

Bi-Weekly IOOS® Z-GRAM – 13 July 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

Highlight: US IOOS Summit – 1 WEEK to go FINAL WHITE PAPERS by 20 July: We really need your support so thank you in advance as you spend this week finalizing the White Papers

Governance and Management Subsystem:

- **Check out our progress on the Provisions of the ICOOS Act:** Implementation templates for Q3 have been posted:
http://www.ioos.gov/about/governance/icoosact_progress.html.
- **Program Environmental Assessment (PEA):** IOOS staff and representatives from PacIOOS have reviewed the contractor's revisions to the PEA with regard to animal telemetry. A final draft is expected no later than July 20. Next steps: Circulate new draft to IOOS staff along with questions from NMFS OPR. Our consolidated responses will be submitted to NMFS OPR and general counsel simultaneously. Goal is late-July/early-August for this to occur.

Observation Subsystem:

- **High Frequency Radar/Radio:** For more information contact the US IOOS HFR Project Manager, Jack Harlan, Jack.Harlan@noaa.gov:
 - **How does US IOOS HF Radar data and forecasts get to the US Coast Guard Search and Rescue Operational System?** See the white paper posted on the US IOOS website: [Search and Rescue](#) (societal benefit)
 - **International Cooperation:** Through a Joint Project Agreement for Integrated Coastal and Ocean Resources Management between NOAA and the Republic of Korea's Ministry of Land, Transport and Maritime Affairs (MLTM) and Ministry for Food, Agriculture, Fisheries and Forestry (MIFAFF), MARACOOS partner –

Rutgers University on US IOOS Program Office request hosted Mr. Dongsu Kim and Mr. Yunsik Lee for two weeks to exchange information and ideas on HF radar networks. Rutgers brought Dongsu and Yunsik to two different SeaSonde installations and briefed them on the radial database that we use to organize our radial data, the shell and MATLAB scripts that we use to create total vectors, and briefed them on scripts that we use to visualize the data in Google Earth and on the Internet. They visited Ocean Power Technologies (OPT), a company that Rutgers has partnered with on a program to provide wave-generated power to a bistatic transmitter for the Rutgers HF radar network. The KHOA representatives briefed OPT on the types and uses of oceanographic buoys they are utilizing in their operations. We look to continue this partnership and work together to provide the Korean HF Radar information in the global system we are developing.

- **Gliders**
 - **Glider Workshop Webpage Launched:** Details including attendees and agenda can be found at <http://www.ioos.gov/glider/strategy/>.
 - **Liquid Robotics Waveglider:** NDBC is now serving the waveglider data as part of the waveglider and fetch demo taking place in the NERACOOS region. It can be found on their website, www.ndbc.noaa.gov, using the station ID, DEMO2. The waveglider and fetches are scheduled to be recovered in the next few weeks and then redeployed in the MARACOOS region near the Pioneer Array of the OOI project in late August.
- **SECOORA Tracks Tropical Storm Debby: SECOORA member**, University of South Florida, College of Marine Science Coastal Ocean Monitoring and Prediction System (COMPS) program maintains a network of coastal and offshore buoy monitoring stations and High Frequency Radar stations along the West Florida Shelf. The slow moving tropical storm Debby, the fourth named storm of the 2012 hurricane season, lingered in the Gulf for a few days and dumped heavy rains and caused extensive flooding along Florida's Gulf coast. These monitoring stations collected very valuable data during the storm (SECOORA newsletter).

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:**
 - **Implementing DMAC for biological observations in U.S. IOOS regions:** UPDATED V1.0 of the IOOS Biological data schema/terminology: <http://www.ioos.gov/dmac/biology/welcome.html>.
 - **IOOS Data Providers:**
 - **CO-OPS:** To improve IOOS SOS, the IOOS SOS web page has been redesigned. The enhancements will be transitioned to their operational SOS server on **July 19th at 10:00 a.m. ET**. The operational server is

accessible from the URL: <http://opendap.co-ops.nos.noaa.gov/ioos-dif-sos/>. New features include:

- New program application that generates customized URLs based on dynamic search parameters. The generated URLs will make it easier for users to create their own custom programs to automate the data retrieval process.
 - Newly created sample Java programs which can be used to retrieve multi-year data from multiple stations to accommodate needs for larger data sets.
 - Improved documentation by providing users with sample requests and responses for both HTTP “get” and “post” methods for each service.
 - Explanations and sample values are supplied for all required and optional input parameters. In addition, CO-OPS has also linked to the major technical standards used within these services.
- **QARTOD:** NDBC’s Dick Crout and Ray Toll (SAIC) are in the final phase of planning for a workshop at NDBC on QA/QC procedures for dissolved oxygen. Subject matter experts have been identified and the logistics to bring the team together in early August are nearly complete. In addition, Mark Bushnell has been brought aboard on contract, thanks to help from CO-OPS, to lead key parts of the workshop and associated technical development of the procedures.

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. **No update.**

Interagency Collaboration:

- **IOOS Summit 2012 - A New Decade of Integrated and Sustained Ocean Observing, 13-16 November, Herndon, VA:** See above
- **DMAC Steering Team:** The team is busy finalizing their white paper for the IOOS Summit. Tentative dates for the next meeting are 8-9 Aug.
- **USACE in Action: No update.**
- **IOOS and Links to the National Water Quality Monitoring Network - EYE ON EARTH:** Dan Ramage and Emilio Mayorga have made progress by uploading data to an Eye on Earth – IOOS group page on ArcGIS online. The team is working on a data description template for development of a consistent KML file. KML is the file format that will be used to transmit data to Eye on Earth. The mechanism for the transfer of data on the ArcGIS site to the Eye on Earth portal is a step Rob is taking to identify with the Eye on Earth team.

- **IOOS and The National Science Foundation (NSF) - Ocean Observatories Initiative (OOI): No update.**

Other:

- **IOOS/NANOOS and NOAA's Ocean Acidification Program Team Up:** In Seattle, 26-28 June, the first Global workshop on monitoring ocean acidification attracted oceanographers from more than 20 countries. The outcome of the meeting included plans to build on existing observation networks, giving buoys and other monitoring devices the ability to make standardized acidification measurements. The group also plans to make acidification monitoring a routine part of ship-based measurements both on planned research cruises and private "ships of opportunity". For more information see Nature: <http://www.nature.com/news/global-network-will-track-acidifying-oceans-1.10922>
- **There is an APP for that: MARACOOS partner helps protect swimmers from coastal rip tides with a new app:** Rip current account for 80% of all water rescues and causes over 100 drownings each year in the United States. Students and Scientist of the Stevens Institute of Technology have created a multi-platform smartphone app that helps lifeguards identify and catalog rip current occurrences (source MARACOOS website) for information: <http://www.maracoos.org/>
- **Florida Institute of Oceanography and the U.S. Coast Guard signs MOU:** The Florida Institute of Oceanography and the U.S. Coast Guard have signed an agreement to involve marine scientists in disaster response when additional scientific expertise is needed, addressing one of the concerns stemming from the Deepwater Horizon oil spill. The memorandum of understanding between FIO, a consortium of 27 public and private marine science institutes throughout Florida, including two state agencies, and the Coast Guard was signed at a ceremony on Friday, June 29, by Rear Admiral William D. Baumgartner, Commander of the Seventh Coast Guard District and FIO Director Dr. William Hogarth at a FIO Advisory Council meeting at Eckerd College in St. Petersburg, Florida. The effort paves the way for the Coast Guard and Florida's marine science community to work together with NOAA and other agencies in disaster planning and response, providing the federal government with needed data and scientific insight while allowing independent researchers greater access to information as events unfold. FIO and the USCG will hold workshops to look at the state-of-the-art ocean modeling and to assess the baseline information needed along the south and eastern coasts of Florida. Additionally, FIO and the Coast Guard will work to ensure that accurate scientific information on events are made public in a timely manner, with academic scientists retaining their independence in communicating, publishing and disseminating research results. The agreement covers both natural and man-made disasters in the Gulf of Mexico and the southeast Atlantic Ocean, and is specifically focused on oil and hazardous material spills. The Coast Guard is the lead response agency for spills in coastal and deeper waters and ports.
- **Atmocean will conduct sea trial of their Wave Energy/Sequestration Technology (WEST):** The effort kicks off Aug 7/8 with a trial deployment, followed by a 3 week

deployment that will commence Sept 12-30. The buoy will be located just beyond the 3 mile boundary off of Coos Bay, Oregon. Atmocean's WEST system is unique by virtue of transmitting the wave energy by hydraulics to an onshore Pelton motor connected to an electrical generator. This architecture eliminates the need for costly undersea electrical cable, thus making Atmocean WEST lower cost than wave energy systems which generate electricity in the ocean. The WEST system also utilizes an array-mooring scheme, avoiding the need for undersea operations during deployment, again saving cost. By using array moorings, the WEST pump units are not directly attached to the seafloor - environmentally preferred as well as lower cost than seafloor bolt-down systems. WEST is designed for islands and remote coastal regions currently burning diesel to generate electricity - an attractive market both for the potential electricity cost savings (WEST cost in the range of 10 cents per kWh compared to diesel cost of over 20 cents/kWh), as well as double the reduction in air pollution since emissions from shipping the diesel fuel are eliminated. Success in this market is enhanced as WEST utilizes low-cost containerized shipping of subsystems, with final assembly handled by local semi-skilled workers (creating jobs in the target markets). For more information contact Phil Kithil, founder & CEO of Atmocean: atmocean.kithil@gmail.com

- **Office of Naval Research:** Carl and Zdenka met with Dr. Frank Herr and Joan Cleveland at the ONR offices on July 11 to discuss global HF radar activities to be mutually supportive. We discussed how far the IOOS enterprise, international efforts within the global component, and the coastal enterprise had come. Dr. Herr expressed admiration for the progress we have made building the Regional partnership into a cohesive national effort.
- **AOOS in Action on Education: Marine Educators Congregate in Anchorage:** Sharing strategies and resources was the goal at the 2012 National Marine Education Association conference that took place June 24-28. Educators from across the country gathered in Anchorage, Alaska to enhance their strategies for educating students in the field of marine and freshwater systems. Over 100 presentations related to the conference themes provided exciting resources from educators across the country. This year's conference themes included science and art, science and culture, and science and technology. AOOS was active at the conference demonstrating our Cook Inlet Response Tool and real time sensor maps. Additionally AOOS executive director Molly McCammon and other regional observing systems, spoke about incorporating technology and ocean data into classroom curriculum, and shared a framework for educators using data and technology to reinforce learning.
- **CaRA in Action on Education:** The Puerto Rico Weather Camp 2012: Building Knowledge in Tropical Meteorology, Atmospheric Sciences, and Oceanography: Motivated by the desire to broaden and increase exposure of students to techniques, research, academic programs and career opportunities in atmospheric sciences, meteorology and oceanography, CarlCOOS co-sponsored, along with the NOAA Center for Atmospheric Sciences, the Puerto Rico Weather Camp 2012. Fifteen high school students from Puerto Rico, St. Thomas (USVI) and Milwaukee (WI), participated in this immersive summer experience held at Isla Magueyes from June 24 – 30, 2012. Campers participated in workshops, interactive activities and trips to learn about diverse topics including the

complex tropical weather and climate phenomena, the atmosphere and ocean connections, the impact of climate change in the Caribbean, atmospheric research, tools for ocean observation, and many others. CariCOOS training at-sea comprised the deployment of oceanographic instruments and visits to the NOAA PMEL CO2 and the NOAA ICON-CREWS buoys. In addition, students participated in an interactive workshop on CariCOOS waves, wind and currents graphical products, and attended a coastal marine ecosystems field trip to demonstrate the connectivity between weather and coastal ecosystems. Participants interacted with experts in various fields, university professors, graduate students, National Weather Service forecasters and administrators, and weather broadcasters, among other professionals. Yasmín Detrés, CariCOOS Education and Outreach Coordinator, has organized this summer program since 2007.

Congressional: No Update.

Communications/Outreach:

- “3D scallop survey underway” FISHNEWSEU.COM Thursday, 12 July 2012 09:32: Quoted from the article: “NOAA has been using innovative methods to check the health of the scallop population off the eastern coast of the US since 2005, while this year’s results will include 3D imagery of the sea floor for the first time. “It’s a digital underwater camera survey that doesn’t harm habitat and gives more precise scallop estimates, which in the end, may keep more money in fishermen’s pockets,” NOAA fishery biologist Laura Oremland said. “This new technology helps maximize the fishing while sustaining the fishery and preserving the ocean floor.” The HabCam concept was designed together by fisherman and scientists and has been funded by NOAA Fisheries, the Scallop Research Set-Aside Program, the Northeast Consortium, and NOAA’s Integrated Ocean Observing Systems Program at different stages in its development.”
- **Connect with AOOS on Facebook!** – The Alaska Ocean Observing System is now on Facebook!
- **New Posts on the US IOOS Website:**
 - [ICOOS Act Progress reports](#) updated
 - [IOOS/NFRA Calendar](#) received a facelift
 - [Communication](#) – added “Print and Art Resources” tab. Art files for printing bookmarks to promote ioos.gov/education are available to all.
 - [Biological Data Terminology](#) V1.0 is available
 - [Search and Rescue](#) (societal benefit) – doc added to address the uses of HFR for SAROPS purposes

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

- **SEEKING ABSTRACTS by 1 AUG for AMS 2013** <http://ams.confex.com/ams/> : There are 4 sessions we are seeking IOOS participation with:
 - "Climate Trends and Projections in the Coastal Environment." Joint session between the 11th Symposium on the Coastal Environment (CE) and the Conference on Climate Variability and Change (CVC). Organizers: Hyodae Seo (CE) and Aiguo Dai (CVC)
 - "Ocean, Atmosphere, Hydrosphere, and Land Surface Interaction in the Coastal Environment." Joint Session between the 11th Symposium on the Coastal Environment: Frank Aikman, NOAA/NOS, frank.aikman@noaa.gov; 17th Conference on Integrating Observing and Assimilation Systems for the Atmosphere, Ocean and Land Surface, Ken Carey (Noblis), kenneth.carey@noblis.org; and Satellite Meteorology, Oceanography and Climatology, Philip Ardanuy (Raytheon) Philip_E_Ardanuy@raytheon.com.
 - "Ocean operational, pre-operational and transition model-based and observationally-constrained forecast systems in the U.S. Exclusive Economic Zone." The 11th Symposium on the Coastal Environment: Frank Aikman, NOAA/NOS, frank.aikman@noaa.gov; Frank Bub, USN/NAVO, frank.bub@navy.mil; and Chris Mooers, CECS/PSU, cmooers@cecs.pdx.edu.
 - "Pre-Operational, R&D Regional Coastal Ocean (EEZ) Circulation (&Related) Models Run in Real-Time in Academia and Industry." The 11th Symposium on the Coastal Environment: Chris Mooers, Portland State University, cmooers@cecs.pdx.edu; Becky Baltes, IOOS Program Office, Becky.Baltes@noaa.gov

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

Cheers,

Zdenka

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