

# LEVEL *news*



Great Lakes - St. Lawrence River Water Levels

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## Water Levels Drop on All Lakes during February

Daily water levels fell on each of the Great Lakes and Lake St. Clair during February. The changes experienced on each lake were due to the well-below-average water supplies that they received from their local basins. These low water supplies were due to low precipitation and, in the cases of lakes Michigan-Huron, St. Clair and Erie, the impact of a major ice jam in the St. Clair River. The ice jam reduced the outflow from Lakes Michigan-Huron to Lake St. Clair and subsequently to Lake Erie for some 16 days during the month.

Daily water levels fell 8 cm on Lake Superior during February, 3 cm more than its long-term average decline for

the month. Daily levels on Lakes Michigan-Huron fell 2 cm, twice its average decline for the month. Daily water levels on lakes Erie and Ontario fell 10 and 5 cm, respectively, instead of increasing 4 and 3 cm, respectively, as they typically have on average during February.

### St. Clair River Ice Jam

A major ice jam occurred in the St. Clair River from February 6 to 22, causing a significant reduction in the outflow from Lake Huron during that time. During this period, the rise in the level of Lakes Michigan-Huron due to the flow reduction was small, due to its vast storage capacity. However, the

decline in Lakes Michigan-Huron's daily water level during February by 2 cm was a bit less than it would have been had the ice jam not occurred.

The impact of the reduced flow was more clearly visible in the daily water levels recorded on Lake St. Clair, which is much smaller than Lakes Michigan-Huron. The level of Lake St. Clair fell to about 50 cm below its pre-jam condition level and remained there for several days before starting to recover – increasing by a few centimetres a day – after U.S. and Canadian Coast Guard icebreakers were able to clear the jam. **(continued on next page)**

### Great Lakes Water Level Information

| Lake           | February 2010 Monthly Mean Level        |                          | Beginning-of-March 2010 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       | 13 cm below                             | 4 cm above               | 15 cm below  | same                     |
| Michigan-Huron | 19 cm below                             | 10 cm above              | 19 cm below  | 5 cm above               |
| St. Clair      | 35 cm below                             | 52 cm below              | 24 cm below  | 44 cm below              |
| Erie           | 7 cm below                              | 15 cm below              | 13 cm below  | 30 cm below              |
| Ontario        | 6 cm below                              | 28 cm below              | 10 cm below  | 34 cm below              |

Although the level of Lake St. Clair increased 30 cm during the last week of February, it had not fully recovered by the beginning of March. As a result, the impact of the ice jam on Lake St. Clair's level throughout the month is reflected in differences shown in the information table provided below for the beginning-of-March water level, as well as for the February monthly mean comparisons.

As noted above, daily water levels fell on lakes Erie and Ontario during February, instead of increasing as they typically do. The decline in Lake Erie's level can be attributed to the combined impact of the reduction in flow to the lake from upstream due to the ice jam and also the below-average water supplies

from its own local drainage basin. However, Lake Ontario's level declined in response to the well-below-average water supplies from its own local drainage basin, plus outflows slightly higher than those specified by the lakes regulation plan, Plan 1958-D. This occurred in order to release some of the water previously retained on the lake earlier in the winter.

It is important to note that the impact of the February ice jam on the water levels of the middle lakes is not permanent and it will dissipate with time. Since the level of Lakes Michigan-Huron began the month of March slightly higher than it would have if the ice jam had not occurred, its outflow will be a bit higher than it otherwise would have been each day until the water held back on the lake by the ice jam is released. On the other hand, since the levels of lakes St. Clair and Erie are lower than they would have been without the ice jam, their outflows will be lower and they will store a bit of water each day until their levels recover. This is an example of the self-regulating

nature of these lakes that helps keep their keep levels within certain ranges.

### Water Level Forecast

For a complete range of forecasted water levels over the next six months on each of the Great Lakes and on Lake St. Clair, please refer to the February 2010 edition of the Monthly Water Level Bulletin found at:

[http://www.waterlevels.gc.ca/C&A/tidal\\_e.html](http://www.waterlevels.gc.ca/C&A/tidal_e.html).

### St. Lawrence Board Teleconference

The International St. Lawrence River Board of Control invites you to participate in a public teleconference on March 16, 2010, from 7:00 to 8:30 p.m. EDT, to discuss the regulation of outflows and water levels in the Lake Ontario-St. Lawrence River System. You can participate by phone or in person. For detailed information about the teleconference and to download the meeting materials, please go to "Activities" on the Board's Web site at:

[http://ijc.org/conseil\\_board/islrbc/en/main\\_accueil.htm](http://ijc.org/conseil_board/islrbc/en/main_accueil.htm).

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Editor, Chuck Southam

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### February Precipitation over the Great Lakes \*

|                      |     |                           |     |
|----------------------|-----|---------------------------|-----|
| Great Lakes Basin    | 59% | Lake Erie                 | 93% |
| Lake Superior        | 36% | Including Lake St. Clair) |     |
| Lakes Michigan-Huron | 56% | Lake Ontario              | 69% |

### February Outflows from the Great Lakes \*

|               |     |              |      |
|---------------|-----|--------------|------|
| Lake Superior | 93% | Lake Erie    | 99%  |
| Lake Huron    | 84% | Lake Ontario | 106% |

\* As a percentage of the long-term February average.

NOTE: These figures are preliminary