

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

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

DATE:

July 31, 2019

SIGNATURE:

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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 significant flooding occurred within this Hydrologic Service Area.

Summary

June 2019 was the 11th month in a row of overall wetter-than-normal conditions across Southwest and Central Lower Michigan. Multiple rounds of widespread rainfall, as well as several episodes of repetitive (training) thunderstorms, kept overall streamflows elevated and resulted in some relatively minor flooding events. The ongoing wet weather continued the trend of elevated groundwater levels in far southwest Lower Michigan. This continues to produce flooding on some inland lakes. Similarly, extremely high water levels on Lake Michigan continue to flirt with monthly records, and are causing localized flooding in many lakeshore communities.

Flood Conditions

The month started with most of the larger rivers elevated (between the 75th and 90th percentiles). The rainstorms were frequent enough to buck the long-term trend of significantly dropping water levels this time of year, and as a result virtually all of the mainstem rivers spent the whole month around these same unusually high levels. Several of the tributaries on the Grand River exceeded flood stage during the month (Looking Glass, Sycamore Creek, and Thornapple River at Hastings) resulting in river flood warnings at each location. The same was true on the Portage River near Vicksburg, where the heavy rain that fell June 19-20 in the Kalamazoo area pushed the river above flood stage for multiple days. Parts of the lower Grand River near Comstock Park and Robinson Township rose to near bankfull during the final week of the month as the heavy rains in the Lansing area worked through the river system, but no widespread flooding occurred. Not surprisingly, overall the soils remained much wetter than normal for yet another month (Figure 4). This continued to have impacts on the planting of crops around much of Lower Michigan, as farmers simply couldn't get into the fields to work.

Two of the heaviest rain events throughout the month did result in the issuance of areal flood advisories, as local ponding and poor-drainage issues resulted in minor temporary impacts (mainly to vehicle traffic). These occurred on June 1 (generally in the Lansing area) and June 19-20 (mainly along the I-94 corridor, with particular focus in the Kalamazoo area).

Flood Stage Report

The forecast points on the Portage River at Vicksburg, Looking Glass River near Eagle, Sycamore Creek near Holt, and Thornapple River near Hastings all exceeded flood stage during the month. Thus, the NWS Form E-3 “Flood Stage Report” was issued.

River Conditions

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

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	187
Whitehall	White	153
Evert	Muskegon	186
Mt. Pleasant	Chippewa	263
Lansing	Grand	198
Grand Rapids	Grand	281
East Lansing	Red Cedar	197
Hastings	Thornapple	422
Battle Creek	Battle Creek	375
Battle Creek	Kalamazoo	178

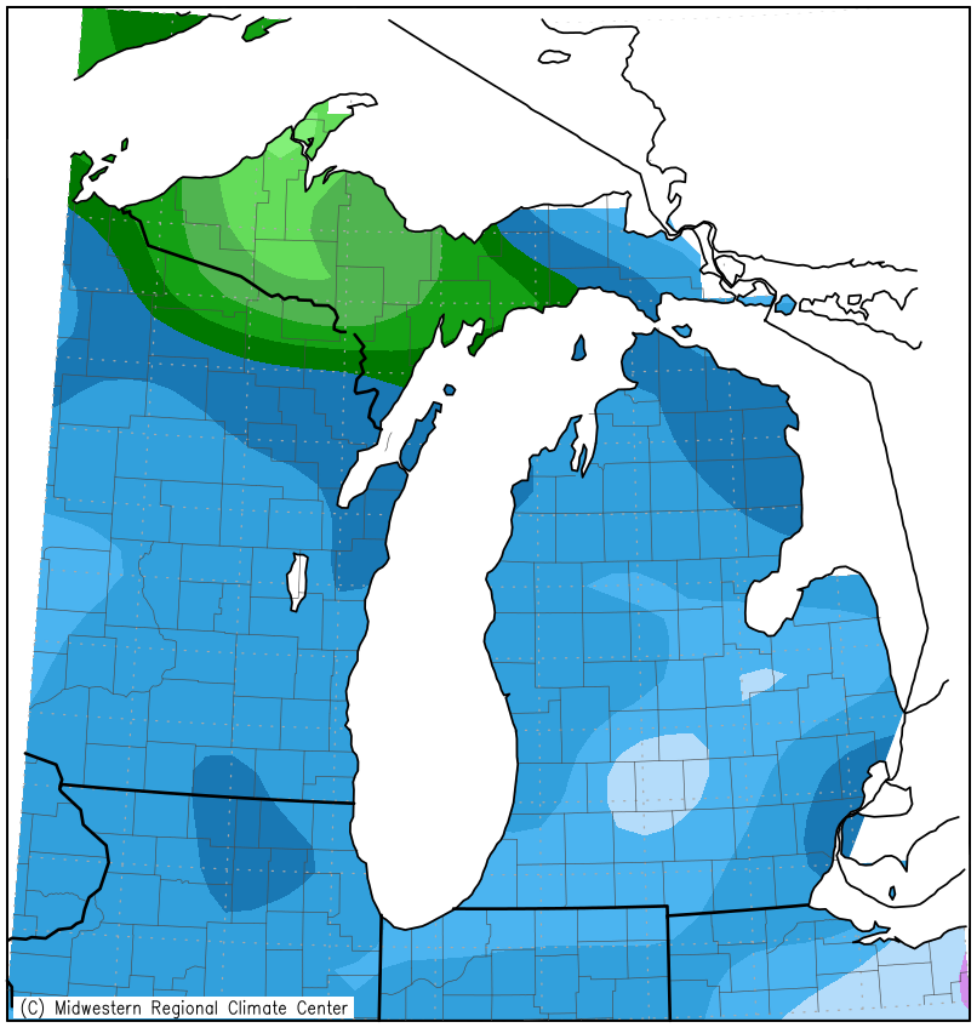
General Hydrologic Information

The month of June once again featured above-average precipitation across the vast majority of the area, with significantly above-average values over central Lower Michigan (the Lansing Area).

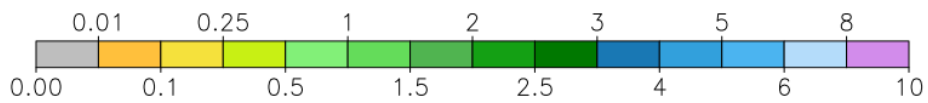
June precipitation amounts for Grand Rapids, Lansing, and Muskegon, Michigan, were 4.36, 7.45, and 3.10 inches, respectively (Figure 1). Monthly departures were +0.59, +4.00, and +0.55 inches, respectively. Yearly departures were +5.58, +4.94 and +7.16 inches for Grand Rapids, Lansing and Muskegon respectively. Percent of mean precipitation for June 2019 is shown in Figure 2.

Temperatures for the month of June were below-average at Grand Rapids, Lansing and Muskegon. The average monthly temperature departures for these sites were -1.6, -1.5 and -0.8 degrees Fahrenheit, respectively.

Accumulated Precipitation (in)
June 1, 2019 to June 30, 2019



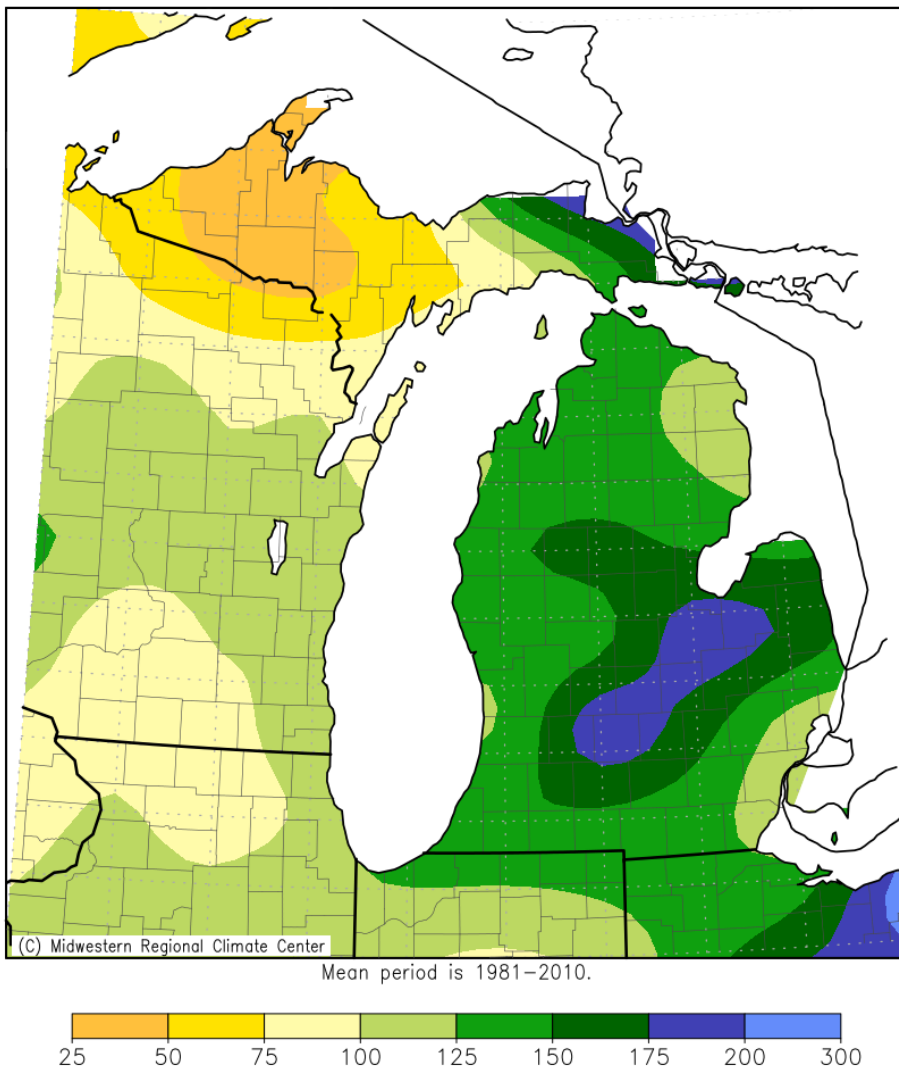
(C) Midwestern Regional Climate Center



Midwestern Regional Climate Center
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Figure 1. June 2019 Monthly Precipitation Totals.

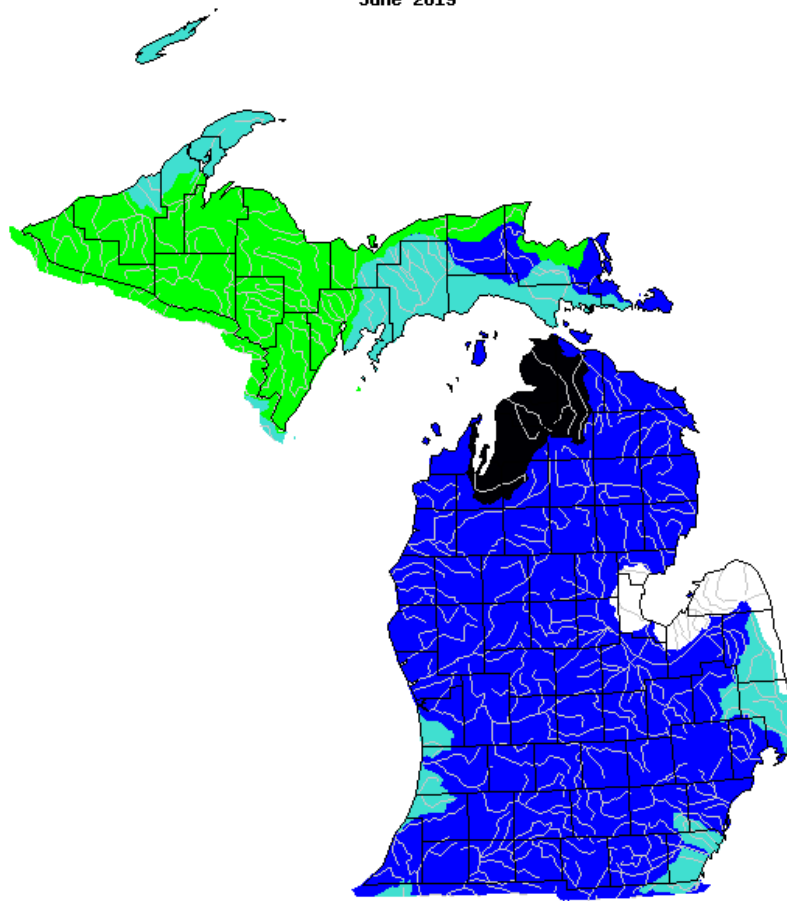
Accumulated Precipitation: Percent of Mean
June 1, 2019 to June 30, 2019



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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Figure 2. June 2019 Percent of Mean of Accumulated Precipitation. June represents the 11th consecutive month with generally above-average precipitation across West Michigan.

June 2019



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 average streamflow, grouped by significant hydrologic units. Note widespread above-average streamflows across Lower Michigan.

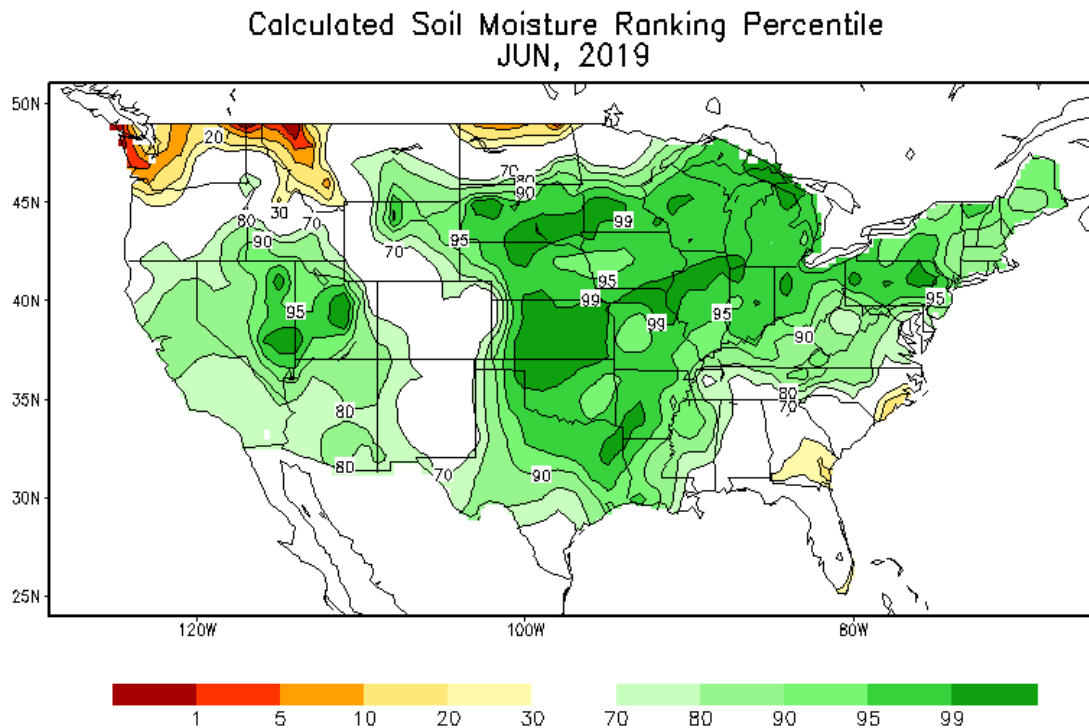


Figure 4. Chart of monthly values of soil moisture, by percentile ranking. This is the 9th consecutive month West Michigan has been at or above the 80th-90th percentile. This saturated ground leads to increased runoff efficiency of rainfall into rivers and streams.

Hydrologic Products issued this month:

- 30 Hydrologic Summaries (ARBRVAGRR)
- 1 Probabilistic Hydrologic Outlook (ARBESFGRR)
- 0 Event-driven Hydrologic Outlook (ARBESFGRR)
- 31 Daily River Forecasts (ARBRVDGRR)
- 26 Areal Flood Advisory Statements (ARBFLSGRR)
- 4 Flood Warning Statements (ARBFLWGRR)
- 4 Flood Watch Statements (ARBFFAGRR)
- 28 River Statements (ARBRVSGRR)

News Articles and Related Documentation

<https://www.mlive.com/news/kalamazoo/2019/06/flooding-causes-road-closures-in-kalamazoo.html>

<https://k1025.com/photos-flood-damage-in-west-michigan/>