

A black and white photograph of a research vessel's deck. In the foreground, a large, white, cylindrical buoy is being hoisted by a crane. Two crew members, wearing hard hats and life vests, are visible on the deck, one of whom is pulling on a rope. The ocean and a cloudy sky are in the background.

Enhancements in Data Management and the Data Portal

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Data Management and Communication Subsystem

University of South Carolina

- Maintain SECOORA DMAC infrastructure

- Maintain and upgrade interactive maps and data portal

- Provide service and support to data providers, data users, products users, etc.

- Engage in IOOS DMAC

- Collaborate with SECOORA product development contractor

University of North Carolina Chapel Hill

- Support IOOS vocabulary efforts

Maintain SECOORA DMAC infrastructure:

- Includes appropriate staffing, equipment, rigorous documentation of code, tools, and program developments to facilitate their wider use, and increased public awareness of SECOORA data, products and services.
 - The ultimate goal of the DMAC is to achieve sufficient consistency, reliability, and usability to become an operational asset in support of the data and information management needs of SECOORA end users.
- An IOOS / SECOORA reality is that within the constraints of funding and resources, the DMAC team is working with the RCOOS PIs, identified additional end users, and SECOORA staff to identify prioritized activities and scheduling.
 - Identifying and implementing efficiency measures is a constant effort. Consolidation of core DMAC infrastructure (hardware, software, personnel) to a single entity (USC). For core DMAC processes, we have streamlined operations by identifying opportunities for centralizing, outsourcing, and/or virtualization of server operations. Unnecessary redundancies have been eliminated, and only those required to maintain the documented service level are maintained. Additionally, routine processes (e.g., QA/QC, report generation, etc.) have been automated, where possible.

Engage in IOOS DMAC:

- The SECOORA DMAC team has been actively engaged in IOOS Program Office activities in support of national IOOS DMAC efforts. These have included:
 - Working with NDBC to support data transfer and with NODC to support archival efforts for non-federal data via SOS feeds.
 - Overall compliancy with IOOS standards.
 - Participating in the Eye on Earth initiative which has evolved in to the IOOS pyOOS library review.
- Expectation / estimate of 30% of RA DMAC efforts to support IPO initiatives.

Maintain and upgrade interactive maps and data portal:

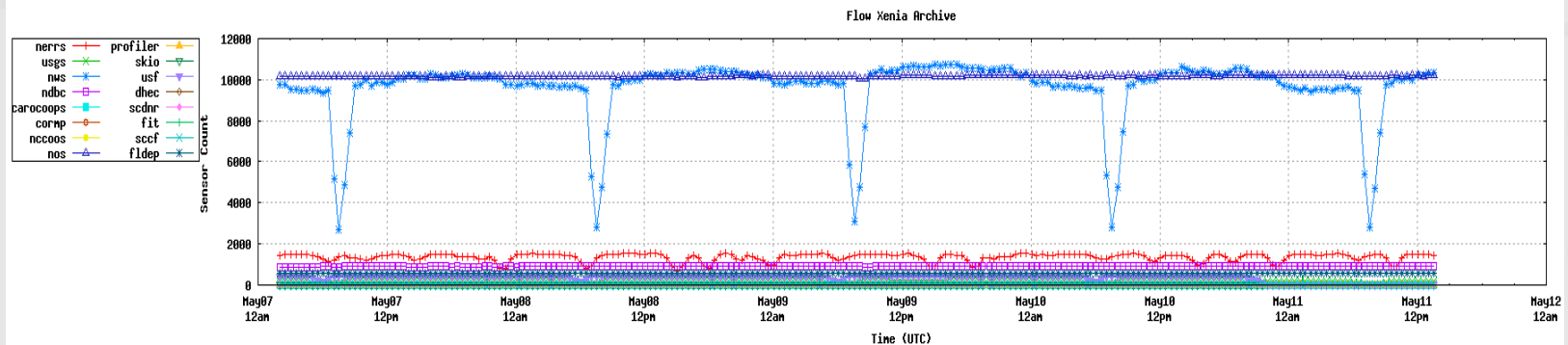
- The present SECOORA data repository (aka “commons”) ingests data and modeled output from:
 - over 600 fixed platforms, moored buoys and gliders with more than 3,000 observations/hour, (including data from some common federal observing systems e.g., NOAA NDBC, NOS, NERRS, NWS, and USGS, as well as sub-regional programs e.g., C-RCOOS, COMPS and state agencies),
 - four (4) ocean conditions (NCSU*2, USF, UF) and one (1) water quality (USC) model providers, and
 - five (5) HF radar operators (Skidaway, UNC, USC, USF, UM).

Maintain and upgrade interactive maps and data portal:

- The SECOORA data portal provides access to observation data from the following programs:
 - Federal include NOAA NOS, NERRS, NDBC and the USGS totaling over 400 stations. Add in the NOAA NWS stations and the number goes up to nearly 2000!
 - Non-federal include C-RCOOS, FLDEP, SCCF, Everglades National Park partnership, FAU, LBHMC, FWRI, FIT, USF totaling over 50 stations.
 - HF radar coverage in five areas.
- Challenges include:
 - Keeping track of data streams being up and down.
 - Determining the best mechanisms for viewing, querying and accessing data via a website. (Data pushes and pulls are much easier to handle.)

Maintain and upgrade interactive maps and data portal:

- SECOORA uses database checks and email notifications to (try to) keep up on data stream delivery from host institutions buoys, platforms and model outputs.



- Requires two-way communication between data providers and data hosting service.



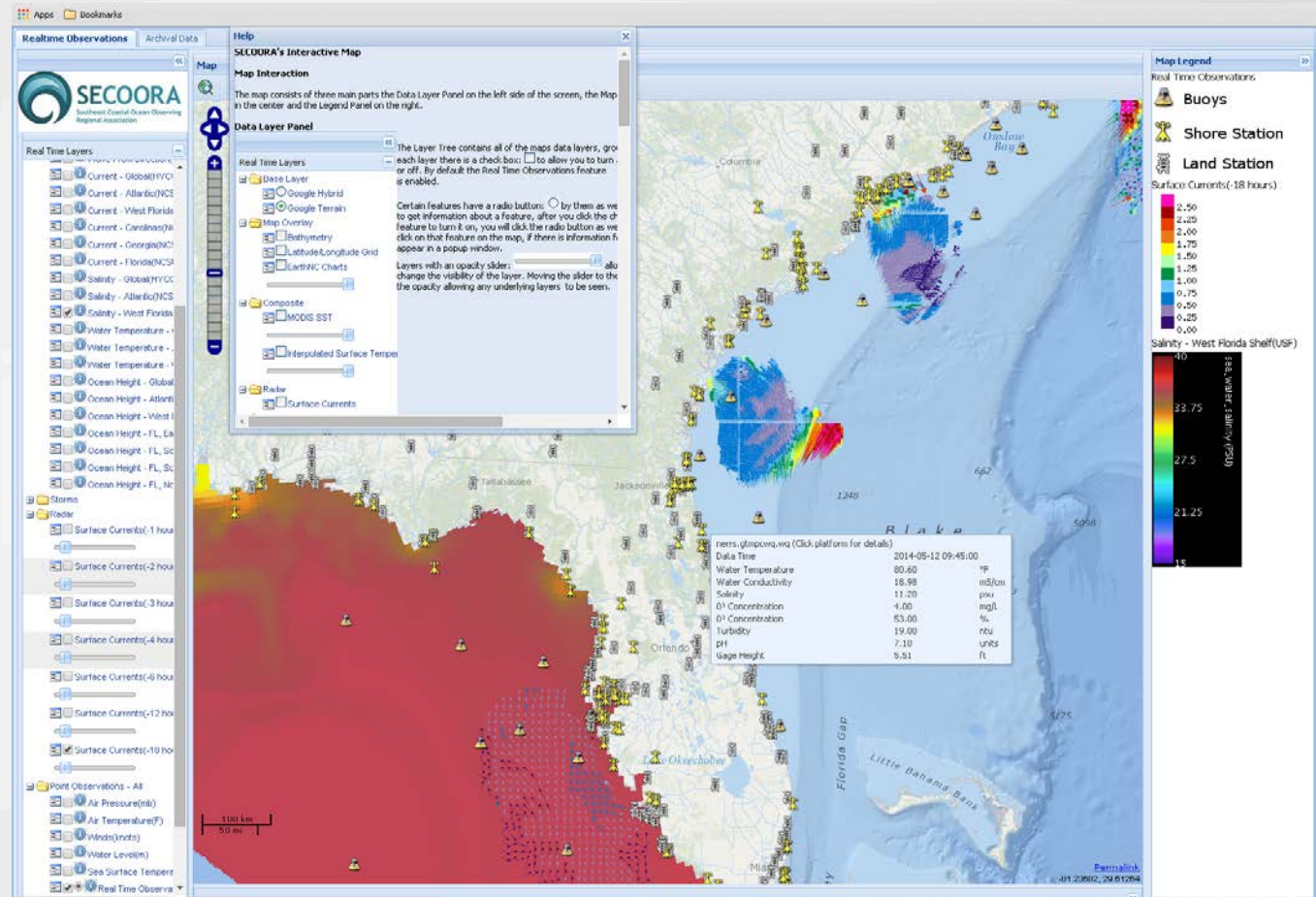
ndbc.41012.met (Click platform for details)

Technical Issue with Buoy

Maintain and upgrade interactive maps and data portal:

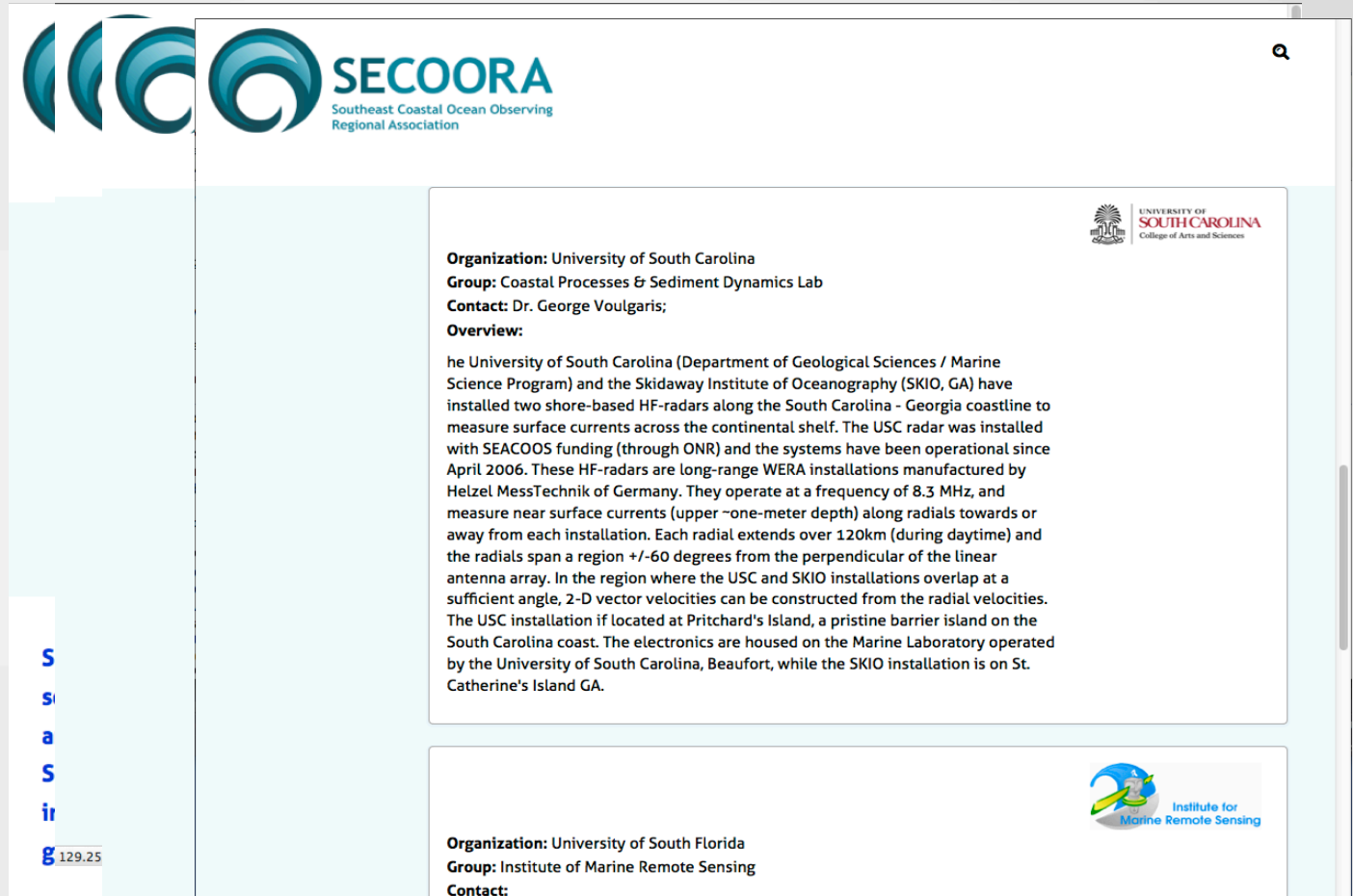
- Based on experiences, user opinions, consistency with other IOOS RA and ROP efforts SECOORA is moving from

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Maintain and upgrade interactive maps and data portal:

- ... to a more intuitive catalog approach providing the user greater control over content.



The screenshot displays the SECOORA (Southeast Coastal Ocean Observing Regional Association) data portal. The header features the SECOORA logo and a search icon. The main content area shows a search result for the University of South Carolina. The result includes the organization name, group, contact information, and an overview of the HF-radar system installed along the South Carolina - Georgia coastline. The overview text describes the installation of two shore-based HF-radars, their operational details, and the locations of the USC and SKIO installations. The footer of the portal includes the I/OOS logo and the SECOORA logo.

Organization: University of South Carolina
Group: Coastal Processes & Sediment Dynamics Lab
Contact: Dr. George Voulgaris;
Overview:
The University of South Carolina (Department of Geological Sciences / Marine Science Program) and the Skidaway Institute of Oceanography (SKIO, GA) have installed two shore-based HF-radars along the South Carolina - Georgia coastline to measure surface currents across the continental shelf. The USC radar was installed with SEACOOS funding (through ONR) and the systems have been operational since April 2006. These HF-radars are long-range WERA installations manufactured by Helzel MessTechnik of Germany. They operate at a frequency of 8.3 MHz, and measure near surface currents (upper ~one-meter depth) along radials towards or away from each installation. Each radial extends over 120km (during daytime) and the radials span a region +/-60 degrees from the perpendicular of the linear antenna array. In the region where the USC and SKIO installations overlap at a sufficient angle, 2-D vector velocities can be constructed from the radial velocities. The USC installation is located at Pritchard's Island, a pristine barrier island on the South Carolina coast. The electronics are housed on the Marine Laboratory operated by the University of South Carolina, Beaufort, while the SKIO installation is on St. Catherine's Island GA.

Organization: University of South Florida
Group: Institute of Marine Remote Sensing
Contact:

Provide service and support to data providers, data users, products users, etc.:

SECOORA Pls, Members and Staff

NOAA: IOOS Program Office, National Estuarine Research Reserve System, Oceans and Human Health Initiative, National Data Buoy Center, Data in the Classroom, Chesapeake Bay Interpretive Buoy System, National Coastal Data Development Center, National Weather Service Hydrometeorological Automated Data System, NWS Regional Forecast Offices, National Centers for Coastal Ocean Science, Coastal Services Center,

Regional Associations: NANOOS, NERACOOS, AOOS, MARACOOS, GCOOS, CARA

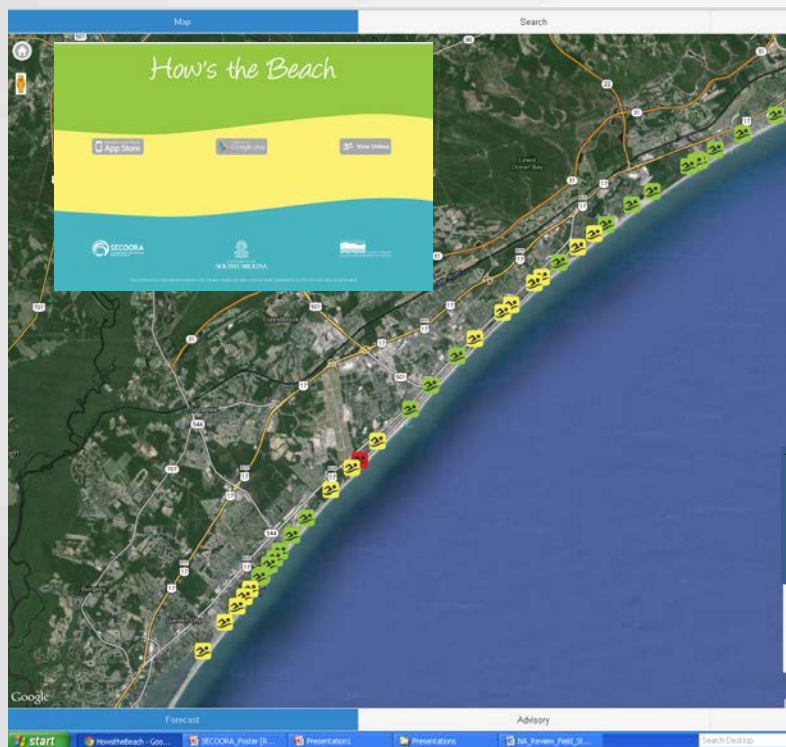
Others: Estuaries.Gov, US Coast Guard, Pacific Shellfish Growers Association, San Diego State University Field Stations Program, Stockton College, Maryland DNR, Chesapeake Bay Eyes on the Bay, Georgia Forestry Commission, Georgia Coastal Ecosystems LTER, Center for Integrative Coastal Observation, Research and Education, Environmental Monitoring Sensor Intelligence Corp, SC Department of Health and Environmental Control, Smithsonian Institute, MBARI EARTH, South Brunswick High School, European Environment Agency, State of New Hampshire, Hudson River Environmental Observatory, Gulf of Maine Research Institute, The Nature Conservancy, EcoTrust, Governors' South Atlantic Alliance, University of Maryland, SC Department of Natural Resources, Duke University, Georgia Tech,

Provide service and support to data providers, data users, products users, etc.:

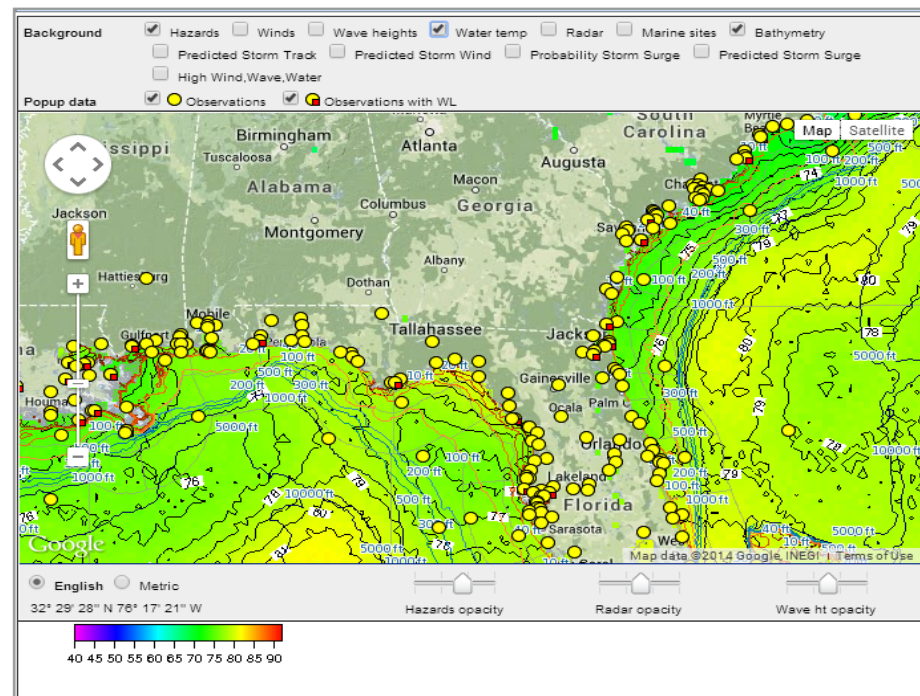
- Focusing on “in reach” this current year, the DMAC team has been working with ...
 - USF, NCSU and UF on THREDDS data access
 - USF COMPS on buoys and coastal station data issues
 - FAU LOBO
 - FIT on ADCP data issues
 - USF on gliders
 - UM radar data issues
 - ROFF’S for model output access
 - FWRI to re-instate data streams after redeployments

Provide service and support to data providers, data users, products users, etc.:

- Supporting product development and access, efforts have focused on ...



Marine Weather Portal



Provide service and support to data providers, data users, products users, etc.:

- Supporting product development and access, efforts have focused on ...

The image displays a screenshot of the GSAA Coast & Ocean Portal website on the left and a Google Map of the Eastern United States on the right. The website features a header with the GSAA logo and navigation links. The main content area includes a large image of a beach with people, a 'Beach Renourishment' section, and sections for 'LEARN', 'EXPLORE', and 'VISUAL'. The bottom of the website has logos for the Governors' South Atlantic Alliance and the Southeast Coastal Ocean Observing Regional Association (SECOORA). The Google Map shows the Eastern United States with various states labeled. A sidebar on the right of the map is titled 'Superstorm Sandy' and lists various data layers and services, including damage assessments, FEMA disaster areas, and weather observations.