



LEVELnews

Great Lakes – St. Lawrence River Water Levels

Above average lake levels forecasted to continue

With all the Great Lakes currently at or above their levels of the same time last year and all of the lakes well above their average levels for this time of year, above average water levels are expected to continue. Water levels in the lower St. Lawrence River also remained above average for February due to above-average outflows from Lake Ontario and the Ottawa River.

Be prepared for high water

Beginning-of-March levels of

lakes Michigan–Huron, Erie and Ontario were the highest they have been in over 20 years for this time of year, and Lake Superior was as high as it has been in over 30 years. With levels higher than they have been at this time of year for a while, and all the Great Lakes entering spring conditions when the lakes seasonally rise, all should be prepared for impacts from potential flooding in low lying areas and erosion of shoreline. Precise predictions of Great Lakes water levels are

not possible weeks in advance due to natural variations in weather. To stay informed about what is going on in your area of the Great Lakes, local flood watches and flood warning information is issued by your local Conservation Authority at <https://conservationontario.ca/conservation-authorities/find-a-conservation-authority/>. Where there is no Conservation Authority, your local Ministry of Natural Resources and Forestry district office can provide

Great Lakes Water Level Information				
Lake	February 2019 Monthly Mean Level		Beginning-of-March 2019 Level	
	Compared to Monthly Average (1918–2017)	Compared to One Year Ago	Compared to Beginning-of-Month Average (1918–2017)	Compared to One Year Ago
Superior	32 cm above	Same	34 cm above	Same
Michigan–Huron	55 cm above	9 cm above	57 cm above	6 cm above
St. Clair	62 cm above	9 cm above	72 cm above	4 cm below
Erie	62 cm above	17 cm above	63 cm above	4 cm above
Ontario	37 cm above	7 cm above	37 cm above	4 cm above

information at <https://www.ontario.ca/page/ministry-natural-resources-and-forestry-regional-and-district-offices>. Additional information on Great Lakes levels and flooding can also be found at the Ontario flood forecasting and warning program web site, <https://www.ontario.ca/law-and-safety/flood-forecasting-and-warning-program#section-2>, the International Lake Superior Board of Control web site, <https://www.ijc.org/en/lbsbc>, and the International Lake Ontario-St. Lawrence River Board web site, <https://ijc.org/en/loslrb>. As well, the Water levels forecast section in this newsletter can provide you with more information.

February monthly levels

All the Great Lakes had well above average [monthly mean water levels](#) in February. Lake Erie was the highest above average while Lake Superior was the closest to average for the month. Lake Superior was 32 cm above its period-of-record (1918–2017) February monthly mean water level, tied with last year’s value for the 2nd highest February level on record and just 5 cm below the record high February level set in 1986. Lake Michigan–Huron’s monthly mean level in February was 55 cm above average, 9 cm above last February’s level, the 8th highest February mean level on record and

the highest it has been since 1987. Lake Erie’s monthly mean level was 62 cm above average, 17 cm above the level of last February, the 6th highest February mean level on record and the highest it has been for the month since 1998. Lake Ontario’s February monthly mean level was 37 cm above average and 7 cm higher than a year ago.

Lake level changes

Despite above-average outflows from all of the Great Lakes, above-average water supplies and seasonal to below-seasonal evaporation rates in February contributed to level changes in all the Great Lakes consistent with wetter than average conditions. Lake Superior’s levels remained stable through the month of February, when on average they fall by 5 cm. Lake Michigan–Huron rose by 4 cm, when on average it falls by 1 cm. Lake Erie’s level rose by 5 cm, more than its average rise in

February of 2 cm. Lake Ontario rose 11 cm, significantly more than its average 3 cm February rise, as very high outflows could not offset near-record-high supplies.

Beginning-of-March lake levels

All the Great Lakes began March at least 34 cm above average and all the lakes had levels at or above those seen at the beginning of March 2018. Lake Superior’s beginning-of-March level was 34 cm above average (1918–2017) and the same as it was at the same time in March 2018. The beginning-of-March level was the 2nd highest on record and only 4 cm below the record high value set in 1986. Lake Michigan–Huron’s beginning-of-March level was 57 cm above average and 6 cm higher than its level at the same time last year. Lake Michigan–Huron is the highest it has been since 1997 but is still 25 cm below its record high. Lake Erie was 63 cm above

February Precipitation over the Great Lakes^{1,2}

Great Lakes Basin	139%	Lake Erie	114%
Lake Superior	172%	(including Lake St. Clair)	
Lake Michigan–Huron	143%	Lake Ontario	105%

February Outflows from the Great Lakes¹

Lake Superior	135%	Lake Erie	125%
Lake Michigan–Huron	118%	Lake Ontario	126%

¹ As a percentage of the long-term February average.

² US Army Corps of Engineers

NOTE: These figures are preliminary.

average at the beginning of March and 4 cm higher than the same time last year. Lake Erie is the highest it has been since 1998 but is still 16 cm below its record high. Lake Ontario's level at the start of March was 37 cm above average, 4 cm higher than the water levels last year. Lake Ontario is the highest it has been for this time of year since 1998, but is still 28 cm below its record high value. At the beginning of March, all of the lakes were at least 38 cm above their chart datum level.

Water levels forecast

Relative to their beginning-of-March levels and with average water supplies for

this time of year Lake Superior's levels will stay stable over March and all the other Great Lakes rise. But lakes Superior and Michigan–Huron still have considerable snow that could add to lake levels, depending on how quickly it melts and how much evaporates before it reaches the lakes. Looking ahead to early summer water levels, it is likely that levels will continue to be well above average for all the Great Lakes based on their beginning-of-March levels and past conditions on the lakes (1918–2018) and with average water supplies. Lake Superior's probable range of future lake levels looking forward to June are between 15 cm and 40 cm above average. This forecast, based on beginning-of-March conditions, indicates that if the lake receives very wet supplies it could be around record levels (1918–2018) in May and above record high values in June, however it is still more likely that they will remain below record high values. The probable range of values to June for Lake Michigan–Huron are between 37 cm and 71 cm above average, and even if the lake receives exceptionally wet conditions, the levels are forecasted to stay below record high values. The probable range of values for Lake Erie to the month of June are between 27 cm and 71 cm above

average, which do not surpass the June record high values, but the May record high value is lower than the June value, so there is a slight possibility with very wet conditions it may reach its period-of-record values for May. Lake Ontario's levels are forecasted to stay well below record high values, ranging between 15 cm below average with very dry conditions and 59 cm above average with very wet conditions. For more information on forecasting the probable range of water levels see the [July 2018 edition of LEVELnews](#). 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: <https://waterlevels.gc.ca/C&A/bulletin-eng.html>.

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