

Information

Recorded monthly mean water levels in this bulletin are results from a representative network of water level gages on each lake (see cover map). Providers of these data are U.S. Department of Commerce, NOAA, National Ocean Service, and Integrated Science Data Management, Department of Fisheries and Oceans, Canada. Detroit District, Corps of Engineers and Environment and Climate Change Canada derive historic and projected lake levels under auspices of Coordinating Committee on Great Lakes Basic Hydraulic and Hydrologic Data.

The Corps makes the bulletin monthly as a public service. The Corps also, on a weekly basis publishes online the *Great Lakes, Connecting Channels and St. Lawrence River Water Levels and Depths*, which supplies a forecast of depths in connecting rivers between Great Lakes and International Section of St. Lawrence River. This *Monthly Bulletin of the Lake Levels for the Great Lakes* is available in full color on the internet at <https://www.lre.usace.army.mil/Missions/GreatLakesInformation.aspx>. For questions, email hhpm@usace.army.mil or call 1-888-694-8313 and select option 1.

Great Lakes Basin Hydrology December 2022

Precipitation in the Lake Superior basin was near its December average according to provisional statistics. However, Lakes Michigan-Huron and Erie received significantly below average precipitation for December, while Lake Ontario experienced precipitation that was around 30% above average. The overall Great Lakes basin experienced below average precipitation for December. In addition, precipitation over the past 12 months has been near to below average for all lake basins. Preliminary estimates show near average December water supplies for Lakes Superior and Erie. Also, December water supplies were below average for Lake Michigan-Huron but well above average for Lake Ontario. The outflow from Lakes Superior through the St. Marys River was near average for December, while the connecting channel outflows of Lakes Michigan-Huron, Erie, and Ontario were above average.

The monthly mean water levels of Lakes Superior, Michigan-Huron, St. Clair, and Erie declined from November to December. However, water levels rose on Lakes Ontario in December. This lake typically begins its seasonal rise earlier than the upper lakes. The current Great Lakes water levels 6-month forecast predicts Lakes Superior, Michigan-Huron, Erie will continue their seasonal decline in January. Lake St. Clair is expected to hover near its December monthly mean level, while Lake Ontario is predicted to rise in January.

PRECIPITATION (INCHES)								
BASIN	December				12-Month Comparison			
	2022	Average (1900-2020)	Diff.	% of Average	Last 12 months	Average (1900-2020)	Diff.	% of Average
Superior	2.08	2.01	0.07	103	30.10	30.67	-0.57	98
Michigan-Huron	1.62	2.40	-0.78	68	28.69	32.99	-4.30	87
Erie	1.82	2.68	-0.86	68	27.69	35.98	-8.29	77
Ontario	4.06	3.03	1.03	134	32.62	36.42	-3.80	90
Great Lakes	2.06	2.40	-0.34	86	29.40	33.11	-3.71	89

Lake	December WATER SUPPLIES ¹ (cfs)		December OUTFLOW ² (cfs)	
	2022	Average ³ (1900-2008)	2022	Average ³ (1900-2008)
Superior	-19,000	-20,000	73,000	72,000
Michigan-Huron	22,000	35,000	200,000	183,000
Erie	23,000	22,000	223,000	201,000
Ontario	44,000	28,000	251,000	234,000

Notes: Values (excluding averages) are based on preliminary computations; cfs denotes cubic feet per second.

¹ Net basin supply is the net result of precipitation falling on the lake, runoff from precipitation falling on the land which flows to the lake, and evaporation from the lake. Negative net basin supply denotes evaporation exceeded runoff and precipitation. The net total supply can be found by adding the net basin supply and the outflow from the upstream lake.

² Does not include diversions.

³ Lake Ontario average water supplies and average outflows are based on period of record 1900-2005