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LEVELnews

Great Lakes — St. Lawrence River Water Levels

Lake Michigan-Huron remains above its record level while Superior and Erie stay well above average

All the Great Lakes remained above average during July 2020, with Lake Michigan-Huron exceeding its record high monthly level for a seventh month in a row at 6 cm higher than the previous record. Lake Superior's level was the seventh highest July level on record at10 cm lower than its record high and Lake Erie was at its second highest level and 8 cm below last year's record level. Lake Ontario was 17 cm above average and 62 cm below the record level of last year.

Lake Michigan-Huron started August at its highest level on record and Lake Erie was at its second highest. Lake Superior was at its fifth highest on record while Lake Ontario began the month 15 cm above average, but well below its record. Precipitation in July was close to average for Lake Superior, above average for Lakes Michigan-Huron and Ontario and below average for Lake Erie. The outflow from Lake Michigan-Huron was the highest July outflow during the period of record (1918-2019) and Lake Erie's outflow was the second highest for the month of July.

Great Lakes Water Level Information

Lake	July 2020 Monthly Mean Level		Beginning-of-August 2020 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	25 cm above	10 cm below	26 cm above	8 cm below
Michigan–Huron	86 cm above	8 cm above	86 cm above	8 cm above
St. Clair	82 cm above	1 cm above	84 cm above	1 cm below
Erie	71 cm above	8 cm below	70 cm above	9 cm below
Ontario	17 cm above	62 cm below	15 cm above	58 cm below

Canada

Lake Superior is typically reaching its peak around this time of year while the other lakes have all typically started their seasonal declines. With average conditions, Lake Superior is expected to remain above average for the next six months while Lake Michigan-Huron would stay close to record values for August and drop below them going into the fall unless wet conditions persist. Lake Erie would approach record levels only if there are wet conditions, while Lake Ontario is expected to stay above average for the rest of the summer and fall.

With high levels on all of the lakes, any storms and strong winds increase the risk for accelerated shoreline erosion and flooding to occur in low-lying areas. For current information and forecasts, please refer to local sources of information listed below.

July monthly levels

Lake Superior was 25 cm above its July monthly-mean water level and 10 cm lower than its level last year (which was the highest in the period of record). This year was the seventh highest July level on record.

Lake Michigan–Huron's monthly-mean level in July was 86 cm above average at 8 cm above last July's level. This was the highest July level on record at 6 cm above the previous monthly record value in 1986.

Lake Erie's monthly-mean level was 71 cm above average at 8 cm below its July 2019 level. This was the second highest July lake level on record behind only last year's level.

Lake Ontario's July monthly-mean level was 17 cm above average and 62 cm lower than the record high from a year ago.

Lake level changes

Lake Superior's levels went up by 7 cm in July which is more than its typical rise of 5 cm.

Lake Michigan–Huron went down by 2 cm during the month of July. On average, it stays at the same level during July.

The level of Lake Erie went down by 7 cm in July, while it typically goes down by 5 cm between July and August.

Lake Ontario went down by 10 cm which is slightly more than its average decline of 9 cm.

July Precipitation over the Great Lakes[1,2]

Great Lakes Basin	**111%**	**Lake Erie (including Lake St. Clair)**	**83%**
Lake Superior	**101%**		
Lake Michigan–Huron	**127%**	**Lake Ontario**	**115%**

July Outflows from the Great Lakes[1]

Lake Superior	**104%**	**Lake Erie**	**128%**
Lake Michigan–Huron	**132%**	**Lake Ontario**	**121%**

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

Beginning-of-August lake levels

Lake Superior's beginning-of-August level was 26 cm above average, which is 8 cm lower than the highest beginning-of-month in the period of record (1918–2019) from last year, and the fifth highest on record.

Lake Michigan–Huron's beginning-of-August level was 86 cm above average and 8 cm higher than its level at the same time last year. This is the highest in the period of record, with a level that is 2 cm higher than the previous beginning-of-month record for August set both last year and in 1986.

Lake Erie was 70 cm above average at the beginning of August and 9 cm lower than the same time last year. This level is the second highest on record behind only last year.

Lake Ontario's level at the start of August was 15 cm above average at 58 cm lower than the record high water levels of last year.

At the beginning of August, all of the Great Lakes were at least 60 cm above their chart datum level (Note: chart datum is a reference elevation for each lake in order to provide more information on

the depth of water for safe boat navigation on the lakes).

Water levels forecast

At this time of year, all the lakes apart from Lake Superior have typically peaked and have started their seasonal decline. Lake Superior usually starts its seasonal decline in either the month of August or September.

The level of Lake Superior is expected to stay well above average if it receives average water supplies. Going into the fall, only very wet conditions would see the lake again getting close to record values.

If Lake Michigan-Huron starts to experience its typical seasonal decline, it will likely drop below record levels in the next couple of months. However, above average water supplies during the late summer and fall may bring the level back above record levels.

If Lake Erie experiences average conditions, the lake would continue to see levels just below the record levels, but well above average throughout the summer and then remain above average throughout the fall.

Lake Ontario would continue its seasonal decline with average conditions and remain above average going into the fall.

For more information on the probable range of water levels consult the July 2018 edition of LEVELnews at https://www.canada.ca/en/environment-climate-change/services/water-overview/quantity/great-lakes-levels-related-data/levelnews-great-lakes-st-lawrence/july-2018.html

FOR MORE INFORMATION:

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

Great Lakes water levels are hard 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 web site 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 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 change when it is changing relatively rapidly due to the high precipitation recently experienced.

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: 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 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.

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