

# Frigid Fieldwork: Great Lakes Winter Science

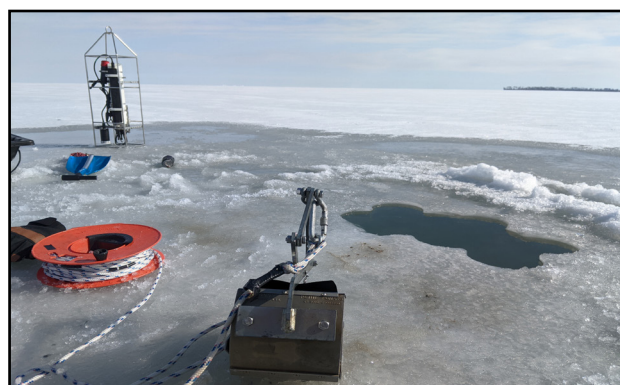
Expanding winter research needed to better manage the Great Lakes

- **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 Great Lakes data collected in winter.
- The **Great Lakes Science Advisory Board's *Great Lakes Winter Science*** project is assessing the needs and barriers to coordinating and performing research on the Great Lakes in the winter season.

## Understanding needs and priorities for Great Lakes winter science

### Improving Great Lakes management requires expanded wintertime science

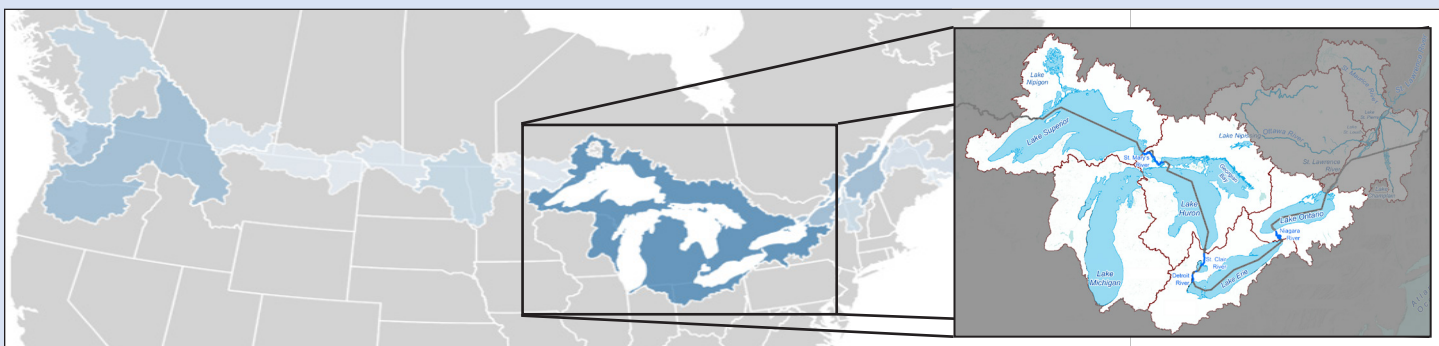
Recent shifts in Great Lakes ice coverage demonstrate that winter conditions are rapidly changing. Yet, winter is an overlooked season for research and data collection on the Great Lakes system. It requires specialized equipment, highly qualified personnel, and coordinated approaches. As a result, policy 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 is vital to improving the governments' ability to effectively manage Great Lakes water quality and the ecosystem services they provide.



*Collecting samples on Lake Erie to study wintertime physical, chemical and biological conditions. 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?



*More than a century of cooperation protecting shared waters*  
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# Great Lakes Winter Science

Great Lakes Science Advisory Board

Without winter science, we cannot get a complete picture of Great Lakes water quality. Winter data, especially long-term time series data, is necessary to better understand the impacts of changing winter conditions on the health of the Great Lakes. Identifying and addressing research gaps and needs to enhance winter science efforts can better support management and policy.

To advance understanding the impacts of winter on the Great Lakes, the *Great Lakes Winter Science* project has two goals:

1. Identify priority gaps in winter season data and the resources needed to address them, and
2. Assess current winter science research needs, including infrastructure and personnel training.

**Contact the IJC about this project:** [matthew.child@ijc.org](mailto: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 help address changes to the Great Lakes ecosystem due to changing winter conditions.

## 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 ...



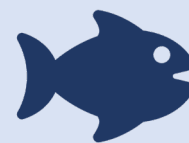
contain roughly  
20 percent of the world's  
fresh surface water



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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