

## 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](mailto: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 October 2021

The Great Lakes basin received above average precipitation during the month of October. The Lake Superior basin received below average precipitation at 78% of average, while Lake Michigan-Huron received near average precipitation. Both the Erie and Ontario basins received above average precipitation at 179% and 169% of average, respectively. Likewise, runoff was predominately much above normal in the Erie and Ontario basins, and even in the lower Michigan-Huron basin. Water supplies were below average on Lake Superior, and above average on Lake Michigan-Huron. Water Supplies were well above average on Lakes Erie and Ontario, with Erie's provisional water supplies ranking second highest on record for the month of October. Outflows remained above average for all lakes, except for Lake Superior's outflow that was below average.

From September to October, all the lakes experienced a decline in lake level, with the exception of Lake Erie which remained at the same level. Lake Superior declined 1 inch, Lake Michigan-Huron declined by about 2 inches, Lake St. Clair dropped 1 inch, and Lake Ontario fell by less than an inch. The 6-month forecast projects that all the lakes will continue their seasonal declines through the fall and into the early winter.

PRECIPITATION (INCHES)								
BASIN	October				12-Month Comparison			
	2021	Average (1900-2017)	Diff.	% of Average	Last 12 months	Average (1900-2017)	Diff.	% of Average
<b>Superior</b>	<b>2.23</b>	<b>2.87</b>	<b>-0.64</b>	<b>78</b>	<b>23.13</b>	<b>30.59</b>	<b>-7.46</b>	<b>76</b>
<b>Michigan-Huron</b>	<b>3.05</b>	<b>2.95</b>	<b>0.10</b>	<b>103</b>	<b>28.19</b>	<b>32.52</b>	<b>-4.33</b>	<b>87</b>
<b>Erie</b>	<b>5.07</b>	<b>2.83</b>	<b>2.24</b>	<b>179</b>	<b>34.45</b>	<b>35.55</b>	<b>-1.10</b>	<b>97</b>
<b>Ontario</b>	<b>5.39</b>	<b>3.19</b>	<b>2.20</b>	<b>169</b>	<b>35.04</b>	<b>35.83</b>	<b>-0.79</b>	<b>98</b>
<b>Great Lakes</b>	<b>3.35</b>	<b>2.95</b>	<b>0.40</b>	<b>114</b>	<b>28.38</b>	<b>32.76</b>	<b>-4.38</b>	<b>87</b>

Lake	October WATER SUPPLIES <sup>1</sup> (cfs)		October OUTFLOW <sup>2</sup> (cfs)	
	2021	Average <sup>3</sup> (1900-2008)	2021	Average <sup>3</sup> (1900-2008)
<b>Superior</b>	<b>12,000</b>	<b>41,000</b>	<b>72,000</b>	<b>80,000</b>
<b>Michigan-Huron</b>	<b>90,000</b>	<b>3,000</b>	<b>220,000</b>	<b>191,000</b>
<b>Erie</b>	<b>46,000</b>	<b>-20,000</b>	<b>244,000</b>	<b>201,000</b>
<b>Ontario</b>	<b>49,000</b>	<b>8,000</b>	<b>281,000</b>	<b>243,000</b>

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

<sup>1</sup> 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.

<sup>2</sup> Does not include diversions.

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