



Sentinel Site Quarterly

North Carolina

Sentinel Site Cooperative

Spring 2016

Happy pollen season everyone! I am certain your summer plans are in the works. Please keep the Quarterly in mind and share stories or news items for inclusion in our next edition – Contact [Jennifer Dorton](#). Previous Quarterly Newsletters can be found on the [NC DEQ](#) website.

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Living Shorelines



Living Shoreline project, including marsh and oyster reef, at the NOAA Laboratory on Pivers Island, Beaufort, NC. Image Credit: C. Currin, NOAA

NOAA National Ocean Service (NOS) featured Dr. Carolyn Currin on Episode 65 of Diving Deeper. Diving Deeper is a NOAA NOS podcast which connects the listener with ocean experts to explore questions about the ocean environment. Carolyn is a biologist from NOAA's National Centers for Coastal Ocean Science, located at Pivers Island, NC. During this podcast, Carolyn explained what a living shoreline is and why they're so important.

A living shoreline is a term that is used to describe an alternative approach to shoreline stabilization - an approach that uses natural vegetation and native habitats, such as oyster reefs, instead of hardened materials such as bulkhead, rip rap, or a sea wall. Living shorelines were developed after learning that hardened shorelines have some adverse impacts to local ecosystems. Living shorelines are better for property owners, more resilient to storms and potentially more cost effective in the long run than a traditional hardened shoreline.

The [Diving Deeper, Episode 65](#) podcast is available on-line. Use the link to learn more about living shorelines and their use in our local area.

NCSSC Clearinghouse Review

The NCSSC will host two informational meetings about the [NCSSC Clearinghouse](#) on **May 11, 2016** to gather community feedback. You are welcome to attend either session:

- Session 1 - 9:00 AM - 10:00 AM
- Session 2 - 3:00 PM - 4:00 PM

Both sessions will be hosted at the **NCSU CMAST marine lab** in Morehead City, room 205 (second floor).

The Clearinghouse is an online portal hosted by 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.

NCSSC project team members will provide a demonstration of the Clearinghouse at these sessions. Meeting participants will be able to provide feedback on the utility and functionality of the Clearinghouse, verify project information, update citations for the Clearinghouse bibliography, and identify additional projects to include in the Clearinghouse.

NCSSC "Data Corner"

The National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Information (NCEI) hosts a wealth of topographic data which can be used by anyone from the homeowner to coastal managers.

Here are just a few of the datasets which are available for use:



- [Digital Elevation Model \(DEM\) Discovery Portal](#): NCEI created an online catalog that links to web-published digital elevation models (DEMs). This "DEM Discovery Portal" uses an ArcGIS map interface to locate, preview, and link to DEM web pages for download. DEMs may be bathymetric, topographic, or a merged combination of both. They also range from high-resolution coastal DEMs for local studies to coarser DEMs with global coverage. DEM usage ranges from ecologists mapping fish habitat to hurricane modelers estimating coastal storm-surge inundation.
- [Integrated Models of Coastal Relief](#): NCEI builds and distributes high-resolution, coastal digital elevation models (DEMs) that integrate ocean bathymetry and land topography to support NOAA's mission to understand and predict changes in Earth's environment, and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs. They can be used for modeling of coastal processes (tsunami inundation, storm surge, sea-level rise, contaminant dispersal, etc.), ecosystems management and habitat research, coastal and marine spatial planning, and hazard mitigation and community preparedness. This website also provides quick access to the [DEM Fact Sheet](#) and the [Coastal DEM Development Best Practices](#).
- The NCEI also provides access to the [GSHHG - the Global Self-consistent, Hierarchical, High-resolution Geography Database](#). The GSHHG is a high-resolution geography data set including coastlines, political borders, and

rivers available for file download in either ESRI shapefile format or in a native binary format.

CRC updated Sea Level Rise Study now available

The Coastal Resources Commission delivered its updated [sea level rise study report](#) on March 1 to the N.C. General Assembly, as required by Session Law 2012-202.

The report, prepared by the CRC's Science Panel, looks 30 years into the future and uses the most up-to-date scientific research and long-term tide gauge data to project rates of sea level rise for the North Carolina coast. It makes those projections for five different areas along the coast, rather than projecting one single rate of rise for the entire state. In addition to inviting public comment on the draft, the report was submitted to Dr. Robert Dean and Dr. James Houston, nationally renowned sea level rise experts, for technical review and comment.

"The report is an important tool that coastal local governments can use for future planning," said commission chair Frank Gorham. "It gives a range of sea level values that might occur by 2045 across the N.C. coast, and can help planners estimate risks associated with sea level rise and accompanying coastal flooding during that time.

"Our focus now should be on non-regulatory, planning-based approaches to this problem," Gorham continued, "recognizing that many programs that are already in place to address coastal erosion and flooding will also assist in protecting against potential sea level rise."

The most current report is available for [download](#) on the division's website. The Science Panel will continue to update the report every five years.

For more information, please contact Tancred Miller at Tancred.miller@ncdenr.gov.

NC Sea Grant Graduate Student Funding Opportunities

North Carolina Sea Grant provides fellowships and research opportunities that train NC graduate students to become next-generation marine science and coastal researchers. NC Sea Grant has several fellowship and research opportunities available for graduate students. Click on the links below to learn more about each opportunity and apply for funding.



- [NC Sea Grant/NC Space Grant Graduate Research Fellowship](#) - Applications due May 16.
- [NC Sea Grant/Water Resources Research Institute Graduate Student Research Funding](#) - Applications due May 31.

- [NC Sea Grant/Albemarle-Pamlico National Estuary Partnership Fellowship](#) - Applications due June 30, 2016

For more information visit the NC Sea Grant website: www.ncseagrant.org.

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.