Connecting the Dots between Data and Atlantic Fisheries Management

Project Location

Jacques Cousteau National Estuarine Research Reserve, New Jersey

Project Lead

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Targeted End Users and Products

- *Project overview*
- *Project final report*

Project Partners

- *Jacques Cousteau Reserve*
- *North Carolina Reserve*
- *North Inlet-Winyah Bay Reserve*
- *Atlantic States Marine Fisheries Commission*
- *Rutgers University*

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. Learn more at *www.nerrs.noaa.gov.*

Overview

Changes in coastal conditions, including those associated with a shifting climate, can impact the spawning, growth, and ultimately, survival of commercially and recreationally important fisheries. To assess the impacts of climate on the sustainability of fish stocks and take appropriate action, management agencies need access to long-term datasets. Much of the needed data exists, but managers may lack access to it and scientists collecting the data may not know how to make it available to those who need it. The Jacques Cousteau reserve, in partnership with Rutgers University and reserves in the Carolinas created an online portal for scientists and fisheries managers to retrieve and share datasets on larval fish recruitment and environmental variables and increase the precision of management decisions.

Project Benefits

- Created access to integrated larval fisheries data and associated environmental data allowing researchers and managers to assess the impacts of environmental conditions on larval fish recruitment, identify regional trends in economically significant fisheries, and develop effective and sustainable management initiatives.
- Increased data access has led directly to several complementary research projects including an evaluation of American eel supply to a southern New Jersey estuary and an analysis of larval winter flounder data relative to climate change.
- Strengthened relationships within the reserve system through collaboration between three reserves sites and broadened the impact of data from the reserve's System Wide Monitoring Program by integrating it with fisheries data in order to link environmental changes with fishery impacts.
- A coast-wide analysis of larval fish recruitment to estuaries and potential impacts of changing climate.

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Project Approach

Project investigators worked with the Jacques Cousteau, North Inlet-Winyah Bay, and North Carolina reserves and Rutgers University to partner with local, regional, and national stakeholders to improve fisheries management by developing a framework that fisheries managers and data collectors can use to exchange information on changing fish habitat and associated changes in larval fish communities.

- Stakeholder Engagement: The team explored the types and extent of long-term data available for consideration in fisheries management decisions. They conducted interviews, focus groups, and needs assessments to better understand managers' needs and format preferences for platforms to support effective fisheries management and data sharing.
- Data and Analysis: The team analyzed 30 years' worth of larval fish samples from the three reserves involved in the project and environmental data from their System Wide Monitoring Programs.
- The team integrated this data to increase understanding of how environmental variations and climate change impact estuarine habitat and early-life history of important fish stocks.
- The integrated data was used to expand the South Carolina Department of Natural Resources' SEAMAP-South Atlantic website to include a database of all commercial and recreational fisheries for the Atlantic states.