

Bi-Weekly IOOS® Z-GRAM – 4 May 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](#).

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Governance and Management Subsystem:

- **Certification:** The National Science Foundation published, on behalf of the IOOC, the release of the final RICE certification criteria. These certification criteria establish eligibility for non-federal assets to be integrated into the U.S. Integrated Ocean Observation System (IOOS) and to ensure compliance with all applicable standards and protocols. These certification criteria were developed in response to a requirement in the Integrated Coastal Ocean Observation System Act of 2009 ([33 U.S.C. 3601-3610](#)) and are applicable to RICEs as defined in the Act, including Regional Associations: <https://www.federalregister.gov/articles/2012/05/02/2012-10560/notice-of-availability-for-the-final-certification-criteria-for-non-federal-regional-information>. The IOOS Program Office received Regulation Identifier Number (RIN) with assistance from Eric Teeters (NMFS). The RIN allows tracking of all documents and reviews through the rulemaking process and completes the first step in this process. The Listing Document, providing a brief description of the proposed rule and a statement about its significance (not significant based on criteria established by Executive Order 12866) was sent to Joe Bartels (DOC GC). DOC submitted the Listing document to OMB for review and concurrence. If there is no response from OMB in 10 days, concurrence is assumed.
- **FY12 Awards:** 11 of 12 RCOOS awards have been made and the remaining award is in the final steps of being obligated. Congrats to AOOS, CARICOOS, CeNCOOS, MARACOOS, NERACOOS, PacIOOS, SCCOOS who have received their awards.
- **Independent Cost Estimate:** Jet Propulsion Lab delivered the independent cost estimate report to the IOOC and program office this past week. The program office will now work with the IOOS federal agencies and NOAA to develop the package necessary to deliver the cost estimate to Congress as defined in the ICOOS Act.
- **Progress on meeting the ICOOS Act:** New templates have been posted: http://www.ioos.gov/about/governance/icoosact_progress.html
- **Program Environmental Assessment (PEA):** The IOOS Program Office is hosting a meeting with NMFS Office of Protected Resources on Wednesday, May 9. Representatives from Essential Fish Habitat, Endangered Species Act, National Marine

Sanctuaries Act and Marine Mammal Protection Act will attend. The discussion will focus on how to get letters of concurrence from each that supports the PEA outcome of no significant impact. We will also discuss what triggers site-specific analysis and how to do one.

- **Regions all day working session on Regional Build Out Synthesis:** Carl and Scott (IOOS Program Office), met with RA and NFRA representatives to work on the regional build-out plan synthesis document and to discuss the Summit. Substantive work was done on developing recommendations for next steps for IOOS and discussions centered on prioritizing a small numbers of things and putting forward recommendations through both the build out synthesis and the Summit White papers.

Observation Subsystem:

- **High Frequency Radar/Radio:** For more information contact the US IOOS HFR Project Manager, Jack Harlan, Jack.Harlan@noaa.gov: No update
- **Wave Gliders and Fetch Nodes:** The East Coast Wave Glider and Fetch Node demo launched this week with both the wave glider and fetch nodes being deployed in the Gulf of Maine on May 3. The AP released an article announcing the launch: <http://www.htrnews.com/usatoday/article/39204449?odyssey=mod%7Cnewswell%7Ctext%7CFRONTPAGE%7Cs>
- **IOOS Animal Telemetry Observations:**
 - **TOPP-ONR-IOOS project:** The TOPP team received metadata requirements from Frank Bub (Navy) and they are going to evaluate and implement the metadata in the new version of ERDDAP. Also, the TOPP team is working on getting TOPP real-time data on to the GTS.
 - **POST-NANOOS project:** The team continues to gather data providers and customer requirements.
 - **Ocean Tracking Network:** Hassan hosted a conference call with Gerhard Kuska (MARACOOS), Bill Birkemeier (USACE), James Hawks (NOAA/NMFS) Doug Wilson (NOAA/NCBO), Dewayne Fox (DSU, ACT program) to discuss deployment of an Ocean Tracking Network (OTN) strategic line (35 KM) in the Mid-Atlantic bight. Actions from this call is for Dewayne and the animal telemetry scientific community to decide on the optimal placement of this line that have benefits both in term of tracking sentinels species and cost effectiveness. Hassan will continue working with this team to finalize an action plan to send to the Global OTN.
- **CeNCOOS and partners to install a water quality shore station:** CeNCOOS, and the Monterey Bay Abalone Company have partnered to install and maintain a water quality shore station. The station was paid for by the State of California, will be maintained by and located on the property of the Monterey Bay Abalone Company, and the data will be monitored and shared by CeNCOOS. The station is expected to be operational within a month.

- Record-setting Center for Ocean Technology Glider Mission in the Gulf of Mexico:** The GCOOS-RA congratulates the University of South Florida's Center for Ocean Technology (COT) for continuing to push the boundaries of its glider capabilities in the Gulf of Mexico. The glider *Bass*, deployed on March 17, 2012 off the coast of Pensacola, FL, traveled 515 km over 33 days (see <http://ooma.marine.usf.edu/CROW/>), completing the longest COT mission to date. The duration exceeds the previous record by four days. The glider track from just west of DeSoto Canyon to the Florida Middle Grounds was accomplished by conserving power during the mission; science sensors transmitting in near real time were scaled back to minimize glider time spent on the surface. Reaching a depth of 205 meters, the goal of the effort was to combine these glider data (e.g., CTD, chlorophyll, Color Dissolved Organic Matter, Dissolved Oxygen, optical properties, and passive acoustic readings) with other fixed-platform and satellite-based observations and model simulations to determine and predict water property distributions on the West Florida Shelf. Water property distributions are important because these influence many issues such as hazardous material tracking, Search and Rescue operations, and Harmful Algal Bloom monitoring. The GCOOS-RA is currently working with COT engineer Chad Lembke and Mote Marine Lab Senior Scientist Dr. Gary Kirkpatrick to develop a pilot program to increase use of gliders in Gulf of Mexico monitoring efforts. Data from this recent deployment, Mission 55, can be found at <http://cotprojects.marine.usf.edu/data/gliderplots.html>. Chad Lembke (clembke@marine.usf.edu) or Bob Weisberg (weisberg@marine.usf.edu) can be contacted for more details.
- AOOS in Action: Cook Inlet Wave Buoy:** The AOOS wave buoy that came loose from its tether last fall has been fixed and redeployed on 4 May. We received a nice email from the Lab Director of NOAA's NCCOS/CCFHR Kasitsna Bay Laboratory. "The timing worked out so we could do it during our Cook Inlet oceanography survey cruise, which is part of a long-term monitoring program funded by the Exxon Valdez Oil Spill Trustee Council. For some perspective on our data limitations up here, this buoy is the only wave information we have for all of lower Cook Inlet and Kachemak Bay. Nice to be able to help get it back out there and it was a wonderful collaboration between AOOS, Kachemak Bay NERR, Alaska Department of Fish and Game, and our NCCOS/CCFHR Kasitsna Bay Laboratory." <http://www.aos.org/wave-buoy-returns-to-cook-inlet/>

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).

- National DMAC:**

 - Refining existing web services for access/delivery of ocean observation data:** The IOOS PO is coordinating two SOS server development projects. Both development teams met this week to scope out a plan for engagement with the RA DMAC developers in order plan for server installation at interested RAs.

GCOOS and PaclOOS have both shown interest in being early adopters and all regions will be contacted in the coming weeks. If you have interest please contact Derrick.

- **Vocabularies:** Definitions of the IOOS RAs were registered at the Marine Metadata Interoperability Ontology Registry and Repository Website (<http://mmisw.org/orr/>). We now have a resource to identify an important piece of within standard metadata dialects (CF/netCDF, SOS capabilities and sensor descriptions, ISO19115 etc.) in a way is machine readable. Using controlled vocabularies for important concepts and registering these vocabularies in semantic frameworks like MMI are important steps toward ensuring IOOS data discoverable and usable.
- **QARTOD:** The Board of Advisors have made decisions on next steps to finalize the QC methods for waves and currents based on existing material from past QARTOD meetings. Final recommended procedures will be published this Fall. The BOA has also identified a suite of variables to be addressed as the next priority variables – salinity, temperature, turbidity, conductivity and dissolved oxygen. Measurements of these variables have similarities that may enable them to be evaluated together. Finally, NDBC’s Dick Crout, the QARTOD Project Manager, has solicited input from all of the IOOS Regions to document a broad understanding of existing procedures for the entire suite of IOOS core variables. These results will also help prioritize next steps.
- **UPCOMING: NOAA Environmental Data Management Committee Meeting (5/15 – 17):** This meeting presents and an opportunity for the US IOOS Program Office to provide insight to NOAA on our US DMAC activities. This conference attracts over 150 folks from NOAA:
 - Derrick will be presenting talks on the IOOS DMAC data architecture and on SOS as a tool for managing in situ observations. He will also be chairing a session on Data Access and Discovery as it pertains to in situ data.
 - Becky will present a lightening talk titled: Establishing a Standards-based approach to Glider Data
 - Hassan will provide a talk titled: U.S. Integrated Ocean Observing (U.S. IOOS): Improving Biological Observing Data Integration and Dissemination
 - Carmel Ortiz will also chair the Data Integration Projects session
- **AOOS Launches Arctic Region pages** – A set of [new Arctic pages](#) has been added to the AOOS website. Learn about the development of an upcoming Arctic sea ice atlas, glider missions in the Chukchi, HF Radar deployments, ocean acidification monitoring, and where to access other Arctic resources.

Modeling and Analysis Subsystem: For information on the US IOOS Coastal Ocean Modeling Testbed, please contact the US IOOS Modeling Testbed Project Manager, Becky Baltes, Becky.Baltes@noaa.gov

- **US IOOS Coastal Ocean Modeling Testbed:** A proposal for a special session of JGR Oceans devoted to the U.S. IOOS/SURA Coastal Modeling Testbed has been approved

and the Testbed team has begun identifying all the authors and titles that will be submitted.

- **Update from the Inundation Team:** FVCOM/SWAVE is currently being used as part of a quasi-operational forecast system in the Gulf of Maine and Scituate Harbor running at UMassD. Insights developed during the testbed, including revisions to the model grid, required spectral and directional resolution in the wave model and the importance of wave-current interaction in the greater Scituate Harbor area have all impacted the development of this system. Additional perspectives on the transition of this technology to operations may be forthcoming as the final analysis is completed.
- **Update from the Cyberinfrastructure Team:** Tools were developed to convert the NHC SLOSH model custom output files into CF-Compliant NetCDF files. This enables the SLOSH output to be analyzed with a wide array of interoperable tools. Tools were also developed to convert the Chesapeake Bay 20 year hindcast (CH3D) from custom data formats to compliant NetCDF, the initial work on this has been shared with the community and it is on-going.
- **NOAA Testbed and Proving Ground Workshop:** Becky attended the 3rd NOAA Testbed and Proving Ground Workshop. There was a good discussion about the fully established and emerging testbeds and proving grounds. There was also discussion of the overlapping elements and opportunities for collaboration and innovation in the current fiscal environment.

Interagency Collaboration:

- **IOOS Summit 2012 - A new Decade of Integrated and Sustained Ocean Observing, 13-16 November, Herndon, VA:** The Interagency Ocean Observation Committee (IOOC) is bringing together community leaders in ocean observing, research, science, policy, management, and decision-making to develop a coordinated strategy. The IOOS Summit, being held November 13-16 at the Hyatt Dulles, strives to achieve better integration of regional, national, and global ocean observing efforts. Individuals will have a variety of ways to engage through submitting white papers, participating on thematic writing teams, participating at the IOOS Summit, and implementing strategic outcomes. The IOOS Summit is the exclamation point on the work preceding the event and will serve as an assembly of 200 representatives cross-sectioning the diverse and expansive ocean observing community. For more information please visit: www.iooc.us/summit. To submit an expression of interest: <http://www.iooc.us/summit/expression-of-interest-form/>
- **DMAC Steering Team:** Charly finalized and distributed the final report from the Jan 18-19 DMAC ST meeting (now posted at: <http://www.iooc.us/committee-news/dmac/dmac-st-meetings/january-meeting-2012/>).
- **USACE in Action:** USACE and NDBC meeting: Representatives from the USACE Engineer Research and Development Center (ERDC) met with the National Data Buoy Center (NDBC) on 2 May 2012 to discuss FY 2012 and future work to be performed collaboratively between our organizations. NDBC presented their Command Briefing

outlining their organizational structure and plans for the future. The USACE presented some of our findings from the JCOMM Pilot Project Wave Evaluation and Testing, focusing on recent intra-measurement evaluations performed by Environment Canada (with support of the USACE). Topics included: (1) O&M of USACE buoy 44014, now with a dual wave sensor package to be used to test and evaluation, (2) Testing and evaluation of existing platforms commonly used by NDBC. This includes the Monterey Test and Evaluation site (Directional Waverider, 3-m discuss buoy with a dual sensor package), and their new buoy with updated payload, (3) Planning for evaluation of one of MDBC's 6-m NOMAD sites. There were multiple ideas and we are exploring those options and (4) Initial discussions on the updated Waves Plan.

- SECOORA Annual Meeting: The USACE Jacksonville District will participate in the SECOORA annual meeting to be held 8 May in Miami, FL.
- USACE IOOS Participation: USACE representatives continue to participate in activities regarding the Modeling Testbed, QARTOD Committee, Animal Telemetry Network, DMAC, Waves Plan Update, IOOC, IOOS Summit Planning, USACE-IOOS Water-Level Pilot, and coordinating Districts with the Regional Associations.
- **IOOS and Links to the National Water Quality Monitoring Network: EYE on EARTH:** Discussions with participants that will be part of this effort have been initiated in order to do some groundwork ahead of a conference call scheduled for 11 May with everyone involved. Rob has started talking with Dan Ramage and Dwayne Porter (SECOORA) and Emilio Mayorga (NANOOS) about their roles. Dan has begun to look at the technical requirements for entering data in to the Eye on Earth portal. Rob has also been in contact with Guy Noll, from ESRI, and Bill Sonntag and Gary Foley, from EPA, about their participation and have calls scheduled for early next week.
- **IOOS and The National Science Foundation (NSF) - Ocean Observatories Initiative (OOI):** No update

Other:

- **National Ocean Service Assistant Administrator meeting with Regional Representatives:** David Kennedy, NOS AA, met Toby Garfield from San Francisco State University, and a CeNCOOS PI, while Kennedy was in San Francisco May 3. Kennedy and Holly Bamford, NOS DAA, will meet with Molly McCammon, AOOS, as they attend the Hydrographic Services Requirements Panel – Federal Advisory Council to NOS - at the end of May.
- **MARACOOS, CO-OPS and US IOOS Program Office meeting:** A successful meeting was held to concrete steps to take to initiate future use of MARACOOS data and models in COOPS products.
- **Dr. Lubchenco commencement speaker of the University of South Carolina:** While there Dr. Lubchenco had a chance to meet with Dr. Dwayne Porter of the School of Public Health and SECOORA.
- **International SeaKeepers Society Partners with Research Scientists:** GCOOS welcomed the International SeaKeepers Society to the network of Regional Association members in

early April. SeaKeepers is proud to announce its newest initiative, the Yachts of Opportunity Program, which unites scientists and the broader yachting community by forming partnerships between research scientists and participating members. The program seeks to provide scientists with the necessary platform on which to conduct cutting-edge research by placing them on member vessels. Likewise, members have the exceptional chance to meet with scientists of interest and involve themselves directly in ocean data collection and preservation. Each research mission selected for the Yachts of Opportunity Program is unique and will vary in terms of location, duration and complexity. Funding for scientific exploration and data collection remains the leading impediment to ocean conservation efforts. SeaKeepers looks forward to working with the GCOOS-RA to orchestrate and facilitate essential research and water quality monitoring in the Gulf of Mexico. For more information, please contact Brittany Stockman, International SeaKeepers Society Programs and Policies at [704.458.0953](tel:704.458.0953).

- **NANOOS in Action:** NANOOS has completed expansion of the Beach and Profile Data and Information to Washington State (previously only covered Oregon).

Congressional:

- Jenifer Rhoades (IOOS Program Office) provided a U.S. IOOS-101 briefing to Rachel Estes, Legislative Assistant to Rep. Kathy Castor (11th District, Florida – D). Her presentation is posted on www.ioos.gov
- On Earth Day, 22 April, **Senator Cantwell** was at a Seattle shellfish market to announce the continued funding of research into ocean acidification in Washington State. The previous week a key Senate appropriations subcommittee voted to increase — rather than cut — support for the NOAA Regional Integrated Ocean Observing Systems (IOOS), which operate monitoring buoys and sensors in Washington State. See Senator Cantwell’s statement: <http://cantwell.senate.gov/news/record.cfm?id=336591>; http://www.apl.washington.edu/projects/apl_presents/topics/ocean_acidification/ocean_acidification.php

Communications/Outreach:No update

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

- **OCEANS 2012 MTS/IEEE Abstracts close 18 May 2012: “Harnessing the Power of the Ocean”**
 - IOOS as a special track – please submit an abstract!!

- A US IOOS booth in conjunction with NOAA, MARACOOS, NEARACOOS and SECOORA at the entrance to the Exhibit Hall
- A new event call IGNITE which will be held Tues afternoon (Oct 16) just before the technical exhibits are officially opened
- Town Hall currently planned for Wed (Oct 17) and will be focused on US IOOS Summit scheduled for Nov 2012
- **Encouraging talks at AMS 2013:** Dr. Louis Uccellini, NOAA National Center for Environmental Prediction, asked me to be on his steering team for the upcoming AMS meeting to attract a more interdisciplinary theme. He very much understands the importance of the oceans, coasts, Great Lakes and their impact on our Earth's resources. Quoted from Louis "The theme this year is "Taking Predictions to the Next Level: Expanding Beyond Today's Weather, Water and Climate Forecasts and Projections", is one that is very relevant, given the opportunities we have as a weather, water and climate enterprise, to impact decision makers and our varied and important stakeholder who increasingly require more accurate, relevant, and value-added data, products, applications and services. They look to the academic, public, and private sector members of the AMS as leaders in this area. To increase our relevance and connectedness I also want to attract professionals of other fields (e.g., social scientists, geographers, health professionals) who don't normally attend the AMS annual meeting to join us in this worthwhile endeavor." Please consider submitting an abstract by August 1: <http://ams.confex.com/ams/>

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

Cheers,

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Zdenka Willis

Director, US IOOS Program Office

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