

Bi-Weekly Z-GRAM - 19 March 2010

[www.IOOS.gov](http://www.IOOS.gov)

The Z-Gram is an informal way of keeping you up-to-date on 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® - Our Eyes On Our Oceans, Coasts, and Great Lakes

### Programmatics:

- **IWGOO Says Farewell to Jack Dunnigan / Welcome to David Kennedy:** Jack Dunnigan will retire from NOAA on 31 March. Last week we had a chance to thank Jack for his outstanding efforts as the chair of the IWGOO for the past several years, that oversaw the closing of Ocean.US after a successful 8 years where the foundation of US IOOS was written, the establishment of the IWGOO support staff at the Consortium of Ocean Leadership and guiding the writing of the chart to move the IWGOO to the IOOC as outlined in the ICOOS Act. As a strong supporter of US IOOS and with his understanding of the importance of interagency partnerships, Jack really made a difference in holding 17 federal agencies together to keep forward momentum, which is not an easy task. On behalf of the IWGOO members, Bill Birkemeier, the US Army Corps provided a beautifully framed photo that Bill shot of a tranquil sunset over the beaches of North Carolina. We wish Jack fair winds and following seas as he and Linda enjoy their new boat, named Sliver Girl. Check out Jack's Facebook page for the origin of the name. The IWGOO then welcomed David Kennedy, NOAA's National Ocean Service Acting Assistant Administrator, as the new Chair of the IWGOO.
- **Congressional Report:** Back in the review channels.
- **FY10:** Congrats to AOOS, who accepted their RA cooperative agreement, which completes the RA cooperative agreements for FY10. We are closing in on the 31 March 2010 deadline where all of the remaining FY10 awards need to be submitted to NOAA Grants Office. We are working 15 awards, which include: RCOOS; Sensor Validation and Verification; and Modeling Test Bed and 2 Earmarks. Thank you to the 11 of 12 RCOOS/ACT for submitting your draft descope by Friday evening. My team is reviewing them now and working with back and forth with you now.

### Initial Operating Capability - Data Management and Communications (DMAC) subsystem of IOOS®

- **DMAC Implementation Guidelines Posted on the IOOS website:** As we move together to DMAC we have posted Version 1 of Guidance for Implementation of the Integrated Ocean Observing System (IOOS®) Data Management and Communications (DMAC) Subsystem, NOAA IOOS® Program Office White Paper (v1.0), March 12, 2010. As we look forward to assessing RCOOS development, please use this white paper as guidance: [http://ioos.gov/library/dmac\\_implementation\\_2010.pdf](http://ioos.gov/library/dmac_implementation_2010.pdf)
- **Customer Projects:** **Contact Charly Alexander at [Charles.Alexander@noaa.gov](mailto:Charles.Alexander@noaa.gov)** if you want to be part of the action: **No Updates.**

- **Technical Updates:**
  - A CSV (comma-separated value) output format is in Beta-test on a development server. The format is accessed from NDBC's IOOS Sensor Observation Service (SOS). The Beta-test URL (<http://sdfest.ndbc.noaa.gov/sos/>) and draft encoding specification document "IOOS Conventions for CSV Encoding" was issued 10 March. The CSV encoding specifications document was sent for comment.
- **Integrated Products Team:** The IPT is being evaluated and options for how the team continues will be formulated and sent to the team for their consideration. In an upcoming IPT conference call, the feedback received on the options put forth for consideration will be discussed and then decisions can be made on which direction to take this team.
- **IOOS Data Portal (Registry/Catalog/Viewer):** In addition to evaluating a technical solution, the IOOS program has been conducting a series of interviews on the different types of users need from this portal. Sam Walker (IOOS) conducted interviews with Ru Morrison, Judy Krauthamer, Josie Quintrell, Jeremy Cothran, Dan Ramage, April Black, and Mark Wiegardt. The initial functional requirements (with a focus on common threads) documents are being evaluated.
- **IOOS Regional Association Annual DMAC Workshop (March 23 & 24):** The IOOS Regional DMAC Management Team and other invited guests will convene in Silver Spring, MD to review the current status of activities and plan a near-term path for advancing DMAC. Several areas of interest that are key to building out DMAC will be discussed with the intent of identifying activities the regions can own and accomplish. Discussion topics to highlight are the IOOS Data Encoding and Web Services, Registry/Viewer Development, OOI-CI/IOOS-DMAC Project, Archives, and IOOS Regional Product Demonstrations.

**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.

- **GEOSS Requests Your Support:** Dear Fellow Member of the Earth Observation Community: In 2005, the intergovernmental Group on Earth Observations initiated a ten-year plan to implement the Global Earth Observation System of Systems, GEOSS. GEOSS implementation is halfway through the first ten-year plan and an Evaluation Team has undertaken the task of developing the first progress assessment. Direct feedback from the users is necessary to support any conclusions because of the user-oriented and voluntary nature of GEO and GEOSS. In order to reach as broad a respondent pool as possible, the Evaluation Team has developed an online survey to assess the impacts that GEOSS has had on members of the Earth observation community. We invite you to contribute to the first evaluation of GEOSS by completing the survey, which can be found by visiting the following link -- GEOSS Evaluation Survey: <http://www.zoomerang.com/Survey/WEB22A7JHFECU4/?source=geoall>. The survey should take approximately 20 minutes, but may last longer depending on your previous involvement with GEO/GEOSS and the depth of your responses. Please submit your responses as soon as possible. The survey will close on **30 March**.
- **IWGOO 3rd Industry Day, 25 May in La Jolla, CA:** The Interagency Working Group on Ocean Observations (IWGOO) is co-sponsoring a stakeholder workshop on 25 May

2010 at the Scripps Institution of Oceanography in La Jolla, California. The workshop will explore how monitoring and understanding the ocean delivers economic and environmental benefits to industries, government, and the citizens of California. For more information, or to register for this workshop, please visit [www.oceanleadership.org/iwgoo/california](http://www.oceanleadership.org/iwgoo/california).

- **High Frequency Radar/Radio (HFR):** A new HF Radar site within California came online in the new year, Point Bonita, CA (PBON), and is now available for inclusion in the near real-time surface current vectors: [www.sccoos.org/data/hfrnet/](http://www.sccoos.org/data/hfrnet/). National Network HF Radar data is now available via the THREDDS Server. Rich Signell, from the U.S. Geological Survey, visited the Scripps Institution of Oceanography in early January to help facilitate the installation. THREDDS Server: <http://hfrnet.ucsd.edu:8080/thredds/catalog.html>
- **IOOS and Links to the National Water Quality Monitoring Network:** No Update.
- **IOOS and National Science Foundation (NSF) - Ocean Observatories Initiative (OOI):** No Update.
- **US IWGOO - DMAC Steering Team:** The IWGOO members are reviewing the re-charting of the DMAC ST and have until 2 April to provide their concurrence or changes to the proposed way forward.

#### Other:

- **Consortium for Ocean Leadership (COL) Public Policy Forum:** Bravo Zulu to COL for a very successful event. The focus was on three themes: Sea level rise, Arctic issues, and CMSP, and a number IOOS Regional Association members were included on panel discussions. Senators Whitehouse (RI), Begich (AK), and Boxer (CA) all strongly endorsed the need for ongoing and improved ocean observing. Dr. Shere Abbott, White House Office of Science Technology and Policy (OSTP) Associate Director for Environment, called out US IOOS as an important program for OSTP. View presentations: <http://www.oceanleadership.org/ocean-policy-legislation/public-policy-forum/2010-public-policy-forum/>
- **Ocean Observing Matters:** Over 100 letters of support for IOOS are now posted on the NFRA website. These letters came from users around the country, including port managers, public health officials, emergency managers, fishermen, public drinking water managers, industry, and many others. To see these letters, visit: <http://usnfra.org/support/letters.html>
- **EU DG MARE Meeting:** A delegation from the European Union Directorate General, Maritime Affairs and Fisheries (EU DG MARE), and the IOOS Program shared briefings to exchange information on one another's integrated observing and data network activities. The EU DG MARE group briefed on the European Marine Observation and Data Network (EMODnet); Suzanne Skelley (Deputy Director, NOAA IOOS Program) provided an IOOS briefing. The EU DG MARE and IOOS are both faced with very similar issues and challenges. Similar to IOOS, the EU DG MARE is focused on maritime spatial planning and knowledge and data collection in ways to make them more transparent and they're trying to get a more complete picture of maritime activity. Very similar funding profiles were also presented. Both IOOS and the EU DG MARE are also facing very similar challenges with data discovery and data interoperability. At the end of the briefing, the EU delegation proposed a joint US-EU workshop. The group was

enthusiastic about the opportunities to have a more regular exchange of information between programs.

- **IOOS Hosts Meeting with Sustainable Fisheries Partners:** Following a highly productive meetings between the US IOOS Program and the Pacific Shellfish Growers Association, Carl Gouldman (IOOS) led a meeting that included a number of shellfish growers across the US, NOAA partners, and US IOOS Regional Associations. We had a chance to exchange information on Ocean Acidification-related concerns and NOAA activities related to helping understand and provide information about this issue. We heard strong concerns and a desire from the fishing industry for stronger support from NOAA in the forms of: (1) Observing and Monitoring; (2) Science in the form of funded research to gain answers to fundamental questions about ocean acidification; and (3) Decisions support tools for coastal operators for aquaculture and fishing. US IOOS, the Pacific Shellfish Growers Association, The California Ocean Science Trust; Oregon, Washington and California Sea Grant programs, and the US IOOS Regional Associations NANOOS, CenCOOS, and SCCOOS will be hosting a workshop (by invitation) on ocean acidification effects on West Coast Shellfish Industry, 7-10 July 2010.
- **AGU 2010 Meeting of Americas:** US IOOS will be involved in the co-chairing of two sessions and request that you consider submitting abstracts for both sessions. I am co-chairing a session devoted to Regional Ocean Observing Systems in the Americas. My fellow co-chairs are Keith D. Alverson (Global Ocean Observing System Secretariat), Guillermo Garcia Montero (IOCARIBE-GOOS; Habana, Cuba), and Rodrigo Nunez (GRASP Secretariat, CPPS; Guayaquil, Ecuador). Jack Harlan, Don Barrick, and our Brazilian colleagues will chair OS02 - Application of HF Radar Networks to Ocean Forecasts. The conference will be held in Brazil, 8-13 August 2010. **Abstracts are due NLT 31 March 2010** and can be submitted here: [http://www.agu.org/meetings/ja10/program/abstract\\_submissions.php](http://www.agu.org/meetings/ja10/program/abstract_submissions.php). **Description of the session: *Regional Ocean Observing Systems in the Americas:*** Regional Ocean Observing Systems are in operation throughout the Americas. Data are used directly and assimilated into numerical models to reduce risks from a broad range of threats associated with the oceans including waterborne toxins, storm surges, coastal flooding, unsafe marine transportation, and changes in marine ecosystems. These systems have been developed to serve regional needs, but there is much to be learned from sharing success stories. Submissions are invited on physical, biogeochemical, and biological aspects of regional ocean observing systems, focusing on scientific results achieved and societal benefits being delivered.
- **NERACOOS in Action - Signs and MOU with the Northeast Regional Ocean Council:** The Northeast Regional Ocean Council is a state and federal partnership with the goal of engaging in regional protection and balanced use of ocean and coastal resources. NROC's coordinated approach reaches across state boundaries to find and implement solutions to the region's most pressing ocean and coastal issues. The Northeastern Regional Association for Coastal Ocean Observing Systems (NERACOOS) is a nonprofit organization established as one of the regional associations within the National Federation of coastal ocean observing systems. The mission of NERACOOS is to (1) lead the development, implementation, operation, and evaluation of a sustained, regional coastal ocean observing system for the northeast United States and Canadian maritime provinces, as part of the United States Integrated Ocean Observing System

(IOOS); (2) promote the development and dissemination of data and data products that meet the needs of end users; and (3) advocate for the regional, national, and global ocean observing system through education and outreach. Both organizations have a shared interest in the wise management of coastal and ocean resources for the benefit of current and future generations. Further we have a common geographic focus that extends from the Gulf of Maine to Long Island Sound and shared priority theme areas in Ocean and Coastal Ecosystem Health, Coastal Hazards Resiliency, and Ocean Energy. As such, we have a strong interest in collaborating with each other and leveraging human and financial resources to the benefit of our shared ecosystem.

- **Ocean Protection Council Highlights Ocean Observing:** At the OPC Meeting on 4 March, Dr. Gary Griggs, Director of the Institute of Marine Sciences at UC Santa Cruz and the new OPC Science Advisory Team co-chair, gave a presentation entitled, “Taking the Ocean’s Pulse: The importance of ocean observing.” The Science Advisory Team is the expert scientific body that helps ensure that the best available science is applied to OPC policy decisions. Dr. Griggs presented the OPC-SAT Ocean Observing Consensus Statement, highlighting the scientific importance of ocean observing and the need for continued monitoring of California’s ocean to better inform management decisions regarding coastal and ocean resources. Council members passed a resolution to support the development, implementation, and maintenance of a responsive and integrated observing system in California by encouraging strong national leadership and promoting innovative collaboration among federal and state governments.  
<http://www.opc.ca.gov/category/meetings/>
- **SCCOOS in Action: Supporting the Understanding of Harmful Algal Bloom: Glider Mapping of San Pedro Bay:** The SCCOOS Harmful Algal Bloom (HAB) team is preparing for continuous glider mapping of San Pedro Bay and the Catalina/Palos Verdes transect as part of the Bight Water Quality project, in collaboration with the Southern California Coastal Water Research Project (SCCWRP) and the regional water quality monitoring agencies. The gliders will be mapping physical and optical variables to detect algal blooms with the intent of targeting sampling from surface vessels equipped with conductivity, temperature, depth (CTD). **New HABMAP Steering Committee:** The state-wide Harmful Algal Bloom Monitoring and Alert Program (HABMAP), representing the leading HAB research and interest groups in California, nominated a new Steering Committee: Greg Langlois of California Department of Public Health, Environmental Management; \*Skyli McAfee of the California Ocean Science Trust; Frances Gulland of the Marine Mammal Center; \*Greg Dale of Coast Seafoods; Dave Caron of USC; \*Bill Cochlan of SFSU; Raphe Kudela of UCSC/CeNCOOS; \*Burt Jones of USC/SCCOOS; and Rick Stumpf of NOAA. (\*Indicates new to the Steering Committee.)
- **CeNCOOS in Action:** In collaboration with NOAA's Environmental Research Division, CeNCOOS now serves a Google Map product that provides useful real-time information for water and weather conditions inside and nearby San Francisco Bay. The tool shows the most recent measurements at locations as well as overlays of satellite and surface current data. **Supporting Aquaculture** - Oyster growing in Humboldt Bay is a multi-million dollar enterprise that has been successful largely due to the clean, cold, nutrient-rich ocean water in this area. Although the knowledge of local oyster growers is vast, today they benefit from additional information supplied by CeNCOOS. Instruments

measure up-to-the-minute ocean conditions including water temperature, chlorophyll (oyster food, but also a source of toxins), and other important water quality data. CeNCOOS, in partnership with Humboldt State University, supplies products that help growers better manage and understand potential impacts on their crops. **Supporting MPA Management with Surface Current Monitoring** - Using High Frequency Radar (HFR) surface current mapping network to better understand the distribution of larvae released from marine life inside California MPAs and carried by ocean currents is modeled over different time-scales (paper by B. Zelenke et al. 2009 in the paper, “Evaluating Connectivity between Marine Protected Areas Using CODAR High-Frequency Radar”). **Supporting Coastal Inundation:** Sea level in central California is higher today than it was a century ago. Some coastal properties are at high risk of being inundated by large storm events if preventative measures are not taken. One example where coastal inundation has become a serious issue is the Carmel River Lagoon. A CeNCOOS partner, the Coastal Data Information Program (CDIP), created a product that predicts water levels at locations along the California coast. Warnings are issued to response crews if sea level is forecast to rise above a set threshold. Alerted crews can help prevent inundation of property by opening a channel to allow the lagoon to drain.

- **AOOS in Action - AK Forum on the Environment:** More than 1,400 people attended the 8-11 Feb conference. Molly McCammon presented information during the opening Climate Change Update session about all the various ocean initiatives happening around the country. AOOS also co-hosted a session on 9 February, which included talks on the Arctic Marine Shipping Assessment, ocean acidification, glacial melt, and coastal and marine spatial planning. AOOS co-hosted a Climate Change Research Roundtable on 10 February, which included lots of time for networking as well as a discussion of the role of Alaska Native traditional knowledge.
- **CaRA in Action - Scientists-Educators Workshop: Initial Step Into The Development of Coastal Weather Educational Modules:** An exchange between expert educators and scientists will take place to provide CaRA/CarICOOS educational consultants with the essential tools and scientific knowledge to outline the first draft of the coastal weather educational module. The coastal weather educational unit will consist of an overview and a series of lesson plans designed to teach the concepts of winds, waves, and currents to 9th-grade students and general public audiences.
- **GLOS in Action - Introducing the New and Improved Observation Explorer:** The tool designed to let visitors explore the different platforms and data parameters that are integrated into GLOS. Guests can view real-time and historic data from around the Great Lakes and can even subscribe to receive regular updates from the station or buoy of their choice. Another fun feature is “Record of The Day,” which reports the records (highest/lowest observations) for air temperature, water temperature, wind gusts, and wave heights within the last 24 hours. The Observation Explorer has been completely redesigned, both front-end and back-end. On the technical side, GLOS developed an Observation Application Framework to provide flexibility and scalability on services for observation data. The revised back-end is compliant with IOOS requirements and is better prepared for related services, such as Sensor Observation Service (SOS). The new web interface features the well-known Google Visualization API, which will make navigation familiar for anyone who has ever used applications such as Google Maps.

- GCOOS in Action - Partnering with the Mexico-U.S. Gulf of Mexico Large Marine Ecosystem Project:** Representatives of the GCOOS-RA joined with the U.S. Environmental Protection Agency and the NOAA National Marine Fisheries Southeast Fisheries Science Center in a bi-national meeting with the Gulf of Mexico LME project staff in Mexico City, D.F., on 17-18 November 2009 and in the second steering committee meeting in Miami, FL, on 11-12 February 2010. The Gulf of Mexico LME program umbrella is "A Transboundary Diagnostic Analysis and Strategic Action Programme for the Gulf of Mexico Large Marine Ecosystem." The foci of the Gulf of Mexico LME project are on restoring and sustaining fisheries and fish stocks and on reducing and controlling nutrient over-enrichment for the protection of healthy ecosystems. The project outcomes will identify the key information gaps in fisheries, eutrophication and its symptoms such as hypoxia and harmful algal blooms, pollution assessment, biodiversity, socio-economic conditions, legal/regulatory review, stakeholder analysis, hot spots, and contaminant levels.
- PacIOOS in Action - Providing Management of City and County of Honolulu Data:** PacIOOS has finalized a funding agreement with the City and County of Honolulu to facilitate the PacIOOS management and distribution of all City and County data related to water quality and ocean conditions. This five-year agreement will allow for the better integration of local oceanographic data sets with existing data streaming through PacIOOS and other regional sources.
- MACOORA in Action - Welcomes New Member - The Hudson River Environmental Conditions Observing System (HRECOS):** HRECOS is a network of real-time monitoring stations on the Hudson River Estuary. The stations are geographically distributed from Schodack Island to the New York/New Jersey harbor and are monitoring hydrologic and meteorologic parameters ever quarter hour. HRECOS makes available continuous information and real-time data on water quality and weather conditions to provide an understanding of some basic questions about important processes and their controlling factors, to contribute to the assessment of management needs and effectiveness, and aid in direct human benefits from the Hudson River and its tributaries. HRECOS is operated by a consortium of many partners from the government and research community.
- NANOOS in Action - NANOOS Visualization System 1.5 Released:** This version includes many changes and additions such as a modified layout, improved data flow, and forecast information. As a result, WAVEWATCH III forecasts are now available for selected in-situ assets.
- SECOORA in Action - Basic Observation Buoy (BOB) Workshop:** From the 17th to the 19th of March 2010 a second BOB workshop was held at the University of North Carolina - Wilmington Center for Marine Science, sponsored by NOAA's Chesapeake Bay Office, SECOORA, and COSEE SE. The goal is to reveal the next generation of BOBs with a focus on instrumentation. The objective of this workshop was to introduce water quality sensor manufacturers to the BOB concept, discuss the future of small monitoring buoys, and develop regional strategies for outreach.

**Congressional: No Update.**  
**Communications:**

- NOS website highlights CaRA's new HFR feeding into the National Server. Please access by visiting: <http://oceanservice.noaa.gov/news/weeklynews/mar10/iioscarib.html>
- **New IOOS Emblem with Registered Markings: We have obtained approval on the registration markings for the IOOS emblem. Please download the new emblem from the IOOS website and update your websites.** <http://ioos.gov/messaging/welcome.html>. **As well, we request that when you are using the IOOS emblem that you download it from the website. Please do not use the banner on the front of the IOOS website.**

**Upcoming Meetings: For more details on regional IOOS meetings, please visit:**  
<http://www.usnfra.org/calendar.html>

- March 18: Digital Coast & IOOS DMAC -- Postponed - New Date TBD.
- March 22: Spill of National Significance Exercise, Portland, ME: NERACOOS significant partner and participant.
- March 23-24: IOOS Regional Data Management Workshop, Silver Spring, MD.
- March 29-31: International Conference on Marine Data and Information Systems and SeaDATANet meeting - Paris, France. Jeff De la Beaujardiere will attend to connect to both MyOcean and IMOS efforts in data management and represent US IOOS as an adviser to the EU SeaDATANet project.
- April 14-15: Marine Renewables Conference - Seattle, WA: Jack Harlan (IOOS), NANOOS.
- April 25-29: National Water Quality Monitoring Conference, Denver, CO: Rob Ragsdale to attend from NOAA IOOS and support from a number of IOOS regions.
- April 22-23: Humboldt Bay Symposium, in Eureka, CA. CeNCOOS is sponsoring, presenting and running a session.
- May 25: SMALL SEA CHANGES: BIG CALIFORNIA IMPACTS - La, Jolla, CA (IWGOO, CeNCOOS, SCCOOS).

Cheers,  
Zdenka