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): **June 2019** DATE: **July 3, 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).

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

June Precipitation

June 2019 finally provided a reprieve from the well-above-normal rainfall of the preceding 12 months for many locations. With the exception of near Ironwood, eastern Alger County, Luce County, and other swaths in the eastern half of the Upper Peninsula, much of the area saw below normal precipitation this month. Portions of the Keweenaw Peninsula down through Iron and Dickinson County were at only one quarter to one half of their average June rainfall. Stambaugh had it's 2nd driest June on record, however out east in Sault Ste. Marie they had their 5th wettest.

Rain this month came primarily in two 4-5 day time periods: between the 9th and 12th and between the 24th and the 28th

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	1.72"	61	
Marquette City	1.54"	57	
Quincy Hill	1.26"	49	
Ironwood	2.82"	77	
Iron Mountain	1.62"	47	106/118
Manistique	2.27"	77	
Munising	2.56"	76	
Newberry*	3.65"	122	
Stambaugh	1.06"	28	119/120

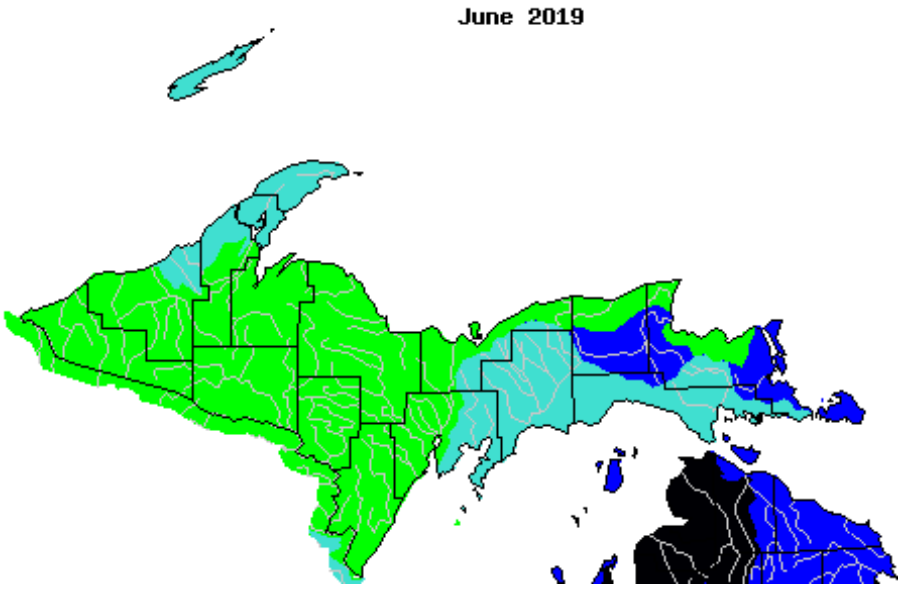
* Indicates there were several missing days of data at that site this month and totals are uncertain

June Flooding

No flooding was reported in June 2019.

June River Levels

After several months of above normal flows across the Upper Peninsula, most area rivers have come back down to near normal. Above average monthly streamflows were still reported across much of the east where more rain fell this month.



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 July 2nd update of the US Drought Monitor continues to indicate no drought conditions across the NWS MQT Hydrologic Service Area (HSA). For the latest drought status, please go to http://www.drought.gov.

June Products Issued

1 – Hydrologic Outlook (ESF; monthly 90 day outlook)
0 – Flood Watch (FFA)
0 – Flood Warning (FLW; Two warnings, one correction and one misplaced cancellation statement)
0 – Flood Advisories and Statements (FLS; includes some corrected products and some carryover statements from warnings issued in April)
0 – Flash Flood Warning (FFW)
0 – Flash Flood Statement (FFS)
30 – Hydrologic Summary (RVA)
29 – Daily River Forecasts (RVD, missed on the 22nd.)

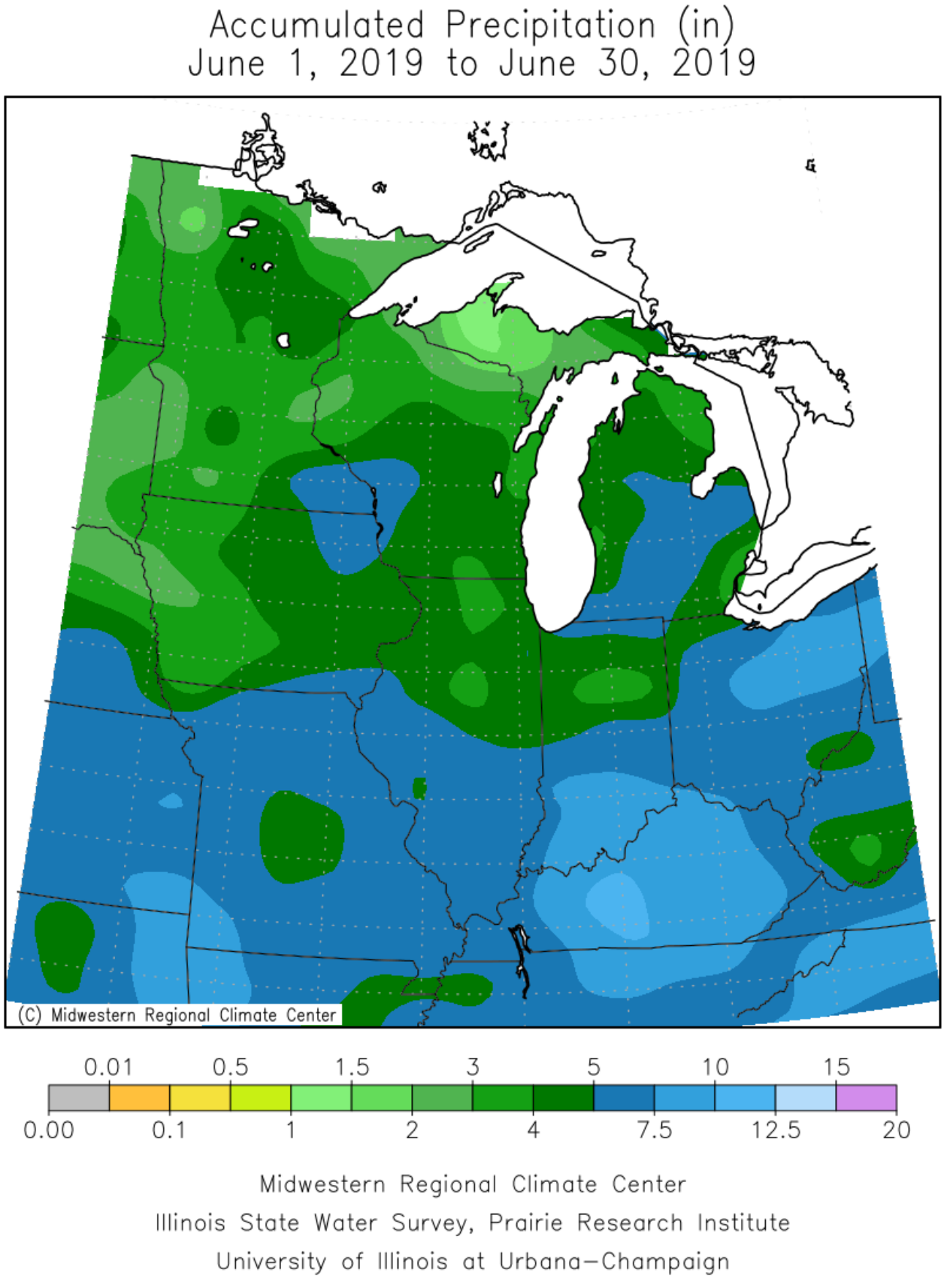


Figure 1. June 2018 Monthly Precipitation Totals.

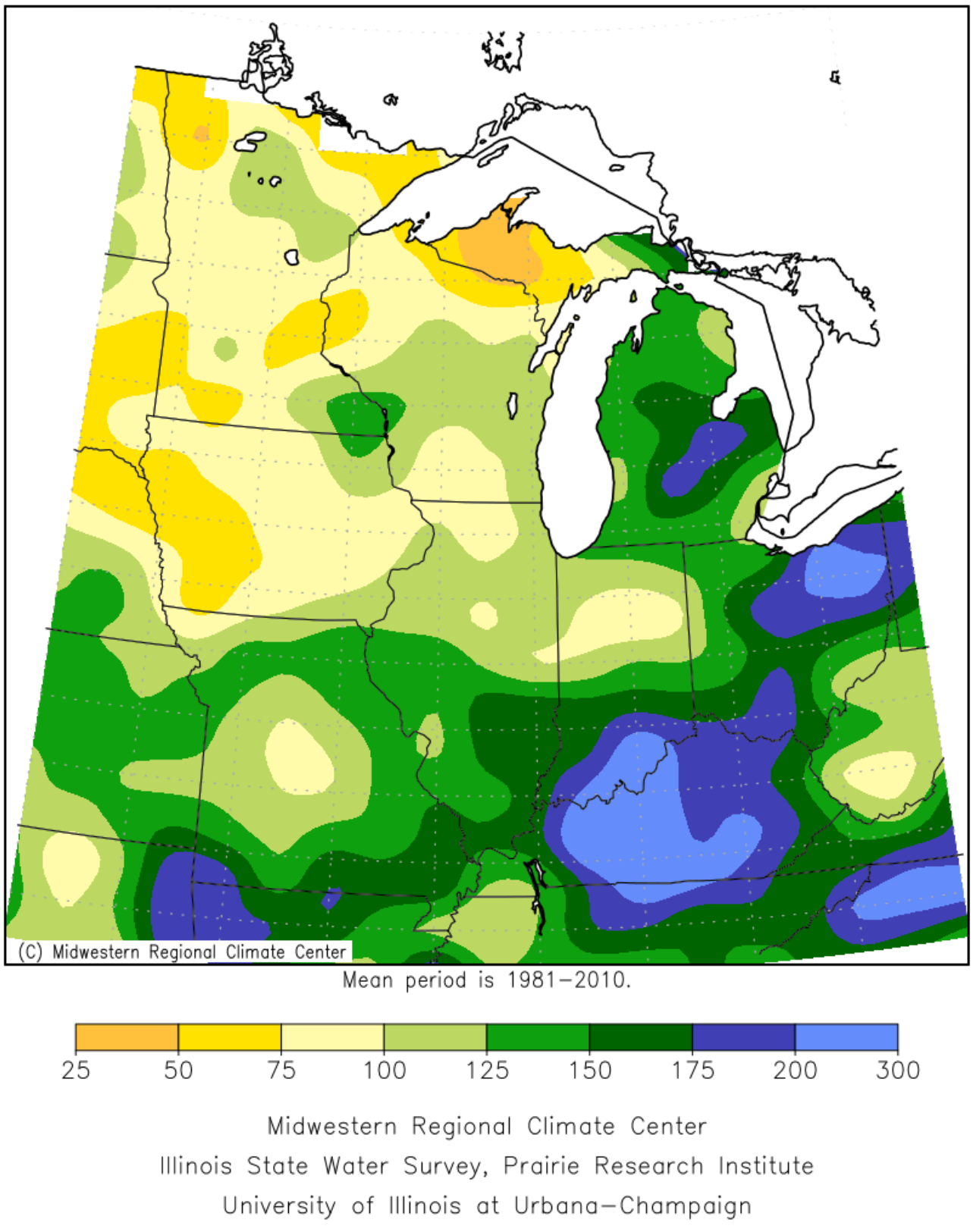


Figure 2. June 2018 Percent of Mean of Accumulated Precipitation

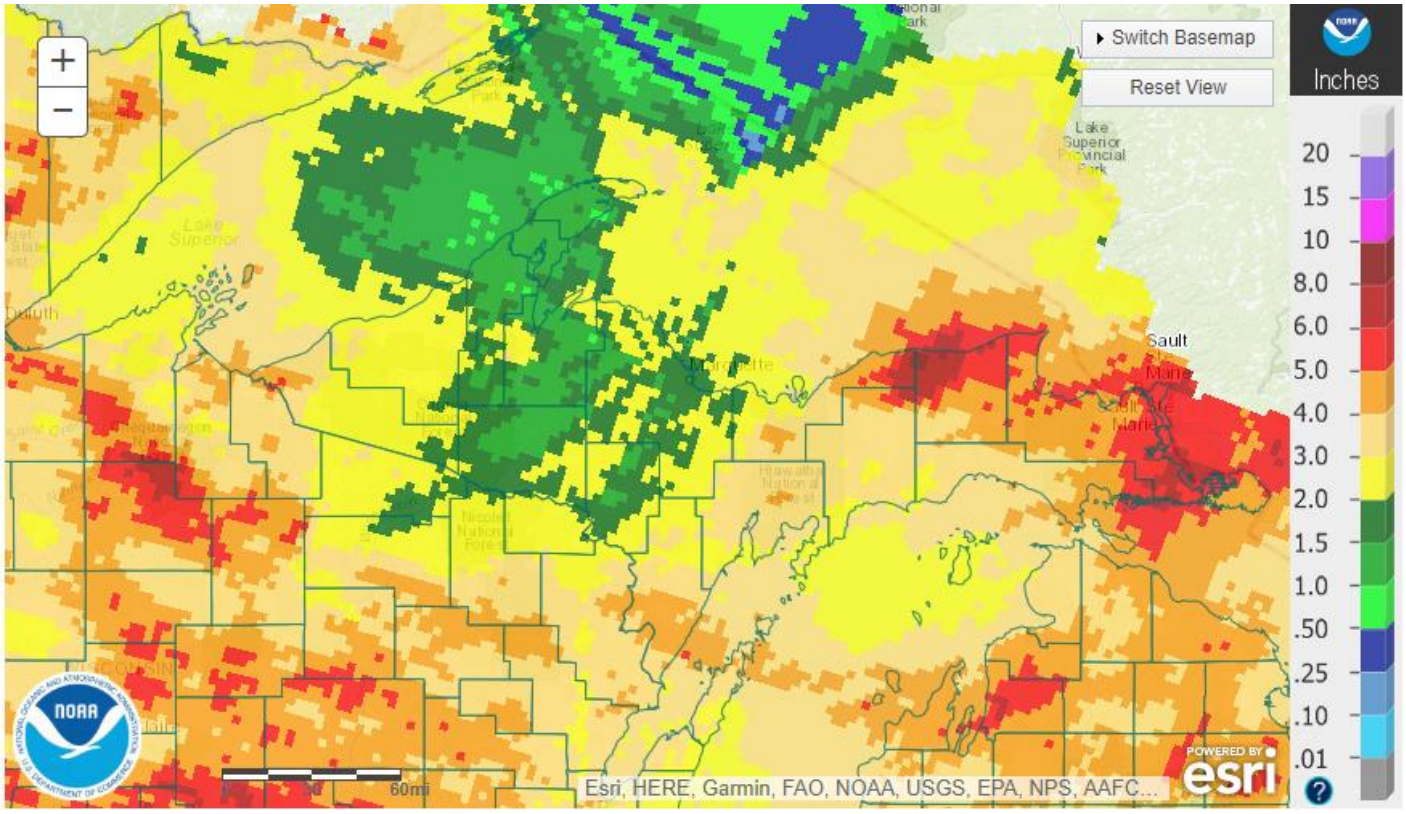


Figure 3. June 2019 AHPS Monthly Precipitation
Note: This data is subject to errors in the estimates produced by the radar, as well as beam blockage across portions of the NW UP.

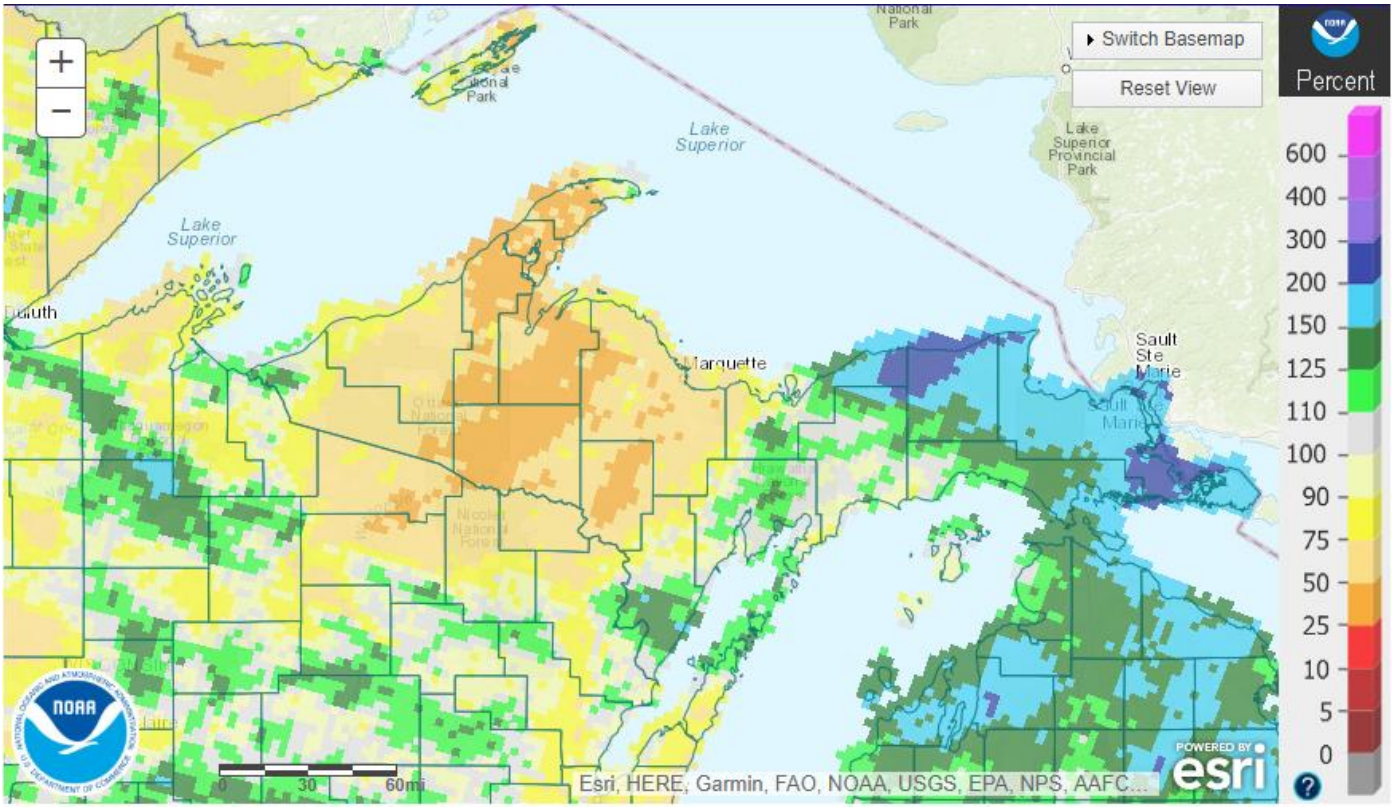


Figure 4. June 2019 AHPS Percent of Mean of Accumulated Precipitation
Note: This data is subject to errors in the estimates produced by the radar, as well as beam blockage across portions of the NW UP.