Bi-Weekly IOOS® Z-GRAM - 10 February 2012
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The Z-Gram is an informal way of keeping you up-to-date on US IOOS® activities. Please advise of additional addressees, or if you are receiving and no longer want to receive. If you think others could benefit from the Z-Gram please pass it on. To see previous Z-Grams go the IOOS website and view under program updates.

IOOS® - A Partnership supporting Lives and Livelihoods

Governance and Management Subsystem:

- **GCOOS seeking board members, nominations close Feb 17,2021 at 5p.m. Central Time**: The Gulf of Mexico Coastal Ocean Observing System (GCOOS) Regional Association is seeking nominations for candidates for election to the GCOOS-RA Board of Directors. Terms are for three years and begin with the summer/autumn Board meeting. The Board meets twice annually. It also meets by telephone every two months, as well as when priority situations arise. More regarding the activities of the Board, including copies of the minutes of past meetings, can be seen at the GCOOS web site (http://www.gcoos.org). The Board consists of a balance between representatives of the government, academic, industry, and education/outreach sectors. This year five members are up for election. If you wish to nominate one or more candidates, please check to be sure that the nominee is willing to serve if elected and is a party to the GCOOS-RA. If so, send your nomination and the sector to which you are nominating them to Susan Martin (srmartin@tamu.edu). Nominations must include the nominee's affiliation, email address, telephone number and one or two paragraphs detailing their work and interests as related to the GCOOS Regional Association for use as information on the ballot; nominations without all of this information will not be considered. Self-nominations are accepted.

Observation Subsystem:

- **SECOORA in Action**: Two HF Radar Systems Installed in the Carolinas: Scientists from the University of South Carolina, in collaboration with the Skidaway Institute of Oceanography, with assistance from the University of North Carolina at Wilmington, are in the process of establishing two new High Frequency Radar (HF Radar) stations for monitoring the ocean surface currents and waves in Long Bay. One station is located on the Hobcaw Barony in Georgetown, SC while the other station is located at Caswell Beach, NC on properties managed by the Bell W. Baruch Foundation and the North Carolina Baptist Assembly at Fort Caswell, respectively. Each station remotely measures the surface ocean currents up to 120 miles offshore and when combined they create maps of temporal and spatial distribution of waves and currents over the entire area. The data collected from this installation are critical in helping scientists to understand the development of phytoplankton blooms along the outer shelf that are seen in satellite imagery. During the summer, development of phytoplankton is related to eddies generated by the Gulf Stream and could cause low oxygen conditions. However, the mechanisms for bloom development during the winter is not well known yet. Phytoplankton blooms in the winter may prove to be beneficial, as it could provide a favorable feeding environment for larval fishes. For For more information, contact George Voulgaris from the USC Department of Earth and Ocean Sciences atgvoulgaris@geol.sc.edu.
- **High Frequency Radar/Radio (HFR): For more information contact the US IOOS HFR Project Manager, Jack Harlan,Jack.Harlan@noaa.gov No update**
- **US IOOS Animal Telemetry Activities:**

- o US Animal Telemetry Network Discussions: Hassan discussed telemetry related issues related to code duplication resolution with members of the animal telemetry community: Dewayne Fox (ACT), John Kocik (NEFSC, Maine), John Manderson (NEFSC, Howard Lab), and John Payne (POST).
  - o TOPP-ONR-IOOS Project: The focus on reviewing the requirement document and planning the next phase of the project that will involve designing candidate solutions based on end users requirements.
- **Atmocean tests a wave technology**: Atmocean tests Wave Energy/Sequestration Technology (WEST), please take a look at the Whole Foods 9.3 oceans program segment: http://www.youtube.com/watch?v=lDYVUaGoB9s
- NOAA AUV Working Group: Charly will represent US IOOS at this newly formed working group at NOAA. The kick off was held Friday Feb 20. his group, chaired by NOAA/OAR's Deputy AA Craig McLean, is tasked by Dr. Lubchenco with conducting a general assessment of NOAA AUV activities and needs to formulate a more organized engagement with autonomous and semi-autonomous marine observation systems (herein "AUVs") that may be able to transform environmental observation architectures and strategies. The group anticipates meeting throughout 2012 to complete these assessments.

Data Management and Communications (DMAC) Subsystem: To get on the IOOS System Status list which announces service changes, please contact Derrick (Derrick.Snowden@noaa.gov) or Rob (Rob.Ragsdale@noaa.gov).

- **DMAC PLANNING AND IMPLEMENTATION**
  - o Getting to National Interoperability:Extremely successful workshop: The Reference Implementation Working group meeting was attended by IOOS Regional Data Managers as well as federal partners. The meeting focused on developing an SOS reference implementation for IOOS that improves on, and will eventually replace, the current DIF SOS. The major accomplishment of the workshop was the construction of templates to encode data from seven major sampling feature types. These seven feature types, are general models describing the structure of data from common platforms (e.g. moored buoys, tide gauges, gliders). These general models were then encoded using the Open Geospatial Consortium SWE Common data model specification and form the basis of a data encodings that can be common across all IOOS data partners.
    - ▪ Information about the Reference Implementation Working Group's activities can be found on the IOOSTech Wiki site: http://code.google.com/p/ioostech/.
    - ▪ Workshop participants: Don Biven (NOAA/NDBC), Eric Bridger (NERACOOS), Mohamed Chaouchi (NOAA/CO-OPS), Jeremy Cothran (SECOORA), Irven Ingram (USACE/Mobile), Frank Lodato (NOAA/NDBC), Emilio Mayorga (NANOOS), Hassan Moustahfid (US IOOS), C.J. Pellerin (NOAA Fisheries/CBO), Rob Ragsdale (US IOOS), Derrick Snowden (US IOOS), Shane StClair (AOOS), Michah Wengren (NOAA Office of Coast Survey), Kyle Wilcox (MARACOOS)
  - o **IOOS Biological Data Project:**
    - ▪ Biological Project Webinar: This projects will be briefed to the IOOS RA managers during the monthly call being held on February 15th. For information on how to join this webinar contact Rob Ragsdale,Rob.Ragsdale@noaa.gov.
    - ▪ Moving the Biological Project to additional Regions: This year we are looking to expand the efforts we completed in the Pacific with PacIOOS and NOAA's Pacific Science Center to SECOORA and GCOOS. A statement of work has been drafted for this effort.
- **QARTOD/QA-QC**: NDBC's Ray Toll has completed a final draft project plan based on additional suggestions received from CO-OPS, NFRA, and the US Army Corps of Engineers (USACE).

The project plan will be finalized by 2/17. NDBC's Dick Crout is also making progress summarizing the status of existing QA/QC procedures for the 26 US IOOS core variables. This summary will provide a useful reference point for targeting priorities as this new project goes in motion.

Modeling and Analysis Subsystem: For information on the US IOOS Modeling Testbed, please contact the US IOOS Modeling Testbed Project Manager, Becky Baltes, Becky.Baltes@noaa.gov
No update

Interagency Collaboration:

- **What a Success: Pacific Northwest Waters: Gateway to our Future:** First thank you to our sponsors: Microsoft Research, Sea-Bird Electronics, Inc, Sonardyne, Reed Exhibitions and Puget Sound Partnership. Over 150 folks convened at the beautiful conference center at Microsoft where Robert Fatland from Microsoft Research got our creative thoughts going with their visualization efforts with MBARI. The keynote speaker was Ms. Laura Furgione, Deputy Administrator, NOAA's National Weather Service, gave an inspiring talk on the importance of US IOOS and its partnership with the National Weather Service. Laura stated, "None of us can achieve a Weather-Ready Nation alone, and this fact underscores the value of collaboration and partnership. Private sector research and innovation, investments in new technologies by research institutions, add value to our work. A Weather-Ready Nation requires regionally scaled and user-driven collaborations in observations, data delivery, and product development—all things that NOAA relies on the regional IOOS system operators and their extensive stakeholder communities to provide." Dave Martin, NANOOS Board Chair, Jan Newton, Executive Director, NANOOS; and Jonathon Allan, NANOOS User Products Committee Chair set the stage for the remainder of the day that featured Federal Agency, State Agency, and Industry's use of US IOOS information. We than explored the opportunities for partnerships by presentations of case studies on fisheries, aquaculture, alternative energy, coastal engineering, hazard response and Marine Operations. On Friday, 50 folks reconvened at Microsoft for some hands on interaction with Microsoft Research's tools and to further the partnership. The day was capped beautifully by a lunch and tour at Sea-Bird Electronics.
  Laura's, Dave's, Jan's and Jon's videos and presentations are available at http://www.ioos.gov/communications/ and http://www.ioos.gov/ioos_in_action/stories/industry_workshop_feb2012.html
  Workshops like the *Pacific Northwest Waters: Gateway to our Future* take an incredible amount of work to be successful. These workshops are one of the activities of the Interagency Ocean Observing Committee (IOOC) and we say thanks to Ralph Rayner, who leads this effort with assistance from Josh Young and Nick Rome. Without a local hosting RA we can not have these workshops, thanks to ALL the HARD work by NANOOS! Thank you to the entire organization team: Bill Dewey, Taylor Shellfish; Jack Dunnigan, USACE;Ken Dzinbal, Puget Sound Partnership; Rob Ratland, Microsoft Reserach; Mike Kosro, Oregon State University; Norge Larson, Sea-Bird Electroncis; Dave Martin, NANOOS/University of Washington - Applied Physics Laboratory; Chris Mooers, Portland State University; Jan Newton, NANOOS; Jay Peralman, Institute of Electrical and Electronics Engineers; Ralph Rayner, IOOC; Nick Rome IOOC; Steve Rumrill, State of Oregon; Jue Schumacker, Quinault Indian Nation; Jessica Snowden, US IOOS Program Office; Rick Spinrad, Oregon State University; Stephen Uczekaj, The Boeing Company; Timi Vann, NOAA and Josh Young, IOOC. **BZ!!!!**
- **U. S. Army Corps of Engineers (USACE) in Action**:The USACE was well received at the IOOS Pacific Northwest stakeholder meeting held 2-3 Feb. Rod Moritz, Portland District, and David Michalsen, Seattle District, presented the USACE missions, the USACE projects in the area, as well as USACE requirements relevant to IOOS. Additional USACE participants were Brad Bird, North West Division, Bill Birkemeier, ERDC, and Jack Dunnigan, IWR.
  - Lance Helwig, Chief, Engineering Division, USACE Portland District has agreed to serve on the NANOOS Board of Directors.

- o Irven Ingram, USACE Mobile District, Spatial Data Branch, is the USACE representation on the IOOS Reference Implementation Workgroup and participated in the interagency meeting held in St Louis the week of 6 Feb.
  - o With the the retirement of Bruce Ebersole, Ty Wamsley, ERDC Coastal and Hydraulics Laboratory, will fill the USACE role on the IOOS Modeling Testbed Advisory Committee.
  - o Dena Dickerson, ERDC Environmental Laboratory, will participate in the upcoming US IOOS Animal Telemetry Network Steering Committee Meeting March 15-16 March.
- **DMAC Steering Team**: A detailed meeting summary has been distributed to all DMAC ST members and recent meeting (1/18-19) participants. COL staff have also update/revised the DMAC ST web site to enhance the overall organization of DMAC ST materials.
- **IOOC Briefing set of March 1:** Charly will brief the IOOC on the results and recommendations from the 1/18-19 ST meeting. IOOC Co-Chair David Legler (NOAA/OAR-Climate Observations) has suggested a supporting brief/update on the status of US IOOS DMAC development from Derrick.
- **IOOS and Links to the National Water Quality Monitoring Network: Coordination with EPA**:No update
- **IOOS and The National Science Foundation (NSF) - Ocean Observatories Initiative (OOI)**: Zdenka, Suzanne and Charly met with NSF's Bob Houtman (IOOC Co-Chair and Integrated Programs Section Chief in NSF's Division of Ocean Sciences which includes OOI) and Jean McGovern (Program Director for OOI within NSF's Integrated Programs Section). Bob and Jean provided a thorough overview of OOI including overall status of the project and US IOOS's continuing role with the OOI cyber-infrastructure. It was a very good meeting for us to understand the complexities of fielding OOI. We agreed that this meeting was beneficial to both projects and have committed to meet 2 to 3 times a year.

Other:

- **MARACOOS Hosts US IOOS Program Office Team**: Thanks to MARACOOS Partner Rutgers University who hosted Becky and Gabrielle (US IOOS Program Office) and led them on a tour through the glider facilities and the COOL room. During the visit Gabrielle and Becky also had valuable discussions with Scott Glenn, Mike Crowley and MARACOOS Executive Director, Gerhard Kuska regarding the wave glider demo, national glider planning, and the FY budget outlook. Mike, along with Eoin Howlett and Charleton Galvarino (on the phone) also presented the National Glider Asset Map.
- **Korean Fellows**: Suzanne (US IOOS Program) met with two Korean scientists who are visiting NOAA as Fellows under the NOAA - Korea Ocean Research and Development Institute (KORDI) bilateral Memorandum of Agreement. Suzanne shared information on US IOOS and answered their questions about the establishment and operations of US IOOS. The Fellows are preparing a report for KORDI on considerations for forming an analogous ocean observing system in Korea.
- **Pacific Coast Shellfish Growers Association (PCSGA)**: The Executive Director and members representing four different shellfish companies met with Zdenka, Suzanne, Carl (US IOOS Program) and Libby Jewett (NOAA Ocean Acidification Program Manager). The PCSGA is a strong supporter of US IOOS as they rely upon the IOOS data to make business decisions daily.
- **US IOOS Presents at AUVSI**: I had the wonderful opportunity to represent the US IOOS program during the Maritime Day of the Association of Unmanned Vehicles Systems International (AUVSI). During my presentation I provided an overview of US IOOS and than focused on the myriad of efforts in which the US IOOS enterprise's use of AUVs, including: support of gliders and MBARI's Gluper in Deep Water Horizon; SCCOOS and Scripps' glider which runs along the CALCOFI lines and the detection of El Nino; NANOOS and their collaboration on tracking squid; operations by AOOS in the Arctic and operations by Rutgers in the Antarctic, under the National Science Foundation (NSF). I also had the chance to

introduce Aquarius, the joint satellite program with NASA and Space Agency of Argentina and their meso scale salinity experiments that will take advantage of gliders, AUVs and Wave Gliders. I featured OOI and their use of AUVs and Gliders for their coastal node. I stressed the importance of education through the Scarlet Knight and Challenger missions. Craig MClean, Assistant Administrator (Acting) for NOAA's Oceanic and Atmospheric Line spoke on NOAA's journey from shipborne to unmanned vehicles and the possibilities they offer. My slides and video of my talk will be available at http://www.ioos.gov/communications/welcome.html by the end of the week.

Congressional: No update

Communications/Outreach:

- **PacIOOS in the News**: PacIOOS held their annual meeting in Guam. http://www.pacificnewscenter.com/index.php?option=com_content&view=article&id=20619:ocean-observing-system-officials-on-guam-for-2-day-conference&catid=45:guam-news&Itemid=156

IOOS Conference Involvement: This section will highlight those conferences where US IOOS is a sponsor/or has a major footprint.

Don't Miss the IOOS events at the AGU Sciences Meeting - February 20-24 Feb:

- **010 Ocean Observing Systems -- Regional and Global: Monday 20 Feb, all day, including a poster session; Location: Ballroom J:** Session Organizers and papers include the Who's Who of Ocean and Coastal Observing. Session organizers are Albert Fischer IOC/UNESCO;Eric Lindstrom NASA;Ru Morrison NERACOOS,Suzanne Skelley U.S. IOOS Program Office,Harvey SeimUniversity of North Carolina/SECOORA, Michael S. Tomlinson University of Hawaii, School of Ocean and Earth Science and Technology/PacIOOS; Eric Heinen De Carlo, University of Hawaii, School of Ocean and Earth Science and Technology/PacIOOS, Jim Potemra, University of Hawaii, School of Ocean and Earth Science and Technology/PacIOOS.
- **010 Panel Discussion of Designing Ocean, Coastal and Great Lakes Observing Systems to Address Societal Issues: Monday 20 Feb, 15:45, Ballroom J:** Harvey Seim, Past-Chair, Southeast Coastal Ocean Oberving Regional Association, Chapel Hill, NC, Suzanne Skelley, Deputy Director, US IOOS Program Office, Eric Lindstrom, Co-chair, Interagency Ocean Observation Committee, Jerry Miller, Acting Dep. Director, National Ocean Council Office and Asst. Director for Ocean Sciences, OSTP.
- **109 Integrating Oceanography and Animal Tracking - the Ocean Tracking Network: Monday 20 Feb, Poster Session:TOWARD A U.S. ANIMAL TELEMETRY OBSERVING NETWORK FOR OUR OCEANS, COASTS AND GREAT LAKES**: Hassan Moustahfid, US IOOS Program Office;Churchill Grimes,Retired, NOAA/NMFS, Southwest Fisheries Science Center, Fisheries Ecology Division; John Kocik NOAA/NMFS, Northeast Fisheries Science Center; Barabara Block, Hopkins Marine Station, Stanford University; Kim Holland, Hawaii Institute of Marine Biology, University of Hawaii;John Payne, University of Washington;Dewayne Fox,Delaware State University;Andrew Seitz, University of Alaska Fairbanks;Charles Alexander,US IOOS Program Office.
- **EVW05: Interagency Ocean Observation Committee (Town Hall):Wednesday February 22, 12:30 – 14:00, Ballroom I**: The Interagency Ocean Observation Committee (IOOC) is bringing together ocean observers, researchers, and data managers to discuss how to shape the next decade of ocean observing. This town hall is an opportunity for Ocean Sciences '12 attendees to**participate in the Integrated Ocean Observing System Summit being held in the**

fall. The IOOC will seek audience input during facilitated discussions and look to attendees for suggestions on enhancing marine research, operations, and funding

- **EVTH12: Multi-sensor Improved SSTs (MISST) for IOOS Remote Sensing Systems (Workshop);Thursday February 23, 18:00 – 20:00, Ballroom B:** Organizer: Chelle Gentemann, gentemann@remss.com. The Multi-sensor Improved Sea-Surface Temperature (MISST) for IOOS project builds on the successful partnership developed for the MISST for GODAE project (2004-2009). The objectives of this project are to (1) improve and continue generation of satellite SST data and SST analyses in the IOOS DMAC and CF compliant Group for High Resolution Sea Surface Temperature (GHRSST) Data Specification GDS format; (2) distribute and archive these data; and (3) use this improved SST data in applications, many specifically targeted for the Integrated Ocean Observing System (IOOS).The partnership consists of 28 scientists from industry, academia, and government with wide ranging experience spanning the initial calibration of satellite sensors, development of SST algorithms, assessment of SST uncertainties, production of NRT satellite data, research into data fusion methodologies and the production of blended data sets, research into diurnal warming and the cool skin effect which both affect satellite SST measurements, and applications that utilize SSTs. This workshop will be used to coordinate research and activities for this project.For more information visit:http://www.misst.org

Upcoming Meetings: To see the IOOS calendar, please visit: http://www.usnfra.org/calendar.html or http://www.ioos.gov/about/calendar.html

Cheers,
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