



# Increasing resilience through cooperation: Replicating innovative local solutions to environmental security challenges

24<sup>th</sup> Regular Session of the CEC Council and Sessions of the Joint Public Advisory Committee (JPAC)  
June 27, 2017, Charlottetown, Prince Edward Island, Canada

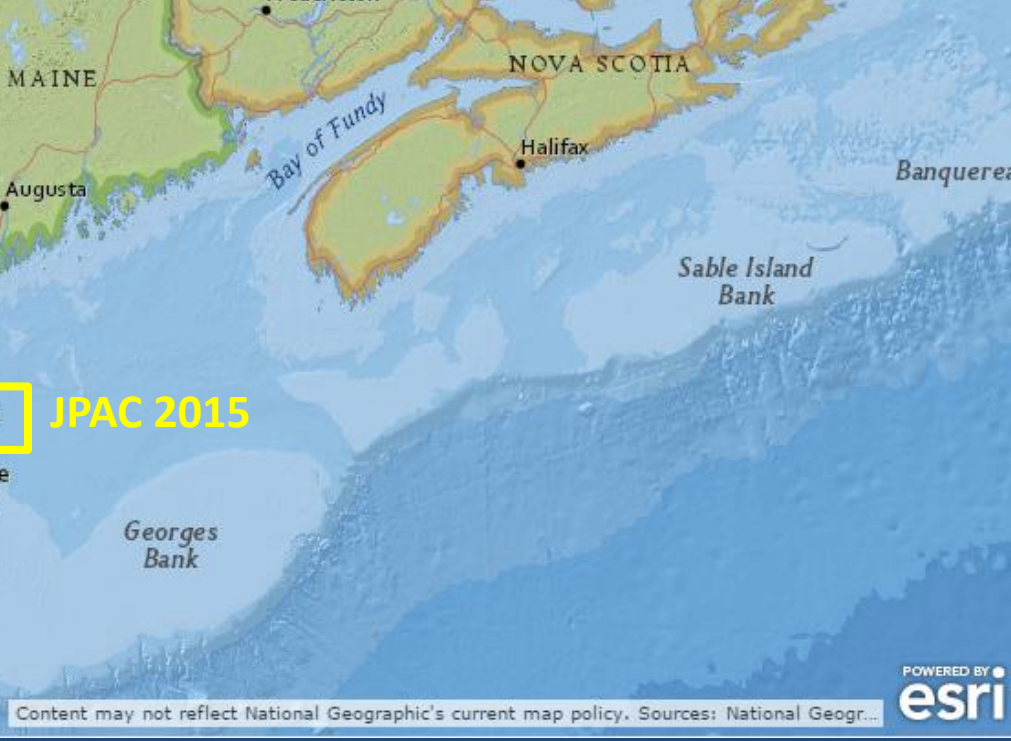
Teresa A. Crean, AICP, Coastal Community Planner  
University of Rhode Island Coastal Resources Center



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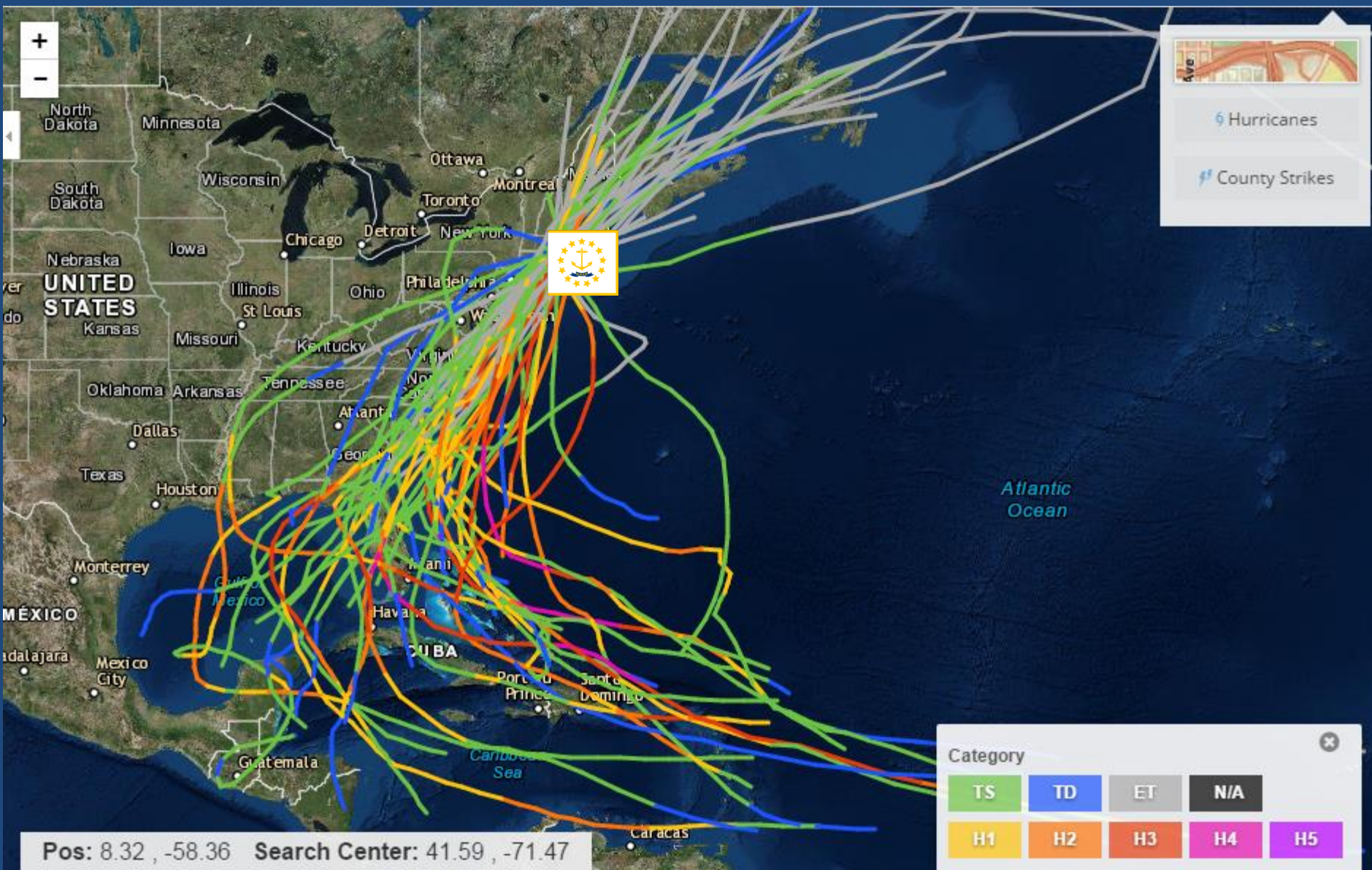




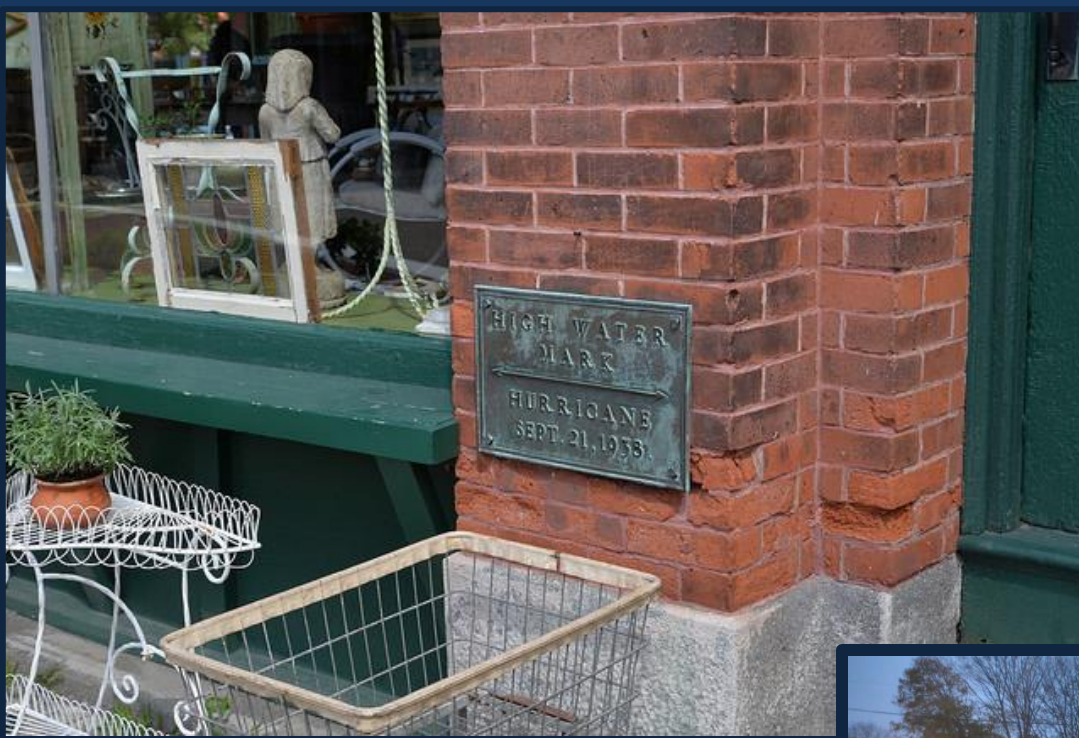




# Historical Hurricane Tracks







# COMMUNITY SECURITY:

coastal assets at risk  
of damage from  
storm surge and  
erosion

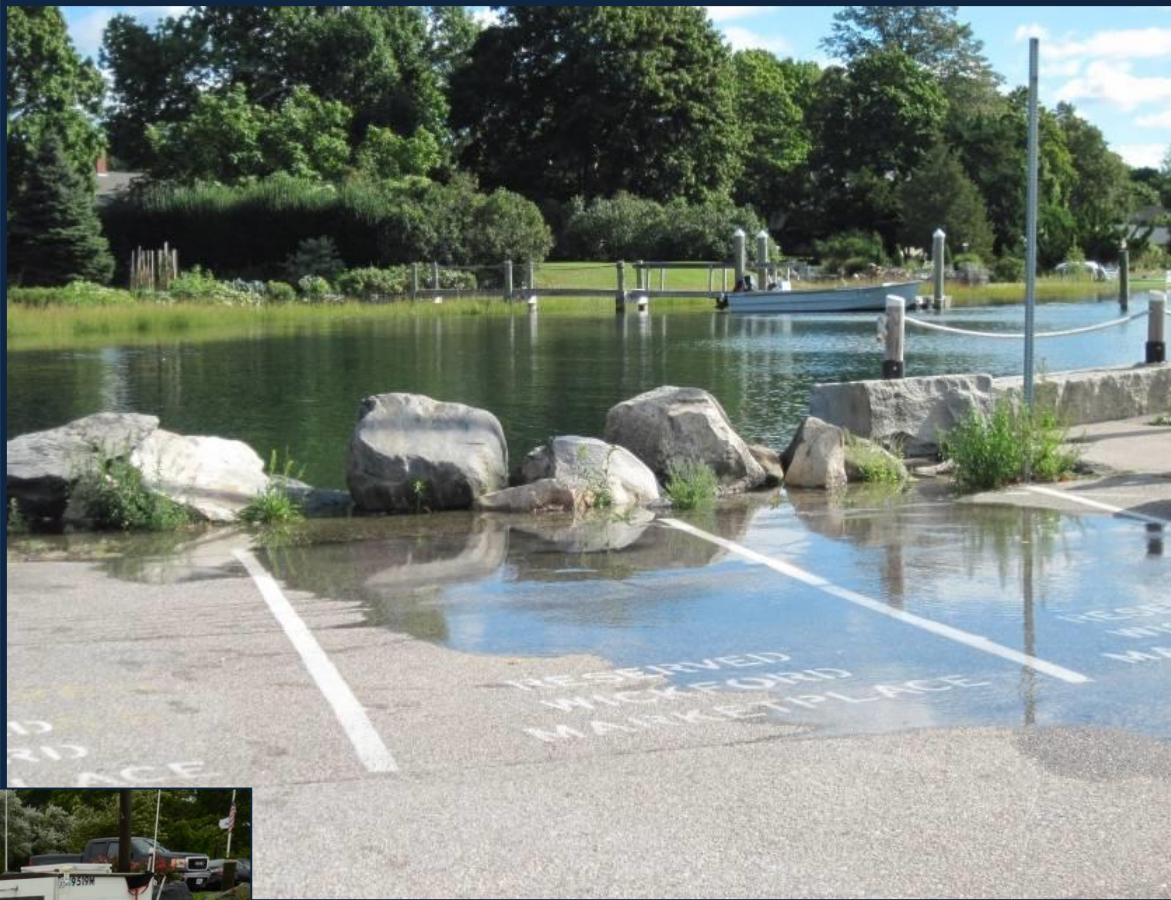
*Historic water level markers  
and photo records of recent  
storms make it “real”  
and “relatable”  
for decision makers.*





# COMMUNITY SECURITY:

Today's extreme  
high tide becomes  
tomorrow's daily  
tide?



*Astronomical high tides  
(a.k.a., "King Tides")  
are occurring more frequently  
& can offer a snapshot of  
future sea levels*

# Drivers to Plan for Natural Hazards & Climate Change

- **Public Health, Safety & Welfare**
- **Investment of Public Funds for Infrastructure**
- **State Mandate**
- **Impacts Felt at Local Level from Multiple Hazards**



Photo credit: Melissa Devine, Rhode Island Sea Grant



# Building Tools in Partnership

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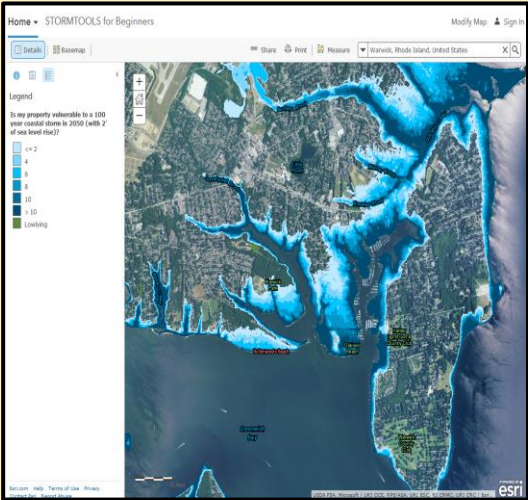
Commerce RI



PRINCE  
CHARITABLE  
TRUSTS

vbcf

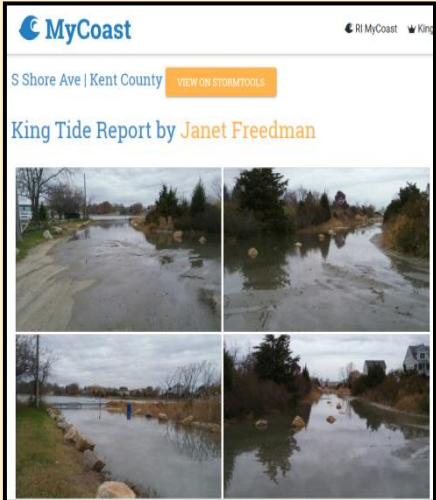
# STORMTOOLS



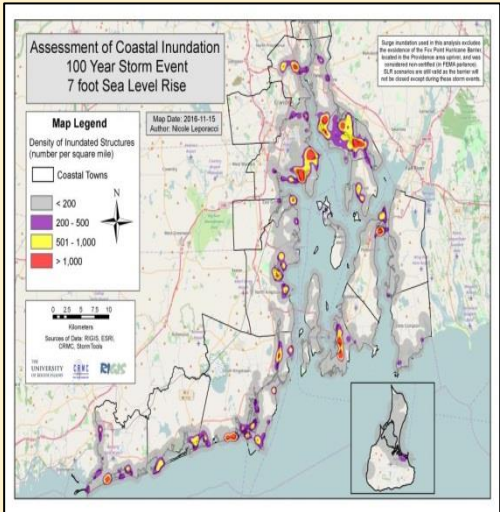
# SLAMM



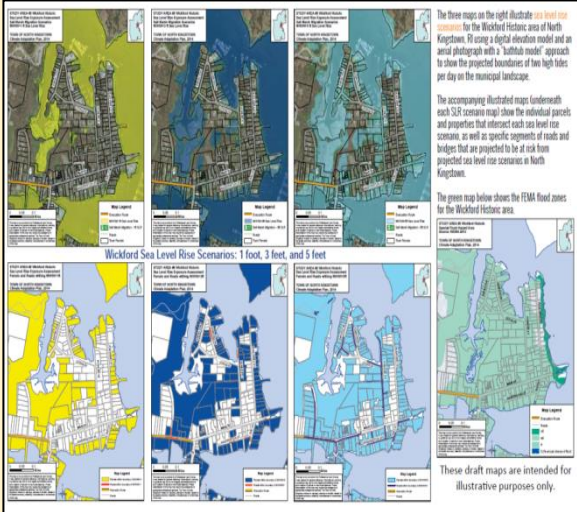
# MyCoast



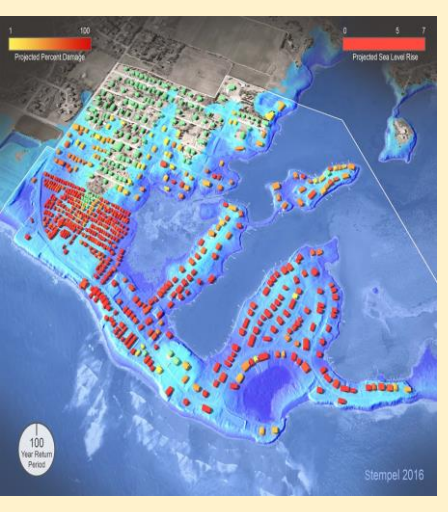
# e-911 Exposure



# Property Values (in progress)



# CERI (in progress)



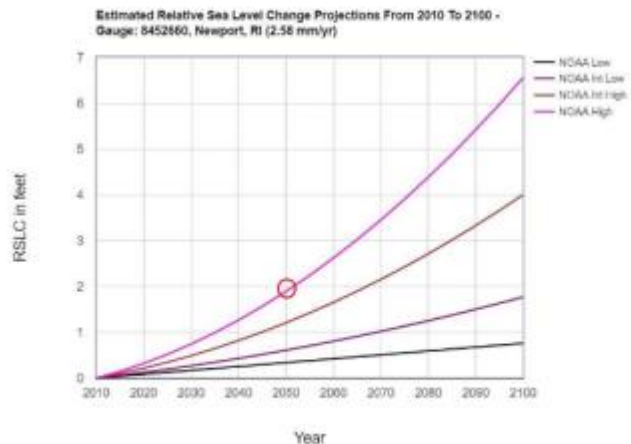


# KNOW YOUR RISK: Online tools inform decision making

## A story map Coastal Flooding in Rhode Island

### Future Flooding: 2050

Rhode Island may experience 2 feet of sea level rise by 2050 (NOAA).



This will mean not only a 2 foot higher high tide, 2 times per day, but it will also mean that flooding from storm surge will be worse.

### Future Flooding in 2065

Rhode Island may experience about 3 feet of sea level rise by 2065.



## Coastal Flooding in 2050

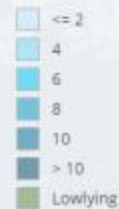
2 Feet of Sea Level Rise: The New High Tide

25 Year Storm

50 Year Storm

100 year Storm

100 Year Coastal Storm with 2' Sea Level Rise (flooding in feet)



Today's High Tide (MHHW)

Mean Higher High Water (MHHW)



Estimated Flood Depth During a 100 year coastal storm with 2' of Sea Level Rise

The flood depth at this point is estimated to be 10.62 ft.

Whitford

Newport Harbor

USDA-FSA, Microsoft | URI OCE, RPS/ASA, URI EDC, RI CRMC, URI CRC | ...

esri

OVERVIEW MAP





**“Climate Change:  
adapt, mitigate,  
or suffer”**

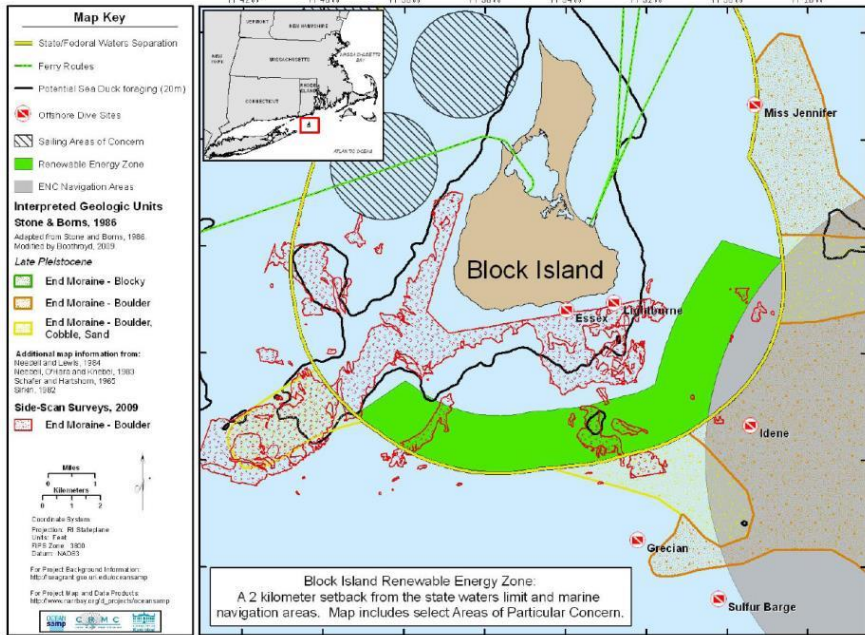
***-Grover Fugate,  
Rhode Island coastal  
management  
program director***





# ENERGY SECURITY: First Offshore Windfarm in the U.S.!

Rhode Island Ocean Special Area Management Plan (SAMP)



Images: Deepwater Wind





# ENERGY SECURITY: Block Island Demonstration Project





# Collaboration = PERMITS



- 4 state agencies: **CRMC, DEM, DOT, SHPO**
- 7 federal agencies: **BOEM, EPA, FAA, USFWS, NMFS, USACE, USCG**
- 2 Indian tribes: **Narragansett Tribe, Wampanoag Tribe**
- 2 municipalities: **Narragansett, New Shoreham (RI)**



# The Opportunity

The Block Island Wind Farm is the first step to larger regional projects.



MASSACHUSETTS

RHODE ISLAND

Newport

18 miles to Deepwater ONE

Aquinnah

16 miles to Deepwater ONE

Martha's Vineyard

Block Island

16 miles to Deepwater ONE

Block Island Wind Farm

Montauk

30 miles to Deepwater ONE

Long Island

Deepwater ONE



# FOOD SECURITY: shellfish management planning & aquaculture

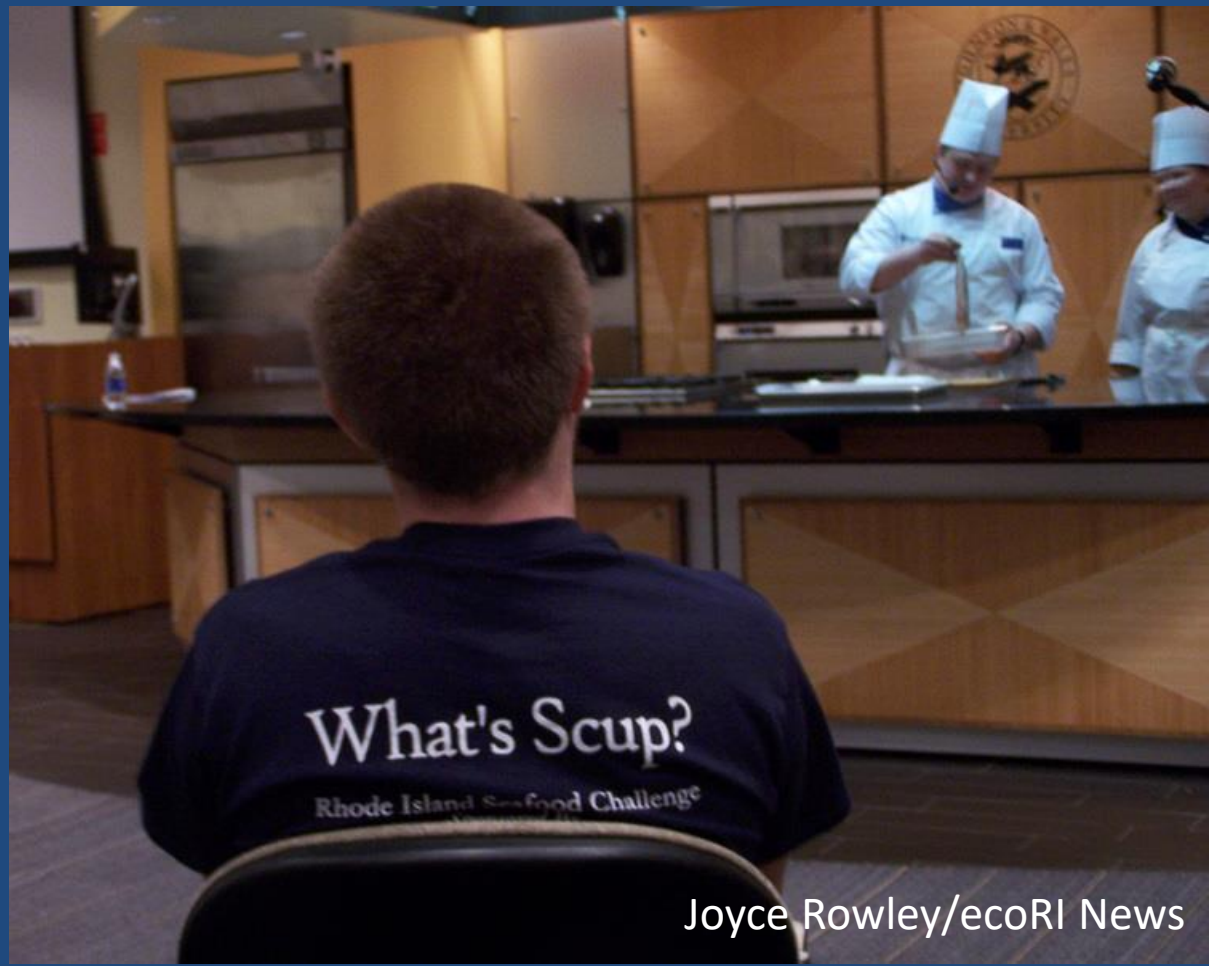


*“Come Clam with Me”  
classes  
&  
RI Shellfish  
Management Plan*





# FOOD SECURITY: Marketing and promoting abundant underutilized LOCAL species.



Joyce Rowley/ecoRI News

# FOOD SECURITY: International Collaborations, Food, People, Places



A woman sells fish in the Mangochi area of Malawi in March 2015. (credit: Elin Torell, CRC)







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