



Monthly Report of River and Flood Conditions

Report for September 2021

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): September 2021
	DATE: October 15th, 2021
	SIGNATURE: Linda Gilbert, Lead Meteorologist Robin J. Turner, Meteorologist-In-Charge
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

A fairly benign month from a hydrologic perspective meant that for much of Upper Michigan, precipitation amounts ended up running just below normal for September. Notably, many locations across the Upper Peninsula are abnormally dry (D0 per the U.S. Drought Monitor) with the far western portions experiencing even drier conditions comparatively to elsewhere. A quick glance at yearly precipitation amounts shows that the area has been persistently drier than normal with several inches of deficit since January. As indicated on the next page, streamflows generally ran near normal for the month of September despite the ongoing deficits in rainfall overall.

Location	Precipitation	% of Normal	Snowfall
WFO Marquette	3.01	76	0.0
Marquette City	2.60	78	0.0
Quincy Hill	4.34	M	0.0
Ironwood	4.02	105	0.0
Iron Mountain	2.69	75	0.0
Manistique	2.57	69	0.0
Munising	4.10	97	0.0
Stambaugh	3.16	91	0.0

NOTE: Precipitation after 8 AM EST September 30th was counted in October stats for all but the WFO Marquette site due to the reporting structure of our cooperative observers.



Flooding Conditions

There were no flooding concerns during the month of September.

River Conditions

Basin streamflow relative to normal.

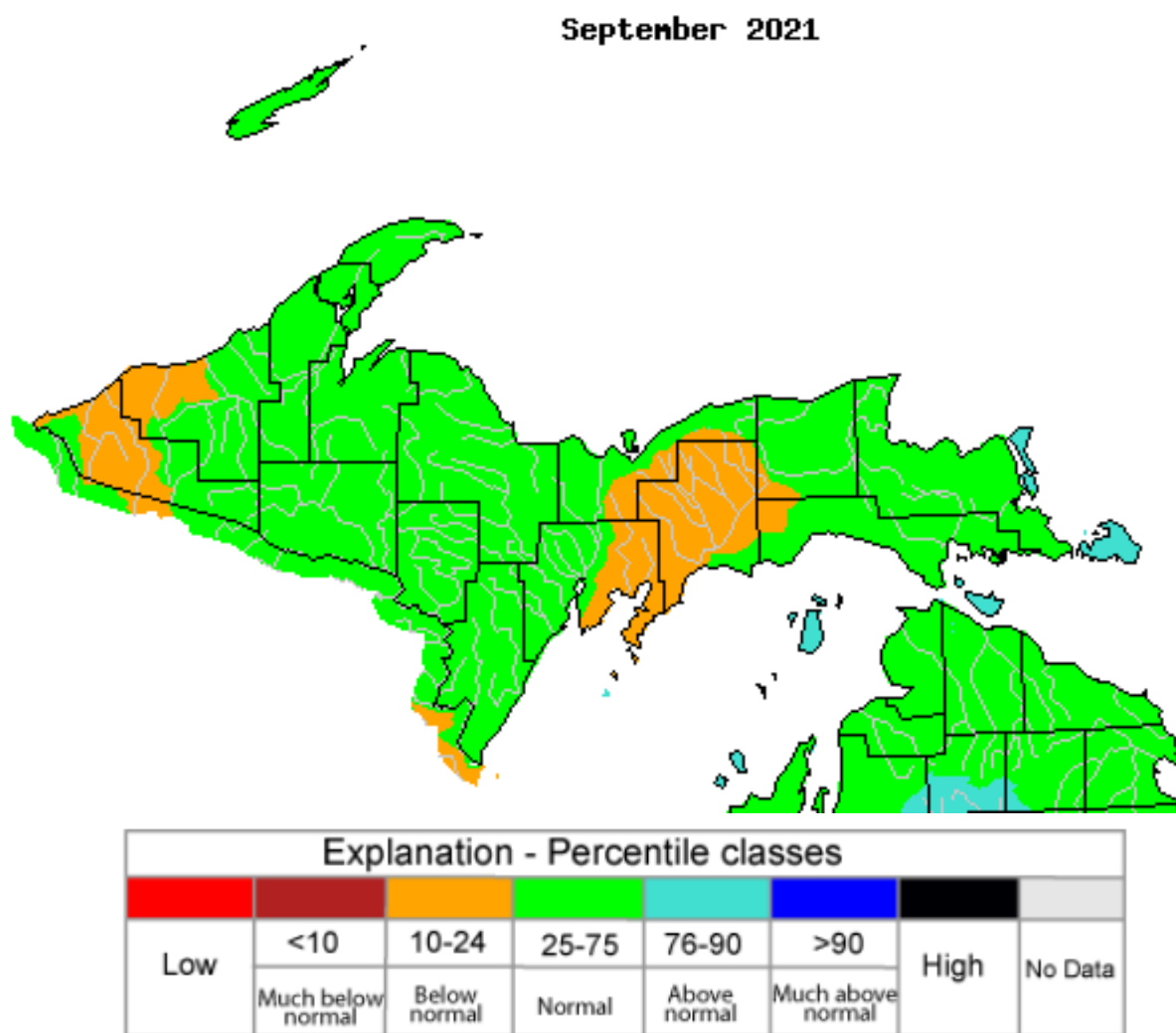


Figure 1: USGS monthly average streamflow in September 2021 across Upper Michigan.



Snowpack Conditions

No snow has fallen/accumulated yet for the season.

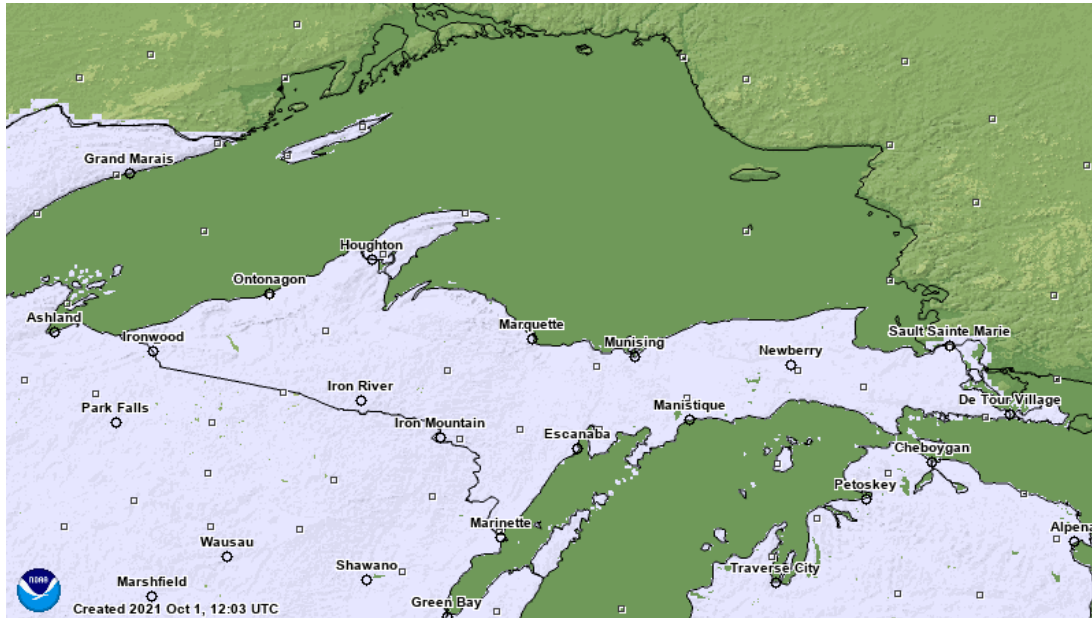
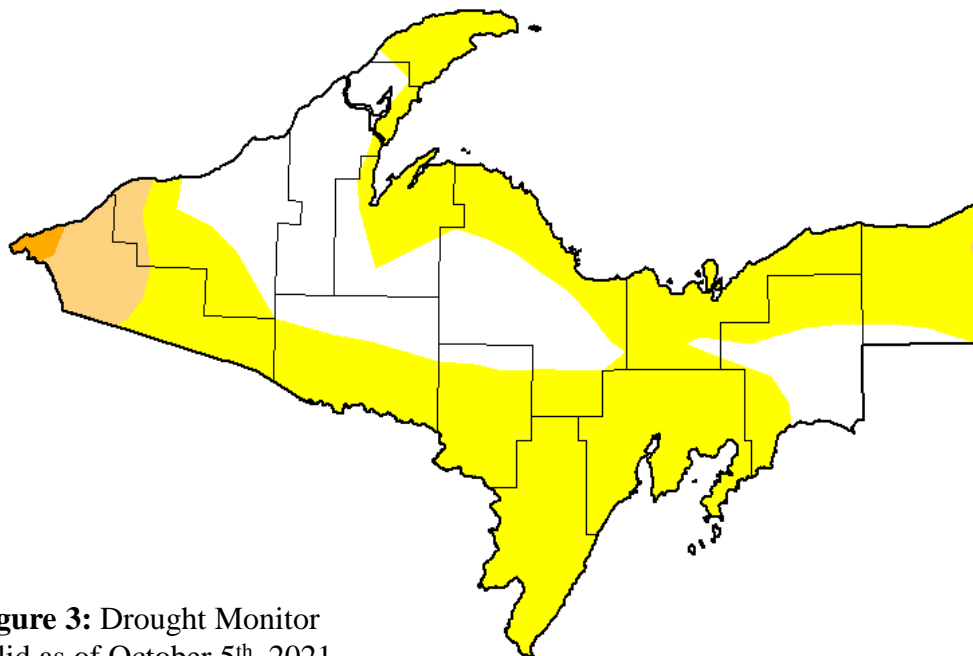


Figure 2: Departure from normal snow depth on October 1st.

Drought Discussion

Abnormally dry conditions have impacted much of Upper Michigan to round out the end of September. The driest conditions have been observed in the far western portions of the U.P. For the latest drought status, please visit <http://www.drought.gov>.



October 5, 2021
 (Released Thursday, Oct. 7, 2021)
 Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	30.73	69.27	6.78	0.49	0.00	0.00
Last Week 09-28-2021	51.73	48.27	6.70	0.49	0.00	0.00
3 Months Ago 07-06-2021	55.53	44.47	7.76	0.00	0.00	0.00
Start of Calendar Year 12-29-2020	100.00	0.00	0.00	0.00	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 10-06-2020	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:
 None (White) D2 Severe Drought (Orange)
 D0 Abnormally Dry (Yellow) D3 Extreme Drought (Red)
 D1 Moderate Drought (Light Orange) D4 Exceptional Drought (Dark Red)

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



Figure 3: Drought Monitor valid as of October 5th, 2021.



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Media Links

None.

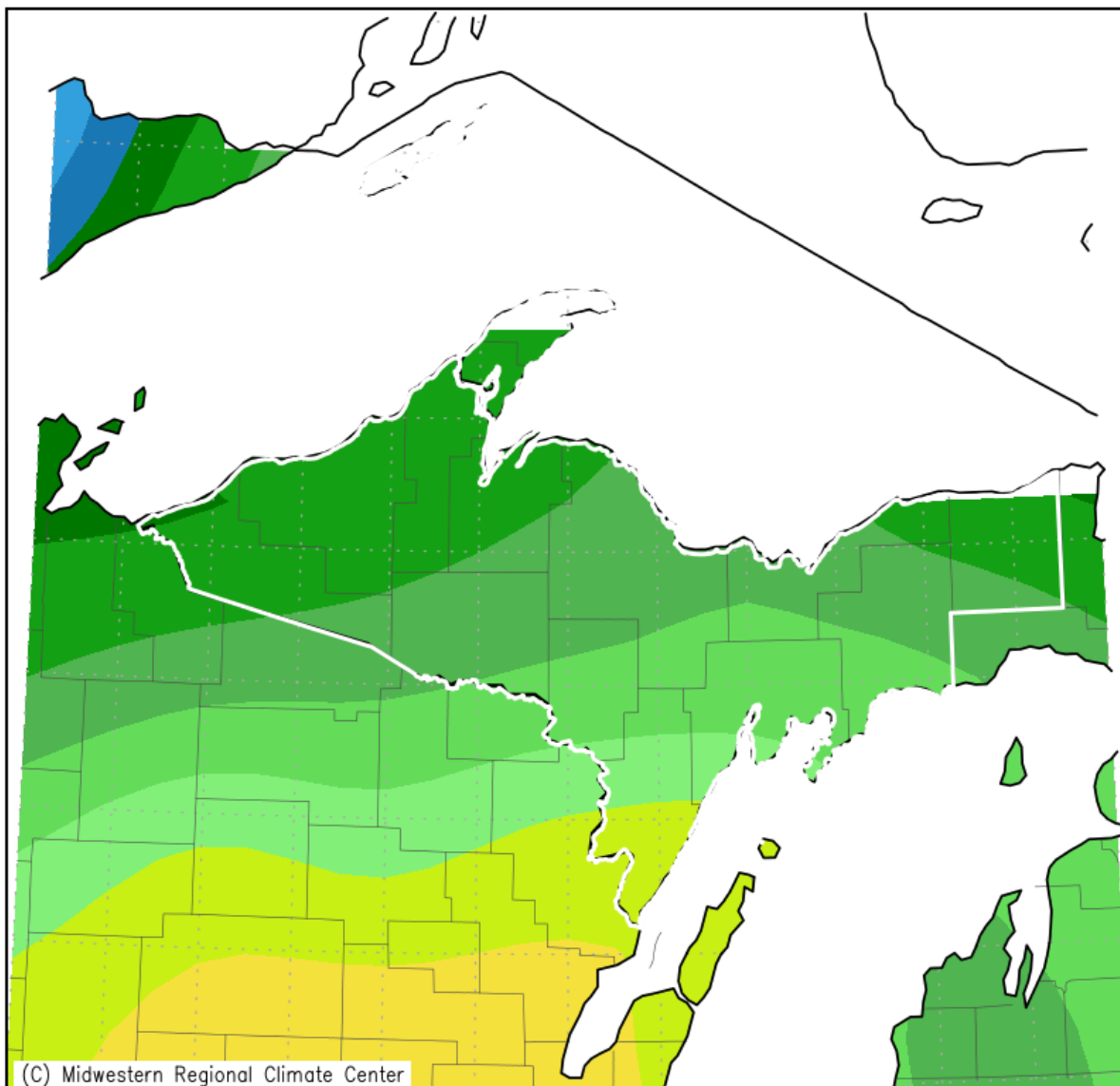
Hydro Products Issued

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)	30
Daily River Forecasts (RVD)	30

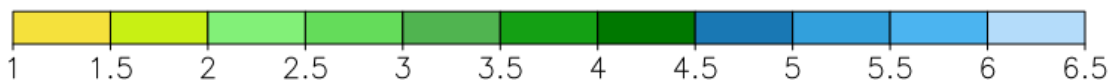


Precipitation Summary

Accumulated Precipitation (in)
September 1, 2021 to September 30, 2021



(C) Midwestern Regional Climate Center



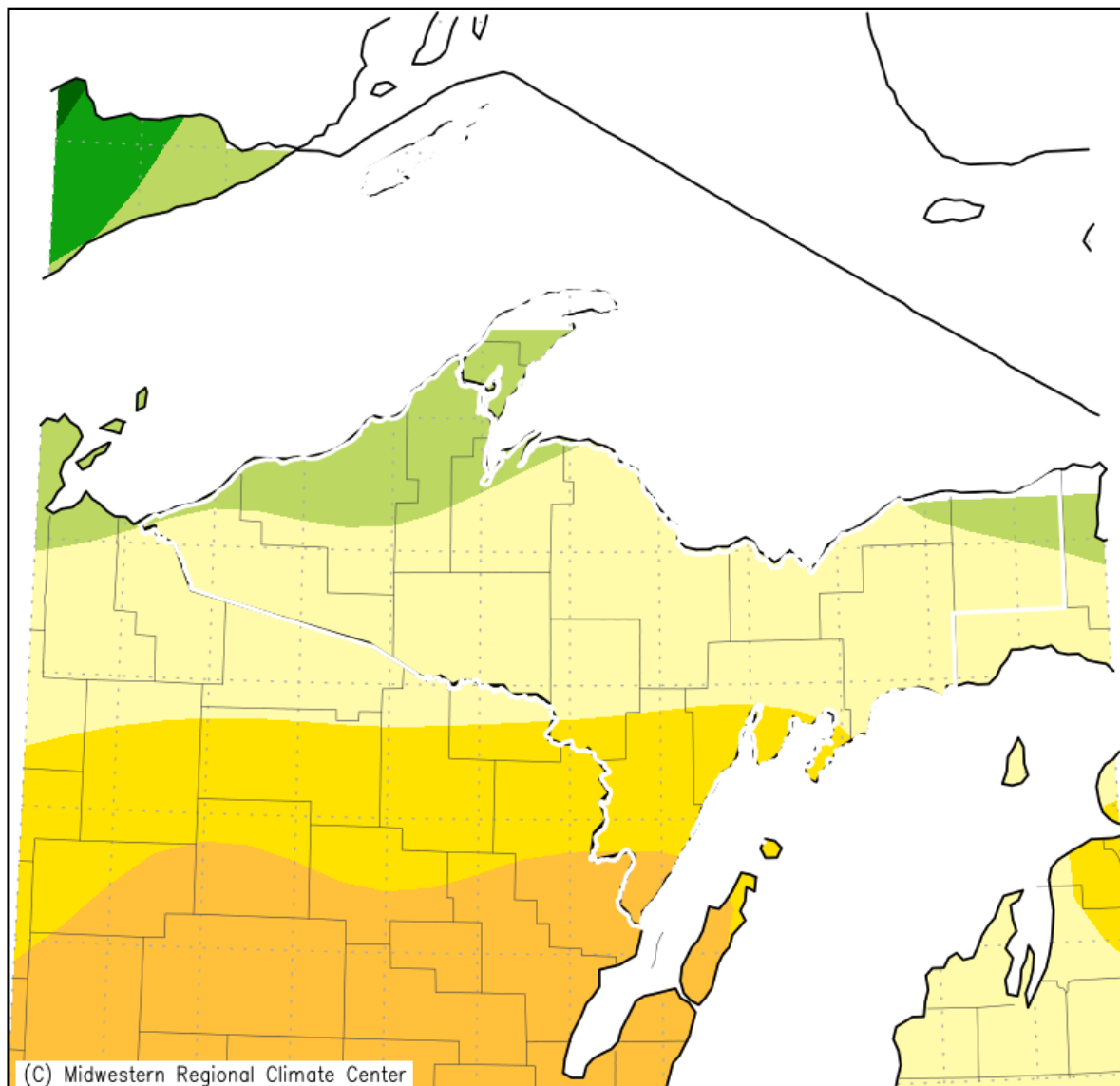
Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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Figure 4: September 2021 Monthly Precipitation Totals.

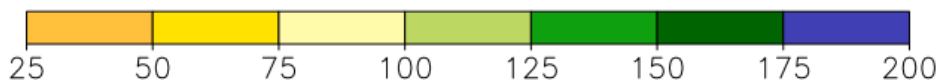


Precipitation Summary Continued

Accumulated Precipitation: Percent of Mean
September 1, 2021 to September 30, 2021



Mean period is 1991–2020.



Midwestern Regional Climate Center
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Figure 5: September 2021 Percent of Normal of Accumulated Precipitation.



Soil Moisture Anomaly

Calculated Soil Moisture Anomaly (mm)
SEP, 2021

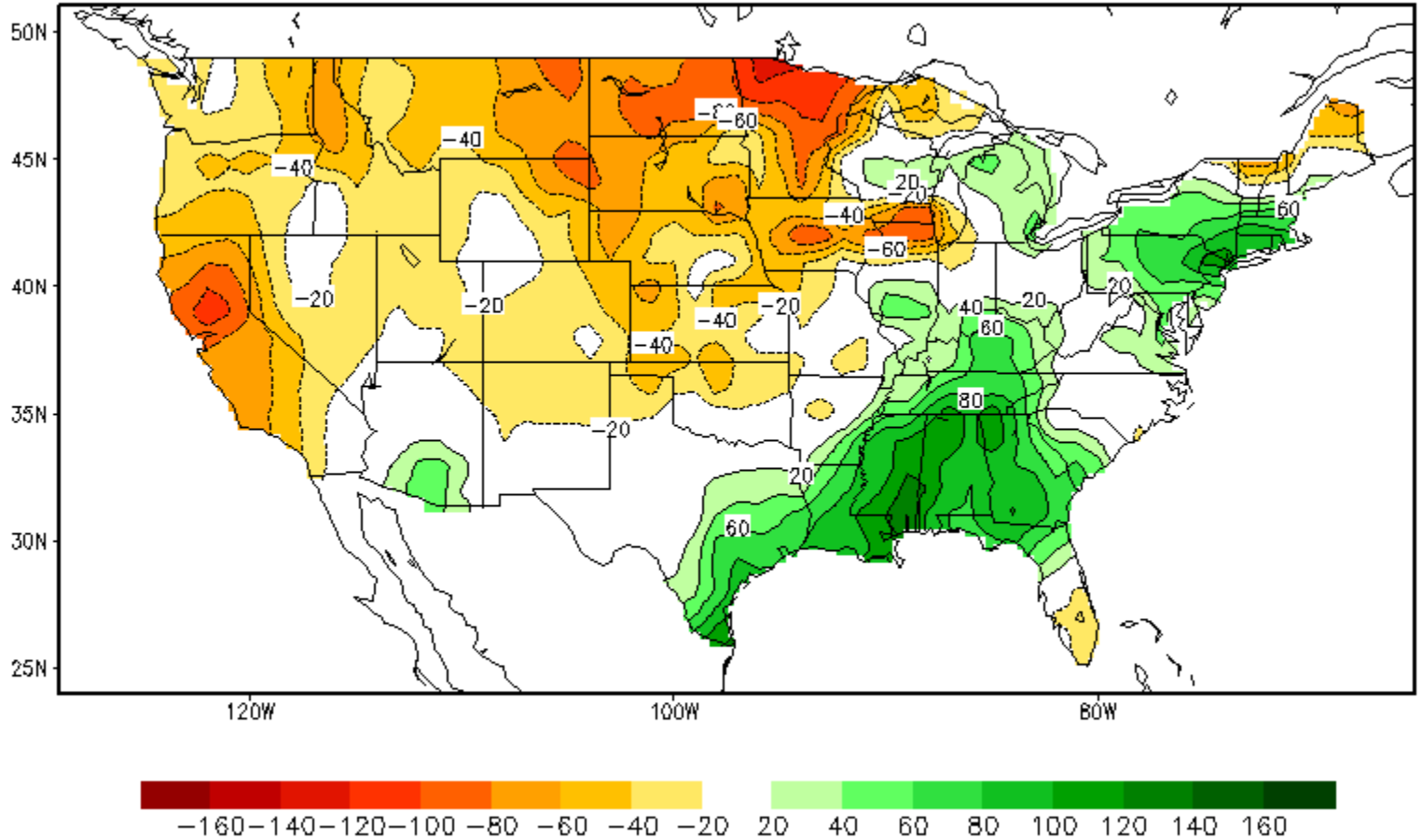


Figure 6: Climate Prediction Center's monthly average soil moisture anomaly for September 2021.