Monthly Report of River and Flood Conditions

Report for June 2022

NWS FORM E-5 U.S. DEPARTMENT OF COMMERCE NOAA, NATIONAL WEATHER SERVICE **MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS** TO: NATIONAL WEATHER SERVICE (W/OH12x1) HYDROMETEOROLOGICAL INFO CENTER 1325 EAST-WEST HIGHWAY, RM 7116 SILVER SPRING, MD 20910	HSA OFFICE: **Marquette, MI** REPORT FOR (MONTH / YEAR): **June 2022** DATE: **July 15th, 2022** SIGNATURE: **Evan Kutta, Asst. Hydro Program Manager** **Robin J. Turner, MIC**
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 no flooding occurred within this Hydrologic Service Area.

Summary

Most of Upper Michigan had near normal precipitation during June 2022 with Munising and WFO Marquette recording slightly above normal precipitation. Relative to long term averages, Ironwood was the driest with just 65% of normal June allowing abnormally dry conditions to develop across far western Upper Michigan. Manistique, Stambaugh, and Marquette City were all similarly dry with rainfall between 71% and 74% of long term averages. Thunderstorms were relatively common during June resulting in steep rainfall gradients. For example, WFO Marquette received 1.52 inches more rainfall than Marquette City just 8 miles away.

Location	Precipitation	% of Normal	Snowfall
WFO Marquette	3.95	118	0.0
Marquette City	2.43	74	0.0
Quincy Hill	1.58	M	0.0
Ironwood	2.65	65	0.0
Iron Mountain	3.57	97	0.0
Manistique	2.29	71	0.0
Munising	3.53	108	0.0
Stambaugh	2.88	72	0.0

NOTE: Precipitation after 8 AM EST May 31st was counted in June stats for all but the WFO Marquette site due to the reporting structure of our cooperative observers.

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Flooding Conditions

Thunderstorms produced two episodes of flooding during June 2022. Training thunderstorms produced flash flooding on June 13th, 2022 at the Porcupine Mountains Wilderness State Park where a bridge and many sections of boardwalk were washed out in addition to other trail damage. A similar training thunderstorm event occurred across portions of Luce County on June 20th, but we only received reports of localized ponding in low-lying areas. Radar estimated rainfall amounts up to about 5 inches occurred during both flooding events.

River Conditions

Near normal streamflow was observed across most of Upper Michigan during June 2022, but a few basins across eastern Upper Michigan observed above normal streamflow.

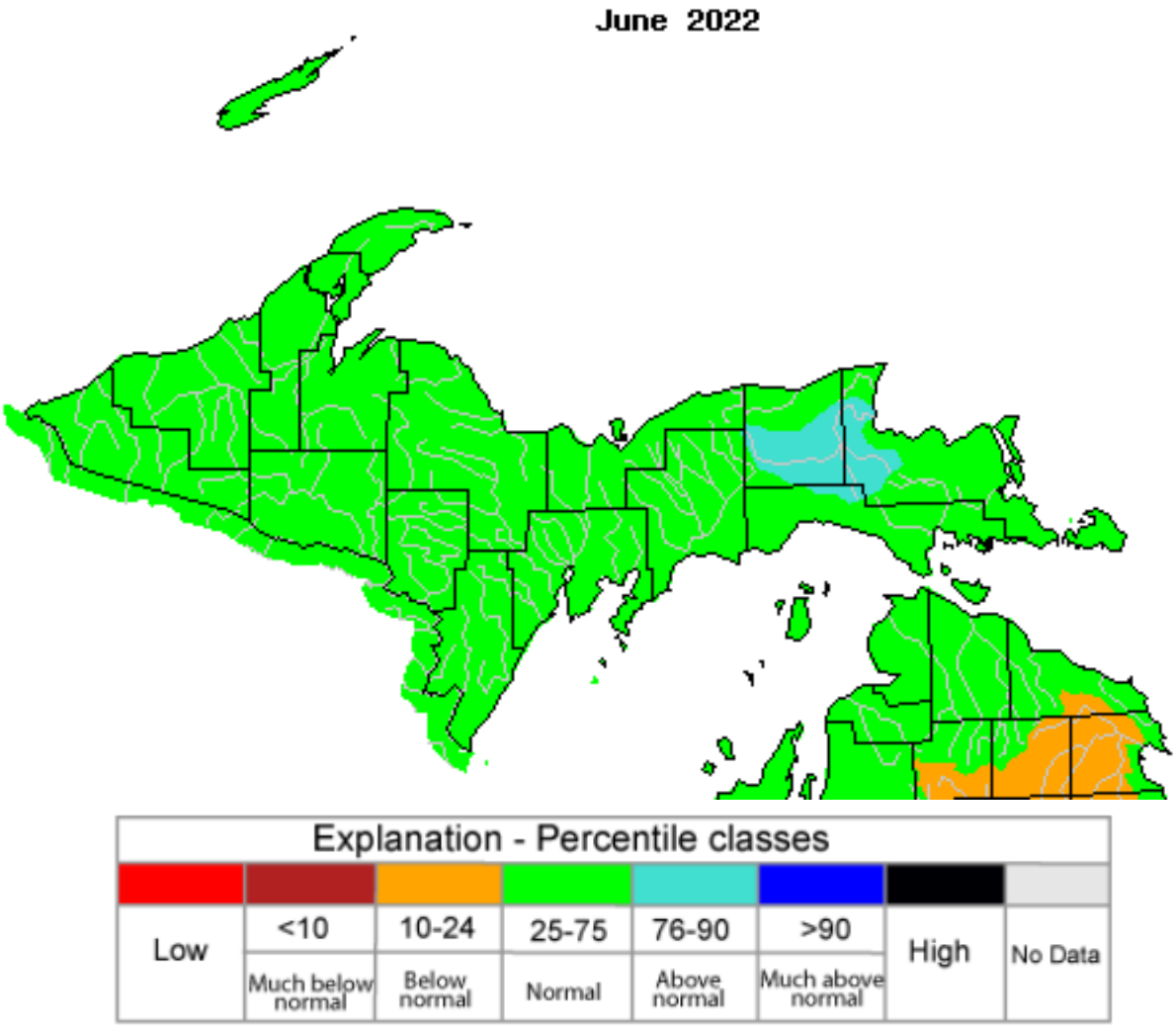


Figure 1: USGS monthly average streamflow in June 2022 across Upper Michigan

Snowpack SWE (Snow Water Equivalent) Conditions

Snowpack is on summer vacation.

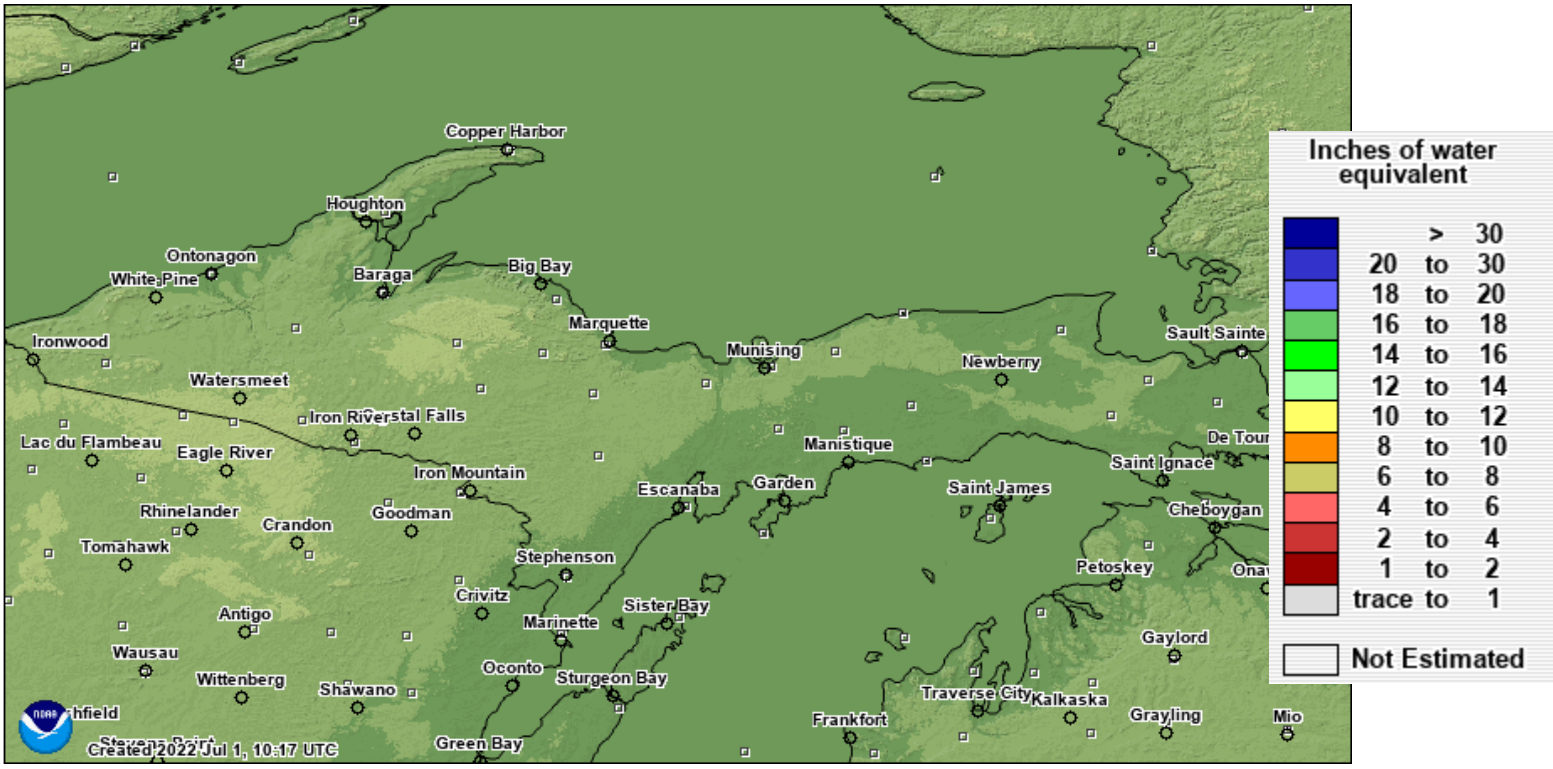
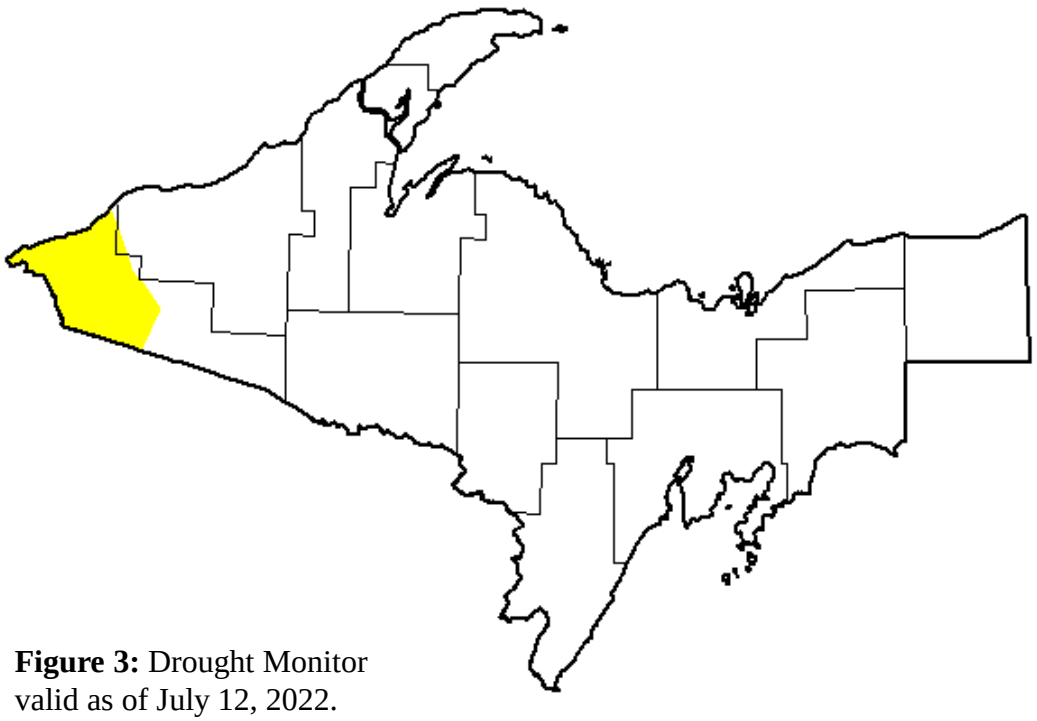


Figure 2: Current modeled snowpack snow water equivalent on July 1, 2022.

Drought Discussion

Figure 3. U.S. Drought Monitor showing that abnormally dry conditions developed near Ironwood, MI during June 2022. For the latest drought status, please visit http://www.drought.gov.



June 28, 2022
(Released Thursday, Jun. 30, 2022)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	95.59	4.41	0.00	0.00	0.00	0.00
Last Week 06-21-2022	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago 03-29-2022	52.15	47.85	12.23	0.00	0.00	0.00
Start of Calendar Year 01-04-2022	26.00	74.00	35.44	0.51	0.00	0.00
Start of Water Year 09-28-2021	51.73	48.27	6.70	0.49	0.00	0.00
One Year Ago 06-29-2021	55.53	44.47	7.76	0.00	0.00	0.00

Intensity:
None
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme 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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droughtmonitor.unl.edu

Figure 3: Drought Monitor valid as of July 12, 2022.

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Media Links

Flooding, bridge washouts reported at Porcupine Mountains Wilderness State Park
Flooding washes out bridge, damages trail at Porcupine Mountains
Video of Porcupine Mountains Wilderness State Park flooding

Hydro Products Issued

Product	Number
Hydrologic Outlook (ESF)	0
Flood Watch (FFA)	0
Flood Warning (FLW)	0
Flood Advisories and Statements (FLS)	18
Flash Flood Warning (FFW)	2
Flash Flood Statement (FFS)	1
Hydrologic Summary (RVA)	30
Daily River Forecasts (RVD)	30

Precipitation Summary

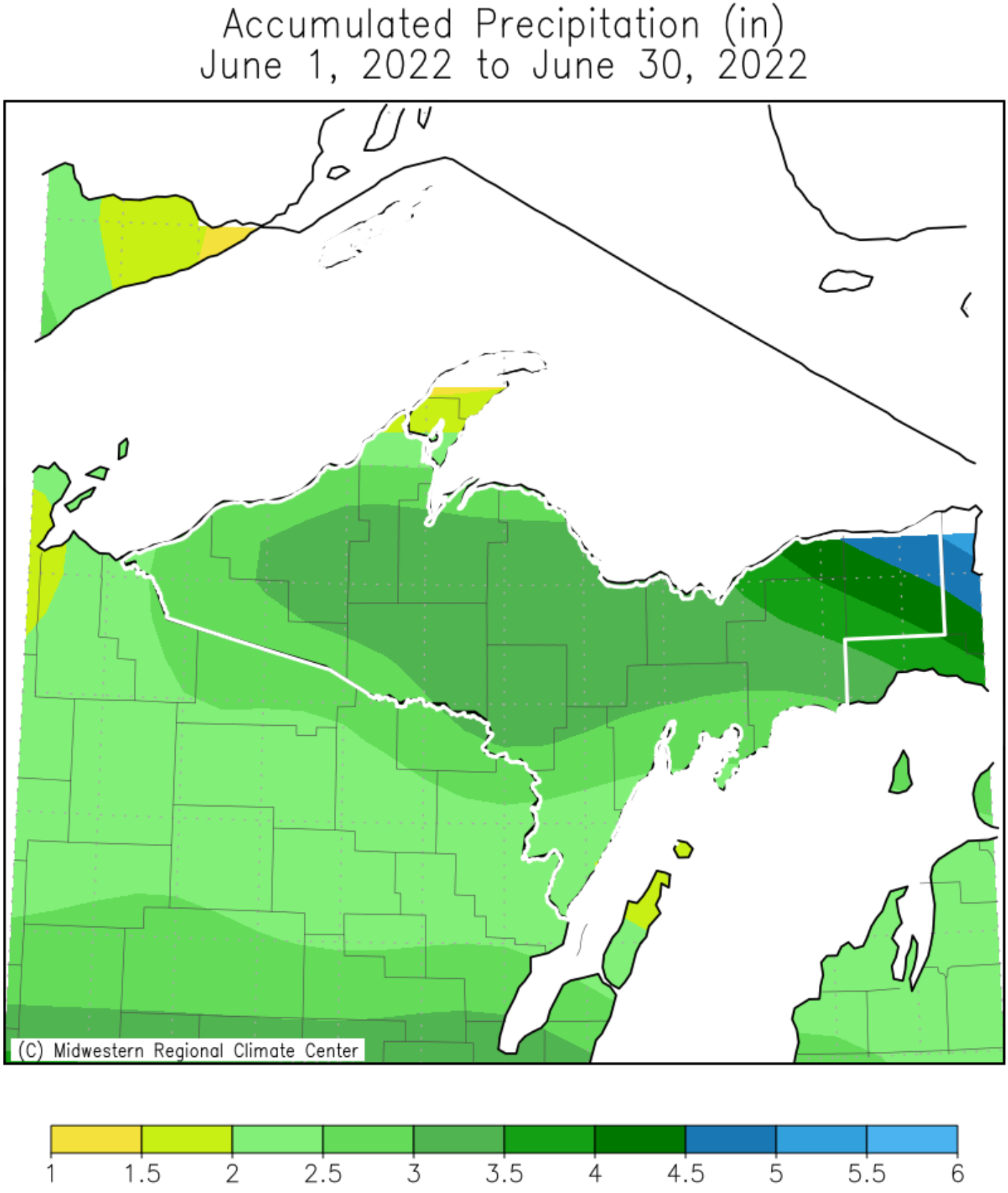

Figure 4: Monthly precipitation totals for June 2022.

Precipitation Summary Continued

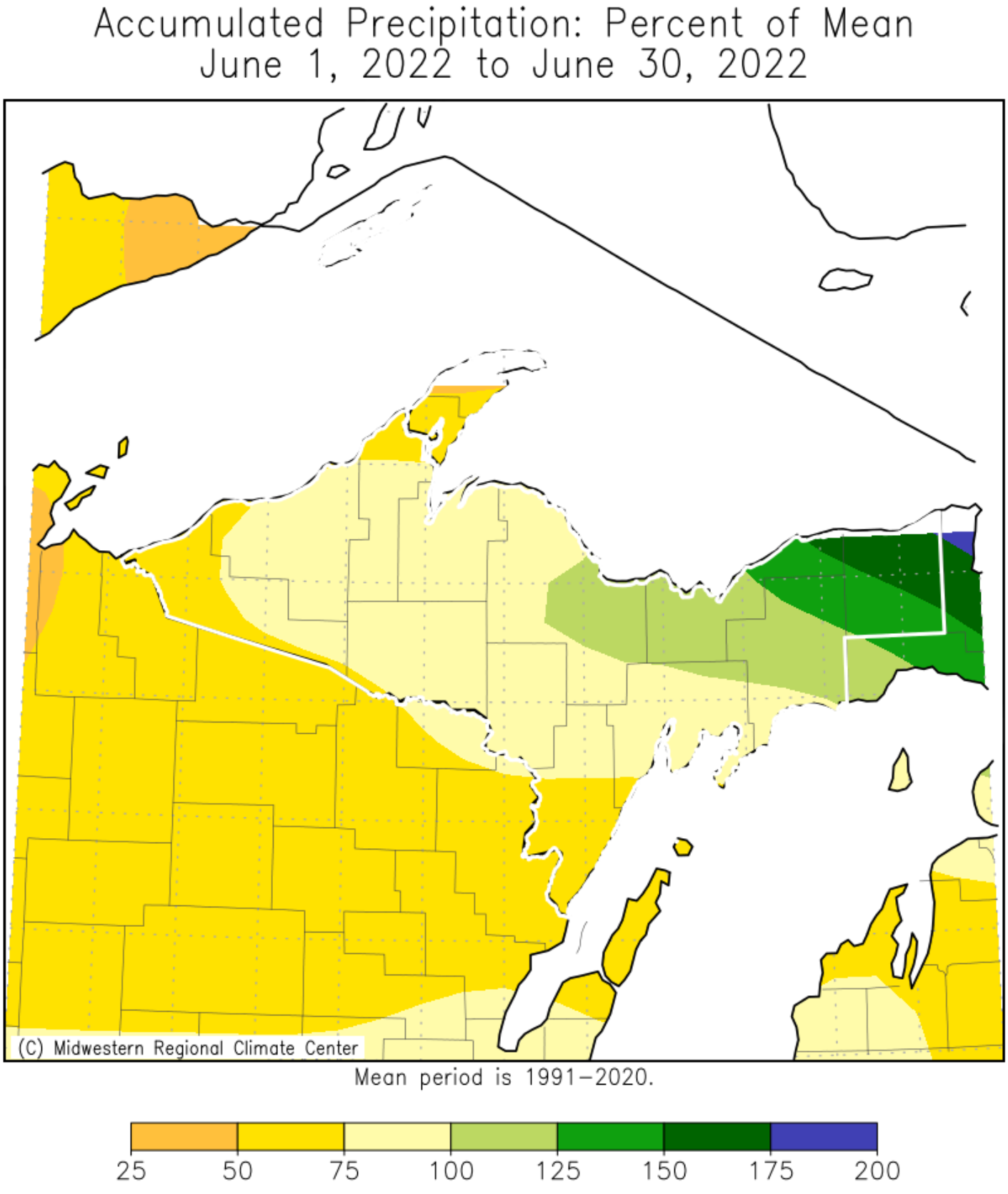

Figure 5: Monthly precipitation totals in percent of long term average for June 2022.

Soil Moisture Anomaly

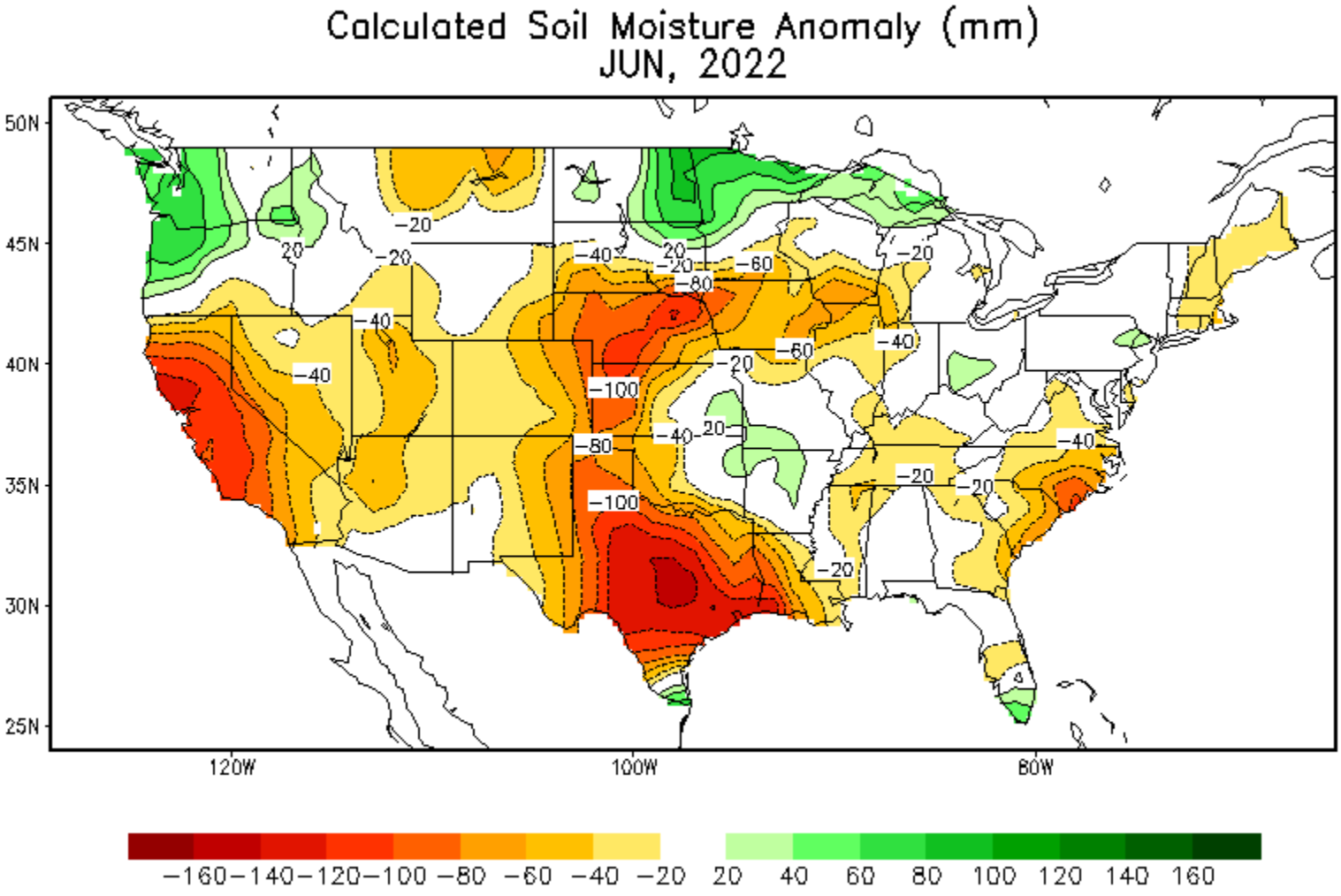

Figure 6: Climate Prediction Center's monthly average soil moisture anomaly for June 2022.

Deep and Shallow Soil Moisture Anomalies

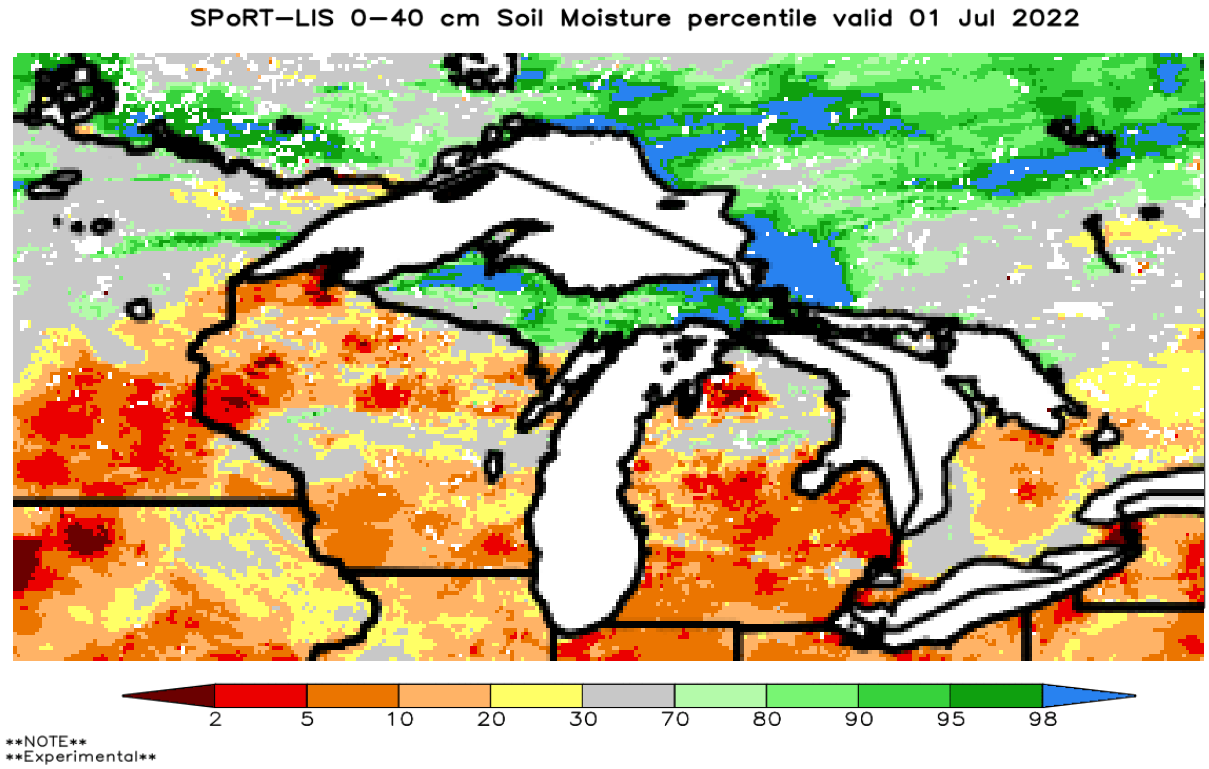

Figure 7: NASA Short-term Prediction Research and Transition (SPoRT) Center's monthly average shallow (0-40 cm) soil moisture anomaly for June 2022.

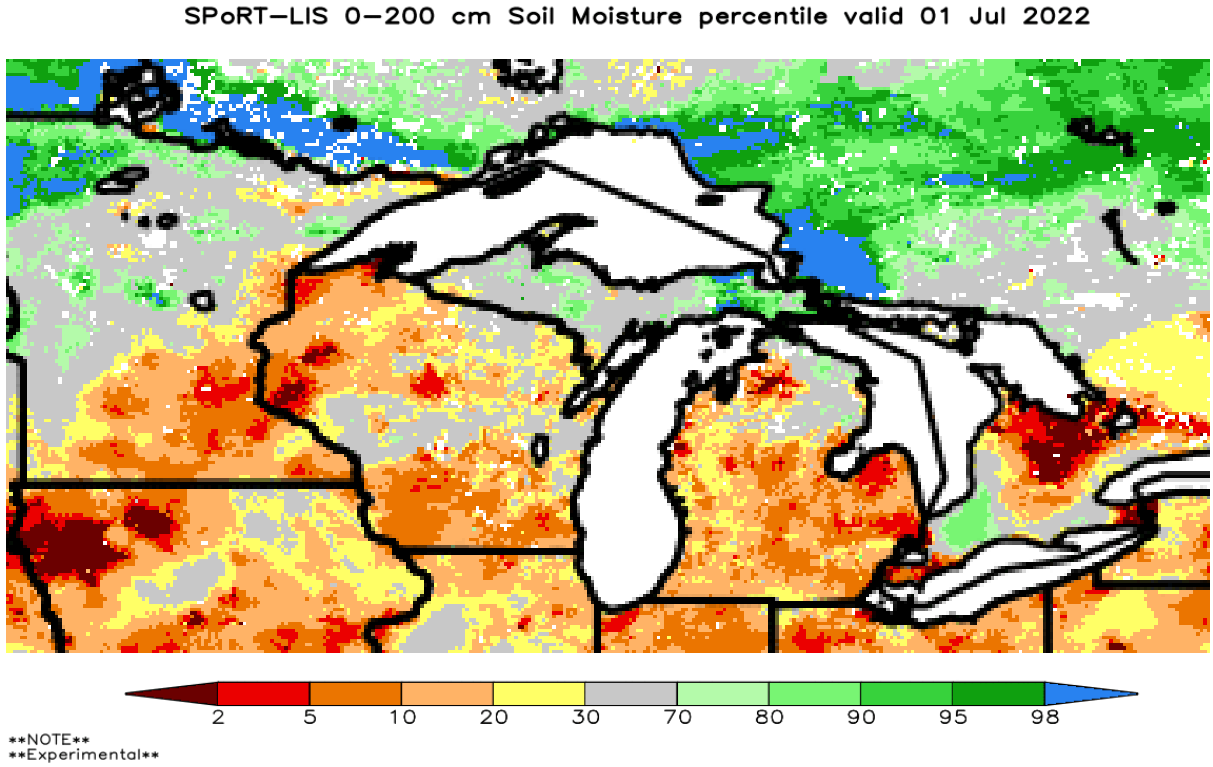

Figure 8: NASA Short-term Prediction Research and Transition (SPoRT) Center's monthly average deep (0-200 cm) soil moisture anomaly for June 2022.