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:

- Congressional Report: **No change.**
- FY09: Congrats to the following FY09 IOOS awardees. As always I recognize that there are many partners involved in each award and I am listing the organization and institution for the IOOS Regional Associations and Regional Coastal Ocean Observing Systems (RCOOS) Awards. For the final year of our IOOS projects I will list the lead PI and institution. IOOS Regional Association Awards: MACOORA - University of Delaware. For RCOOS development: MARCOOS - Rutgers University; PacIOOS - University of Hawaii; AOOS; CenCOOS - Monterey Bay Aquarium Research Institute; IOOS Applications: NERACOOS - Woods Hole Oceanographic Institution (Kite-Powell).
- FY10: NOAA's FY10 Omnibus has been released, check out http://ioos.gov/funding/ for the IOOS FFO.
- FY11: **No change.**
- FY12-16: **No change.**

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

In FY09 we are focused on 6 areas for this subsystem: (1) Data Integration Framework (DIF) support to Customer Applications; Harmful Algal Blooms Forecast System (HAB-FS); Integrated Ecosystem Assessments (IEAs); Coastal Inundation; Hurricane Intensity; (2) DIF Regional Implementation; (3) DIF Evolution & Enhancements; (4) Development of the best approach to DMAC; (5) High Frequency Radar (HFR) – A National Network; and (6) Continue strong support with the Interagency Working Group on Ocean Observations (IWGOO), to the IOOS DMAC Standards Process, and working with the DMAC Steering team.

- **IOOS DMAC Steering Team Review**: The IWGOO has approved a proposed process for taking a fresh look at the DMAC ST over the next five months. The process will include a survey of key persons (including all current ST members) and a workshop to review the results. Charly, NOAA IOOS, will be working with National Science Foundation's (NSF) Alex Isern, the current DMAC ST Chair Anne Ball of NOAA/CSC, and NASA's Lucia Tsaoussi. The Consortium for Ocean Leadership will provide key resources to support the workshop and staff support from Nick Rome and Josh Young. This project will begin in earnest in mid-August. The first activity will be for folks to answer a series of questions related to the current activities of the DMAC ST and where

we should take this team. We will be soliciting names to answer this short questionnaire. IF YOU WANT TO PARTICIPATE please let Anne Ball know: anne.ball@noaa.gov.

- **What the DIF**: For all documents and information, please visit the www.ioos.gov website.
  - o The biannual IPT will take place August 11-12 in Silver Spring, MD. A draft agenda has been developed, but continues to evolve based on our routine discussions with the IPT. The purpose of the workshop, as we have it framed now, will be to: (1) Review/discuss findings and recommendations from DIF Working Groups: Metadata and Registries/Catalogs; (2) Discuss proposed next steps for IOOS DIF-DMAC including priorities for FY2010; (3) Review/discuss transition strategies for key NOAA IOOS-funded grant projects: QARTOD, IOOS Obs Registry, and OPeNDAP-OGC Gateway.
  - o Invited guests include OOI/CI's Matthew Arrott, US Navy's Roy Ladner, US Army Corps of Engineers (USACE) Linda Lillycrop, United States Geological Survey's (USGS) Nate Booth, Lisa Hazard from SCCOOS, and Rob Cermak from AOOS.
- **CUSTOMER IMPLEMENTATION**:
  - o Coastal Inundation: NOAA has been putting together a Storm Surge Road Map, which was briefed to the NOAA Assistant Administrators (AAs) for the National Ocean Service (NOS) - Jack Dunnigan, and National Weather Service (NWS) - Jack Hayes. The briefing was given by Mary Erickson (NOS Coastal Survey Development Laboratory [CSDL]). Overall, the road map was supported with further discussion needed on a full-time project manager. The Executive Steering team of Don Berchoff (NWS Office of Science and Technology), Zdenka Willis (NOAA IOOS Program), and Margaret Davidson (NOS Coastal Services Center) will now assist the Storm Surge team on next steps. Following the brief, the new features of the SLOSH Display Program, the Coastal Inundation IOOS/DIF customer project, were presented by NWS Meteorological Development Laboratory (MDL) partner Arthur Taylor. Both AAs were appreciative of the cross-NOAA efforts and posed a number of areas for this team to address. Within NOAA IOOS, Marcia Weeks has been providing outstanding support to this effort.
- **REGIONAL DIF IMPLEMENTATION**:
  - o **Update on Reference DIF Implementation:** Sam Walker has posted the Regional DIF Implementation matrices to a Google Docs page for use by the RDI team. Through this page each member of the RDI team will now be able to update their implementation status in real-time.
  - o Regional SOS Implementation Site Visits: The purpose is to assist the regions with installation and configuration of their SOS server. The first site visit will be to SCCOOS (Scripps), August 24-25. The second workshop is planned in NERA (WHOI), and the date is still to be determined. Please make plans to attend.
- **DIF ENHANCEMENTS**:
  - o **NDBC**: A new version of DIF services has been released on the NDBC website. A subset of CO-OPS data collections are now available through NDBC's site and are also being incorporated into the enhanced SLOSH Display Project.

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.

- **Interagency Modeling Activities**: **Significant Accomplishment**. With the installation at NANOOS, there is now a THREDDS Data Server (TDS) version 4 serving model results in **10 of 11 regions**. In AOOS, there was an issue with the TDS server response (an anomaly in the DDX response of the TDS server), and while it is believed that Unidata has fixed it, they have not had an opportunity to test. Sincere thanks to Rich Signell, United States Geological Survey (USGS), for his tremendous effort in accomplishing this feat.
    - NOAA's Southwest Fisheries Science Center - Ecosystem Research Division - Monterey CA visit: Rich met with Roy Mendelssohn, Bob Simons, and Lynn Dewitt to discuss the relationship between OpenDAP with CF Conventions and ERDDAP. ERDDAP processes data on regular grids, but we figured out a way that data on curvilinear grids could be passed through ERDDAP using i,j range, which may be useful for some applications. Bob Simons has developed a simple Java program called NetCheck http://coastwatch.pfeg.noaa.gov/coastwatch/NetCheck.html that pings URLs at specified intervals and sends e-mail to specified personnel when failures occur. This seems to be a critical application for the distributed systems being installed in most regions.
- **IOOS and Links to the National Water Quality Monitoring Network**: Gulf of Maine Ocean Data Partnership (GoMODP) Conference Call. This was a brief on the Ocean Data Partnership and information on the GoMODP Data Exchange (ODPX) Project. The purpose of this project is to share ocean/coastal data via Exchange Network (EN) protocols, using the Water Quality Exchange (WQX) schema as a starting point and modifying the schema as needed. We will continue to coordinate to understand how ODPX efforts can help us to expand the DIF efforts as we move to a National DMAC capability. Next meeting is 10 August.
- **IOOS and National Science Foundation (NSF) - Ocean Observatories Initiative (OOI)**: No update.

Other:

- **The Scarlet Knight (RU27)**: The going gets slower on this side of the Atlantic as the team at Rutgers looks for the best path to keep flying east. Sign up for the daily blogs and follow along: http://www.i-cool.org/?cat=38
- **Congrats in PacIOOS**: The Tsunami inundation model, developed by Dr. Kwok Fai Cheung's student Yoshiki Yamazaki with Sea Grant support, just won the 2009 Benchmark Challenge at the Inundation Science and Engineering Cooperative Workshop in Oregon. Yoshiki's model provides the best performance among more than 10 models examined at the workshop. These include models from NOAA PMEL, USACE, and USGS as well as the commercial package Delft3D. As Brian Taylor stated - QUALITY WORK for PacIOOS and Sea Grant. Dr. Cheung is partially supported under the PacIOOS RCOOS grant on theme of coastal resiliency. For HiOOS, within PacIOOS, Dr. Cheung has run inundation models for the south Oahu focus area. These models (e.g. of

storm surge and run-up for a Cat 4 hurricane landfalling at Barbers Point) have been used by FEMA and State civil defense as the basis for their emergency preparedness and evacuation plans.

- **IOOS in Action: AOOS -SOUND PREDICTIONS 2009**: A field demonstration of ocean observing in Prince William Sound. Live from July 19 to August 3, Sound Predictions 2009 (www.aoos.org) is an intensive field demonstration of ocean observing in Prince William Sound. Scientific models and forecasts will be compared to real-time oceanographic observations. Twenty years after the Exxon Valdez oil spill, we're testing how well we know information about Prince William Sound for use in oil spill response, search-and-rescue operations, marine safety for oil tankers, recreational boaters, and fisheries and ecosystem health. On Tuesday, July 28 in Valdez there will be a public event to "Meet the scientists, hear results from the field, view the cool equipment." Find out more about this summer's field experiment from the researchers who will be flying gliders, deploying drifters, and driving underwater vehicles to test the accuracy of ocean observation models and their ability to effectively predict weather, wind, currents, and waves.

- **IOOS in Action: MACOORA**: Researchers at Stevens Institute of Technology will equip the sloop Clearwater with instrumentation that will provide real-time transmission of position, time, surface water temperature, salinity, and dissolved oxygen concentrations in the northern area of the Hudson River. The installation is the latest component in the Hudson River Environmental Conditions Observing System (HRECOS), which is operated by a consortium of partners in government and the research community. HRECOS provides data in real-time to allow for the immediate assessment of ocean, weather, and environmental conditions throughout the waters of the Hudson River. This new sensor will greatly expand the area of HRECOS data collection, which currently runs from roughly Schodack Island to the New York/New Jersey Harbor. For more information, see www.macoora.org

- **NOAA Chesapeake Bay Office (NCBO)/NOAA IOOS Program meeting on the Chesapeake Bay Executive Order**: Several of us within NOAA IOOS met with NCBO's Sean Corson, Chris Kinkade, Doug Wilson, and Aileen Smith to discuss the efforts under the Executive Order. On a rapid pace, they have 90 days to prepare seven reports. NCBO is the co-lead on three of the seven agency reports including the Monitoring and Decision support. This report is intended to focus on strengthening scientific support for decision-making, including expanded environmental research and monitoring and observing systems. We are standing by to support NCBO in this effort and also discussed partnering through NOAA's Programming, Planning, Budgeting and Execution System (PPBES). NDBO has been able to deploy the Chesapeake Bay Interactive Buoy Systems (CBIBS) and also participate in the Chesapeake Bay Observing System (CBOS). Carl Gouldman and Jessica Geubtner have taken the lead on this within the NOAA IOOS office.

- **Committee for Integrated Observing Systems (CIOS) Meeting**: (Second meeting, 7/13) - Marcia Weaks represented the IOOS Program and presented an IOOS briefing. The talk gave an overview of IOOS and emphasized the environmental parameters and standards implemented and planned, including atmospheric parameters that would be of interest to CIOS. Also emphasized were interagency and regional connections and collaborations, including work with GEOSS. The next steps for CIOS, led by steering team chair Don Berchoff (NWS Office of Science and Technology [OST]), are to identify existing mechanisms, systems, and standards in use to leverage and/or incorporate, and to

schedule a meeting of "smart people" on metadata, for mesoscale systems in FY09. A workshop report and full list of potential next steps will be made available shortly.

- **Coastal Zone 2009**: While many from the IOOS community attended and presented, here is the highlight from the NOAA IOOS office. The conference opened with a plenary featuring Dr. Lubchenco along with the Associate Deputy Secretary from DOI and Acting Director of the EPA Office of Wetlands, Oceans, and Watersheds. Rob Ragsdale, NOAA IOOS, presented a poster and presentation. The poster was on the customer enhancement projects and presentations addressed by the National Water Quality Collaboration, in which NOAA, EPA, and USGS have been engaged.

Congressional:

- 29 July: NOAA IOOS (Suzanne Skelley, April Black) and Gary Carter, Director NWS Office of Hydrologic Development, NOAA Integrated Water Forecasting Program Manager, will brief Congressman Maurice Hinchey (D-NY, 22nd District).

Communications:

- June Ocean News & Technology features a review of ocean observing systems worldwide. Both IOOS and OOI are featured.

Upcoming Meetings:

- 11-12 Aug: DIF IPT Summer meeting - Silver Spring
- 13 Aug: OOI/CI - IOOS Collaboration Update - Silver Spring
- 13-14 Aug: GEO-IDE Registry Workshop: Silver Spring - Jeff de La Beaujardiere will attend
- 19-12 Aug: Analysis of Acquisition Alternative Workshop (by invite) - Sliver Spring, involves a number of individuals from NOAA, IWGOO, and invited Regional Association members
- 25-27 Aug: Seattle, WA - 2009 IOOS Regional Coordination Workshop
- 9-11 Sept: OOI/CI Planning Meeting - NOAA IOOS (Ops) to participate
- 21-25 Sept: OceanOBS09: Zdenka Willis and Jeff de La Beaujardiere to represent NOAA IOOS
- 26-29 Oct: MTS/IEEE Oceans 09 - US IOOS and OOI - Ocean Observing for the Nation

Cheers,
Zdenka