

NWS FORM E-5

U.S. DEPARTMENT OF COMMERCE
NOAA, NATIONAL WEATHER SERVICE

HSA OFFICE:

Grand Rapids, MI
REPORT FOR (MONTH & YEAR):
July 2020

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:

August 13, 2020

SIGNATURE:

Daniel K. Cobb, MIC
Andrew Dixon, Service Hydrologist

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

July 2020 was warm and generally a bit wetter than normal across Southwest and West-Central Lower Michigan. While there were several seasonable rounds of convection during the month - including an unusual stretch of 3 consecutives with more than an inch of rain at the official Grand Rapids observation – no particularly impactful heavy rains occurred. In fact, even convective “bullseyes” were spread out and moderate enough so as to avoid any areal flood advisories during the month. The further south area (I-94 corridor) missed out on many of the convective episodes, and as a result ended the month drier than normal.

Meanwhile, Lake Michigan remained largely unchanged this month, which led to a 7th straight month of setting a new monthly record for high water levels.

Flood Conditions

The mainstem rivers in West Michigan (Muskegon, Grand, and Kalamazoo) started the month in the 75th to 90th percentile, and by the end of the month had generally dropped to the 50th to 75th percentile for this time of year. No significant river flooding was observed during the month.

Flood Stage Report

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

River Conditions

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

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	118
Whitehall	White	119
Ewart	Muskegon	110
Mt. Pleasant	Chippewa	131
Lansing	Grand	103
Grand Rapids	Grand	149
East Lansing	Red Cedar	109
Hastings	Thornapple	117
Battle Creek	Battle Creek	148
Battle Creek	Kalamazoo	113

General Hydrologic Information

July precipitation amounts for Grand Rapids, Lansing, and Muskegon, Michigan, were 4.75, 2.92, and 2.28 inches, respectively (Figure 1). Monthly departures were +0.97, +0.08, and -0.09 inches, respectively. Yearly departures were +2.89, +3.84 and +6.09 inches for Grand Rapids, Lansing and Muskegon respectively. Percent of mean precipitation for July 2020 is shown in Figure 2.

Temperatures for the month of July were warmer than normal at Grand Rapids, Lansing and Muskegon. The monthly average temperature departures for these sites were +3.2, +4.3, and +4.9 degrees Fahrenheit, respectively.

Accumulated Precipitation (in)
July 1, 2020 to July 31, 2020

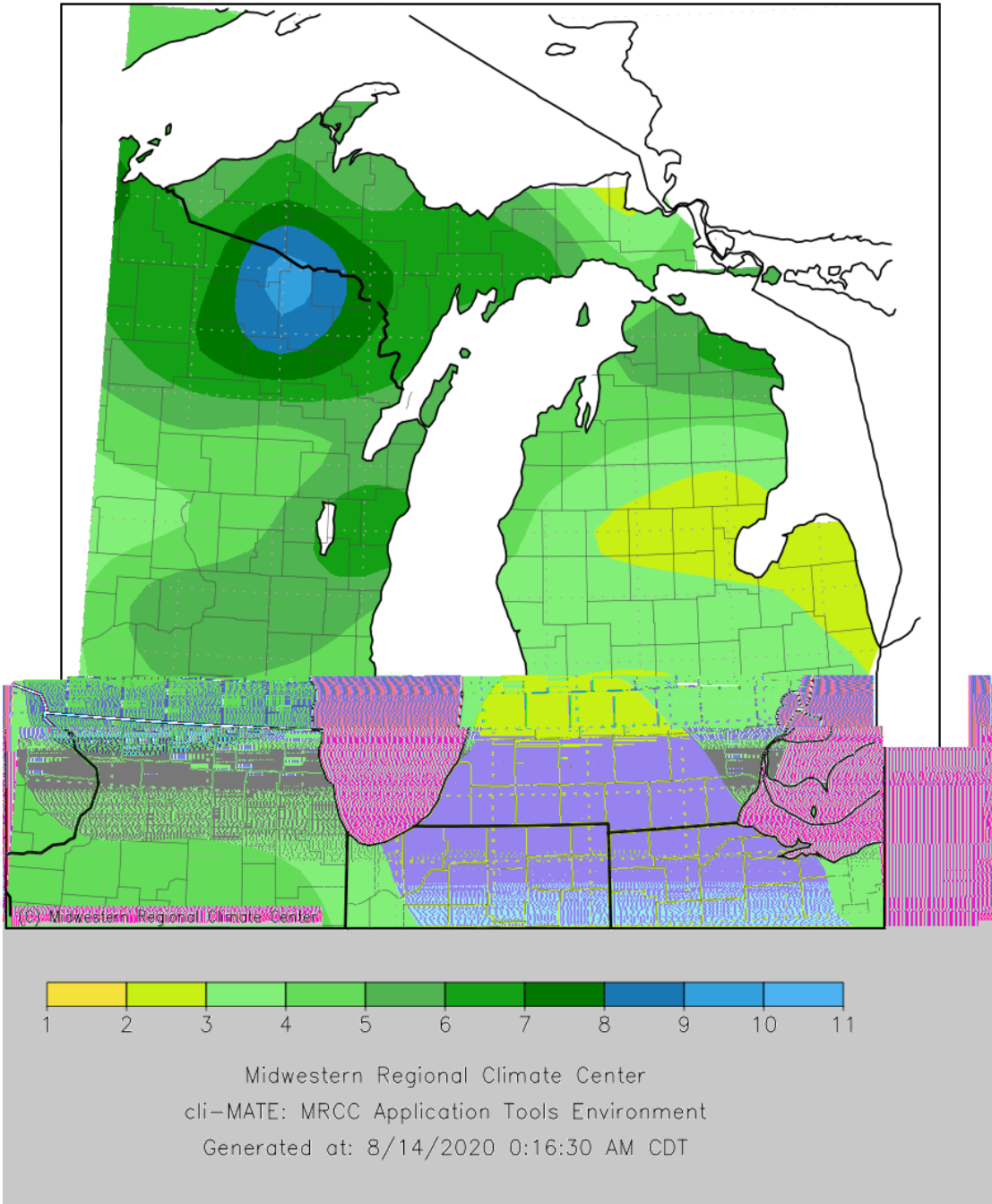
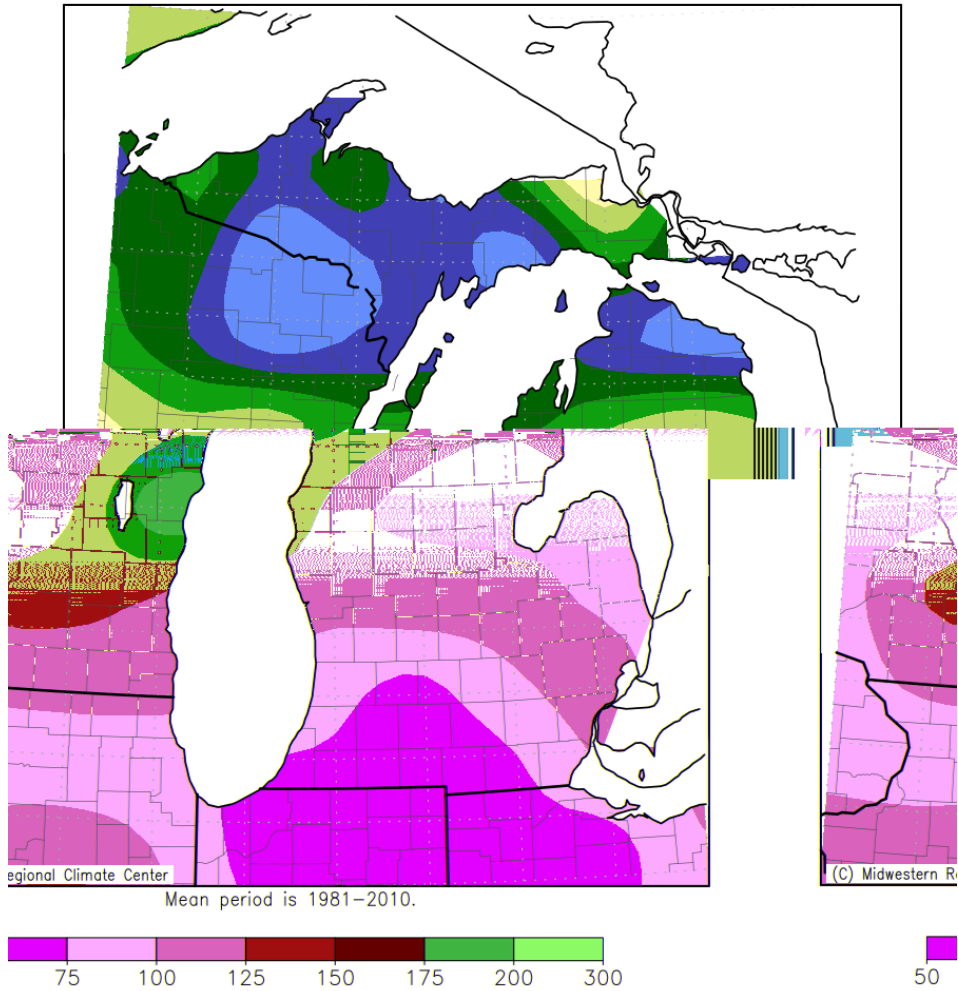


Figure 1. July 2020 Monthly Precipitation Totals

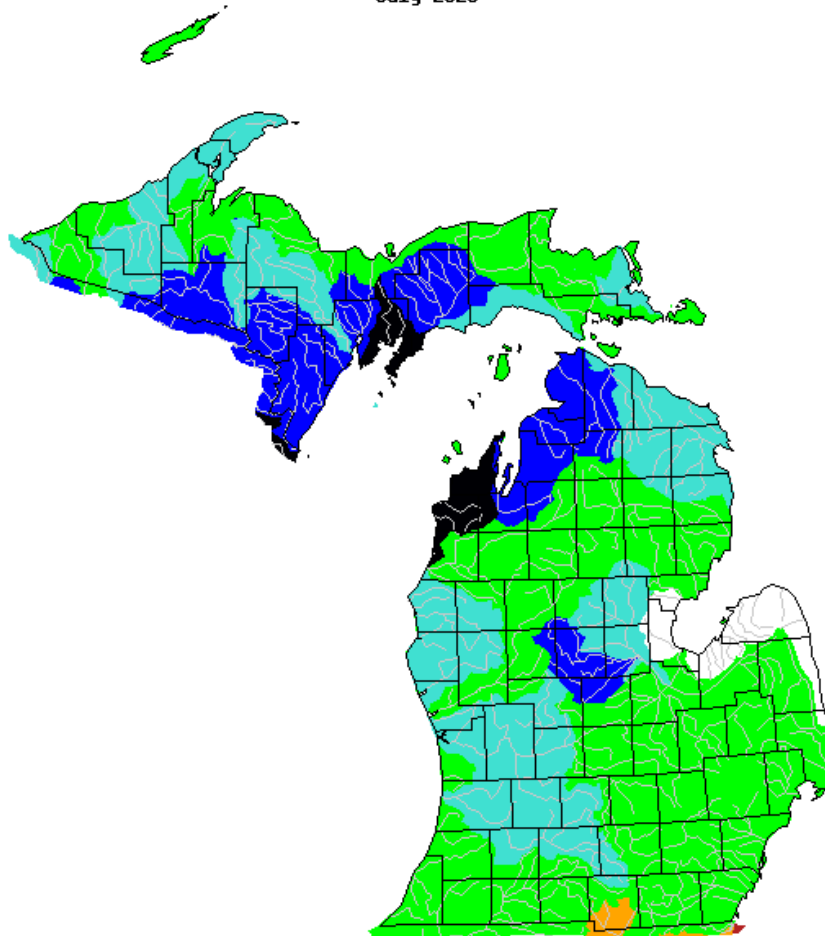
Accumulated Precipitation: Percent of Mean
July 1, 2020 to July 31, 2020



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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Figure 2. July 2020 Percent of Mean of Accumulated Precipitation.

July 2020



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 for July, grouped by significant hydrologic units. Note streamflows near to slightly above average across most of the Lower Peninsula of Michigan.

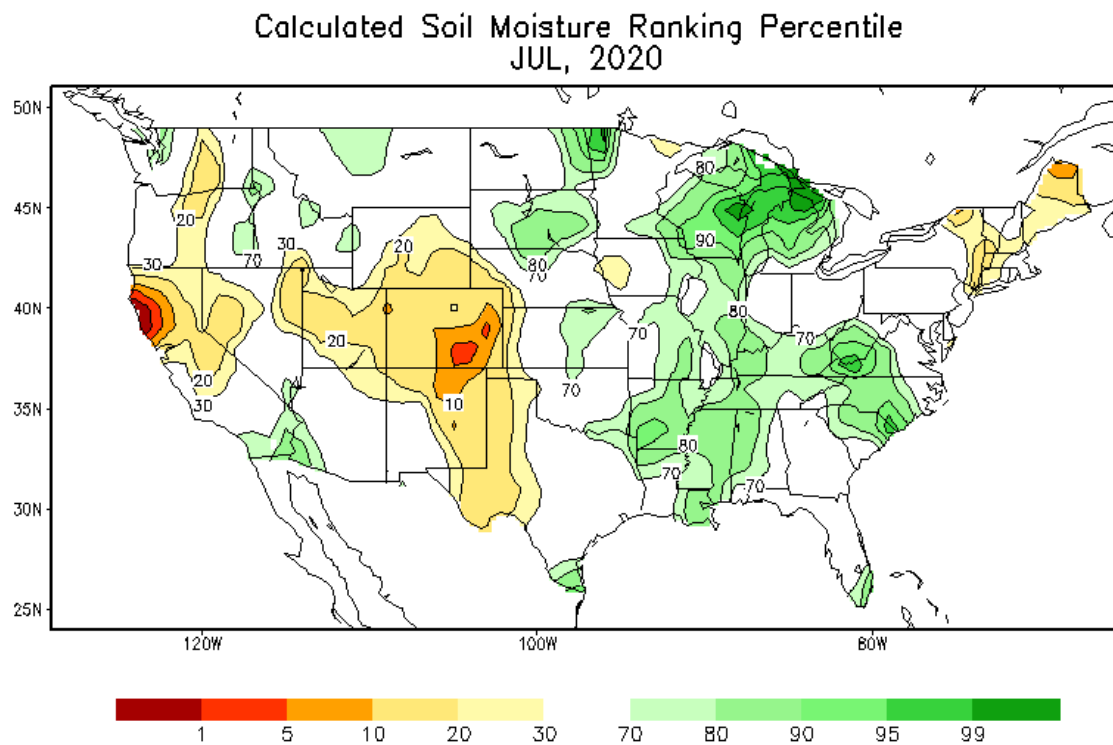


Figure 4. Chart of monthly values of soil moisture, by percentile ranking. This is the 22nd consecutive month West Michigan has been at or above the 80th percentile. This saturated ground leads to increased runoff efficiency of rainfall into rivers and streams.

Hydrologic Products issued this month:

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

News Articles and Related Documentation

<https://www.freep.com/story/news/local/michigan/2020/07/17/great-lakes-water-levels-records-erosion-damage/5450910002/>

<https://www.hollandsentinel.com/news/20200707/lake-michigan-levels-to-drop-by-august-will-remain-above-average>

<https://www.lre.usace.army.mil/Media/News-Releases/Article/2299221/great-lakes-water-levels-reaching-peaks-for-the-year/>