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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):
November 2011

DATE: **December 25, 2011**

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).

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

November Flooding

No flooding was reported to the National Weather Service (NWS).

November Precipitation

Most locations across Upper Michigan saw below to well below normal precipitation in November. Generally, north-northwest wind lake effect belts got the most precipitation. Munising saw the most liquid equivalent precipitation at 4.32 inches, of which 3.02 inches (7.3 inches of snow) fell during a large storm that also produced over a foot of snow at the NWS office. Warm temperatures toward the end of November worked to seriously diminish or eliminate any existing snowpack, which when combined with below normal snowfall made for well below normal snow depths by the end of November across much of Upper Michigan.

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.

Location	Precipitation	Above/Below	Rank	Snowfall	Above/Below	Rank
WFO Marquette	2.38	-0.51		20.7	0.9	
Marquette City	1.96	-0.62		0.9	-12.9	4th
Houghton Airport	1.20	-1.51		6.0	-14.5	
Ironwood	1.80	-0.98		15.5	-6.5	
Iron Mountain	1.03	-0.86		4.5	-1.2	
Manistique	1.98	-0.54		0.5	-5.2	
Munising	4.32	1.09		8.1	-8.1	
Ontonagon	1.74	-0.89	8th	17.0	-5.6	

Other monthly precipitation totals from coop observers:

Location	Precipitation (inches)	Snowfall (inches)
Amasa (Iron County)	1.47	10.2
Atlantic Mine (Houghton County)	2.02	21.5
Baraga (Baraga County)	1.76	13.5
Bergland Dam (Ontonagon County)	3.41	26.3
Big Bay (Marquette County)	3.04	16.2
Chatham (Alger County)	3.10	11.9
Clarksburg (Marquette County)	1.78	14.0
Cooks (Schoolcraft County)	2.23	2.8
Copper Harbor (Keweenaw County)	1.99	1.4
Garden Corners (Delta County)	2.08	2.4
Gladstone (Delta County)	1.86	1.3
Greenland (Ontonagon County)	2.18	15.0
Gwinn (Marquette County)	1.69	9.1
Harvey (Marquette County)	1.93	T
Herman (Baraga County)	2.79	29.7
Jacobsville (Houghton County)	1.93	12.9
Mohawk (Keweenaw County)	2.62	10.2
Menominee (Menominee County)	2.33	M
Norway (Dickinson County)	1.65	5.0
Painesdale (Houghton County)	2.41	26.0
Rapid River (Delta County)	1.85	3.0
Stambaugh (Iron County)	1.16	10.5
Twin Lakes (Houghton County)	2.69	24.8
Two Heart (Luce County)	M	M
Watersmeet (Gogebic County)	1.50	7.6
Watton (Baraga County)	1.68	18.9

Drought Discussion

According to the November 29th, 2011 release of the U.S. Drought Monitor, the Keweenaw Peninsula and northern Huron Mountains were classified under Moderate (D1) Drought. Otherwise, areas roughly west of a line from Munising to Iron Mountain, were classified as Abnormally Dry (D0). East of this line, no drought was indicated by the Drought Monitor.

For the latest drought status, please go to http://www.drought.unl.edu/dm/monitor.html.

November 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 coldest month, where applicable.

Location	Temperature (degrees)	Above/Below	Rank
WFO Marquette	33.5	3.3	
Marquette City	38.4	4.1	8th
Houghton Airport	34.5	3.4	
Ironwood	33.3	3.0	
Iron Mountain	35.1	2.6	
Manistique	36.6	1.9	
Munising	36.2	2.4	
Ontonagon	36.7	3.0	7th

November River Levels

According to the United States Geological Survey, November streamflow was below normal over roughly central and western Upper Michigan, and near normal over eastern Upper Michigan.

November Products Issued

Flood Warnings (FLW): 0
Flood Advisories (FLS): 0
River Statements (RVS): 0
Flash Flood Watches (FFA): 0
Flash Flood Warnings (FFW): 0
Flash Flood Statements (FFS): 0

CC:
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