Z-GRAM 25 January 2008
www.IOOS.NOAA.gov

The Z-gram- IOOS is an informal way of keep you up on what's going on in our NOAA IOOS Office and NOAA IOOS activities. Please advise of additional addees, 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. If you want to see previous Z-grams go the IOOS website under program updates

Organize for outcomes:

- Program Office Stand up: We have completed our final set of hiring on our initial HR recruits.
- FY08:
    - Senate Report: Report will focus on NOAA contributions; will also describe regional & interagency contributions to advance priority areas. Report will describe near-term deliverables & development path to achieve 5-year end-states for the following priority areas: 1) Coastal Inundation; 2) HAB forecasting; 3) IEA; and 4) HFR We completed an early first draft and received our first set of comments. The next version will be circulated across the NOAA line offices.
    - Competitive Process: We continue to move forward with plans to hold the panel review at the end of January.
- FY09: Budget roll out will occur the first week of February.
- FY10-14: Programming wraps up on 31 January and NOAA moves into the budgeting phase.
- FY11-15: **No change**

Initial Operating Capability - Data Integration Framework (DIF)

- Bumper sticker: Data Integration Framework - First 12 months effort focused on integrating core variables has begun. The clock started 1 Feb 2007.
- IOOS DMAC Standards Process: Process remains open for the submission of standards.
- What the DIF?: Initial HAB implementation plan received from HAB implementation team last week (CSC, NCCOS, CO-OPS, NDBC). The lead for this within the NOAA IOOS office is Becky Shuford. The monthly DIF IPT conf. call included discussions on the status of CONOPS, design, OPeNDAP security, data content standard implementation at CO-OPS and NDBC, HAB and Coastal Inundation implementation.
    - We continue to work on the IT security issues associated with OpenDap. Jeff Dlb represented IOOS at OPeNDAP security meeting. NESDIS CIO agreed to seek NOAA/OPeNDAP MOU outlining mutual roles and responsibilities for security assessment, enhancement and certification; agreed that projects can run OPeNDAP with permission of local ITSO

IWGOO: Next meeting 30 January -

- IWGOO IOOS Strategic Plan: **No change**. We received 1 comment back from the ICOSRMI review and will now work to adjudicate that comment first at the IWGOO and then back up to the ICOSRMI. From there a public comment period is anticipated.
- OOI-IOOS white paper: **No update**.

Collaboration :(projects will stay on the email through to completion)

- Bathymetric collection California and Interagency Partners: **No change**.
- Army Corps of Engineers collaboration on a National Waves Plan: **No change**: Revised version which will ask for IWGOO and NFRA comments will be out in Jan 08.
- NOAA-Navy collaboration on the GODAE server: **No change.**

Other:

- **Census of Marine Life Meeting:** January 14-16: Becky Shuford (workshop steering team), Gabrielle Canonico, and Zdenka Willis of the NOAA IOOS Program Office all participated in the Census of Marine Life 2 day workshop entitled: "Biological Ocean Observing: Exploring components of IOOS from the perspective of Census of Marine Life". Other attendees from offices within NOAA include (but are not limited to): Ned Cyr (workshop steering team), Jeff Polovina, Steve Murawski, Steve Brown, Roy Mendelssohn (workshop steering team), Jim Sargent, Jihong Dai (NMFS); Paul Digiacomo (NESDIS), Margot Bohan (OAR), Anne Ball (CSC and Ocean.US/DMAC ST Chairman). The overall intent of the meeting was to discuss the importance of incorporating biological data into the IOOS as well as the future role of the CoML, in particular their Ocean Biogeographic Information System (OBIS), in IOOS. There was much discussion about the need for increased access to and interoperability of sources of biological data, including the need to develop community-accepted standards, as well as the need to create better synergy between biological and physical oceanographic data and coupled predictive models. NOAA in general and NOAA IOOS in particular, will likely have a significant role to play in facilitating solutions to these issues.

  Following the 2 day workshop, the CoML held a 1/2 day follow-up with representatives from the regional associations to discuss how OBIS might meet the regional needs of these systems. Gabrielle, Becky, Ned, and Anne were participants for NOAA
- **Operational Modeling Workshop 1/14-15:** NOAA hosted an Operational Oceanography Modeling workshop on January 14-15 at the National Weather Service's National Centers for Environmental Prediction (NCEP) offices in Camp Springs, MD. Charly Alexander represented the NOAA IOOS Program Office and Dr. Chris Mooers represented IOOS. This workshop is part of a continuing

effort to define operational ocean modeling within NOAA that is being led by NCEP's Dr. Louis Uccellini and the National Ocean Service's Technical Director Dr. Marie Colton. NOAA representatives included scientists from NWS (NCEP), NOS (CSDL, CO-OPS), OAR (GLERL, GFDL), and NMFS (SWFSC, CBO). Other organizations represented at the meeting included the US Navy, US Army Corps of Engineers, University of Maryland/ESSIC, Rutgers – State Univ. of New Jersey, Florida State University, Woods Hole Oceanographic Institution, and NASA/JPL. The meeting consisted of technical presentations on general, basin-scale, regional and coastal physical models and ecosystems modeling. Discussions focused on questions such as what are the major gaps in existing capabilities, how to leverage each others activities, major coupling issues and next steps. A summary report including recommendations for next steps is being produced. Presentations can be accessed at: ftp://ftp.emc.ncep.noaa.gov/exper/nova/OceanWorkshop/

- **NOAA IOOS - USGS Meeting 1/16:** The NOAA IOOS Program Office represented by Director Zdenka Willis, Charly Alexander and Gabrielle Canonico met with senior officials from U.S. Geological Survey's Water Resources Program – including Dr. Robert Hirsh, Associate Director for Water. The purpose of the meeting was to get to know each other better and discuss opportunities for collaboration on National IOOS. Additional NOAA attendees included scientists from the National Weather Service (Office of Hydrology), National Ocean Service (CO-OPS, NGS, NCCOS), and NESDIS (Satellite Services Division). John Haines, USGS Representative to the IWGOO, helped put this meeting together and also attended. The meeting coincided with the 122nd quarterly meeting of the Joint NOAA/USGS Committee on Hydrology.

  The USGS Water Resources Program mission is to provide reliable, impartial, timely information that is needed to understand the Nation's water resources. USGS actively promotes the use of this information by decision makers as it relates to hazard mitigation, resource availability for all uses, and environmental and human health issues. This mission represents approximately 60 percent of USGS resources and includes a workforce of about 3,400 persons in all 50 states at 179 locations.

  A number of action items were agreed to including sharing our mutual information and experience on data integration and performance metrics, learning more from USGS on their advisory councils, and providing to USGS POCs for the IOOS Regional Associations and RCOOSs. A summary report summarizing next steps is in preparation. One area we are all working is coastal inundation and the NOAA IOOS office has agreed to get all IOOS, NOAA and USGS coastal inundation experts together so we all have a better understanding of the various programs we have underway.
- **Post COSCO BUSON meeting results – 17 January**. Participants included: State of California: State Coastal Conservancy, CeNCOOS, SCCOOS, CA Office of Spill Prevention & Response (OSPR), CA Coastal Ocean Currents Monitoring Program (COCMP), Federal: NOAA (IOOS, OR&R, NMSP), US Coast Guard, Army Corps of Engineers. Cosco Busan facts - 58,000 gallons of oil spilled in first 10 seconds,

heavy fog contributed to initial low estimate of volume spilled, 70 miles of shoreline affected, 3m/ day was spent at the height of the response effort, estimated 40% of spilled oil was recovered. A full report will be generated, but I have attached the early single page that was developed by the CA State Coastal Conservancy for their meeting with staff from Speaker Pelosi's staff. Within NOAA the IOOS office will work with NOAA OR&R to understand next steps in formalizing the use of HF radar in oil spill response.
    - In oil spill response, much ocean monitoring data is generally used informally at this point. Data proven to be more accurate for spill response should be formally incorporated into response models.
    - Data should be provided in one location for easy retrieval by response agencies and the responsible parties.
    - Data products need to be provided in useful and accessible format to a variety of end users (e.g. responders to public).
    - Data communication strategy needs to be developed.
- 21-25 January: The First Session of the IODE/JCOMM Forum on Oceanographic Data Management and Exchange Standards was held at the IOC Project Office for IODE, Oostende, Belgium. The participants included experts across the marine ocean data community. We decided that the US DMAC standards process would be emulated and executed through the appropriate JCOMM/IODE working groups that will forward the work others and we have started in this area. We came to consensus on the recommendation of preliminary standards for specific uses. A single page on the recommendations will composed in the next two weeks. A number of actions were assigned; Julie Bosch will continue to be part of the small steering team to monitor these action items.
- 21-25 January: AMS: Jack Dunnigan led a media round table on 23 January. The turn out was poor but it was a chance to continue to get our IOOS message out. Thank you to Jennie Lyons (NOAA IOOS) for her very hard work to prepare our IOOS talking points.
- HSRP: In October HSRP sent NOAA a letter requesting greater inclusion of maritime data users in IOOS RA's. The National Federation of Regional Associations (NFRA) provided a response in November. NOAA IOOS worked with the HSRP Exec Sec and the National Ocean Service's AA staff and completed NOAA's response to this letter. We will provide a copy once VADM Lautenbacher signs this letter.

Congressional:

- We have heard that the House is considering re-introducing IOOS legislation, but have no details.

Communications: Nothing to Report

Upcoming Meetings:

- 29 January: Director will attend the ACT board meeting

- 6-7 February: NOAA/CSC will convene the IOOS Regional Grantees Data Management Workshop (Charleston/CSC). The PIs of the Focus Area 3 – data management as well as the DMAC POCs from each of the region will come together to talk about the three projects. A second goal is to ensure DIF connections to connections to these emerging projects and ensure close coordination with CSC partners.
- 29 February: GLOS program assessment – Washington DC
- 23-24 April: GCOOS, CARA, SECORA program assessment - Houston
- 27-29 May: Joint Assembly for AGU: As a NOAA rep to the US-GEO Outreach, Communications and Partnership group we submitted and it was accepted "GEOSS in the Americas: Coordinating Earth Observations and Earth Science in the Western Hemisphere" as a Union Session. We will seek to submit and IOOS related talk for that session. As well we are looking to have a town hall session "Development of the U.S. Integrated Earth Observation System."

Special Topic: HF Radar Frequency:
The International Telecommunications Union (ITU) holds a World Radiocommunication Conference (WRC) on an approximate 4 year cycle. WRCs consider changes to the International Radio Regulations, a treaty text, for issues listed on the WRC agenda.

- WRC-07 was held Oct/Nov 2007 where the US was successful in getting an HF oceanographic radar agenda item added to WRC-11. This is a critical step. Current oceanographic radar operations are conducted on an experimental, non-interference basis, and have no regulatory status when cases of interference arise. The oceanographic radar operator must take full responsibility for mitigating the interference. The lack of frequency allocations also makes licensing of frequencies for oceanographic radars difficult in many geographic areas.
- NOAA must prepare the technical requirements and spectrum sharing studies. The intent of the studies is to identify the frequency ranges required for oceanographic radar operations while ensuring existing allocated users will not be adversely impacted. NOAA IOOS is sharing an engineer with NASA to prepare this report.
- We are on a fast track to complete these reports in time for the WRC-11. The ultimate goal for WRC-11 is that the required radio location allocations are created, administrations can then take steps to implement rules within their domestic process that allow for licensing of HF oceanographic radars.
- See NOAA IOOS website – under NOAA Program/projects and partnerships or contact Jack Harlan - our HF Radar Project Manager.

Cheers,
Zdenka

Ocean Monitoring Data in Support of Oil Spill Response

Lessons learned from Cosco Busan Oil Spill

Cosco Busan FACTS:

- 58,000 gallons of oil spilled in first 10 seconds
- Heavy fog contributed to initial low estimate of volume spilled
- 70 miles of shoreline affected
- $3m/ day was spent at the height of the response effort
- Estimated 40% of spilled oil was recovered

OCEAN MONITORING TECHNOLOGY RELEVANT TO OIL SPILL RESPONSE

San Francisco Bay is heavily influenced by strong tides. Aerial surveillance remains a key response technology, with limited effectiveness in fog. New ocean monitoring technology has now been proven effective in enhancing current response efforts.

California Coastal Ocean Currents Monitoring Program provides near real-time maps of the direction and velocity of surface currents along California's coast and in SF Bay. Oil spill trajectories were provided to NOAA and others without request within hours of the spill. An ocean circulation model for California is being developed as part of this program.

The Physical Oceanographic Real-Time System (**PORTS**) is a program of **NOAA's** National Ocean Service and is a good example of a data user whose operations and risk management can be better serviced by real time data. The Department of Fish and Game's Office of **Oil Spill Prevention and Response (OSPR)** together with the bay pilots representing the **Marine Exchange** and the **Harbor Safety Committee** are additional information clients requiring real time data and accessible web-based information products.

ISSUES RELATED TO INTEGRATION OF OCEAN MONITORING DATA

Developing sustained funding remains the single biggest threat to our coastal ocean monitoring programs.

- In oil spill response, much ocean monitoring data is generally used informally at this point. ***Data proven to be more accurate for spill response should be formally incorporated into response models***.

- Data should be provided in one location for easy retrieval by response agencies and the responsible parties.

- Data products need to be provided in useful and accessible format to a variety of end users (e.g. responders to public).

- Data communication strategy needs to be developed.

CALIFORNIA'S COMMITMENTS TO OCEAN MONITORING:

Coastal Ocean Currents Monitoring Program	$21 million
Seafloor Mapping Program	$18 million
Marine Protected Areas Monitoring	$ 6 million
San Francisco Bay Regional Model	$ .9million

There is state-federal consensus that the new ocean observing tools of have demonstrated important advances in oil spill response and planning.

In California (and throughout the country) surface current mapping is developing as regional and national priorities but these efforts are constrained by inadequate IOOS funding.

Funding for the national Integrated Ocean Observing System has been endorsed by both houses, OMB, and is a top ten priority of the Joint Commissions.

BENEFITS OF COASTAL MONITORING

Many people will greatly benefit from sustained observations:

- **Fishermen, the oil industry, shippers and other mariners** use real-time information to operate safely and efficiently;
- **Emergency Managers** use real-time information to respond to and plan for natural and man-made catastrophic events, such as hurricanes, tsunamis, floods, landslides, and oil spills;
- **Search and Rescue Personnel** use real-time information about ocean currents and improved predictions of water movement to track and assist distressed vessels;
- **Resource Managers** use information to balance multiple uses in coastal regions, including economic development, safeguarding public health, natural resource conservation, pollution control, and recreation;
- **Military Units** use information for the safe and efficient operation of ships and aircraft in the marine environment, and to improve detection of threats to national security; and
- **Researchers and Educators** use observations to improve our understanding of our oceans and coasts, to better predict environmental changes, to teach math and science, and to advance public ocean literacy