

Project Location

Great Bay National Estuarine Research Reserve

Narragansett Bay National Estuarine Research Reserve

Waquoit Bay National Estuarine Research Reserve

Wells National Estuarine Research Reserve

Project Duration

September 2015 to August 2017

Project Lead

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Project Type

Science Transfer – promoting the use of science

Project Partners

- Chesapeake Bay, Virginia National Estuarine Research Reserve
- Great Bay National Estuarine Research Reserve
- Narragansett Bay National Estuarine Research Reserve
- Waquoit Bay National Estuarine Research Reserve
- Wells National Estuarine Research Reserve

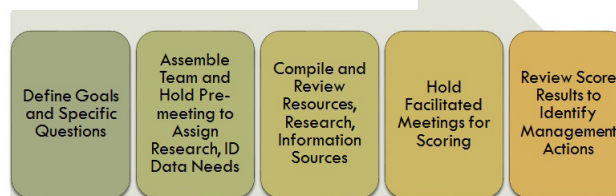
Assessing How Climate Change Will Affect Coastal Habitats in the Northeast



Overview

Climate change will significantly affect coastal habitats as sea levels, storms, erosion, and water quality change. However, the impacts on different habitats in different locations will vary, and it is not clear how coastal managers should best protect vulnerable habitats such as marshes, seagrass beds, and dunes. A more complete understanding of risks could help coastal managers prioritize actions that could enhance the resilience of coastal habitats.

A new tool has been developed, the Climate Change Vulnerability Assessment Tool for Coastal Habitats (CCVATCH), to help land managers, decision makers, and researchers develop conservation, management, and restoration plans for coastal habitats. This assessment tool identifies primary sources of vulnerability to assist with prioritizing coastal habitat management actions. As part of this project, four estuarine reserves in New England will conduct assessments of their areas, demonstrating the utility of the tool to support adaptive management in response to climate change.



Anticipated Benefits

- New information about the risks of climate change, the vulnerability of different habitats, and the suitability of applying specific adaptation strategies.
- Demonstrated application of a new assessment tool and broader knowledge of how to apply it.
- Improved understanding among land managers, researchers, and coastal decision makers of the impact of climate change on coastal habitats in the Northeast.

Project Approach

Climate vulnerability assessments can be labor intensive; for that reason, the four national estuarine research reserves in the Northeast (Wells, Great Bay, Waquoit Bay, and Narragansett Bay) are collaborating to develop a greater understanding of regional coastal vulnerabilities from climate change. With training and facilitation support from the Chesapeake Bay, Virginia Reserve, the northeastern reserves will conduct a thorough assessment of climate change impacts. This includes the following steps:

- Collect and compile regional and site-specific data and information on climate change effects on coastal habitats and identify research and data needs.
- Assess local vulnerability to climate change using the new assessment tool, CCVATCH, to better understand specific threats to coastal habitats. Reserve staff members will be trained to facilitate the workshops needed to solicit input and complete the assessment.
- Apply assessment results to help prioritize restoration actions and land acquisition areas.
- Share information with other reserves or potential user groups to generate a broader understanding of the tools available to support climate adaptation.

Anticipated Products and Targeted End Users

This project will develop a number of products that will help estuary reserve staff members, land managers, coastal decision makers, and other stakeholders protect vulnerable coastal habitats.

- A regional resource document summarizing the impact of climate change on various coastal habitats.
- A step-by-step guide explaining how to use the new climate assessment tool.
- Identification of regional research needs related to climate change.
- Fact sheets and technical reports summarizing site-specific findings and comparing habitat vulnerability across the region.

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 www.nerrs.noaa.gov or www.graham.umich.edu/water/nerrs.