

Bi-Weekly IOOS® Z-GRAM – 25 July 2014

The Z-Gram is an informal way of keeping you up-to-date on US IOOS® activities. Pass it on! Please reply with an e-mail with additional addresses or if you no longer want to receive the Z-Gram.

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From the IOOS Program Office:

- **Farewell to Jennie:** Once again, I start the Z-Gram with a farewell. This time to Jennie Lyons who successfully competed for a promotion and starts Monday as the Deputy Director for Communications at NOAA's National Marine Fisheries Service. Always bittersweet to say goodbye. We will miss Jennie but we are very excited for her promotion. Jennie has been with IOOS, for 6 ½ years, so from the start. Our first communications officer, she broke ground on so many efforts, from the many 1 pagers, brochures, and press releases, to the production of IOOS videos. From arranging international events for the recovery of Scarlet Knight, to getting Scarlet Knight into the Smithsonian. From Ignite sessions to banner stands and so much more. We will miss you and look forward to working with you at NMFS because as we always say – Once an IOOSian, Always an IOOSian.
- **Welcome:** Tsion Tassew will start a detail at the IOOS program office on Monday, July 28th. Tsion will backfill Carmen Davila as the Acting Business Manager while Carmen is the Acting Regions, Budget, and Policy Division Chief. Tsion comes to us from National Ocean Service's National Centers for Coastal Ocean Science.
- **Announcing the next IOOS Advisory Committee Meeting:** Next public meeting is scheduled for October 2-3, 2014, at the Large Lakes Observatory in Duluth, MN. Additional information will be posted on the committee website as it is available: www.ioos.noaa.gov/advisorycommittee

Observation Subsystem and Sensor Technologies

- **High Frequency Radar/Radio** (Lead Jack Harlan, Jack.Harlan@noaa.gov):
 - The Small Business Innovation Research project that resulted in a new product for HF radars, providing the ability to measure antenna patterns using readily available Automatic Identification System (AIS) data from ships of opportunity, has also resulted in a peer-reviewed publication:

Title: Measuring Antenna Patterns for Ocean Surface Current HF Radars with Ships of Opportunity, <http://journals.ametsoc.org/doi/full/10.1175/JTECH-D-13-00181.1>, led by Brian Emery of UC-Santa Barbara.

- **CONGRATS to CO-OPS 23rd PORTS®:** This past Wednesday was a significant day for NOAA's Center for Operational Oceanographic Products and Services (CO-OPS) as they marked the dedication of the St. Johns River PORTS®, their 23rd operational system. The St. Johns River PORTS is the second largest PORTS and includes 18 stations with 46 individual sensors. The real time observations provided by this new PORTS will support safe and efficient navigation, habitat restoration, local storm surge

modeling, and evacuation planning efforts for the area. The dedication was held at the storm-hardened water level station located on the South Bank River Walk in downtown Jacksonville. Dr. Kathryn Sullivan, NOAA Administrator, and Dr. Holly Bamford, NOS Assistant Administrator, represented NOAA at the dedication. They were joined by our partners from the Jacksonville Marine Exchange, the Port Authority of Jacksonville, the Jacksonville Bar Pilots, the U.S. Coast Guard, and local Congressional staff members.

- **Gliders Deployments:**

- Sandy Supplemental work: Lead PI Gustavo Goni, NOAA's Atlantic Ocean Marine Laboratory (AOML), along with Co-PIs at CariCOOS, National Data Buoy Center, NOAA's Cooperative Institute for Marine and Atmospheric Studies (CIMAS), AOML's Hurricane Research Division, and NOAA's National Center for Environmental Modeling/Environmental Modeling Center launched two gliders as part of a multi-institutional effort that brings together the research and operational components within NOAA and the university community to implement and carry out sustained and targeted ocean observations from Seagliders in the Caribbean Sea and southwestern tropical North Atlantic Ocean. Each glider is expected to provide approximately 2,700 profiles per year for two years. More information can be found [here](#).
- Gulf Glider Experiment: GCOOS PIs began deploying gliders as part of a Gulf Glider Experiment to improve hypoxia monitoring in the Gulf of Mexico. Two gliders have been deployed. Learn more [here](#). These glider profiles are also being delivered to the IOOS DAC and can be seen [here](#).
- Challenger Mission – Technical difficulties: After a **very** rough ride out, the team managed to deploy Challenger on 11 July along the shelf break of the Southern Brazil Bight. Unfortunately, after the deployment the glider ran into a number of issues. First, a software bug was discovered which prevented the glider's iridium phone from calling back to the lab at Rutgers. Second, on a dive to 1,000m, the glider suffered a minor leak which was believed to be caused by the pressure at depth. The team then worked together to recover Challenger on the morning of 17 July. The glider is now back at the University of Sao Paulo facilities where she will wait for about a week until Dave Aragon, technical chief (Rutgers), to get down to Brazil, diagnose the issues that lead to the leak, and hopefully get her back in the water. I include this in the Zgram to remind us it is still hard to observe the oceans. I am confident the Rutgers and Brazilian teams will get Challenger underway to Africa soon.

- **New Protocol Allows Scientists to Monitor Toxic Bottom-Dwelling Algae at Low Cost**: National Ocean Service's (NOS) National Centers for Coastal Ocean Service (NCCOS) scientists have developed a simple, low-cost protocol for monitoring harmful, bottom-dwelling algae in diverse marine habitats around the world – using little more than a window screen to collect algae. The window screens mimic natural surfaces that harbor toxic algae and allow direct comparisons of algae abundance from different locations. In a series of field experiments in tropical environments, researchers showed that toxin-producing microalgal cells were sufficiently mobile to colonize window screens suspended near the seafloor within 24 hours. The abundance of cells recruited on window screens was highly correlated with the abundance of cells found in the surrounding environment. Until now, sampling and monitoring these cells has been difficult and expensive, given the broad distribution of microalgae over a variety of surfaces, such as coral, sea grass, and rocks. An upcoming article in the journal *Harmful Algae* will provide natural resource managers around the world with more information on this technique. The toxins produced by

some bottom-dwelling microalgae can accumulate in fish and shellfish—making people sick, disrupting human food supplies, and limiting the development of profitable fisheries.

Data Management and Communications (DMAC) Subsystem and Tools Built on IOOS

data: (Contact Derrick or Rob to get on the listserve for changes, Derrick.Snowden@noaa.gov, Rob [Ragsdale@noaa.gov](mailto:Rob.Ragsdale@noaa.gov))

- **IOOS Registry:** All of the service URLs for the Coastal Data Information Program (CDIP) metadata provided by SCCOOS have now been registered and are in the [IOOS Catalog](#). CDIP is a USACE and CA Fish and Game contribution to IOOS. In addition, a number of IOOS RAs have funded additional wave buoys and data from those buoys are also available through CDIP.
- **Updates to the GCOOS Data Portal:** The GCOOS Data Portal was updated in July 2014 with features to better present the assets in GCOOS. The new "Assets" page (<http://data.gcoos.org>) now contains a tab to present a data asset summary. The summary includes an interactive pie chart showing the distribution of resources and a cumulative plot of data by data type archived in GCOOS. The "Monitoring" page, accessible from another tab, was also modified to include:
 - (A) A status button to show if data are being transmitted to GCOOS by data providers;
 - (B) Contact details as registered with GCOOS; and
 - (C) An interactive plot of the daily record counts that GCOOS receives from a provider.

These additional features, previously only available for internal use, will assist all parties to monitor the data collection activities. For images and more details, see <http://gcoos.tamu.edu/?p=6911>.

Modeling and Analysis Subsystem

(For information on the US IOOS Coastal and Ocean Modeling Testbed (COMT), contact our project manager, Becky Baltes, Becky.Baltes@noaa.gov)

- **COMT Update:** One of the five projects of the COMT compares wave and surge models in the reef-fringed environment of Puerto Rico and the U.S. Virgin Islands, with the view of improving operational forecasting. The team is using the coupled wave-surge models ADCIRC-SWAN, ADCIRC-WAVEWATCH III, SLOSH-SWAN, Delft3D-SWAN and FUNWAVE, which are being evaluated for impacts during Hurricane Georges (1998), Hurricane Isaac (2012), Superstorm Sandy (2012) and two field campaigns. In addition, the project team has recently partnered with “storm surge chasers” from USGS in Puerto Rico, who are preparing to deploy instrumentation ahead of future hurricane events in the region. For more information, please see <http://testbed.sura.org/node/522>.

Interagency and International Collaboration/News

- **National Plan for Civil Earth Observations Released.** The Executive Office of the President, Office of Science and Technology Policy released the [Plan](#), along with an accompanying [Fact Sheet](#). OSTP greatly appreciates the efforts of USGEO to build and complete this plan, and they look forward to an exciting year ahead in stepping out with the next assessment. One major change is how we talk about observing – the

plan lays out a new structure of sustained and experimental observations. This is meant to recognize that we must sustain observations both for public service and for research and that often these observations are used for multiple purposes.

- **GEO Appathon:** Develop a new App using earth observation data from the data sets in the GEOSS Common Infrastructure. The Appathon runs from May 7 to August 31. www.geoappathon.org. Check out the video produced by the U.S. Mission in Geneva at http://youtu.be/5sEH8go_DCI.
- **Support to the World Ocean Assessment:** The State Department, in coordination with the National Ocean Council, has asked Hassan Moustahfid (U.S. IOOS PO) to coordinate the review of the [World Ocean Assessment](#) (WOA) Chapter # 34 on the "Scale of Biological Diversity". The United Nations has embarked on a regular process for global reporting and assessment of the state of the marine environment, including socioeconomic aspects, the product of which is called the [World Ocean Assessment](#) (WOA). The first WOA will be available for United Nations Member State review by the end of August, and countries will have two months to submit their review. Subsequent WOAs are expected to be generated every five years in order to document trends in the state of the marine environment, including socioeconomic aspects.

Delivering the Benefits:

- **GCOOS-RA and Gulf of Mexico Alliance (GOMA) Sign MOU:** In June 2014, the GCOOS-RA and GOMA signed a Memorandum of Understanding (MOU) confirming the commitment to collaborate on issues of critical importance to the Gulf of Mexico. The MOU identifies the needs to:
 - Develop and support Gulf of Mexico regional initiatives;
 - Facilitate educational opportunities that mutually benefit GOMA partners and GCOOS-RA stakeholders;
 - Identify observations and data products from the U.S. coastal estuaries, rivers, and Exclusive Economic Zone needed by stakeholders in the region.
 - Collaborate on efforts required for observing systems in the Gulf of Mexico; and
 - Promote Gulf-wide information integration and sharing of data and products.

To read the MOU, go to <http://gcoos.tamu.edu/documents/MOU-GOMA.pdf> .

- **Atmocean signs an agreement with Tecnolog:** Atmocean signed with Tecnolog, a Lima-based energy systems manufacturing company founded in 1946, to commercialize Atmocean's wave energy system in Peru. The growth plan set forth in the Agreement could see Peru deriving 10% of its electricity from clean, renewable wave energy to support its rapidly-growing economy by 2025. For more information contact Phil Kithil at atmocean.kithil@gmail.com.

Congressional:

- **Senate Ocean Caucus Briefing on Ocean Acidification on July 14th:** Jen Rhoades represented IOOS at the briefing that attracted over 30 Hill staff.
- **IOOS Association met with Rep Bonamici's staff:** Josie Quintrell, Director IOOS Association had a great meeting with Eric Fitch of Rep Bonamici's staff on

Tuesday. He was well versed in NANOOS and very enthusiastic about the program. Eric appreciated NANOOS member Mike Kosro's visit and it made a big impact. Eric also voiced his appreciation IOOS and CDIP support for safe navigation in the Columbia River.

Communications / Outreach / Education:

- **New Series of Videos on Geodetic Datums!** In collaboration, NOAA's National Geodetic Survey (NGS) and The COMET[®] Program have developed four 3 to 4 minute videos as an introduction to geodetic datums. The videos are titled "**What are Geodetic Datums?**," "**How Were Geodetic Datums Established?**," "**What is the Status of Today's Geodetic Datums?**," and "**What's Next for Geodetic Datums?**" The videos will help you understand NGS' release of new datums planned for 2022, as well as what they can do to prepare for the new datums. These four videos are the first of a planned series of collaborative efforts with COMET[®]. COMET is worldwide leader in support of education and training for the environmental sciences. View them on YouTube at: https://www.youtube.com/playlist?list=PLsyDI_aqUTdFY6eKURmiCBBk-mP4R10Dx
- **Congrats on successful EPP internship:** NOAA Educational Partnership Program student participant Pedro Matos-Llavona has completed his internship with SECOORA partners University of South Florida and Florida Gulf Coast University. Pedro did an excellent job while planning and leading a buoy deployment cruise along with getting ample opportunities to learn advanced methods in time series and spectral analysis of oceanographic data. Thank you to SECOORA for hosting Pedro.
- **Zdenka Interviewed in ECO:** <http://digital.eco-tsc.com/publication/?i=217394>. See interviews by Zdenka, BOEM Chief Environmental Officer William Brown, ESRI Chief Scientist Dawn Wright, and others.
- **Liquid Robotics Wave Glider collects information ahead of Super Typhoon Rammasun:** Read more here: <http://liquidr.com/company/news/pr/2014/22July2014.html>
- **Catalina Sea Ranch and Verizon Advancing Sustainable Aquaculture:** Catalina Sea Ranch will leverage Verizon's network to develop a remote monitoring system for the advancement of sustainable aquaculture. Los Angeles County Supervisor Don Knabe will officiate at a Ribbon Cutting Ceremony on July 31, 2014 at 10 am at the Southern California Marine Institute. Long Beach CA. For more information contact: Debbie Johnson, djohnson@catalinasearanch.com

Upcoming Meetings with IOOS participation:

- **ANNOUNCING: US Hydro Conference 2015:** Hosted by The Hydrographic Society of America at the Gaylord National Resort –March 16-19, 2015. National Harbor, Maryland USA. Keynote speakers – US Congress, NOAA, US Navy. Sponsors: NOAA, ECO, OceanNews, Hydro International and Sea Technology magazine. For complete details and to register visit: www.ushydro2015.com

View the IOOS

calendar: <http://www.ioosassociation.org/calendar> or <http://www.ioos.noaa.gov/about/calendar.html>

Cheers,
Zdenka

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Zdenka Willis

Director, US IOOS Program Office

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