

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): December 2018
	DATE: January 11, 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).	

X

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

December Precipitation

After a cold, snowy November, it’s almost as if a switch was flipped and December was warmer and drier. Some December rainfall and an early December upslope snow event in Marquette County allowed a few locations to exceed December averages for overall precipitation. However, the entire Upper Peninsula experienced snowfall deficiencies, with a couple locations seeing top ten lowest snowfall Decembers.

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. The radar-estimated precipitation maps will not be included during the winter due to beam overshooting causing drastic underestimation over the western Upper Peninsula.

Location	Precipitation	% of normal	Rank	Snowfall	Above/Below	Rank
WFO Marquette	3.15”	123		39”	-3.8”	
Marquette City	1.41”	72		6.4”	-18.9”	130/138
Houghton Airport	2.30”	122		24.9”	-28.0”	
Ironwood	1.61”	76		20.8”	-25.5”	
Iron Mountain	1.26”	81		7.5”	-6.4”	
Manistique	1.84”	115		6.5”	-13.2”	75/91
Munising	2.25”	60		14.3”	-26.9”	93/102
Newberry	1.43”	50		18.3”	-15.0”	
Stambaugh	1.01”	78		8.3”	-6.8”	

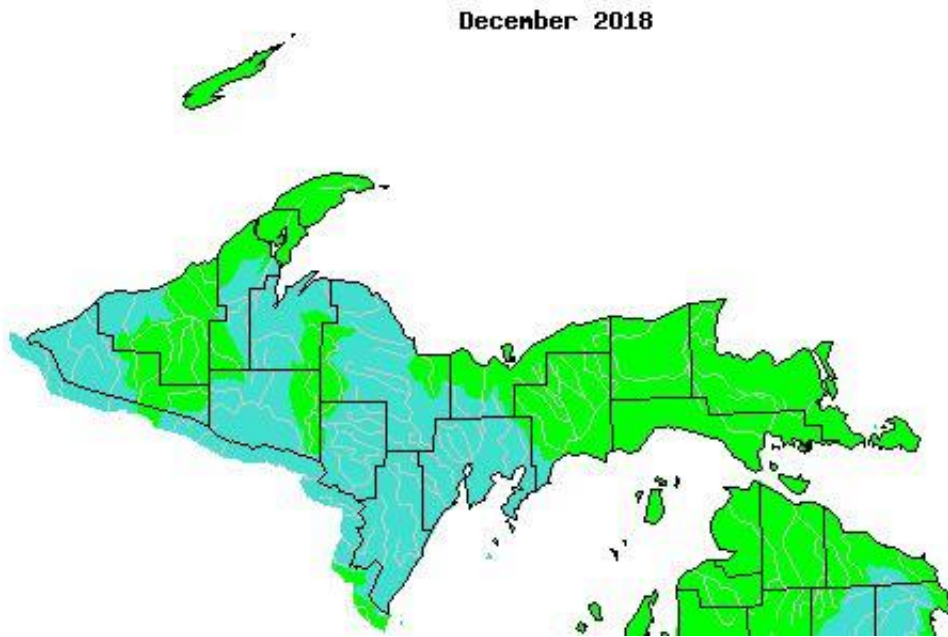
Drought Discussion

The January 3rd update of the US Drought Monitor continues to indicate no drought conditions across the MWS MQT Hydrologic Service Area (HSA). For the latest drought status, please go to <http://www.drought.gov>.

December Flooding

No flooding was reported across Upper Michigan in December. Monthly average streamflows (below) have subsided back to near-normal across approximately 1/3 of the region, with 2/3 still analyzed in the “Above Normal” category.

December River Levels

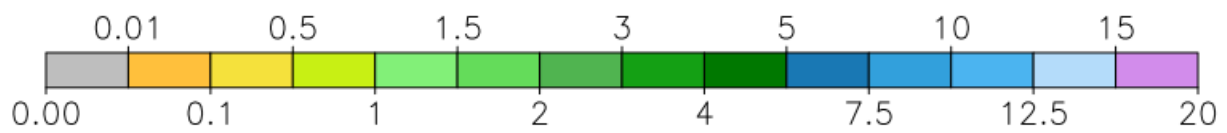
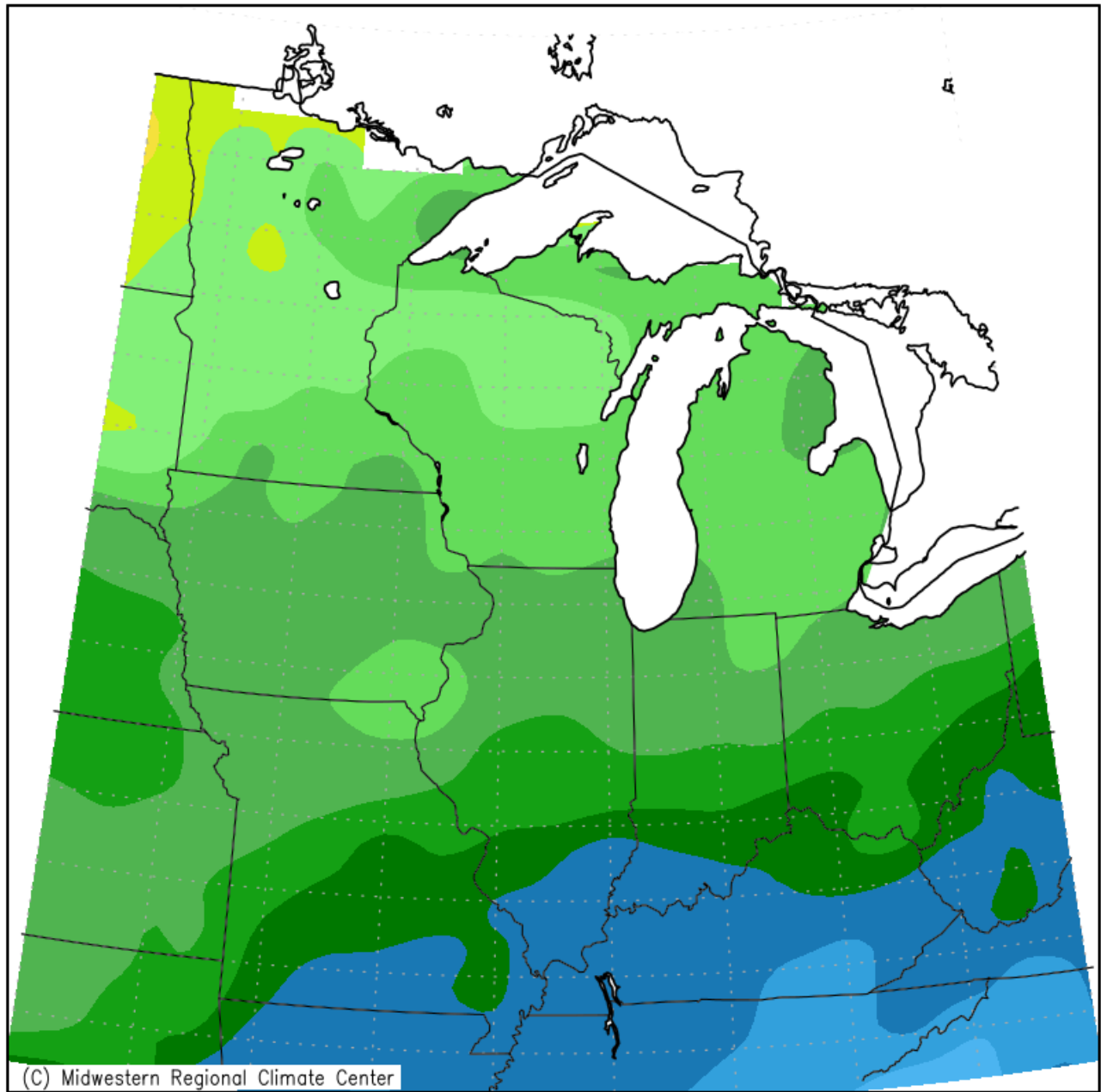


Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

December Products Issued

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

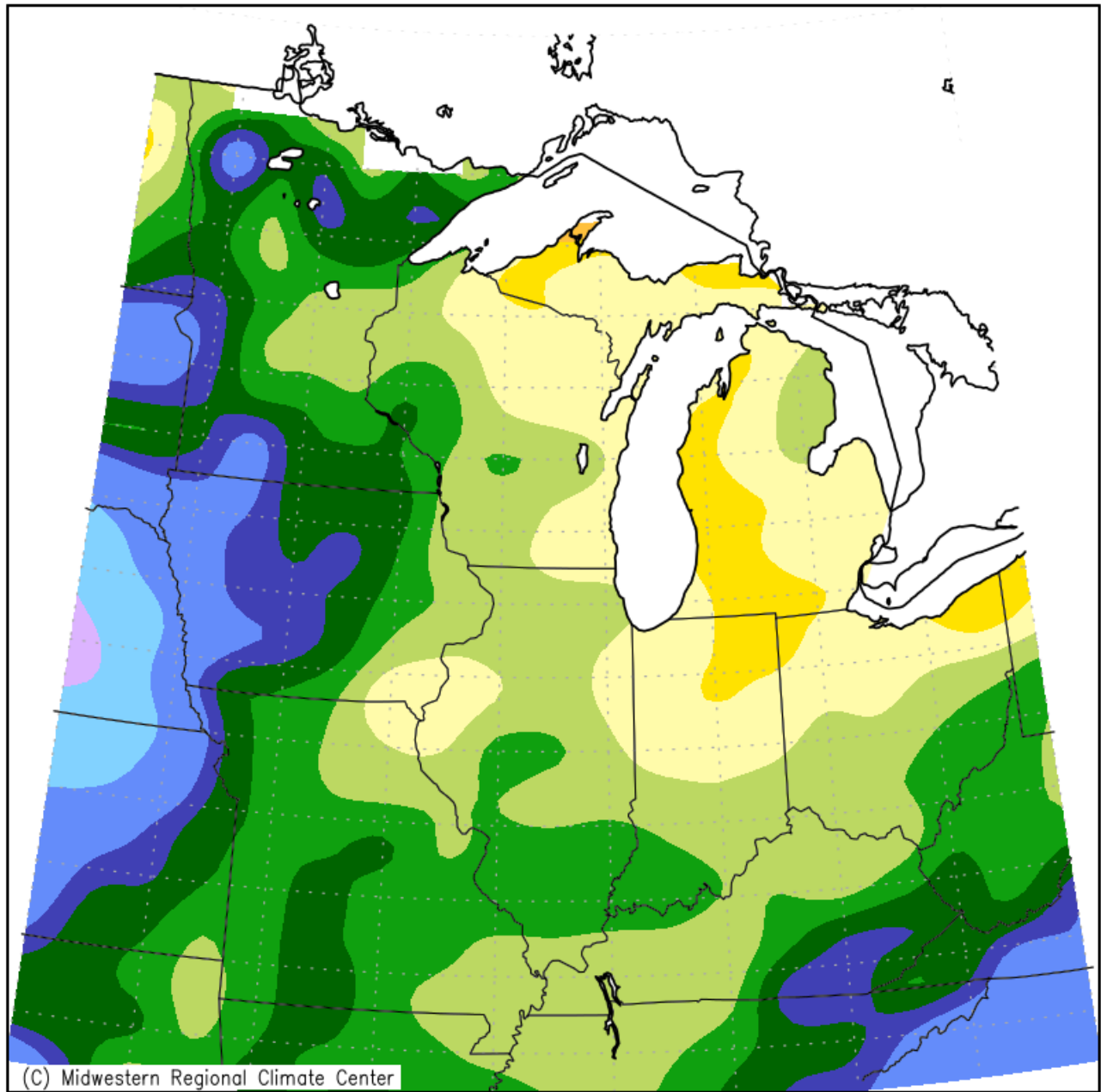
Accumulated Precipitation (in)
December 1, 2018 to December 31, 2018



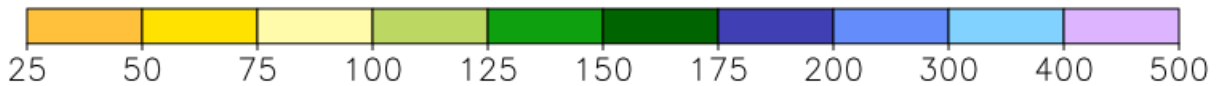
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Illinois State Water Survey, Prairie Research Institute
University of Illinois at Urbana–Champaign

Figure 1. December 2018 Monthly Precipitation Totals

Accumulated Precipitation: Percent of Mean December 1, 2018 to December 31, 2018



Mean period is 1981–2010.



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Figure 2. December 2018 Percent of Mean of Accumulated Precipitation