

Bi-Weekly IOOS® Z-GRAM - 23 September 2011

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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

Check out the NEW IOOS web site: On Sept 26, 2011 we will be launching the new ioos.gov website. We have been working this past year to give the website a new look, with improved content, and to bring it into compliance. I am very excited about our new look. This is phase 1 of the launch, as the site will be rapidly growing in the following weeks. There may be disruptions in website service between September 26 - 29, 2011. We want this website to represent the entire IOOS network, so I am asking all IOOSians to provide comments and CONTENT for the new site. Please contact Marina Kraus (Marina.Kraus@noaa.gov) with website related questions and requests.

Governance and Management Subsystem:

- **FY11 Awards:** CONGRATS to PaCIOOS, SCCOOS, and UC Santa Cruz (animal tagging and telemetry data management work - co-funded by ONR) and CIMEC-CORDC (HF Radar work) who have all received their awards. The final award to NFRA has been signed by our Grants Office and is being worked by our Grants office and Finance to get this to the recipient.
- **Please join me in welcoming two new Regional Program Directors, Dr. Leslie Rosenfeld, CenNOOS and Dr. Gerhard Kuska, MARACOOS.**
 - Dr. Leslie Rosenfeld, currently a Research Associate Professor at the Naval Postgraduate School and an oceanographic consultant, will take on the job of CenNOOS Program Director starting September 14, 2011. With this appointment, she returns to Monterey Bay Aquarium Research Institute where she was an Assistant Scientist from 1989-1995. Dr. Rosenfeld has been involved in the planning for ocean observing systems at the national level going back to the late 1980's. Since arriving in California in 1989, she has been a leader in the planning and implementation of coastal ocean observing in California, and was instrumental in the formation of CenNOOS. She brings experience with a range of coastal and marine management issues facing California, and in the utilization of scientific data to address those issues, which should serve her well in leading CenNOOS. To get more information about Dr. Rosenfeld's experience please visit: http://www.cencoos.org/sections/about/dr_rosenfeld_bio.shtml
 - Dr. Gerhard Kuska, currently the President and CEO of Ocean Strategies LLC, will join MARACOOS as the Program Director. He has served over the past 28 years in a variety of ocean, coastal, maritime and environment related positions in the United States, Europe, and the Middle East, and continues to serve in advisory board capacities around the world. Dr. Kuska was an advisor to the ruling family

of the Emirate of Abu Dhabi and served as Associate Director of the White House Council on Environmental Quality and Director of Ocean and Coastal Policy in the Executive Office of the President. He also worked with the National Oceanic and Atmospheric Administration, where he served as a senior policy analyst on ocean policy, intra- and inter-agency coordination, and strategic planning. Dr. Kuska has worked with two U.S. Senators, the UN, academia, and as a senior executive with two global corporations in the maritime and aviation cargo logistics industries. To get more information about Dr. Kuska's experience please visit: <http://oceanstrategies.net/bio.htm>

Observation Subsystem:

- **High Frequency Radar/Radio (HFR): For more information contact Jack Harlan, Jack.Harlan@noaa.gov - the US IOOS HFR Program Manager**
 - CONGRATS to Codar Ocean Sensors ltd. and the University of California - Santa Barbara for a NOAA Phase II Small Business Innovation Research (SBIR) Phase 2 Award to continue product development for AIS-derived antenna pattern measurements. These could allow for cost savings in HFR operation and maintenance and more robust operations.
 - Happy 25th year Anniversary to CODAR! Congrats to Don Barrick, CODAR founder and President for his Fellows Award presented during the MTS conference.
- **NEW: East Coast Technology Demonstration with Liquid Robotics/Sonardyne/Sea-Bird Electronics/US IOOS Program Office/MARACOOS/NERACOOS:** Liquid Robotics and Sonardyne came to the US IOOS Program office with the offer of a wave glider and fetch node for an East Coast technology demonstration, under the US IOOS umbrella. Sea-Bird Electronics has also joined with an offer to provide sensors. The Program Office, with Becky Baltes leading, has put a partnership together between the US IOOS Program Office, the National Data Buoy Center, our industry partners and 2 of the US IOOS Regions where the actual demonstration will take place. We are now framing out the technology demonstration. Liquid Robotics and Sonardyne are able to provide resources for a full-year and agreed to deploy wave glider during transitional seasons; Spring 2012 in NERACOOS and fall 2012 in MARACOOS. NDBC will coordinate with MARACOOS to add benefit from glider deployment in the vicinity of a DART buoy and will also offer piloting and data capture and dissemination services for the duration of the deployment. Both NERACOOS and MARACOOS are helping us define the full scientific goals of the demonstration. If additional partners would like to be part of the this US IOOS demonstration - please contact Becky - Becky.Baltes@noaa.gov
- **AOOS in Action: New whale observations.** AOOS has begun collecting public observations of belugas in Cook Inlet to help improve the understanding of their seasonal patterns. There is a lot of scientific interest in this information, and we will be sharing it with NOAA as well as other federal and state agencies. There is an online form linked from the AOOS home page that asks for basic information (date of observation, location, number of whales, and any behavior notes). www.aos.org/beluga

- **Mobile Bay Storm Surge Stations Go Live on Tides Online (CO-OPS, IOOS®):** Real-time data from the Center for Operational Oceanographic Products and Services (CO-OPS) are now fully available for the first three stations in the Mobile Bay Storm Surge Monitoring Network in Alabama. The stations were installed by members of the Integrated Ocean Observing System. The Dog River Bridge, East Fowl River Bridge, and West Fowl River Bridge stations were posted to [Tides Online](#) on September 2 and were added to the [Mobile Bay Physical Oceanographic Real-Time System \(PORTS®\) website](#) on September 15. Mobile County officials were notified of the availability of data so they could refer to the data on Tides Online for emergency planning as Tropical Storm Lee affected the water levels from Louisiana to Florida. The new water-level network, consisting of five new strategically located stations, will provide real-time storm surge data to Mobile County's emergency managers, weather forecast office, and others. The remaining two stations are being installed and will be online later this fall.

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).

- **IOOS Biological Data Project:** Hassan has received all feedback from the biological project customers and data providers on the biological data services implemented in PacIOOS. The PacIOOS – ERDDAP data services will be refined based on the input received and ongoing testing.
- **Regional Priority Activities:** Group discussion of THREDDS server management issues and IOOS Data Catalog registration processes persists. In the next month, an online form will be available through the IOOS Data Catalog Webpage for registering THREDDS and SOS server URLs. There are tools available to monitor THREDDS services are working correctly, and contain the appropriate level of metadata content. The process for registering your SOS or THREDDS server to the IOOS Data Catalog is documented on the NOAA GEO-IDE Wiki: https://geo-ide.noaa.gov/wiki/index.php?title=IOOS_Catalog_Registration_Process.
- **Water Quality Data Project:** Rob and Derrick (IOOS Program Office) met with NCCOS project lead Doug Pirhalla and Oren Perez on status. Doug reported on his meeting with the UNCW programmer for this project. Our monthly meeting covered a proposed path for reconciling CF convention standard names for water quality variables not already listed by CF, there was discussion of the metadata content that would inform a SensorML file, and establishing communications between NDBC and UNCW to lend support on the SOS server update.
- **US Army Corps of Engineers – Water Levels:** Discussions between the US IOOS Program Office and USACE resulted in a path forward for the project to prototype an SOS service at the USACE's Mobile District for exposing their water level data. It was agreed that Alex and Irven will continue to test and evaluate the prototype service (server problems seem to now be behind us) and then proceed to evaluate adding more stations.
- **Coastal and Marine Spatial Planning (CMSP):** At the request of CMSP's Project Lead Jen Lukens, Charly (US IOOS Program Office) met NOS's CMSP senior staff (Jen, Charlie Wahle and Tony LaVoi) to discuss CMSP/US IOOS technical collaboration options that would go beyond our current efforts on the CMSP Data and Tools Team. It

was agreed to explore 1-2 “use cases” with CMSP users as “customers” for US IOOS ocean observations data that can complement CMSP and US IOOS priorities – particularly with respect to registries/catalogs being developed by both programs.

Modeling and Analysis Subsystem:

- **Kick off conference call:** Kick off for Phase II of the US IOOS coastal, ecosystem modeling testbed is scheduled for Oct 6.
- **WOW - Testbed Publications:** An impressive 23 Testbed papers have been submitted for the 10th Symposium on the Coastal Environment taking place January 22-26, 2012. Information and the abstracts can be found at <http://testbed.sura.org/node/505>
- **Coastal Inundation Team:** Jamie Rhome, who leads the storm surge group at the National Hurricane Center (NHC) and is part of the Inundation Testbed Team, invited Rick Luettich to visit the NHC on Sept. 6-8 to get a first hand appreciation of how hurricane forecasting is done and of the operations of the storm surge group. It was a great time to visit since there were several active storms in the Atlantic basin. While there, Rick presented a seminar covering recent advancements in storm surge modeling with emphasis on the SURA-IOOS testbed. The seminar was attended and well received by the NHC Director, Bill Reed, forecasters, members of the storm surge group and colleagues from Florida International University.
- **CONGRATS: The Chesapeake Inundation Prediction System Awarded the VA Governor's Technology Award:** The Chesapeake Inundation Prediction System (CIPS) has been selected to receive a Commonwealth of Virginia Governor's Technology Award for Innovative Application of Modeling and Simulation Techniques. This award recognizes excellence in the use of modeling and simulation by a state agency or municipality to solve “real world” problems. CIPS was an IOOS funded Focus Area 2 project under the 2007 – 2010 FFO developed to improve the accuracy, reliability and capability of flooding forecasts from tropical and non-tropical storm events.

Interagency Project Collaboration: The Z-Grams are certainly focused on providing information on IOOS® connections to these projects and it is not intended to provide programmatic updates of these specific projects because they all have project leads.

- **DMAC Steering Team:** No update
- **IOOS and Links to the National Water Quality Monitoring Network: Coordination with EPA:** No Update
- **IOOS and The National Science Foundation (NSF) - Ocean Observatories Initiative (OOI):** No Update

Other:

- **MTS/IEEE Oceans 2011:** A successful and strong showing for US IOOS allowed us to present a number of papers and connect with partners. The Ocean Observing sessions featured (to name a few) Zdenka's paper, "US IOOS from Integrated to Interdependent and Indispensable," NANOOS's Dave Martin on the use of social networking technologies to disseminate coastal hazard mitigation information and

NERACOOS/University of Maine - Neil Petagrew on the history and forward look of the Gulf of Maine Observing Systems. Jack Harlan (with 10 co-authors) presented "National IOOS HF Radar Search and Rescue Project," Jack also co-led the HF Radar session with CODAR. Charly, on behalf of the US IOOS/OOI team presented "Building Transparent Data Access for Ocean Observatories: Coordination of US IOOS DMAC with NSF's OOI Cyberinfrastructure." Additional presentations included: Jim Potemra, PacIOOS, on the biological observations project in Hawaii and Jan Newton, NANOOS, on peer-to-peer knowledge transfer for engaging Pacific Northwest tribes in STEM education and oceanographic studies. Thanks to our partners - Australia's Integrated Marine Observing System (IMOS) and Canada's Neptune Program as they joined the US IOOS Program Office and PacIOOS during the town hall session focused on the importance of partnerships within the Ocean Observing world. The US IOOS booth saw good traffic, and the digital presentations were a good way to effectively tell the US IOOS story. Thank you to Liquid Robotics, Science Applications International Corporation (SAIC), Sea-Bird Electronics, NOAA's Pacific Marine Environmental Laboratory (PMEL) and National Data Buoy Center (NDBC); Australia's IMOS, US IOOS -NANOOS; CODAR; ACT for participating in our Emerging Technology Ocean Observing Technologies Forum. Thank you to Carl, US IOOS Program Office, for organizing both the town hall and forum event. Thank you to all our IOOS partners who support IOOS' mission and submitted outstanding papers, forgive me for not listing them all. I appreciate everyone's involvement and contribution to US IOOS' successful participation at Oceans 2011. Thank you to Chris Ostrander who participated on behalf of US IOOS and Pac IOOS in the GEOSS workshop - the Sunday before the meeting and for all of his hospitality and help as the local US IOOS Regional Coastal Ocean Observing System. Finally a thank you to the team at NOAA's Mauna Loa Observatory who hosted a group of Ocean Observing colleagues. A critical atmospheric baseline observatory, Mauna Loa is the heart of our observing system for CO2 and other greenhouse and ozone-depleting gases. <http://www.esrl.noaa.gov/gmd/obop/mlo/>

- **Southern Ocean Observing System (SOOS) seeking nominations of the inaugural Scientific Steering Committee (SSC) by 30 Sept.** The mission of SOOS is to establish a multidisciplinary observing system to develop the sustained observations of the Southern Ocean that are needed to address key challenges of scientific and societal relevance, including climate change, sea-level rise and the impacts of global change on marine ecosystems. SOOS was developed by representatives of SCAR, SCOR, WCRP-CLIVAR and WCRP-CliC, with additional sponsorship and/or endorsement by POGO, CAML and GOOS. The SSC will be chaired by Dr. Michael Meredith (British Antarctic Survey; mmm@bas.ac.uk) and Dr. John Gunn (Australian Antarctic Division; John.Gunn@aad.gov.au). A SOOS International Project Office has been established at the Institute of Marine and Antarctic Studies, University of Tasmania, led by Dr. Louise Newman (Executive Officer; Louise.Newman@utas.edu.au). Formal or informal enquirers about SOOS and its SSC can be directed to Mike, John or Louise. Please send nominations (including self-nominations) to Louise Newman (Louise.Newman@utas.edu.au) by 30 September 2011. Details of relevant expertise and motivation would assist the appointment process (see below).

- **Scientific Steering Committee Structure and Role:** The SSC will be responsible for guiding and advocating for the implementation of the SOOS, as defined in the recently developed Southern Ocean Observing System: Initial Science and Implementation Strategy (contact Louise Newman for a copy of this document). The work of the committee will include: (1) Development of optimal sampling plans for essential Southern Ocean variables; (2) Advocating and guiding the development of new observation technologies; (3) Streamlining of current efforts and leveraging of resources; (4) Effective integration and coordination of national and international projects and programs, across traditional disciplinary boundaries and between nations; (5) Facilitation and development of a data system that provides seamless access to a wide range of data products for the Southern Ocean.
- SOOS will address six scientific Themes, and SSC members will be selected to ensure that each of the Themes is comprehensively covered by member expertise. These Themes are: (1) The role of the Southern Ocean in the planet's heat and freshwater balance; (2) The stability of the Southern Ocean overturning circulation; (3) The role of the Southern Ocean in the stability of the Antarctic ice sheet and its contribution to sea-level rise; (4) The future and consequences of Southern Ocean carbon uptake; (5) The future of Antarctic sea ice and (6) The impacts of global change on Southern Ocean ecosystems.
- Data management is also an integral component of the SOOS objectives and expertise covering this aspect will also be sought for the SSC. Nominees should be highly regarded for their scientific excellence, have close connections to the community that they represent, and should be willing to actively participate in the implementation of the SOOS. Ex-officio representatives of relevant programmes (e.g., SCAR, SCOR, WCRP, POGO, IOC/GOOS, CAML) will also be invited to attend the SSC meetings. The committee will be selected by the SOOS Co-Chairs, in conjunction with representatives from the SCAR and SCOR.
- **US IOOS briefing to Meridian Institute:** Zdenka provided a comprehensive US IOOS briefing to the staff at Meridian Institute. The Meridian Institute's vision is to help people solve problems, make informed decisions, and craft solutions to address society's most complex and controversial issues. They accomplish this by designing and applying collaborative approaches, including facilitation, mediation, and strategic consultation. The team that was briefed provides support to the Joint Ocean Commission Initiative, an organization which advocates for funding a comprehensive IOOS program, and listed supporting IOOS among their "Top Ten Actions Congress Should Take to Implement the Commissions' Recommendations" in their June America's Ocean Future report highlights: http://www.jointoceancommission.org/resource-center/1-Reports/2011-06-07_JOCI_Americas_Ocean_Future.pdf. Thank you to Sarah of the US IOOS Program Office, and Laura Cantral and Christina Carlson of Meridian Institute for setting this up and we look forward to continued coordination.
- **Connecting US IOOS to NOAA's Biodiversity Efforts:** Hassan (US IOOS Program Office) attended the meeting where the group talked about: (1) Planning for the microbes workshop - being led by NOAA's Oceanic Atmospheric Research (OAR) Line Office; (2) NOAA input to community plans for a follow-on to the Census of Marine Life, (3) World Conference on Marine Biodiversity at the end of this month. There will

discussions in the next generation Census of Marine Life. "Life in a Changing Ocean" and (4) Fisheries Ecosystem models and incorporation of Biodiversity, etc. Hassan was tasked to provide a list of individuals in NOAA who are developing the Atlantis Ecosystem model. Hassan also provided his recent paper on "An Ecosystem Perspective for Ecosystem Management". Hassan will send the Animal Telemetry Network Report that is in line to be published as a NOAA Technical Memo.

- **Free and Open Source Software for Geospatial (FOSS4G) Conference:** Micah, on detail to the US IOOS Program Office, attended the conference. In addition to attending the technical workshops covering the latest developments in open source geospatial software projects including PostGIS, GeoServer, GeoNetwork Opensource, Mapserver, ESRI Geoportal, and 52North SOS, he attended a hands-on workshop on installing and using GeoNetwork Opensource to maintain and distribute spatial metadata. He met with Christine White from the Economic and Social Research Institute (ESRI) to discuss ESRI's open source Geoportal project and future development activities related to Geoportal, including customizations developed for some of the NOAA Geoportal deployments. He also met with contractors from OpenGeo to hold informal kickoff meeting to discuss a 2011 HPCC Incubator project on shared hosting environment for NOAA geospatial data/services.

Congressional: No update

Communications/Outreach:

- NOAA's 'early warning' coral reef observing network expands to the Pacific, 21 September 21, 2011- http://www.noaanews.noaa.gov/stories2011/20110921_paccoral.html. A partnership between NOAA's AOML and US IOOS/PacIOOS. Coral reef managers in the Northern Mariana Islands will now receive early warning of dangerous environmental conditions that can weaken and kill high value coral reefs, thanks to a new coral observing station added today in Lao Lao Bay, Saipan. The new station is a first-of-its-kind for the Pacific region and joins a network of other monitoring stations in Caribbean and Atlantic tropical waters that assist officials conserve, protect and manage reef ecosystems.
- The \$1.4 Million IOOS award supports GLOS data management, observation, modeling, outreach and education activities. <http://glos.us/news-events/news/2011-09/glos-awarded-14-million>

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

- **Oceanology International - Global Ocean Forum - Abstracts due 30 September. I am chairing the steering team for the Ocean Observation and forecasting session, along with** Rich Burt, Sales and Marketing Director, Chelsea Technologies Group Ltd; Gwyn Griffiths, Chief Technologist and Head, Ocean Technology and Engineering Group Directorate of Science and Technology National Oceanography Centre University of Southampton Waterfront Campus European Way, Eric Lindstrom, NASA - Physical Oceanography Program Scientist - Science Mission Directorate, Bev MacKenzie, Senior Technology Manager, IMarEST, Justin Manley, Senior Director of Business

Development Teledyne Benthos and Ralph Rayner, Professorial Research Fellow at the London School of Economics; Sector Director, Energy and Environment for the BMT Group and Industry outreach liaison for US IOOS.

- **Why consider speaking:** In 2010, there were 6,938 unique attendance with 550 world-leading suppliers - so a great venue to get our message out on the of the importance of ocean observing and forecasting. Oceanology International is the global forum where industry, academia and government share knowledge and connect with the marine technology and ocean science community, improving their strategies for measuring, exploiting, protecting and operating in the world's oceans.
- The dates of the meeting: 13-15 March 2012 - <http://www.oceanologyinternational.com/>
- Session Objectives:
 - This conference theme covers all aspects of ocean observation and monitoring using remote sensing and in-situ technologies as well as tools and techniques for ocean forecasting. Abstracts are invited for papers covering any of the following broad areas:
 - Descriptions of existing, emerging and proposed observing systems and their use to deliver socioeconomic benefits.
 - New scientific and technological developments in sensors for improved observation of physical, chemical and biological parameters.
 - Case studies of novel application of existing technologies.
 - Developments in analysis and interpretation of ocean observations and measurements.
 - New approaches to the forecasting of the ocean's physical, chemical and biological characteristics

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

Cheers,
Zdenka