



Sentinel Site Quarterly

*North Carolina
Sentinel Site Cooperative*

Summer 2016

It has been a busy field season. Check out the Quarterly to see what's happening. Contact [Jennifer Dorton](#) if you have articles for the Quarterly. Previous Quarterly Newsletters are on the [NC DEQ](#) website.

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UNC-IMS and the City of Jacksonville Partner for Estuarine Research

Wilson Bay in Jacksonville, NC, home to the Sturgeon City educational center, is the site of the combined research and outreach project titled "Quantifying and Communicating the Function of Restored Estuarine Habitats" (Lead PI - Mike Piehler, UNC Institute of Marine Sciences). The project team, comprised of researchers and collaborators from the UNC-Institute of Marine Sciences, City of Jacksonville, NOAA National Ocean Service, Marine Corps Base Camp Lejeune, and the NC Sentinel Site Cooperative, will evaluate ecosystem services provided by restored and natural wetlands. Additionally the project team has installed Surface Elevation Tables (SETS) in order to quantify long term wetland response to sea level rise.

Public Radio East featured the [Wilson Bay](#) project on August 8. Click on the link to listen to the story.



Project Team - Day 1, ready for field work.



Suzanne Thompson and graduate students from UNC-IMS with sediment cores taken from Wilson Bay marsh.



NOAA NOS staff installing a SET in the natural marsh area in Wilson Bay.

Photo credits: City of Jacksonville

NOAA and NERRS Field Work

NOAA's National Centers for Coastal Ocean Science (NCCOS) and NC National Estuarine Research Reserve (NERR) staff and interns conducted annual salt marsh vegetation monitoring associated with living shorelines in Carteret County, NC. Marsh vegetation biomass and species distribution is measured from permanent plots in both natural reference marshes and living shoreline marshes. The collaborative study, on-going for 10 years, provides a unique long-term data set on the sustainability of natural shoreline marshes, and the effect of stone sills on marsh vegetation and surface elevation. One of the sites is at the NC Aquarium in Pine Knoll Shores, where NOAA and NERR are working with aquarium staff to improve educational and outreach materials for visitors.



Sarah Spiegler, Brandon Puckett, and Hollings Scholar Tricia Light, collecting data along one of the Pine Knoll Shores Aquarium marsh transects.



Jeremy Lonman, student at Elon University and NERRS summer intern, measuring *Spartina alterniflora* at the Maritime Museum study site.

NCSSC Clearinghouse Review

The NCSSC Clearinghouse is an online portal hosted by East Carolina University on the [NC Coastal Atlas](#). It provides access to information about

research and monitoring projects related to sea level rise and coastal resiliency conducted within the NCSSC geographic boundary.

The NCSSC hosted three NCSSC Clearinghouse feedback sessions over the summer, including in person meetings and an informational webinar. Based on input at these sessions, we created an [online form](#) that can be used to submit a project for inclusion in the Clearinghouse. Additionally, the form can be used to request updates to an existing project on the Clearinghouse.

NCSSC "Data Corner"

This month we are featuring the Quantitative Precipitation Estimation (aka QPE) from the NOAA National Weather Service. These are model and radar derived estimates of the amount of rain that has fallen over a given location as part of a precipitation event. There are several websites that can help you determine how much rain may have fallen over an estuary or drainage basin.

- http://www.srh.noaa.gov/ridge2/RFC_Precip/
- <http://water.weather.gov/precip/>

Both of these sites provide precipitation that can be viewed over hourly, daily, weekly, or monthly timescales. Data can also be downloaded as shapefiles for inclusion in GIS products. These data can be very helpful in determining rainfall derived water inputs, especially for evaluating return intervals for extreme events which may have adverse impacts on the ecosystems.

The second website also uses the 30-year precipitation normals generated by the PRISM project. The PRISM gridded climate maps are considered the most detailed, highest-quality spatial climate datasets currently available. The 30 year PRISM normal from 1981-2010 is used for precipitation analysis since 2004. Prior to 2004 the 30 year PRISM normal from 1961-1990 is used. PRISM data is directly available from prism.oregonstate.edu.

NCSSC Research and Monitoring Workshop

The NCSSC will host a Research and Monitoring Workshop in Winter 2017. This workshop will provide the opportunity to learn more about the NCSSC accomplishments, help us update our future work plan goals and objectives, share information on current research efforts, and identify areas for broader collaboration with Cooperative Partners.

More details will be available soon!



The [NOAA Sentinel Site Program](#) leverages existing research and monitoring resources to ensure resilient coastal communities and ecosystems in the face of changing conditions. The program's place-based approach focuses on issues of local, regional, and national significance that impact habitats and species managed by NOAA as well as surrounding coastal communities.