

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:

- **NOAA's FY12 budget has been approved and partnership with NOAA's OA program.** For FY12 - IOOS budget is as follows: National IOOS: 6.432M (small decrease from FY11) and Regional IOOS line: 22,956M (slight increase from FY11). The 11 Regional Associations and the Alliance for Coastal Technologies (ACT) have received their FY12 budget numbers. We have already started to receive descope letters and that is GREAT - thanks in advance for your efforts on this difficult task. This year, we have developed a new and exciting partnership with NOAA's Ocean Acidification program where the Regions are able to team up with NOAA's OA program to provide additional sensors on existing buoys. This is a win-win for both programs and by pooling resources the overall cost of the observing is decreased. Thank you very much to Gabrielle, US IOOS Program Office, and Libby Jewett, NOAA's OA Program Manager, for their visionary thinking.
- **FY13:** The President's Budget was released on 13 Feb. The IOOS numbers are as follows: National IOOS: 6.533M and Regional IOOS: 29.520M. Details are to be posted on the NOAA website on Monday 27 February. For additional information please see: http://www.noaanews.noaa.gov/stories2012/20120213_budget_statement.html
- **Congrats to AOS on Funding Award:** AOS was recently awarded a grant to provide data management services for NPRB's Gulf of Alaska Integrated Ecosystem Research Program. AOS was the sole applicant a year ago, and the project was re-competed this winter with four new applicants.
- **Alliance for Coastal Technologies completes Program Review:** See findings and final report. http://www.act-us.info/Download/ACT_2012_Program_Evaluation.pdf

Observation Subsystem:

- **High Frequency Radar/Radio (HFR): For more information contact the US IOOS HFR Project Manager, Jack Harlan, Jack.Harlan@noaa.gov**
 - **Outcome of the 2012 World Radio-Communication Conference (WRC):** A positive outcome from the WRC. Before I go into the results, I really must first thank NOAA's Office of Frequency Management, Jim Mentzer, David Franc, their engineers, Jack Harlan (US IOOS Program) and Don Barrick, CODAR, who have worked tirelessly over the past 5 years to get us to this point, thanks to their effort, we now have approval for Primary Frequencies for HF Radars. There are some footnotes that apply but overall this is very positive. Secondly, thanks to the entire HF Radar team: the RA Directors, HF Radar operators and National Data Buoy Center, your efforts to advance the use of HF Radar and your response to overnight data calls were essential in getting this meeting up and running. Finally thank-you to our international Ocean Observing partners for their support without which we could not be successful. **Bravo Zulu and heartfelt appreciation to all.** NOW, we can't rest as we still have a long process ahead of us in the implementation within the United States. The 2012 World

Radio-communication Conference (WRC-12) concluded its four weeks of work on a large array of agenda items relating to international spectrum regulation. The WRC acted on one of the many agenda items by creating a number of frequency allocations for operation of oceanographic radars in the 3 to 50 MHz range. The supporting technical work for this agenda item has been underway for more than five years, with NOAA taking a leadership role in the effort, working alongside experts from the U.S. commercial sector, and representatives in Japan, Australia, Korea, Canada, France and Germany. The global oceanographic radar allocations created by the WRC provide the international regulatory foundation for implementation of service rules and licensing procedures in the U.S and other countries. The WRC decision on this issue also includes requirements that oceanographic radar operators and manufacturers must implement to ensure spectrum efficiency and provide interference mitigation to other communications services in the bands between 3 and 50 MHz. The WRC decision provides stable segments of spectrum in which oceanographic radar operations should be concentrated. The decision is a significant win for oceanographic radar operations as well as the other communications services that exist between 3 and 50 MHz. An estimate of current unallocated spectrum use on a global basis shows that radar operations cover approximately 7 MHz of bandwidth within the 3 to 50 MHz range. The transition of global operations to the allocated bands will reduce that spectrum footprint to approximately 700 kHz, reducing spectrum congestion for communications services that currently receive periodic interference from the radars. The next step within the U.S. will be to implement the WRC decision in the U.S. spectrum regulations. This process is jointly managed by the National Telecommunications and Information Administration (NTIA) and the Federal Communications Commission (FCC). Once the implementation of the WRC decision is complete, U.S. oceanographic radar operators will need to begin transitioning licenses to the new allocated bands, operating under the new service rules. Jack Harlan has sent out a more technical email to all of our HF Radar Operators - if you would like more detailed information please contact Jack.

- **PacIOOS launches new Wave Buoy:** Captain Steve Juarez navigated the *Pacific Maid* to deploy a new PacIOOS Datawell Mark II Waverider Buoy in the coastal waters off Kahului, Maui, near the famous Peahi surf break. This buoy joins our existing network of six real-time wave buoys in Hawaii, Guam, and the Marshall Islands and provides streaming data on wave height, direction, period, and water temperature to the PacIOOS website. This buoy off Maui's north shore will help to inform safe transit entering and exiting Kahului Harbor, provide real-time data to recreational ocean users (such as surfers, sailors, and paddlers), and provide critical information for coastal hazard low-lying inundation forecasts for north-facing shores.

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:** The working group meets weekly in order to advance the decisions made on the SWE Common data model specifications. Since the workshop, Kyle Wilcox (MARACOOS) completed construction of templates in the SWE Common data model specifications decided on in Baltimore. The templates are still draft and now will be tested, modified and refined. A recommendation was made on the weekly call (2/23) to identify a dedicated server to test and implement the workshop recommendations. Initially, CO-OPS has started to add data to the applicable feature type templates for the working group to review and consider necessary modifications. After a review, they will be implemented on the CO-OPS SOS test server. NDBC is considering how to implement and add example files to their test server.
- **PacIOOS in Action:** High Water Level Forecasting Tool Released: Addressing requests from the region, PacIOOS added another location- Majuro Atoll, Republic of the Marshall Islands- to a

suite of locations throughout the Pacific islands receiving advanced notice of the potential for high sea levels. The [Majuro High Water Level Forecast tool](#) indicates when flooding of the lowest lying land in the area is expected. Other locations with this tool are dispersed throughout the State of Hawaii, American Samoa and in the Marshall Islands. In addition, PaclOOS also just released two [High Sea-Level and Wave Run-Up Forecast tools](#) for Waikiki and the North Shore of O'ahu. These tools account for additional sea level rise driven by surface gravity waves in these two locations. Additional new tools include: Links that integrate the PaclOOS CDIP buoys and NDBC buoys. The following links you to track real-time water level from every available water level station on the planet. They built this primarily to track tsunamis as they propagate across our region---pulling data from DART, NOS, and over 100 other providers. Hit the following links:

- waves: [PaclOOS wave buoys](#)
- Tide and water level:
 - [DART tsunami reporting stations](#)
 - [UNESCO Intergovernmental Oceanographic Commission \(IOC\) water level stations](#)
 - [NOAA NOS/CO-OPS shore stations](#)
- **CaRA in Action: Ship Tracker:** *Ship Tracker* plots near-real-time positions of ships at sea using the Automatic Identification System (AIS); a radio transponder that periodically transmits the ship's position as well as speed and course, and vessel characteristics. International Maritime Organization regulations require "AIS to be fitted aboard all ships of 300 gross tonnage and upwards engaged on international voyages, cargo ships of 500 gross tonnage and upwards not engaged on international voyages and all passenger ships irrespective of size". *Ship Tracker* is made possible through support from the Department of Homeland Security to the Center for Secure and Resilient Maritime Commerce and Coastal Environments (CSR). Technical and administrative support to CSR is provided locally by CariCOOS. CSR/CariCOOS AIS receiver unit is installed at the Magueyes Island field station of the Department of Marine Sciences in La Parguera. http://caricoos.org/drupal/ship_tracker

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

- **AOOS in Action Cook Inlet Modeling:** NOAA's new ROMS model for Cook Inlet is up and running, and being displayed in AOOS's Model Explorer.
- **Model Testbed Activities:**
 - **Monthly Meeting with NOAA/NCEP Ocean Prediction Center:** Ming Ji, Frank Aikman and Testbed team members held their monthly meeting, finalized the Testbed Overview document and agreed to a recommended documentation plan going forward. Becky is writing the next draft of the Terms of Reference for review at the next meeting.
 - **Modeling Testbed Brief (2/14):** Becky, Rich Signell and Rick Luettich presented an overview of the modeling Testbed to NFRA and their regional modelers during NFRA's monthly call. The overview was well received and some follow up actions are being taken to facilitate getting the word out to others.
- **NUOPC Meeting (2/22):** Charly and Becky met with Dave McCarren, the National Unified Operational Prediction Capability (NUOPC) Deputy Program Manager for a brief of their current efforts in common modeling architecture and the developments as they may apply to the Modeling Testbed work. They agreed to find a follow up opportunity for Dave to present the NUOPC work to the Testbed leadership

Interagency Collaboration:

- **DMAC Steering Team: Draft report on Jan 18-19 Meeting:** Charly and Rob (US IOOS Program Office), completed a draft report on the Jan 18-19 DMAC ST meeting and distributed it to meeting participants for review and comment
- **IOOS and Links to the National Water Quality Monitoring Network:** Coordination with EPA
- **IOOS and The National Science Foundation (NSF) - Ocean Observatories Initiative (OOI):** ASA's Chris Mueller provided a brief update on OOI-CI progress on Release 2 progress per the US IOOS intersection. This included progress on analyzing/evaluating access to radar and glider data and an ongoing assessment of ERDDAP as a strategic tool for the CI. Jack Harlan joined this call to get a better understanding of the radar data assessment which is being conducted via the HFR server at Rutgers.

Other:

- **Oceans and Human Health Initiative (OHHI):** Zdenka and Gabrielle participated in the Chesapeake Bay Health Workshop on Feb. 21 and 22. OHHI is hoping to engage IOOS regions (beginning with MARACOOS and NANOOS) in a pilot effort to integrate ocean observing information with disease surveillance to address pathogens and HABs in the public health context. There is also potential for direct engagement with FDA to integrate ocean observing data into an online vibrio tracking product they are developing. Next steps will be more clear after the companion Puget Sound workshop scheduled for Mar. 21-22 (Jan Newton will represent IOOS).
- **Ocean Sciences Meeting 2012 (OSM'12):** Every other year, the three leading scientific organizations for the oceanography community host a joint meeting called the Ocean Sciences Meeting (OSM). The three organizations are The Oceanography Society (TOS), the American Geophysical Union (AGU) and the American Society for Limnology and Oceanography (ASLO).
 - **US IOOS program office at OSM'12:** Hassan Moustahfid et. al. had a poster titled "Toward a U.S. Animal Telemetry Observing Network for our Oceans, Coasts and Great Lakes", which was part of the session Integrating Oceanography and Animal Tracking – The Ocean Tracking Network. Jack held a by invitation meeting of the National IOOS HF Radar Technical Steering Team. Suzanne (U.S. IOOS Program Office) was part of a panel discussion with Harvey Seim, Eric Lindstrom and Jerry Miller. The panel concluded the six hour session Ocean Observing Systems – Regional and Global. Suzanne was also part of the Interagency Ocean Observation Committee's Town Hall panel, along with Eric Lindstrom, Molly McCammon and moderated by David Legler, which discussed the accomplishments of IOOS over the last 10 years and explored the next 10 years. The interagency committee will host an IOOS Summit Nov 13-16, 2012 in the DC metro area.
 - **IOOS regions at OSM:** All 11 Regions had strong participation by oral presentation or poster at the meeting. Additionally, the promise that IOOS observations and infrastructure will lead to scientific discovery and new understanding was demonstrated by the use of IOOS data in numerous presentations and posters.
 - **Dr. Nancy Rabalais Recognized and Delivered Rachel Carson Award Lecture:** The AGU Ocean Sciences Section award committee selected Nancy Rabalais to deliver the Rachel Carson Award lecture in recognition of her work studying the continental shelf ecosystems of the Gulf of Mexico and how they are influenced by large rivers. The title of her lecture was "Significance and Insignificance of the 2011 Mississippi Flood to Surrounding Waters". Dr Rabalais is the Executive Director and Professor of the Louisiana Universities Marine Consortium and a Board Member of the Gulf of Mexico Coastal Ocean Observing System.
- **GCOOS in Action:** Integrated Products and Services highlighted at the NOAA Regional Collaboration Team Meeting: Dr. Chris Simoniello, GCOOS Education and Outreach Coordinator, represented the GCOOS-RA at the annual meeting of the NOAA Gulf of Mexico Regional Collaboration Team, held 8-9 February 2012 in St. Petersburg, FL, at the NOAA

Southeast Regional Office. The goal of the team is to improve efficiencies within and across NOAA line offices. Three examples of collaborations demonstrating the development of integrated products and services resulting from the groups' efforts were highlighted: 1) The NOAA Engagement Working Group developed a web-based training tool to help NOAA employees understand what colleagues in other parts of NOAA are doing. The training tool includes website resources (<http://igulf.noaa.gov/>) and training webinars; 2) The Climate Community of Practice adopted the StormSmart Connect website (<http://stormsmart.org/groups/climate-outreach-community-of-practice>) as the main source of communication and created several issue-based webinars related to climate change preparedness; and 3) The Gulf of Mexico Data Atlas, an electronic catalog of information about the physical environment, marine resources, and economic activity in the Gulf of Mexico (<http://gulfatlas.noaa.gov/>) was launched. The atlas currently has 95 map plates in 31 different subject areas. There are plans to expand the atlas with information from non-federal data providers and Southeast Area Monitoring and Assessment Program (SEAMAP) data (e.g., dissolved oxygen) in 2012. The Data Atlas Executive Committee will be meeting 29 February 2012 at Stennis Space Center, MS, to discuss lessons learned and plans for the next phase of the project. The GCOOS-RA staff and Council and Committee members have been actively engaged in the development of these RCT products.

- **GCOOS/SECOORA Member Mitch Roffer, co-author on paper relating to Deepwater Horizon Oil Spill:** Mitch Roffer, President of Roffer's Ocean Fishing Forecasting Services, Inc., in Miami and West Melbourne, FL, has co-authored a paper in Marine Pollution Bulletin with B.A. Muhling, J.T. Lamkin, G.W. Ingram, Jr., M.A. Upton, G. Gawlikowski, F. Muller-Karger, S. Habtes and W.J. Richards. The paper "Overlap between Atlantic Bluefin tuna spawning grounds and observed Deepwater Horizon surface oil in the northern Gulf of Mexico" explores the relationship between the 2010 oil spill and the Bluefin tuna spawning grounds. They found that less than 10% of spawning habitat was impacted by the surface oil. This finding could be associated with the spawning habits of the Bluefin tuna because extensive spawning activity also took place in the western Gulf of Mexico. Results of the study were presented at the American Society of Limnology and Oceanography 2012 Ocean Sciences meeting in Salt Lake City, UT. Funding for this research was provided by Roffer's Ocean Fishing Forecasting Services, Inc., NASA, NOAA, Florida Institute of Oceanography, and University of Miami's Cooperative Institute for Marine and Atmospheric Studies. The paper can be accessed at the following website: <http://www.sciencedirect.com/science/article/pii/S0025326X12000574>
- **CeNCOOS in Action: New CeNCOOS and Center for Ocean Solutions (COS) Collaborative Website:** This site focuses on sea level changes in Monterey Bay, including: a description of the problem, impacts on coastal communities and potential solutions. [Go to the Climate Change and Monterey Bay website](#)
- **NANOOS Partner DOGAMI's Cascadia Newsletter - dedicated to lessons learned from the 2011 Japan Earthquake:** Oregon Dept. of Geology and Mineral Industries (DOGAMI) dedicated the Winter 2012 issue of their newsletter, Cascadia, to explaining the 2011 Japan earthquake and tsunami, and lessons Oregon can take from those events. DOGAMI is modernizing the way tsunami evacuation information and educational materials and educational materials are disseminated to the public via an online interactive map interface (<http://www.nanoos.org/nvs/nvs.php?section=NVS-Products-Tsunamis-Evacuation>) and through a centralized Tsunami Information Clearinghouse (www.OregonTsunami.org). To download the newsletter: http://www.nanoos.org/documents/general/Cascadia_Winter_2012.pdf

Congressional: No update

Communications/Outreach:

- NOS Podcast Features HF Radar with Jack Harlan:
Please check out the podcast and link to it from your website
<http://oceanservice.noaa.gov/podcast.php>
- Check out the Highlight of Recent Regional website upgrades on the NOS website:
<http://oceanservice.noaa.gov/news/weeklynews/jan12/ioos.html>
- IOOS.gov content and Website updates:
 - [Home Page](#) - 2 feature stories: Unmanned Vehicles to Support IOOS Mission, Pacific Northwest Waters: Gateway to Our Future
 - [News Splash](#) – 2 briefs
 - [Communications](#) – 5 video clips and 5 presentations added: AUVSI, Northwest US IOOS Industry Day
 - [All regional pages](#) – AOOS (news from the region), NANOOS (link to newsletter)



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

- **PacIOOS Workshop at Upcoming 2012 Hawaii Pacific GIS Conference:** In conjunction with the upcoming Hawaii Pacific GIS Conference sponsored by the Hawaii Geographic Information Coordinating Council (HIGICC), PacIOOS' Spatial Data and Application Specialists are offering a 1/2 day workshop on Thursday, March 8, 2012, from 1:30 - 5:00 p.m. at the University of Hawaii. The workshop, titled *Open Source Applications in Web Mapping*, will cover two parallel approaches for sharing and displaying spatial data. For more information on this workshop, including how to register, please click [here](#).

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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