Monthly Hydrometeorological Report

Report for March 2025

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): **March 2025** DATE: **April 17th, 2025** SIGNATURE: **Daniel Jablonski, HPM** **Ryan Metzger, 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).	

X An X inside this box indicates no flooding occurred within this Hydrologic Service Area.

Summary

Upper Michigan saw an uptick of precipitation in March as several moisture rich systems tracked over the Great Lakes. This pattern change led to all sites observing above normal precipitation and snowfall in the month with WFO Marquette, Munising, and Stambaugh all observing their wettest March on record; this was the 4th wettest March for Ironwood and Manistique (Table 1 and Figure 6). Although many of the events favored wetter snow, the observed snowfall was also impressive. This was the 2nd snowiest March for Munising, 5th snowiest for WFO Marquette, 7th snowiest for Marquette City and Stambaugh, and the 10th snowiest in Ironwood. This led to an increase in SWE across the U.P. with all river basins observing near to above normal SWE values (Figure 3). With periods of springtime warming and the increasing sun angle, melting snow yielded near to much above normal streamflow (Figure 1). A moisture response was also observed in the soil compared to February with some positive anomalies over the east (Figures 7-9). From a calendar year perspective, this month brought precipitation values above normal. So far, 2025 has been the second wettest on record for Munising thanks to the favored lake effect snow patterns during the winter months and the above normal precipitation in March. Temperatures were generally within 1°F of normal, with all sites much colder than the start of 2024 (Tables 2 and 3).

Location	Precipitation	% of Normal Precip / Snow	Snowfall
WFO Marquette	7.16”	256% / 188%	53.5”
Marquette City	3.76”	188% / 195%	34.5”
Quincy Hill	4.26”	M	38.9”
Ironwood	5.60”	261% / 197%	40.5”
Iron Mountain	3.43”	208% / 214%	21.4”
Manistique	4.51”	248% / 170%	17.5”
Munising	6.29”	300% / 279%	48.9”
Stambaugh	4.40”	262% / 239%	25.1

Table 1. Observed liquid equivalent precipitation, percent of normal, and snowfall at long-term climate sites across Upper Michigan for March 2025.

Year-to-Date Precipitation Summary

Location	Precipitation	% of Normal	Rank	Last Year
WFO Marquette (Records: 1962-2023)	10.46”	143%	9th Wettest	7.05”
Marquette City (Records: 1875-2023)	5.56”	105%	72nd Wettest	4.05”
Ironwood (Records: 1901-2023)	8.37”	151%	11th Wettest	4.75”
Iron Mountain (Records: 1902-2023)	5.19”	129%	20th Wettest	4.40”
Manistique (Records: 1938-2023)	6.33”	135%	17th Wettest	3.11”
Munising (Records: 1912-2023)	13.74”	194%	2nd Wettest	7.85”
Stambaugh (Records: 1900-2023)	5.83”	165%	19th Wettest	4.11”

Table 4. Total observed precipitation at long-term climate sites across Upper Michigan for January through March 2025.

Year-to-Date Temperature Summary

Location	Avg Temp	Departure	Rank	Last Year
WFO Marquette (Records: 1962-2023)	18.5°F	+0.6°F	26th Warmest	25.1°F
Marquette City (Records: 1875-2023)	22.8°F	+0.4°F	57th Warmest	28.1°F
Ironwood (Records: 1901-2023)	17.1°F	-0.2°F	66th Warmest	24.1°F
Iron Mountain (Records: 1902-2023)	20.7°F	+1.1°F	47th Warmest	27.4°F
Manistique (Records: 1938-2023)	21.9°F	+0.8°F	40th Warmest	26.5°F
Munising (Records: 1912-2023)	21.7°F	+0.9°F	41st Warmest	26.9°F
Stambaugh (Records: 1900-2023)	16.2°F	-0.8°F	66th Warmest	24.1°F

Table 5. Average temperature observed at long-term climate sites across Upper Michigan for January through March 2025.

Flooding Conditions

There were no flooding concerns during the month of March.

Media Links

None.

River Conditions

All river basins in Upper Michigan observed near to much above normal average streamflow in March.

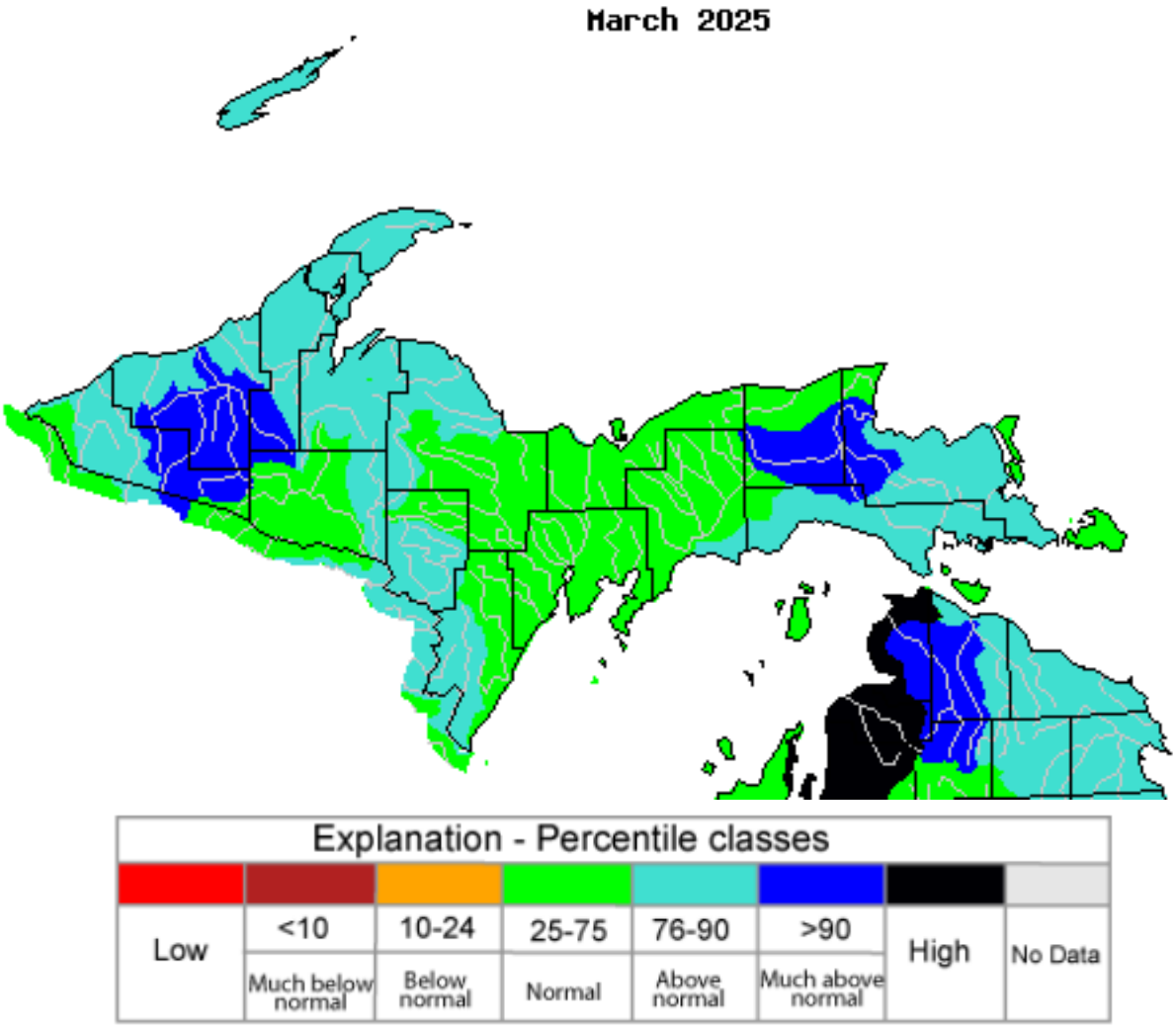


Figure 1: USGS monthly average streamflow in March 2025 across Upper Michigan.

Snowpack SWE (Snow Water Equivalent) Conditions

The highest SWE values at the end of March were observed in the terrain of Houghton County between Calumet and Twin Lakes and in the northeast between Munising and Newberry where 12+ inches was observed. Widespread near to above normal SWE was noted across much of the Upper Peninsula.

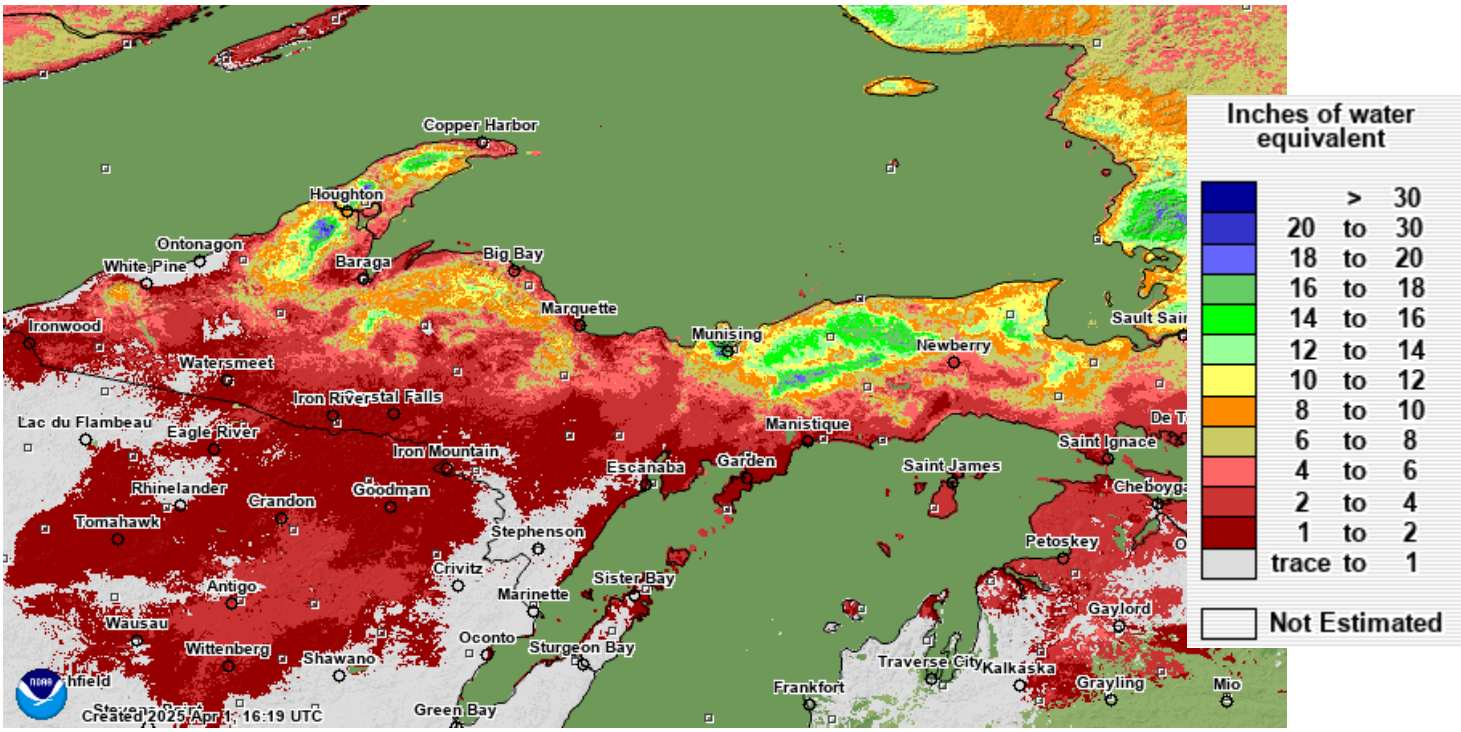


Figure 2: Current modeled snowpack snow water equivalent on April 1st.

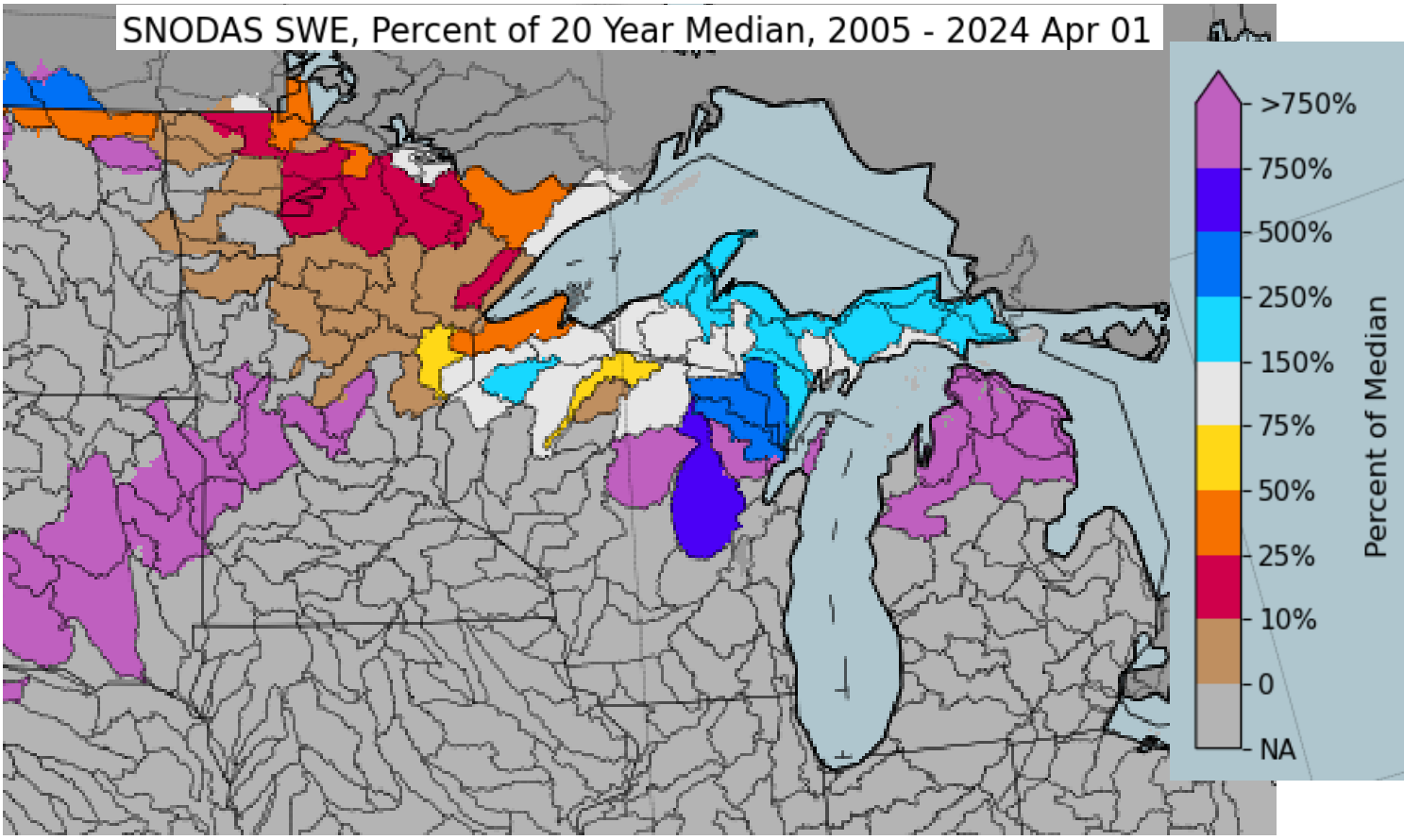
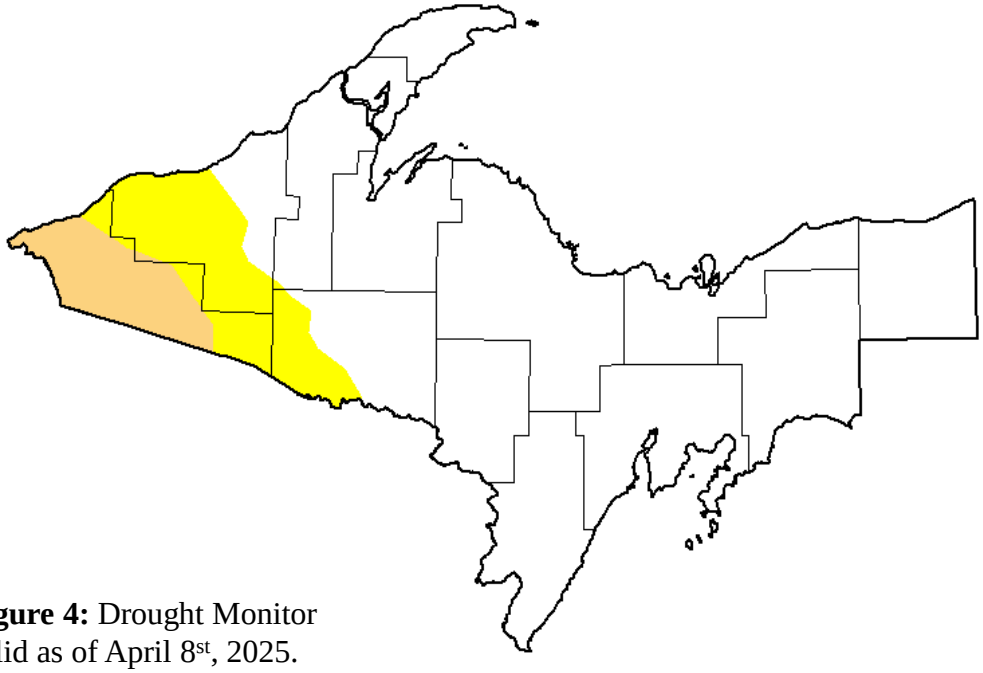


Figure 3: Modeled snow water equivalent for drainage basins on April 1st as a percent of 18-year median.

Drought Discussion

Moderate drought conditions continue over much of Gogebic County. Abnormally dry conditions continue over portions of western Upper Michigan. For the latest drought status, please visit http://www.drought.gov.



April 8, 2025
(Released Thursday, Apr. 10, 2025)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	82.95	17.05	5.98	0.00	0.00	0.00
Last Week 04-01-2025	82.95	17.05	5.98	0.00	0.00	0.00
3 Months Ago 01-07-2025	57.50	42.50	17.85	0.00	0.00	0.00
Start of Calendar Year 01-07-2025	57.50	42.50	17.85	0.00	0.00	0.00
Start of Water Year 10-01-2024	1.50	98.50	64.78	40.63	0.00	0.00
One Year Ago 04-09-2024	17.92	82.08	39.22	13.00	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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Western Regional Climate Center

droughtmonitor.unl.edu

Figure 4: Drought Monitor valid as of April 8st, 2025.

Hydro Products Issued

Product	Number
Hydrologic Outlook (ESF)	2
Flood Watch (FFA)	0
Flood Warning (FLW)	0
Flood Advisories and Statements (FLS)	2
Flash Flood Warning (FFW)	0
Flash Flood Statement (FFS)	0
Hydrologic Summary (RVA)	31

Precipitation Summary

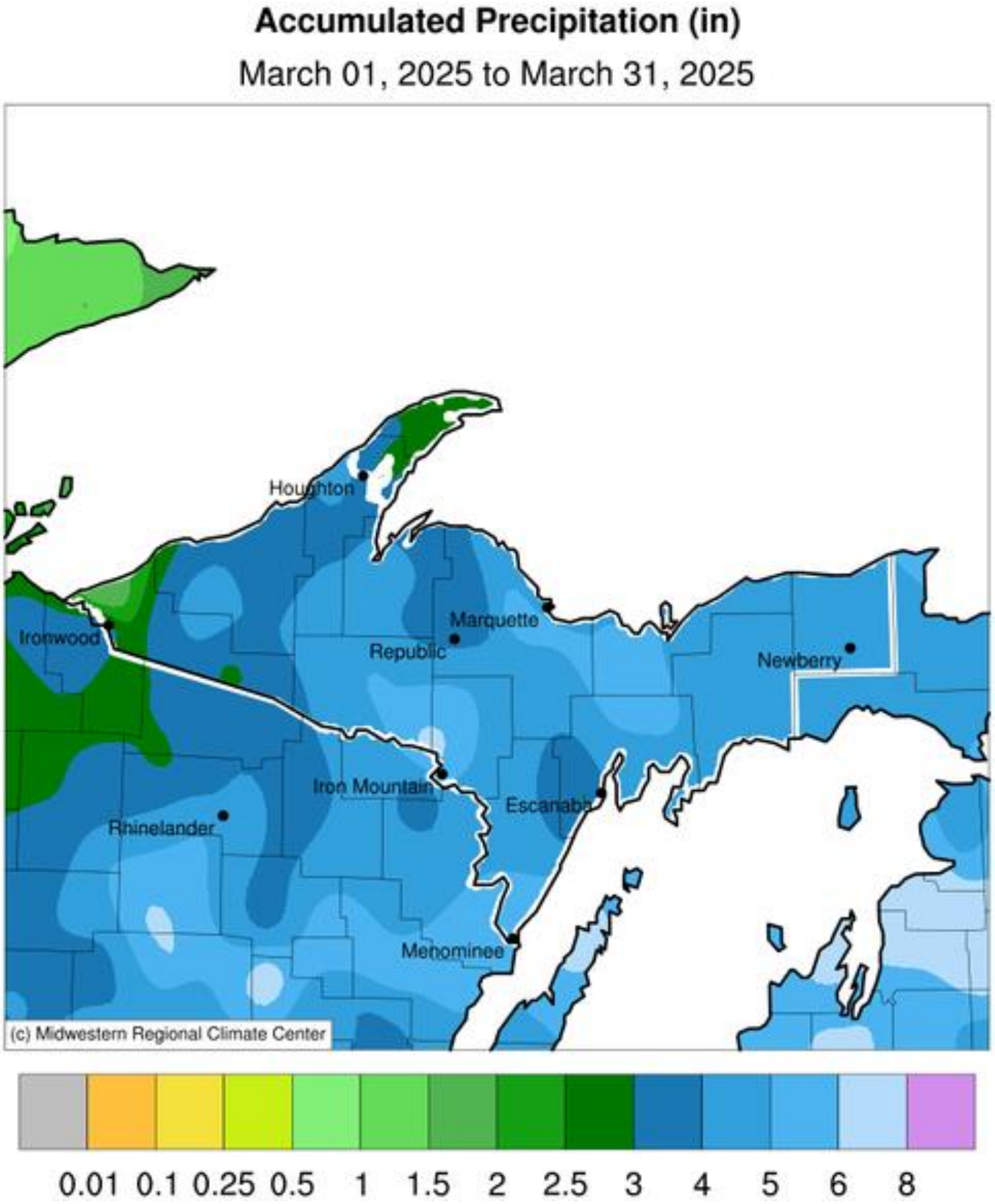

Figure 5: March 2025 Monthly Precipitation Totals. Image generated April 15th , 2025 from the Midwestern Regional Climate Center.

Precipitation Summary Continued

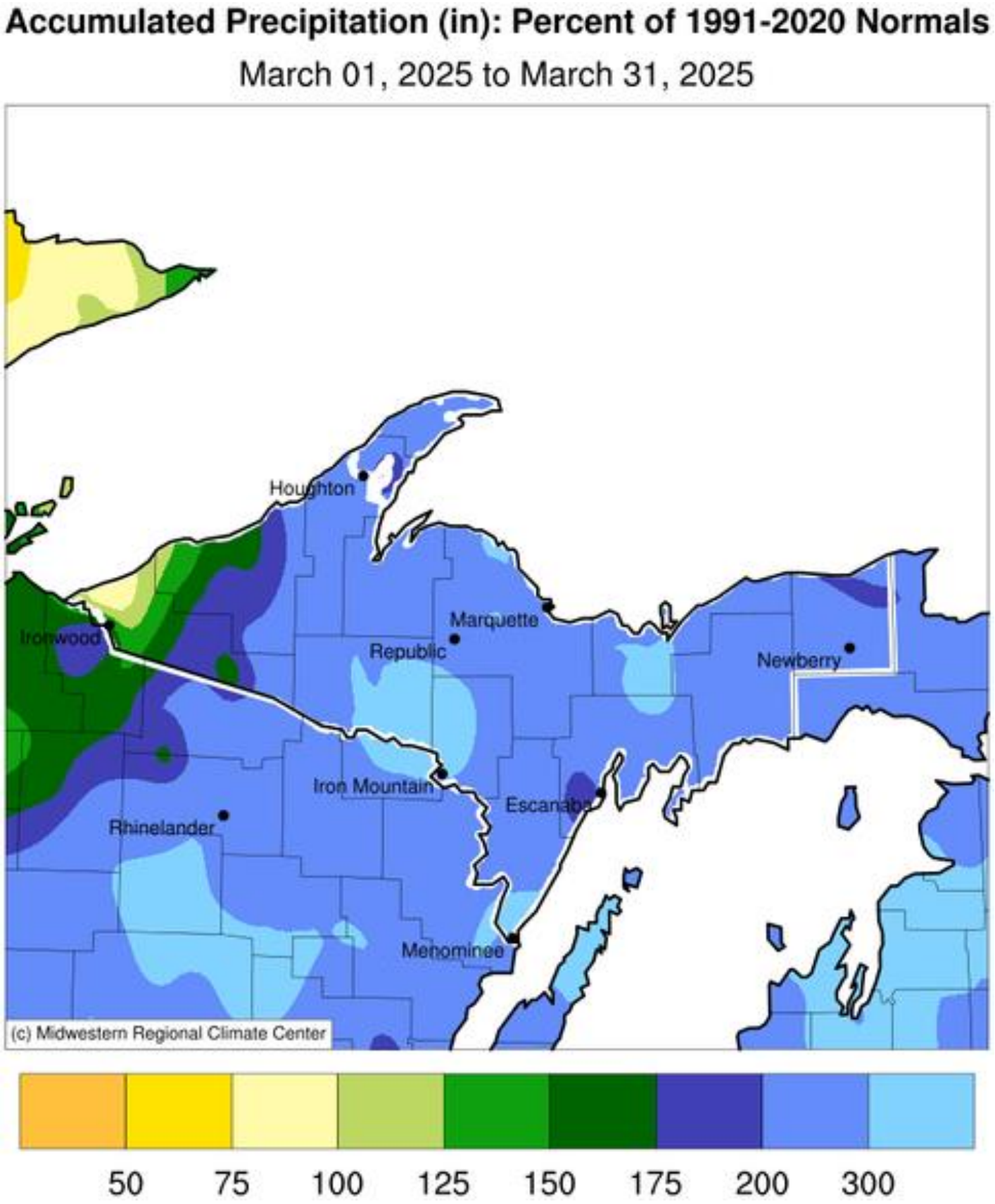

Figure 6: March 2025 Percent of Normal of Accumulated Precipitation. Image generated April 15th , 2025 from the Midwestern Regional Climate Center.

Soil Moisture Anomaly

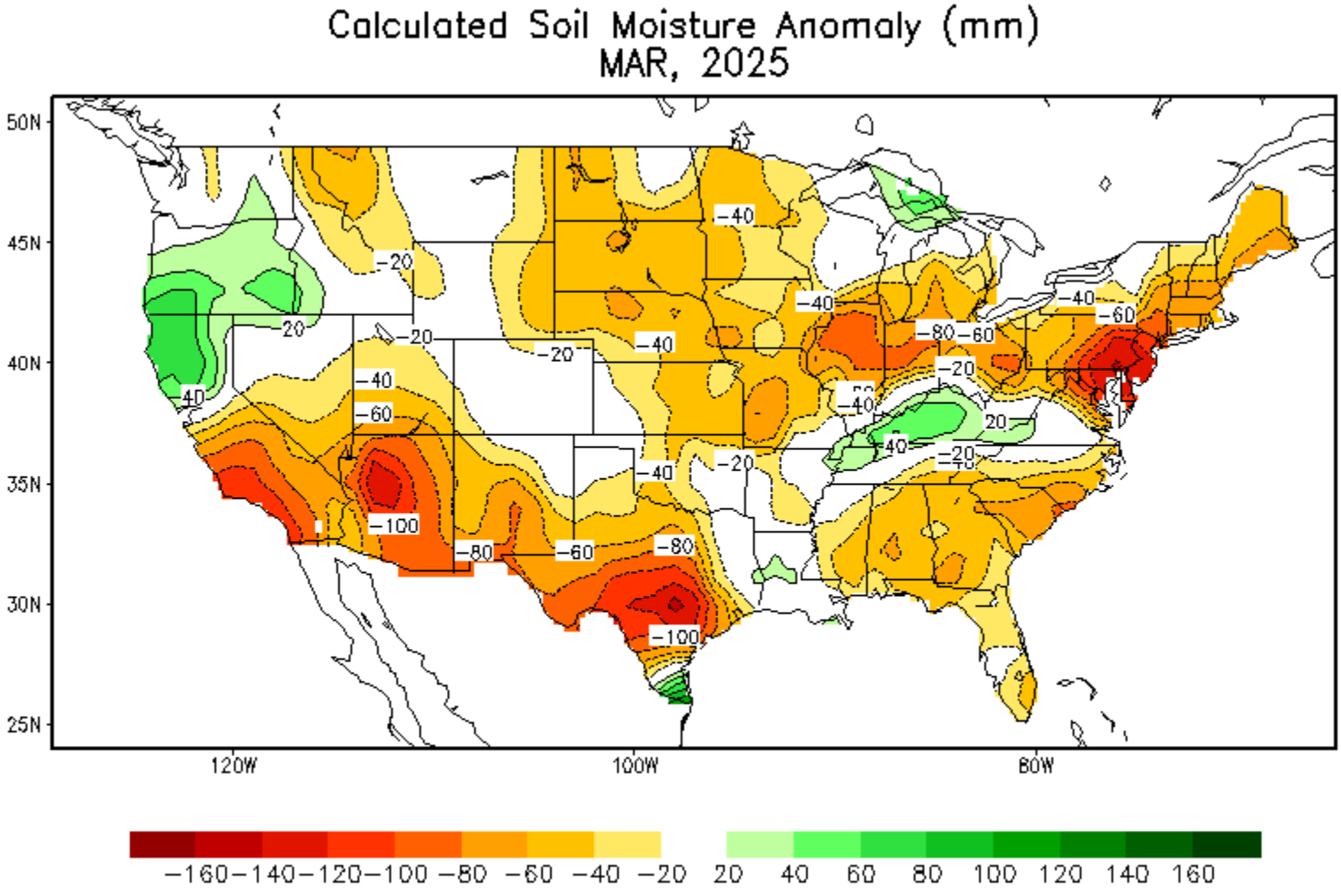

Figure 7: Climate Prediction Center's monthly average soil moisture anomaly for March 2025.

Shallow and Deep Soil Moisture Percentiles

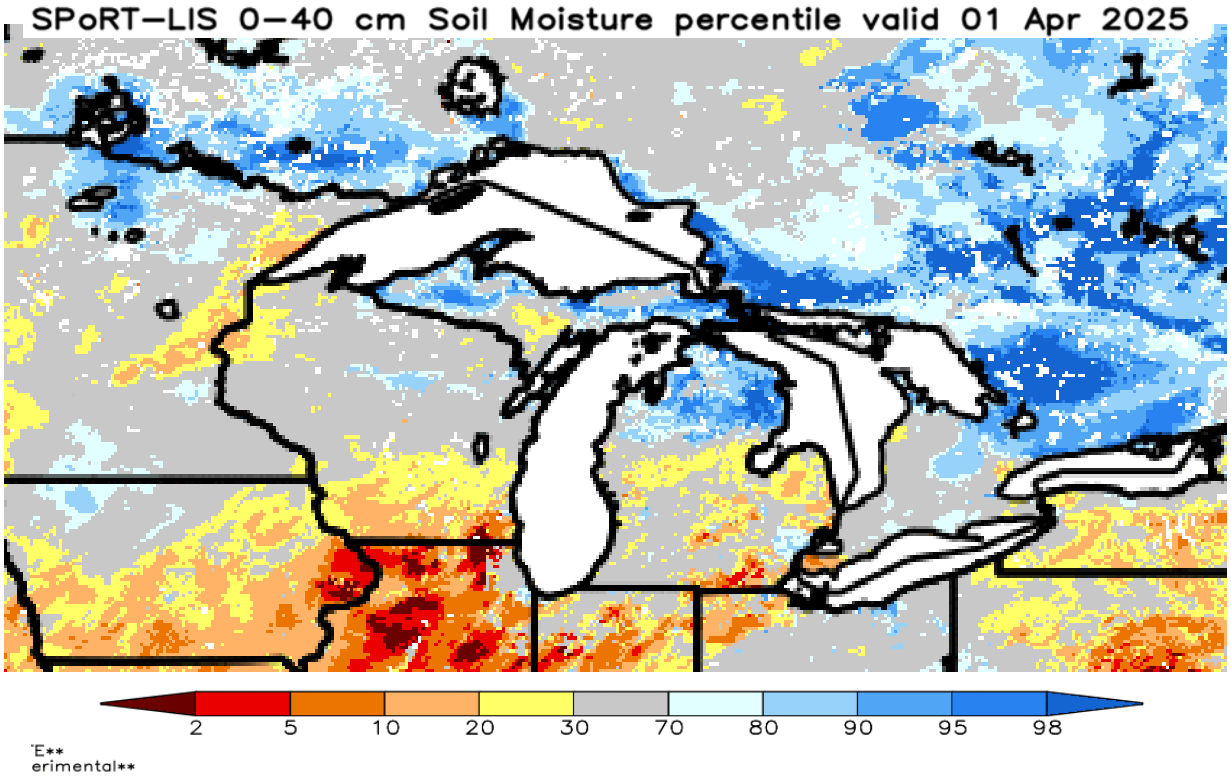

Figure 8: NASA's Short-term Prediction Research and Transition (SPoRT) Center's shallow (0-40 cm) soil moisture percentile valid April 1st, 2025.

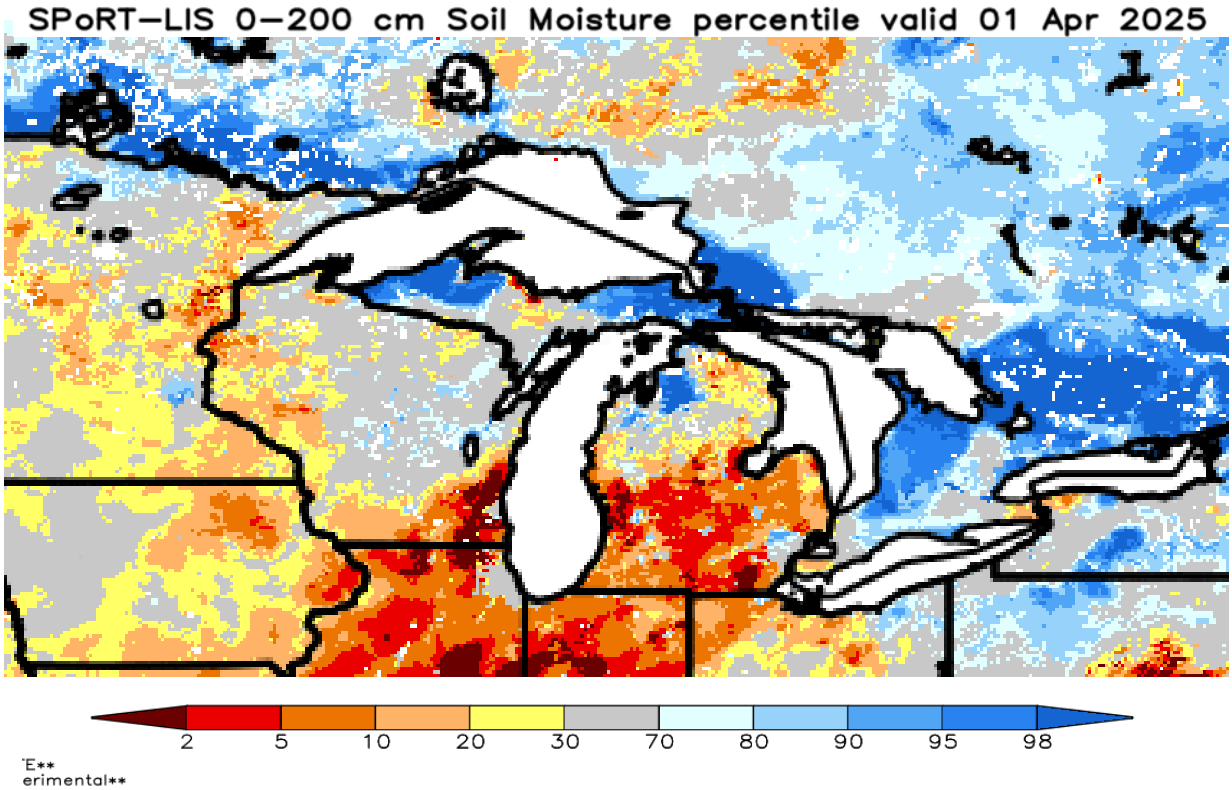

Figure 9: NASA's Short-term Prediction Research and Transition (SPoRT) Center's deep (0-200 cm) soil moisture percentile valid April 1st, 2025.