

IOOS Advisory Committee Meeting
University of the Virgin Islands - St. Thomas, USVI
November 3-4, 2015
Minutes

November 3, 2015 - Day 1

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

Member Absence: Val Klump, David Legler (ex-officio), Linda Lillycrop (ex-officio)

Speakers: Rebecca Hermanowisz (DOC General Council), Dr. Miguel Canals (CariCOOS), Roy Watlington (IOOS Association Board Member), Mona Barnes (Director VITEMA), Dr. David Cuevas-Miranda (EPA); Roberto Garcia (NOAA NWS), Marjorie Smith, (Fast Ferry), Eric Dobson (Virgin Islands Port Authority), Josie Quintrell (Director, IOOS Association), Cletis Clendinen (Field Representative/Constituent Services Representative, Congresswoman Plaskett)

Public Attendance: Zdenka Willis (IOOS Program Office), Paul Jobsis, (Director of Marine Sciences, UVI)

8:30 a.m - Meeting Called to Order by Chair

- C. Lautenbacher welcomed the committee and introduced LaVerne Ragster for opening remarks in place of Dr. David Hall, UVI President
- L. Ragster provided opening remarks on behalf of the University welcoming the Committee

9:00 a.m. - Full Committee

- C. Lautenbacher introduced new members of the Committee and round the room introduction of all members

9:15 a.m. - Ethics Briefing

- R. Hermanowicz provided an ethics briefing for the Committee

9:30 a.m. - Setting the Stage

- C. Lautenbacher set the stage for the day and explained the Committee's goals for the day
- Conversation ensued between members on the focus on big data, biological data, and business data and improving integration

9:45 a.m. - Highlights from Dr. Miguel Canals (CariCOOS) Discussion on Ocean Observing

- M. Canals presented an overview of CariCOOS – where they were, where they are now, and their challenges
 - Their top priority is to improve ROMS and FVCOM models
 - Need faster WQ results to determine safety of water - opp for R&D
 - Major issues include search and rescue, immigration, and drug smuggling
 - Two IOOS funded HFR sites with data available to US Coast Guard
 - New observations in CariCOOS are leading to ocean engineering start up companies, who now have data to make products
- Rincon Surf Report - example of private business for surfers/waves built from analyzing wave data from CariCOOS.
- C. Lautenbacher asked who are the biggest stakeholders in Puerto Rico, in which Dr. Canals replied that they are data users – fisherman, recreational sector, ie surfers, Federal and state agencies re beach erosion and climatology, US Coast Guard, coastal managers and researchers in Puerto Rico (PR) and UVI, NOAA NWS
- P. Jobsis stated that commercial fishing companies, cargo ships, and cruise ships are also now using their data
- B. Melzian asked if any of EPA's BEACHES Monitoring and Notification Grant Funds were used to support their Beach Monitoring and Notification Programs. This question was asked because during the past decade or so about \$100M (ca. \$10M/Year) were provided by EPA to the States and Tribes to conduct these types of Beach Monitoring Programs. Unfortunately, and due to sequestration and major Budget Cuts to EPA, this national program has recently been eliminated (at least temporarily).
- A local representative stated that, yes, these types of EPA funds have been used by CariCOOS.
- M. Canals said that "IOOS has changed the way of research and doing business."
- He stated that Sea Grant has been helping both at UVI and PR. they are a big partner helping most with the education and importance of the ocean.
 - In Puerto Rico, people need education and a better connection to the ocean.
 - The attitudes of the Puerto Rico people is different than Hawaii. People in Hawaii are connected to the ocean and it is not necessarily like that in Puerto Rico. There is not that same connection to the ocean.
- When asked by the C. Lautenbacher, what is the greatest need in CariCOOS, M. Canals said it is more High Frequency Radars. Everyone wants more buoys, but they require more maintenance, and would like more investment in modeling. They need help with things like operational forecast systems. They need money for operations and maintenance.
- A. Jochens asked if CariCOOS has a 10-year build-out plan and if not, how do they decide which goals to incorporate into system? They do have one which was revised recently and still being finalized. The plan includes goals for mostly radars, better modeling, maintaining basic infrastructure, and coastal ecosystem help (pollution).

- Z. Willis stated that “the before and after of CariCOOS is truly IOOS at work. They used the organization that was already there – brought expertise down to the region. In this area, they really work as community with all the federal agencies.”

10:45 a.m. Break

11:00 a.m. - Highlights from Roy Watlington’s presentation on the history and current successes and challenges of CariCOOS (IOOS Association Board Member)

- R. Watlington provided a detailed overview on the history of CaRa (Caribbean Regional Association) and its transition to CariCOOS
- He mentioned that the use of “CaRa” is being phased out to CariCOOS
- The combined population of Puerto Rico and the Virgin Islands is 3.9 million people
- CariCOOS is successful because of the sharing between the regions. The GDP in Puerto Rico is \$14 billion. The GDP for the Virgin Islands is down 14% because of loss of a major refinery
 - PR, USVI 3.9M people - almost all in PR. Thanks to PR for fairness in policy, even with a significantly larger population
- Ocean observation assets and the benefits could reach every sector in the economy - it’s just a matter of outreach and education
- R. Watlington went into detail on how CaRa got started, the history of CaRa and of the University of the Virgin Islands. He stated that a major problem of the Virgin Islands, especially in the past, is that it has a lot of transients. Without continuity, they can’t achieve much. Right now, they have new scientists for about 5 years and the hope is that they will stay. Fortunately, transience is not as great of a problem as it once was.
- Numerous storms and hurricanes devastated USVI, especially in St. Croix. These storms and near hits/misses/ hurricane George, set back economy and ability to promote interests in marine endeavors
- R. Watlington also discussed what was happening concurrently with the development of CaRa and IOOS (formerly ocean.us), and NFRA (now the IOOS Association) - the enterprise as a whole. It was once proposed that USVI be a part of SECOORA (Southeast Coastal Ocean Observing System)
- CariCOOS works with the Dominican Republic validating data and with the British Virgin Islands on tsunami and tropical storm awareness
- R. Watlington stated that the USVI really looks to the United States for leadership
- T. Koslow asked about the gaps. It seems that there are huge impacts from accidents and that the oil and gas industries are potential big stakeholders/contributors. He asked if the Caribbean works with those in the Gulf of Mexico. From C. Lautenbacher, J. Quintrell, and Z. Willis - the collective answer is yes. Z. Willis said that funding required by government is done through BOEM.
- From this, there was much discussion on the oil and gas industry.
- Per J. Manley, who did a quick google search, mentioned that shipping and fishing seemed more prominent than oil. He did not see any oil rigs in the region

- In response, R. Watlington replied that the refinery, Hess, was in St. Croix, and recently shut down.
- UVI staff at the meeting stated that environmental assessment groups have been using IOOS data to inform their environmental impact statements.

12:00 p.m. - Lunch

1:00 p.m. - Highlights from the Federal Panel Discussion with Mona Barnes (Director VITEMA), Dr. David Cuevas-Miranda (EPA), Roberto Garcia (NOAA NWS) on how IOOS is used locally and the biggest challenges and needs

Mona Barnes (VITEMA)

- M. Barnes stated that VITEMA often lacks the data to support what they need to do. Connecting with IOOS is critical
- They need improved storm surge modeling for the territory which accounts for about ½ deaths in tropical cyclones
- They need more precise forecasting; VITEMA is always concerned with complacency among constituents when the forecast is not what was predicted
- With regard to tsunamis, they are building a tsunami readiness program and evacuation drills. Her goal is to give each child an evacuation map. She said it's not a matter of "if" a tsunami will hit, but "when"
- Only 20% of the population is registered under VI Alert

Dr. David Cuevas-Miranda (EPA)

- D. Cuevas-Miranda provided an overview of Region 2 projects and initiatives in the Caribbean.
 - Coral Reef Protection Plan
 - CWA Permitting in Coastal Areas
 - Climate Change Adaptation
- Currently, EPA is not using CariCOOS as much as he'd like to see
- There is great potential to share more data. There is a need for more data and data is costly
- With regard to climate change and adaptation, each EPA region has a plan
- CariCOOS sea level rise data and storm surge modeling is important to feed into this plan
- Potential U.S. IOOS Data Products that could be beneficial to EPA (wish list)
 - Biological Data:
 - Benthic/Coral and Fish Species Abundance Data
 - Marine mammals
 - Larval movement
 - Potential Challenges/Clarification:
 - Sources of data, proprietary rights, data used by third parties, disclaimers, MOUs.

Roberto Garcia (NOAA NWS)

- R. Garcia provided a presentation on the collaboration efforts between CariCOOS and NWS-San Juan
- In 1990, NWS-San Juan had no local data - since then much has changed
- Increased from 5-10 marine zones, due to more details, better modeling (2009 to today)
- Buoy data is used for model verification
- NWS-San Juan also collaborates on research with CariCOOS

Discussion

- M. Barnes - UVI is really pushing outreach, to try to combat “crying wolf” concerns, to combat complacency from weather predictions
- R. Garcia - tropics are notable for their lack of data
- R. Garcia emphasized again the need for improved modeling
- From P. Jobsis, there is monitoring further east, British Virgin Islands, Martinique with USVI right on the edge of doppler radar
- L. Ragster asked R. Garcia what types of data are needed to improve forecasting for the islands. R. Garcia stated that they need more data, and echoing the others, the need for more buoys.
- J. Manley commented that he gets the sense that the services all three provided aren't as well regarded as in different parts of the country. In this regions, he perceives there is a greater degree of skepticism from the general public and people who don't understand the scientific reasons why forecast can be wrong
- M. Barnes replied that she tries hard to avoid the public's complacency with regard to forecasts. One of the big pushes to change this perception is outreach – letting people know that nature will do what it will
- R. Garcia added that forecasting in the tropics is difficult. Outreach is important and needed to keep people educated.
- Dr. Sennai Habtes offered suggestions for partnership through NSF and STEM
- P. Jobsis retorted that STEM students do use CariCOOS data.
- T. Gulbransen stated he can empathize with Mona Barnes – as a firefighter in a data rich area – with complacency
- M. Barnes pointed out that there is more complacency with regard to hurricanes. People are interested in tsunamis. And it's not a matter if it's going to hit, it's when
- T. Curtin asked how does IOOS interact with the National Data Buoy Center in terms of acquisition and buoys?
- Z. Willis responded that there hasn't been a new buoy in years. The new buoys are from IOOS. You see the removal of buoys, not the addition. IOOS works closely with NBDC.
- C. Lautenbacher asked the panel: Is there anything that the IOOS system can do to provide better support?
- R. Garcia said yes, we need more data, better analysis, when it comes to tropical cyclones
- M. Canals said “we have no buoys in St. Croix.”

- P. Jobsis stated that they are planning on moving a buoy on the north side of the island. Most weather comes from the east and we don't have much from the east. They need more monitoring stations to the east in BVI or Martinique
- D. Cuevas-Miranda agreed to the need for more monitoring stations
- T. Gulbransen said that EPA needs to be involved more programmatically
 - D. Cuevas-Miranda responded that EPA is trying better to use and share data
 - B. Melzian mentioned as a follow-up to D. Cuevas-Miranda's earlier presentation that the IOOC's Biological Integration and Observation Task Team (BIO-TT) has produced a document related to new "Biological and Ecosystem Observations" to be considered by the U.S. IOOS enterprise. This document was recently "cleared" by the IOOC and the SOST; and it recommended that the following new "Biological Core Variables" be added to the existing U.S. IOOS Core Variables:
 - Coral Species and Abundance;
 - Invertebrates Species and Abundance;
 - Marine Mammal Species and Abundance;
 - Microbial, Sea Birds, Sea Turtles Submerged Aquatic Vegetation (Species and Abundance.
 - Information obtained for some of these new U.S. IOOS Biological Core Variables will serve to enhance and support some of EPA's existing ocean monitoring and research programs: including EPA's Coral Reef work in the Caribbean.
- R. Garcia said that when the hurricane center makes a forecast, they try to convey the uncertainty. The local offices only forecast the impact, but don't track them. People need storm surge and inundation maps.
- L. Ragster asked if it is possible for a place this small. She asked if it was a resolution issue – can it be fixed?
- R. Garcia said "I don't think we are ever going to that resolution"
- M. Barnes began the discussion on the difficulty of making an educated guess to inform the public and they choose to go by worst case scenario
- T Gulbransen asked if the National Hurricane Center can deploy a glider ahead of the storm
- R. Garcia and C. Lautenbacher and several others stated that NHC has to request that

2:15 p.m. - Break

2:30 p.m. Working Session to Continue development of draft recommendations, identify next Committee priorities

- The Committee went through each working group to finalize recommendations. Based on what they have heard in the USVI, the group identified the next areas of focus (See attached "Potential New Priority Areas")
- J. Manley - "IOOS in this region has grown quickly and had big impact, doing some things very well. If IOOS were elevated, we might be able to solve some of the challenges outlined in local talks. It could be a good tactical story to attached to the strategic story for elevation

- The Committee made final edits to the resilience letter led by L. Ragster. The letter is ready for submission.
- C. Lautenbacher said Fisheries has a lot of data in a shoe boxes. He asked how IOOS can access and serve that data
- Z. Willis responded, by doing biological enrollment process and getting data from Fisheries Data Management Council. The cross connection is happening, but not happening quickly.

3:30 p.m. - Public Comment Period

- No public comment.

3:30 p.m. - Highlights from discussion with Marjorie Smith (Fast Ferry) and Eric Dobson (Virgin Islands Port Authority) on ocean observations for transportation and commerce in the Virgin Islands

- Marjorie Smith and Eric Dobson each explained the importance of ocean observations for transportation and commerce from the perspective fields and challenges.

Marjorie Smith

- We are presently more prepared than we were in the past. There was a time when a 20% chance for rain meant it rained all day. 4-6 ft swells meant 15 ft swells. We face a few challenges now but they are not as complex as in the past
 - How do we incorporate old technology with new technology?
 - How do we ensure real time data is truly helping those pilots and is accurate?
 - How do we keep captains abreast of data/weather for those not on a smartphone?
 - We need to make the distinction between heavy rain and light showers.
 - Our last challenge is how do we better prepare our youth? How do we expose them to the marine sector and get them involved and into the various career paths?

Eric Dobson

- E. Dobson explained the tools that IOOS provides and how he uses them in his everyday work. He uses apps for all the buoy, wind, and current data. "Harbor pilots are tasked to ensure safe transit of vessels in and out of the harbor. They come in from all over the world and rely on us." In response to a comment by M. Smith, he added, "I am the smartphone guy". He added "I actually look intelligent when I go on the bridge" referring to the importance of the data
- The Virgin Islands is converting to propane as a power source, making buoy data important as to where and when to move propane ships. The St. Thomas buoys are very close to where they plan to moor the 600 ft propane ship.
- E. Dobson said, "Because of IOOS, my job is much easier. I don't get the chance to decide whether or not to go out – I go out -- but this is what you can expect when you go."

- T. Gulbransen asked what's the monetary value of the risk reduction of pulling two ships alongside the major propane ship
- E. Dobson responded that that is more for long term planning for cruise companies. Wind data from the local buoys is used to make \$100,000 decisions on getting cruise ships into port.
- P. Jobsis commented that pilots need the real time data to come into port. He also stated the need for a buoy in the north side of St Thomas

4:30 p.m. - Meeting adjourned for the day for UVI Marine Center boat demonstration and discussion with Marjorie Smith and Eric Dobson from Brewer's Bay to the Charlotte Amalie harbor.

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Minutes

November 4, 2015 - Day 2

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

Member Absence: Val Klump, David Legler (ex-officio), Linda Lillycrop (ex-officio)

Speakers: Shawn Malone (Climate Change Coordinator, USVI Governor's Office), Cletis Clendinen (Field Representative/Constituent Services Representative, Congresswoman Plaskett), Josie Quintrell (Director, IOOS Association)

Public Attendance: Zdenka Willis (IOOS Program Office), Paul Jobsis, (Director of Marine Sciences, UVI), Roy Watlington (IOOS Association Board Member), Mona Barnes (Director VITEMA), Dr. David Cuevas-Miranda (EPA); Roberto Garcia (NOAA NWS), Marjorie Smith, (Fast Ferry), Eric Dobson (Virgin Islands Port Authority)

8:00 - 8:30 Coffee/gather

8:30 - 8:45 Conrad Lautenbacher Welcome and guidance for the day

- C. Lautenbacher welcomed back the Committee and new speakers for the day. He gave background information and introduced Senator Shawn Malone

8:45 - 9:15 Highlights from Shawn Malone's (Climate Change Coordinator, USVI Governor's Office) discussion on climate change and resilience in the USVI

- S. Malone thanked IOOS and congratulated PaCIOOS on certification. He also thanked L. Ragster for providing information on the direction that the Office of the Governor should be going. CariCOOS already works closely with the Office of the Governor on climate change. British Virgin Islands (BVI) already has a plan to address climate change.
- Inundation mapping is also a priority for the Governor.
- He stated, "Whatever I can do to support data collection to make well-informed decisions to protect life and property"
- Education is a theme here. It's a transient community and people need to be educated about their impacts on the environment
- The Governor is very committed to preserving and protecting the environment in this territory. She is looking at landfills. In St. Thomas, the landfill borders the lagoon. A lot of

adverse impacts have occurred and they are working with EPA Region 2 Administrator to implement cap improvements to preserve water resources. They've asked for more funding to preserve the water resources being impacted by that landfill. In St. Croix, the landfill is also next to water and facing the same challenges as St. Thomas.

- The Governor's office is working closely with the community to understand climate change. They are working with USGS, to include certain drought data into the water management system. There are issues with many wells – USGS stopped monitoring in 2003 due to funding issues, but that's now being looked at again. During tours in St. Croix, St. Thomas, and St. John, we found out there are many more wells weren't aware of. We need a new approach to assess what we have to get ground water system back on track.

9:15 – 9:30 Highlights from Cletis Clendenin's (Field Representative/Constituent Services Representative, Congresswoman Plaskett) remarks on behalf of Congresswoman Plaskett

- M. Clendenin said groups are realizing the importance of data sharing
- He stressed the importance of education of the public on their impact on the environment
- M. Clendenin briefed challenges and said that on a personal note "We need to remove emotion and politics from climate change and let the data speak for itself. Our office is willing to work with local government, federal government and neighboring territories on these issues."

9:30 - 10:45 Working session to develop Committee priorities identified through presentations and discussion

- T. MacDonald provided edits to the resilience letter for approval by the Committee. Resilience letter is closed and ready for submission.
- A. Jochens provided an update on the "Raising the Visibility of IOOS" which is near completion
- C. Lautenbacher moved to focus the discussion on the things the Committee heard that morning
- The Committee brainstormed on future priority areas for focus based on presentations from local speakers
- B. Melzian made a suggestion that the new U.S. IOOS Biological Core Variables should be considered based on EPA's presentation yesterday and the soon to be published new BIO-TT document recommending that these new Biological Core Variables be added to the existing U.S. IOOS Core Variables. B. Melzian also referred the IOOS AC to the new BIO-TT Summary Document that was distributed by Jessica Snowden (NOAA) yesterday afternoon.
- There was a large discussion on elevating IOOS
- L. Ragster said it needs to tie to what Dr. Sullivan asked with marketing and communication

- J. Manley recommended the Committee park the recommendation for elevating IOOS as an office until the time is right. We should find other ways to elevate IOOS. We haven't figured out how to solve this problem, but he doesn't see this body's ability to impact change
- J. Snowden said to not just park the issue of elevation, but keep refining so it's ready to go when there is a change

10:45 – 11:00 Break

11:00 - 12:00 Josie Quintrell, IOOS Association Invited speaker and discussion on current IOOS Association issues

- J. Quintrell provided an update from the IOOS Association on the regions, ICOOS Act reauthorization, appropriations, Closing the Gaps campaign, and other non-NOAA partnerships with BOEM/BSEE, and permit and monitoring requirements.
- B. Melzian asked J. Quintrell about the status of the Reauthorization of the 2009 ICOOS Act; and if and when the IOOS AC's "Letter" supporting this activity will be distributed within and outside of the U.S. Government.
- B. Melzian also informed the IOOS AC that the National Association of Marine Laboratories (NAML: <http://www.naml.org>), of which EPA is active member, recently sent a letter to the U.S. Congress that strongly endorsed the Reauthorization of the ICOOS Act. J. Quintrell also mentioned that the U.S. IOOS Association assisted NAML during the preparation of the NAML letter.
- C. Lautenbacher commented that in regards to the ICOOS Act reauthorization, he would support a letter making IOOS a legal entity within NOAA. This would be a one page letter.

12:00 - 1:00 Lunch

1:00 - 2:15 Working session

- C. Lautenbacher had to leave, and T. Gulbransen lead this working session discussion on how to handle the multiple topics
- A. Jochens suggested that it would be a good idea to flesh out the case study which would be a synopsis of what was highlighted in CariCOOS
- C. Ostrander asked who would the case study target and who does it benefit? Existing regions have something to learn in what CariCOOS has done in their growth period. Maybe a different approach to the case study is looking at what CariCOOS did and what people can learn versus what CariCOOS is doing is great
- L. Ragster agreed with C. Ostrander on the importance in making sure we understand who our audience is. Our audience is the same – the NOAA Administrator and IOOC.
- C. Ostrander replied that then we need to make recommendations at a higher level and not single CariCOOS out or a single region as an example of what to do
- J. Manley - There are ways to incorporate what we've seen into the case study with statements like, "we are impressed...". It's important to give kudos to the regions. We are interested in further understanding the "why". J. Manley proposed that a workgroup

come up with questions to come to CariCOOS or other regions. He believes they have another “short work congrats” recommendation here.

- L. Ragster seconded J. Manley’s idea.
- J. Manley proposed that the working group should summarize questions for the Committee have and bring it to the next meeting
 - A. Jochens, J. Manley, L. Ragster, and C. Moore volunteered to be on the working group
 - B. Melzian recommended to the IOOS AC that they may wish to peruse the BIO-TT Summary Document recently distributed to the IOOS AC members in case some of its recommendations and “next steps” (e.g. formation of Task Teams) could be developed by the IOOS AC in order to facilitate the implementation and use of some of the new U.S. IOOS Biological Core Variables. If appropriate, the IOOS AC could also consider assist in the “socializing” the results and recommendations cited in the BIO-TT’s document.
- Z. Willis requested that the Committee review the Ocean Technology Transition project run by IOOS and recommend ways to sustain and grow the program.
- D. Vandemark asked Z. Willis if the Committee needs to differentiate from NOAA? Everybody knows NOAA.
- A. Jochens replied that absolutely, they need to differentiate

2:15 - 2:45 Public comment

- No public Comment

2:45 - 3:00 Wrap up and next steps

- T. Gulbransen reviewed actions and next steps (*see attached “FINAL Actions Arising from IOOS FAC 3-4Nov2015 Meeting”*)

3:00 Meeting Adjourned

FINAL Actions Arising from IOOS FAC 3-4 Nov2015 Meeting

Working Group Names and Members for ongoing (non-deferred) actions:

112015.2: CaRA Lessons Learned

112015.3: Expanding Bio/Eco/Chem Data

112015.6: Big Data

112016.7: OTT

112015.8: Coastal Use Permittee Data

112015.9: Raising Visibility

Action #	Action	Owner	Due
112015.1	Provide final round of feedback to IOOC P3 paper.	Gulbransen (lead)	11/2015
112015.2	Outline approach to create a synopsis of productive activities highlighted during CARICOOS visit, with special emphasis toward questions which could be asked to further expound on success lessons learned ¹	Manley (lead), Ragster, Jochens, Moore	02/2016
112015.3	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?	Koslow (lead), Jochens, Quintrell, MacDonald, Hagen, Jeff Runge, Gabrielle Canonico	02/2016
112015.4	<i>Write one page letter recommending that IOOS be led as a Program Office at a level which will enable more senior recognition during marketing and communication with partner agencies</i>	<i>Ragster (lead), Vandemark, Jochens)</i>	<i>HOLD – working this from IOOS office</i>
112015.5	Continue investigation of branding methods to improve recognition of IOOS enterprise roles, value and leadership	(No lead ID), Moore, someone from program office given their rebranding work	
112015.6	Investigate industry trends in “Big Data” to determine prospects in/for IOOS. Provide	Curtin (lead), Manley	3/2016

	update at April meeting.		
112015.7	Investigate how the IOOS Program Office could improve the Ocean Technology Transition Program before the next round of solicitations, especially with regard to participation of industry, IOOS RAs and prospective customers/beneficiaries. Provide update at April meeting.	Gulbransen (lead), Moore, Manley, Vandemark, Rhoades	3/2016
112015.8	Investigate precedents and mechanisms which can enable coastal use permittees, e.g. NPDES or energy facilities, to contribute to IOOS. Prepare update for April meeting	Gulbransen (lead), Klump	03/2016
112015.9	Complete Raising Visibility of IOOS Enterprise document	Jochens (lead), Gulbransen, Ragster, Manley	02/2016
112015.10	Quality Management Indicator development due to evaluations implicit within certifications		Deferred
112015.11	Continue dialog and briefings from partner agencies such as USEPA and USGS		Deferred

¹ Examples include:

- Connection with stakeholders/community users
- Leadership buy-in
- Value proposition with stakeholders, ie from 0 to 60 promptly
- Collaboration with Sea Grant
- Enhanced and appropriate communication strategies
- Private sector involvement – examples of value propositions enabling partnerships
- Affirmation of IOOS vital integration service
- Scalability and transferability of IOOS products and lessons learned (e.g. Nimble, efficient leveraging, needs even finer scale to fulfill EPA and VITEMA needs)
- Establishment of community that can now consider Integration beyond region
- Border management

Potential New Priorities List November 2015

1. Incorporation of ecological data sets.
2. Connection with stakeholders/community users[N1]
3. Value proposition with stakeholders
4. Case study for creating value proposition
5. Enhance and appropriate communication strategies
6. Case study/ies for creating value proposition
7. Enhance and appropriate communication strategies
8. Scalability and transferability of IOOS products and lessons learned[N2]
9. Collaboration with Sea Grant, others?
10. Affirmation of integration
11. Private sector involvement[N3]
12. Nimble, efficient leveraging
13. Leadership buy-in[N4]
14. Border management
15. Integration across regions
16. Recognition of work across/among regions under the IOOS "umbrella"
 - a. C. Ostrander added a comment during the break – “Science v. user decision making as primary driver of priorities.”
17. Incorporation of core biological variables[N5]

Other:

- IOOS Bridge – Physical, Biological and Ecological Data is Critical to Environmental Intelligence – T. MacDonald
-

[N1]Comment from T. MacDonald “Build on regional examples, successes...,” 3, 4, and 7 are sub bullets.

[N2]Comment from T. MacDonald

[N3]Comment from T. MacDonald - “Stands on its own, we have work items on this and I think that should continue.”

[N4]Comment from T. MacDonald - “Already working on this and should continue.”

[N5]T. MacDonald – “Subset of #1? Clarify for what purpose? Ecological resilience?”