



Great Lakes low water levels 2013

U.S. ARMY CORPS OF ENGINEERS

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(AS OF: 4 June 2013)

CURRENT

- 1) Lake Michigan-Huron's January 2013 monthly mean water level set an all-time record low at 576.02 ft. This is lower than any other month in the entire period of record, which goes back to 1918. The previous all-time record low was set in March 1964 at 576.05 ft. The May 2013 monthly mean water level for Michigan-Huron was 577.20 ft, which is 14 inches higher than the all-time record low set in January 2013. All elevations are referenced to the 1985 International Great Lakes Datum.
- 2) From April to May, Lakes Superior and Michigan-Huron each rose 7 inches. The typical rise from April to May is 4 inches for both lakes. This larger than average rise was due to well above average precipitation in the Superior and Michigan-Huron basins, which recorded 158% and 110% of average precipitation, respectively, for the month of May.
- 3) The average seasonal rise for Lake Superior is 12 inches. So far in 2013, Lake Superior's seasonal rise has been 8 inches from March through May. The lake is still forecasted to rise another 10 inches through August. This gives a forecasted total seasonal rise of 18 inches. For Lake Michigan-Huron, the average seasonal rise is 11 inches. So far for 2013, Lake Michigan-Huron's seasonal rise has been 14 inches from January through May. And the lake is forecasted to rise an additional 6 inches through July, for a total forecasted seasonal rise of 20 inches.
- 4) The most recent 6 month bulletin does not call for record low levels on any lakes given any scenario. The most probable forecast shows Lake Michigan-Huron remaining 11 inches ABOVE record lows through November.
- 5) Lakes Superior and Michigan-Huron have been below average for 14 straight years, the longest stretch in each of their recorded histories.
- 6) Lake Superior's May level is 2 inches above its level of a year ago. All the other lakes remained below their levels of a year ago in May.
- 7) All the Great Lakes are below their long term averages. Lakes Superior, Michigan-Huron, St. Clair and Erie are expected to remain below their long term averages (LTA) for at least the next 6 months. Lake Ontario is expected to remain below LTA through June, and then return to LTA by July. Even under very wet scenarios, Michigan-Huron will remain below its LTA for a much longer period of time.
- 8) Lake Superior and Lake Michigan-Huron were below chart datum in May. Lake Superior is expected to rise to 2 inches above chart datum in June and be 4 to 6 inches above chart datum July through November. Lake Michigan-Huron is forecasted to be at chart datum in June, rise 2 inches above chart datum in July and then fall to 4 inches below chart datum by November.

- 9) The lack of a solid snowpack during the winter of 2011 to 2012, coupled with the very hot and dry summer of 2012, are the biggest factors leading to the recent low water levels. Snowmelt runoff and spring precipitation are the largest contributors to the seasonal rises on all the Great Lakes. Evaporation, a major component of water loss from the system, was also well above average during the heat wave of 2012 and continuing into the autumn and winter months.
- 10) In an average year, Lake Michigan-Huron's seasonal rise is close to 12 inches. Because of dry conditions throughout the basin, the lake's rise was only about 4 inches in 2012. Lakes St. Clair and Erie have average seasonal rises of about 15 inches, but in 2012 both lakes had no seasonal rise, but rather steadily declined for most or all of 2012. This was the first time in its recorded history that Lake Erie did not have a seasonal rise.
- 11) Conditions needed for the lakes to make gains with respect to their long term averages include heavy precipitation over multiple months, abundant runoff and reduced evaporation. Snow water equivalent values across northern Ontario, the U.P. of Michigan, northern/eastern Wisconsin and the Arrowhead of Minnesota were higher in 2013 than those of 2012. Overall, the Great Lakes basin received above average precipitation in the month of May at 115% of average; however the Erie and Ontario basins both received below average precipitation. The 3 month outlook, issued by the National Weather Service shows equal chances for above or below average precipitation in June, July and August.
- 12) There are no discernible long term cycles of water levels apparent over our period of record (1918-2012) for Great Lakes water levels. While the historical record shows periods of high and low water, it is not possible to predict with any certainty when/if water levels would return to long term average levels. Lake levels could go higher or lower from their current levels in future years.