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# OUTLOOK FOR THE FORMATION OF ICE IN THE ST. LAWRENCE SEAWAY & LAKE ERIE ISSUED BY CANADIAN ICE SERVICE

prepared for

The Saint-Lawrence Seaway Management Corporation

1<sup>st</sup> December 2023



Canada 

For the month of November, mean surface air temperatures at select sites along the Saint-Lawrence Seaway have all been near normal slightly above normal in places like St Catherines, Hamilton, and Toronto.

The temperature anomalies have for some locations in the region are:

- **+0.1 °C at Windsor**
- **+0.4 °C at Montreal**
- **+0.2 °C at Kingston**
- **+0.0 °C at Trenton**
- **+0.8 °C at Toronto**
- **+1.9 °C at Thunder Bay**
- **+0.1 °C at Gore Bay**
- **0.0 °C at Hamilton**
- **+0.5 °C at St Catherines**

All locations except for western Lake Erie have experienced mean air temperatures below 0°C during the second half of November.

The actual mean air temperatures for the month of November have been:

- **+4.7 °C at Windsor**
- **+1.9 °C at Montreal**
- **+3.1 °C at Kingston**
- **+2.5 °C at Trenton**
- **+3.9 °C at Toronto**
- **-1.0 °C at Thunder Bay**
- **+1.7 °C at Gore Bay**
- **+3.3 °C at Hamilton**
- **+5.1 °C at St Catherines**

Surface water temperatures along the Seaway are all near the 10-year average, except for western Lake Ontario where Kingston and Cornwall are reporting almost 1°C above normal surface water temperatures.

Surface water temperatures at the end of November were near normal at Saint-Lambert St-Louis Bridge Iroquois Port Weller and were 2 degrees below at Port Colborne.

Station	Date	Temperature	Normal	Anomaly
St. Lambert Lock	01 Dec	2.4°C	3.2°C	-0.8°C
St. Louis Bridge	01 Dec	5.1°C	5.1°C	0.0 °C
Cornwall	30 Nov	7.2°C	6.0°C	+1.2 °C
Iroquois Lock	01 Dec	6.6°C	6.4°C	+0.2 °C
Kingston	01 Dec	7.4°C	6.2°C	+1.2 °C
Port Colborne	01 Dec	4.7°C	6.1°C	-1.4 °C
Port Weller	01 Dec	6.2°C	6.5°C	-0.3 °C

#### Temperature forecasts:

- Air temperatures were near normal for November.
- 3-4 °C above normal temperatures are forecast for first 4-5 days of December.
- Slightly above normal air temperatures of 1-2 °C are forecast for the St. Lawrence Seaway and over Lake Ontario and Lake Erie for the first two thirds of December 2023 (until about December 21<sup>st</sup>) with slightly below normal temperatures expected during the last third of December as well as during first week of January.
- A return to slightly above normal temperatures is forecast for the last three weeks of January 2024.

The following table lists the average dates of occurrence of the first permanent ice and complete freeze-over (if available) with the forecast trend for 2023-24.

Expectation is that ice will form at or very near the normal dates to a couple of days later than normal in most of the seaway.

Station	First permanent ice	Complete Freeze Over	Forecast 2023-24
St. Lambert Lock	07 Dec	18 Dec	0-2 days later
Upper Beauharnois	14 Dec	24 Dec	1-3 days later
Cornwall	29 Dec	N/A	2-4 days later
Iroquois Lock	26 Dec	02 Jan	2-3 days later
Welland Canal			3-4 days later
Port Colborne			0-2 days later

The forecast for the Seaway calls for the first permanent ice to form near Montreal on schedule near the 15<sup>th</sup> of December. The first permanent ice should form near Cornwall slightly delayed by a couple days near January 1<sup>st</sup>.

**THIS IS THE LAST ST. LAWRENCE SEAWAY AND LAKE ERIE FORECAST FOR THE 2023-24 SEASON.**

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