Using participatory modeling and citizen science to help fishermen on the US East Coast identify ways to adapt to a changing climate

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Supported by NOAA Climate Program Office - COCA

Project Goals

- Improve understandings of how a changing climate will affect fishing communities’ abilities to maintain fisheries and the local economies dependent upon them

- Investigate the role of a structured dialogue and participatory modeling process in addressing consequences, vulnerabilities, and adaptive strategies in a context of climate stressors
How to Achieve Those Goals...

VCAPS

• Vulnerability, Consequences, & Adaptation Planning Scenarios
• Group dialogue-based concept mapping
• How our community will be affected by climate change
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System dynamics participatory modeling
• Take a portion of the system
• Understand its dynamic nature
• Explore scenarios for adaptation action
3 Case Studies along U.S. East Coast

South Thomaston, ME

Wellfleet, MA

Beaufort, SC
Data Gaps
Crabbers Who Care Research Network Data Sheet

Name: 
Date: 
Time: 

Tide (circle one): high low rising falling slack 

GPS Coordinates at Beginning of Line: 

Total # of Traps: 
Fished Today: 
Total # of Crabs Caught Today: 

Temperature: 
Units (circle one): Farenheit Celsius 

Salinity (ppt): Depth (ft.) 

<table>
<thead>
<tr>
<th># males</th>
<th># females</th>
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<tbody>
<tr>
<td>Trap</td>
<td>Juvenile</td>
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Notes: 

THANK-YOU FOR CARING ABOUT SOUTH CAROLINA’S MARINE RESOURCES. YOUR EFFORTS ARE APPRECIATED!

Questions? Comments? I want to hear them! 843-255-6060 ext 112 or julie.davis@scseagrant.org
Challenges/Lessons Learned/Opportunities

Integration of climate knowledge and coastal resource management
- Fishermen have more climate knowledge than they realize
- Importance of LTCK – Local and Traditional Climate Knowledge – in resource management

Stakeholder engagement and participation
- Maintaining relationships with fishermen
- Workshops vs. back-of-the-truck talks

Key communities and networks to engage
- Gain momentum, expand CWCRN to a larger area
- Support a regional approach to understanding blue crab populations and climate impacts

Effective pathways to disseminate coastal climate information
- Face-to-face engagement
- Word of mouth
- Build on several efforts in the area
Future Opportunities

CISA projects & collaborations

- Coastal Drought Index - Conrads (USGS), NIDIS
- CWCRN/Drought impacts on blue crabs
- Hydroclimate Extremes Atlas - CISA-led, NIDIS-supported
- Ecological drought indicators assessment - CISA-led, NIDIS-supported
- Drought impacts monitoring thru citizen science engagement - CISA-led, NIDIS-supported
- Forecasting SC blue crab fishery - Childress (Clemson Univ.), NIDIS
- Ecological drought indicators assessment - CISA-led, NIDIS-supported
QUESTIONS?