



# 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:

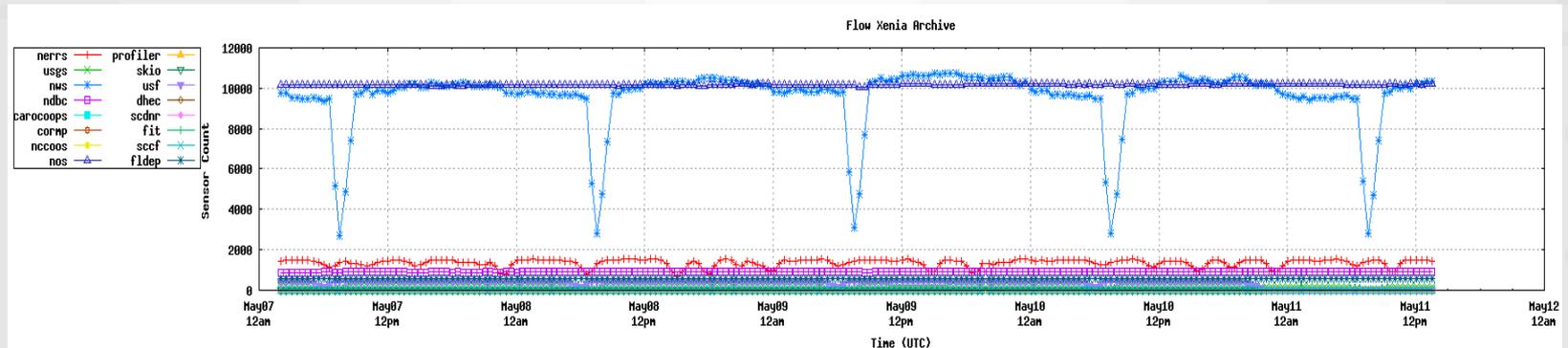
- The present SECOORA data repository (aka “commons”) ingests data and modeled output from:
  - over 600 fixed platforms, moored buoys and gliders with more than 3,000 observations/hour, (including data from some common federal observing systems e.g., NOAA NDBC, NOS, NERRS, NWS, and USGS, as well as 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.



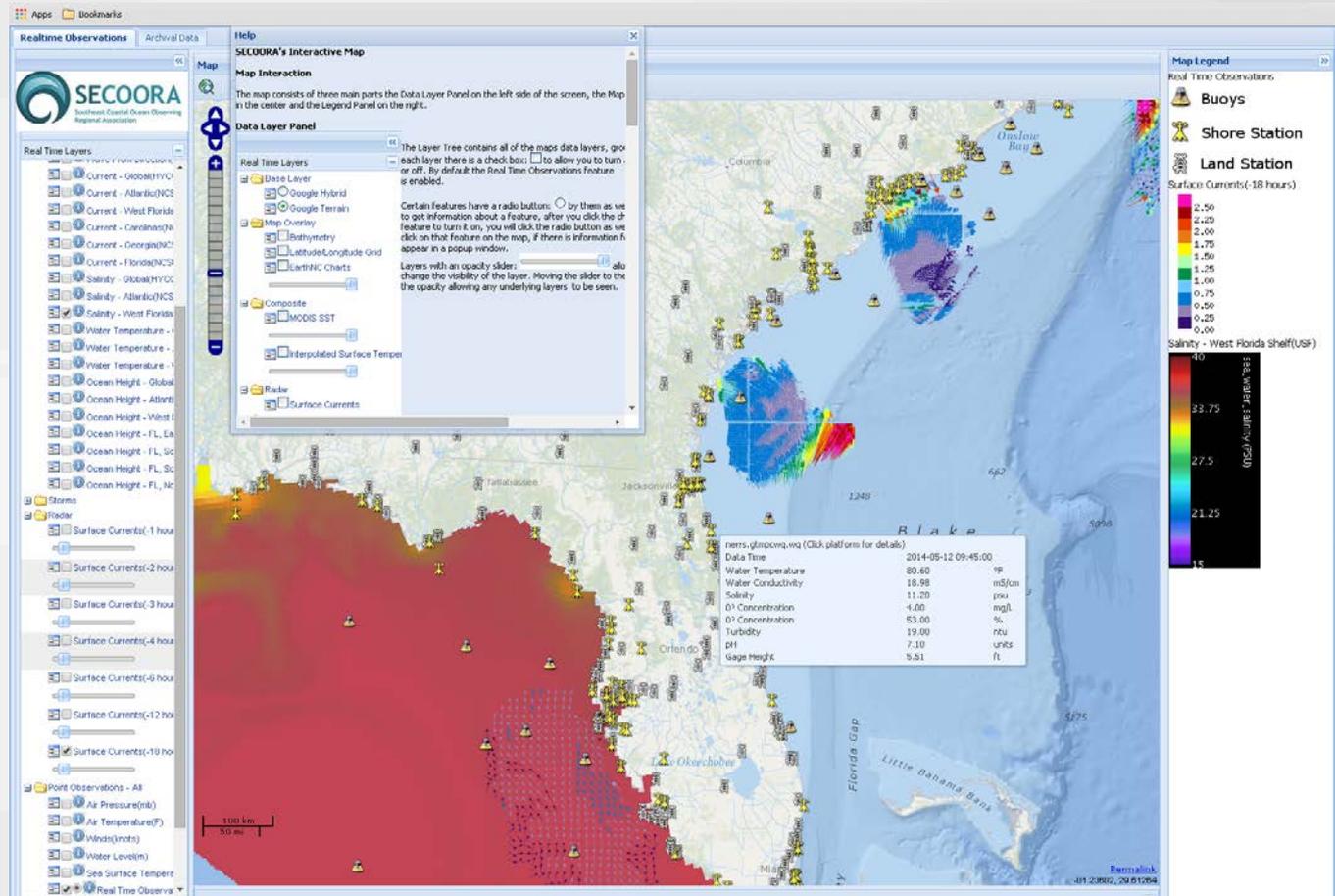
[ndbc.41012.met](#) (Click platform for details)

**Technical Issue with Buoy**

# Maintain and upgrade interactive maps and data portal:

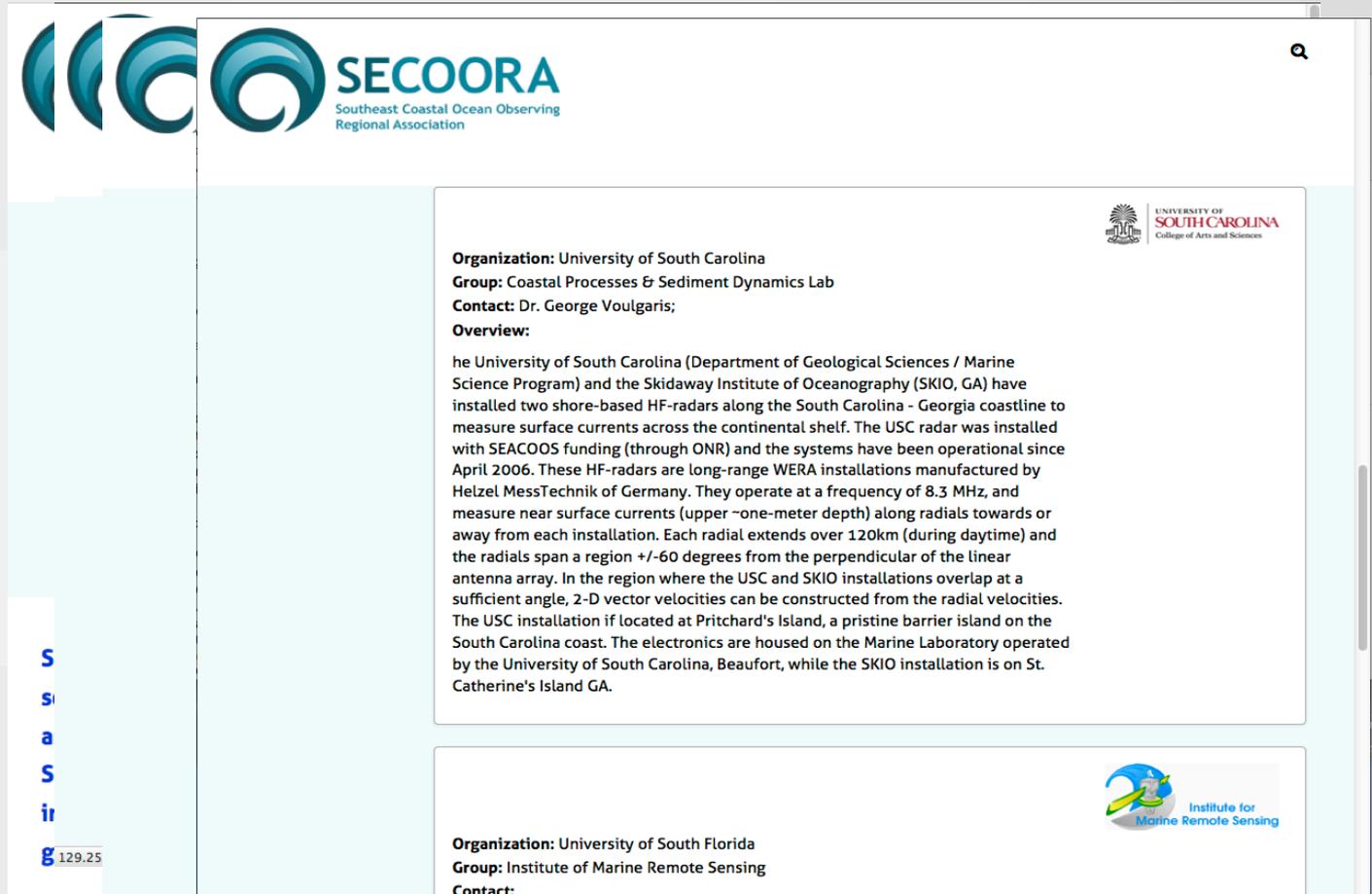
- Based on experiences, user opinions, consistency with other IOOS RA and ROP efforts SECOORA is moving from

...



# 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 includes 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 following information:

- 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.

Below the first result, there is a second result for the University of South Florida, with the following information:

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

On the left side of the screenshot, there is a vertical navigation menu with the letters 'S', 's', 'a', 'S', 'ir', and 'g' stacked vertically, and a small box containing the number '129.25'.

# 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

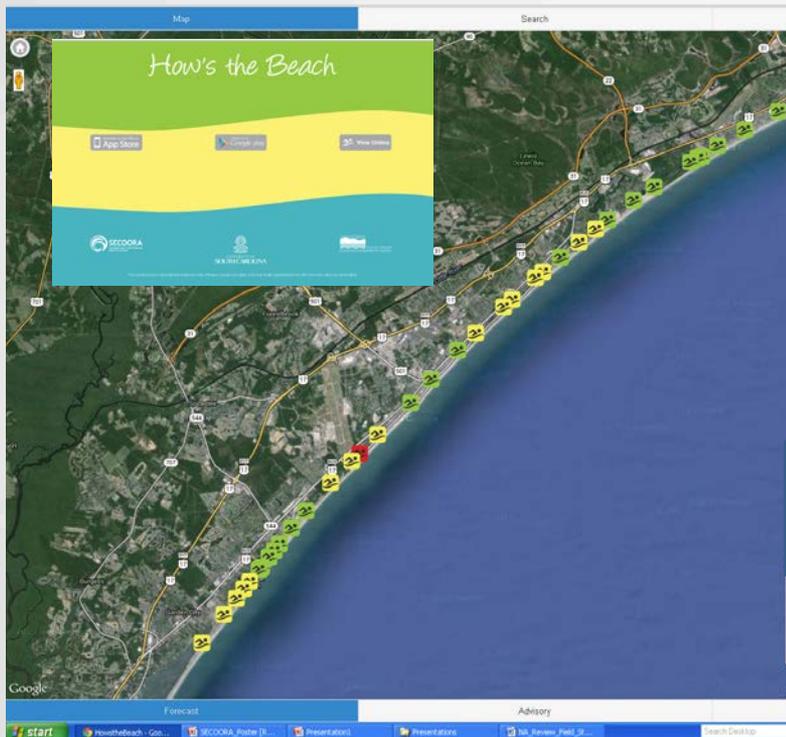
Others: Estuaries.Gov, US Coast Guard, Pacific Shellfish Growers Association, San Diego State University Field Stations Program, Stockton College, Maryland DNR, Chesapeake Bay Eyes on the Bay, Georgia Forestry Commission, Georgia Coastal Ecosystems LTER, Center for Integrative Coastal Observation, Research 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.:

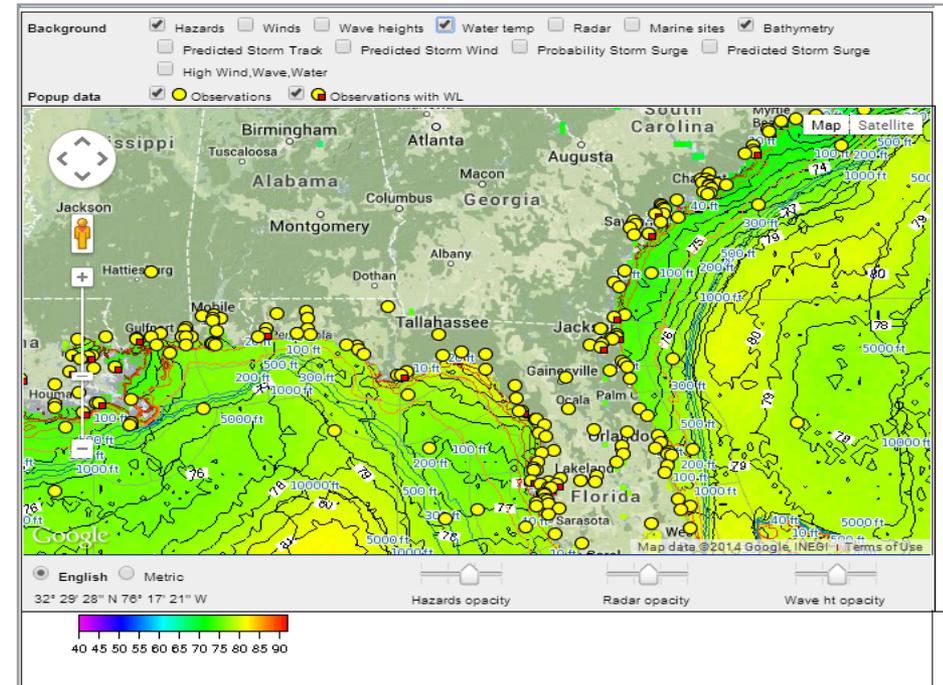
- Focusing on “in reach” this current year, the DMAC team has been working with ...
  - USF, NCSU and UF on THREDDS data access
  - USF COMPS on buoys and coastal station data issues
  - FAU LOBO
  - FIT on ADCP data issues
  - USF on gliders
  - UM radar data issues
  - ROFF’S for model output access
  - 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 shows a screenshot of a web browser displaying the GSAA Coast & Ocean Portal on the left and a Google Crisis Response map for Superstorm Sandy on the right.

**GSAA Coast & Ocean Portal:**

- Logo:** GSAA COAST & OCEAN PORTAL
- Image:** A photograph of a crowded beach with people and umbrellas. A text box below it reads "Beach Renourishment" with a "Learn more" link.
- LEARN:** Understanding the range of regional ocean planning needs.
- EXPLORE:** Access our most current data.
- VISUAL:** Launch our...
- GOVERNORS' South Atlantic Alliance:** North Carolina • South Carolina • Georgia • Florida. Providing regional coastal and ocean planning tools to support the Governors'.
- LEARN MORE ABOUT US:** OUR PARTNERS • OUR FUNDEES •
- GET IN TOUCH:** Please e-mail inquiry information manager. Email: gsaoportal@gsaa.org

**Google Crisis Response Map (Superstorm Sandy):**

- Map:** A map of the Eastern United States and parts of Canada, showing the path of Superstorm Sandy. The map is color-coded to show different types of damage and assessments.
- Layers Panel:** A sidebar on the right titled "Superstorm Sandy" with various layers and filters. The "Damage assessments" section is expanded, showing options like "FEMA Remote-Sensed Damage Assessments", "FEMA Disaster Declared Areas", "MapMill crowd assessment", "Power outage information", "Sandy-impacted YouTube videos", "Senior services", "Shelters and recovery centers", "Weather radar (precipitation)", "Road Conditions", "Emergency alerts", "Local emergency Twitter feeds", "Public alerts", "Weather and observations", "High wind and probability", "Ocean observations", "US food gauge forecasts", and "US significant river food outlook".
- Map Controls:** Includes "Zoom in area", "Zoom to area", "Download KML", and "Source: NOAA, et al. Attribution by SECOORA".