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 Lake*s may be obtained free of charge by writing to the address shown on the front cover, by calling (313) 226-6441 or emailing hhpm@usace.army.mil. Notices of change of address should include the name of the publication. This information is available on the internet at http://www.lre.usace.army.mil/Missions/GreatLakesInformation.aspx.

Great Lakes Basin Hydrology
July 2019

Preliminary estimates indicate the Great Lakes basin received below average precipitation in the month of July. Lake Erie received above average precipitation at 110% of average. The rest of the lakes received less than average precipitation, at 73% to 85% of average. While precipitation was below average, water supplies were near average for Superior, Michigan-Huron and Erie, and above normal for Ontario. The Lake Michigan-Huron basin and Erie basin predominately experienced above normal runoff, while Superior and Ontario experienced near normal runoff. Outflows from all lakes continued to be substantially above average during the month of July, with preliminary estimates indicating that outflows through the St. Clair River, Detroit River, and Niagara River were all above their record high outflows for July.

In 2019, Lakes Superior, St. Clair, Erie, and Ontario experienced their highest July monthly mean water level dating back to 1918, the beginning of their period of record. From June to July, the monthly mean levels of Lakes Superior, Michigan-Huron and St. Clair rose, while Lakes Erie and Ontario's monthly mean levels declined. The current 6-month forecast indicates monthly mean water levels for August will meet or surpass record high August levels on Lakes Superior, St. Clair and Erie.

PRECIPITATION (INCHES)

BASIN	July				12-Month Comparison			
	2019	Average (1900-2016)	Diff.	% of Average	Average Last 12 Months	Average (1900-2016)	Diff.	% of Average
Superior	2.69	3.28	-0.59	82	29.48	30.58	-1.10	96
Michigan-Huron	2.20	3.03	-0.83	73	34.98	32.55	2.43	107
Erie	3.72	3.39	0.33	110	38.81	35.62	3.19	109
Ontario	2.70	3.17	-0.47	85	38.76	35.87	2.89	108
Great Lakes	2.57	3.16	-0.59	81	34.32	32.77	1.55	105

LAKE	July WATER SUPPLIES[1] (cfs)		July OUTFLOW[2] (cfs)	
	2019	Average (1900-2008)	2019	Average[3] (1900-2008)
Superior	138,000	129,000	112,000	81,000
Michigan-Huron	140,000	128,000	249,000	195,000
Erie	8,000	7,000	275,000	209,000
Ontario	32,000	24,000	367,000	261,000

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