



GLOS supports data collection, data management, and data sharing in the Great Lakes.

FROM OUR DIRECTOR

NEW BEGINNINGS

Members, Partners, and Friends:

This past year, after the Great Lakes Observing System celebrated a 10-year milestone, we turned our focus towards the kick-off of a series of projects under our new Cooperative Agreement with NOAA-IOOS. GLOS was delighted to have this agreement renewed for 2016-2021, and will direct resources to sustain observing assets, support open data projects across the basin, and advance the functionality of our data portal. Though we face budget challenges in the years ahead, GLOS is responding with innovative funding models and pursuing



other relevant funding opportunities. These efforts have seen early success including our renewed Adopta-Buoy contract with the city of Cleveland and a new multi-year award through the IOOS-Ocean Technology Transfer program.

At the staff level, we're using this kick-off period to focus on "machine building" at GLOS. To make sure the organization runs like a well-oiled machine, we're improving our business practices, evaluating programs and performance, and growing our capabilities in service to stakeholders. Beyond this near-term work, we'll be preparing for the next update to our Strategic Plan. It seems incredible to be thinking about the next Cooperative Agreement as we're just getting the current one underway, but new adventures are always ahead!

I thank our partners for going through this journey with us and look forward to broadening our horizons together.

Sincerely,



great lakes observing system

GREAT LAKES INFORMATION FOR PLANNING, SAFETY AND STEWARDSHIP

The Great Lakes Observing System (GLOS) provides near real-time information and forecasts of conditions bi-nationally and across the Great Lakes. Fishermen, ship captains, meteorologists, emergency response managers, and many other people rely on GLOS every day.

In addition to providing near real-time data, GLOS enables predictions of harmful algal blooms, water quality monitoring, and measurements of ocean acidification. GLOS is a regional partnership of academic institutions, industry, state and federal agencies, and non-government organizations – all collaborating to deliver actionable water and weather information.



GLOS is the Great Lakes entity of the Integrated Ocean Observing System

(U.S. IOOS), which works with regional partners to ensure compatible and consistent ocean and coastal data collection, management, and information products across the nation.



The IOOS Association is a non-profit organization formed by the Regional Associations (RAs) for Coastal and Ocean

Observing in support of the U.S. IOOS. It works with the 11 RAs, the U.S. IOOS Program Office in NOAA, and other partners to address the nation's need for coastal observing and information.



PROJECTS AND MEMBERSHIP



Image for the GLOS data portal. Additional data projects include the Great Lakes Animal Telemetry Observing System (glatos.glos.us), the Great Lakes Adaptation Data Suite (GLADS), St. Louis Estuary Real-time Forecasting Model Development, Virtual Beach, and Conservation Ontario open data.



The financial information above represents funding allocated in 2017 and how these funds were budgeted to be spent. Our financial year ends June 30th and audited financials are available at www.guidestar.org.

IMPROVING WITH YOUR INPUT

The Great Lakes Observing System is a data sharing community, and input from the community helps shape our work plan and drive priorities. We've made a few changes this year in response to feedback, and we're always evaluating suggestions to make our products better and easier to use. Most importantly, we're on the go. GLOS views are increasingly optimized for mobile devices.

MyGLOS : Creating an account on the GLOS data portal is easy and comes with great benefits. A MyGLOS account allows a custom experience on the GLOS data portal, letting you save preferences, download data. Do you fish? Set an

alert to come from a buoy when water temperatures reach a certain low. Have a special place on the lake for which you'd like to model conditions, but you don't have a buoy? Create a Virtual Buoy to harness the power of the portal where you need it. Get your account at **portal.glos.us**

Boaters' View: The Boaters' View allows users to select buoys where they recreate, view forecasts of water conditions, and add helpful information on marinas. Wondering if there's diesel or a ramp? Now you know, all in an easy portal view. Set sail at **boaters.glos.us**





USER-FRIENDLY DATA TOOLS

Great Lakes Buoys: GLOS provides a mobile-optimized, comprehensive, certified site where boaters, anglers and researchers can get their data on a dock, in a marina or in their car. On average about sixty percent of visitors to GLOS online properties are viewing on a mobile device. Getting this mobile-friendly, Great Lakes data easier to read, making it safer to be on the lakes. Get info at **glbuoys.glos.us**

Keeping an eye out for new ways to serve the data sharing community is a top priority. GLOS is moving away from one-off tools and working to develop easier ways to get the most out of the data portal. This strategy ensures that resources go to keeping that one, primary source of data up to date and fully operational, and reduces the chances of disruption in our data services.



AMPLIFYING THROUGH COLLABORATION

You can't beat the Great Lakes community for doing more with less, and GLOS is no exception. We're working to partner creatively with entities around the region to amplify our open data message.

Leverage in Lake Erie: This year, GLOS joined with the Cooperative Institute of Great Lakes Research and NOAA Great Lakes Environmental Research Laboratory to get up close and personal with water treatment managers in western Lake Erie. The goals were to get feedback for CIGLR on their hypoxia report, and for GLOS to learn more about how users want to receive their data. It was a full house, and the treatment professionals were articulate and open about their data preferences. Stay tuned for more progress as GLOS kicks off the new Ocean Technology Transfer project to deploy an Environmental Sensor Processor in western Lake Erie and make continued enhancements and improvement to the HABs data portal. You'll find that at **habs.glos.us**



DOING BUSINESS CREATIVELY



Innovate with Data: GLOS was proud to be a data partner in the 2017 Lake Erie AquaHacking competition and the Internet of H2O. After running our own challenge to celebrate our ten-year anniversary in 2016, it was a treat to see this year's competitors applying data to real-world challenges. GLOS supports the fusion of the research and data community with developers and entrepreneurs. We know that developers harvest information from our portal to use in their own applications, and that is data democracy, where everyone gets the same access to quality data. This may well lead to significant management solutions in the future.

Incentivizing Data Sharing: Sharing data in the areas of ecosystem health, public health, water security and climate adaption is core to the GLOS mission. It's latest partnership with Conservation Ontario in a four-year project does just that. With GLOS support, Conservation Ontario is coordinating a major data curation effort among its 36 Conservation Authorities (watershed-based organizations). This effort will enable Conservation Authorities to make these data discoverable, accessible and available to the greatest extent possible. It is the precursor to truly "open" Canadian data. This past year, Conservation Ontario inventoried the datasets and assessed the current state of data curation, dataset demand and barriers to public release. In the coming year, 350 inventoried data sets will be published in the GLOS GeoNetwork metadata catalog. In the years to come, Conservation Ontario will prepare data sharing tools to make these data accessible.



GLOS MEMBERSHIP

GLOS is the trusted source of information in the Great Lakes. GLOS membership is a diverse mix of those interested in obtaining, using, and sustaining the best information in the region.

The federal funds we receive provide critical base support, but we need your help to keep the system operating and improving. With your membership we will be able to:

- Maintain and repair infrastructure, ensuring continued observations and forecasts,
- Develop new tools to make it easier for people to access and understand the information, and
- Advocate for the national IOOS program to continue base support.

BECOME A MEMBER

Membership in GLOS is an important way to support your regional coastal observing system and can include the following benefits:

- ✓ Subscription to GLOS Real Time News
- Complimentary registration for Annual Meeting
- ✓ Consultations with GLOS staff

For more information and an application form, please visit:

www.glos.us/membership

CORPORATE SPONSORS

Ed Verhamme	Nancy Nate	Douglas Kane	Enbridge
Tracy Mehan	Tom Johengen	David Wardwell	LimnoTech
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Tad Slawecki	Randy Helland	Nathan Zgnilec	Cleveland Water Alliance
John Lenters	Stephen Cole		Council of Great Lakes Industries
Peter Blanken	Caitlin Gould		School of Freshwater Sciences, University of Wisconsin, Milwaukee
GLOS STAFF			

Kelli Paige, Executive Director

GLOS MEMBERS

(as of September 1, 2017)

Rebecca Pearson, Program Manager

Kristin Schrader, Communications Manager

Hottest recorded surface temp: 83.7° at Toledo crib

Special thanks to Enbridge Energy for sponsoring the 2017 Annual Meeting



Highest wave:

28.8 wave heights measured on 10/24/2017 near Marquette, MI in Lake Superior

FOR REAL-TIME GREAT LAKES AND WEATHER DATA AND UPDATES ON GLOS ACTIVITIES, VISIT OUR WEBSITE: www.glos.us

MvGLOS members



STAY CONNECTED! VISIT US ON FACEBOOK AND TWITTER!