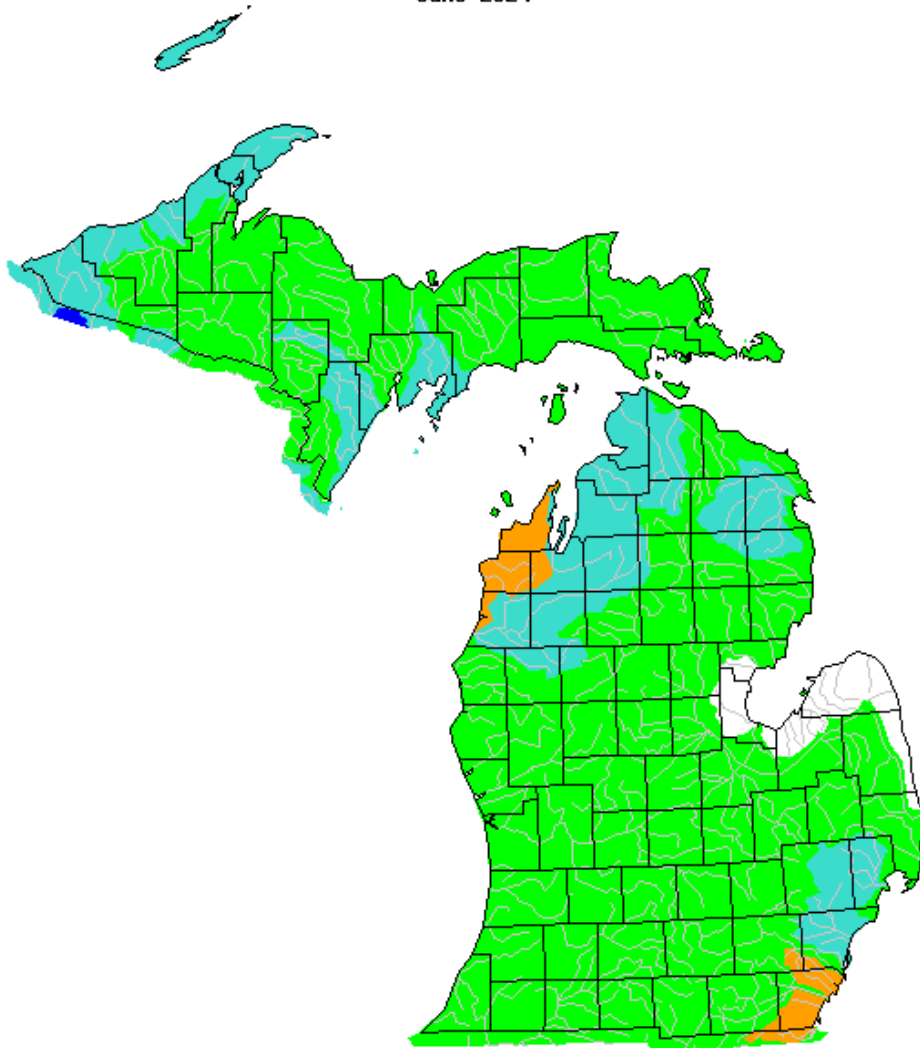2 3 4 5 6 7 8 9 10

Midwestern Regional Climate Center
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Generated at: 7/17/2024 8:23:24 AM EDT

Figure 1 June 2024 Monthly Precipitation Totals. Above normal precipitation across Lower Michigan.

Figure 2. June 2024 Percent of Mean of Accumulated Precipitation. Precipitation was above normal across lower Michigan.

Figure 3. USGS monthly streamflow forJune, grouped by significant hydrologic units. The River basins across the region are normal.
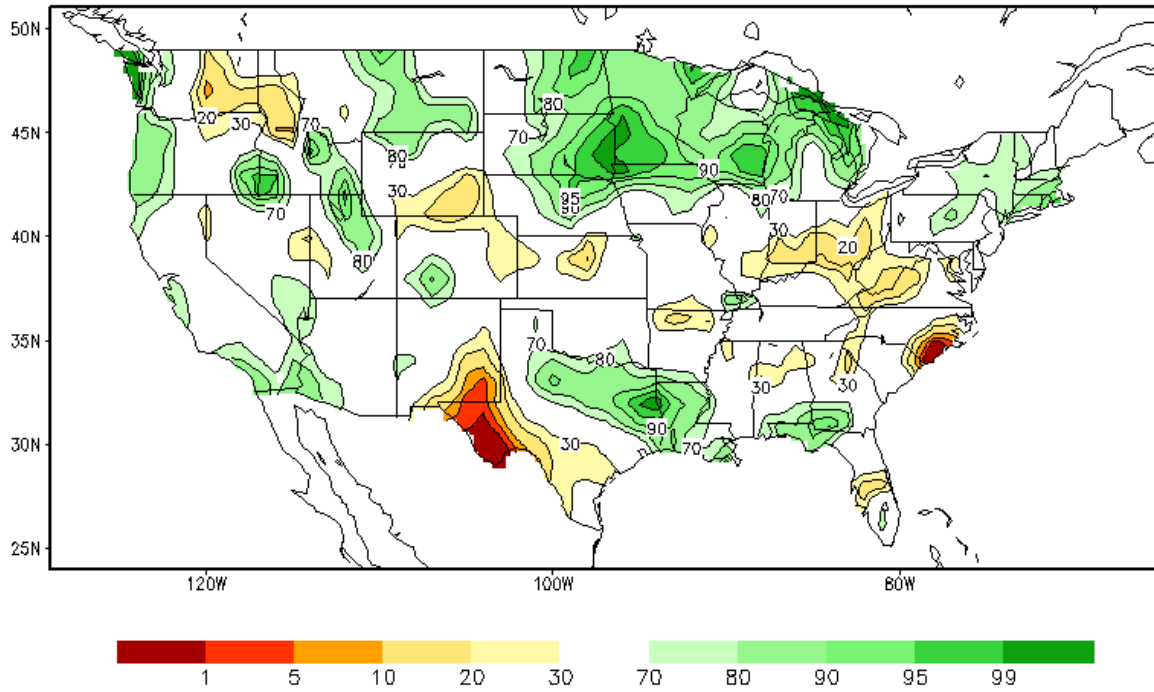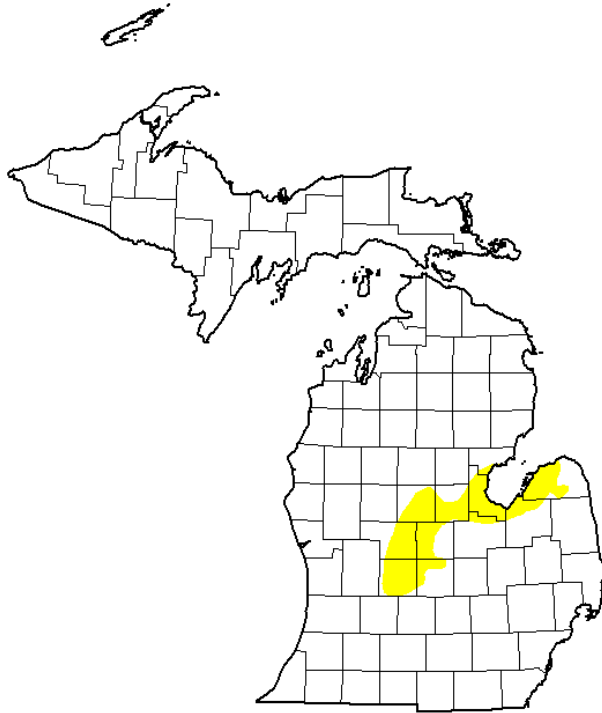
Figure 4.Calculated Soil Moisture Percentile for June, 2024. Soil moisture is Mostly normal with above normal soil moisture along the lakeshore.

U.S. Drought Monitor
Michigan

July 2, 2024
(Released Wednesday, Jul. 3, 2024)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	94.29	5.71	0.00	0.00	0.00	0.00
Last Week 06-25-2024	94.29	5.71	0.00	0.00	0.00	0.00
3 Months Ago 04-02-2024	27.44	72.56	21.00	3.16	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 07-04-2023	14.71	85.29	50.79	6.92	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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NOAA/NWS/NCEP/CPC

USDA   NDMC   NOAA

droughtmonitor.unl.edu

Figure 5.U.S. Drought Monitor showing only a small D0, abnormally dry, region in Central Michigan. .

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

News Articles and Related Documentation