

LEVEL *news*



Great Lakes - St. Lawrence River Water Levels

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Daily Water Levels Decline on all Lakes except Michigan-Huron

Daily water levels fell on each of the Great Lakes except Lakes Michigan-Huron during October.

Average daily water levels fell 4 cm on Lake Superior during October, which is 1 cm more than its average decline for the month. Daily water levels fell 7 cm on Lakes Michigan-Huron during the first three weeks in October. However, they increased by an equal amount during the last week of the month in response to precipitation. As a result, Lakes Michigan-Huron began November at the same level as it was at the beginning of October. On average, October daily levels on these lakes decline by 7 cm.

Daily water levels fell 10 cm on both lakes Erie and Ontario during October. On average, these lakes fall 9 and 12 cm, respectively, during October.

Six-Month Forecast

For a complete range of probable water levels over the next six months on each of the Great Lakes and Lake St. Clair, please refer to the October 2009 edition of the Monthly Water Level Bulletin, found at:

http://www.waterlevels.gc.ca/C&A/tidal_e.html.

Winds Effects

Last month's LEVELnews reminded everyone that the autumn storm season had

begun. On October 7, the very day that LEVELnews was published last month, a storm packing high winds passed over the lower portion of the Great Lakes region.

When strong, sustained winds prevail in one direction over a lake, water levels can rise (set-up) or fall (set-down) significantly in a short period of time. The impact of three significant October wind events on Lake Erie water levels can be seen in the attached plots showing the hourly water heights (in metres above Chart Datum) recorded last month at Port Colborne and Bar Point.

The October 7 storm caused water levels to increase rapidly
(continued on next page)

Great Lakes Water Level Information

Lake	October Monthly Mean Level		Beginning-of-November 2009 Level	
	Compared to Monthly Average (1918-2008)	Compared to One Year Ago	Compared to Beginning-of-Month Average (1918-2008)	Compared to One Year Ago
Superior	16 cm below	4 cm above	13 cm below	9 cm above
Michigan-Huron	16 cm below	20 cm above	9 cm below	29 cm above
St. Clair	same	14 cm above	1 cm below	15 cm above
Erie	7 cm above	13 cm above	6 cm above	16 cm above
Ontario	1 cm below	same	same	2 cm above



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at Port Colborne at the eastern end of Lake Erie. At the same time, water levels fell sharply at Bar Point at the western end of the lake.

The second wind event started October 22 and lasted almost three days. During that event, levels at Port Colborne fell and then increase in response to the wind conditions. Water levels at Bar Point did the opposite.

The final wind event occurred October 31. It caused levels to increase at Port Colborne and decrease at Bar Point but not by as much as they did during the October 7 storm.

Hourly data at each of the Great Lakes water level gauging stations operated by the Canadian Hydrographic Service can be found on their

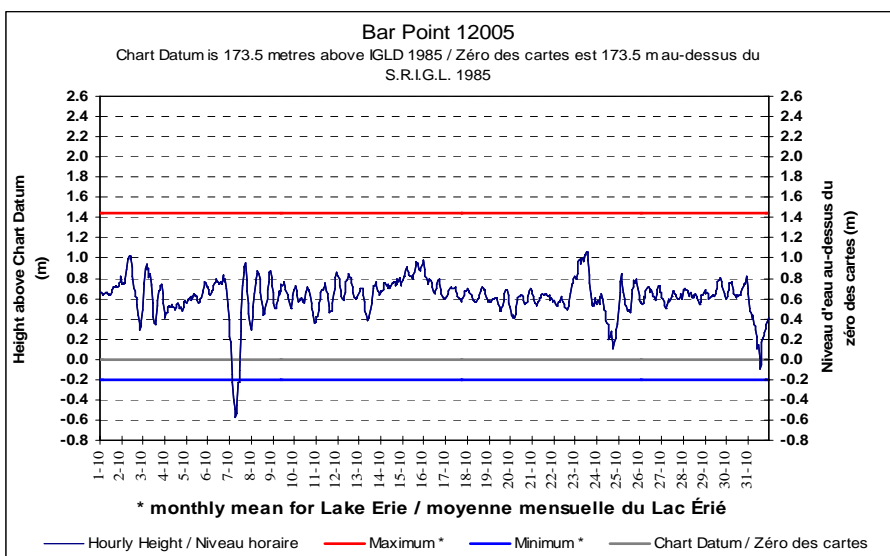
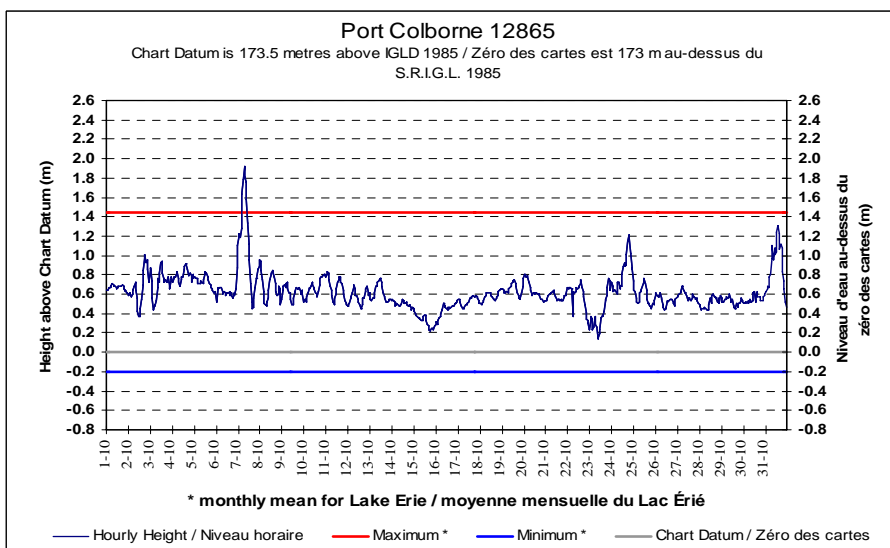
October Precipitation over the Great Lakes

As a percentage of the long-term October average:

Great Lakes Basin	150%	Lake Erie	134%
Lake Superior	130%	(including Lake St. Clair)	
Lakes Michigan-Huron	173%	Lake Ontario	120%

NOTE: These figures are preliminary

Web site at: http://www.waterlevels.gc.ca/C&A/tidal_e.html.



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October Outflows from the Great Lakes

As a percentage of the long-term October average:

Lake Superior	80%	Lake Erie	101%
Lake Huron	95%	Lake Ontario	106%

NOTE: These figures are preliminary