**U.S. IOOS Advisory Committee Meeting Minutes**

**April 5-6, 2016**

Consortium for Ocean Leadership

Washington, D.C.

**April 5, 2016**

**Committee Member Attendance**: Conrad Lautenbacher (chair), Tom Gulbransen (vice-chair), LaVerne Ragster, Doug Vandemark, Justin Manley, Jennifer Hagen (virtual), Chris Ostrander, Tony Koslow, Tom Curtin, Tony MacDonald, Casey Moore (virtual), Brian Melzian (virtual, ex-officio), Vicki Kromer (IOOS AC staff), Jessica Snowden (IOOS AC Designated Federal Official)

**Committee Members Absent**: Ann Jochens, Val Klump, David Legler (ex-officio), Linda Lillycrop (ex-officio)

**Speakers:** VADM (ret.) Manson Brown (NOAA/ASEOP), Dr. Russell Callender (NOS AA), VADM (ret.) Paul Gaffney (OEAB), Dr. William Brown (BOEM), Dr. Walter Johnson (BOEM), Josie Quintrell (IOOS Asoociation)

**Public Attendance:** Rick Brennan (NOAA/ASEOP), Christa Johnston (NOAA/NOS Policy), Lauren Broccoli (Lewis-Burke Associates), Jason Gallagher (Lewis-Burke Associates), Laura Griesbauer (NOAA/IOOS), George Jungbluth (NOAA/IOOS), Dave Easter (NOAA/IOOS), Marvoureen Dolor (GLOS), Peter Hill (WHOI), Peter Johnson (Amerigo Offshore LLC), Joel Widder (NOAA/NAML), Kruti Desai (COL), Nick Rome (COL)

**Meeting called to order at 9:00 by the Chair**

**VADM Brown Remarks**

VADM Manson Brown addressed Committee, and welcomed the new members. He focused on NOAA Administrator priorities and preparing for transition to a new administration.

Priorities are:

* Building community resilience
* Sustain observing systems
* Evolving the National Weather Service
* Achieving organizational excellence

He stressed that mission support is the backbone of NOAA operations. While it may not directly touch citizens, it is vital.

With respect to a new administration, he stressed that political leadership cares about the issues and the impacts on citizens, and will continue to support the current priorities in for NOAA’s mission through the end of the current administration. During the transition, he noted that IOOS will be in the discussion no matter what political leadership looks like. We need our stakeholders and supporters to keep fighting on the Hill, by visiting early and often with their representatives. Come to Hill meetings with a clear message, making sure IOOS stays on the agenda.

**Discussion**

* L. Ragster asked how to tailor the IOOS message for a new administration. M. Brown said to continue pushing for ICOOS Act reauthorization. Consider much of the message as education. People don’t know what IOOS is. Keep the message short and catchy, like an elevator speech.
* J. Manley asked what words or phrases would be more effective in communication IOOS to Congress? M. Brown suggested that while labels and political priorities change, the mission and focus on an agency and it’s programs such as IOOS do not. Try to keep terms more “generic.”
* T. Koslow raised the point that within NOAA, information can be hard to find such as fisheries versus non-fisheries data. How can we improve that within the agency? M. Brown noted that there are good cross cutting examples with respect to fisheries and ecosystems modeling, which should be viewed as a best practice.

**Remarks by NOS Assistant Administrator: Dr. Russell Callender**

R. Callender spoke to the Committee for the first time since he was named Assistant Administrator for NOS. He emphasized that he is not planning on changing priorities, and wants to continue to push them (coastal intelligence, resilient communities, and place-based conservation) through the administration transition.

He noted that NOAA and NOS received recommendations from the AC, which the agency continues to evaluate for long-term adoption. He stressed the same message of support and congratulations for certifying the first regional association. He also announced that NOS and NOAA are working to make IOOS a formal office. While there is great support for this, it could still take time to work through the agency’s formal process. His goal is to complete the process before a transition.

R. Callender described the Coastal Roundtable, a group comprised of NOS programs and related non-profit groups working to create common dialogue and messaging on coastal issues. We are already seeing positive results via feedback on the Hill.

With respect to an administration transition, a team within NOAA will be planning for the hand off. He encouraged the Committee to think about the 10-15 year vision for IOOS and ocean observing. Tie the vision back to the ICOOS Act and reauthorization. He mentioned the regional “Closing the Gaps Campaign” and applauded this effort as it moves the conversation from region-specific challenges to a unified system message.

**Discussion:**

* T. MacDonald asked how we might better deliver our message from his perspective. R. Callender noted that when he goes to the Hill, he tends to find he’s the third or fourth person who’s recently visited and talked about IOOS. So, IOOS does a good job already on the Hill. The Hill notes a gap in hearing support from NOAA, so how can we better message within the agency in support of IOOS. The Committee might also consider further thinking on how IOOS supports coastal resiliency and can be relevant to that priority.
* C. Lautenbacher asked what would be biggest thing we could do to help you. R. Callender said help with building mid- and long-term strategies for IOOS.
* T. Gulbransen noted that M. Brown mentioned a “dashboard” where people could more holisticall see where the ocean enterprise is going. How can the Committee help that effort? R. Callender replied that this is an area Dr. Spinrad is also pushing as Chief Scientist for NOAA. It would be ideal to see private industry going to NOS and demanding observations rather than us pushing them out.

**Remarks by VADM (ret.) Paul G. Gaffney II., Chair, Ocean Exploration Advisory Board (PRESENTATION)**

Paul Gaffney began is remarks by noting similarities of the OEAB to IOOS. Both came from public law, and NOAA is required to develop an ocean exploration plan. OEAB supports NOAA line office requirements and priorities, and advises NOAA on where to explore in the ocean. The end goal of ocean exploration is to gain “actionable environmental information” for NOAA and NOAA data users.

Priorities of his board include:

* Prioritizing recommendations for future ocean observing and exploration,
* Characterization of fisheries, minerals, MPAs and sanctuaries
* National data collection for the continental shelf.

**Discussion:**

* C.Lautenbacher asked given funding constraints, how we can engage outside world to help. We should be looking at ways to do that. P. Gaffney agreed and replied that Bob Ballard is the best publicist in this business. We are very interested in doing more and more of this work outside of NOAA. We want to consider more funding through cooperative agreements. For those interested in technical engagement, he recommended attending the Ocean Exploration Forum this fall in New York.
* D. Vandemark asked about how OE has lined funding requests with congressional interest. P. Gaffney replied that the new OE director has been working on this over the past two years and they are making progress.
* T. Gulbransen asked if there is anything in the OE mission directing education and outreach. P. Gaffney replied that it depends on where you look and who you ask. As chair of the OEAB, yes, they want to address this. However, it’s not written for example in the NOAA OE strategic plan.

**BOEM**

Bill Brown presented on BOEM’s mission as it intersects with IOOS. BOEM is a major supporter of NOAA. Specifically, BOEM highlighted way in which they support IOOS, as well as benefit from IOOS. The presentation also outlined specific agency needs in a “wish list”:

* More biological/ecological data products/availability
  + Fisheries, stock assessments products
  + Endangered Species/Marine Mammal Act-relevant data, passive acoustic data products
  + Avian •
* Sociocultural data
* Air (quality) over the ocean
* Satellite data collection/aggregation
  + As IOOS functions within the Global Ocean Observing System (GOOS)
* International data
  + Aggregate/incorporate Gulf of Mexico with Mexico, Cuba, Caribbean; pan-Arctic; Pacific
* Industry data
  + Data relevant to BOEM activities
* Publication of “official” forecasts of the variables IOOS measures
  + Help identify/rank the best models
    - Which are best in which regions? Best in short-term vs. long term?
  + Make more academic models operational
  + Provide the platform and support to transition the good models IOOS investigators create into reliable services
* Forecasting of ecosystem services.
  + e.g., whether the bowhead whales are going to continue increasing in number or not
* More consistency in modeling impacts
  + Modeling ecosystems vs. physical oceanography
* IOOS involvement in policy
  + Scientific consistence with respect to policy
    - e.g., helping resolve when two offices develop different impact requirements
* Economic benefits analysis to regions of BOEM activities
* Address the 4-D aspects of data collection and processing
  + Data portals are focused on 2-D (x and y); z and time are missing.

**Discussion:**

* C. Ostrander asked how priorities for the Environmental Studies Program are set. Specifically, how could IOOS regions connect. W. Johnson replied that there is a complex interactive process within the bureau. However, some priorities from Alaska, Pacific, and Gulf of Mexico have already been collected. BOEM used to have a FAC, but have terminated it and replaced it with a standing Committee of under the National Academies. BOEM is using this committee to review their annual priorities process.
* T. Koslow asked if BOEM had considered CalCOFI model of operations (joint federal/academic/industry) as BOEM looks at Arctic issues. B. Brown agreed that this is a potential model to review possibly by their National Academies committee
* W. Johnsons noted several examples of long-term place based observations between IOOS and BOEM, such as Flower Garden Banks National Marine Sanctuary: monitoring coral reef community health. Generally the BOEM focus has been on impacts to areas over time.
* B. Melzian asked if BOEM works with other agencies to leverage ship time. W. Johnson noted that BOEM has interest in working with EPA on air quality monitoring in the Gulf of Mexico. P. Gaffney offered to contact. B. Melzian to explore options for EPA through the Ocean Exploration Advisory Board.
* Z. Willis described how IOOS funds the regional associations we fund IOOS RAs, and how we might beg BOEM to partner and do more regional work through these cooperative agreements. B. Brown and W. Johnson agreed to look into this, to see where mission and project work might lend itself to sending funds to the RAs.
* J. Quintrell stressed the maturity (and certification of some) of the RAs and encouraged BOEM to consider working with the regions. Z. Willis agreed, but noted that regions are working at capacity, in respect to current funding levels.
* BOEM agreed there is value in talking with IOOS through the office to discuss their wish list, and ways the regional infrastructure could be leveraged with modest directed funding from BOEM.

**Lunch**

C. Lautenbacher led a discussion of the ongoing committee working groups.

* T. Gulbransen provided an OTT update:
  + Had brainstorming session with group after talk with Jen Rhoades and described questions she brought up. Group agreed to focus on few top questions:
    - Examine the technology selection and process as done 2013-2015
    - Recommend ways to improve selection of future topic
* Z. Willis stated that OTT is about addressing the issue of moving technologies from research into observations which are already at a specific technology readiness level.
* T. Gulbransen noted that the work group plans to keep their recommendations on improving the next FFO cycle for OTT at a high level, use examples, case studies, and keep their input concise.
* J. Manley noted that a significant strength of IOOS is the regional network. OTT should find a way to leverage the RAs as much as possible.
* D. Vandemark asked if the scope of the recommendations should look to outyears, as far as 10.
* Z. Willis noted that OTT funding is in the President’s budget and that there is stability in future years for OTT.

**C. Lautenbacher moved discussion on to permittees**

* T. Gulbransen noted that the group wanted to talk to FERC because of their expertise with the permit process. V. Klump and others did some legwork.
* V. Klump stated that NPDES permits involve monitoring requirements that are specific to nature of discharge. Most agencies have fairly extensive water monitoring programs. IOOS could reach out to those agencies to learn more. With respect to BOEM, we might ask NOAA general counsel what the options are to make a monitoring a requirement for permitting.
* J. Quintrell noted that Boston has two excellent case studies in this area. The National Water Resources Association pays dues to the region as it is cheaper to have that region to do monitoring. There is also an LNG site that was permitted and pays to maintain and operate a buoy as part of their permit compliance.
* T. Gulbransen stated that he would still like to investigate further into FERC.

ACTION: Investigate precedents and mechanisms which can enable coastal use permittees, such as NPDES or energy facilities, to contribute to IOOS.

**C. Lautenbacher moved the discussion on to the biological working group**

* T. Koslow led the discussion on what biological/ecological/chemical data needs to be part of IOOS, and how to prioritize and manage the needs.
* J. Snowden noted that the IOOS AC should review the IOOC BIO Task Team draft report and recommendations to better frame their discussion.
* There was general consensus that the focus of this working group was unclear, and needs to be focused so that a clean recommendation can be made to NOAA and the IOOC.
* T. Gulbransen suggested the committee consider the charge to the group. Perhaps group should start with the BIO Task Team report and identify areas where committee feedback would be useful.

ACTION: Outline approach to identify how IOOS AC can advise regarding addition of more content lanes to IOOS Bridge – Biological, Ecological and Chemical data are critical to the issues of EBM and Environmental Intelligence. Which roles can AC serve in response to IOOC BIO TT documents?

**C. Lautenbacher asked for a report out from the USVI working group**

* J. Manley created a template for working group to use in building the CariCOOS case study. The group selected 5 sub-themes that stood out from the meeting in USVI. Work group recommends using this template going forward in meetings in other regions to collect information and create future case studies.
* L. Ragster agreed with the approach, suggesting we have the template completed for use at the fall meeting.
* C. Moore reviewed J. Manley’s notes, and began to wonder what the questions were that the committee was trying to address. Is the goal to identify regional best practices?
* J. Manley proposed C. Moore and L. Ragster remain involved and restructure template to capture best practices. The group will have a call before the summer public meeting.

**C. Lautenbacher asked for a report on branding**

* C. Moore agreed to engage J. Quintrell in the discussion on branding methods. He noted it might be useful to use a branding survey targeted at stakeholder businesses in the blue economy to discover how they identify with IOOS.
* C. Lautenbacher liked the idea, but cautioned that surveys take resources and have rules applied to them.
* C. Moore will send some similar surveys to the committee as examples.
* C. Lautenbacher recommended the group look at it along with the IOOS office to decide if we want to proceed.

**Break**

**Discussion on “Raising the Visibilty of IOOS” Recommendation**

* C. Lautenbacher asked the committee how they want to use final recommendations and build off of them. He noted that there is a theme of increasing visibility for IOOS, and that the committee should keep working on this as a standing task.
* T. Gulbransen noted that A. Jochens did a lot of work revising the document. He suggested that this is such a fundamental and living document the committee should continue to return to.
* Committee agreed, and suggested that at every meeting, they take time to talk about raising the visibility.

**Big data – T. Curtin**

* T. Curtin presented on big data, including its value chain and how NOAA data fits into the discussion.
* Presentation set up discussion at start of day two.

**IOOS Association Presentation – J. Quintrell**

Highlights included

* Closing the Gaps Campaign – successful way to show regions unite around a common need (for example, high frequency radar) to message to Congress. Future campaigns will focus on water levels, next generation navigation, and HAB forecasting.
* IOOS Association continues to support ICOOS Act reauthorization, which is through committee mark up in the Senate and moving forward in the House.
* IOOS Association is also focusing on messaging IOOS to a new administration.

There were no public comments.

C. Lautenbacher adjourned meeting at 4:50 pm.

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**April 6, 2016**

**Committee Member Attendance**: Conrad Lautenbacher (chair), Tom Gulbransen (vice-chair), LaVerne Ragster, Doug Vandemark, Justin Manley, Jennifer Hagen (virtual), Chris Ostrander, Tony Koslow, Tom Curtin, Tony MacDonald, Casey Moore (virtual), Brian Melzian (virtual, ex-officio), Vicki Kromer (IOOS AC staff), Jessica Snowden (IOOS AC Designated Federal Official)

**Committee Members Absent**: Ann Jochens, Val Klump, David Legler (ex-officio), Linda Lillycrop (ex-officio)

**Speakers:** Josie Quintrell (IOOS Asoociation)

**Public Attendance:** Marvoureen Dolor (GLOS), Kruti Desai (COL), Nick Rome (COL)

**Meeting called to order by the Chair at 9:00 am with welcome and expectations for the day**

**Discussion on Transition to a New Administration**

The Committee discussed messages for IOOS to a new Administration. They came up with a running list of messages. *See attached document, IOOS AC Statements 4-6-26.*

Highlights:

* T. MacDonald suggested the committee consider not only the message, but how we will deliver that message. The AC also needs to consider how we engage other agencies and understand their plans with respect to transition.
* Document must be a bipartisan message and focus on what IOOS does.

ACTION: Working group (Tony MacDonald, LaVerne Ragster, Chris Ostrander, and Josie Quintrell will draft a one pager on the transition to a new administration.

**Big Data Presentation by T. Curtin and Discussion**

Tom Curtin briefed the Committee on day 1 with an overview of big data including what it is, the global strategic principles, standards, types of NOAA data, and how it’s used.

Highlights:

* T. Curtin stated a lot of data that NOAA accumulates is satellite data. How much of data us useful? Some of it us useful, but there is lots of it. Out of all that data there is about 5% that needs to be calibrated, otherwise it’s not useful.
* T. Gulbransen commented on T. Curtin’s statement that 1 of 5 vendors will get data off the server and make data available on the farm and asked to clarify that they are getting a copy of that data, not the data itself.
* C. Lautenbacher confirmed that yes, NOAA is not going to transfer their function of government data. They will allow a copy to be obtained by the companies to be able to make commercial products, etc. The government is not making money off this.
* Z. Willis used NWS data as an example. NEXRAD data is used by the NWS for day-to-day observations. Some of it is kept for the database, but a lot of it is dumped because it’s not needed. A lot of the data is intermediate output; NOAA will use it, but it’s not stuff we need. There are high levels of satellite data, lot of it processed (Level 4). For levels 1-3, some may need it, NOAA doesn’t, but they will retain it. Public data is free. IBM just bought Weather.com so think business prospect for this. NOAA is not paying for data yet, but it will be interesting to see. There could be a time where it is cheaper for cloud services, but that’s a long time away. It’s a great experiment.
* J. Manley would like to reinforce if we can find a way to connect to IBM to those who have an interest to ocean space not just space. They are learning how much and what type of info is needed. He has a colleague that he’d be willing to reach out to after some thought on this topic. We need to figure out what the “nugget” is on this, but we are closer to than where we last time on figuring out this topic. Tying this into transition of a new administration planning, if we were to solve the problem, we are bringing real value added product to government and he doesn’t think we should give up this area.
* C. Lautenbacher agrees this important to not drop. We ought to keep track of it and seeing if we can find the nugget.
* T. MacDonald -recalled E. Lindstrom’s interest in making the GOOS connection and maybe there is some interest and connection with IOOC. He’s more interested in how we want to communicate and establish a relationship with these types of companies. We aren’t partners at the table, but what do/how do we want to investigate building a relationship between our community and theirs. He suggests that we could connect in Seattle for a half day meeting before La Push.
* L. Ragster agrees with the idea to continue to delve into this topic. She also added that the Committee should think about what advice we can give with regard to threats and opportunities.
* T. Koslow following up to raising the profile for IOOS, the key thing people are looking for is integrating data and seeing what it means. IOOS potentially determines this. If we are going to resonate with a new administration, we should raise goals and objectives a little.
* Z. Willis as devil’s advocate asked how many people have looked at ioos.us or the regional portals? Maybe the Committee needs to do an assessment of what we have out there and then tell the office how to fix it if it’s not working. Principles on meta data are not going to help me. We are already doing GitHub (web-based software development service with version control). What is it that people are not getting from IOOS portals?
* She also mentioned she doesn’t mind if Microsoft and Amazon want to come to the table, but that this is not necessarily what this Committee is set up to do.
* The Committee should be careful when talking about IOOS as separate from GOOS. IOOS contributes funding and IOOS is a part of GOOS. It’s primarily the systems that are put in the ocean perimeter outside of EEZ. If something wrong, tell us what we’ve been building the last 7 years isn’t working.
* J. Manley added that there is nothing wrong, but what’s missing is valued added ecosystem. He’s uninterested in metadata and says the challenge is how do we connect excellence that exists and connect world of IOOS/GOOS, with big data as services, and go to economic serving. Most of the serving is in the providing and it’s rapidly working in service economy and we (IOOS) aren’t partaking in that. How do we cross the next step?
* T. Gulbransan (?) stated that we aren’t the right group to pose the question what people are not getting from the portals. What we should be asking is what are industry and community not getting from the portals?
* T. Koslow said we need to think about how data is integrated and useful and can used for outreach. There doesn’t seem to be a lot of this on the IOOS sites. We need to show data streams, how climate is changing, and I think IOOS can be a part of that.
* T. MacDonald says that question now is how does big data offer us opportunities to answer some of these questions? He feels re-grounded after this discussion but to what extent does big data offer us?
* C. Lautenbacher stated that the Committee should continue to keep track of big data. IOOS is a lot bigger than we talk about. Ocean is the ocean, not to be divided up. It’s all connected.
* He added further about the website that the website is good and provides info that is used. Out of SECOORA, PIs got success predicting red times, getting articles published, and acclimations, but he’s not getting any money. How do we do this so we can take the value and get it into where we can understand a lot more of the ocean and a lot more value. He’s done a fantastic thing - predicting red tides, but who is going to pay for it? Right now, no one...only IOOS’ subsidy to us.
* V. Klump added that looking at T. Curtin’s bar chart, it’s a 20 mil program, if didn’t budget, we’d be having a different discussion.
* T. Curtin stated we heard all these uses about data, but have not heard 5 corporations; why don’t we have talks from these people and ask them these same questions?
* C. Lautenbacher asked Committee if they should find someone from the big 5 to speak to the Committee in Seattle.
* T. MacDonald said a sub group should talk to OSTP and find out what questions we should be asking.

ACTION: Tom Curtin, Tom Gulbransen and Justin Manley, and Tony MacDonald agreed to be part of the subcommittee. They will think about ask and invite someone to come.

* Z. Willis mentioned the startup, PlanetOS. They are closing down their site and going to a pay model. The Committee might want to contact Rainer Sternfeld, PlanetOS CEO, and see where they are going.

**Break**

**Intercessional Committee Work Plan for full and sub committees**

1. T. MacDonald, C. Ostrander, L. Ragster, J. Quitrell will work on 1 pager on messaging for a new administration to be done for June meeting.
2. Committee should read T. Koslow’s document and send comments by email.
3. T. Gulbransen will investigate precedents and mechanisms which can enable coastal use permittees, such as NPDES or energy facilities, to contribute to IOOS.
4. BIO TT group will outline approach to identify how IOOS AC can advise regarding addition of more content lanes to IOOS Bridge – Biological, Ecological and Chemical data are critical to the issues of EBM and Environmental Intelligence. Which roles can AC serve in response to IOOC BIO TT documents?
5. J. Manley, C. Moore, and L. Ragster will restructure template to capture best practices from the USVI meeting. The group will have a call before the summer public meeting.
6. Branding group will reevaluate this topic along with the IOOS office to decide if we want to proceed.
7. Big data speaker in Seattle – T. Curtin, T. Gulbransen, J. Manley, and T. MacDonald will think about who to ask and what types of questions we should be asking for someone from big 5 company to speak for a half day meeting in Seattle.

**Public Comment Period**

There were no public comments.

**Meeting Adjourned**