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LEVELnews

Great Lakes — St. Lawrence River Water Levels

All the lakes remain above average except for Lake Ontario

During June, Lake Superior's average level for the month of June was 10 cm above the long-term average but 15 cm below last year's June level. Lake Michigan-Huron's June water level was 36 cm above average and 52 cm lower than last year's record high. Lake Erie's level was 35 cm above average but 39 cm lower than this time last year. The average June water level for Lake Ontario was 36 cm below the long-term June average and 58 cm lower than last year.

Overall, the Great Lakes basin experienced average precipitation amounts in June, although some areas experienced dry conditions, while others experienced wetter than average conditions. Dry conditions persisted in the Lake Superior basin, while the Lake Ontario basin received close to average precipitation amounts. Lakes Erie and Michigan-Huron experienced wetter than average conditions.

This is the time of year when the water levels of Lakes Superior and Michigan-Huron are typically still rising, and when both Lake Erie and Ontario have peaked and have begun their seasonal decline. Lakes Michigan-Huron and Erie are expected to remain at above average levels under any water supply condition. Lake Superior water levels are expected to stay above average under typical or wetter than average conditions, however, lake levels may fall below average in late summer if dry conditions occur. Lake Ontario's water level is expected to remain below average if the basin

Great Lakes Water Level Information

Lake	June 2021 Monthly Mean Level		Beginning-of-July 2021 Level	
	Compared to Monthly Average (1918–2018)	Compared to One Year Ago	Compared to Beginning-of-Month Average (1918–2018)	Compared to One Year Ago
Superior	10 cm above	15 cm below	9 cm above	15 cm below
Michigan–Huron	36 cm above	52 cm below	40 cm above	48 cm below
St. Clair	42 cm above	40 cm below	53 cm above	31 cm below
Erie	35 cm above	39 cm below	38 cm above	34 cm below
Ontario	36 cm below	58 cm below	34 cm below	50 cm below

Canada

experiences dry or average conditions, however, lake levels may surpass average levels in early fall under wet conditions.

With water levels remaining above average on some of the lakes, there is a risk for accelerated coastline erosion and flooding to occur in low-lying areas. As well, although Lake Ontario remains above chart datum levels, boaters should take caution this summer. This year's below average water levels are very different from recent years and could pose hazards not experienced for some time. For current information and forecasts, please refer to the local sources of information listed below.

June monthly levels

Lake Superior's monthly-mean level was 183.55 m (IGLD85), 10 cm above average and 15 cm below its level this time last year.

Lake Michigan-Huron had an average monthly water level of 176.93 m (IGLD85[1]). This was 36 cm above its June monthly-mean water level and 52 cm lower than its record high June level last year.

Lake Erie's monthly-mean level in June was 174.71 m (IGLD85), 35 cm above average and 39 cm below last June's level.

Lake Ontario's June monthly-mean level was 74.71 m (IGLD85), 36 cm below average and 58 cm lower than the level from a year ago. This is the lowest June level since 1965.

Lake level changes

The level of Lake Superior rose by 6 cm in June, which is close to its average 7 cm June rise.

The level of Lake Michigan-Huron rose by 4 cm, close to its average June rise of 5 cm.

Lake Erie rose by 6 cm, a much larger rise than its average 1 cm June rise.

Lake Ontario's level increased by 2 cm in June at a time when it typically declines by 1 cm.

(Note that lake level changes are based on the levels at the beginning of the month and not the monthly average levels.)

June Precipitation over the Great Lakes[1,2]

Great Lakes Basin	**106%**	**Erie (including Lake St. Clair)**	**119%**
Superior	**65%**		
Michigan–Huron	**129%**	**Ontario**	**97%**

June Outflows from the Great Lakes[1]

Superior	**104%**	**Erie**	**111%**
Michigan–Huron	**111%**	**Ontario**	**101%**

[1] As a percentage of the long-term average.
[2] US Army Corps of Engineers
NOTE: These figures are preliminary.

Beginning-of-July lake levels

Lake Superior's beginning-of-July level was 9 cm above average, which is 15 cm lower than last year.

Lake Michigan–Huron's beginning-of-July level was 40 cm above average and 48 cm lower than it was during its record beginning-of-July level this time last year.

Lake Erie was 38 cm above average at the beginning of July and 34 cm lower than the record high last year at this time.

Lake Ontario's level at the start of July was 34 cm below average and 50 cm lower than the water level from last year.

At the beginning of July, all of the Great Lakes were at least 38 cm above their chart datum level. Chart datum is a reference elevation for each lake that provides more information on the depth of water for safe boat navigation on the lakes. For more information, please visit http://www.greatlakescc.org/wp36/home/international-great-lakes-datum-update/low-water-datum/

[1]Water levels are referenced to International Great Lakes (Vertical) Datum 1985 (IGLD85). For more information, please visit International Great Lakes Datum Update – Great Lakes Coordinating Committee http://www.greatlakescc.org/wp36/home/international-great-lakes-datum-update/

Water levels forecast

This is the time of year when the water levels of Lakes Superior and Michigan-Huron are typically still rising, and when both Lake Erie and Ontario have peaked and have begun their seasonal decline. Even under wetter than average conditions, none of the Great Lakes are expected to reach record high levels.

The level of Lake Superior is expected to rise during August (even if the basin experiences drier than average conditions). Under wetter than average conditions, the lake is expected to remain above average in the coming months, although, very dry conditions could result in lower than average conditions in the early fall.

Lake Michigan-Huron is currently above average and is expected to remain so even in the event of drier than average conditions.

Lake Erie levels are currently above average and are expected to remain high, even in the event of drier than average conditions.

Lake Ontario remains below average. Under drier than average conditions, Lake Ontario would be expected to remain below average, although, average conditions may result in lake levels approaching average. Under wetter than average conditions, Lake Ontario could approach or surpass average levels in late summer or early fall.

For more information on the probable range of water levels consult https://www.canada.ca/en/environment-climate-change/services/water-overview/quantity/great-lakes-levels-related-data/levelnews-great-lakes-st-lawrence.html#projection.

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

Information on flooding

With water levels remaining high on some of the lakes, the risk of flooding is also high. Great Lakes water levels are difficult to predict weeks in advance due to natural variations in weather. To stay informed on Great Lakes water levels and flooding, visit the Ontario flood forecasting and warning program website at https://www.ontario.ca/flooding.

Additional information can also be found at the International Lake Superior Board of Control web site, https://www.ijc.org/en/lsbc, and the International Lake Ontario–St. Lawrence River Board web site, https://ijc.org/en/loslrb.

Information on current water levels and marine forecasts

Daily levels: Current daily lake wide average levels of all the Great Lakes are available on the Great Lakes water levels and related data at https://www.canada.ca/en/environment-climate-change/services/water-overview/quantity/great-lakes-levels-related-data.html and by clicking on "Daily water levels for the current month". The daily average water level is an average taken from a number of gauges across each lake and is a good indicator of the overall lake level when it is changing relatively rapidly due to recent high precipitation.

Hourly levels: Hourly lake levels from individual gauge sites can be found at the Government of Canada Great Lakes Water Level Gauging Stations website at:

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http://tides.gc.ca/eng/find/region/6. These levels are useful for determining real-time water levels at a given site, however, it should be noted that they are subject to local, temporary effects on water levels such as wind and waves.

Marine forecasts: A link to current Government of Canada marine forecasts for wave heights for each of the Great Lakes can be found on the Great Lakes water level and related data web page at https://www.canada.ca/en/environment-climate-change/services/water-overview/quantity/great-lakes-levels-related-data.html under the "Wave and wind data heading". Current marine forecasts for lakes Superior, Huron, Erie and Ontario are available by clicking on the link of the lake in which you are interested. To view a text bulletin of recent wave height forecasts for all of the Great Lakes, click on the "Text bulletin wave height forecasts for the Great Lakes and St. Lawrence River" link.

FOR MORE INFORMATION:

Frank Seglenieks
Boundary Water Issues
Meteorological Service Canada
Environment and Climate Change Canada
Burlington ON L7S 1A1

Email: ec.LEVELnews-infoNIVEAU.ec@canada.ca

Nicole O'Brien (Editor)
Boundary Water Issues
Meteorological Service Canada
Environment and Climate Change Canada
Burlington ON L7S 1A1

Email: ec.LEVELnews-infoNIVEAU.ec@canada.ca

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