GLOS

Great Lakes Observing System

About GLOS – the Great Lakes node of the Integrated Ocean Observing System

The Great Lakes Observing System (GLOS) is dedicated to providing public access to critical real-time and archived information about the Great Lakes, St. Lawrence River and their interconnecting waterways for use in managing, safeguarding and understanding these immensely valuable binational resources. Data, information and knowledge about the system is being drawn from numerous sources, consolidated and then made available to meet the needs of many communities, including resource managers, researchers, educators, commercial shippers, recreational boaters, beach users and homeland security interests.

GLOS is a cooperative activity of many U.S. federal and state agencies as well as academic institutions, nongovernmental organizations and commercial interests across the region. The development of GLOS is also engaging Canadian federal agencies and provincial ministries.

A nonprofit corporation with an elected board of directors, the GLOS Regional Association (GLOS-RA) governs and guides the system to ensure that stakeholder needs are met and that optimal information-gathering tools are in place and secure.
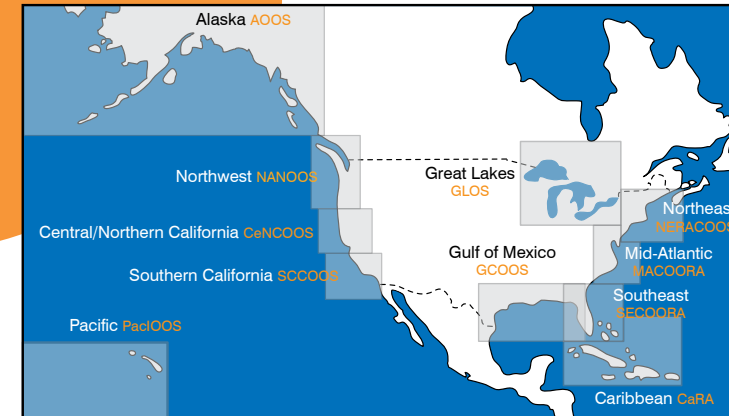
Want to Stay Informed?

If you're interested in obtaining further information about GLOS, send an email to *owner-glos-rig@great-lakes.net* and you will be added to the GLOS Regional Interest Group to receive periodic updates.

GLOS is one of 11 regional associations that form the U.S. Integrated Ocean Observing System.

What is IOOS?

The Integrated Ocean Observing System (IOOS) is an interagency, cooperative effort based on a sustained network of buoys, ships, satellites, underwater vehicles and other platforms that routinely collect real-time data and manage historical information. These data are needed for rapid detection and timely prediction of changes in our nation's coastal waters, including the Great Lakes.

This sustained network of observations contributes to more rapid advances in the marine and Great Lakes sciences. IOOS processes and disseminates the data under one umbrella for broad public access. For further information, see *www.ocean.us*.

IOOS is designed to provide data required by decisionmakers, researchers and educators to address the following goals:

- Improve predictions of climate change and weather effects
- Improve the safety and efficiency of coastal and marine operations
- Ensure national security
- Manage resources for sustainable use
- Preserve health and restore degraded coastal ecosystems
- Mitigate effects of natural hazards
- Minimize public health risks

GLOS geospatial tools let web users dynamically view and work with observational data. Satellite image courtesy of NASA Visible Earth.

Benefits to the Region

Real-time and archived data are needed for rapid detection and timely prediction of changes in our coastal waters, including the Great Lakes. Monitoring water chemistry, biologic activity, hydrologic parameters and changes caused by human activities is critical to serve the needs of the more than 34 million people living in the Great lakes region – 24 million of whom rely on the Great Lakes and tributaries for their drinking water.

Observing systems – including sensors, buoys, stations, networks and field data collection – are the primary means for gathering information on the chemical, biological and physical character-istics of the Great Lakes ecosystem. These observations are used in a host of monitoring programs to take the pulse of the Great Lakes, assess natural variability, drive ecosystem forecasting mod-els and track the progress of restorations efforts. IOOS is helping to facilitate the following:

- A repository of data from ongoing federal, state/provincial and municipal observation and monitoring activities
- Increased density of basic observations across the system
- Coverage over varying time scales (real-time to historic) and over space (site-specific, watershed and regionwide)
- Uniform monitoring protocols
- Easier access to integrated information on Great Lakes conditions and trends

Leveraging Technology

Recent advancements in environmental data gathering, Internet technologies, computer networks and distributed database tools allow for extensive data integration. The integrated collection of data is a cooperative effort based on a sustained network of:

- Buoy systems
- Coastal and riverine sensors
- Satellite observations
- Field measurements
- Ship observations
- Airborne observations
- Computer models
- Ecological forecasts
- Atmospheric measurements
- Information integration tools
- Education and outreach

For more information, visit:
www.glos.us or www.glos.ca

Ocean.US