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LEVELnews

Great Lakes — St. Lawrence River Water Levels

Levels Higher Than Last Year

Water supply conditions to the Great Lakes throughout January 2016 were mixed, but resulted in higher water levels for all of the Great Lakes compared to those seen a year ago.

- The monthly mean water level of Lake Superior was 23 cm above its period-of-record (1918–2014) average in January and 1 cm higher than January 2015.
- Lake Michigan–Huron's mean level in January was 28 cm above average and 6 cm higher than last year's January level.
- Lake Erie's mean monthly level was 24 cm above average and 7 cm higher than the January level of last year.
- Lake Ontario was 7 cm above its January average and 7 cm higher than last year.
- The St. Lawrence River levels near Montreal remained below average.

After its record rise in December, Lake Superior resumed its seasonal decline in January falling 6 cm, compared to the average (1918–2014) fall of 7 cm. Also, after its December rise, Lake Michigan–Huron resumed its seasonal decline with dry conditions in January, falling 6 cm, when the average fall is 3 cm. Lake Erie rose 3 cm in January, compared to the average monthly fall of 1 cm. Lake Ontario rose 19 cm through January, considerably more than the average rise of 5 cm, due to relatively high inflows

(continued on next page)

Great Lakes Water Level Information

Lake	January 2016 Monthly Mean Level		Beginning-of-February 2016 Level	
	Compared to Monthly Average (1918–2014)	Compared to One Year Ago	Compared to Beginning-of-Month Average (1918–2014)	Compared to One Year Ago
Superior	23 cm above	1 cm above	23 cm above	2 cm above
Michigan–Huron	28 cm above	6 cm above	27 cm above	3 cm above
St. Clair	35 cm above	23 cm above	40 cm above	46 cm above
Erie	24 cm above	7 cm above	27 cm above	15 cm above
Ontario	7 cm above	7 cm above	13 cm above	17 cm above

Canada

from Lake Erie, slightly wet conditions in the basin, and near-average outflows.

Beginning-of-February Lake Levels

At the beginning of February, levels of all the Great Lakes were also above average (1918–2014) and above their levels of one year ago. Lake Superior's beginning-of-February level was 23 cm above average, and 2 cm above the February 2015 level. Lake Michigan–Huron's beginning-of-February level was 27 cm above average and 3 cm higher than last year. Lake Erie was 27 cm above average at the beginning of February and 15 cm higher than this time last year. Lake Ontario's level started February at 13 cm above average and 17 cm higher than this time last year.

Winter Lake Evaporation

Lake evaporation, or the process of water moving from the lakes into the atmosphere as the lake water is cooled, is a complex process that contributes, along with precipitation, inflow and outflow, to level fluctuations of the Great Lakes. Evaporation from the Great Lakes generally peaks in the fall to early winter months, when the air temperature above the lakes drops, but the water remains relatively warmer and ice free. The rate of evaporation from the lakes is dependent on a number of factors including wind speed, air temperature, water temperature and ice cover. Significant evaporation occurs when dry cold air blows over warmer lake water; conditions typically encountered when temperatures drop rapidly from above- to below-freezing.

So far this year, unseasonably warm fall and winter air temperatures have lowered evaporation rates by keeping air temperatures closer to water temperatures, and increased precipitation runoff into the lakes when it is usually trapped as snow and ice. This has contributed to above-normal water supplies and higher beginning-of-February lake levels than last year. When air temperatures drop quickly, and the lake is ice free, watch for the mist above the surface of the lake as evidence that evaporation is occurring.

Water Level Forecast

For a graphical representation of recent and forecasted water levels on the Great Lakes refer to the Canadian Hydrographic Service's monthly water levels bulletin at tides-marees.gc.ca/C&A/bulletin-eng.html.

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January Precipitation over the Great Lakes*

Great Lakes Basin	**74%**	**Lake Erie (including Lake St. Clair)**	**59%**
Lake Superior	**67%**		
Lake Michigan–Huron	**84%**	**Lake Ontario**	**64%**

January Outflows from the Great Lakes*

Lake Superior	**125%**	**Lake Erie**	**115%**
Lake Michigan–Huron	**125%**	**Lake Ontario**	**98%**

***As a percentage of the long-term January average.**
NOTE: These figures are preliminary.