

**U.S. Integrated Ocean Observing System (IOOS) Advisory Committee (AC) Meeting
Large Lakes Observatory of the University of Minnesota - Duluth
October 2, 2014
MINUTES**

*All meeting documents and presentations can be found on the IOOS AC website:
www.ioos.noaa.gov/advisorycommittee*

In-person attendance: CJ Beegle-Krause, T Browne, T Gulbransen, V Klump, A Jochens, J Manley, B Melzian (Ex-Officio), C Ostrander, L Ragster, E Terrill

Virtual attendance: C Lautenbacher, L Leonard, T MacDonald, E Pidgeon

Non-Committee attendance: Jay Austin (University of Minnesota-Duluth), Hannah Dean (IOOC), Laura Griesbauer (NOAA), Josh Hamilton (University of Minnesota-Duluth), Kelli Paige (Great Lakes Observing System (GLOS)), Josie Quintrell (IOOS Association), Nick Rome (Interagency Ocean Observation Committee (IOOC)), Robert Sterner (University of Minnesota-Duluth), Glenn Warren (U.S. Environmental Protection Agency (EPA))

Meeting convened by Z Willis at 8:35

Welcome from Robert Sterner and Josh Hamilton, University of Minnesota-Duluth

SUMMARY

The Large Lakes Observatory (LLO) has a mission to study the large lakes of the world. Their global work ranges from the Great Lakes to African lakes. Large lakes are unique in that they need to be studied using an oceanographic perspective in addition to being viewed as a lake system.

Data gaps faced on the Great Lakes are staggering and challenging. Non-point source pollution and harmful algal blooms (HAB) problems persist. Also, upper parts of the Great Lakes seem to be becoming clearer and less productive. There is a growing need for primary production data and seasonal signal data. IOOS can build the foundation of science in the Great Lakes.

DISCUSSION

J Hamilton noted that the Great Lakes have a particularly strong connection to the shipping industry, and that industry looks to the LLO for good science to manage their sector. Understanding the lake dynamics is incredibly important for commerce, even more so as climate change affects the lakes. Several Great Lakes consortia are looking at industry-related issues together.

It was noted that a big challenge is connecting one set of data to another, noting that data access and use of common data formats are key.

What Makes the Great Lakes Great - Kelli Paige, Acting GLOS Executive Director

SUMMARY

K Paige's presentation began by outlining what makes the Lakes Great. For example, the Great Lakes, provide drinking water to over 40 million U.S. and Canadian citizens, and about 90% of the U.S. fresh water supply.

GLOS' Guiding principles are to focus on user/stakeholder needs, very small, local scales. While they engage university Principle Investigators, GLOS does not have ties to any specific large universities. A large regional policy organization, the Great Lakes Commission, provides an active community GLOS connects with. The Great Lakes Water Quality Agreement, Great Lakes Restoration Initiative and Great Lakes Compact offer guidance on regional needs.

With the support of a 2007 grant, recently GLOS completed an enterprise architecture report which informed their build-out plan. The report reviewed aspects of system design, concept of operations, trade study report, intellectual property, as well as user needs. The main take aways from the report are:

1. Data management is critical. This is a key service GLOS can provide to the region.
2. Consider scale you respond to, who your stakeholders are.
3. Observations at a basin wide scale can be leveraged, but consideration needs to go into how to provide long-term funding of maintenance and upgrades.

Data management is GLOS primary role in region, and GLOS can support data management of partners, even if GLOS is not the one serving the data. GLOS is considering smarter, not harder, funding strategies, such as membership, adopt-a-buoy, data service/provisioning agreements, and permit requirements as per Supplemental Environmental Projects list.

In short, GLOS leverages IOOS funds, and invites proposers to compete for the funds and by letting stakeholders tell them where GLOS can provide the best added value.

DISCUSSION

L Leonard asked K Paige to clarify what she meant by GLOS not being the right "home" for certain data, products. K Paige noted that GLOS may not be a DAC necessarily, but they could coordinate, for example, Great Lakes Acoustic Telemetry Observing System, run by Great Lakes Fisheries Commission. They wanted help sharing information about their projects, but did not want GLOS to touch the data. GLOS may evolve to host their database, but not manage it. This might also potential revenue source.

E Pidgeon noted that membership has significant overhead when considering it as a revenue source. K Paige stated that GLOS views membership as a way to see who truly cares about the system, not as a way to generate income. C Beegle-Krause encouraged K Paige not to ignore GLOS's ability to be flexible and innovative. Other revenue sources under consideration are

service agreements, Adopt-A-Buoy including engaging shipping companies to sponsor buoys, and permitting requirements.

J Manley asked K Paige to consider defining why GLOS deserves more revenue, and what the message is to the community. Consider the economy of the Great Lakes. How could we move economies into the 21st century? J Manley suggested GLOS should consider how the regions can be valuable business incubators.

Kelly provided some feedback regarding IOOS and FAC. She thinks more clarity needed for roles and responsibilities. She doesn't yet see the hedge hog focus at the IOOS national level. She'd like more distinction between the national and regional levels.

Guiding Principles for Business Model - T Gulbransen, Vice-chair

DISCUSSION

T Gulbransen led the AC through a summary of where the discussion had been, and expectations for next steps to complete recommendations. The AC agreed that they were not able to develop a single business model for IOOS, or even guidance for a business model due to lack of consensus on value propositions, scale, customers, prospective partnering and potential revenue. A primary point of departure was that at least 2 AC members expected our discussion to focus on the existing IOOS model as implemented in accordance with the Act, ie the "as is" condition. This view was in contrast to some others who were prepared to lay out guidance and principles that may extend beyond current practices, ie the "to be" aspirations. As a workaround, the group decided to avoid use of the ill-defined term business model, and re-orient discussion toward conceptual guiding principles for the IOOS enterprise. With the enterprise perspective, the AC then reviewed the status of leadership principles, the first of three draft guidance components (leadership, marketing and planning).

J Manley lead the leadership guiding principles discussion by stating that IOOS needs to be enabled as a leader, which is how IOOS is described in the Integrated Coastal and Ocean Observing System (ICOOS) Act. The IOOS Program Office needs the support and backing of the IOOC and the National Oceanic and Atmospheric Administration (NOAA) to effectively lead. AC members agreed that IOOS needs wide-reaching recognition for its role and value to the nation. The AC agreed that the terms "recognized leadership" were important in the guidance. Other points raised were for IOOS to foster bringing people into the fold and helping them to learn how to use IOOS. If you foster these relationships well, you'll naturally be seen as a leader. The AC agreed that NOAA needs to truly enable IOOS to lead, and the IOOC needs to increase their engagement and support. Substantial dialog examined the need to lead and foster a culture of more collaboration with existing federal partners instead of seeking means to recruit new industrial partners.

Great Lakes Monitoring Program - Dr. Glenn Warren, U.S. EPA

SUMMARY

Dr. Warren gave a presentation on the 2012 Great Lakes Water Quality Agreement, and the U.S. EPA's Great Lakes Monitoring Program, which includes monitoring water quality and biology, contaminants, sediment surveillance, among other variables. They work with the National Aeronautics and Space Administration's Sea-viewing Wide Field-of-View Sensor (SeaWiFS) and the Moderate Resolution Imaging Spectroradiometer (MODIS) to observe the lakes remotely, as well as in situ. GLMP periodically relies on a cooperative science and monitoring initiative which integrates efforts from EPA, F&WS, USGS and others. Dr. Warren's full presentation will be posted on the IOOS Advisory Committee website.

Guiding Principles for the Enterprise (cont.) - T Gulbransen, Vice-chair

DISCUSSION

T Browne summarized how the current marketing and communications draft was written. T Gulbransen suggested one role of IOOS should be to facilitate business development. Z Willis agreed, stating that this is part of IOOS' responsibility. J Manley stressed that the AC needs to not confuse marketing communications, and marketing and communications. Discussions veered into detailed guidance briefly, then the consensus emerged to stay at broader, simpler principles that could apply at multiple scales. Group agreed that IOOS is building a brand, and that these principles improve upon it, and that our messaging should aim toward transforming from "good to better". AC agreed that the Planning Principles team lead by C Beegle-Krause would work all the guiding principles into one document for discussion tomorrow.

IOOS Association Update – Josie Quintrell, Executive Director, IOOS Association

SUMMARY

J Quintrell provided an overview of work going on in each region, noting regional data sharing capacity, increased observing capacity in the Caribbean, among other region-specific and cross-regional work. Two regions have developed "IOOS By The Numbers" infographics as a way to message the work they are doing. More regions are likely to produce these as well.

J Quintrell also provided an update on the recent Regional Association (RA) Director retreat, noting that key topics of their discussion were how to diversify funding for IOOS, the need to better quantify appropriations requests, and how to better message IOOS. She also shared that all the regions are planning to pursue certification in the coming calendar year.

Upcoming events of note for the regions are their 5-year strategic planning meeting in November, developing more "IOOS By The Numbers" materials, and Congressional outreach post-November election. J Quintrell shared that the regions are messaging IOOS as a distributed system of core variables, and an innovative approach to governing.

J Quintrell suggested areas where AC involvement could help, including:

- Building IOOS visibility in NOAA

- Interagency Engagement
- Certification
- Putting the “I” back into IOOS
- IOOS strategic advantages
- Reconciling \$10M vision with \$2M budget

2015 Membership Process Update – Z Willis

SUMMARY

Z Willis explained the timeline and next steps for new member solicitation. The Federal Register notice calling for nominations is now open, and runs through November 24. Once the nomination period closes, a review panel made up of IOOS members will select new and returning members and make their recommendation to the NOAA Administrator. The NOAA Administrator appoints all members and Chair.

Z Willis stressed that the ICOOS Act does not mandate a stagger in terms. We have explored all possible options to create a stagger, and have been told there is no room for interpretation of the Act. Therefore, some part of the current membership will not be eligible for a second term, in order to both retain institutional knowledge while bringing in new expertise to the AC. All current members were asked to notify J Snowden of their interest in serving a second term on the AC. The selection panel will do their best to accommodate existing member interest, while ensuring balance in all areas on the AC.

Public Comment Period

No public comments.

Motion to adjourn.

Meeting adjourned at 5:00 pm

**U.S. IOOS Advisory Committee Meeting
Duluth, MN
October 3, 2014**

MINUTES

*All meeting documents and presentations can be found on the IOOS AC website:
www.ioos.noaa.gov/advisorycommittee*

In-person attendance: C Lautenbacher (Chair), CJ Beegle-Krause, T Browne, T Gulbransen, V Klump, A Jochens, J Manley, B Melzian, C Ostrander, L Ragster, E Terrill

Virtual attendance: T MacDonald

Absent: L Leonard, E Pidgeon

Non-Committee attendance: John Bratton (NOAA), Hannah Dean (IOOC), Kelli Paige (GLOS), Josie Quintrell (IOOS Association)

Meeting convened by Z Willis at 8:30 AM

Introductions and Welcome – Z Willis, DFO and C Lautenbacher, Chair

SUMMARY

After an introduction by Z Willis, each committee members introduced themselves to the new chair, C Lautenbacher.

C Lautenbacher expressed his pleasure to serve as chair of the committee, and provided some insight into his background and perspective. He stressed the need to view the big picture, looking at the planet as a system of systems. C Lautenbacher noted the progress made in the weather sector over the past 50 years, and stressed that this committee has the right expertise to discuss how to grow the ocean observing system into a stronger industry. He encouraged the AC to review the Fair Weather Report, with an eye toward the guidelines for how commercial and federal weather roles could work together.

He stated that the AC is here to support the IOOS office, and to help them meet their mission for the nation and the world. C Lautenbacher stressed the need to bring people together, to break down existing compartmentalization and show people the advantage gained by collaborating.

Guiding Principles for IOOS Enterprise (cont.) – T Gulbransen, Vice Chair

DISCUSSION

C Beegle-Krause led the planning principles discussion, noting the overarching themes include resilience, strategic, flexible, and continued review.

The AC quickly came to agreement that the document should remain concise, and that there should be a core message up front. A Jochens suggested the message include stating the NOAA Administrator and IOOC need to step forward and support IOOS at a high level. C Lautenbacher asked Z Willis what she views as useful from the AC. Z Willis stated that identification of how NOAA can become more supportive of IOOS is one good example. Things we do not need are help on defining metadata standards, for example, but rather how to convey the power of the data and get more people to use it. AC agreed to keep the summary short, then include detailed information as appendices or attachments.

C Beegle-Krause, A Jochens, and L Ragster agreed to revise the three guiding principles documents into one, with a first draft due to the AC by mid-October and a completion by deadline in early Nov.

Evaluation of NextGen topics – C Lautenbacher, Chair

DISCUSSION

C Lautenbacher asked each AC member to prioritize 5 things they feel the AC should focus on in the near future. From there the AC will create a consolidated list and make strategic decisions on FY15 topics. AC should also consider how they want to work. How have things been working? Has that been effective?

Each AC member shared their priority list (combined below, with discussion following):

- Create working groups
- Stronger federal agency support, elevate IOOS
- Develop guidance for how industry, academia and feds use data
- Enable the NOAA Admin
- ID federal resources
- Develop quality management indicators
- IOOS as a bridge between research and operations
- Focus on key regional issues
- Resilience
- Fully fund IOOS
- Review should IOOS be a formal PO?
- IOOS modeling test bed is a growing resource to consider
- Put the “I” back in IOOS
- AC Chair periodically brief IOOC
- Get input from IOOC to focus AC recommendations
- Act as the “canary in the mine” on IOOS issues from AC perspectives
- Focus on specific actions to make to IOOC and NOAA
- Streamlining NOAA’s investment with focus on existing Regional IOOS capacity
- Focus on research to operations issues, particularly in the regions
- Committee as IOOS Board of Directors; Like Google, people should go to IOOS to learn

- Enable NOAA Admin and IOOC to be successful
- Gain more insight from IOOC members
- Set goals for NOAA and IOOC to reach toward
- IOOS cannot just equal the regions – need federal involvement and support
- Convey economic impact of the private sector for IOOS
- Message what’s been done in data integration and get people to use it
- Authorizing legislation
- Understanding the pieces of IOOS

T Browne suggested that the best way to focus the AC is by working in subgroups, versus working only during meetings. A Jochens described her vision for IOOS as a true national endeavor, backed as such by the NOAA Administrator and the IOOC. We need to convince partners that they can meet their own agency-specific mandates and be a part of IOOS. AC agreed with this idea. B Melzian specifically noted that the IOOC Co-Chairs should be more engaged through attending AC meeting, and that the AC chair might consider briefing the IOOC at one of their meetings. C Ostrander and others stressed the need to provide more focused, granular recommendations to NOAA and the IOOC. J Manley suggested the AC think of IOOS as a google. We want people to go to IOOS to learn things. Z Willis stated that IOOS needs to be viewed as a national endeavor. She feels the federal part has failed in this regard. The Regional component has been very successful in conveying this message. However, Z Willis expressed concern that the community believes IOOS equals the regions. We need to change that mentality. Z Willis also offered that we need to understand the ocean enterprise and the economic impact of the private sector.

C Lautenbacher stated that we need to understand the pieces of a system before we can start building. He feels we need to think more about these pieces. Next steps should include figuring out how to connect to the IOOC. Also, we need authorizing legislation, and noted that the AC members as private citizens can do much to support IOOS both in Washington and in their regions. Getting back to the google idea; we wanted to get all the knowledge in the world together so everyone can use it. IOOS is definitely much bigger than just coastal regions.

C Lautenbacher expressed the need to influence the White House through the Science and Environment advisors. Industry is another sector IOOS needs increased involvement. C Lautenbacher noted that the Hydrographic Services Review Panel, another NOAA Federal advisory committee, is interested in holding a joint session. This could be one avenue to reach out to their industry audience.

There was general consensus that the value of IOOS needs to be clarified and shared through tailored messaging to specific audiences. The idea of IOOS as “Google of the Ocean” was raised again, making IOOS the go-to source for ocean information. General consensus was also reached on the need for reauthorizing legislation.

Guiding Principles for IOOS Enterprise (cont.) – T Gulbransen, Vice Chair

DISCUSSION

AC continued to refine the draft, focusing on title ideas such as “enabling the national endeavor.” AC agreed that the words national endeavor were appropriate. J Manley recommended “elevating” versus “enabling.” The AC also focused on defining the 2-3 priority items for the start of the document. AC agreed to use “elevate, embrace, and evaluate.” General discussion followed on the topic of who it was that needed to be convinced of the value of IOOS. Z Willis explained in detail that the IOOS office in NOAA is not a formal program, though the office has worked to establish itself formally for several years. Through discussion with J Quintrell, the AC agreed that the best stance for the AC would be to strongly support that the IOOS Act be reauthorized as written.

C Lautenbacher then directed conversation back to the 5 priorities for the AC. AC agreed first step is compile all members’ lists and look for similarities/overlap. If possible, categorize them as strategic and tactical. C Lautenbacher asked the AC is we have the correct structure to work on these priorities. J Manley suggested letting the topics chosen drive how the working groups are formed. Z Willis asked that as topics are identified, the AC should think about whether there are experts they’d like to invite for the spring meeting so outreach can be done in preparation. AC agreed that they would continue to work in ad hoc groups as necessary.

The location for the spring meeting was chosen as Washington, D.C. This allows for opportunities to talk with NOAA and IOOC leadership. AC DFO and staff will work to find dates and location for the meeting. AC also asked to have at least one administrative call between now and the spring meeting. DFO and staff will arrange that call.

Public Comment Period

No public comments.

Motion to adjourn.

Meeting adjourned at 2:50 PM.

ACTIONS

100314.1: Revise three docs into one doc (C Beegle-Krause, L Leonard, A Jochens)

- First draft due to AC by October 15
- Final version due November

100314.2: Compile AC members 5 priorities, send out to AC by October 10 (DFO)