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LEVELnews

Great Lakes — St. Lawrence River Water Levels

Wet conditions across Great Lakes – St. Lawrence River

Very high precipitation across the Great Lakes basin resulted in above average level changes for all the lakes through May. Rain through the month of May resulted in Lake Ontario setting new record high levels. The basin wide rainfall events at the beginning of May also resulted in record high flows in the Ottawa River and flooding in Lake Ontario and the St. Lawrence River. Similarly, the remaining lakes rose to levels that have not been seen at the beginning of June since at least 1998. Due to the wet spring conditions, all of the lakes are expected to stay well above average for the rest of the summer.

Record high levels were seen in Lake Ontario and the St. Lawrence River in May. Ottawa River flows peaked on May 8, hitting a record high daily mean flow of 8,862 m^3/s, and then began to decline. By May 12 the daily water level in Lake Ontario had risen to 75.82 m, equaling the highest recorded daily value for the lake in the period of record (1918-2016). Lake Ontario's daily average level continued to rise reaching 75.88 m on May 25, 6 cm higher than the record high set at the beginning of June 1952. In response to rising levels on Lake Ontario and falling flow rates from the Ottawa River, the outflow from Lake Ontario was increased to a high of 10,200 m^3/s beginning May 24, as high as the weekly maximum flow ever recorded since 1918. As a result of drier conditions and the increases in outflow,

Great Lakes Water Level Information

Lake	May 2017 Monthly Mean Level		Beginning-of-June 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	20 cm above	6 cm above	22 cm above	9 cm above
Michigan–Huron	32 cm above	2 cm below	34 cm above	2 cm above
St. Clair	49 cm above	11 cm above	50 cm above	13 cm above
Erie	52 cm above	17 cm above	54 cm above	21 cm above
Ontario	79 cm above	71 cm above	82 cm above	83 cm above

Canada

the level of Lake Ontario stabilized, and declined 11 cm from May 25 to June 19. 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 its website at: http://ijc.org/en_/islrbc.

May monthly lake levels

All of the lakes had monthly mean levels above average in May. The May monthly mean water level of Lake Superior was 20 cm above its period-of-record (1918–2016) average and 6 cm higher than May 2016. Lake Michigan–Huron's mean level in May was 32 cm above average and 2 cm lower than last May's level. Lake Erie's mean monthly level was 52 cm above average and 17 cm above its level the previous May. Lake Ontario's mean monthly May level of 75.80 m is 4 cm higher than the previous record high set in May 1973. Lake Ontario's level was 79 cm above its average and 71 cm higher than the level last year.

Lake level changes

Very high precipitation across the Great Lakes basin resulted in above average level changes for all the lakes through May despite average to above average outflows. Lake Superior rose 13 cm compared to its average (1918–2016) May rise of 10 cm. Lake Michigan–Huron's level rose 11 cm when on average it rises 8 cm through May. After a below average rise in April, Lake Erie rose 16 cm over May, the 11th highest May rise on record and over three times its average rise of 5 cm. Lake Ontario had a rise of 35 cm, its 2nd highest May rise and more than four times the average rise of 8 cm for May. Montreal Harbour levels began May at record high levels, with the peak of 8.96 m on May 9 and then generally declined to a low of 8.19 m on May 23.

Beginning-of-June lake levels

All the lakes had beginning-of-June levels above those that we have seen in at least 19 years. Lake Superior's beginning-of-June level was 22 cm above average (1918–2016), 9 cm above the level at this time last year, and the highest they have been since 1997. Lake Michigan–Huron's beginning-of-June level was 34 cm above average, 2 cm higher than last year and the highest it has been since 1998. Lake Erie was 54 cm above average at the beginning of June, 21 cm above this time last year and the highest it has been since 1997. Lake Ontario's level at the start of June was 82 cm above average and 83 cm above this time last year. This set a new record for the highest beginning-of-June level on Lake Ontario in the period of record (1918 to present) breaking the previous record set in June 1952 by 5 cm. At the beginning of June, all of the lakes were at least 43 cm above their chart datum level.

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

May Precipitation over the Great Lakes*

Great Lakes Basin	**120%**	**Lake Erie (including Lake St. Clair)**	**152%**
Lake Superior	**101%**		
Lake Michigan–Huron	**101%**	**Lake Ontario**	**191%**

May Outflows from the Great Lakes*

Lake Superior	**99%**	**Lake Erie**	**119%**
Lake Michigan–Huron	**110%**	**Lake Ontario**	**116%**

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

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.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.

Water levels forecast

Relative to their beginning-of-June levels and assuming average water supplies, lakes Superior and Michigan–Huron are predicted to rise while lakes Erie and Ontario are predicted to fall during June. 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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