

Bi-Weekly IOOS® Z-GRAM – 24 January 2014

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.

IOOS® - Enables Decision Making Every Day; Fosters Advances in Science and Technology

And we are off to another fast paced year! We have a special treat this Zgram, with an introduction by Dr. Holly Bamford, Assistant Administrator for NOAA's National Ocean Service:

Hi everyone,

I really appreciate the chance to reach out to you through the Z-Gram! Here at the National Ocean Service (NOS), we worked across our diverse programs to develop three priorities to guide our wide range of products and services: coastal preparedness, response, recovery, and resiliency; advancing coastal intelligence; and place-based conservation.

Observing and modeling capabilities provide a comprehensive understanding of our ever-changing coasts. NOS operates national observing networks that include the National Water Level Monitoring Network, PORTS®, NERRS, the National Status and Trends Mussel Watch Program, the Coral Reef Observing System, and a number of systems throughout the National Sanctuaries. NOS' Office of Coast Survey is the nation's chart producer and the National Geodetic Survey provides the national reference framework on which all other observations are referenced. A NOS hallmark is our relationship with non-Federal partners through the science we fund, the NERRS program, coastal zone managers, regional ocean partnerships and IOOS Regional Associations. Operating as one not only provides current information, but also allows us to predict issues to give decision makers time to proactively manage.

The IOOS enterprise is key to the NOS priorities. One of those priorities, **advancing coastal intelligence**, supporting NOAA's overall delivery of environmental intelligence, can be described much as IOOS: an effort underpinned by continuous monitoring and information to enable critical safety and economic decisions along our oceans, coasts, and Great Lakes on a range of issues from weather to climate, from commerce to national security and ecosystem services. And just like IOOS, the idea is to be nimble to respond to natural and manmade crises.

Observing underpins not only coastal intelligence, but also **coastal preparedness and resiliency**. Coastal areas provide us with a place to create livelihoods. But there is a crisis along our coasts. We know that, unfortunately, devastating storms like Sandy will continue to occur and can happen anywhere along the nation's coasts. It is time we as a nation re-envision our coasts.

Instead of higher seawalls and breakwaters, those barriers should be mixed with natural lands, dunes, salt marshes, and seagrass that provide a protective layer that can absorb wave and wind energy. This will require resources and public support, but this is a time of opportunity to use resources more wisely, to create vibrant communities that are resilient in the face of change. NOS plays a key role in this approach by providing the best available observations, resources, products, and services to communities to plan in times of calm, before the storm. Making changes for resiliency along our nation's coast and improving coastal intelligence will also inherently support the third NOS priority, place-based conservation.

Special places are critical to the economic health of our nation and our people. Communities rely on dollars spent on activities such as recreation and tourism. NOS works to conserve coastal places through our coastal management and place-based conservation programs. IOOS has a role here, too. Observing, data management, and models and forecasts provide information needed to make decisions on which areas need what kinds of protection and to help forecast issues that may be emerging so we can act to mitigate harmful outcomes.

What NOS does is all about protecting property and the environment. And we need the right tools and information to do it. Making decisions about our oceans and coasts must be based on solid, scientific information. Within the United States or globally, the integration of observations into usable products and services is critical. Working within NOAA, nationally through programs like U.S. IOOS, and internationally through the Global Ocean Observing System (GOOS) and Group on Earth Observations (GEO) allows us to systematically take the pulse of the ocean we rely on. But we have more work to do.

Our oceans and coasts are relying on NOS and IOOS partners to continue to improve the technology, the data collection, and the tools and products so that we can preserve our special places, protect our people and property from severe weather, and keep that pulse on what is happening. What we do is critically important to everything we hold dear. We do this not just for us, but for our children and our grandchildren. It makes me proud to call NOS my family, and IOOS too. We can do it together.

Best Regards,
Holly A. Bamford, Ph.D.
Assistant Administrator, National Ocean Service

From the IOOS Program Office:

- **Check out: [National Ocean Service Fiscal Year 2013 Annual Report](#)** The Annual Report includes over 50 highlights and major accomplishments from all of NOAA's National Ocean Service (NOS) program and staff offices.
- **GCOOS Granted Federal Non-profit Status:** The GCOOS-RA is pleased to announce that we have received federal tax-exempt status as a 501(c)(3) non-profit corporation, retroactive to 24 February 2012.
- **Program Environmental Assessment:** The PEA has been approved by NOS General Council and is now with NOAA's Essential Fish Habitat office to begin their formal consultation.
- **IOOS Advisory Panel Spring Meeting set:** The next meeting of the IOOS AC will be April 15-16, at the Consortium for Ocean Leadership in Washington, DC. Details will be posted shortly on their website: www.ioos.noaa.gov/advisorycommittee

Observation Subsystem and Sensor Technologies

- **High Frequency Radar/Radio:**(Lead Jack Harlan, Jack.Harlan@noaa.gov):
 - REMINDER: ROWG-7 2014 Hotel reservation deadline is February 1. HF radar engineers, technicians, data analysts and software developers, please visit: <http://www.joss.ucar.edu/meetings/radiowave-operators-working-group-meeting-rowg-7> and register for the March 3-5meeting.

- **Profiling Glider Plan V2 out for review:** The revised National Glider Network Plan has gone out to the IOOC, Regional Association Executive Directors, and to NOAA's Observing System Council. All comments are due March 21. This draft has had extensive revisions to address the issues outlined in the first review. The new draft and comment revision synopsis is available on our website [here](#) for your review. As a reminder, the glider catalog listing is [available here](#) as well as the [DAC THREDDS server](#).
- **GRAV-D Project Begins Survey Across the U.S.-Mexican Border:** NOAA's Gravity for the Redefinition of the American Vertical Datum (GRAV-D) Project has received permission from the Mexican government to overfly Mexican airspace. NOAA's National Geodetic Survey (NGS) is the project lead. The project requires data to be collected 150 kilometers into both Canada and Mexico, and offshore over the ocean. The survey will launch from Austin, TX, move to Lubbock, TX, and finally head to Tucson, AZ. NOAA will coordinate closely with INEGI, the Mexican agency responsible for geodesy, and provide an opportunity for their scientists to join NGS's survey, if desired. For more information, contact Vicki.Childrens@noaa.gov.

Data Management and Communications (DMAC) Subsystem and Tools Built on IOOS data: (Contact Derrick or Rob to get on the list serve for changes - Derrick.Snowden@noaa.gov, Rob.Ragsdale@noaa.gov).

- **QARTOD:**
 - A special report entitled Manual for the Use of Real-Time Oceanographic Data Quality Control Flags was released and posted **atError! Hyperlink reference not valid..** This report provides information to operators of ocean observing systems about the purpose and protocols of marking or flagging data, so that subsequent use of the data can be properly controlled by both users and automated processes. It also provides an excellent reference for various schemes currently in use in the global ocean observing community.
 - A Manual for Real-Time Quality Control of In-situ Temperature and Salinity Data was released and posted at www.ioos.noaa.gov/qartod/. This manual documents a series of test procedures for QC of temperature and salinity (TS) data. TS observations covered by these procedures are collected in oceans, coastal waters, and lakes in real time. The 13 QC tests identified in this manual apply to TS observations from a variety of sensor types and platforms that may be used in U.S. IOOS.
- **IOOS Registry:** Your IOOS SOS service can be registered with the IOOS Registry via an email to ioos.catalog@noaa.gov by providing your service endpoint URL, service type (e.g. SOS or THREDDS) and service point of contact. From there Rob Ragsdale, IOOS Program Office, works with Anna Milan (NGDC) on registering services and confirming that they are harvested.
- **GCOOS Data Portal Upgraded:** The Gulf of Mexico Coastal Ocean Observing System (GCOOS) Data Portal (<http://data.gcoos.org>) was upgraded at the end of 2013. Upgrades included: migration of the system to better servers and a faster network, software changes yielding faster database transactions, and the addition of many new capabilities to the user interface. The upgrades incorporated new technological developments in Google APIs for mapping, accommodated changes in some data provider's data systems and introduced new more efficient data harvesting modules. The new features include a GCOOS asset map that has a new interactive user interface which allows users to display stations filtered by provider or parameter. Platform status is no longer based on the Integrated Ocean Observing System (IOOS) Observation Registry maintained by the data providers, but on frequent automated checks of data availability. The map interface now includes a tool to plot the last three

days of observations from a sensor. The GCOOS monitoring page was upgraded to present statistics for providers and parameters and the number of active and inactive sensors in the region by parameter. To date, GCOOS is harvesting data from 1,555 sensors from 223 stations of which 131 stations are from non-federal sources. Detailed information under the individual data provider tabs shows the status of sensors by platform including the date of the last data received. The following upcoming features will be available soon. In mid-January 2014, the GCOOS Data Portal will replace the National Data Buoy Center (NDBC) Sensor Observation Service (SOS) with the new 52°N SOS implementation which is compliant with OGC SOS ver. 2.0 specifications. The migration of historical data to the new server is continuing and is expected to be complete by February 2014. <http://gcoos.tamu.edu/?p=5901>

Modeling and Analysis Subsystem

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

- Last fall's GODAE OceanView meeting and NCEP's Annual Modeling Meeting have both made their presentations available. Please check them out to see what was covered.
 - **All GOV Symposium presentations:**
 - [Oral presentations](#)
 - [Poster presentations](#)
 - **Presentations from NCEP modeling meeting:**
 - [All](#)
 - [Day 2 \(Marine and hurricane modeling\)](#)
- **Special issue of JGR on COMT** also up on the [NOAA Testbed and Proving Ground Website](#) in the News and Announcements section. It's good to see this getting attention at that level.
- **Real-time ocean surface currents map using forecast models:** IOOS colleagues Rich Signell (USGS) and Charlton Galvarino (SECOORA) have developed a real-time ocean surface currents map using forecast models operated by IOOS partners and accessed through web services promulgated by IOOS. This map has been getting some recent attention via twitter, and can be found on SURA's website: <http://testbedwww.sura.org/ocean/>. The map uses copyrighted technology developed by Fernanda Viegas and Martin Wattenberg for their impressive wind map application.

Interagency/International Collaboration/News

- **New USGS Portal Provides Access to More Than a Century of Sediment Data:** An online, interactive, [sediment data portal](#) has been developed to improve the utility and accessibility of USGS suspended-sediment data to watershed managers, policy-makers, researchers, and the public. This database represents the best available compendium of suspended-sediment data for streams in the Nation. Ancillary information on streamflow condition, sediment grain size, sampling method, and landscape condition are also available within the portal. For more information contact: William Wilber, wgwilber@usgs.gov
- **Meeting with CEO, Marine Institute (Galway) and NSF Ocean Sciences Division, Acting Division Director:** During his visit to the U.S. Jan 22-24, Dr. Peter Heffernan, CEO of the Marine Institute in County Galway, Ireland met with Suzanne Skelley, IOOS Program Offic and Debbie Bronk, Acting Division Director, Ocean Sciences, NSF. Dr. Heffernan is very optimistic and positive about ocean science collaborations between Ireland and the U.S. He also met with Assistant Secretary of State Dr. Kerri-

Ann Jones. The Irish Prime Minister will meet with the U.S. President, Vice President and Congressional leaders in March. We may expect accelerated momentum in defining collaborations across the Atlantic leading up to the diplomatic meetings in March.

Delivering Benefits

- **GEO unanimously endorsed for another 10 Years:** From January 13 to 17, 2014 Geneva's CIGG center was the site for the Group on Earth Observations (GEO) Tenth Plenary and Geneva Ministerial Summit, GEO-X, that brought together experts from 90 governments and nearly 70 organizations and included an exhibit of cutting edge technology and more than 30 forums and panel discussions, many open to the general public. Topics included Agriculture and Food Security, Measuring Biodiversity, Disaster Risk Reduction, Cholera Early Warning, Ocean Acidification, UNEP Live!, and Water Security. The summit was presided over by GEO's four co-chairs: China, the European Commission, South Africa and the United States. The United States was represented at GEO-X by a high level multiagency delegation. There were over 700 registrants for the week of meetings and events, the largest ever. The Ministers adopted the Geneva declaration as written. Many nations offered their endorsement of the declaration and pledged continued support to GEO. The major announcement by the United States was that, through the Department of Agriculture's Research, Education and Economics mission area, we will work in close collaboration with our international partners to lead GEOGLAM's global R&D efforts. Within Blue Planet, I briefed US IOOS and its contribution to an Integrated Atlantic Ocean Observing System. Dr. Jan Newton, US-IOOS/NANOOS teamed up with Dr. Libby Jewett, NOAA Ocean Acidification program, on a very successful Ocean Acidification event and roll out of the Global OA monitoring plan; Juli Trtanj led the effort on a successful observations in support of better planning and response to cholera outbreaks. The two presentations I gave at GEO-X side events can be found on the [IOOS website here](http://www.ioos.gov). Read the White House blog and see the video: <http://www.whitehouse.gov/blog/2014/01/22/renewed-commitment-unleashing-open-data-about-earth>.
- **Launch of the Institute of Community Resiliency and Climate Adaptation at the University of Connecticut, Avery Point:** I was honored to provide NOAA's congratulations for this new center. The center builds upon the foundation of work by NOAA's coastal programs including Coastal Zone Management program, Coastal Services Center, Sea Grant and US IOOS. UCONN's Long Island Sound observatory and HF Radar have long been a partner for IOOS' MARACOOS and NERACOOS regions. This center will bring together these programs with EPA and CT Department of Energy and Environmental Protection with a goal to increase the resilience and sustainability of vulnerable communities in Connecticut to the growing impacts of climate change on the natural, built, and human environment. This goal will be accomplished by bringing together the world-class research and outreach capabilities of UConn with the extensive practical experience of DEEP to create and disseminate practical and sustainable strategies to enhance the resilience of the built environment while protecting natural ecosystems. Senator Blumenthal, Connecticut, stated "this center will help us build better and plan smarter." For news coverage and good description of the center see: <http://enfield.patch.com/groups/politics-and-elections/p/gov-malloy-launches-climate-institute-at-uconn-avery-point-campus-in-groton-enfield>
- **BOEM and GCOOS launch economic study:** The Bureau of Ocean Energy Management (BOEM), in partnership with the Coastal Marine Institute at Louisiana State University, has launched an economic study of the Gulf of Mexico Coastal Ocean Observing System (GCOOS). The three-year cooperative project between BOEM and

LSU will enhance our understanding of the social and economic value of GCOOS, while providing decision makers the data necessary to plan for future changes to the system. The study will not only assess the value of GCOOS during catastrophic events, but for routine operations of U.S. Gulf of Mexico activities that include 11 of the top 15 U.S. tonnage ports, four of the top seven fishing ports by weight, 20% of domestic crude oil and about 5% of natural gas production, and a tourism industry exceeding \$34 billion annually. For more information: <http://gcoos.tamu.edu/?p=5861> and <http://www.boem.gov/Note-to-Stakeholders-12122013/>

- **Catalina Sea Ranch received CA approval:** The California Coastal Commission approved the state's first aquaculture farm to be located in federal waters about eight miles offshore of Long Beach. Catalina Sea Ranch, the facility by KZO Sea Farms will primarily grow Mediterranean mussels on 45 lines anchored in the sea floor and suspended horizontally by buoys from a depth of a few feet to 200 feet in a 100-acre patch of ocean near two existing oil production platforms. Their willingness for extensive monitoring was a key to the approval. Congrats to Catalina Sea Ranch.

Congressional: No update

Communications / Outreach / Education

- An impressive paper on Remote Sensing and IOOS with an equally impressive author list: <http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=6245518>: "Satellite Remote Sensing in Support of an Integrated Ocean Observing System:", IEEE Geosciences and Remote Sensing, December 2013, Volume 1, number 4. Muller-Karger, F., Roffer, M. ; Walker, N. ; Oliver, M. ; Schofield, O. ; Abbott, M. ; Graber, H. ; Leben, R. ; Goni, G.
- GEO Links: Daily events and blogs: <http://www.earthobservations.org/index.shtml> or <http://www.iisd.ca/geo/geox>; <http://www.earthzine.org/2014/01/10/the-future-of-earth-observation-geo-x/>

IOOS Conference Involvement

- **South Division of American Fisheries Society Annual Meeting (SDAFS)** <http://sdafs.org/meeting2014/>: Mike Arendt (SC DNR) is presenting on Hassan's behalf a power point presentation on the National Animal Telemetry Network (ATN) (history, benefits for the regions and the next development of this network.). We hope that this outreach presentation will encourage other ATN partners in Southeast and Gulf of Mexico regions to contribute in the development of this Network.
- **AAAS Annual Meeting 2014:** The Ocean Tracking Network: Global Innovation in Technology, Science, and Management, Friday, 14 February 2014: 1:30 PM-4:30 PM
 - Ocean biological resources play a critical role in the global food supply and economy. Fisheries historically have been a reliable resource, but have declined due to over-exploitation, other anthropogenic impacts, and unexpected ocean regime shifts. To sustain these resources, and to manage the competing impacts brought by new ocean development and environmental change, requires credible scientific information on the global movements, survival, and habitat use of valued marine species, and how all are impacted by environmental variables. Advances in acoustic and satellite telemetry and in management and visualization of large data sets are now making it possible for scientists to acquire this information. In 2008, the creation of a new global

acoustic telemetry infrastructure was initiated by the Ocean Tracking Network (OTN). Organized by Frederick Whoriskey Jr. and Sara Iverson, OTN/ Dalhousie University. Talks will be given by Sara Iverson, Steven Cooke, Carleton University, Kim Holland, University of Hawaii, Manoa/PacIOOS; Zdenka S. Willis, US IOOS/NOAA; Peter Harrison, Queen's University.

Upcoming Meetings

View the IOOS

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

Cheers,
Zdenka

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Zdenka Willis

Director, US IOOS Program Office

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