

Bi-Weekly IOOS® Z-GRAM – 20 April 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 to the IOOS website and view under [program updates](#).

IOOS® - A Partnership Supporting Lives and Livelihoods

News Flash: U.S. Senator Maria Cantwell was at Taylor Shellfish Melrose Market Sunday morning to make an announcement in an effort to protect Washington shellfish jobs. <http://www.kirotv.com/news/news/cantwell-announces-plan-protect-washington-shellfish/nMfj/>. Dr. Jan Newton, Executive Director NANOOS, was part of the event that highlighted the U.S. Senate Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies markup that provided additional funds to the US IOOS - Regional line.

Governance and Management Subsystem:

- **Certification:** The IOOC and the IOOS Program Office adjudicated final changes; the criteria will now be promulgated via a Federal Register Notice. The IOOS Program Office has a first draft of the guidelines which are being discussed with a small group of Federal partners and the informal working group that has been set up. The guidelines will be provided to the full IOOC membership for their comments. In parallel, Dave Easter has mapped out workflow diagrams with representatives from the National Marine Fisheries Service and the Office of the Chief Information Office to address requirements for rulemaking, including Paperwork Reduction Act and Administrative Procedure Act requirements. We have taken the first step in the process to submit a request for a Regulation Identifier Number (RIN).
- **FY12 Awards:** NOAA Grants Management Divisions has approved the 11 RCOOS Awards and ACT. The final step is through finance and obligation. Congrats to ACT, GCOOS, GLOS and NANOOS who have received their awards. Our team is closely monitoring the remainder of the awards. Your IOOS Program Office POC will alert the Executive Directors when your award is ready for acceptance.

Observation Subsystem:

- **High Frequency Radar/Radio:** For more information contact the US IOOS HFR Project Manager, Jack Harlan, Jack.Harlan@noaa.gov: No update
- **Glider data on Twitter: University of South Florida's College of Marine Sciences Launches Tavros02.** <http://www.marine.usf.edu/systems/q?=tavros>). The mission in the Gulf of Mexico, implemented by the USF Center for Ocean Technology (COT), posted the data in near-real time to Twitter. The twenty-minute updates include information about the time and location of data collection, glider heading, water depth, temperature, and conductivity. COT marine systems engineer Dave Fries says that he and his team have been working nearly a decade developing the underwater sensing technology. A recent grant from the National Science Foundation in the months following the 2010 *Deepwater Horizon* Oil Spill allowed them to boost efforts and launch Tavros02. Powered by solar energy, hence the designation Solar Autonomous Underwater Vehicle (SAUV), Tavros02 can travel for months in the Gulf. In addition to its ability to collect data remotely and to transmit them via a popular form of social media in near-real-time, the SAUV has the ability to collect water samples. Those interested can find the Tavros02 Twitter feed at <https://twitter.com/-!/tavros02>
- **PacIOOS Wave Buoy Deployed off Hilo:** The network continues to grow with help from local boat Captain Roger Antonio. The Datawell Mark II Waverider Buoy was deployed about 6.5 nautical miles northeast of Hilo Harbor. The buoy will help not only commercial traffic in Hilo Harbor, but also fishermen, the many paddling clubs located at Hilo Bay Front beach, surfers interested in surfing Honoli'i and/or Bayfront, and educators that use Hilo Bay to teach shipboard classes, such as the University of Hawaii Hilo Marine Science.

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:** Both Axiom and ASA are making progress on the SOS Servers. Over the next 2 weeks Derrick will be contacting the RA DMAC to discuss implementation at each regional data center. As a reminder, these two software packages will be available to any region or federal partner interested in using them.
 - **Sustaining our technical collaboration with NDBC and CO-OPS:** CO-OPS and NDBC are both making significant progress on implementing the SOS Reference Implementation templates.
- **Implementing DMAC for biological observations in U.S. IOOS regions - US IOOS Biological Data Project in SECOORA and GCOOS:** The IOOS Program Office, SECOORA and GCOOS kicked off this project with 21 folks from NOAA National Marine Fisheries Service (NMFS), Southeast Fisheries Science Center (SEFSC) headquarters in Miami and laboratories in Beaufort, NC and Pascagoula, MS, NMFS/Southwest Fisheries Science Center (SWFSC), Wildlife Commission (FWC/FWRI), NOAA National Oceanographic Data Center (NODC), National Coastal Data Development Center (NCDDC), and the Atlantic

State Marine Fisheries Commission (ASMFC), Gulf States Marine Fisheries Commission (GSMFC) and Gulf of Mexico Fishery Management Council, Department of Natural Resources, South Carolina and USGS/OBIS-USA . Next step is to define data providers and customer requirements.

- **QARTOD Request for Info:** To understand the “state of play”, we need to circulate a spreadsheet of the 26 IOOS core variables and known QA/QC procedures to the IOOS regions for review. Dick Crout, NDBC, Project Manager, will first compare the existing regional obs inventory against the core variable list. The request to the RAs will go out after the RA conf call on Wed (4/24).

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 briefing to the IOOC:** The briefing was well received and will be posted on the IOOS website this week.
- **NOAA Testbed and Operational Proving Ground Coordinating Committee:** Becky participated in a conference call with this committee. CO-OPS’s Peter Stone gave a brief update on the US IOOS Testbed. There was significant interest from the Committee.
- **NERACOOS: A new system for forecasting coastal hazards:** Nor'easters, hurricanes and other coastal storms that impact the Northeast can result in costly damage and cause hazardous conditions for coastal residents. NERACOOS is working to deliver improved and more detailed coastal forecasts to provide warnings of coastal flooding, to facilitate evacuation and other emergency measures, and to develop accurate information of coastal inundation. The Scituate Inundation Forecast System is now up and running and is providing the National Weather Service, emergency managers and others with detailed forecasts of coastal conditions such as winds, waves and water level. These forecasts can be viewed by visiting the http://www.neracoos.org/datatools/forecast/oceanforecasts?utm_source=NERACOOS+Newsletter+04_2012+Final&utm_campaign=April+Newsletter&utm_medium=archive and selecting the "Scituate Inundation" for the forecast model. The next phase of this effort is to create a similar forecast system for the coastal area around Hampton, NH. The long-term goal of this effort is to provide the region with a coastal forecast system that can provide detailed forecasts of coastal storms and help emergency management minimize loss of life and damage to coastal property.

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:** No update
- **USACE in Action:**
 - SECOORA Annual Meeting: The USACE Jacksonville District will participate in the SECOORA annual meeting to be held 8 May in Miami, FL.
 - USACE representatives continue to participate in activities regarding the Modeling Testbed, 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: A meeting with representatives from NANOOS, SECOORA, EPA, the European Environment Agency (EEA), ESRI, Microsoft and IOOS will take place on May 11th to define the technical requirements for U.S. IOOS data entry into the Eye on Earth Portal. The effort and roles and responsibilities will be scoped in the discussion of this project that is expected to take three months to complete.
- **IOOS and The National Science Foundation (NSF) - Ocean Observatories Initiative (OOI):** No update

Other:

- **PacIOOS and the Aloha Spirit:** I had the chance to see PacIOOS in action while visiting from 8-12 April. There are three key points. First and foremost my sincere thanks to the PacIOOS team for hosting me and their hospitality. Second, it is always a great trip where everywhere we visited, the work of PacIOOS was praised – from providing much needed sensors to the National Weather Service, data management services to NOAA's National Marine Fisheries Service's Science Center, working with the University of HI system and local communities to provide information and products to local communities to preserve the ecosystem, to working with the Coast Guard to providing lifesaving oceanographic products to industry partners in support of their operations. Third – it is really all about community and culture on the Hawaiian Islands. We started on the big Island of Hawaii meeting with Neil Sims, Kampachi Farms, LLC. Kampachi Farms is a Hawaii-based mariculture company focused on expanding the sustainable production of the ocean's finest fish. They have an innovative research program, the Velella Project, which is the world's first "beta-test" of an unanchored free-drifting oceanic fish culture system. For more information see <http://www.kampachifarm.com/offshore.html>. From there we met with Jason Adolf, Assistant Professor of Marine Science at the University of Hawai'i at Hilo (UHH) on partnerships for deploying buoys and gauges. His students will soon be deploying and

maintaining buoys and water quality gauges to understand the sediment transport into the marine ecosystem. The first day concluded with a meeting with Matt Hamabata and Cindy Punihaole, Kohala Center at Kahaluu Bay, where through volunteer reef teachers and their education center (see the picture of the van) they reach over 400,000 visitors to the Kahalu'u Bay. Day 2 had us on Maui, where we met with Donna Brown (UH Maui College) and Liz Foote – Coral Reef Alliance. Donna runs the Marine Option Program (MOP) which is open to all students. Each student needs to complete a project and PacIOOS is kicking of a project for the MOP students to take care of the water quality gauges on Maui. Liz, works for the NGO, Coral Reef Alliance (CORAL). A very cool project she has started was the **Respecting Coral Reefs** sign project, designed to educate locals and tourists who visit popular coral reef locations around Maui about proper reef etiquette. Composed of informative tips and colorful photographs, the interpretive signs are “adopted” by local businesses that fund the creation and installation of the signs. The project has been so successful on the island of Maui that they've expanded the program throughout the state of Hawaii. From there we met with US OBIS Director Mark Fornwall (USGS) and to discuss a myriad of biological data issues. Then it was on to the Pacific Disaster Center, which is a Department of Defense effort to compile data and alerts on worldwide hazards. Check them out at: <http://www.pdc.org/iweb/pdchome.html>. The remainder of my time was spent on Ohau where I had a chance to spend time with the PacIOOS team who is doing an awesome job from their data portals, to wave buoys, flood warning products and education material in the native languages! I met with Senior NOAA leadership from the National Weather Service, NOS' Pacific Services Center, the National Marine Fisheries Science Center and the Regional Office and appreciated their hospitality and the ever growing partnership between NOAA and PacIOOS. NOAA's Regional team was meeting, and Heather (PacIOOS) and I joined the field trip to Paepae o He'eia which is a private non-profit organization dedicated to caring for He'eia Fishpond – an ancient Hawaiian fishpond located in He'eia, Ko'olaupoko, O'ahu. The goal of this project is to refurbish the fishpond's wall, “kuapā”, in order to preserve the integrity of the fishpond and support the unique cultural, educational, and aquaculture programs of the area. NOAA is a partner in this effort. My final stop was with the US Coast Guard Sector Honolulu, where we talked about the importance of high resolution oceanographic data and models for search and rescue. Mr. Bob Coster said it best, when we have lives on the line we need the absolute best and highest resolution data we can get and it needs to be there dependently and in our operational system. My sincere appreciation to Chris Ostrander, Executive Director and Heather Kerking, Deputy Director and the entire PacIOOS team for a JOB WELL DONE.

- **Reaching the Next Generation: An email received:** “My son Zachery and I saw Scarlet Knight, RU-27, at the Smithsonian Museum of Natural History a couple of months ago. Zachary stood transfixed for thirty minutes in front of the Scarlet Knight exhibit. Since then, Zachary, who turns 4 in July, has remained fascinated by Scarlet Knight and been somewhat obsessed with learning more about the glider, the ocean, and marine life. We often search for videos about Scarlet's adventures on YouTube and watch them before

his bedtime. Tonight we watched one that was new to us, a video made by the Rutgers University admissions office. In it, there's a clip of your students delivering RU-27 to the National Aquarium here in DC, talking about how bringing the glider to the Treasury Department made them feel famous. I wanted to write you a short note of appreciation, which I hope may get passed on to your students as well. The story of Scarlet Knight's Atlantic crossing is incredibly fascinating, and has inspired many discussions and learning opportunities in our home. I'm not quite sure if this was the sort of fame your students were considering when they said that, but they are indeed famous in our home. I very much appreciate that your work is reaching and inspiring not just a generation of Rutgers undergrads, but pre-schooler aspiring marine biologists and oceanographers as well."

- **Partnering IOOS and NOAA's Ocean Acidification Program:** We are working together to convene 2 invitational workshops in 2012, one on integrating ocean acidification (OA) data management for the nation, and one on defining a global network for OA monitoring. For information see: http://c-can.msi.ucsb.edu/news/recent-and-upcoming-ocean-acidification-workshops?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+ucsb%2FXsyP+%28C-CAN+News%29
- **NERACOOS in Action - Improving regional water quality monitoring:** Poor water quality is a costly issue in many New England bays and estuaries. Long Island Sound, Narragansett Bay, and other highly urbanized coastal water bodies are prone to low dissolved oxygen during the summer months that can lead to fish kills and other problems. NERACOOS is providing support for the University of Rhode Island's Graduate School of Oceanography and SubChem Systems, Inc. to help develop capacity to improve coastal water quality monitoring throughout the region. The long-term goal of this collaboration is to develop a regional nutrient sensing facility that hosts the equipment and expertise to support real-time monitoring of nutrients throughout the region's coastal waters. Currently, the partnership is developing and testing nutrient sensors that can be deployed on buoys, piers and other structures on the water. They are also enhancing the communication systems of buoys in Narragansett Bay, RI so that the information from those buoys can be reported in real-time. These efforts will provide more frequent and timely water quality information and ultimately help managers develop more effective programs to improve the health of New England's coastal waters.
- **BEST of the Chester – Design and Implementation of the Chester River Watershed Observatory:** Hassan gave a short presentation on acoustic telemetry - Ankle bracelets for fish. Knowing who is coming and going: an Animal Acoustic Telemetry Array Design for Chester River.
- **Office of Naval Research Marine Mammals and Biology Program Review:** Hassan attended for the program office and provided a good opportunity to meet with ONR's Mike Weise and UCSC's Dan Costa per the current TOPP-ONR project and emerging issues with the ATN community. He also met with Navy's Bob Gisiner and BOEM's Jim Price on the development of marine biodata and how US IOOS can potentially be used as a model to enable partner agencies to integrate biological data.

- **NOAA Earth Information System:** Derrick, Charly and Rob met via WebEx with OAR/ESRL's Darien Davis and Jebb Stewart on ESRL's emerging data visualization tool. The tool is impressive but faces the same data format and metadata standards challenges as most potential consumers of these data face; integration is difficult without *a priori* agreed upon standards. Further discussions at the upcoming NOAA EDMC (Environmental Data Management Committee) meeting in May were agreed to.
- **MarineXplore:** Charly had a short meeting with the Estonia-based start-up company MarineXplore. MarineXplore's objective is to enable broad, integrated access to marine data and they have included USGS (Signell) and MARACOOS (Scholfield) in their discussions.
- **Naval Oceanographic Office visit:** Charly met with NAVO's Kyle Rushing about potential assistance from US IOOS on format standards for real-time/near real-time oceanographic observations NAVO continues to assimilate for their models. Charly and Kyle agreed that US IOOS could help but would not likely explore this directly until mid/late summer 2012.

Congressional:

- The Pacific Coast Shellfish Growers Association (PCSGA), East Coast Shellfish Growers Association, and the Gulf Oyster Industry Council sent a joint letter to the Chairs and Ranking Members of the Commerce-Justice-Science Committee in support of maintaining funding levels for NOAA's U.S. IOOS (Regional Operations) and Ocean Acidification Programs.
- Jenifer Rhoades (IOOS Program Office) will be providing a U.S. IOOS-101 briefing to Rachel Estes, Legislative Assistant to Rep. Kathy Castor (11th District, Florida – D), Tuesday, April 24.

Communications/Outreach:

- **NERACOOS incorporates the GoMOOS data and tools:** The Gulf of Maine Ocean Observing System (GoMOOS) website has been retired. However, the ocean and weather information provided by GoMOOS will continue to be available on the NERACOOS and Gulf of Maine Research Institute's (GMRI) websites. NERACOOS has created a [welcome page](#) to help orient GoMOOS users to the navigation of the NERACOOS site and to introduce them to new products and services available on NERACOOS.
- **NANOOS in the News: Observations to Assess and Monitor Ocean Acidification** http://www.mastermariner.org/sidelights/Sidelights_April2012.pdf
- **[ioos.gov](#) Content and Website updates:**
 - [Home](#) – 3 new feature stories, links under News and Highlights
 - [News Splash](#) – 1 brief: App Provides Information on Tsunami Zones
 - Version 2 of [Glider Asset Map](#) – made available from [Observing](#) and [Glider Fleet](#) sections

- 3 Feature Stories – [IOOS and Partners Host International Session on Ocean Observing at Oceanology International 2012 Conference](#), [GLOS hosts Annual Meeting](#), [CaRA Hosts Annual Meeting](#)
- [Communication](#) – Podcast added: [Oceans, climate change and a pinch of salt](#)
- [Global](#) – updated to add GOOS, PICO, GEOSS content

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, NERACOOS and SECOORA at the entrance to the Exhibit Hall
 - A new event called IGNITE 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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