

Bi-Weekly IOOS® Z-GRAM – 11 July 2014

The Z-Gram is an informal way of keeping you up-to-date on US IOOS® activities. Pass it on! Please reply with an e-mail with additional addresses or if you no longer want to receive the Z-Gram.

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

From the IOOS Program Office:

- **Welcome Aboard:** The last several Zgrams we have seen a number of farewells, so I am delighted to welcome Dr. Christopher Duncombe Rae to IOOS. Chris is a physical oceanographer and programmer, most recently with the WHOI Upper Ocean Process group. Chris will spend the majority of his time developing software demonstrations of the current and future DMAC capabilities as deployed across the regional associations and partner federal agencies. These demonstrations will provide evaluations, communications material, and educational material to help elucidate how DMAC efforts are helping make data easier to find, access, and use.
- **PacIOOS Position - Communications and Program Coordinator.** The position is full-time and responsible for internal program coordination and external communications, including outreach and public relations activities for stakeholders, partners, and the media throughout the State of Hawai'i and the Pacific Region. To view the full job description, including details on Major Duties, Primary and Secondary Qualifications, and to apply online, please click the following link: <http://goo.gl/XuM17z>. Or visit the RCUH website (<http://goo.gl/MmMnzj>) and enter job ID# 14310.
- **Funding Opportunity:** NOAA's Ocean Acidification Program and NOAA's National Ocean Service National Centers for Coastal Ocean Science have jointly published a Federal Funding Opportunity looking at multiple effects of ocean acidification and nutrient loading to coastal marine ecosystems. This has been posted in: grants.gov.

Observation Subsystem and Sensor Technologies

- **High Frequency Radar/Radio:** (Lead Jack Harlan, Jack.Harlan@noaa.gov):
 - From MARACOOS: Watch Hurricane Arthur go by HF Radar on July 4th: http://marine.rutgers.edu/~kerfoot/pub_imagery/arthur-2014/hourly/arthur-2014-lr_v2.mp4
- **Casco Bay Maine Current Survey:** NOAA's Center for Operational Oceanographic Products and Services (CO-OPS) recovered eleven and deployed thirteen acoustic Doppler current profiler (ADCP) stations in the Casco Bay region of Maine. One of the new stations is a horizontally looking ADCP. The remaining stations will stay in place until late-July or early-August, when field operations conclude. The tidal current predictions generated from the data will be included in Tidal Current Tables and NOAA Current Predictions. For more information, contact [Carl Kammerer](mailto:Carl.Kammerer@noaa.gov).
- **NOAA, AOS and UAF study ocean acidification in Prince William Sound - New unmanned tools used to track effects of melting glaciers:** Scientists from NOAA's Pacific Marine Environmental Laboratory, the University of Alaska and the Alaska Ocean Observing System are teaming up this summer and early fall to use new

unmanned tools to study how melting glaciers in Alaska's Prince William Sound may be intensifying ocean acidification in the sound and on the Gulf of Alaska continental shelf. PMEL worked with Liquid Robotics to add sensors for the [Carbon Wave Gliders](#). Scientists will operate a Teledyne Slocum glider to show the downstream effects of melting glaciers and how freshwater changes the chemistry of the water column. This is the first time that these types of gliders have been used in the cold waters of

Alaska. <http://research.noaa.gov/News/NewsArchive/LatestNews/TabId/684/ArtMID/1768/ArticleID/10648/NOAA-and-partner-scientists-study-ocean-acidification-in-Prince-William-Sound.aspx>

Data Management and Communications (DMAC) Subsystem and Tools Built on IOOS

data: (Contact Derrick or Rob to get on the listserv for changes Derrick.Snowden@noaa.gov, Rob.Ragsdale@noaa.gov).

- **QARTOD: Comments due 1 Sep** from IOOS RAs for the Wind Speed and Direction draft manual.
 - The 7th manual (Ocean Optics) will begin on 1 October. Committee meeting to be held Oct. 26 at Oceans Optics conference - <http://www.tos.org/oceanopticsconference/>
- **IOOS Biological Data Services - AOOS and OBIS-USA:** Hassan held a call with Philip Goldstein (University of Colorado, Boulder), Mark Fornwall (USGS), and Molly McCammon and Rob Bochenek (AOOS) to discuss AOOS' biological database enrollment through the IOOS biological data services (IOOS BDS). This introductory call discussed steps to enroll NOAA Fisheries, Alaska Fisheries Science Center biological data that AOOS preliminarily identified as desirable and available for IOOS BDS. As an immediate follow-up to the introductory call, Philip and Hassan shared with Rob Bochenek the IOOS BDS enrollment document and the IOOS BDS training webinar material.

Modeling and Analysis Subsystem

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

- **COMT update:** Becky is coordinating a meeting between NOAA's Ecological Forecasting Roadmap portfolio manager Allie Allen, CO-OPS, CSDL, NCCOS, and NMFS to use the COMT Chesapeake Bay Hypoxia project as a pilot transition project for the EFR. The goal is to determine what role the EFR infrastructure group should have and what the appropriate approving channels should be to define the O&M tail of transitions and the funding plan. The meeting is scheduled for July 14.
- **New PacIOOS Ala Wai Turbidity Plume Model:** Where does the brown water coming out of the Ala Wai Canal in Waikiki go after a heavy downpour? The new [PacIOOS Ala Wai Turbidity Plume Model](#) helps to address this question. The team uses near real-time water quality data at the mouth of the Ala Wai Canal paired with a Regional Ocean Modeling System ([ROMS](#)) forecast to create an animation of the "brown water" movement.

Interagency and International Collaboration/News

- **GEO Appathon:** Develop a new App using Earth observation data from the data sets in the GEOSS Common Infrastructure. The Appathon runs from May 7 to August 31. www.geoappathon.org. Check out the video produced by the U.S. Mission in Geneva at http://youtu.be/5sEH8go_DCI.
- **Hampton Roads Whole of Government Sea Level Rise pilot project (White House and Pentagon initiative)**
 - OCEANS News and Technology July edition: *Title: U.S. IOOS Addresses Sea Level Rise in Hampton Roads Pilot.*
- **IOOC Biological Integration and Observation Task Team (IOOC BIO-TT):** IOOC BIO-TT has commissioned an analysis subgroup that is interpreting the survey results and conducting a synthesis to use as a tool at the upcoming fall workshop. The survey targeted federal agency experts who collect, use, or deliver ocean and coastal biological observations. The primary objective is to improve the availability of existing IOOS core biological variables and prioritize additional cross-cutting biological and ecosystem observation needs.

Delivering the Benefits:

- **Visit to SCCOOS:** Thank you to SCCOOS for a wonderful whirlwind tour. Highlights are included here, but check back to the IOOS Website mid-week for the full story and pictures. I met Julie Thomas, Executive Director of SCCOOS on Monday for a full week of site visits.

Our first visit was to XPRIZE to discuss the Wendy Schmidt Ocean Acidification Prize. The deadline for teams had just closed when we visited so we can't reveal the numbers, but they are impressive. Testing will begin later this summer. XPRIZE is now working to develop the post-prize market. For more info: <http://oceanhealth.xprize.org/>. From there we visited Tom Jacobsen of Jacobsen Pilots Service – in summary large ships, southwest swell, draft increases by 11 feet: "CDIP alert is SO HELPFUL to us!" CDIP is an USACE/CA State Parks Division of Boating and Waterworks contributor to IOOS.

Tuesday we visited with Phil Cruver and his team to get a firsthand look at the Catalina Sea Ranch. Embracing technology, monitoring, and ocean research is something they not only talk about, but practice. From innovative ways to making algae (food for mussel larvae) to experimenting with Cryopreservation of bivalve larvae, to having a research vessel for the community to use – they are doing things right.

Wednesday we visited Steve Weisberg, Southern CA Coastal Water Research Project, to discuss continued cooperation and see their leading edge research in changing the way we monitor for discharge. SCCWRP is also working with Hubbs Research and NOAA/National Ocean Service/National Centers for Coastal Ocean Sciences on modeling effluent off the coast. Then it was off to Carlsbad Aquafarm to see the Burk-o-lator, which is awaiting some backordered parts for complete installation. The hatchery manager was very happy to test the equipment, not only to determine a baseline for ocean acidification but also for continuous temperature and salinity readings that could give them alerts on the conditions favorable for the development of toxic algae. Our afternoon schedule only permitted a quick tour of Hubbs Sea World Research, which was founded in 1963 to conduct research in the tradition of world-renowned scientists, Dr. Carl L. and Laura C. Hubbs. Since 1963 their charter has been: "To return to the sea some measure of the benefits derived from it."

Thursday morning started with a breakfast meeting with Margaret Lienen, Director of Scripps to discuss continued cooperation, followed by a meeting with the SCCOOS team to talk gliders, and

lastly, we chatted with NOAA's Southwest Fisheries Science Center to talk about closer collaborations. That afternoon, I had the opportunity to present at The Maritime Foundation seminar on the study US IOOS is sponsoring to baseline the Ocean Enterprise. See my presentation here for more details: <http://www.ioos.noaa.gov/communications/presentations/welcome.html>.

I wrapped up my trip on Friday visiting two of San Diego's technology companies - MRV Systems and Teledyne RD Instruments.

- **SCCOOS/CeNCOOS Symposium Ocean Observing along California's Central Coast in a Changing Climate:** The symposium was held July 1, 2014 at California

Polytechnic State University, San Luis Obispo (Cal Poly) Performing Arts Center. Representative Lois Capps and Representative Sam Farr both discussed their support of IOOS and ocean and coastal sustainability during a special panel discussion. There were 3 panels that highlighted SCCOOS and CeNCOOS at work:

- Tracking Changes in the Marine Environment: Andrew DeVogelaere, Monterey Bay National Marine Sanctuary highlighted that CeNCOOS supports many of the monitoring systems and praised CeNCOOS for their data management. Leslie Ewing, California Coastal Commission, stated that CeNCOOS/SCCOOS data supports the commission in technical reviews of shoreline armoring projects, beach protection and restoration, and approval of new development along the coast. John Tenera, Tenera Environmental, said data is critical in developing indices that inform development and networking of marine reserves. He also expressed the value of HF radar data in supporting the prediction of intake impacts from desalination plants. Liz Whiteman, California Ocean Science Trust, credited IOOS with helping California cross traditional boundaries between government, science, and societal needs.
- Federal and State Ocean Policy and Management: Congresswoman Capps and Congressman Farr expressed their strong support for IOOS and informed on the challenges they face in Congress to support coastal, ocean, and climate related issues. Congresswoman Capps expressed her support for the sanctuaries, "The Monterey Sanctuary is a great model to demonstrate how to protect our special places." Congressman Farr expressed a strong need to demonstrate the economic impact of ocean data to local, state, and federal stakeholders. Cat Kuhlman, Deputy Secretary for Ocean and Coastal California Water Resources Agency, echoed Congressman Farr's call to educate the public on coastal and ocean issues, but said engagement needs to go beyond the community at the symposium.
- Informing Human Uses of the Ocean: Ray Fields, President The Abalone Farm, Inc., thanked the IOOS RAs for the information they provide for his operations. Peter Hanson, a commercial fisherman, expressed his gratitude for data from SCCOOS. "For me personally, we have gone from the stage coach to a space ship status because of the data we receive." He informed the data improves the safety of his off-shore fishing trips and reduces his operation's carbon footprint. Mark Jackson, Meteorologist-in-Charge NWS/WFO Oxnard, CA, described how SCCOOS supports the WFO's ability to provide observations and forecasts to tankers at the Ports of LA/LB.

- **CO-OPS Posts First QuickLook for 2014 Hurricane Season:** QuickLook products got their 2014 start with Hurricane Arthur. 12 QuickLooks were posted for the storm during the period of July 2-July 5. Arthur reached its peak on the morning of July 4 as a

Category 2 hurricane and made landfall over North Carolina between Cape Lookout and Beaufort. The highest storm surge recorded was 4.5 feet in Oregon Inlet Marina on July 4 near the time of landfall. Maximum wind speeds of 47 knots were observed in Beaufort, NC and Duck, NC. The highest wind gusts up to 61 knots and up to 79 knots were recorded in Beaufort, NC and Hatteras, NC respectively.

- **NOAA issues new nautical chart for the Arctic:** NOAA's National Ocean Service/Office of Coast Survey is the U.S. official charting office. The new nautical chart is for the Delong Mountain Terminal, a shallow draft port servicing the Red Dog Mine, on the western coast of Alaska in the Arctic. New [chart 16145](#) fills in historically sparse depth measurements, using new survey data recently acquired specifically for this chart. "This chart is important to the Arctic economy, giving navigational intelligence for the vessels shipping zinc and lead from Red Dog Mine, one of the world's largest producer of zinc concentrate," explained Rear Admiral Gerd Glang, director of NOAA's Office of Coast Survey. "The new chart offers vastly more navigational information than the only other available chart of the area."
- **Experimental Height Model that Spans One-quarter of the Earth's Surface:** NOAA's National Ocean Service/National Geodetic Survey (NGS) released the model, the first to cover all of Hawaii, Alaska, Puerto Rico, and the U.S. mainland, incorporates all available satellite, airborne, and surface gravity data, and represents a significant step toward defining a new regional vertical datum and contributing to a world height system. It will be tested by surveyors, engineers, geographic information specialists, and others interested in defining accurate heights. NOAA is collaborating with Canada, Mexico, Central American and Caribbean nations, and Denmark (for Greenland) to provide a unified height model for scientific, engineering, disaster mitigation, and emergency response purposes. For example, this model may improve forecasters' ability to predict the effects on Florida of storm surge from a hurricane in Haiti.

Congressional: See SCCOOS/CeNCOOS Symposium above.

Communications / Outreach / Education:

- **AOOS Short Film Contest – In honor of AOOS' 10th birthday:** AOOS is sponsoring a Short Film Contest of 10 minutes or less with a \$1,000 prize. Submissions are due Sept 15th. <http://www.aos.org/film-contest/>. Films will be shown at the AOOS 10th Anniversary Celebration on Nov 19th at the Anchorage Museum.

Upcoming Meetings with IOOS participation:

- **ANNOUNCING: US Hydro Conference 2015:** Hosted by The Hydrographic Society of America at the Gaylord National Resort – March 16-19, 2015. National Harbor, Maryland USA. Keynote speakers – US Congress, NOAA, US Navy. Sponsors: NOAA; ECO, OceanNews, Hydro International and Sea Technology magazine. For complete details and to register visit: www.ushydro2015.com

View the IOOS

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

Cheers,
Zdenka

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