

Frigid Fieldwork: Great Lakes Winter Science

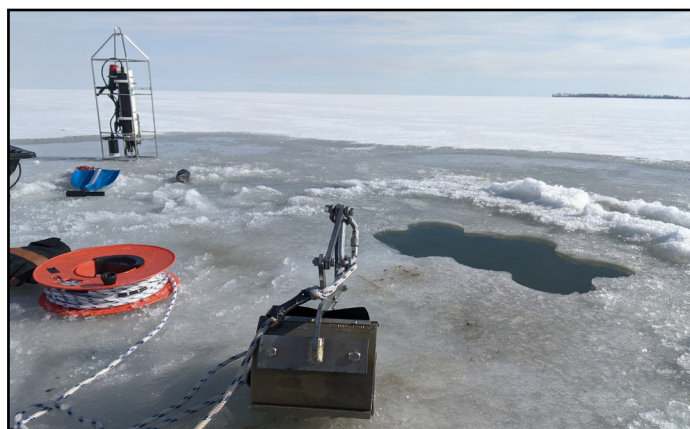
Expanding winter research needed to better manage the Great Lakes

- **The International Joint Commission (IJC)** helps Canada and the United States prevent and resolve issues over shared waters on 5,525 miles of boundary, including the Great Lakes.
- Despite rapidly changing conditions, there is limited data collected on the Great Lakes during the winter season.
- The **Great Lakes Science Advisory Board's *Great Lakes Winter Science*** project is assessing the needs and barrier to performing research on the Great Lakes in the winter months.

Understanding needs and priorities for Great Lakes winter science

Improving Great Lakes management requires expanded wintertime science

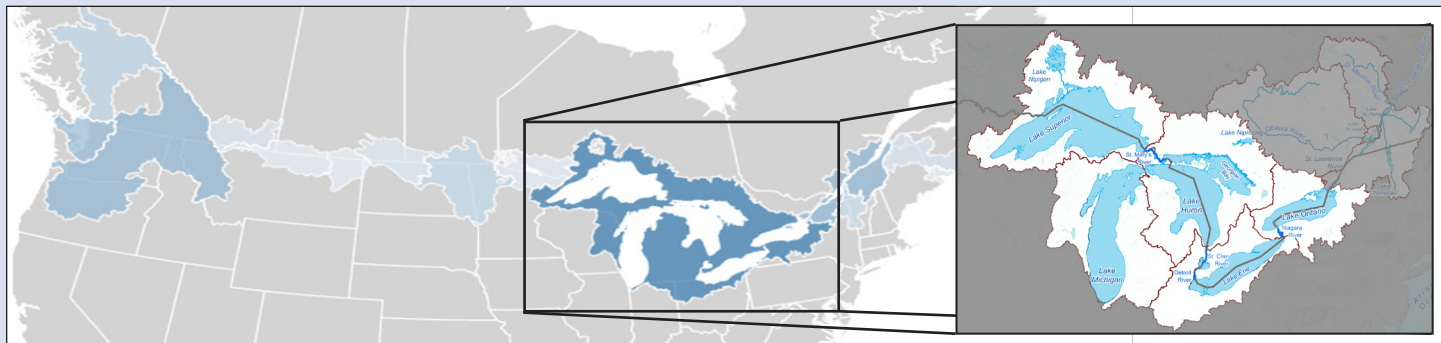
Recent shifts in Great Lakes ice coverage demonstrate that winter conditions are rapidly changing. Yet, winter is an overlooked season for research and data collection on the Great Lakes system. It requires specialized equipment, highly qualified personnel, and coordinated approaches. As a result, policy and management decisions are largely based on observation and data collected during the late spring, summer and early fall. A better understanding of how winter impacts the Great Lakes system is vital to improving the governments' ability to effectively manage Great Lakes water quality.



Collecting samples on Lake Erie to study wintertime physical, chemical, and biological conditions in the lake. Credit: Paul Glyshaw, NOAA GLERL

With their ***Great Lakes Winter Science*** project, the Great Lakes Science Advisory Board is exploring the needs of and barriers to winter research and data collection on the Great Lakes.

Where will this work impact?



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Great Lakes Winter Science

Great Lakes Science Advisory Board

Climate change is one of the most critical challenges facing the Great Lakes today. Winter data, especially long-term time series data, is necessary information to better understand the influence of climate change on the health of the Great Lakes. We have an incomplete picture of the Great Lakes system and the effects of climate change without winter season data. Identifying and addressing research gaps and needs to enhance winter science efforts can better support management and policy. To better address Great Lakes winter science needs, the *Great Lakes Winter Science* project has two goals:

1. identify the priority winter science data gaps and resource needs, as it affects the quality of the waters of the Great Lakes and their watersheds, and
2. assess existing research needs, including the needed infrastructure and personnel training required for winter science.

Contact the IJC about this project: matthew.child@ijc.org

The Great Lakes Water Quality Agreement

Under the Great Lakes Water Quality Agreement, the IJC provides advice and recommendations to the United States and Canadian governments on identifying objectives for scientific activities. The Great Lakes Science Advisory Board's *Great Lakes Winter Science* project will help the IJC inform the governments on ways winter science activities can address changes to the Great Lakes ecosystem due to climate change.

About the International Joint Commission

The IJC was established in 1909 under the Boundary Waters Treaty to help Canada and the United States prevent and resolve disputes over shared waters. The IJC's responsibilities include reporting on progress made by the governments under the 2012 Great Lakes Water Quality Agreement. The Great Lakes Science Advisory Board provides advice and guidance on scientific research to the IJC and the Great Lakes Water Quality Board.

Scan for more
about this project!



The Great Lakes ...



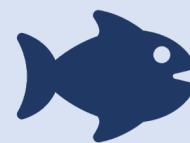
contain roughly
20 percent of the world's
fresh surface water



support a
US\$6 trillion (CAD\$7.5
trillion) regional economy



are a source of
drinking water for
36 million people



are home to
4,000 species of
plants and animals



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