

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):
August 2019

DATE: **September 11, 2019**

SIGNATURE:
Robin J. Turner, MIC
Keith White, Hydrology Program Manager

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.

August Precipitation

For many areas, August continued the summer 2019 trend of below normal precipitation across the Upper Peninsula, generally about 65-90% of normal though lower near Ironwood. Only the Keweenaw Peninsula and portions of the east including Schoolcraft, eastern Alger, and western Luce Counties experienced above normal precipitation this month.

Early in the month, a few showers and isolated thunderstorms brought several locations 0.25-0.75+” of rain on the 2nd and 3rd, but more than half of the UP remained dry. Somewhat more widespread rain of 0.25-0.75” (isolated near 1”) came on the 5th, however less than a quarter inch fell across most of the interior west and central in this event.

On the 7th, thunderstorms brought widespread 0.5+” rain totals to portions of the east half, with isolated totals exceeding 1” and one report at Seney of over 2”. High pressure then took over, and the next rainfall event wasn’t until the 12th when some locations along the far west and the WI border west of Iron Mountain received up to about a half inch, but generally less.

Nothing more than some spotty showers was then seen until a heavy rain event impacted the western third of Upper Michigan on the 18th. Rain ranged from 0.39” at Ironwood to as high as 1.81” at Copper Harbor with this event. High pressure again took over for a while, and it wasn’t until the 26th that much of the Upper Peninsula was able to pick up some beneficial rainfall. A widespread area of >0.5” fell east of M-95, with more than one inch for almost all locations east of US-41 and nearly 2” in a swath from Manistique to Seney to northern Luce County.

Two rounds of showers and storms followed on the 27th that, per observations generally dropped <0.5”, but radar estimates indicate there were likely some scattered swaths of up to 0.75”. Another, final round on the 29th brought less than 0.25” of widespread shower activity, with a small bullseye of almost 1” near Copper Harbor.

Below is a chart of some of the larger cities in the Upper Peninsula, with monthly precipitation in inches and the percent of normal for the month. Any notable monthly ranks are also included. See figures 1 and 2 below for a smoothed out aerial view of these data, and figures 3 and 4 for the radar-estimated precipitation data.

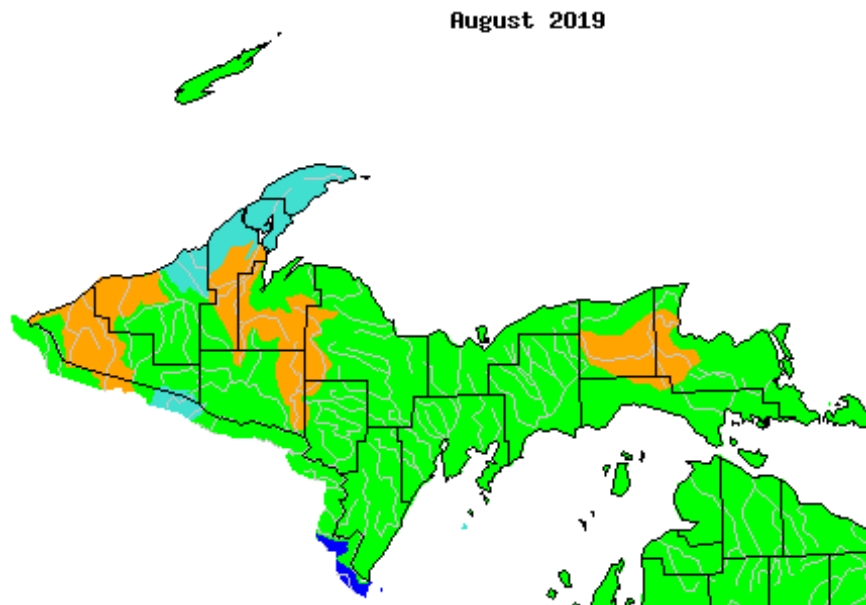
Location	Precipitation	% of normal	Rank
WFO Marquette	1.98"	65	
Marquette City	2.04"	78	
Quincy Hill	2.44"	101	
Ironwood	1.97"	58	
Iron Mountain	2.71"	83	
Manistique	4.30"	132	
Munising	3.25"	93	
Newberry	3.25"	101	
Stambaugh	2.70"	87	

August Flooding

No flooding was reported in August 2019.

August River Levels

River levels across the NWS Marquette Hydrologic Service Area (HSA) began to fall below normal across several basins but remain near or above normal over the majority of the area.



Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

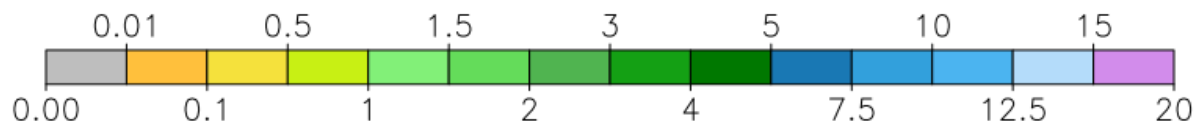
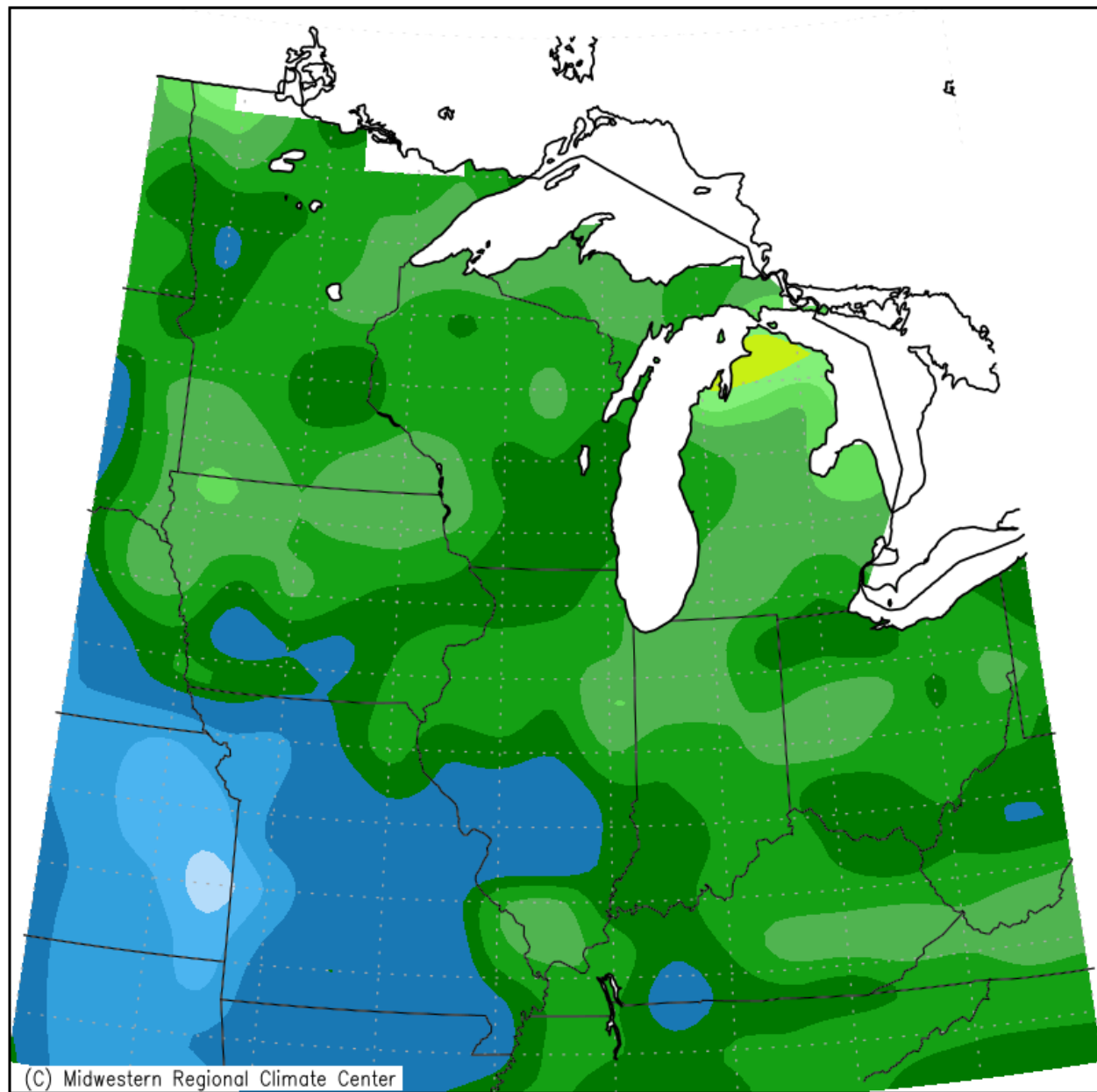
Drought Discussion

The September 5th update of the US Drought Monitor includes D0 drought (abnormal dryness) across central and eastern portions of the NWS MQT HSA. This drought was introduced in early August after a short term rainfall deficit in the area. There is also D1 (moderate drought) outside out HAS in eastern Chippewa and Mackinac Counties. For the latest drought status, please go to <http://www.drought.gov>.

August Products Issued

- 2 – Hydrologic Outlook (ESF; one monthly 90 day outlook was issued a couple days late on Aug. 2)
- 0 – Flood Watch (FFA)
- 0 – Flood Warning (FLW; Two warnings, one correction and one misplaced cancellation statement)
- 2 – Flood Advisories and Statements (FLS; both issued on the 2nd)
- 0 – Flash Flood Warning (FFW)
- 0 – Flash Flood Statement (FFS)
- 31 – Hydrologic Summary (RVA)
- 31 – Daily River Forecasts (RVD)

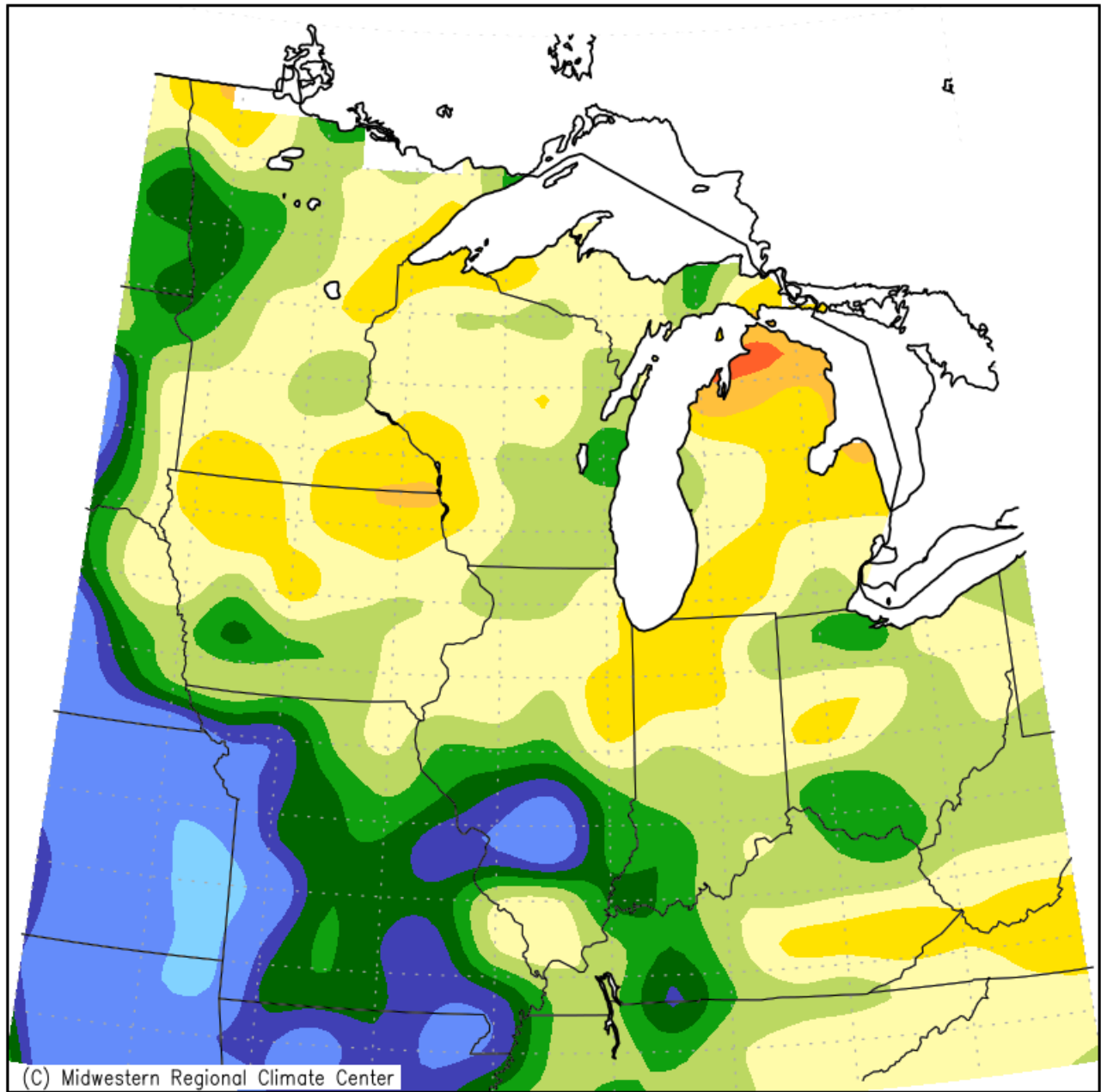
Accumulated Precipitation (in) August 1, 2019 to August 31, 2019



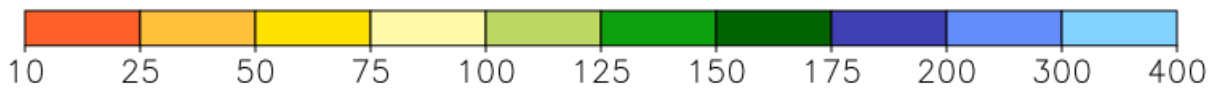
Midwestern Regional Climate Center
Illinois State Water Survey, Prairie Research Institute
University of Illinois at Urbana-Champaign

Figure 1. August 2018 Monthly Precipitation Totals.

Accumulated Precipitation: Percent of Mean August 1, 2019 to August 31, 2019



Mean period is 1981–2010.



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Figure 2. August 2018 Percent of Mean of Accumulated Precipitation

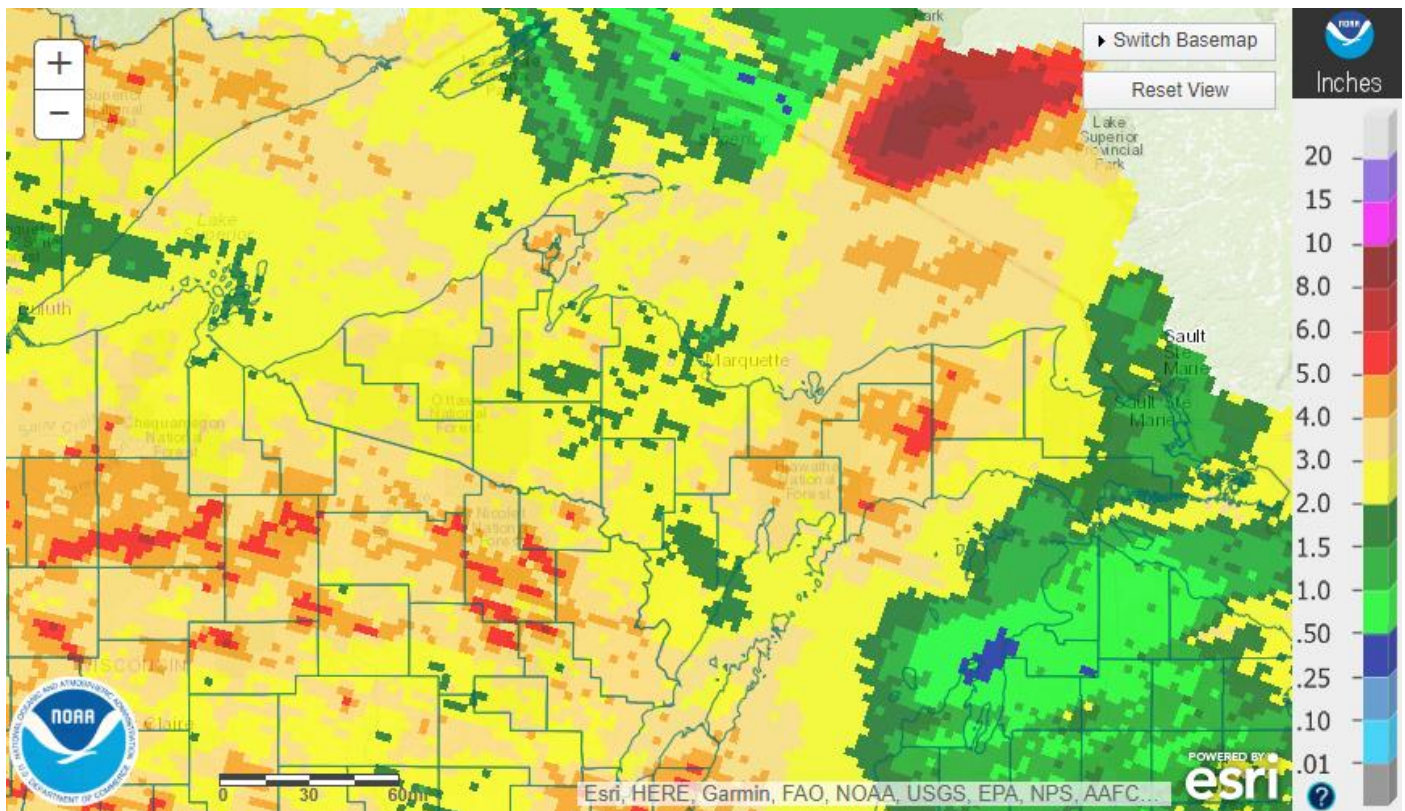


Figure 3. August 2019 AHPS Monthly Precipitation

Note: This data is subject to errors in the estimates produced by the radar, as well as beam blockage across portions of the NW UP.

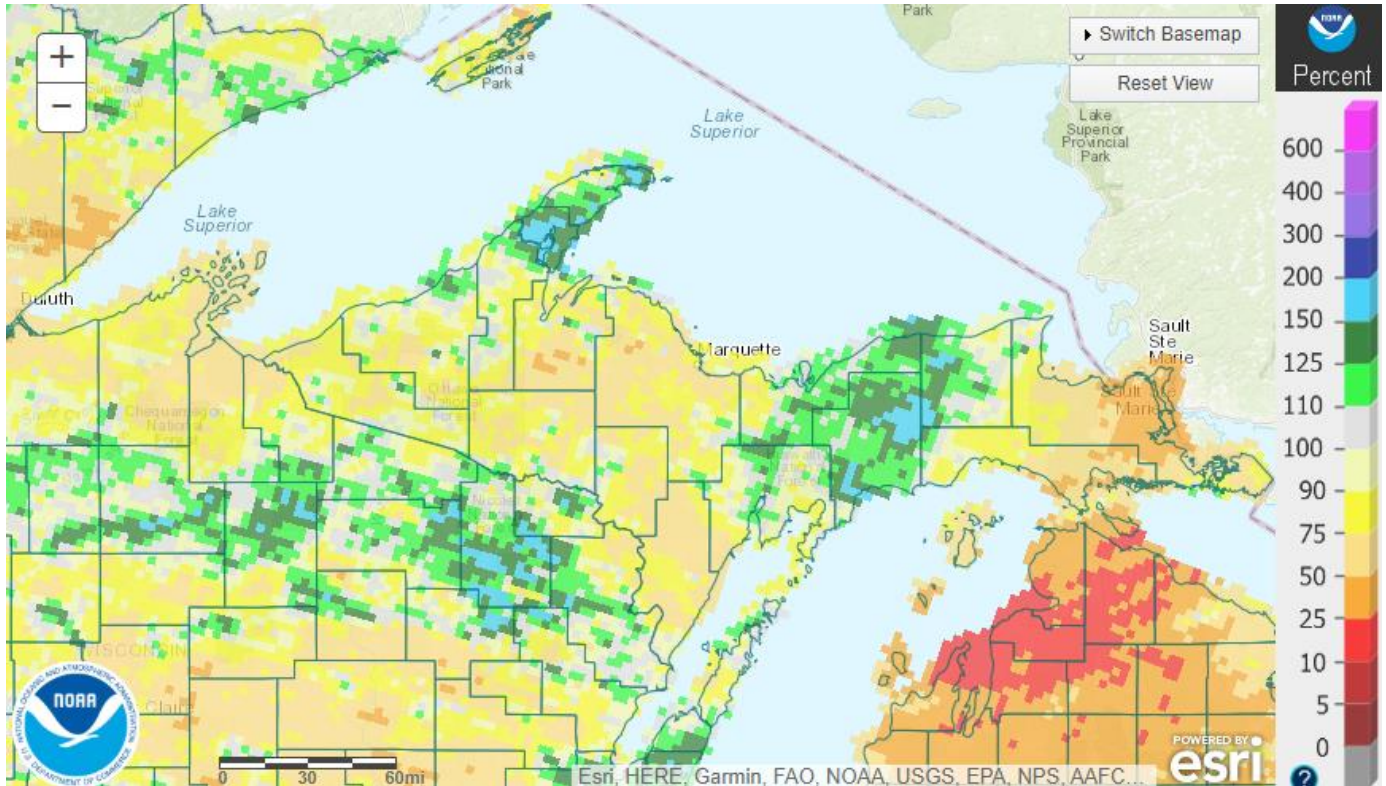


Figure 4. August 2019 AHPS Percent of Mean of Accumulated Precipitation

Note: This data is subject to errors in the estimates produced by the radar, as well as beam blockage across portions of the NW UP.