

U.S. IOOS Advisory Committee
Spring Meeting Minutes
April 19 – 20, 2017 Washington, D.C.

April 19, 2017

Day 1

Committee Members Present: Conrad Lautenbacher (Chair), Tom Gulbransen (Vice Chair), Thomas Curtin, Tony Koslow, Val Klump, Tony MacDonald, Jennifer Hagen, Justin Manley, Casey Moore, Chris Ostrander, LaVerne Ragster, Doug Vandemark, David Legler (Ex-officio), Brian Melzian (Ex-officio) by telephone, Regina Evans (Committee Staff), Victoria Kromer (Committee Staff), Carl Gouldman (Designated Federal Official)

Committee Members Absent: Linda Lillycrop (Ex-officio)

Public Present: Kruti Desai, Consortium for Ocean Leadership; Nick Rome, Consortium for Ocean Leadership; Josie Quintrell, IOOS Association; Derrick Snowden, U.S. IOOS Office

I) Call to order

C. Lautenbacher called to order the Spring meeting of the U.S. IOOS Advisory Committee public meeting at 9:00 AM on April 19, 2017 at the Consortium for Ocean Leadership, 1201 New York Avenue, 4th Floor, Washington, D.C. 20005.

II) Opening remarks – C. Lautenbacher, Chair

Opened with greetings to members and guests.

Highlights from discussion:

- a) C. Lautenbacher commented on current political environment and stated expectations for the meeting. He noted that we are in a very different political climate than the last time they met and encouraged the Committee to think about how they can support IOOS in uncertain times. He asked the Committee to think about what should or should not the Committee be doing and if they need to reevaluate priorities. By the end of the spring meeting, the Committee should hopefully have outlined the direction to move in the future.
- b) C. Lautenbacher introduced Dr. Stephen Volz, performing the duties of Assistant Secretary for Environmental Observation and Prediction (ASEOP), as accomplished in the realm of space and satellites due to his background as the

National Environmental Satellite, Data and Information Service (NESDIS) and (AESOP). Informed the group that observing is now also part of Dr. Volz's portfolio in his current position.

III) Remarks from leadership – Dr. Stephen Volz, Performing the duties of Assistant Secretary of Commerce for Environmental Observation and Prediction (ASEOP)

Highlights from Discussion:

- a) Dr. Volz discussed uncertainty in political environment that occurs whenever there is a transition. Advised that we not assume what we know, be prepared to re-justify what we already thought was proven and be prepared to educate the transition team on our relevancy. He does not know how long we will be without an Administrator. Expectation is for a continuing resolution or appropriation April 28 with minor changes at most. NOAA is following existing programs of record.
- b) Dr. Volz highlighted that there is one congressionally appointed person inside of Department of Commerce and there will be a learning curve. We have to inform them of the complexity of IOOS. He encouraged building and expanding on previous work submitted by the Committee by writing a letter to the NOAA Administrator about the role the Interagency Ocean Observing Committee (IOOC) can play. He also stated that there could be a role in the IOOS 5-year strategic plan development.
- c) Updated the Committee on interim leadership. Referred to them as “caretakers”: Benjamin Friedman, Performing the Duties of Under Secretary of Commerce for Oceans and Atmosphere; Dr. Stephen Volz, Acting Assistant Secretary for Environmental Observation & Prediction; Dr. Paul Doremus, performing the duties of Assistant Secretary for Conservation and Management; Craig McLean, Acting Chief Scientist; and Sam Rauch, Acting Deputy Assistant Secretary for International Fisheries.
- d) Coming from NESDIS, Dr. Volz is more familiar with international collaborative observing systems such as the Global Ocean Observing System (GOOS). There is more emphasis now on the Blue Economy. Emphasized the importance of how both the satellite and ocean observing sides understanding each other better.
- e) Commercial observing, or for-profit, may become a focus. Shift focus to commercial observing. Engage with commercial entities.

- f) Dr. Volz stated he is looking forward to outcomes and recommendations from this group.

IV) Welcome and discussion with Carl Gouldman, the new IOOS Director

C. Lautenbacher introduced and welcomed Carl Gouldman as the new IOOS Director.

Highlights from discussion:

- a) C. Gouldman talked about his deep history with IOOS, how he was the first FTE for the program, and how his background gives him the understanding of how to build productive partnerships. He discussed relationship building and described the importance of partnerships.
- b) C. Gouldman stated that when he's out talking about IOOS, that he aligns IOOS' priorities with those of NOS and that is because our budget is a specific line within the NOS budget. Societal benefits such as navigation, observation, and prediction to ensure safety and productive commerce will resonate with the new Administration. IOOS priorities are observe and predict; customer focus; high quality data delivery; infusion of technology and science. The one priority that is missing from the slide deck is reauthorization of ICOOS Act.
- c) IOOS is not changing what we do but rather changing the messaging. Changing the language, but not our actions. No longer using the term "coastal intelligence" because it is too difficult to explain. Instead, the messaging is safe and efficient transportation and commerce. Community resilience is now preparedness and risk reduction. Place based management is now stewardship, recreation and tourism.
- d) He is working to bring people in with inspirational imagery and is working with David Legler to integrate national to global observing activities. The emphasis is on the blue economy through efforts such as the Ocean Enterprise study. He highlighted the Ocean Enterprise study that defined the components of the blue economy within the U.S. It's estimated at \$7B revenue annually. The business of integrated ocean observing is part of our economy. There are plans to do another study in 2019.
- e) C. Gouldman learned many things from Zdenka Willis that he will continue to implement. Information builds off the data. Customer focus at all levels and understand how IOOS helps people make decisions. The predictions gets us to intermediary, value added level. National Modelling Strategy at the interagency level.

- f) IOOS remains customer focused at all levels. We must understand how IOOS helps people make decisions. IOOS will continue high-quality data delivery through DMAC architecture, standards and interoperability, research and development. IOOS can support aquaculture. Will continue to work on HABs/hypoxia. National Estuarine Research Reserves are a strong NOAA partner. Working across other parts of NOAA. C. Lautenbacher pointed out that NERRs is an important piece to land-sea connectivity.
- g) We are making progress on data discovery and access. IOOS.US is a place to access our products. Demonstration of fed and non-fed integration. While the interagency construct is not conducive to moving funds freely, IOOS can get interagency funds to the regions.
- h) C. Gouldman shared a slide that depicts the new IOOS diagram. J. Manley suggested a 3D Venn diagram. L. Ragster recommended building onto existing diagram. The slide is too simple to demonstrate complexity.

VII) IOOS Strategic Planning Looking forward to 2018-2023, Carl Gouldman and Alex Harper, IOOS Program Office

- a) Alex Harper gave overview of the strategic planning process and shared draft outline.
- b) Comments on the strategic plan:
 - T. Gulbransen: What if it said clarify market needs and opportunities? The goals need to be defined.
 - C. Lautenbacher: The word “partnerships” have many meanings. Would encourage team some other way to deal with that word to avoid confusion.
 - T. MacDonald: Agreed that more thought is needed to develop the goals.
 - L. Ragster: Frustrated that education is always last because it indicates that it will not be done well. Figure out a way to address budget and objectives you want to accomplish, otherwise you will have exactly what you had before. Biggest pet peeve is that communications, education, and outreach is always last. Also agrees that this lists phrases and not statements. There is an assumption that communications is important and will show up through other objectives.
 - J. Manley: Suggest not defining the IOOS Enterprise. Perhaps describe the enterprise, but don’t define if which may exclude some.

- T. Macdonald (poss Koslow?): “Predicting” is not in vision/mission, but IOOS is certainly part of it.
- T. Gulbransen: There is no description of governance and that should be defined.
- J. Manley: Potential problem – “institutional inertia.” The Enterprise should feel fresh, not huge
- C. Lautenbacher emphasized that the planning itself is more important than “the plan.”
- T. MacDonald: Defining where people can find a way in, that’s where it becomes agile. (1) Concerned about internal gazing and focus on outreach. What are external input like GEO documents? (2) Think more about what want to do with plan once it’s done. This is supposed to be a guidance document to help engage people. Need to do more thinking – who is getting it, who’s it going to help? What going to go? Do not overly commit to certain things. The agility comes in by leaving room for external inputs. This may discipline you to do less and not more.
- J. Hagen: Agreed with Conrad. It is the process, not the plan. Also, the timeline is very ambitious. C. Ostrander: Concurred with J. Hagen.
- C. Moore: Provided a business centric view. Core capabilities look like goals. What is the strategy? The strategic plan needs to get to next level of elevation. Six strategic goals is a lot to handle for a 40 million dollar business. Challenges IOOS to get to two most important goals.
- L. Ragster: Concurred with C. Moore and going to say the same thing. Also agrees with J. Hagen’s comment about overly ambitious timeline.
- C. Lautenbacher: It pays to have facilitator who is familiar with business and non-profits. Define partnership. Challenges group that works on this topic to define it better.
- A. Haper: Goals ordered in the way that funds are usually allocated. Perhaps we can add guiding principal about communications and education.
- J. Manley: challenges use of enterprise “defined” implies who is in and who is out. Everyone should feel like they are a part of IOOS. Change approach to enterprise “described.”

C. Gouldman: Asked Alex to define the enterprise but likes J. Manley's line of thinking.

- L. Ragster: Make it an "and" situation or state the audience you are addressing.
- J. Hagen: Process is important because when it goes on shelf it is obsolete.

VIII) Recap from 2016 fall meeting by Chair, VADM (ret.) Conrad Lautenbacher with updates from Justin Manley and LaVerne Ragster on a field site template and Val Klump on potential action item on the issue of permits requiring monitoring platforms for inclusion in the IOOS system. Each group is allotted 15 minutes. Review the top priority areas, form groups.

a) Highlights from discussion on site visit template:

- J. Manley: This came out of the last meeting to develop a template that can be used as meaningful reporting. He asked the Committee if they want a template or not.
- L. Ragster: If we go to different sites, we should say something when we get back.
- T. MacDonald: Like the concept of notes in the field. We have a job and responsibility but the information may be useful to others.
- There was discussion on where this document would go and what it should look like. The group decided that a letter signed by Committee should be sent to the IOOC and to NOAA. The group likes notes from the field.
- C. Ostrander commented that RAs are interested in seeing an outside perspective on what is and is not working.
- C. Moore: Would it be useful to have a generic list of questions to pose before the site visit?
- J. Hagen: Each area is very different. It is good to know that the main challenge is.
- J. Manley: The group will put more effort into capturing our impression for site visits.

b) Discussion on permits requiring monitoring platforms:

- V. Klump highlighted opportunities for requiring monitoring program permits for use monitoring systems. Not clear what statutory cases would be. Many public facilities do it voluntarily and that might encourage them to be part of IOOS. Do we get someone to produce a brief on statutory authority on permits?
- J. Hagen: As part of regional developing bodies on west coast, we are going through these exercises and learning what is required. There is a long list of authorities on the shelf. BOEM has a lot of authority.
- T. Gulbransen: What opportunities exist in current law? Where in permitting process are those triggers? Where is it being done already? Lawyers will think about it.
- T. MacDonald can talk to V. Klump to see where we may get this info.

ACTION: T. MacDonand and V. Klump will get together/discuss/figure if should investigate further or if should bring in legal authorities

IX) Informational Briefing on Task Force Ocean by RDML Tim Gallaudet, Oceanographer of the Navy

Introduction of RDML Tim Gallaudet given by C. Lautenbacher.

Highlights from discussion:

- a) RDML Tim Gallaudet welcome the Committee for having him speak and spoke about what an amazing time it is for oceanography in the Navy.
- b) He gave background on the need for Task Force Ocean which is focused on maintaining the U.S.' competitive edge. US undersea warfare depends on our capabilities. There is a need to strengthen undersea military advantage. One observation is that foreign students are getting educated here (U.S.) in oceanography and then exporting their talents back to their host nations.
- c) The taskforce has a focus on physical oceanography. We are using our networks to find out where we are, asses those gaps, and develop plans to fill those gaps. The taskforce will develop 5-year road map, but the effort will be longer than 5 years. The Chief of Naval Research is a co-chair.
- d) FACA rules restrict non-federal involvement, so the task force is comprised of federal counterparts. The task force is primarily a decision-making body and

- executive outreach group. The working group has five focus areas: (1) sensing/observations, (2) understanding/prediction, (3) application (4) human capital (5) strategic communications.
- e) An interesting fact from the presentation is that only 5% of the ocean is explored, 20% mapped, and the ocean is changing rate of 100%.
 - f) Tony Koslow: There is a need for growth in academic support. In the academic environment, we see competitors really expanding the opportunities for ocean science.
 - g) T. Gulbransen: Described a successful Battelle initiative years ago to bring people into ocean sciences in high school where at a time many were heading to Wall Street.

X) Discussion with David Legler, IOOC co-chair, on the integration challenge and how to move from a local to global scale

- a) D. Legler gave an update since the last meeting in La Push. He described the GOOS Framework for Ocean Observing. The observing system based on requirements and the challenge involves integration across the IOOC. To minimize push back, integration should be addressed where it makes sense. The suggestions were to use sea level rise or ecosystem based (i.e. warm blob).
- b) He described how task teams are formed and their attributes. They are across agencies, have to be relevant and scientific and have maximum impact for the IOOS enterprise. The length of the team is defined. The IOOC devotes limited resources and leverages existing resources. There is an iterative process on proposals for team formations and not everything is accepted.
- c) The Animal Telemetry Task Team and Glider Task Team are two current ones. The interagency resources at the IOOS Program Office makes the Animal Telemetry Task Team a real success. The Glider task team has been active for only a couple of months.
- d) New proposed task team: Life in the Sea Task Team - How to move biodiversity observing towards operation. Develop and integrate mechanism/plan to institute this. Fostering international/global perspective.
- e) J. Manley asked D. Legler to think about community dynamics because people may feel excluded by the task team organization.

- B. Houtman stated the IOOC is bringing people together to identify overlap within agencies and how they can sustain observations.
- Tony (MacDonald?) suggested that they need parameters around defining task forces. In the past, it was not driven by societal benefit. There is a need to clarify societal values. Place-based needs to be a lot more clear.
- Tom (Curtin?): Methodology, geography, discipline, phenomenology is more interesting because it's cross cutting.
- J. Manley: Use task teams and cross walk with 5-year goals.
- D. Legler: Would welcome feedback on 2 proposed task teams, concept as a whole.
- J. Manley: Commented that the Glider Task Team rewarded success and not emerging technology. It became boundary building. Think about those dynamics if exist in other task teams.
- D. Legler proposed to IAC to seek how agencies can invite these outside interests.

XI) Big data discussion and follow up with Ed Kearns, NOAA Big Data Project and CRADA Collaborators

- a) Ed Kearns provided the Committee with a brief background on update on the NOAA Big Data Project. NOAA data volumes keep increasing exponentially, but budgets are flat or decreasing. How can we collaborate with the data management industry so that it is capable? The NOAA Big Data Challenge is looking at this collaborative solution. NOAA provides access to data and data stewardship expertise. The NOAA brand is high quality and reliable.
- b) In Seattle, we talked about how ocean data haven't yet moved into big data system very well. Should consider a different model for data, different from weather and climate, instead of going system by system? Is there a common problem that we can rally around to create a collaborative data product? This would involve bringing in multiple data sets into a common platform. Ideally joint data workspace. Collaborative analysis. Oil and gas, marine transportation, where rule making or regulation process is taking place. What went into those analyses/maps? This is not a new idea—these may be base maps produced during a marine disaster, the maps are based on government and industry data.

c) E. Kearns answered participant questions:

- T. MacDonald: Not clear when you talk about access to the data. There are obviously commercial groups - there is money to make. Thinking about academic end-users, will they still be able to access data openly.
- E. Kearns: In some instances, academia can take advantage of what is being developed through the initiative. They can ride coattails for industry like Amazon. The research industry isn't their target because doesn't scale to cover the costs. Google may be interested in pursuing academia but others more profit seeking. This is more of a business opportunity.
- T. Curtin.: Is there any leadership/difference among 5 entities, interest, etc.

E. Kearns: Yes. All have different progress and business approaches. IBM and Google are very active – but vastly different approaches. Great, not sure which one is going to work best. The heaviest use of data is health industry. Thought it would commercial data enterprise.

- The NBDP is supposed to be over in April 2018. The pace has really accelerated in the last 6 months. National Water Model data not yet able to deliver. Those things are coming online now. New data set can be used in many different ways. Just from that standpoint may want to extend it. Need to understand our existing users better.
- T. MacDonald: Where do you see big data going? The model you described describes maintenance of user engagement. How do we actually advance the ocean framework and who is responsible for managing this?

E. Kearns: True big data approach. Combining smaller datasets and glean new insights. One of the limits is how you pay for it. Very dynamic data platform—models generated as quickly as questions can be developed. In dynamic environment, very difficult to predict costs and who is going to pay for it. There are a lot of public data sets —how do we leverage that? All about making data available to new communities. The approach is data and approach is free—that's the big game changer. Can costs be dramatically decreased by how we're working on the cloud? Do more with limited resources.

- T. Curtin: Some data you put up and you don't do anything with it. Fisheries data is different; it requires dedicated people. For Amazon, for example, interest in infrastructure. Not involved in curation, quality, and stewardship.

Putting data out into known federal space. Other companies such as Google put a little more money into data curation—transforming NOAA dataset into format to feed specific analytical tool. IBM owns weather company now and therefore houses a pretty significant staff devoted to it.

- Tom (Curtin?): The NBDP experiment will yield something useful. Positions other companies to get to the value added step. The unnamed block [referring to slide].
- J. Manley: One thing we can do it look at how the regions might benefit from this.
- D. Snowden: All regions have data in the cloud, but not big data. There is no market pull.
- T. Koslow – still be able to access data without charge?
- E. Kearns: Yes. Nexrad data example. There are some heavy industrial users paying the bills, heavy users. Others/researchers using it. It's ok – covered under agreement.
- T. Gulbransen: Can you characterize for different levels of marketing or different attempts at relying on SMEs to create demand? What have the levels of marketing been to build interest? All collaborators are careful with resources. Managers ask about NOAA's level of interest. There is a lot of conversations. NOAA not the best at tracking open data and we need to understand our existing customers.
- E. Kearns: Collaborators are careful about how much resources are put into this. Most see profit in this. Maybe look at involvement at known customers to reduce known risk. Users are largely unknown by name to us. As a federal agency, we would love to know our end users. A lot of companies don't want it known what they are doing.
- T. MacDonald: Where do you see discussion going on ocean modeling data development? Model you describe will require more custodianship and managing/effort. Platform really a portal.
- E. Kearns: Storage and egress most expensive. Challenge- can these costs be decreased by the way we work in the cloud?

- T. Gulbransen: How many people have the CRADA companies dedicated to be being on curation side?
- E. Kearns: Some cases – zero. Like Amazon. Approach is providing infrastructure – we are not doing data curation, NOAA is. Others put more into labor. Usually no more than a handful of people – transforming NOAA data sets that can go into one of their tools. IBM, weather company - significant labor force into transforming and curating that data.
- C. Moore – You get rid of a lot of infrastructure that companies have to get rid of. It positions us well to get to the value added step. With infrastructure in place, now what do you do?
- Tony (MacDonald?) – RDML Gallaudet is going to have a lot of data, maybe task him with some of this stuff. Maybe think about what data can release upfront instead of releasing later.
- T. Gulbransen - Ed's comment on time spent on curations – some zero interesting. Personal experience has been spends lots of time curating, etc. and 10% analyzing.
- T. MacDonald: Mid-Atlantic data portal might need to be Mid-Atlantic data platform. Looking forward to how we actually advance the ocean using this.
- E. Kearns: It's hard to move from static to dynamic environment. Who will bear the cost? Can these costs be drastically reduced? For instance, Amazon brings infrastructure and not data control. Google has very serious security/privacy policies, so we don't know who is using the data on that platform.
- Conversation will be continued at next meeting where E. Kearns will try to attend in person with a CRADA.

ACTION: T. Curtin will work with V. Kromer to continue discussion at next meeting. E. Kearns will try to attend in person as well as a CRADA.

V) Update and discussion with Josie Quintrell, IOOS Association

- a) J. Quintrell provided update on advocacy, common issues, IOOS federal/non-federal partnerships, Administrations, Congress, national partners, and emerging issues. Regions are an extramural grant program and are very concerned under

new budget condition. But we don't really know what we're looking at. Waiting on budget but rumors are out there about a CR. FY 18 building on request for radars. Both house and senate there's language about IOOS getting more involved in gliders. OceanObs'19 is a nice opportunity for IOOS. IOOS should get together prior to Ocean Obs '19 to decide messaging. Never underestimate the importance of hill visits. Congressional representatives look to us for technical expertise.

VIII) Decide what priorities to work on and form break-up groups to frame day 2 of meeting

- a) C. Lautenbcher: Need to decide what we are going to work on. Went over each topic and broke out into groups. Continuation from earlier.
- Template:
 - (1) There is some value to the template J. Manley put together. Use of template is helpful.
 - (2) L. Ragster: We approach a site visit like it's not an official site visit. We're not there to do inspections.
 - (3) J. Manley: Everyone write 3-5 sentences about recent site visits. Justin can work on synthesis during breakout sessions.
 - IOOC and Integration discussion.
 - (1) Suggestions in minutes may be enough. There still is not certainty where IOOS sits in relation to other organizations? Is there really a consistent ocean organization?
 - (2) D. Vandemark: New charts on how we fit in could be a part of the strategic plan.
- b) NMFS and biological observing discussion: Identify how FAC can advise on biological, chemical data in from NMFS.
- T. Koslow is losing enthusiasm for this task. A lot of the data streams are in NMFS. If the regional associations want more biological data? J. Quintrell said some regions do need this data while others do not. J. Hagen said not sure about needing to bring that data in. The regions are collecting more biological data. New ESP system. D. Snowden: Regions and science centers do things

differently. T. Koslow: Most regions working on HABs. Topic can be discontinued.

c) Investigation of branding methods:

- C. Moore: Proposed a brand survey to see what the community thinks IOOS is and what they associate with it. Perhaps IOOS Association could do the survey. The specific opportunity around this is to form a brand awareness survey. A set of questions to a fairly a broad community. Something you could do relatively well. Could schedule a marketing meeting. May want to go to outside communities. Nothing like a reality check.

IX) Public Comment period

- a) No comments.

X) Wrap up and Day 1 Adjournment

C. Lautenbacher recapped next steps for the next day adjourned the meeting at 5:00 pm.

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April 20, 2017

Day 2

Committee Members Present: Conrad Lautenbacher (Chair), Tom Gulbransen (Vice Chair), Tom Curtin, Tony Koslow, Val Klump, Tony MacDonald, Jennifer Hagen, Justin Manley, Casey Moore, Chris Ostrander, LaVerne Ragster, Doug Vandemark, Brian Melzian (Ex-officio) by telephone, Regina Evans (Committee Staff), Carl Gouldman (Designated Federal Official, Victoria Kromer (Committee Staff),

Committee Members Absent: David Legler (Ex-officio), Linda Lillycrop (Ex-officio)

Public Present: Josie Quintrell, IOOS Association; Derrick Snowden, U.S. IOOS Office, Alex Harper, U.S. IOOS Office

I) Call to order – Day 2

- a) C. Lautenbacher called to order the Spring meeting of the U.S. IOOS Advisory Committee public meeting at 9:00 AM on April 20, 2017 at the Consortium for Ocean Leadership, 1201 New York Avenue, 4th Floor, Washington, D.C. 20005

II) Welcome and expectations for the day, recap from the previous day by Chair, VADM (ret.) Conrad Lautenbacher

- a) C. Lautenbacher welcomed the Committee and recapped yesterday's meeting, discussions, presentations, and highlighted main themes. He opened up the floor for discussion.
- b) Highlights from discussion:
- c) T. Koslow: The big data talk yesterday was very interesting, but it's not clear about what kinds of data the collaborators are bring in. Google is purely altruistic; Google earth is beneficial. Curious about Google Ocean. Google will be able to come up with some incredible products. Can see heaps of academia wanting to use big data if accessible. Might be good for us to see if we can talk to Google to see where they are going and put forth some of our own idea. Once data is there, can see potential for commercial use. He asked if IOOS can introduce themselves and be active. V. Klump: Same logic as T. Koslow had. Good to know what data sets interested in. Interesting what gets left behind, gets mined.

- d) T. Curtin: We have an opportunity to do something a little different from the meteorology community. Government assets dominate meteorology. Establish a transactional system.
- e) C. Gouldman: Highlighted how Nexrad data did work with NOAA with migratory bird data. IOOS tried to do analog what the weather enterprise did with the ocean enterprise study. He explains IOOS involvement in big data discussions with external groups. IOOS is working with Boogle, but haven't cracked that nut. Hope to do so by working with Ed Kearns.
- f) T. MacDonald: What can be done to determine how to move forward on transactional ocean data? Suggested writing a letter to the new administration (Wilber Ross) touting the exciting opportunity to say here is an update on what we have done since the last letter. Suggest something on the "big data thing" and who advances it. Another thoughtful thing from E. Kearns seems that every time we meet with big data folks, learn something and seem interested/have questions. Feel like we have opened those doors in the last year, now can we help reinforce those doors. If we can do anything as committee to keep that going, that's a success. Steve Volz said he had a bunch of questions for Carl. Now they know about IOOS and Carl's new role we might take advantage.
- a) T. Curtin: Referring to NOAA Big Data Project, the five groups involved in the project are very different. One is a non-profit – University of Chicago. I'd love to hear from them. I don't know anything about that one, but it's a consortium of universities. Which CRADA is still most advantageous to us is still up in the air.

II) Groups broke out into working groups and provided status updates and steps forward for topics

- a) Letter to IOOC/Administration
 - Group: T. MacDonald, V. Klump J. Quintrell
 - T. MacDonald: We have nothing yet to show on administration letter. It should also show opportunities. Look for "easy" wins. Brief information of economic benefits, but less focus, more framing around – this is a physical space that needs more attention for critical reason i.e framework for reauthorization without saying authorization. Reframing "gaps" – infrastructure, technology, HR and other types of gaps that can be filled and each filled with 1 or 2 examples of how IOOS can fill gaps. Innovation –

broader context of OTT, maybe mention other workshops, etc. Probably need to send to Ben Friedman and IOOC – maybe not appropriate to Secretary Ross. Also add a few sentences from regions – productivity – visited regions, etc.

- Timeframe: Rough draft to co-authors in 1 week then 1 more week for draft to full committee

ACTION: Group will incorporate agreed upon edits and suggestions into final draft and send to full Committee.

b) FOO

- Group: T. Gulbransen., J. Hagen, T. Koslow, C. Lautenbacher.
- Nothing written down, but good discussion on what is the FOO and global connection. Still trying to determine where we stand on this topic.
- Oceanographic community is still very fragmented. We need cohesiveness in order to raise level of understanding in order to sustain the earth.
- C. Lautenbacher: Highlighted importance of common language to be considered integrated. If we don't talk the same, how do we communicate? There needs to be common terminology between IOOC and IOOS. We need to encourage working and blending together. There needs to be agreement on how we speak about different things.
- No action on this for now.

c) Template letter

- Group: J. Manley, L. Ragster, C. Moore, J. Hagen
- J. Manley: Looked at template for U.S. Virgin Islands and agreed with content. Considered this “trip report” as complete. FAC needs staff help to insert link, circulate for input with 1-week deadline before finalizing. Feedback is that posting the agendas and presentations online in a timely manner is greatly appreciated and could serve as a great record if ever audited about how this committee spent travel dollars. Remind presenters that their PowerPoints are part of a public meeting and will be distributed/posted online.

- Edit memo to tie it to LaPush. Continuation from that meeting. Include program office in the memo, “IOOS willing to work with you to scope the dialogue...”
- Agreed to template. One week review to revise format, etc.

ACTION: Working group will incorporate comments from discussion and provide final drafts in one week to group.

d) Big Data: Dear Ed letter drafted

- Group: T. Curtin, T. Gulbransen
- Group will add agreed upon suggestions on phrasing and then final draft will be ready.

ACTION: Group will incorporate comments and format final draft for submission.

e) Brand Survey

- Brand survey is really brand awareness. Understand how people from different segments view your brand. There is a linkage to the strategic plan. Not enough time for progress on this one

(1) Group: C. Moore, J. Quintrell

f) Strategic plan POC for the FAC to help coordinate and follow.

(1) Group: D. Vandemark, T. MacDonald, T. Gulbransen, L. Ragster, J. Hagen

(2) Add strategic plan support to tracker.

ACTION: Add strategic plan support to tracker.

III) Decide next steps, intersessional actions to be complete for fall meeting

a) Fall Meeting Location

- C. Ostrander: Marshall Islands – Russell Callender, NOS AA, has expressed interest in seeing IOOS here. C. Ostrander has interest seeing us in less developed areas of the region. Incredible place. Flight every other day. Four

hours from Honolulu. Very impactful to see sea level, buoys make a tremendous difference. Eye-opening. Task Force Ocean link

- B. Melzian: National Association of Marine Laboratories on shores of Narraganset Bay, URI Graduate School, Space Center, Naval Underwater. Venue likely free. Good things to see.

(1) J. Quintrell: New England – expensive in September. November has weather challenges. Port Smith might be better to see IOOS, NERRS, SeaGrant in Great Bay.

- J. Manley: Likes Marshall Islands, but offers Gulf Coast in Florida. Ruth Perry from Shell could help.

(1) J. Quintrell: Offered New Orleans because BP and Shell on GCOOS board. Nice venue with observing assets in this region. University of Mississippi = Bill from Stennis. Barb Kirkpatrick has a lot of people on her Board. C Lautenbacher

(2) : Galveston? Navy and NDBC in Gulf

- C. Gouldman: Marshall Islands impactful, would like to make it happen in FY17
- C. Moore: Marshall Islands is great. Also votes for Stennis because it has a lot to offer and ties into Navy.
- C. Ostrander: Emergency management, radiant missile range, inundation forecasting, DOD, head of state, embassy, local ministers to discuss impact of U.S. investment of
- J. Manley: Marshall Islands exposes us to international.

b) Rank: Marshall Island, Gulf/Stennis, New England

c) Get on new head of NOAA's travel list as soon as person is known.

d) Dates: T. MacDonald says October is extremely busy. Early November could be an option.

e) C. Gouldman: Action to look at budget.

f) J. Hagen has Fisheries Council Nov. 14 – 20

- g) C. Ostrander: PacIOOS has board meeting 1st week in November so hard to host.

ACTION: Committee Staff: Doodle poll Oct 2 – Nov 17 Figure days for Marshall Islands.

IV) Public Comment

- a) No public comments.

V) Wrap up and adjourn

- a) C. Lautenbacher thanked the Committee for their service to IOOS and federal government. Recognized Tony Koslow, who is stepping down from the Committee due to his relocation to Australia.
- b) Meeting adjourned at 3:00 pm.