Monthly Report of River and Flood Conditions

Report for January 2023

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): **January 2023** DATE: **February 11th, 2023** SIGNATURE: **Evan Kutta, 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).	

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

Summary

Near to above normal precipitation occurred across Upper Michigan during January. Wet snow events on January 3-4 and the 19th accounted for the majority of precipitation observed across eastern Upper Michigan during January. The Keweenaw and western Upper Michigan mostly missed out on these wet snow events, but still managed near to above normal precipitation for the month from lake effect snow mainly during the final week of the month. Lake effect snow was limited elsewhere due to much above normal temperatures that averaged 7.0°F above normal at our office in Negaunee Township and likely contributed to much above normal streamflow across portions of Upper Michigan during January.

Location	Precipitation	% of Normal	Snowfall
WFO Marquette	4.56”	196%	40.5”
Marquette City	2.30”	124%	18.1”
Calumet-Tamarack	2.34”	M	35.2”
Ironwood	3.15”	161%	29.7”
Iron Mountain	1.89”	139%	12.0”
Manistique	2.68”	158%	13.0”
Munising	3.39”	96%	37.9”
Stambaugh	1.78”	163%	16.1”

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

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Report for January 2023

Flooding Conditions

There were no flooding concerns during the month of January.

Media Links

None.

River Conditions

Warm temperatures and above normal temperatures during January resulted in near to above normal streamflow across Upper Michigan with the highest flows relative to normal across the Keweenaw Peninsula and the Tahquamenon basin.

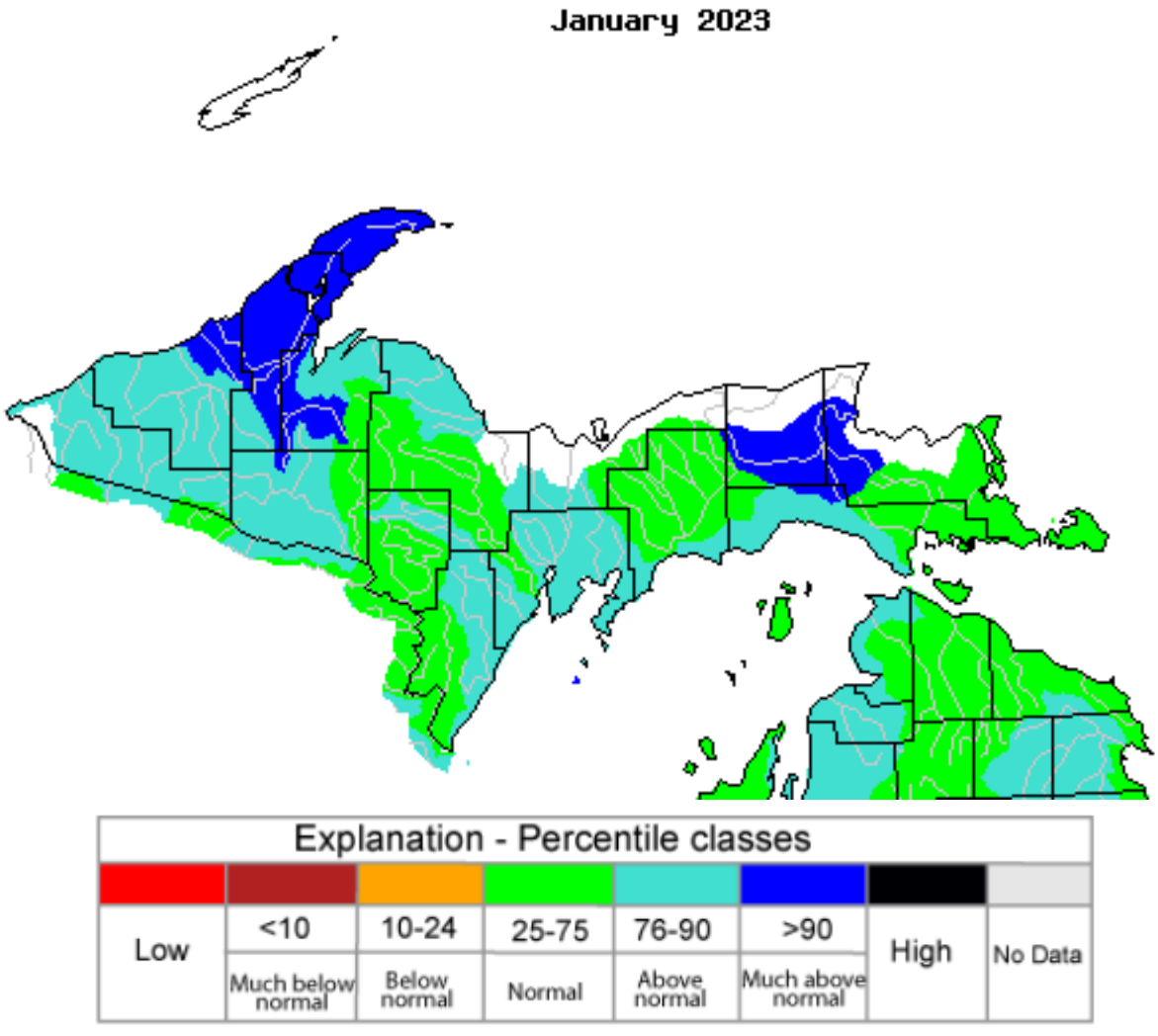

Figure 1: USGS monthly average streamflow during January 2023 across Upper Michigan

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Report for January 2023

Snowpack SWE (Snow Water Equivalent) Conditions

Snowpack across the UP is near long term median values with SWE values of 1-4 inches across most of the UP and 4-8 inches for the favored lake effect snow belts across the northwestern UP and near Munising.

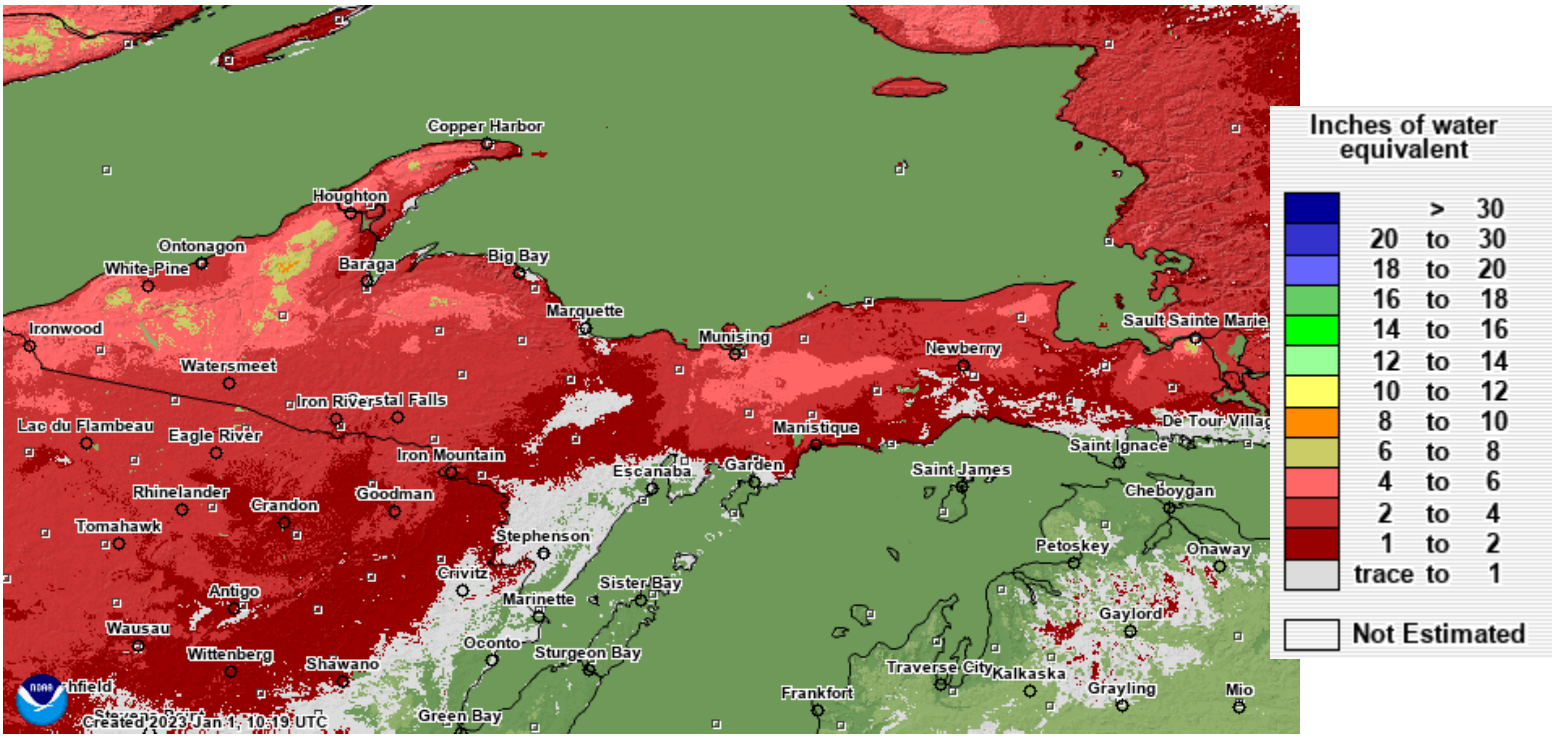

Figure 2: Current modeled snowpack snow water equivalent on February 1st, 2023.

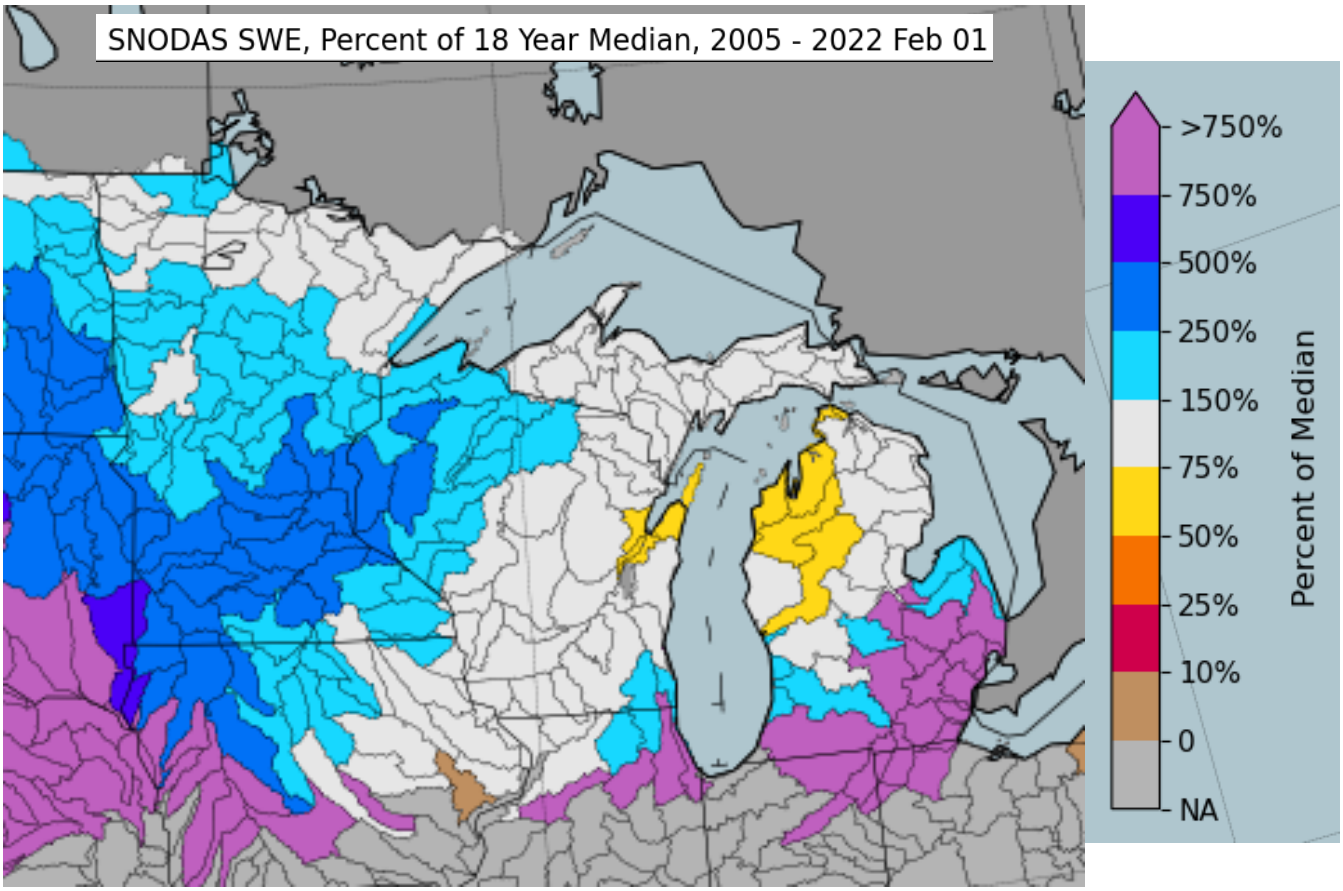

Figure 3: Modeled snow water equivalent for drainage basins on February 1st as a percent of 18-year median.

Monthly Report of River and Flood Conditions

Report for January 2023

Drought Discussion

No drought was present across west-central Upper Michigan at the end of January. For the latest drought status, please visit http://www.drought.gov.

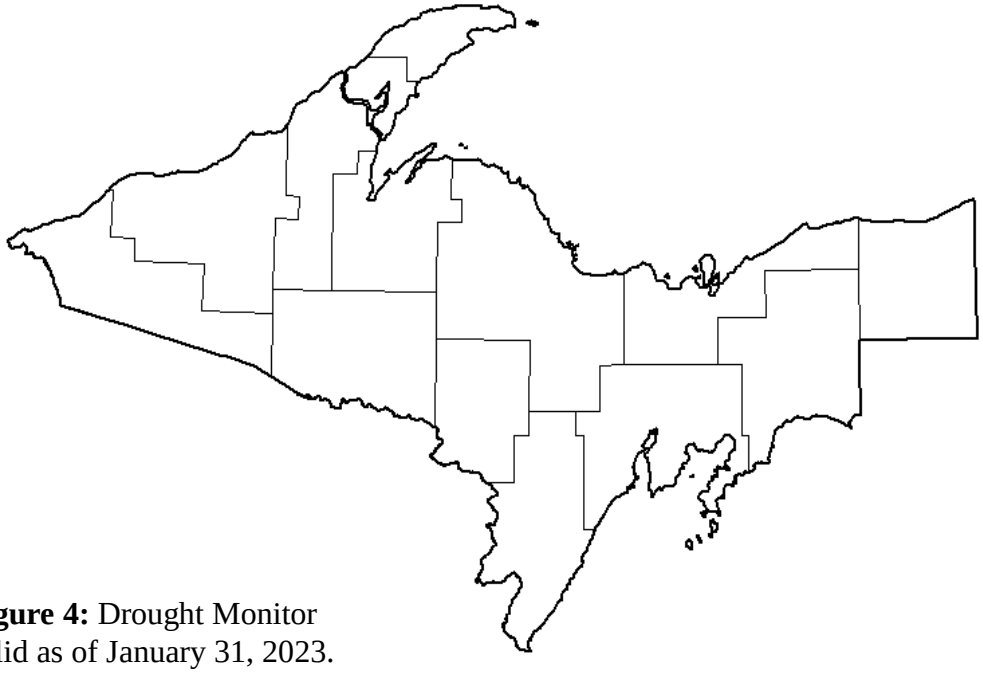

Figure 4: Drought Monitor valid as of January 31, 2023.

February 7, 2023

(Released Thursday, Feb. 9, 2023)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week 01-31-2023	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago 11-08-2022	88.84	11.16	1.12	0.00	0.00	0.00
Start of Calendar Year 01-03-2023	93.80	6.20	0.00	0.00	0.00	0.00
Start of Water Year 09-27-2022	88.48	11.52	1.94	0.00	0.00	0.00
One Year Ago 02-08-2022	45.20	54.80	27.69	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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National Drought Mitigation Center

droughtmonitor.unl.edu

Hydro Products Issued

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

Precipitation Summary

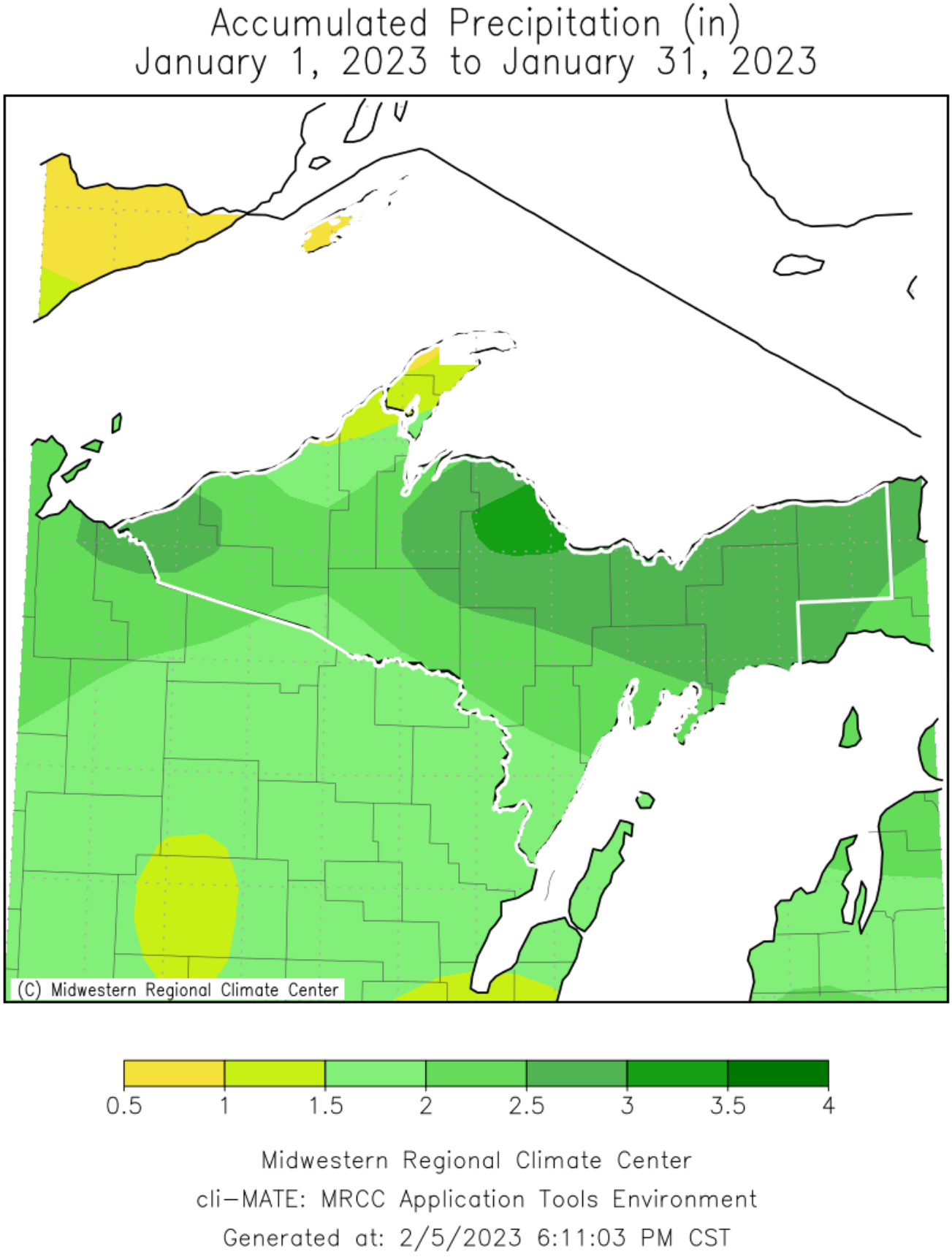

Figure 5: January 2023 Monthly Precipitation Totals.

Precipitation Summary Continued

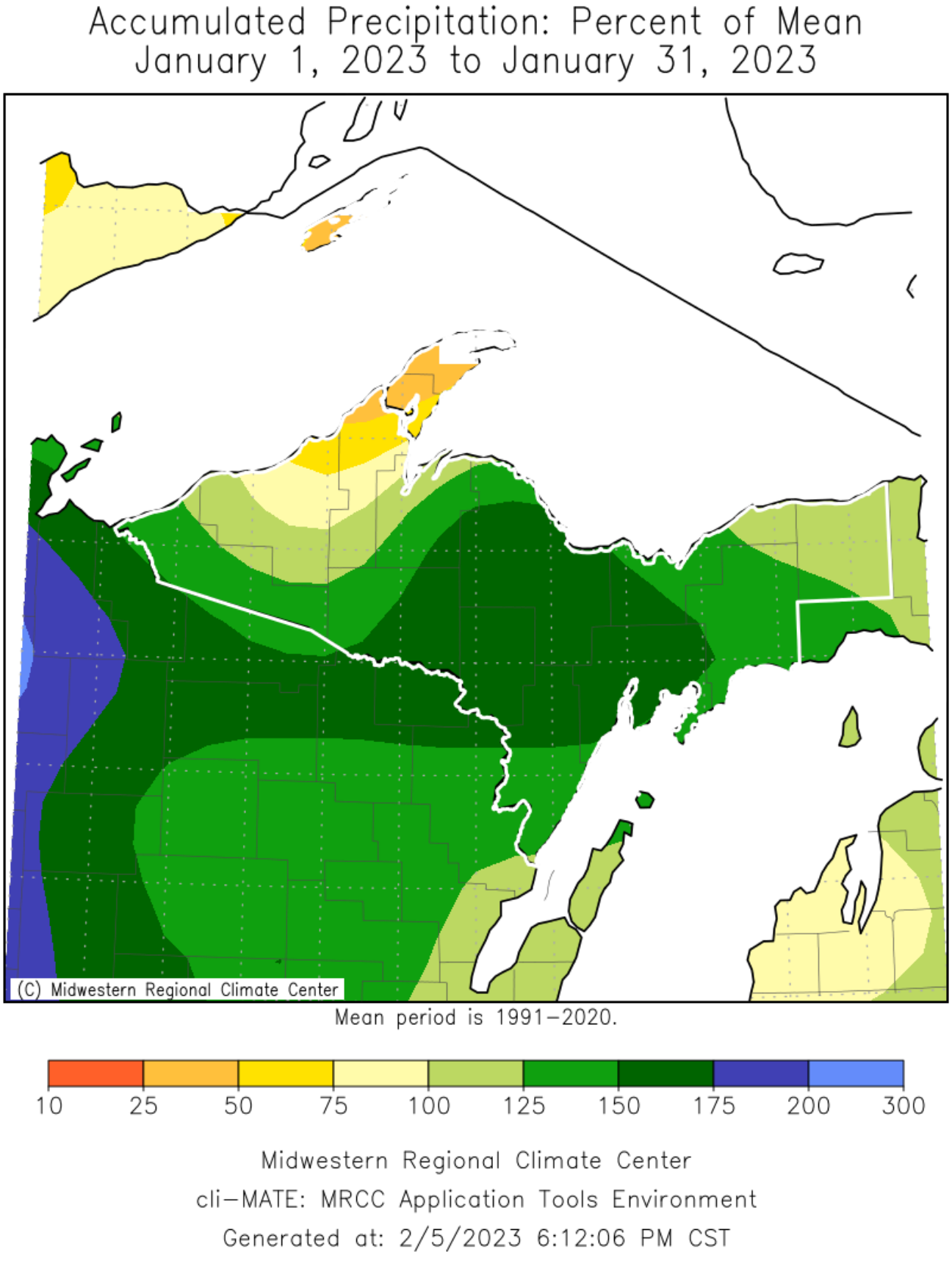

Figure 6: January 2023 Percent of Normal of Accumulated Precipitation.

Soil Moisture Anomaly

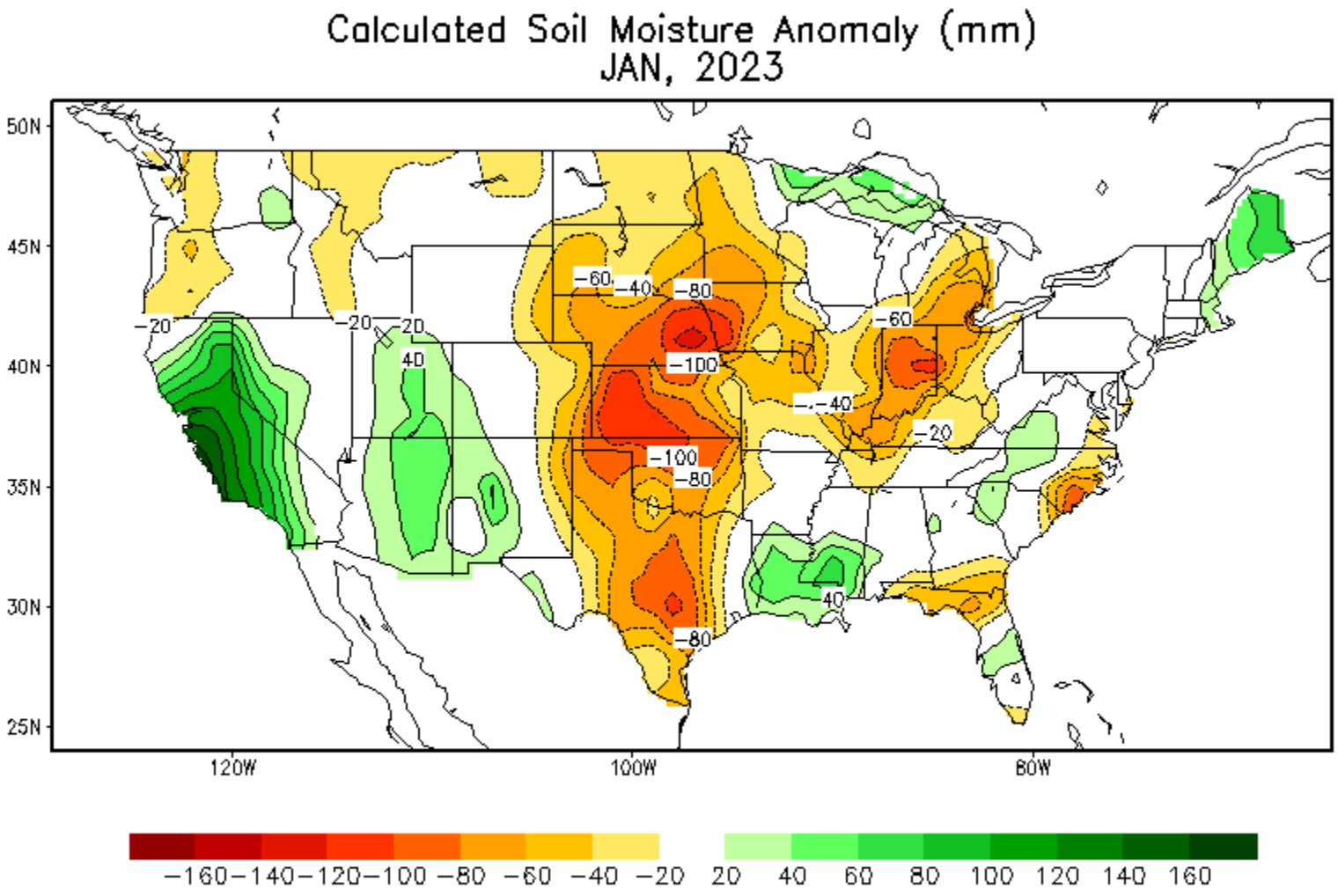

Figure 7: Climate Prediction Center's monthly average soil moisture anomaly for January 2023.

Shallow and Deep Soil Moisture Percentiles

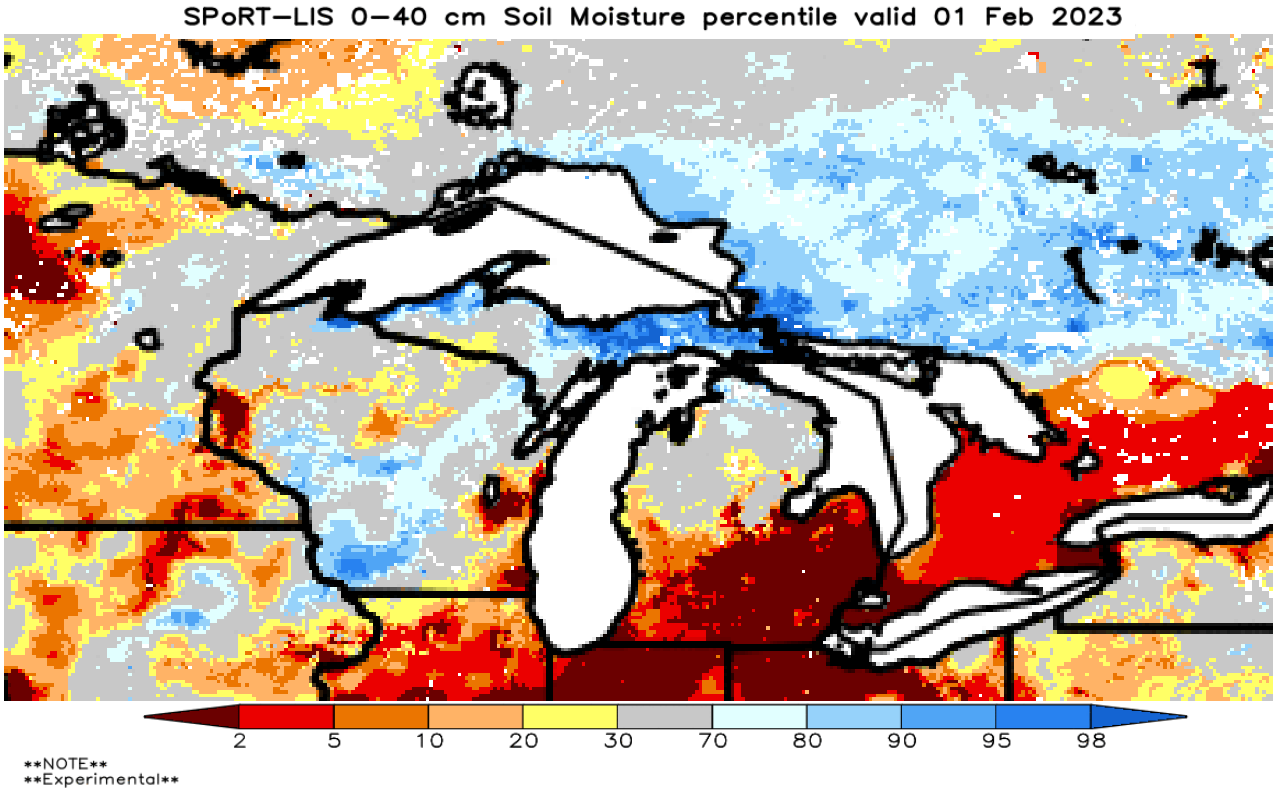

Figure 8: NASA's Short-term Prediction Research and Transition (SPoRT) Center's shallow (0-40 cm) soil moisture percentile valid February 1, 2023.

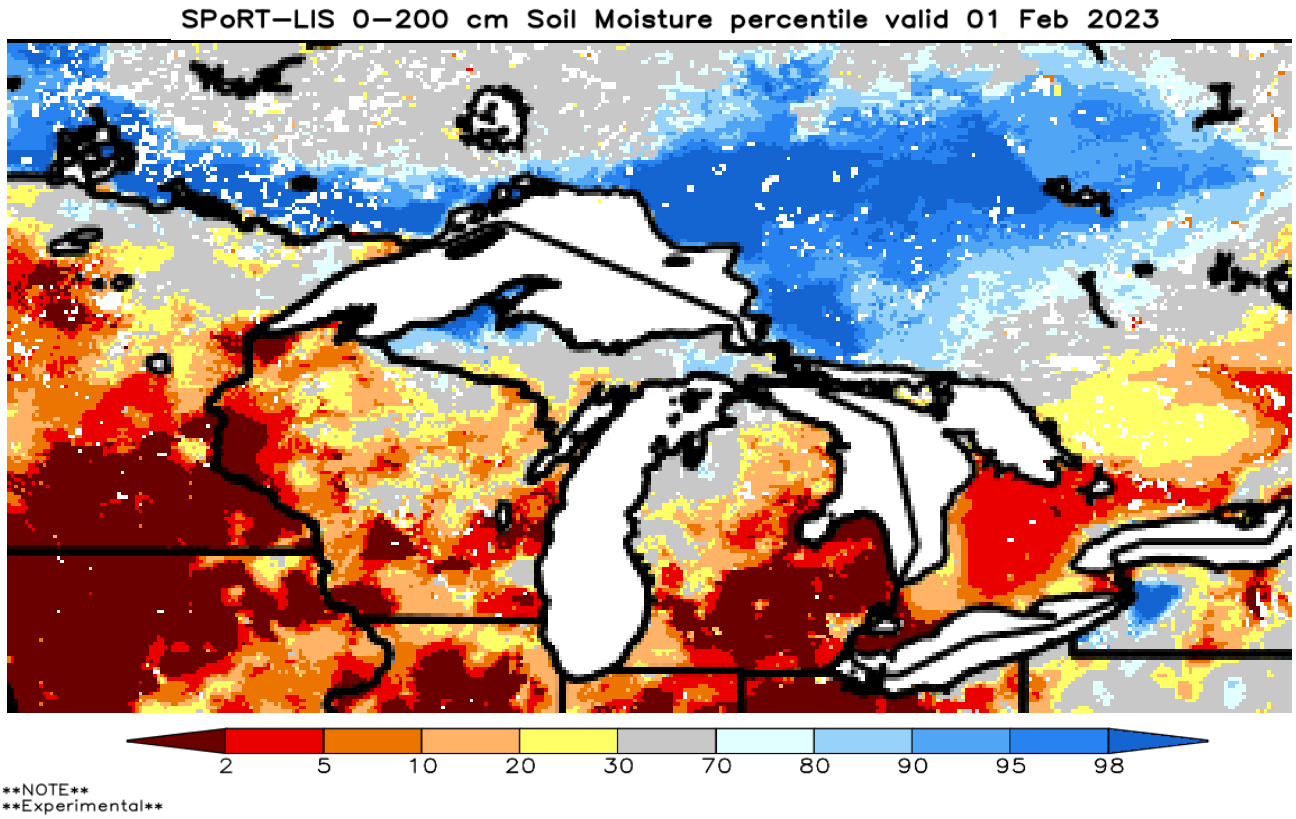

Figure 9: NASA's Short-term Prediction Research and Transition (SPoRT) Center's deep (0-200 cm) soil moisture percentile valid February 1, 2023.