

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): November 2020
	DATE: December 6th, 2020
	SIGNATURE: Jordan Wendt, 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

Looking at the statistics for November, precipitation was mostly near-normal, except for far western Upper Michigan (Figure 4). Looking at the daily observations, most of this precipitation occurred during the beginning and middle portions of the month, before the last third of the month was quite dry. This dry stretch has continued into the start of December with minimal precipitation chances expected through the middle of the month.

Location	Precipitation	% of normal	Snowfall
WFO Marquette	2.78"	87%	10.0"
Marquette City	2.50"	95%	0.5"
Quincy Hill	2.28"	M	9.7"
Ironwood	1.87"	69%	8.5"
Iron Mountain	2.24"	115%	0.5"
Manistique	2.95"	119%	5.0"
Munising	4.09"	109%	9.5"
Stambaugh	2.22"	118%	1.8"

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

Flooding Conditions

Aside from some bankfull conditions at the Sturgeon River near Nahma Junction (NJNM4), no river flooding concerns occurred during the month of November across Upper Michigan.

River Conditions

Most basin's streamflow across Upper Michigan remained above-normal with basins draining into Lake Michigan averaging much above-normal (Figure 1). Two, mid-November systems brought a combined 1 to 2 inches of precipitation along the Bay of Green Bay and Lake Michigan, which likely lead to the higher flows.

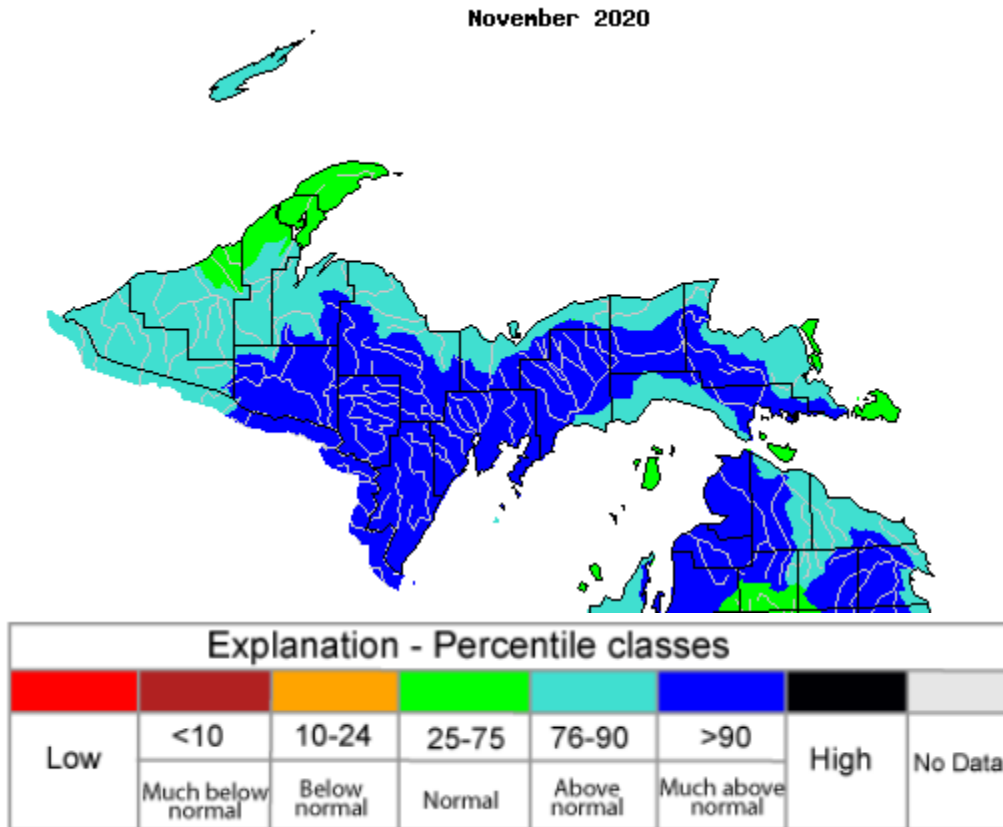


Figure 1: USGS monthly average streamflow in November 2020 across Upper Michigan

Snowpack Discussion

By the end of November, a lot of October's snowfall had melted, with most of the lake-effect snowbelt regions in the trace to 2 inches of snow depth range. The higher terrain of Marquette and Baraga counties have a little more, up to about 5 inches of depth.

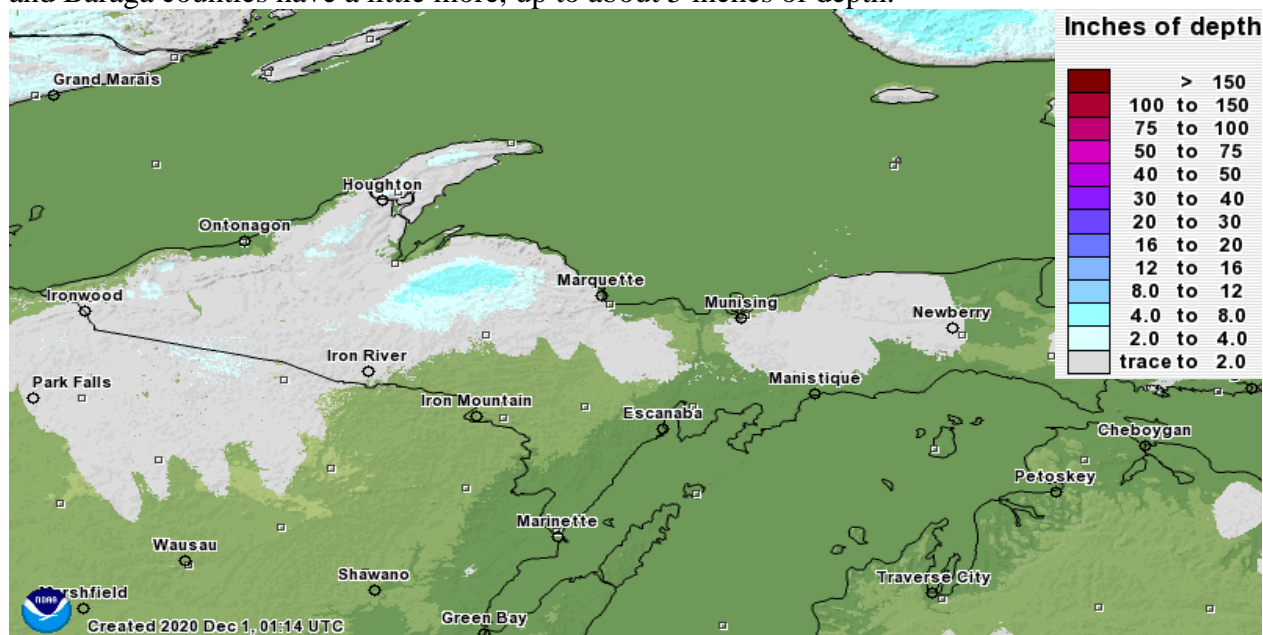


Figure 2: National Operational Hydrologic Remote Sensing Center's modeled snow depth

Drought Discussion

There were no areas of drought across Upper Michigan in November, or at this time. For the latest drought status, please go to <http://www.drought.gov>.

Media Links

None.

Hydro Products Issued

- 0 – Hydrologic Outlook (ESF)
- 0 – Flood Watch (FFA)
- 0 – Flood Warning (FLW)
- 3 – Flood Advisories and Statements (FLS)
- 0 – Flash Flood Warning (FFW)
- 0 – Flash Flood Statement (FFS)
- 30 – Hydrologic Summary (RVA)
- 0 – Daily River Forecasts (RVD)

Accumulated Precipitation (in)
November 1, 2020 to November 30, 2020

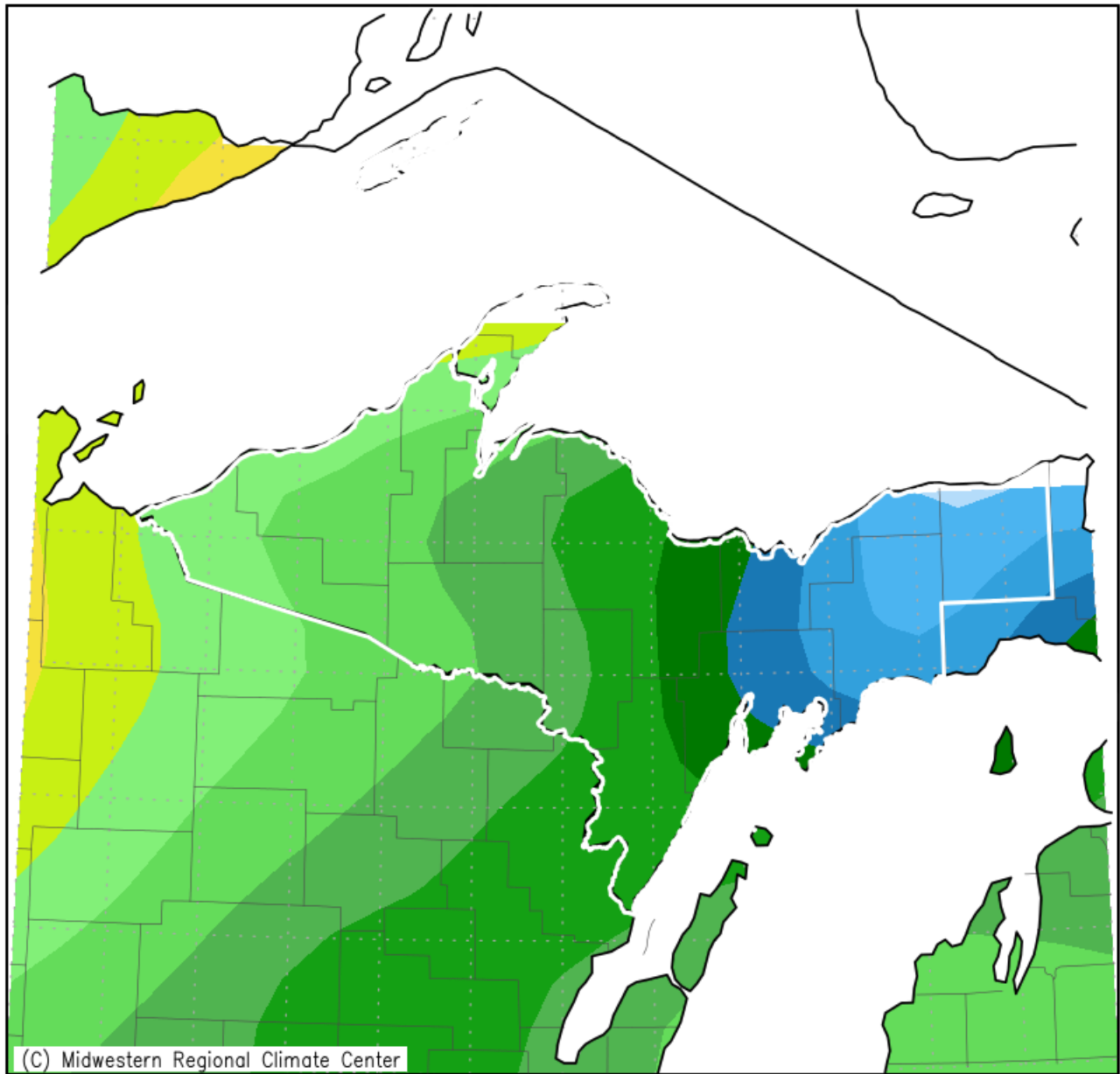
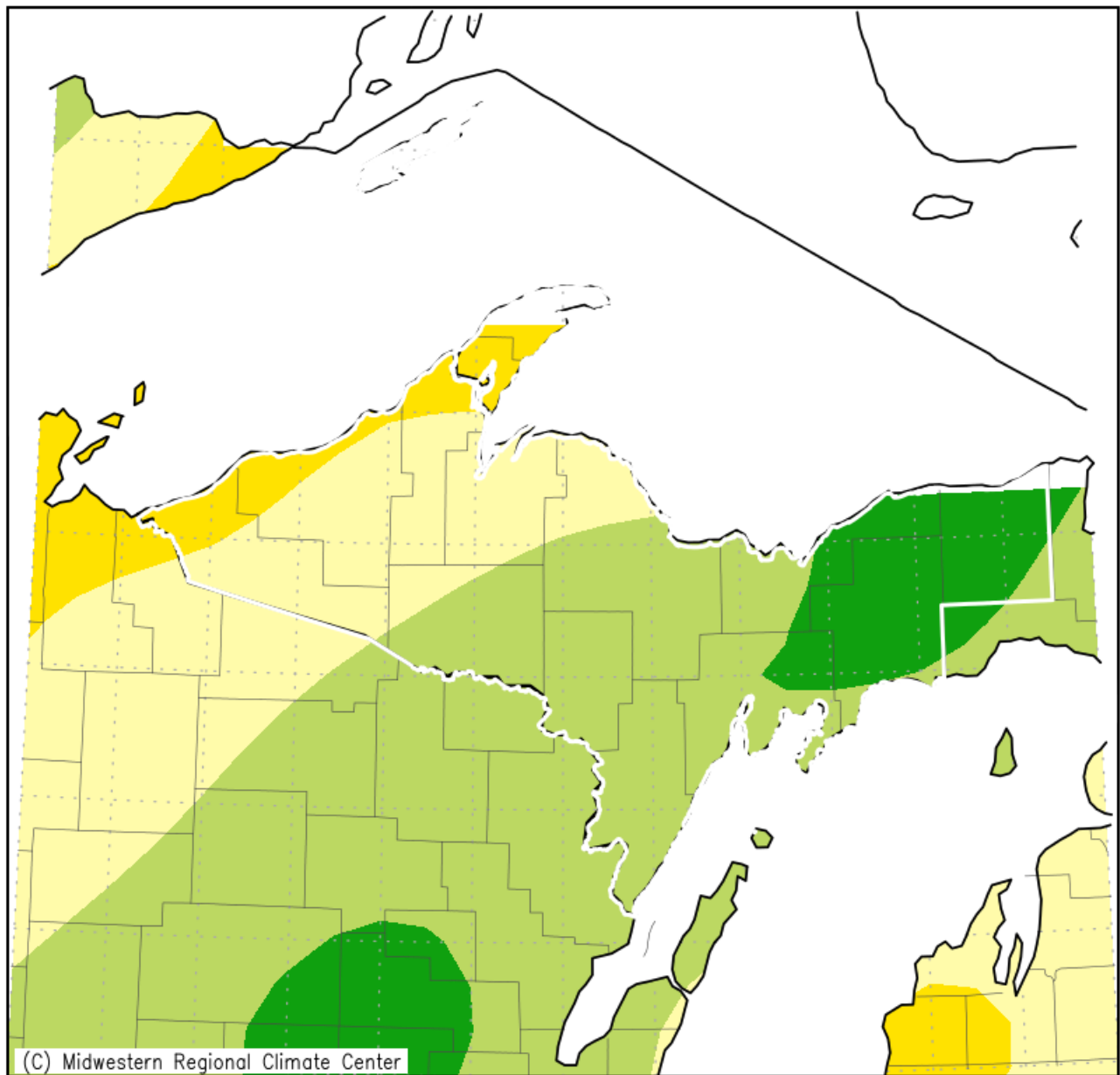


Figure 3: November 2020 Monthly Precipitation Totals.

Accumulated Precipitation: Percent of Mean November 1, 2020 to November 30, 2020



Mean period is 1981–2010.

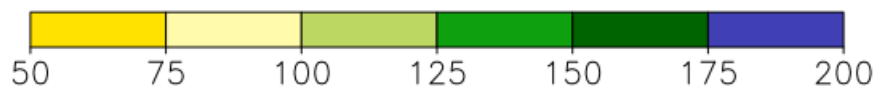


Figure 4. November 2020 Percent of Normal of Accumulated Precipitation

Calculated Soil Moisture Anomaly (mm) NOV, 2020

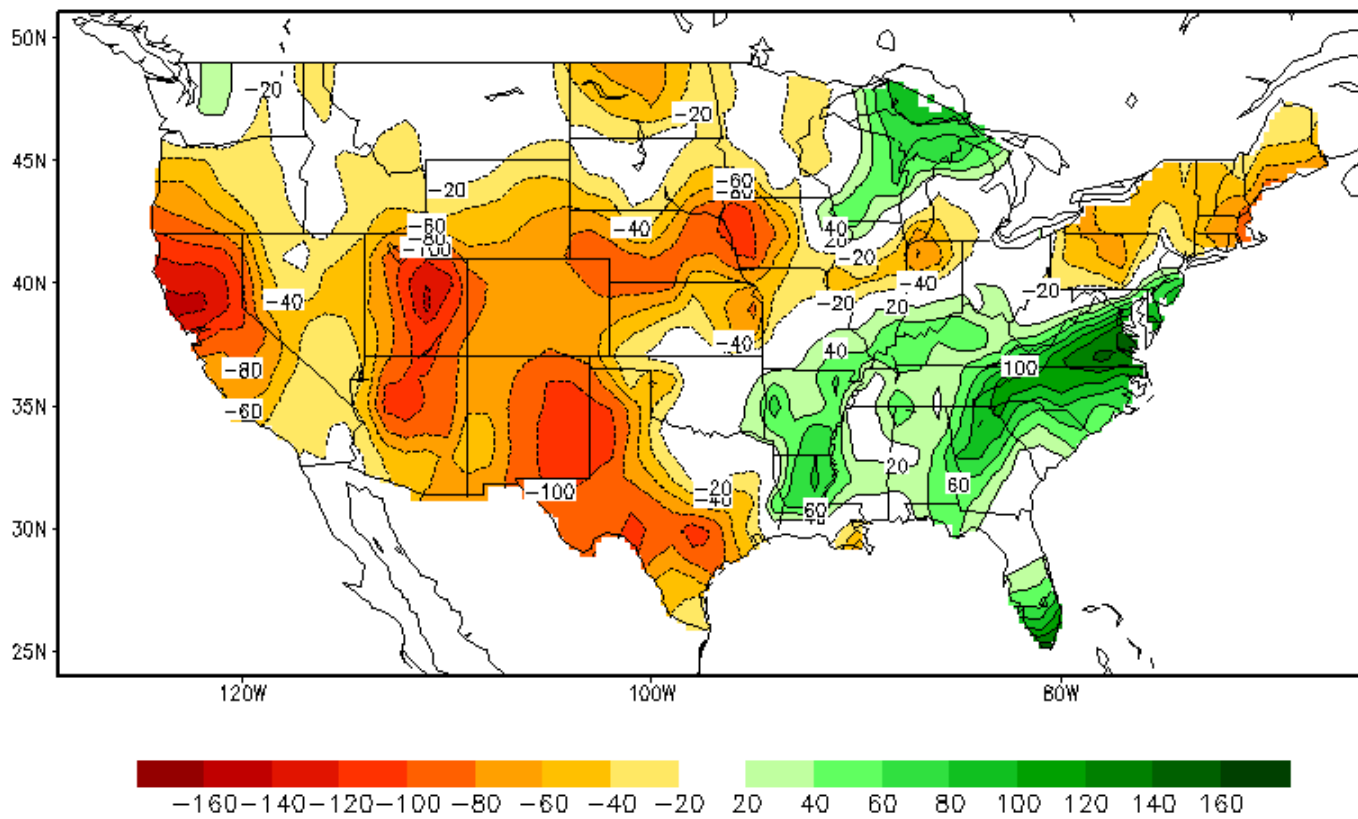


Figure 5: Climate Prediction Center's monthly average soil moisture anomaly for November 2020