

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. To see previous Z-Grams go to the IOOS website and view under program updates.

IOOS® - A Partnership supporting Lives and Livelihoods

Regional Component of US IOOS - Support to Hurricane Irene:

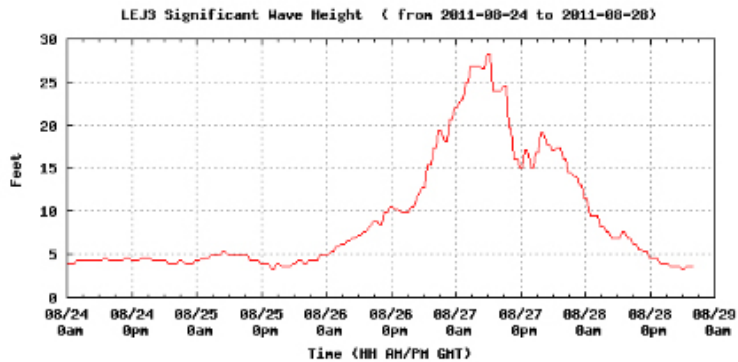
Forecasting, Preparing For and Responding to any natural disaster is an all hands evolution. The snap shot here is just that - a snap shot of the US IOOS Regional component in action - as they support their regional stakeholders and the Federal Response to Hurricane Irene. For official forecasts see NOAA's National Hurricane Center - <http://www.nhc.noaa.gov/>

- **CARA In Action:**

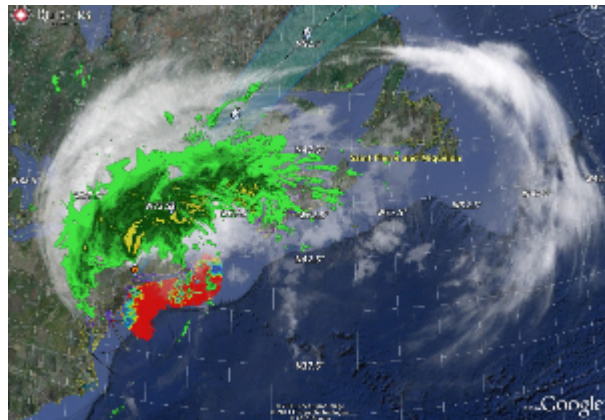
The 4 buoys in San Juan, Ponce, Rincon and US Virgin Islands provided real-time observations that were used by NOAA as Hurricane Irene move through the Caribbean. <http://www.caricoos.org/hurricanes/>

- **SECOORA in Action:**

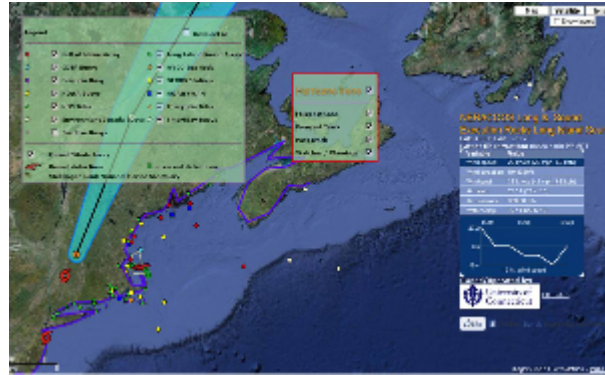
<http://secoora.org/hurricanes/irene>.
LEJ3 buoy tracks wave heights as Hurricane Irene passes off the coast of North Carolina



- **MARACOOS in Action:** See their blog for full details. This image shows the surface currents from the HF Radar as Irene passes by. Glider RU-16 also stayed deployed. MARACOOS partner, Alan Blumberg, Steven's Institute, was interviewed nationally on the timing of Hurricane Irene and the tides. <http://maracoos.org/irene/>



- **NERACOOS in Action:**
As I write this, Tropical Storm Irene is moving over the New England, NERACOOS observing assets keep track of her impact. <http://www.neracoos.org/>



Governance and Management Subsystem:

- **FY11 Awards:** Awards are now moving through. CONGRATS to CeNCOOS; NANOOS; SECOORA; CaRA; and AOOS. GCOOS has been approved is awaiting pick up (likely done before I hit send on the z-gram). Congressman Pallone issued a Press Release on the MARACOOS funds. All other awards have been signed by our Grants office but are going through the final steps before you are able to pick up the awards.
- **Welcome Becky Baltes** - US IOOS ecosystem, ocean, coastal, Great Lakes Modeling Testbed project manager: Becky joins us from University of Hawaii, where she completed a MS in physical oceanography. Her thesis work involved evaluating the impact of different observing sensors on ocean model forecasts. Before graduate school, she was on active duty for 7 years as a Navy surface warfare officer. She served on cruiser and destroyer class ships as a weapons division officer and navigator and served on shore duty as the readiness, exercises and deployments officer at a joint command in the UK. Becky, completed her first ironman distance race just before she arrived at the US IOOS Program Office. Thanks to our team at PacIOOS who recommended Becky to us for this position.
- **Farewell to Dr. Doug Levin:** With the arrival of Becky Baltes, Doug Levin's official duties as Program Manager now conclude. His new position is the Associate Director of the Center for Environment and Society at Washington College in Chestertown, MD. Doug did an outstanding job during his 12 months with US IOOS ensuring the successful collaboration of the testbed teams and building many new partnerships, particularly with the NOAA/NWS's National Center of Environmental Prediction. Doug will be missed though he intends to maintain a strong US IOOS relationship through a planned association with MARACOOS (once an IOOSian, always an IOOSian). We will look forward to that! Meanwhile he can be reached at: Washington College, Center for Environment and Society; Chestertown, MD, dlevin2@washcoll.edu, 410/778-2800.
- **Welcome to Micah Wengren:** Micah Wengren, an IT Specialist with the NOS/Coast Survey's Coast Survey Development Lab – Cartographic and Geospatial Technology Program Branch, has joined OpsDiv for a four month detail as part of the NOAA Rotational Assignment Program. He will be working closely with Derrick Snowden on the technical deployment of v2.0 of the US IOOS Data Catalog focusing in particular on the addition of ESRI's GeoPortal Server as a functional component.

Observation Subsystem:

- **High Frequency Radar/Radio (HFR):** For more information contact Jack Harlan, Jack.Harlan@noaa.gov - the US IOOS HFR Program Manager
 - Scientists from the Korea Hydrographic and Oceanographic Administration (KHOA) will be visiting key HF radar partners at Scripps, CeNCOOS and CODAR Ocean Sensors Ltd.
- **IOOS Non-Federal Observing Asset Inventory Status:** 9 of 12 summaries (11 IOOS Regions and ACT) have been completed. 3 summaries (SECOORA, GCOOS, NERACOOS) are in progress, Rob is in contact with each. Completion of phase 1a is slated for 30 August.

Data Management and Communications (DMAC) Subsystem: To get on the IOOS System Status list which announces service changes, please contact Derrick (Derrick.Snowden@noaa.gov) or Rob (Rob.Ragsdale@noaa.gov).

- **IOOS Biological Data Project:** The NOAA/Coral Reef Ecosystem Division (CRED) has transferred a new version of the Rapid Ecological Assessment (REA) data to PacIOOS, completed with the taxonomic hierarchy World Register of Marine Species (WoRMS) Webservice.
- **US Army Corps of Engineers – Water Levels:** Progress on a prototype web-service for exposing USACE water level data via the Mobile (AL) District continues. USACE. Recent internal updates to the Corps Water Management System database will lead to populating the prototype SOS service to set up scripts for their 29 new tide gauges. The goal is to test this update by this Friday (9/2). A candidate pathway to access all tide gauges across the USACE network will also be explored.
- **Regional Priority Activities:** The topic of discussion was on management of the regional THREDDS servers in context of the IOOS Catalog registration process. An efficient process is needed to be able to identify the landscape of servers and data sets that should be harvested by the IOOS Catalog. There was an action for the RAs to provide URL for candidate data sets to test the IOOS Data Catalog harvesting procedure.
- **Coastal and Marine Spatial Planning:** US IOOS Program Office briefing
 - NOAA Data and Tools Team (DTT) meeting (8/25): Charly and Mica Wengren (US IOOS Program Office) presented an update on US IOOS DMAC development and how these efforts can more effectively be leveraged in collaboration with the CMSP DTT Team.
 - CMSP Data Registry: Rob Ragsdale provided summary metadata to the CMSP DTT on core IOOS data services in place at CO-OPS, NDBC and CoastWatch as key access points to relevant ocean observing data for CMSP users. The CMSP DTT has developed a prototype web-based CMSP Registry as part of efforts to improve access to core NOAA data sets and initial capability for an emerging National Information Management System or NIMS for CMSP.

Modeling and Analysis Subsystem: No update

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.

- **DMAC Steering Team:** No update
- **IOOS and Links to the National Water Quality Monitoring Network: Coordination with EPA:** The beach water quality project plan has been undergoing revisions, specifically on task 1, which is about comparisons of existing models using existing data sets. There was consensus on the call to move ahead with the project as outlined in the plan. The next step is to complete the Interagency Agreement between EPA and NOAA. EPA is contributing \$50k to support this project.
- **IOOS and The National Science Foundation (NSF) - Ocean Observatories Initiative (OOI):** Progress on Release 1: R1 of the OOI-CI software, which includes tools/modules that represent the modeling use case developed in collaboration with US IOOS, is going through the final phases of testing in close collaboration with MACOORA/Rutgers's John Wilkins and PacIOOS/Univ. of Hawaii's Brian Powell. ASA's team, including Eoin Howlett and Chris Mueller are key technical partners with US IOOS on this use case and are working closely with John and Brian.

Other:

- **MARACOOS in Action: Mid-Atlantic Phytoplankton Bloom.** Using satellites, HF Radar and Gliders, MACACOOS teamed up with Federal partners to monitoring and forecasting support. Follow the blog at <http://maracoos.org/summerbloom/> Glider RU-16 stayed deployed while Hurricane Irene went overhead. RU-16 fought the onshore currents associated with the northern edge of the storm until this morning when the currents switched as the eye passed overhead. The last several surfacing show that the glider is now making much better progress offshore. The glider is now offshore of the large phytoplankton bloom. Always a team effort MARACOOS highlighted the partnership with the the Ecosystems Processes Division EPD at NOAA's North East Fisheries Science Center in their blog. Two of EPD's field based research programs, ECOS and ECOMON, sample biological communities and features of the bottom and water column to gain a better understanding of the effects of ecosystem processes including phytoplankton blooms on fish and invertebrates.
- **Sea-Bird Electronics, NANOOS site visit and The National Environmental Monitoring Conference and The Forum on Laboratory Accreditation "Monitoring Response to Environmental Disasters";** Thank you to Norge Larson and his team for the outstanding hospitality, tour and discussions at Sea-Bird Electronics. I can only describe their operations as master craft work on each of ocean observing instruments they make. Their calibration operations are very impressive. This trip continued on the discussions on industry on how they can work closer with the Federal Agencies on the future of ocean observing and how national industries work more effectively with the US IOOS RCOOS structure. Thanks to David Martin and Jan Newton for their time as we had a chance to catch up with IOOS programmatic. Jan Newton did an outstanding job as a key note speaker for the NEMC conference. She was requested to provide a talk on Puget Sound observing. Jan started within Puget Sound but broadened to NANOOS and connected this to US IOOS. This was a great opportunity to reach out to a new

audience. Her briefing was well received. I also had the chance to listen in on Jim O'Donnell's talk on measurement practices in the NEARCOOS - Long Island Sound buoys.

- **Lanai Oil Company Thanks PacIOOS, providing critical information and saving money:** Quoted is an email from Terry McBarnet, President Lanai Oil Company: "I'm just writing to thank you and your organization the Pacific Islands Ocean Observing System for the wave buoy you placed off of Kaunapali Harbor on Lanai. This buoy has over the years become an integral part of the decision tree that we go through when we authorize a fuel barge for the island of Lanai. Our process requires that we decide to send a barge 24 hours before the barge actually arrives on Lanai. The harbor there is the most exposed harbor in the state to ocean conditions. The buoy gives us real-time information on the wave heights and also on the wave direction. This information is extremely important in predicting the surge conditions within the harbor. By taking the swell forecast 24 hours before the barge will arrive and comparing that information to what we see on the wave buoy, it helps us predict the surge conditions during that critical period when the barge will be pumping fuel into our storage tanks. In the years prior to the wave buoy being in position outside of the harbor we struggled to get enough information to predict the conditions within the harbor. On average, we would fail to discharge our barges at least once a year due to the conditions within the harbor. Each time we fail to tie up and discharge it would cost about \$20,000 to return to Honolulu and then to come back when the conditions have improved. This is a very large expense to our small fuel operation on Lanai and to the people of Lanai. Since the buoy has been in place, I don't believe we have ever missed the barge. That is how valuable this buoy has been to us and the people of Lanai. Thank you very much for all of the hard work that goes into maintaining this buoy and the very valuable information that we are able to utilize from it." Remember our wave buoys are in partnership with USACE/Scripps Coastal Data Information Program (CDIP).
- **ACT Board Welcomes 3 new members:** Scott McLean Director of Ocean Networks Canada, Centre for Enterprise & Engagement, University of Victoria (www.neptunecanada.ca) Jan Van Smirren President Fugro Geos and Officer of Society for Underwater Technology Houston (www.geos.com) and Thomas Miller Director of the UMCES Chesapeake Biological Laboratory (www.umces/cbl).
- **Visit with Dr. Phil Mundy (AOOS DMAC Chair; Director - Auke Bay Laboratories, Alaska Fisheries Science Center, NOAA Fisheries):** Phil Mundy was in Silver Spring on a detail to the NOAA Fisheries Acting Chief Scientist and had the opportunity to visit with the US IOOS Program Office Operations Division to discuss data related activities and product development that is occurring AOOS. This was a great opportunity to meet face-to-face and talk about activities in AOOS and at the National level. Provision of good metadata records that follow the FGDC standard and preparation for the possible transition to ISO was an element of the discussion and the opportunity to work with the Auke Bay Laboratory to make their data available. Phil also talked about a pilot project Rob Bochenek (AOOS DMAC Coordinator) is working on that is engaging a major constituency, the Alaska Department of Fish and Game, to improve the forecast of Chinook Salmon runs by adding ocean data (e.g. meteorological and ice data). Phil will be following up with Derrick and Hassan on metadata work and related biological project activities.

- **Meeting with Mr. Wenxi Zhu, Director of Secretariat for the Intergovernmental Oceanographic Commission's Western Pacific Region (Bangkok):** Charly, US IOOS Program Office, spent about 90 minutes meeting with Mr. Zhu and a State Department staffer (Linda Harris). Mr. Zhu's visit is part of a US State Department International Visitor Leadership Program. The meeting was very positive and part of an extensive tour of NOAA for Mr. Zhu that will also include visits to NOAA facilities in Colorado, Seattle and California.

Congressional:

- Representative Pallone Announces \$2 Million Grant to Improve Flood Forecasts, Ocean Safety: <http://www.maracoos.org/node/140>

Communications/Outreach and Website Updates:

- **Ocean Powers Technology:** Press release on the use of High Frequency Radar, supporting the US Navy's Littoral Expeditionary Autonomous PowerBuoy (LEAP) program: <http://phx.corporate-ir.net/phoenix.zhtml?c=155437&p=irol-newsArticle&ID=1598591&highlight=>
- **US Embassy in Palau:** "International Partnership Expands Shark Research in Palau" - Expansion through US IOOS - PacIOOS.

IOOS Conference Involvement: This section will highlight those conferences where US IOOS is a sponsor/or has a major footprint.

- **NEW: Oceanology International - Global Ocean Forum - Abstracts due 30 September.** I am chairing the steering team for the Ocean Observation and forecasting session, along with Rich Burt, Sales and Marketing Director, Chelsea Technologies Group Ltd; Gwyn Griffiths, Chief Technologist and Head, Ocean Technology and Engineering Group Directorate of Science and Technology National Oceanography Centre University of Southampton Waterfront Campus European Way, Eric Lindstrom, NASA - Physical Oceanography Program Scientist - Science Mission Directorate, Bev MacKenzie, Senior Technology Manager, IMarEST, Justin Manley, Senior Director of Business Development Teledyne Benthos and Ralph Rayner, Professorial Research Fellow at the London School of Economics; Sector Director, Energy and Environment for the BMT Group and Industry outreach liaison for US IOOS.
 - **Why consider speaking:** In 2010, there were 6,938 unique attendance with 550 world-leading suppliers - so a great venue to get our message out on the of the importance of ocean observing and forecasting. Oceanology International is the global forum where industry, academia and government share knowledge and connect with the marine technology and ocean science community, improving their strategies for measuring, exploiting, protecting and operating in the world's oceans.
 - The dates of the meeting: 13-15 March 2012 - <http://www.oceanologyinternational.com/>

- Session Objectives:
 - This conference theme covers all aspects of ocean observation and monitoring using remote sensing and in-situ technologies as well as tools and techniques for ocean forecasting. Abstracts are invited for papers covering any of the following broad areas:
 - Descriptions of existing, emerging and proposed observing systems and their use to deliver socioeconomic benefits.
 - New scientific and technological developments in sensors for improved observation of physical, chemical and biological parameters.
 - Case studies of novel application of existing technologies.
 - Developments in analysis and interpretation of ocean observations and measurements.
 - New approaches to the forecasting of the ocean's physical, chemical and biological characteristics
- **MTS/IEEE Oceans 2011- Kona, Hawaii September 19-22, 2011:** So, I can not list the wonderful talks that will feature US IOOS during these three days, because I am sure I will miss some, I will only feature our townhall and forum:
 - Tuesday 1:30-2:50: Partnerships to Integrate Ocean Observing to Address Customer Needs: This will feature speakers from US, Canada and Australia as we talk about an integrated observing partnership across the Pacific
 - Wednesday 0820-0940: Emerging Ocean Observing Technology Forum: This will be an interactive question/dialog with a panel from industry and US IOOS on the emerging/existing observing needs for the emerging technologies could meet. It will be open to **ALL** registrant and the goal is to foster closer relationships with the Industry sector of the US IOOS.

Upcoming Meetings: To see the IOOS calendar, please visit:
<http://www.usnfra.org/calendar.html> or <http://ioos.gov/calendar/>.

Cheers,
Zdenka