

Bi-Weekly IOOS® Z-GRAM - 12 November 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

### Programmatic:

- **Final Reminder - Comments on certification due by Monday, November 15:**  
[http://www.ioos.gov/library/frn\\_certifictn\\_design\\_procs\\_101510.pdf](http://www.ioos.gov/library/frn_certifictn_design_procs_101510.pdf) - Federal Register / Vol. 75, No. 199 / Friday, October 15, 2010 / Notices.
- **You can still join us for the Regional Coordination Workshop**, co-hosted by [IOOS®](#) and [NFRA](#), to be held on November 16th and 17th at [The Four Points Sheraton Washington, DC](#) (1201 K Street NW, Washington, DC 20005). The includes three complementary sessions focusing on 1) building federal and regional partnerships, 2) an ocean leader session, and 3) designing the path forward: An IOOS Coordinated Planning Session. For more information and to register for the workshop, please visit [http://www.usnfra.org/meetings\\_IFW.html](http://www.usnfra.org/meetings_IFW.html)

**Initial Operating Capability - Data Management and Communications (DMAC) Subsystem of IOOS®** [http://ioos.gov/library/dmac\\_implementation\\_2010.pdf](http://ioos.gov/library/dmac_implementation_2010.pdf)

**Completion of the Data Integration Framework (DIF):** In 2007, the NOAA Executive Council created the IOOS® office and approved the DIF Project. The DIF Project is a limited scope, risk-reduction effort to measure the value of integrated ocean observation data within a specific management or problem context. Four NOAA "customers," spanning multiple mission goals, were selected, and three NOAA data providers were identified. The goal would be to test the hypothesis that integrated data could make a measurable difference for one or more outcomes for each customer. Once initiated, the IOOS® Regional Associations joined in project.

With the help and dedicated collaboration of over 100 contributors, the DIF project came to a successful conclusion on September 30, 2010. The DIF final report has been posted on [www.ioos.gov](http://www.ioos.gov) - under **Of Special Note Section -** [http://www.ioos.gov/library/ioos\\_dif\\_assmnt\\_report\\_final.pdf](http://www.ioos.gov/library/ioos_dif_assmnt_report_final.pdf)

There has been a remarkable change in the landscape since we did the first interoperability tests, sponsored by IOOS during the spring of 2007, which revealed gaps with interoperability among potential IOOS data providers. "In general, that testing showed the provisioning of temperature, salinity, water level, currents, and ocean color data to be quite variable in format and content as they expressed time, position, and parameter names differently. This prevented direct integration of the data sets and sources with each other." (Ulmer, December 2008)

Now, through the [IOOS Catalog](#), we are able to serve data in a single format regardless of who

has collected the data - a remarkable achievement in this short time period.

We hope that you have a chance to read the entire report. I have provided a very short highlight below.

**Through the project we developed 16 metrics evaluate this effort 50% of those metrics showed a positive impact.** We were unable to assess the remainder of the metrics due to insufficient data. Above the formal metrics we **defined 22 "additional benefits"** and several are highlighted below:

1. Standard data services operating at NOAA's NDBC, CO-OPS, CoastWatch, and 9 of the 11 IOOS Regions, serving 7 IOOS core variables (Currents, Water Level, Sea Surface Temperature, Salinity, Winds and Waves, and Ocean Color).
2. The recognition that a significant benefit of the standardization of the data formats and methods for requesting and receiving the data across multiple providers has significantly reduced software coding complexity for client-side application developers. In one instance, client development time of 5 days was reduced to 2 days when adding a data provider; in another instance the software modification effort was reduced from 5 days to 1 hour.
3. Successfully integrated DIF data into NOAA's National Center for Environmental Prediction's (NCEP) operational data "tanks." This is a major technical achievement for establishing protocols/procedures to accept additional IOOS data into NCEP operational data streams.
4. An enhanced understanding of the effect of improved ocean state information on hurricane intensity forecasting.
5. An enhanced Sea, Lake and Overland Surges from Hurricanes (SLOSH) Display Program (SDP), which integrates IOOS-formatted water level and wind observations with SLOSH model output.
6. Enhanced operational HAB-FS bulletin software, which integrates IOOS in-situ currents observations to assist analysts in HAB forecasting; this allows the analysts to enhance "nowcast" predictions for harmful blooms.
7. Significant technical refinements were made to the National Marine Fisheries Service (NMFS) / Ecosystem Research Division (ERD) / ERDDAP software in order to provide enhanced integration with selected IOOS data services to prototype the implementation of these services into the Integrated Ecosystem Assessment model for the Gulf of Mexico and California Current Regions.
8. The GCOOS Data Portal that consolidates data from 10 local data nodes into a single aggregated SOS, according to DIF standards. All GCOOS regional data nodes offer their data via a standardized IOOS interoperable interface; this is a direct result of the IOOS DIF activity. The nodes provide an up-to-the-minute accurate representation of what parameters are currently available via the continually updated XML files they host for the IOOS Regional Observation Registry. The local data nodes have adopted a common vocabulary (that was recently submitted to MMI - See the "IOOS

Parameter Vocabulary V1.0" <http://mmisw.org/orr/#http://mmisw.org/ont/ioos/parameter>.  
This common vocabulary was developed with input from the IOOS DIF effort.

With the completion of the DIF we have officially transitioned to U.S. DMAC V0.9.

**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.

- **High Frequency Radar/Radio (HFR):** The FCC approved the proposal from CODAR Ocean Sensors Ltd. to establish primary radio frequency allocations for oceanographic HF radars. The Next Step: A joint Federal and non-Federal position must be agreed upon by both the FCC and NTIA.
- **IOOS and Links to the National Water Quality Monitoring Network:** No update.
- **IOOS and The National Science Foundation (NSF) - Ocean Observatories Initiative (OOI):** Charly spent the day with the OOI-CI project manager, Matthew Arrott, to strategize on the focus for a second "use case" to further define the technical intersections between OOI-CI and IOOS DMAC.
- **Modeling Testbed:**
  - Concept of Operations for Transitioning Models from Research to Operation (R2O) Centers Document: Doug prepared a document that outlines a Concept of Operations for Transitioning Models from Research to Operational Centers. This document has been sent to the Testbed group for edits and dialog. Doug met with Frank Aikman and with Hendrik Tolman to review the steps for R2O transition. Frank Bub (NAVO) made significant contributions to the preliminary draft. Rich Signell (U.S.GS), and Jesse Feyen (NOAA) are amongst those who've reviewed to date.
  - Model Inventory and Analysis: Doug is currently employing an inventory of models used by the IOOS Regional Associations (prepared by Rich Signell, U.S.GS), preparing a catalog of this effort, and performing a preliminary analysis of model use within IOOS.

#### Other:

- **Seventh Plenary Session of the Group on Earth Observations (GEO-VII) & Beijing Ministerial Summit:** It was my honor to be a part of the distinguished U.S. delegation to this meeting. David Hayes (Deputy Secretary of the Interior) headed the Delegation. Shere Abbott (Associate Director for Environment of the Office of Science and Technology Policy in the Executive Office of the President) was the Alternate Head of the Delegation and is also the U.S. co-chair to GEO. Ms. Abbott presided over both the Plenary and Ministerial Summit. Other senior agency representatives included:
  - Dr. Steve Koonin (Under Secretary for Science, Department of Energy);
  - Dr. Larry Robinson (Assistant Secretary of Commerce for Oceans and Atmosphere – Conservation and Management);
  - Dr. Marcia McNutt (Director U.S. Geological Survey);
  - Dr. Mike Frelich (Director, Earth Sciences Division, NASA);

- Dr. Carol Neves (Director Office of Policy and Analysis, Smithsonian Institution);
- Dr. Pai-Yei Whung (Chief Scientist EPA);
- Derrick Williams (Director, Office of Global Analysis, Foreign Agricultural Service, U.S.DA);
- Carrie Stokes (Geospatial Technology Advisor, U.S.AID); and
- Ed Fendley (Foreign Affairs Officer, Office of Global Change, the U.S. Department of State).

The most notable accomplishment was the adoption of the Data Sharing Plan, which preserved the policy of the full and open exchange of data with minimal time delays and minimal costs, which, for the U.S., is the underpinning of GEOSS. NOAA's Linda Moodie was instrumental in the efforts to offer language that allowed for the adoption of this plan and the subsequent approval of the declaration of the Ministers, which reinforces this concept. Another major component of the meeting was the mid-term evaluation of GEOSS and recommendations for the next five years and beyond. From a U.S. IOOS perspective, we were called out in the U.S. National Statement, with the inclusion of the Scarlet Knight accomplishment, we had a U.S. IOOS information panel within the U.S.GEO exhibit. I was able to reuse the material that we had put together for the CA World Ocean Conference, augmented with material from across the regions and had a looping slideshow on U.S. IOOS. We also loaded the SAIC-produced IOOS video and the SCCOOS/CeNCOOS podcast within our booth. We were able to run the Scarlet Knight documentary trailer on the large screen in the exhibition hall.

- **The National Research Council's Ocean Studies Board:** On November 10 I joined Jan Newton (NANOOS), Joe Schumacker (Quinault Indian Nation), Steve Ramp (CeNCOOS), Harvey Seim (SECOORA), Steve Ackleson (ONR, joined by teleconference) to brief U.S. IOOS and the IOOC. We had a very nice lineup where Harvey started the discussion on the history of IOOS and the outline of IOOS, which was followed by Jan to discuss one particular Region, in detail, and then Joe discussing from the user perspective of IOOS. Steve Ramp talked about the business model and uniqueness of the Regional Associations. I was the cleanup hitter, talking about the IOOC and then putting the U.S. IOOS story back together from a National and Regional perspective. The board members, including some of our regional partners, were engaged and appreciated the progress that IOOS had made. The OSB is now evaluating how it can assist U.S. IOOS through the work they do.
- **Third Meeting of the Joint Steering Group for the IODE Ocean Data Portal and the WIGOS Pilot Project for JCOMM (Oostende, Belgium; Nov. 1-3):** Derrick (IOOS) attended this wrap-up meeting for the WIGOS Pilot Project for JCOMM. The main purpose of the meeting was to discuss the outcomes of the Pilot Project and how they will feed into the larger WMO WIGOS effort, which is ongoing. The main areas of focus for the Pilot Project were: (1) the establishment of a Regional Marine Instrumentation Center in the U.S. (NDBC) as well as plans for new centers in China and Morocco, (2) the development the data management framework to support interoperability of data and metadata with the WMO Information System (WIS) and the Intergovernmental Oceanographic Commission Ocean Data Portal (ODP), and (3) the advancement a

Quality Management framework that can ensure a robust and reliable delivery of marine services.

- **IOOS/MPA Advisory Panel (Santa Barbara, CA – November 3):** Charly (IOOS) joined the NOAA MPA Program's Rondi Robinson in giving a short presentation to the Advisory Panel on the results of the IOOS/MPA Workshop held in Monterey, CA in late September. Candidate areas of MPA/IOOS collaboration include: Expansion of Climate Reference Network to MPAs Information Discovery Portal, Demonstration of Emerging Technologies, and Regional MPA Associations Outreach -- Ocean Observing Systems and MPAs and Periodic Assessment of Marine Resources within an example IOOS Area.
- **Global Ocean Tracking Network (OTN) Annual General Meeting:** Hassan (IOOS) attended to continue to explore how to bring this data into the U.S. IOOS system. The goal was to bring together an initial core of natural and social science researchers to discuss:
  - Possible ways forward in synergizing interdisciplinary collaborations under the OTN umbrella;
  - Acoustic telemetry, future technologies and ways to integrate OTN Technologies with existing Ocean Observing Systems (Cable system, Gliders, Buoys, etc.); and
  - Roles and responsibilities of regional representatives and foster collaboration between researchers on different continents, in different ocean basins or hemispheres to address the global issue of climate change.

OTN is now officially a Global Ocean Observing System (GOOS) project. The project is being deployed on all seven continents and used by dozens of GOOS countries. The distribution of OTN technology and data collection is a global effort that has become an integral component of the GOOS coordination and cooperation. Forty participants attended this meeting representing all OTN regions (Arctic, East Indian, Mediterranean, Mid-Pacific, Northeast Atlantic, Northeast Pacific, Northwest Atlantic, Northwest Pacific, Southeast Atlantic, Southeast Pacific, Southern Oceans, Southwest Atlantic, Southwest Pacific, and Western Indian) including a representative from GOOS, IMOS, and the Canadian Observing System (NEPTUNE and VENU.S. undersea observatories).

- **National Weather Service Technology Summit -- Silver Spring, MD:** NWS held its third tech summit and this year, on the second day, it was open to all of NOAA to present technologies that program are using. Sam Walker (IOOS) provided two presentations. The first was on HFR and its support to navigation services, search and rescue and oil spills and the emerging work on ecosystems, fisheries and MPAs. The second talk focused on the use of gliders (Slocum, SeaGlider, and Spray) and on the Wave Glider. Both presentations were very well-received and generated discussions on further partnerships. NOAA's Deputy Under Secretary, Mary Glackin, gave the keynote address and challenged NOAA to explore creative ways for technology integration. Breaking out of old habits and really focusing on technology that could be exploited across the line offices was a theme of her remarks.
- **IOOS, National Data Buoy Center (NDBC), U.S. Army Corps (U.S.ACE), and U.S. Navy/Commander Meteorology and Oceanography Command (CNMOC) Meeting:** IOOS program staff members Jeff and Derrick met to discuss DMAC implementation.

Specifically, the archiving of NDBC, CMAN, and WX buoy data at the National Oceanographic Data Center (NODC); OceanSITES and intersections between the global and coastal components of the IOOS moored buoy communities; Joint initiatives with the U.S. Navy to investigate the migration of Navy data sets to servers within NOAA and potential uses of software written by the U.S. Navy, within the IOOS DMAC infrastructure; QARTOD and future needs for advancing the quality control of real-time procedures within the IOOS community and collaboration with the U.S. Army Corps of Engineers (U.S.ACE) in which U.S.ACE will be installing the NDBC SOS server software to serve water-level data from the Mobile District tide gauges

**Congressional: No Update.**

**Communications and Outreach:**

- NOS Podcast on Hawaii Obs and Regional partner podcast on California now live at <http://www.ioos.gov/messaging/outreachmaterials.html>.

**IOOS Conference Involvement: This section will highlight those conferences where IOOS is a sponsor or has a session: No update.**

**Upcoming Meetings:** To see the IOOS calendar, please visit:

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

- **NERACOOS Board Meeting:** November 29 - Portsmouth, NH - Dave Easter and I will attend for the IOOS Program.
- **IOOS Biological Observations Project Meeting:** December 6-10 - Hawaii - Hassan will attend for the IOOS Program.

Cheers,  
Zdenka

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