

Information

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

This bulletin is produced 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 provides a forecast of depths in the connecting rivers between the Great Lakes and the International Section of the St. Lawrence River. This *Monthly Bulletin of the Lake Levels for the Great Lakes* is available free of charge by writing to the address shown on the front cover, by calling (313) 226-6441 or emailing hphm@usace.army.mil. Notices of change of address should include the name of the publication. This information is available on the internet at <https://www.lre.usace.army.mil/Missions/GreatLakesInformation.aspx>.

Great Lakes Basin Hydrology December 2021

Preliminary estimates of precipitation indicate the Great Lakes basin received near average precipitation during the month of December. Lakes Superior received 125% of its December average precipitation while Lakes Michigan-Huron and Ontario received below average precipitation. Lake Erie received near average precipitation in December. Water supplies were well above average on all lakes likely reflecting the average precipitation received by the entire basin and above average runoff. Outflows from Lakes Michigan-Huron, Erie, and Ontario were above average, while Lake Superior's outflow was below average.

From November to December, all the lakes experienced a decline in lake level, except for Lake Ontario which remained near its November level. Lakes Superior and Michigan-Huron each declined about 3 inches and Lakes St. Clair and Erie declined 2 inches. The Great Lakes 6-month forecast projects Lakes Superior, Michigan-Huron, and St. Clair will decline from December to January while Lake Erie remains near its December water level into January. The 6-month forecast indicates Lake Ontario will rise slightly from December to January.

PRECIPITATION (INCHES)								
BASIN	December				12-Month Comparison			
	2021	Average (1900-2018)	Diff.	% of Average	Last 12 months	Average (1900-2018)	Diff.	% of Average
Superior	2.51	2.01	0.50	125	24.44	30.59	-6.15	80
Michigan-Huron	2.11	2.40	-0.29	88	28.36	32.87	-4.51	86
Erie	2.78	2.68	0.10	104	34.74	35.91	-1.17	97
Ontario	2.43	2.99	-0.56	81	34.32	36.34	-2.02	94
Great Lakes	2.33	2.40	-0.07	97	28.78	32.99	-4.21	87

Lake	December WATER SUPPLIES ¹ (cfs)		December OUTFLOW ² (cfs)	
	2021	Average ³ (1900-2008)	2021	Average ³ (1900-2008)
Superior	34,000	-20,000	60,000	72,000
Michigan-Huron	76,000	35,000	210,000	183,000
Erie	46,000	22,000	249,000	201,000
Ontario	50,000	28,000	301,000	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