

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 2013
	DATE: March 2, 2014
	SIGNATURE: Robin J. Turner, MIC Justin Titus, Meteorologist
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.

December Flooding

No flooding was reported to the National Weather Service.

December Precipitation

December precipitation (both liquid equivalent and snow) was generally near or below normal, except in areas favored by west to west-northwest winds off Lake Superior such as the Keweenaw Peninsula and areas near Lake Superior east of Grand Marais. These areas saw above to well above normal precipitation in December. An unusual aspect of precipitation in December was due to below normal temperatures, with most of the precipitation falling as snow and little of that melting.

Below is a chart of some of the larger cities in the Upper Peninsula, with monthly precipitation in inches, the amount of inches above or below normal for the month and any applicable record high or low rank.

Location	Precipitation	Above/Below	Rank	Snowfall	Above/Below	Rank
WFO Marquette	2.58	0.01		46.9	4.1	
Marquette City	2.29	0.32		23.5	-1.8	
Houghton Airport	No Data			No Data		
Ironwood	1.80	-0.21		31.0	-15.3	
Iron Mountain	1.25	-0.30		17.4	3.5	
Manistique	1.92	0.32		12.0	No Data	
Munising	2.96	-0.79		38.5	-2.7	
Newberry	2.24	No Data		35.2	No Data	
Ontonagon 6SE	2.94	-0.10		62.4	8.2	

Other monthly precipitation totals from coop observers:

Location	Precipitation (inches)	Snowfall (inches)
Alberta (Baraga County)	1.32	17.6
Amasa (Iron County)	1.44	16.7
Atlantic Mine (Houghton County)	4.45	102.5
Baraga 7NW (Baraga County)	2.14	23.2
Big Bay (Marquette County)	2.32	30.9
Chatham (Alger County)	2.17	32.8
Clarksburg (Marquette County)	1.15	18.2
Cooks (Schoolcraft County)	2.46	27.1
Copper Harbor (Keweenaw County)	3.38	53.2
Garden Corners (Delta County)	1.59	22.2
Gladstone (Delta County)	2.09	18.9
Greenland 6N (Ontonagon County)	3.34	71.9
Gwinn (Marquette County)	1.20	17.3
Harvey (Marquette County)	1.98	22.5
Herman (Baraga County)	1.85	45.3
Jacobsville (Houghton County)	M	40.6
Mohawk (Keweenaw County)	6.16	80.5
Menominee (Menominee County)	1.86	15.1
Norway (Dickinson County)	1.33	17.7
Paulding (Ontonagon County)	1.34	20.1
Stambaugh (Iron County)	1.39	15.2
Watton (Baraga County)	1.70	205

Drought Discussion

The December 31, 2013 release of the U.S. Drought Monitor continued to indicate no drought conditions across Upper Michigan. For the latest drought status, please go to <http://www.crh.noaa.gov/mqt/?n=drought>.

December Temperatures

Below is a table of some of the larger cities in the Upper Peninsula, with average monthly temperature and number of degrees above or below normal for the month, and the rank of an all-time warmest or coldest month, where applicable.

Location	Temperature (degrees)	Above/Below	Rank
WFO Marquette	10.9	-7.6	5 th
Marquette City	16.7	-6.8	9 th
Houghton Airport	15.4	-4.8	
Ironwood	7.4	-9.2	5 th
Iron Mountain	11.2	-8.2	8 th
Manistique	14.2	-9.1	5 th
Munising	15.0	-7.9	5 th
Newberry	12.6	No Data	2 nd
Ontonagon 6SE	12.6	-9.0	3 rd

December River Levels

According to the United States Geological Survey, December average streamflow was normal (25-75 percentile) across much of Upper Michigan.

December Products Issued

0 Areal Flash Flood Watch (ARBFFAMQT)
0 Areal Flood Watches (ARBFFAMQT)
0 Areal Flood Warnings (ARBFLWMQT)
0 Areal Flood Advisories (ARBFLSMQT)
0 Areal Flood Statements (ARBFLSMQT)
0 River Flood Watches (ARBFFAMQT)
0 River Flood Warnings (ARBFLWMQT)
0 River Flood Advisories (ARBFLSMQT)
0 River Flood Statements (ARBFLSMQT)
0 Hydrologic Statements (ARBRVSMQT)
0 Hydrologic Outlook (ARBESFMQT)

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