

LEVEL *news*



Great Lakes - St. Lawrence River Water Levels

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Lake Superior Starts its Annual Seasonal Decline as Lake Ontario's Decline Nears its End

Water levels on all lakes declined during November. The steady downward trend in daily water levels on Lake Superior during the entire month suggests that this lake is now into its annual seasonal decline.

Water levels on lakes Superior, Michigan-Huron, St. Clair and Erie are expected to decline further during December. Water levels on Lake Ontario are expected to remain steady during December as this lake approaches the end of its annual seasonal decline. Whether or not water levels

change as expected on each lake will depend on water supply conditions over the next few weeks.

How Much Have the Lakes Declined So Far This Year?

While Lake Superior has only been into its annual seasonal decline for about a month, as *LEVELnews* readers are aware, water levels on the other lakes have been on the decline since peaking in either June or July.

Daily water levels on Lake Superior have declined 10 cm since they peaked for the year

on October 31st. Since peaking in July, daily levels on lakes Michigan-Huron and St. Clair have declined by 31 and 38 cm, respectively. These lakes have declined about 9 cm more than they have on average in the past between mid-July and December 1st. Since mid-June daily water levels on lakes Erie and Ontario have declined by 40 and 68 cm, respectively—about 5 cm more than average on Lake Erie and 16 cm more than average on Lake Ontario. As mentioned, levels on Lake Ontario may be nearing the end of their annual decline.

Great Lakes Water Level Information

Lake	November 2004 Monthly Mean Level		Beginning of December 2004 Level	
	Compared to Monthly Average (1918-2003)	Compared to One Year Ago	Compared to Beginning-of-Month Average (1918-2003)	Compared to One Year Ago
Superior	3 cm below	23 cm above	4 cm below	18 cm above
Michigan-Huron	32 cm below	21 cm above	31 cm below	17 cm above
St. Clair	10 cm below	17 cm above	6 cm below	15 cm above
Erie	3 cm above	15 cm above	3 cm above	15 cm above
Ontario	4 cm below	14 cm below	5 cm below	22 cm below

Lake Erie-Niagara River Ice Boom

Each year since 1964, the New York Power Authority and Ontario Power Generation have installed the Lake Erie-Niagara River Ice Boom at the head of the Niagara River. The use of the ice boom is authorized by the International Joint Commission (IJC) and is overseen by the Commission's International Niagara Board of Control.

The boom, which is 2700 m long, is made up of floating steel pontoons joined together to form 22 linked spans that are attached to the bottom of Lake Erie by steel cables. The purpose of the boom is to accelerate the formation of an ice arch that naturally forms in the eastern end of Lake Erie most winters and stabilize the ice

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November Precipitation over the Great Lakes

As a percentage of the long-term November average:

Great Lakes Basin	92%	Lake Erie	113%
Lake Superior	59%	(including Lake St. Clair)	
Lakes Michigan-Huron	101%	Lake Ontario	93%

NOTE: These figures are preliminary

cover once it forms. The boom also reduces the severity and duration of lake ice entering the Niagara River as the result of storms over the lake. It lessens the probability of large-scale ice blockages in the river that can lead to shoreline flooding, property damage, and reductions in hydropower generation.

Under the direction of the IJC, which has jurisdiction over matters affecting boundary waters between the United States and Canada, the ice boom installation can begin once Lake Erie's water temperature as measured at the Buffalo Water Intake declines to 4°C or on December 16th, whichever occurs first. The boom is removed by April 1st of each year, unless there is more than 400 km² of ice remaining in the eastern end of the lake. In the later case, boom removal is delayed until the IJC determines that it is safe to do so.

For more information about this ice boom, please see the International Niagara Board of Control's Lake Erie-Niagara River Ice Boom information sheet at:

http://www.ijc.org/rel/boards/niagara/ice_glacé-info_e.pdf

Seasons Greetings

Everyone involved in the preparation and distribution of LEVELnews would like to wish you a happy holiday season and a safe and prosperous new year.

November Outflows from the Great Lakes

As a percentage of the long-term November average:

Lake Superior	110%	Lake Erie	98%
Lake Huron	90%	Lake Ontario	107%

NOTE: These figures are preliminary