



## Sentinel Site Quarterly

*North Carolina  
Sentinel Site Cooperative*

### Fall 2017



Greetings NCSSC partners and stakeholders. Summer is almost over and so is the 2017 Hurricane Season. Here's to an enjoyable fall a fantastic football season, and Happy Halloween!

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### PKS Aquarium Staff assist with Marsh Monitoring

In April 2017, the NCSSC organized an informal brown bag conservation lunch at the [NC Aquarium at Pine Knoll Shores](#). Speakers Carolyn Currin ([NOAA NCCOS](#)) and Brandon Puckett ([NCNERR](#)) from the NCSSC Core Management Team discussed sea level rise concerns and long term marsh vegetative studies conducted at research sites in Carteret County, including a field site at the aquarium.

Aquarium staff participated in a vegetative survey training session, led by Anna Hilting (NOAA NCCOS). Post-training, aquarium staff members assisted NOAA and NCNERR with summer field work and learned more about the salt marsh plant and animal communities. Aquarium staff noted that the hands on field experience will provide them with new information to share with aquarium visitors.



Anna Hilting (NOAA NCCOS) conducts a training session for PKS Aquarium staff.

*Background information:*

NOAA, NCNERR and UNC-IMS have conducted research since 2002 on the ecosystem structure and function of the natural and stabilized marshes bordering Bogue Sound. NOAA and NCNERR have measured marsh plant species, stem density and biomass, snail density, and changes in sediment surface elevation rates at the PKS Aquarium. UNC-IMS researchers have measured long-term shoreline changes, algal and seagrass communities, and fish utilization of the marshes. The studies at the aquarium focus on marsh response to sea level rise, erosion, and impacts of marsh stabilization methods. NOAA has installed six [Surface Elevation Tables](#) (SETs) in the marshes at the aquarium.

## New Green Infrastructure Database



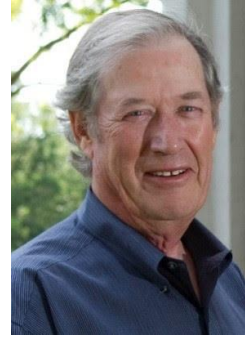
[NOAA Office for Coastal Management](#) (OCM) has reviewed and compiled over 250 publications to assist with green infrastructure planning for coastal resilience: [Green Infrastructure Effectiveness Database](#). The new database includes information on 32 different coastal green infrastructure types.

OCM defines natural or green infrastructure as existing natural features, or engineered systems mimicking natural processes, that are integrated into a network that benefits both nature and people. Natural infrastructure provides ecosystem services including improving water quality, providing habitat, reducing flooding and buffering the impact of storms on coastal communities.

OCM provides tools, trainings, and data that help planners and practitioners understand and plan for green infrastructure approaches to reduce negative impacts from storms, flooding, and sea level rise.

## Dr. Stan Riggs speaks at NOAA Beaufort Lab

The [Newport/Morehead City National Weather Service](#) (NWS) office hosted Dr. Stanley Riggs, coastal and marine geologist from East Carolina University, on July 12 at the NOAA Beaufort Lab. Dr. Riggs' talk, "Climate Change, Sea Level Rise, and the North Carolina Coastal System," was attended by over 100 people. He gave an overview of the dynamic NC coastline and the processes that have helped shape our coastline over the past 2,000 years. Dr. Riggs emphasized the importance of communicating science to community members and policy makers in order to help inform coastal management decisions. Dr. Riggs was a member of the [NCDCM Coastal Resources Commission Science Panel](#) for almost 20 years.



## NC King Tides

The [NC King Tides](#) (NCKT) project team is busy conducting outreach to increase involvement with this citizen science project. The NC chapter of the [King Tides Project International](#) was initiated by Christine Voss ([UNC-IMS](#)) as part of her 2015 NOAA Ecological Effects of Sea Level Rise project [Modeling Wave Attenuation in Marshes](#).

Throughout 2017, NCKT project members Voss, Sarah Spiegler (NCSSC), Jasmine McAdams (UNC-IMS), and Anna Clabaugh (UNC-IMS) have conducted outreach at local schools, the NC Aquarium at PKS, at [CMAST](#) summer camps, and with community groups.



Students at the CMAST Coastal Science Summer Camp learn about changing tides, water levels, and the NCKT project.

The new NOAA app "[What's your Water Level](#)", developed by Christine Buckel (NOAA NCCOS) and the NCKT project members, allows users to post photos and is now available for download on android phones.

Check out NCKT on social media and post your photos of high water events:

- [Facebook](#)
- [Instagram](#)
- [Flickr](#)

## NCSSC Changes

Jennifer Dorton, NCSSC Coordinator, will be leaving September 30 for a new position with the [Southeast Coastal Ocean Observing Regional Association \(SECOORA\)](#). The NCSSC will miss all of her hard work and dedication that helped move the Cooperative forward over the past three years. We wish Jennifer the best of luck in her new position!

## Trainings, Events, and NC in the News

### Trainings

*Sign up now:* **NOAA Tools Training**, hosted by the NCSSC and NCNERRS (October 17, 2017, NOAA Beaufort Lab).

- **Workshop Purpose:** Participants will learn about NOAA resources available to improve local decision-making. Participants will get hands-on experience with various tools, including the Sea Level Rise Viewer and the Coastal Flood Exposure Mapper, as well as learn about resources available through NOAA's [Digital Coast](#).
- **Registration:** sign up [here](#) by October 10. Travel money is available for non-federal employees, please contact [Whitney Jenkins](#) for details.
- **Agenda:** available [here](#).

*Save the date:* NOAA OCM [Adaptation Planning for Coastal Communities](#) (date changed to April 17-18, 2018, NOAA Beaufort Lab). Registration will be available Winter 2018.

### Events

*N&O Community Voices forum:* [Rising Seas: How will climate change affect the North Carolina coast?](#) September 27, 2017, 7 - 8:30 pm, North Carolina Museum of History in Raleigh.

- Panelists: Orrin Pilkey, Astrid Caldas, Todd Miller, Greg Rudolph, and Stanley Riggs.
- Registration available [here](#).

### News

*NOAA Sentinel Site Program webpage*

- [A Sweeping Perspective on the Coastal Environment](#) Summer 2017: NCSSC is the featured SSP Cooperative

*Coastal Review Online*

- [Rising Seas: NC Coast Faces Chronic Flooding](#) 8.28.2017

- [Beaufort OKs Watershed Restoration Plan](#) 9.17.2017

*NYTimes*

- [How Hurricane Harvey Became So Destructive](#) 8.28.2017: Highlights Rick Luettich, Director, UNC-IMS, and his work on storm surge modeling

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.