



Environment and  
Climate Change Canada

Environnement et  
Changement climatique Canada

# 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

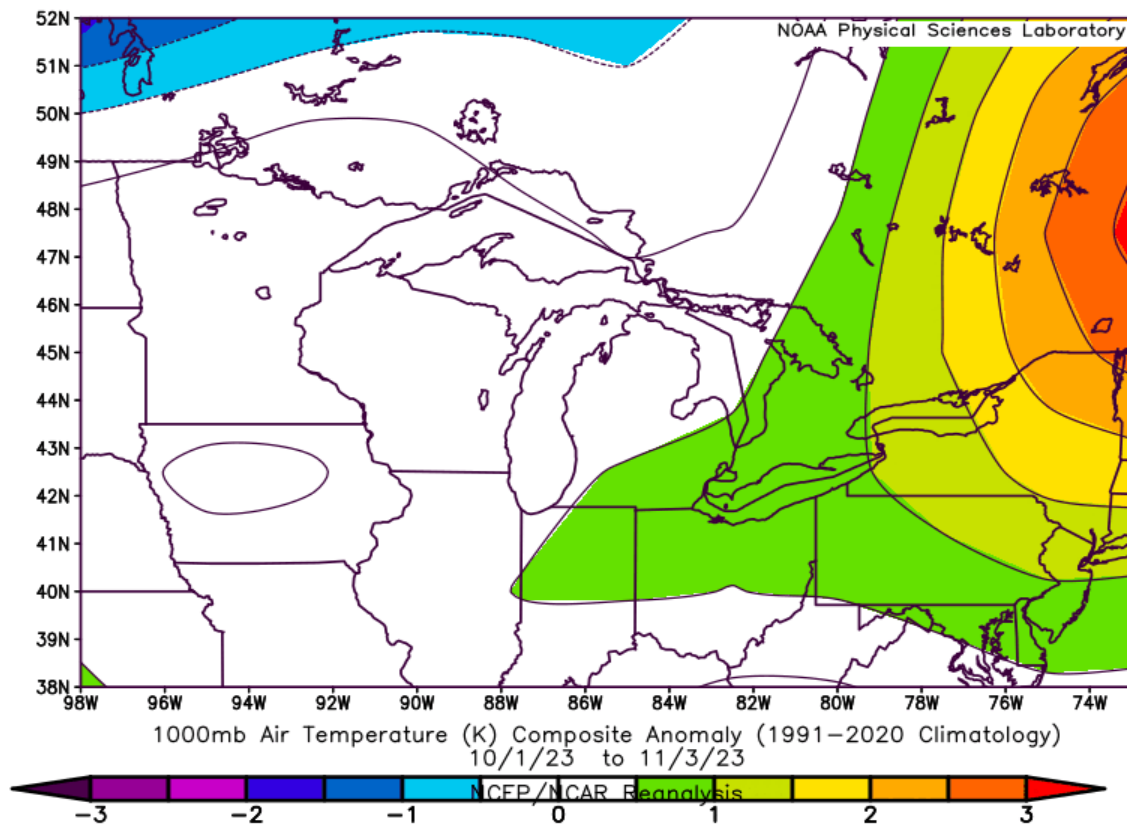
6<sup>th</sup> of November 2023



From mid-October to early November, mean surface air temperatures at select sites along the Saint-Lawrence Seaway as well as sites throughout the southern Great Lakes (Erie and Ontario) have all been near normal to slightly above normal. All stations have reported mean surface air temperature anomalies of between minus 1.0 °C to plus 1.5 °C.

The mean air temperatures anomalies for the region shown in the chart below for the period from October 1<sup>st</sup> to November 3<sup>rd</sup> were all slightly above normal but only slightly so ranging from 0.0 °C to plus 1.0 °C.

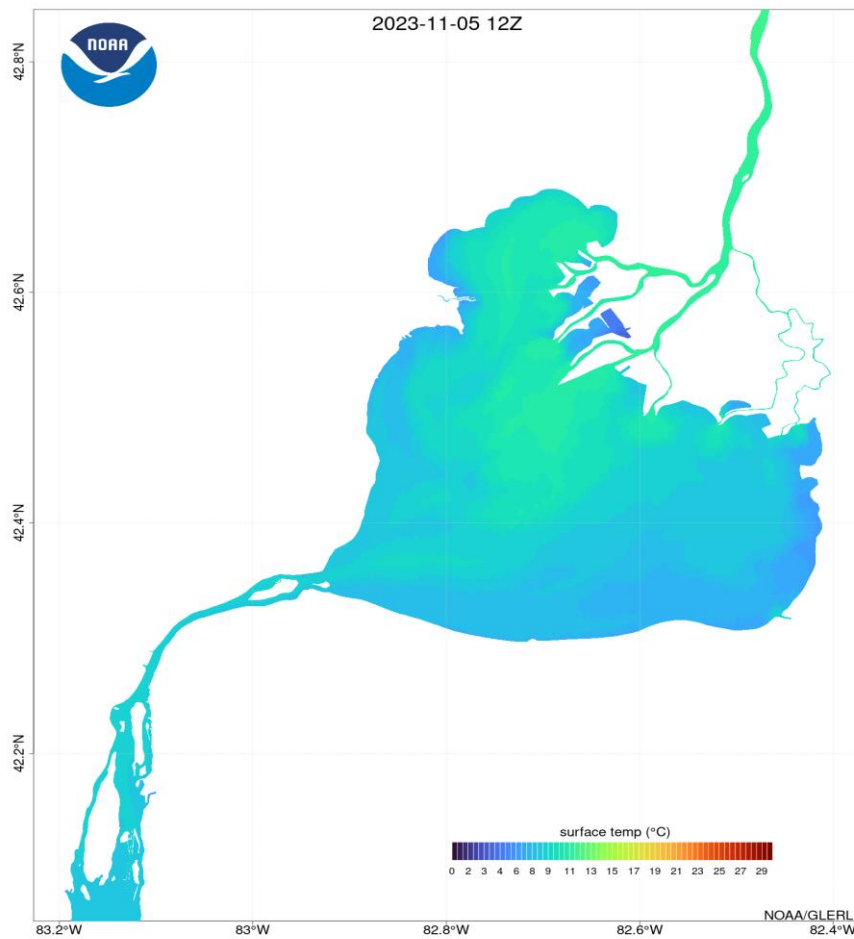
**Temperatures have been slightly above normal from October 1 to November 3, 2023.**



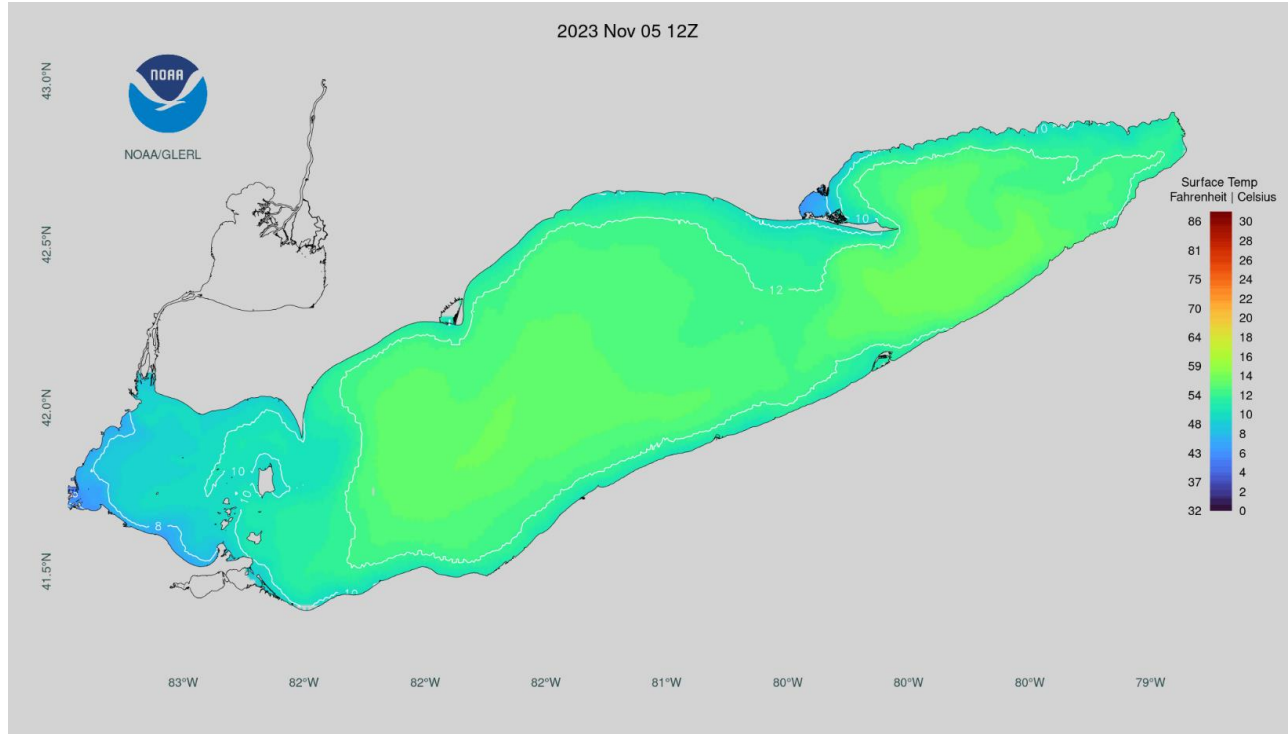
Surface water temperatures along the Seaway are all near normal. Currently all stations are reporting near normal temperatures with water temperature anomalies ranging from -0.6 °C to 0.6 °C.

Station	Date	Temperature	10-year Normal	Anomaly
St. Lambert Lock	3 Nov	8.9 °C	9.5 °C	-0.6 °C
St. Louis Bridge	3 Nov	10.3 °C	10.5 °C	-0.2 °C
Cornwall	3 Nov	NA	10.3 °C	NA
Iroquois Lock	3 Nov	11.8 °C	11.7 °C	+0.1 °C
Kingston	3 Nov	12.0 °C	11.7 °C	+0.3 °C
Port Colborne	3 Nov	11.1 °C	11.7 °C	+0.6 °C
Port Weller	2 Nov	12.6 °C	12.3 °C	+0.3 °C

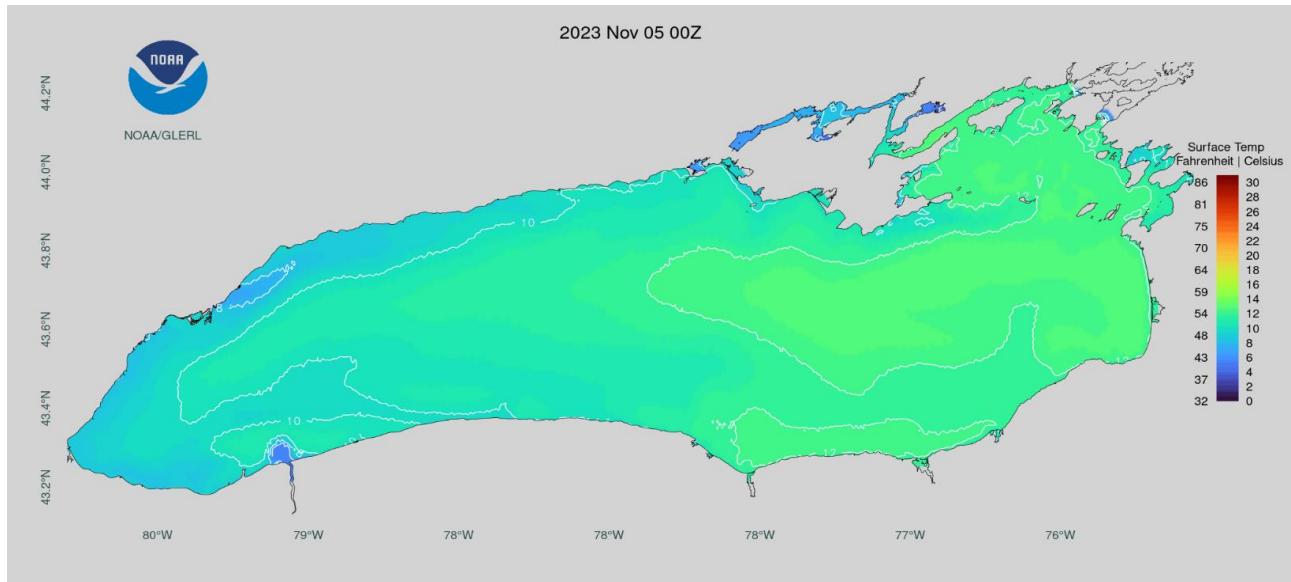
Water surface temperatures on November 5<sup>th</sup> 2023, for Lakes St. Clair.



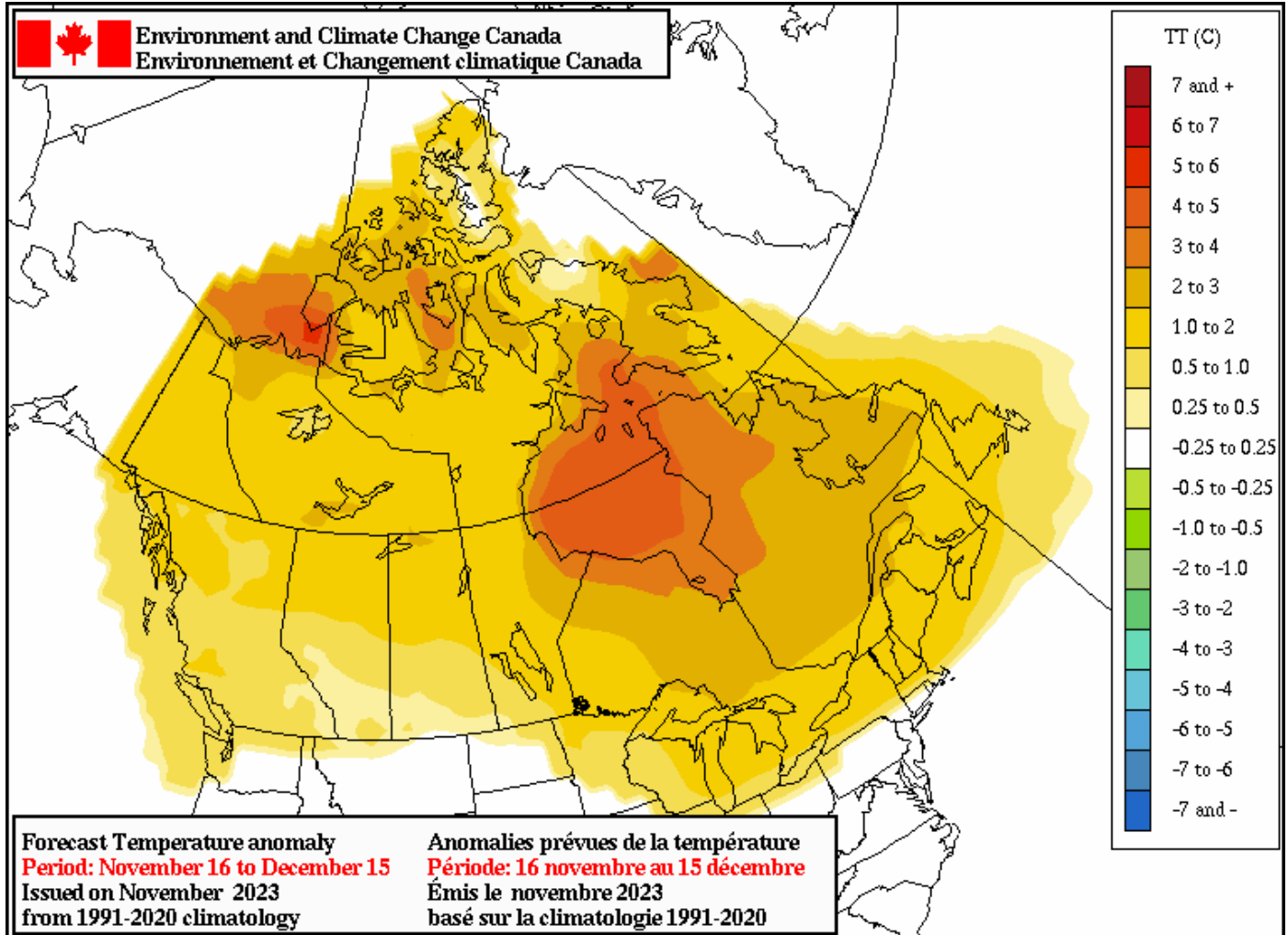
### Water surface temperatures on November 5<sup>th</sup> 2023, for Lake Ontario



### Water surface temperatures on November 5<sup>th</sup> 2023, for Lake Erie

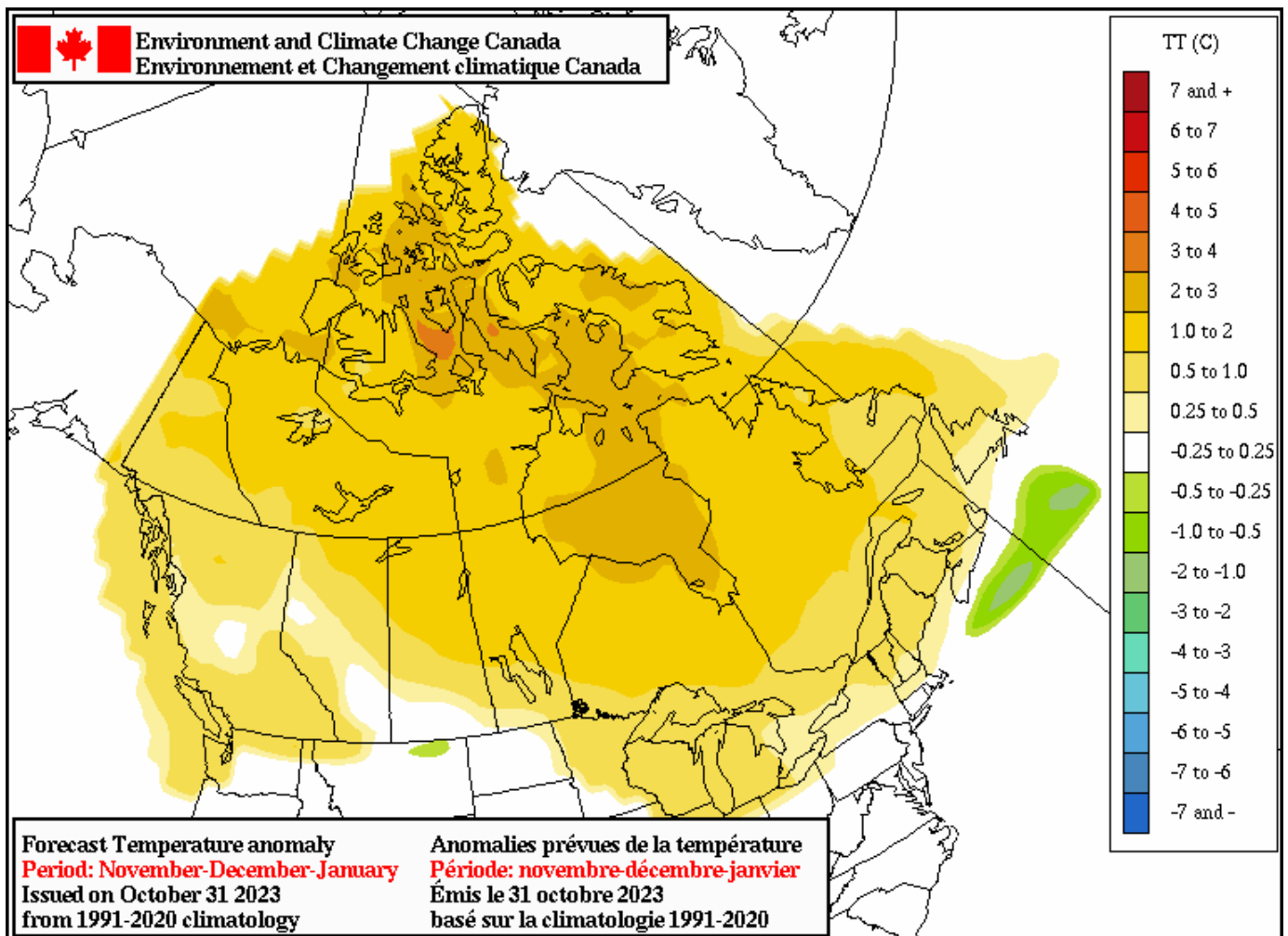


Temperatures are forecast to remain near normal from November 16 to December 15th, 2023.



Though warmer than normal temperatures are forecast the value is less than a degree.

Temperatures are forecast to remain near normal for  
November 2023 through 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.

Station	First permanent ice	Complete Freeze Over	Forecast
St. Lambert Lock	07 Dec	18 Dec	3-5 days later
Upper Beauharnois	14 Dec	24 Dec	3-5 days later
Cornwall	29 Dec	N/A	2-4 days later
Iroquois Lock	26 Dec	02 Jan	3-5 days later
Welland Canal			3-5 days later

Near normal temperatures are forecast through the early part of the winter. The current cool period occurring at the beginning of November will give way to a period of above normal temperatures during the middle of the month (November 12-17) before temperatures return to normal in late November and for December.

The water temperatures are also near normal at the start of November will slow their rate of cooling near the middle of the month with the warmer air temperatures.

This warm period during the middle of the November followed by near normal to slightly above normal temperatures expected in December will delay the ice formation by a few days it is felt that the onset of ice through the Seaway and the Great Lakes will not be delayed more than a week.

Freeze-up expected to be delayed 3-5 days with near normal water temperatures and normal air temperatures forecast.

The first ice should start to form along the shores in western Lake Erie and in Lake St Clair the last week of December.

The ice in western Lake Erie will spread completely covering the Western Basin by the third week of January.

Lake St Clair should also be ice covered by the third week of January.

The St Lawrence River near Kingston should see its first ice forming along the shores near the first week of January and be mainly ice covered by mid-January.

**THE NEXT ST. LAWRENCE SEAWAY AND LAKE ERIE FORECAST WILL BE ISSUED ON Friday  
DECEMBER 1<sup>st</sup>, 2023.**

Contact:

Canadian Ice Service

Telephone: 1-877-789-7733

Email: [cisclients-scgclients@ec.gc.ca](mailto:cisclients-scgclients@ec.gc.ca)

*Reanalysis charts from The NOAA Physical Sciences Laboratory (PSL)*

*Great Lakes surface water temperature charts from NOAA - Great Lakes Environmental Research Laboratory*

*Station water temperature data from the Saint-Laurent Saint-Lawrence Seaway Management Corporation & Utilities Kingston  
(for Kingston area)*

*All other charts and data are found at <https://iceweb1.cis.ec.gc.ca/>*