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LEVELnews

Great Lakes — St. Lawrence River Water Levels

Rain brings High Levels to Lake Ontario – St. Lawrence River

Great Lakes watershed-wide rainfall events in April and the first week of May caused all of the Great Lakes and the St. Lawrence River to rise. Lake Ontario and St. Lawrence River levels were affected the most, while the other Great Lakes levels rose close to at least the highest levels seen in the past couple of years. All the lakes remain well above average levels for this time of year and continued to increase in the first week of May.

By the end of April, Lake Ontario had risen to levels that haven't been seen since 1993, and reached near record levels in the first week of May. By May 10 the daily average Lake Ontario water level was 75.80 m, only 2 cm below the highest level ever recorded (1918–2016) at the beginning of June 1952. Along with high levels in Lake Ontario, the rain events also caused high flow in the Ottawa River basin resulting in record high levels in the St. Lawrence River. The Iroquois and Moses–Saunders dams on the St. Lawrence River were operated to balance water levels in the Lake Ontario – St. Lawrence River system to minimize the flood potential to the extent possible. Further information on flow regulation out of Lake Ontario can be found at the International Lake Ontario – St. Lawrence River Board Facebook Page at: www.facebook.com/InternationalLakeOntarioStLawrenceRiverBoard and the International Joint Commission web site at: www.ijc.org/loslr/en/background/index.php.

Great Lakes Water Level Information

Lake	April 2017 Monthly Mean Level		Beginning-of-May 2017 Level	
	Compared to Monthly Average (1918–2016)	Compared to One Year Ago	Compared to Beginning-of-Month Average (1918–2016)	Compared to One Year Ago
Superior	15 cm above	7 cm below	19 cm above	Same
Michigan–Huron	28 cm above	11 cm below	31 cm above	6 cm below
St. Clair	43 cm above	2 cm below	44 cm above	1 cm above
Erie	42 cm above	4 cm above	43 cm above	6 cm above
Ontario	47 cm above	24 cm above	55 cm above	40 cm above

Canada

April Monthly Lake Levels

All of the lakes had monthly mean levels above average in April. The April monthly mean water level of Lake Superior was 15 cm above its period-of-record (1918–2016) average, but 7 cm lower than April 2016. Lake Michigan–Huron's mean level in April was 28 cm above average and 11 cm lower than last April's level. Lake Erie's mean monthly level was 42 cm above average and 4 cm above its level the previous April. Lake Ontario was 47 cm above its April average and 24 cm higher than the level last year.

Lake Level Changes

Very high precipitation across the Great Lakes basin resulted in near to above average level changes for all the lakes through April and all lakes continued to rise through the first nine days of May. Lake Superior's 13 cm rise was its 11th highest rise for April when on average (1918–2016) it rises 8 cm even though it had above-average outflow. Through the first nine days of May it rose the least of the Great Lakes, with its daily average levels rising 3 cm by May 7 but then began to fall. Lake Michigan–Huron's level rose 18 cm, its 14th highest April rise, when on average it rises 11 cm through April. Through the first nine days of May its daily average level rose another 4 cm. Lake Erie was the only lake with a rise below average, rising 12 cm over April, when on average it rises 13 cm, but its daily average level rose 18 cm in the first nine days of May. Lake Ontario had a rise of 44 cm, its 3rd highest April rise and more than double the 21 cm average rise for April. Rainfall in the first week of May caused the daily average level of the lake to rise another 25 cm in the first nine days of May. Montreal Harbour levels rose quickly through the first three weeks of April due to thawing winter snow in combination with rainfall events and within the first week of May had reached record high levels.

Beginning-of-May Lake Levels

All the lakes had above average beginning-of-May levels and all but Lake Michigan–Huron were the same or higher than last year. Lake Superior's beginning-of-May level was 19 cm above average (1918–2016), and the same level at this time last year. Lake Michigan–Huron's beginning-of-May level was 31 cm above average and 6 cm lower than last year. Lake Erie was 43 cm above average at the beginning of May, 6 cm above this time last year and the highest it has been since 1998. Lake Ontario's level at the start of May was 55 cm above average, 40 cm above this time last year and the highest it has been since 1993. At the beginning of May, all of the lakes were at least 30 cm above their chart datum level.

Where to Find Current Water Levels

With lake levels changing day-to-day there are several sources that you can obtain up-to-date lake levels. The Government of Canada Great Lakes Water Levels and Related Data website at: http://www.ec.gc.ca/eau-water/default.asp?lang=En&n=79962112-1 provides a source for web sites on Great Lakes levels.

April Precipitation over the Great Lakes*

Great Lakes Basin	**152%**	**Lake Erie (including Lake St. Clair)**	**117%**
Lake Superior	**148%**		
Lake Michigan–Huron	**163%**	**Lake Ontario**	**155%**

April Outflows from the Great Lakes*

Lake Superior	**101%**	**Lake Erie**	**119%**
Lake Michigan–Huron	**113%**	**Lake Ontario**	**107%**

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

The United States Army Corps of Engineers Great Lakes Water Levels website at: http://www.lre.usace.army.mil/Missions/Great-Lakes-Information/Great-Lakes-Water-Levels/Current-Conditions/ provides the daily average levels for each of the Great Lakes. Click on "The Great Lakes Water Levels Report for the Current Month" for the most recent daily average water levels. 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 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. 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.

FOR MORE INFORMATION:

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