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 2018** DATE: **October 7, 2018** 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.

September Flooding

A Flash Flood Watch was issued in advance of heavy rainfall expected to fall across portions of the Upper Peninsula on the evening of September 4th and continuing through the morning of the 5th. A Flash Flood Warning went out at 3am on the 5th for portions of Dickinson, Marquette, and Alger Counties. Later that morning, NWS Marquette received a few reports of roadway and basement flooding on the 5th, mainly in Alger and Marquette Counties. In total, 2-3.5 inches of rain were reported across the heavy rain swath with isolated higher totals up to 5 inches.

In response to this rainfall, the Chocolay River near Harvey reached its banks and exceeded flood stage of 10.0 feet early in the morning on the 6th. It crested at 10.8 ft around 830am, but quickly fell back below flood stage later that evening.

September Precipitation

Near to below average precipitation was seen from southern Menominee County to southern Luce County with another small area of below average precipitation across the northern half of the Keweenaw. Central and Northeastern portions of the area experienced well above normal rainfall in the month of September, especially across Iron, Marquette, and Alger Counties. Half or more of the monthly total for these locations fell on the 4th and 5th.

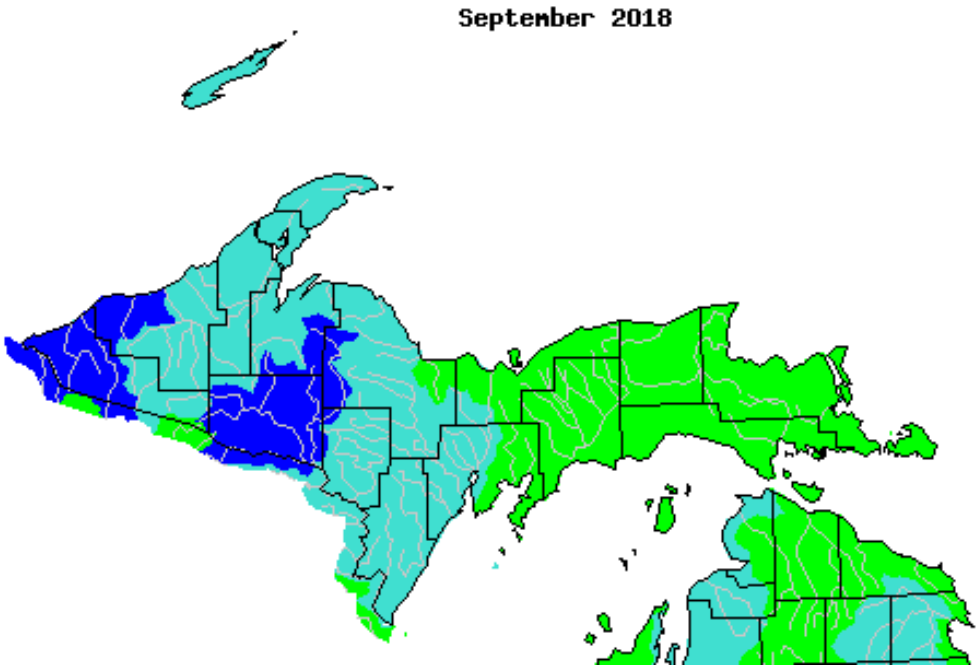
Below is a chart of some of the larger cities in the Upper Peninsula, with monthly precipitation in inches and the amount of inches above or below normal for the month. Any notable monthly ranks are also included. See figures 1 and 2 below for a smoothed out aerial view of these data, and figures 3 and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

Location	Precipitation	Above/Below	Rank
WFO Marquette	6.88”	+3.16”	4/57
Marquette City	6.84”	+3.68”	6/153
Houghton Airport	3.93”	+0.48”	
Ironwood	4.30”	+0.24”	
Iron Mountain	4.86”	+1.24”	
Manistique	2.44”	-1.32”	
Munising	6.40”	+2.33”	8/107
Newberry	3.63”	-0.18”	
Stambaugh	5.59”	+2.04”	

Drought Discussion

The October 4th release of the US Drought Monitor indicates no drought conditions across the MWS MQT Hydrologic Service Area (HSA), though there is still a sliver of D0 Drought across eastern portions of Chippewa County. For the latest drought status, please go to http://www.drought.gov.

September River Levels



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		

September Products Issued

4 – Flash Flood Watch (FFA; one watch, extended in area, then continued, and finally cancelled)
1 – Flood Warning (FLW)
1 – Flash Flood Warning (FFW)
1 – Flash Flood Statement (FFS)
9 – Flood Advisories and Statements (FLS)
30 – Hydrologic Summary (RVA)
30 – Daily River Forecasts (RVD)
1 – Hydrologic Outlook (ESF)

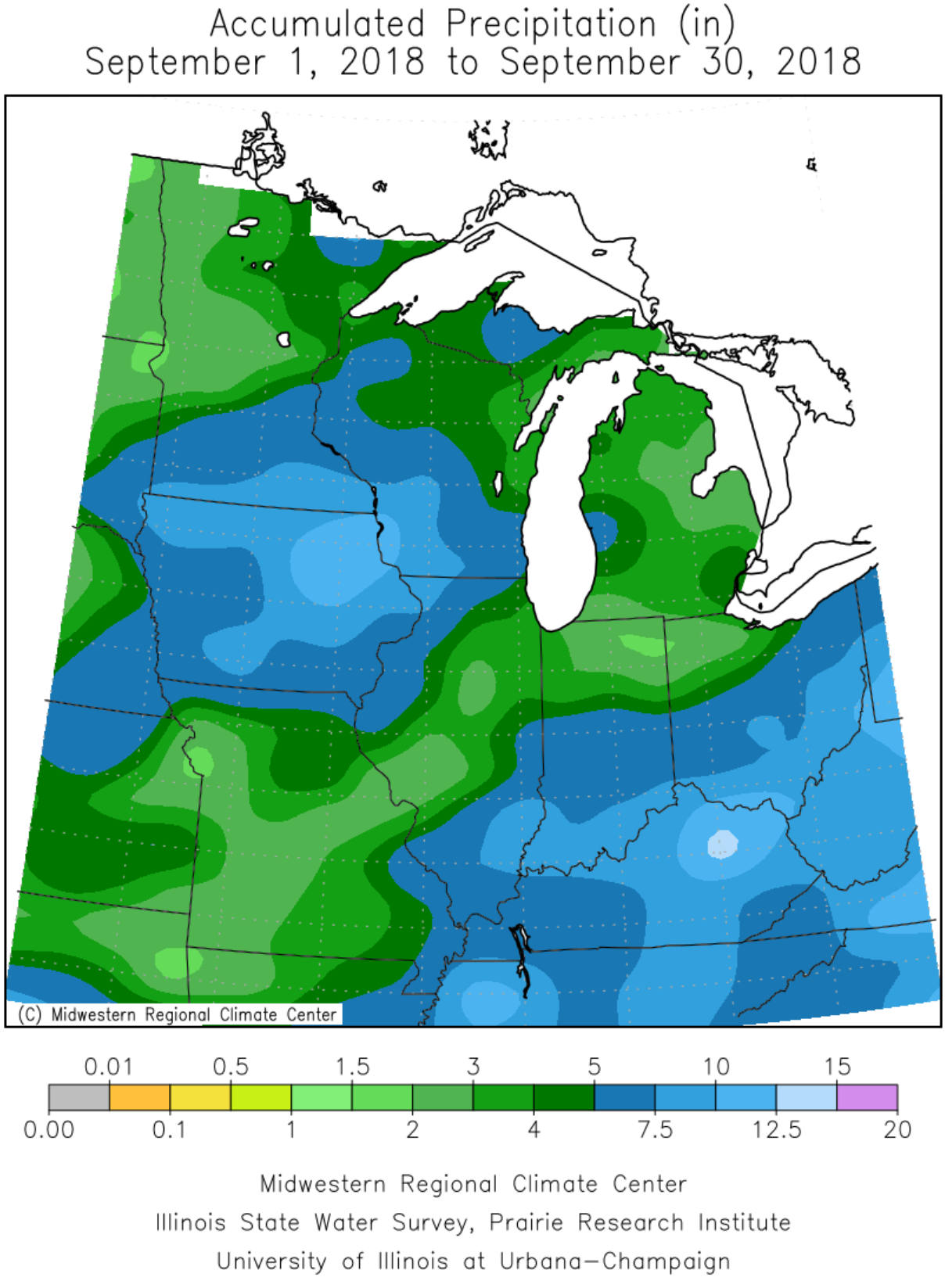


Figure 1. September 2018 Monthly Precipitation Totals

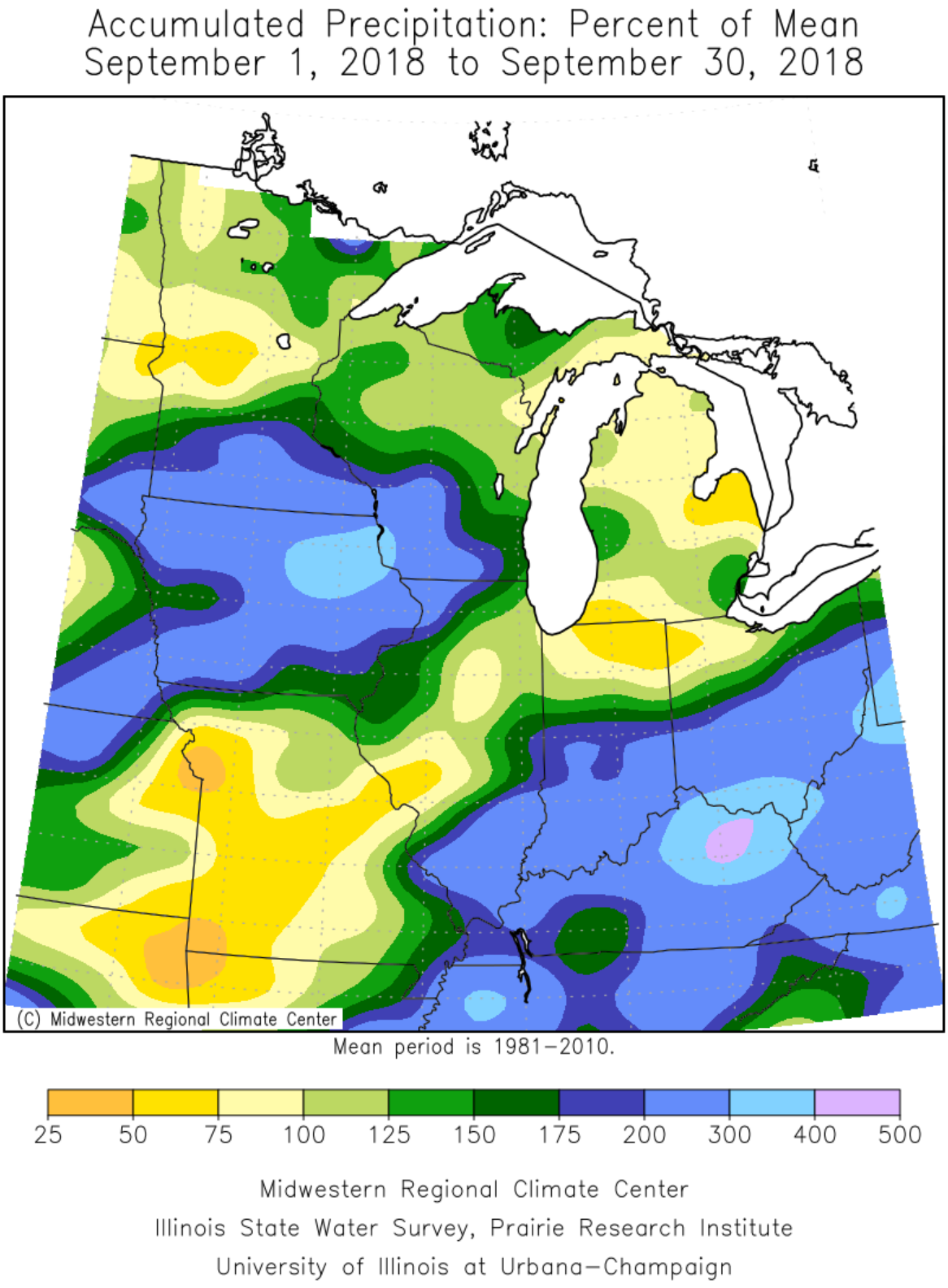


Figure 2. September 2018 Percent of Mean of Accumulated Precipitation

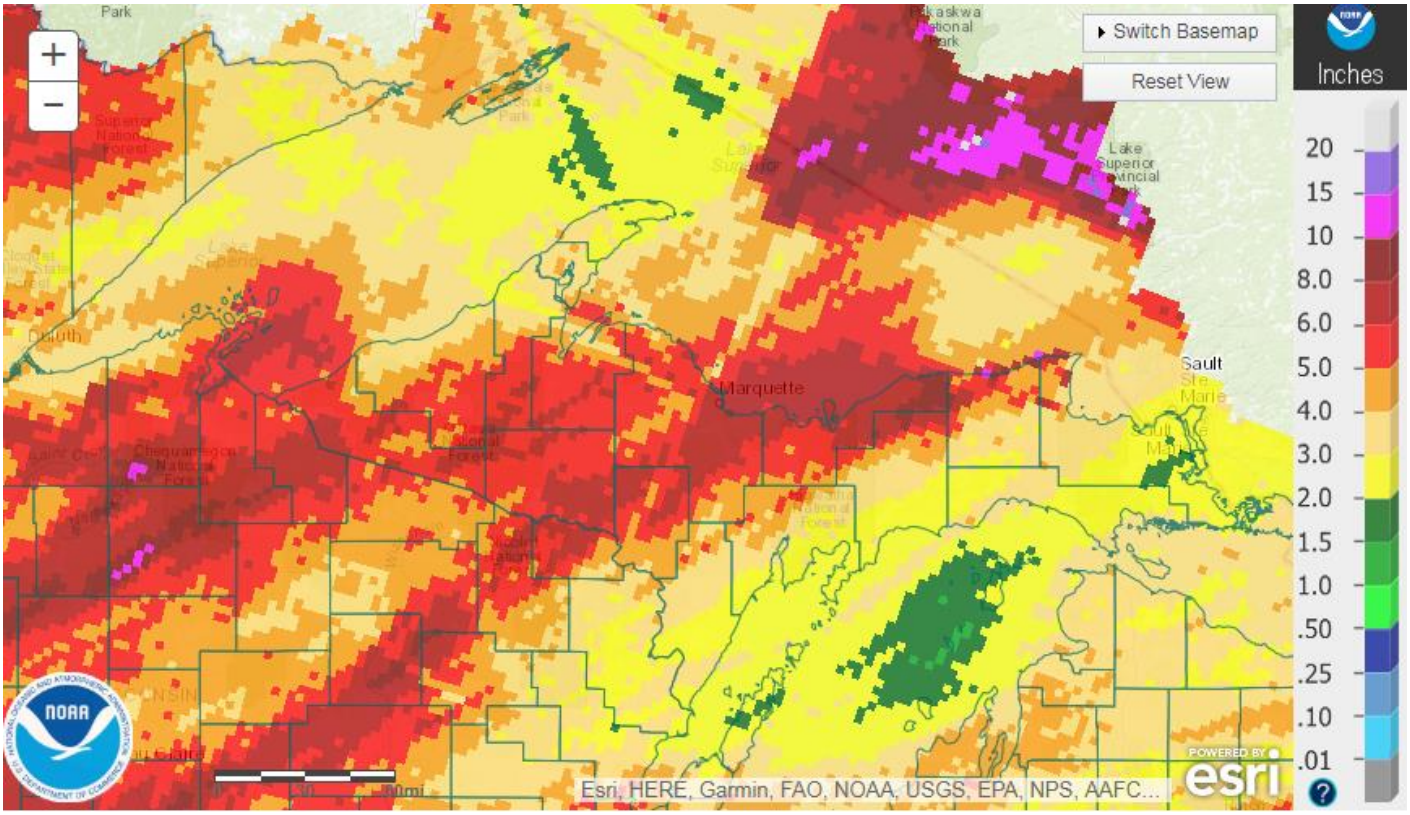


Figure 3. September 2018 AHPS Monthly Precipitation
Note: This data is subject to errors in the estimates produced by the radar, as well as beam blockage across portions of the NW UP.

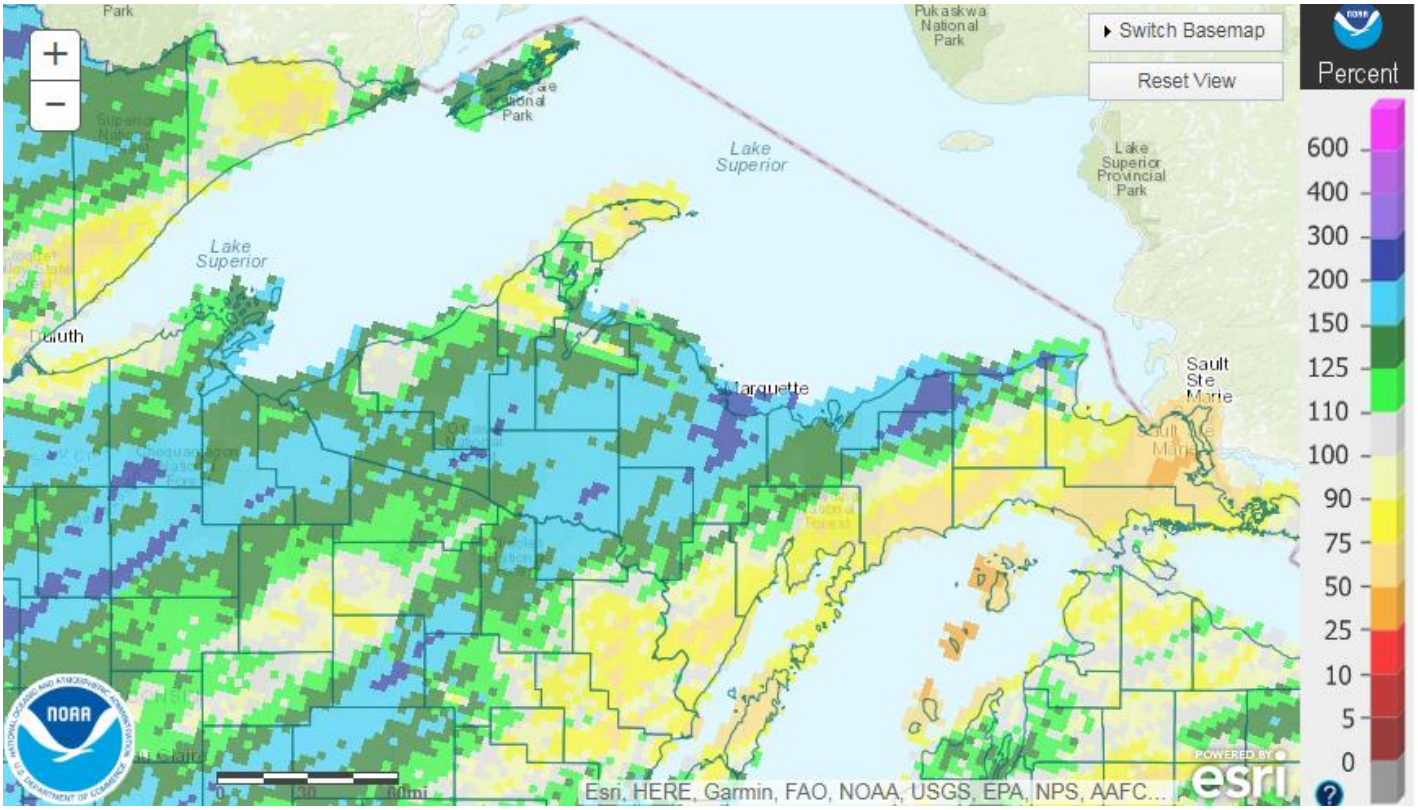


Figure 4. Figure 2. September 2018 AHPS Percent of Mean of Accumulated Precipitation
Note: This data is subject to errors in the estimates produced by the radar, as well as beam blockage across portions of the NW UP.