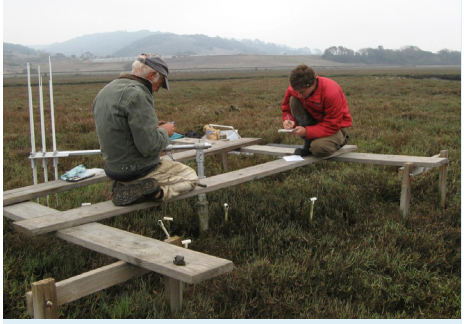

Communicating Results from the Tidal Marsh Resilience Synthesis to the Research Reserves, National Partners, and Coastal Managers

Project Location

Elkhorn Slough National Estuarine Research Reserve

Project Duration

July 2016 to June 2017

Project Lead

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Project Type

Science Transfer – promoting the use of science

Project Partners

- Ace Basin National Estuarine Research Reserve
- Chesapeake Bay National Estuarine Research Reserve in Maryland
- Chesapeake Bay National Estuarine Research Reserve in Virginia
- Delaware National Estuarine Research Reserve
- Elkhorn Slough National Estuarine Research Reserve
- Grand Bay National Estuarine Research Reserve
- Great Bay National Estuarine Research Reserve
- Hudson River National Estuarine Research Reserve
- Narragansett Bay National Estuarine Research Reserve
- North Carolina National Estuarine Research Reserve
- North Inlet-Winyah Bay National Estuarine Research Reserve
- Padilla Bay National Estuarine Research Reserve
- San Francisco Bay National Estuarine Research Reserve
- South Slough National Estuarine Research Reserve
- Tijuana River National Estuarine Research Reserve
- Waquoit Bay National Estuarine Research Reserve

Overview

This project focuses on communicating effectively about a recently conducted national synthesis of Sentinel Site data from the research reserves to examine marsh resilience. The synthesis measured resilience to sea level rise of marshes in 16 national estuarine research reserves across the United States to assess regional and national patterns in resilience. Initial results reveal strong contrasts for individual metrics across reserves, with many marshes receiving intermediate scores and a few sites at very high risk. This work not only represents the first national assessment of marsh resilience to sea level rise, but also the first development and application of multi-metric indices.

Through this project, results will be conveyed to a variety of users, and products and activities will be developed with end user feedback. Products include a publication in a high-impact scientific journal, a short user-friendly summary of this publication, well-designed PowerPoint presentations for a variety of audiences, and a "do it yourself" tool so others can apply the novel marsh assessment approach to additional marshes. The marsh index scores will also be linked directly to recommended coastal adaptation strategies, thereby meeting a frequently stated need to synthesize data on wetland resilience in a way that is clear and accessible to coastal managers.

Anticipated Benefits

- Increased awareness of marsh resilience patterns across the National Estuarine Research Reserve System.
- A heightened profile of ongoing reserve system monitoring efforts.
- Marsh index scores linked to appropriate management strategies.

Project Approach

Research reserve scientists conducted the synthesis and are writing the scientific publication, which end users will review in draft form along with the associated Excel-based "do it yourself" tool. Once these elements are complete, the team will work closely with research reserve stewards and managers and NOAA staff members to develop and deliver clear, useful outreach products.

Targeted End Users and Anticipated Products

Products will be useful to a variety of end users, including national estuarine research reserve staff members, partners within NOAA, national organizations interested in coastal wetland resilience, estuarine scientists, and coastal managers. Products include the following:

- A scientific publication detailing the marsh resilience indices and their application to 16 marshes across the nation.
- A "do-it-yourself" tool for application of the indices elsewhere.
- A short, user-friendly summary of the publication for distribution at national meetings and in mass emailings.
- PowerPoint presentations summarizing the information in the publication to be presented at national meetings and made available for research reserve staff members to share with partners.

Project Partners

Staff members from Elkhorn Slough, Narragansett Bay, Chesapeake Bay-Virginia, and North Inlet-Winyah Bay are leading the marsh resilience synthesis, and will be working with a communications firm to prepare and print outreach products. A total of 16 reserves are participating in the synthesis.

About the Science Collaborative

The National Estuarine Research Reserve System's Science Collaborative supports collaborative research that addresses coastal management problems important to the reserves. The Science Collaborative is managed by the University of Michigan's Water Center through a cooperative agreement with the National Oceanic and Atmospheric Administration (NOAA). Funding for the research reserves and this program comes from NOAA. Learn more at nerrs.noaa.gov or graham.umich.edu/water/nerrs.