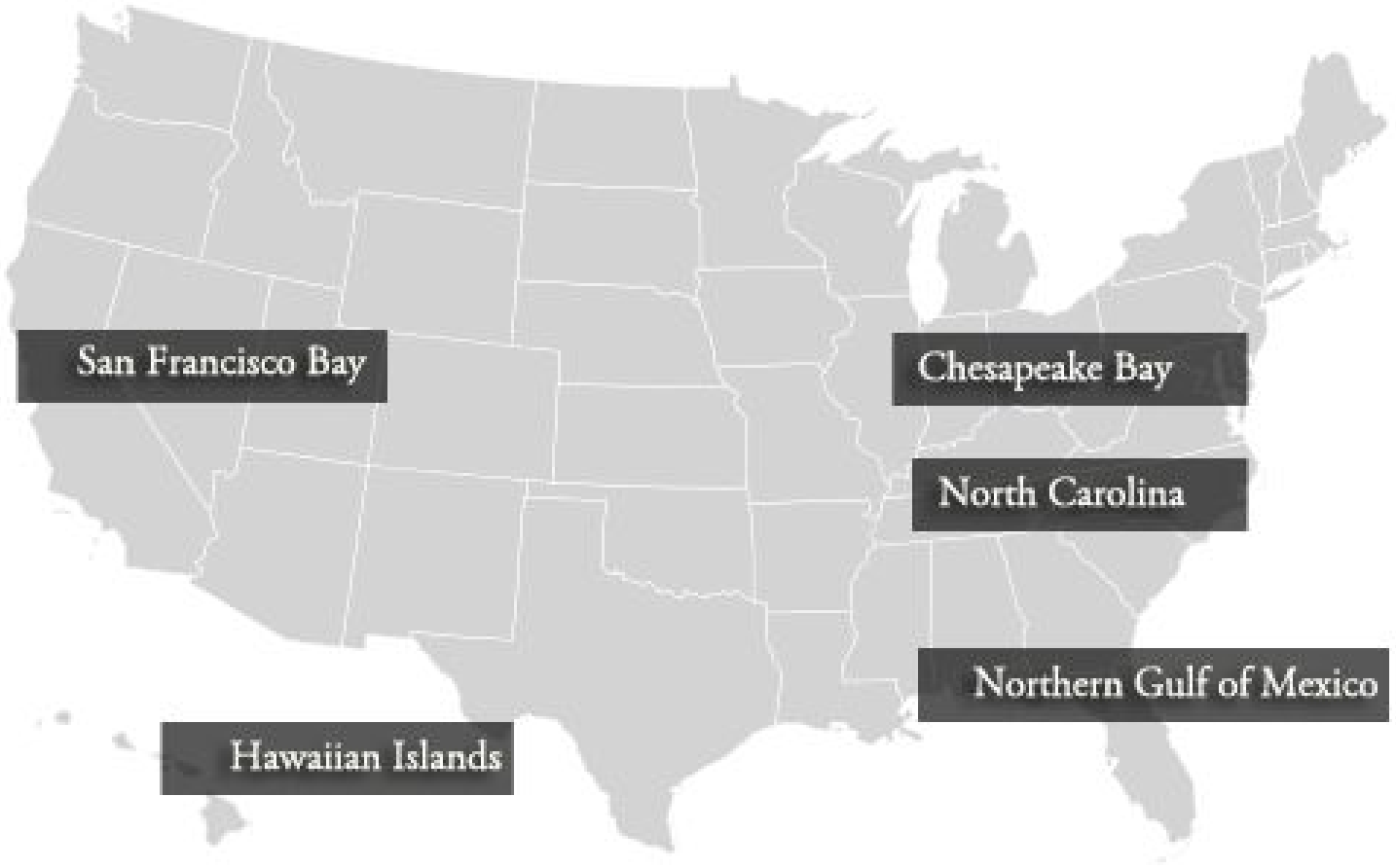
Building Partnerships: *North Carolina Sentinel Site Cooperative*

Sarah Spiegler, NCSSC outreach specialist

APNEP Symposium, November 2017

NOAA Sentinel Site Program



- **Place-based and issue-driven approach**
  Current issue: SLR, coastal inundation, flooding, coastal resiliency

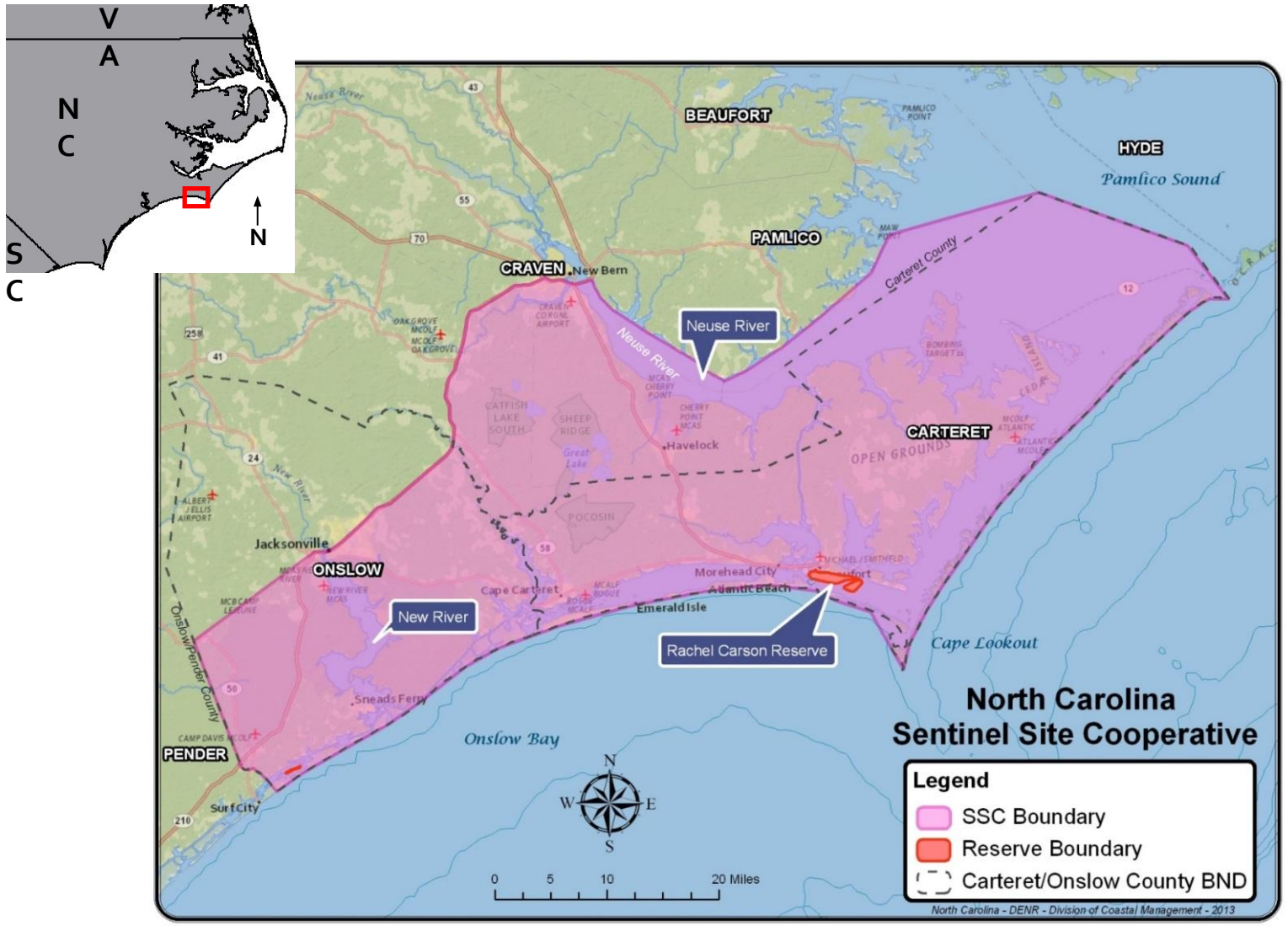
NCSSC Mission

Work collaboratively and leverage resources to provide research, monitoring, and information for addressing **coastal resiliency to flooding, inundation, and sea level rise.**

NCSSC Goals

- Goal 1: Impacts of SLR on coastal ecosystems will be better understood through NCSSC **research and monitoring**, and its **translation** to support coastal decision making.
- Goal 2: **Resource managers** receive and apply the NCSSC scientific information to enhance **sustainable and resilient conservation strategies** for coastal ecosystems.
- Goal 3: **Coastal residents** are **better informed** to address SLR impacts.

NCSSC Geography



Management Issues of Concern


Photo credit: Sarah Spiegler

Storm surge (beach and marsh response), SLR, coastal erosion and flooding (increasing frequency), habitat loss, water quality, restoration and mitigation strategies (e.g. living shorelines), community resiliency

Role of NCSSC

Photo credit: NC Coastal Reserve

- Research support and collaboration
- Partnership building
- Engagement

Research & Monitoring


Photo credit: Sarah Spiegler

- **NOAA Ecological Effects of SLR (EESLR)**
- Developing and Evaluating the Coastal Recovery from Storms Tool (CReST): A model designed to assess resilience and reduce storm and sea level rise impacts on natural and engineered beaches and dunes (2015)
  PI: Peter Ruggerio, Oregon State University
- Understanding and predicting changes in coastal marsh ecosystem services: realizing the combined effects of sea-level rise, tides, and storm surge on marshes and their capacity to protect shorelines (2015)
  PI: Christine Voss, UNC-Institute of Marine Science

Research & Monitoring

- Thin layer application of dredged sediment to salt marshes on Marine Corps Base Camp Lejeune to increase coastal resiliency (2016)
  PI: Carolyn Currin, NOAA NOS NCCOS

Partnership Building


Photo credit:
Pat Donovan-Potts


Photo credit: Pat Donovan-Potts

NC Sea Grant and Kenan Foundation collaborative research:
City of Jacksonville, UNC Institute of Marine Science, NOAA NCCOS, MCB Camp Lejuene, NCSSC

Partner Workshops

- **NCSSC:** 2017 Partner Meeting
  - Needs: communication products, funding, coordination meetings, trainings
  - Top gaps: 1. effect of SLR on ecosystem health and observations/monitoring 2. better understanding of socio-economic effects of SLR 3. communication of SLR impacts
- **NOAA National Weather Service, Newport-MHC**: 2017 Water Level Training
- **NOAA Office of Coastal Management:** 2017 NOAA Tools Training, 2018 Adaptation Planning for Coastal Communities

Engagement

Photo credit: Sarah Spiegler

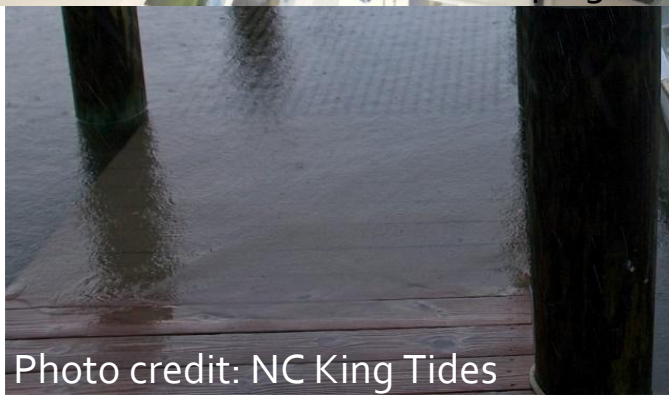
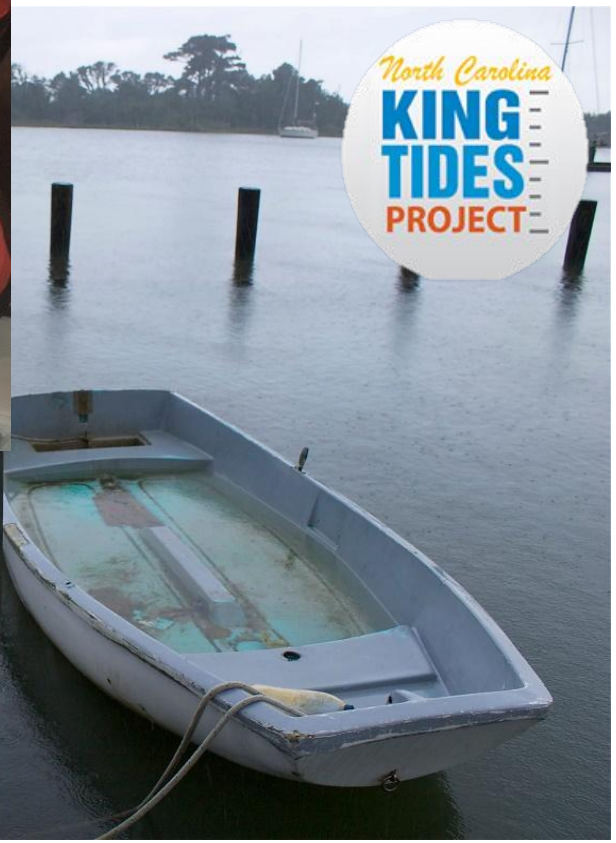


Photo credit: NC King Tides



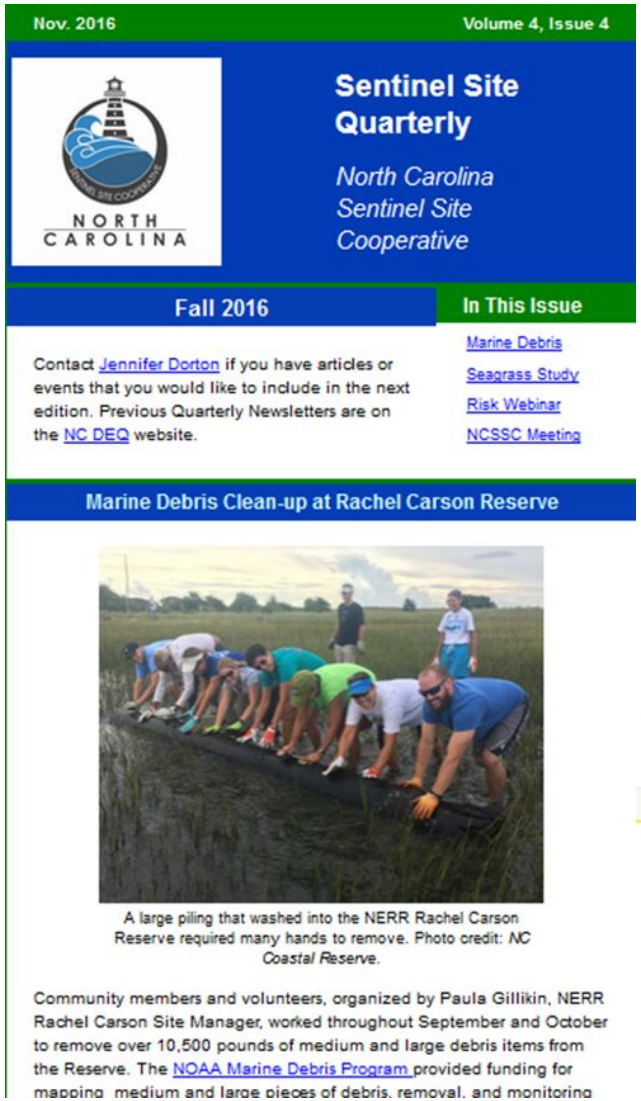
Engagement


Photo credit: Sarah Spiegler

NORTH·CAROLINA
AQUARIUMS


Photo credit: Carolyn Currin

Communication



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In This Issue

Marine Debris
Seagrass Study
Risk Webinar
NCSSC Meeting

Contact Jennifer Dorton if you have articles or events that you would like to include in the next edition. Previous Quarterly Newsletters are on the NC DEQ website.

Marine Debris Clean-up at Rachel Carson Reserve

A large piling that washed into the NERR Rachel Carson Reserve required many hands to remove. Photo credit: *NC Coastal Reserve.*

Community members and volunteers, organized by Paula Gillikin, NERR Rachel Carson Site Manager, worked throughout September and October to remove over 10,500 pounds of medium and large debris items from the Reserve. The NOAA Marine Debris Program provided funding for mapping, medium and large pieces of debris, removal, and monitoring

National Ocean Service
National Oceanic and Atmospheric Administration

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North Carolina Sentinel Site Cooperative

A Sweeping Perspective on the Coastal Environment

STRING OF SENTRIES

SENTINELS FORM A NETWORK OF EYES ON THE COAST

BY AMANDA PHELPS, NOAA SENTINEL SITE PROGRAM

THE WHOLE IS GREATER THAN THE SUM OF ITS PARTS. THAT CLASSIC SAYING IS THE BASIS OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION'S SENTINEL SITE PROGRAM.

Along the nation's coasts, NOAA strives to help coastal communities and critical habitats become more resilient to the effects of sea-level rise and changing coastal flooding patterns. By collecting and sharing a wide variety of environmental observations — and developing models and tools to understand and predict changes taking place along the coasts — NOAA is enabling coastal decision makers to apply science in their adaptation and mitigation plans.

NOAA's National Ocean Service, or NOS, created the Sentinel Site Program in 2011. This collaborative effort focuses a wide range of science, service and stewardship activities to address specific issues in specific places. The program brings together partners from many scientific and management disciplines.

The program has focused on quantifying impacts of coastal flooding and sea-level rise, and applying science-based solutions to coastal regions.

Sea-level rise and coastal inundation are global issues, but their effects in communities are unique because sea levels are changing at different rates in different places. The impacts are best addressed at the local level — using local forecasts, land-elevation and water-level data, and local information about the people and resources in affected areas.

Other cooperatives focusing on challenges such as ocean acidification, water quality or marine debris have been envisioned for the future.

Sentinel sites are located in coastal environments that can support intensive study and sustained observations to detect — and understand — physical and biological changes. Cooperatives are the collection of agencies and

NCCOS NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE

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DATA/REPORT DETAILS

North Carolina Sentinel Site Cooperative: Report on the 2017 Partners Meeting

Research Area(s): Marine Spatial Ecology / Ecological and Biogeographic Assessments; Coastal Change / Climate Impacts on Ecosystems

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Citation:	Spiegler, S., R. Bandy, C. Currin, J. Dorton, R. Ellin, P. Farnell, J. Fear, E. Gilchrist, D. Glenn, N. Hall, W. Jenkins, T. Miller, B. Puckett, J. Ridge, and K. Shein. 2017. North Carolina Sentinel Site Cooperative: Report on the 2017 Partners Meeting. NOAA Technical Memorandum NOS NCCOS 239. Beaufort, NC. 74 pp.
Data/Report Type:	NOAA Technical Memorandum

Collaboration

- **Socio-economic effects** of SLR
- **Communication and education products** for targeted audiences
- SLR impacts on **essential fish habitat**
- SLR impacts in **coastal forests**

Questions?


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SENTINEL SITE COOPERATIVE
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Photo credit: NC Coastal Reserve