

Meeting the needs of coastal communities
for actionable information to protect lives
and property with

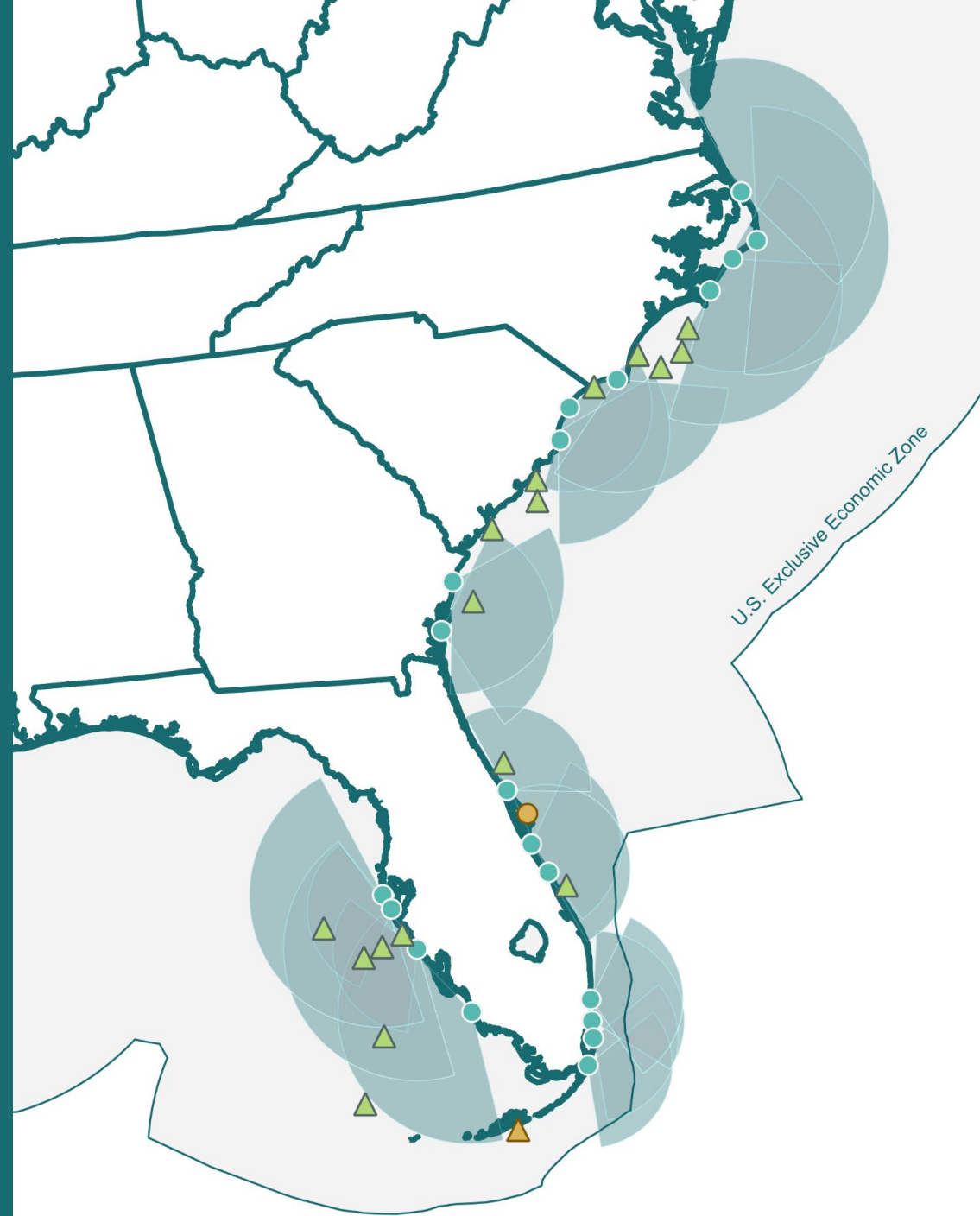
Regional-Scale Numerical Modeling

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NC STATE
UNIVERSITY



Overview

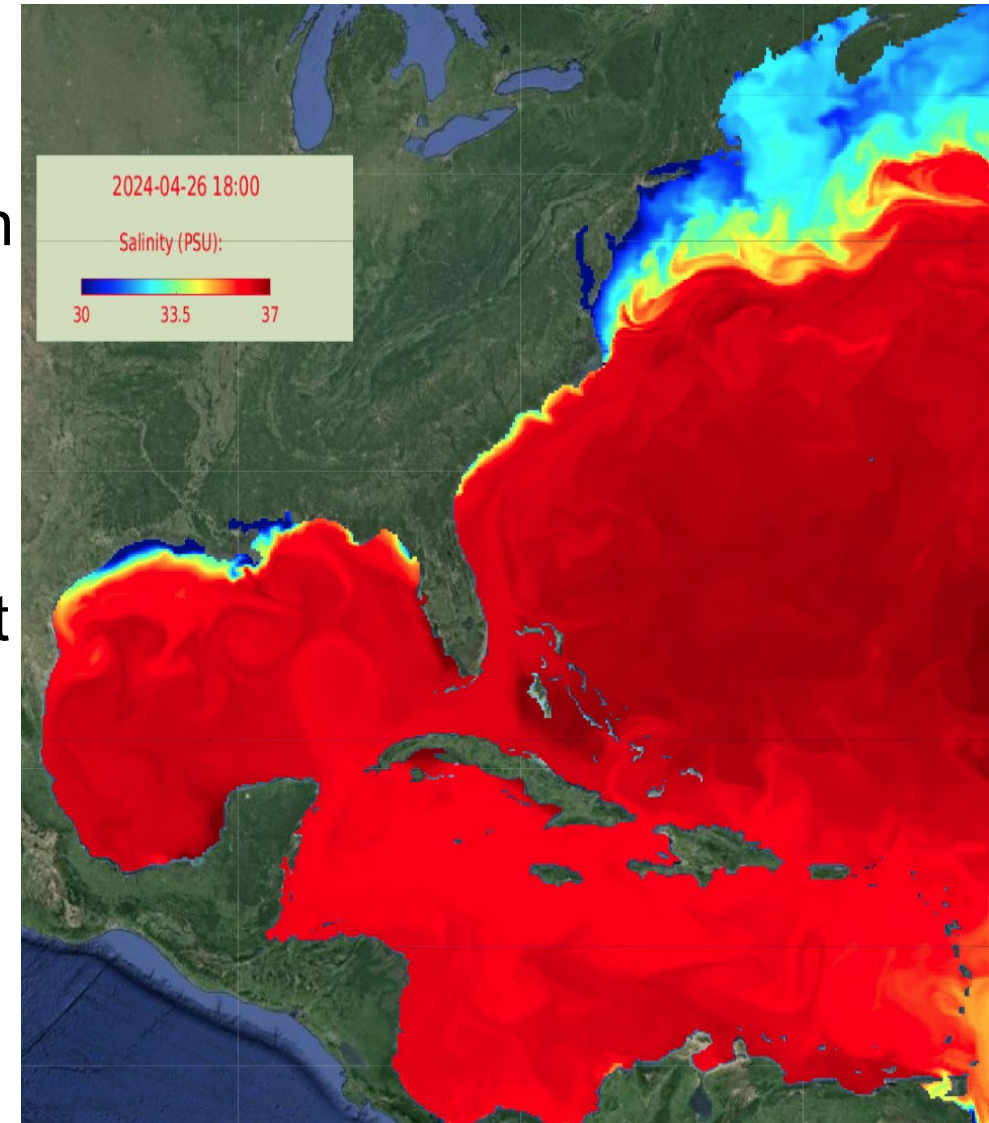
Goal: support all three SECOORA theme areas with

1. data assimilative prediction capability
2. near-real time nowcast/forecast for regional-scale marine environment conditions

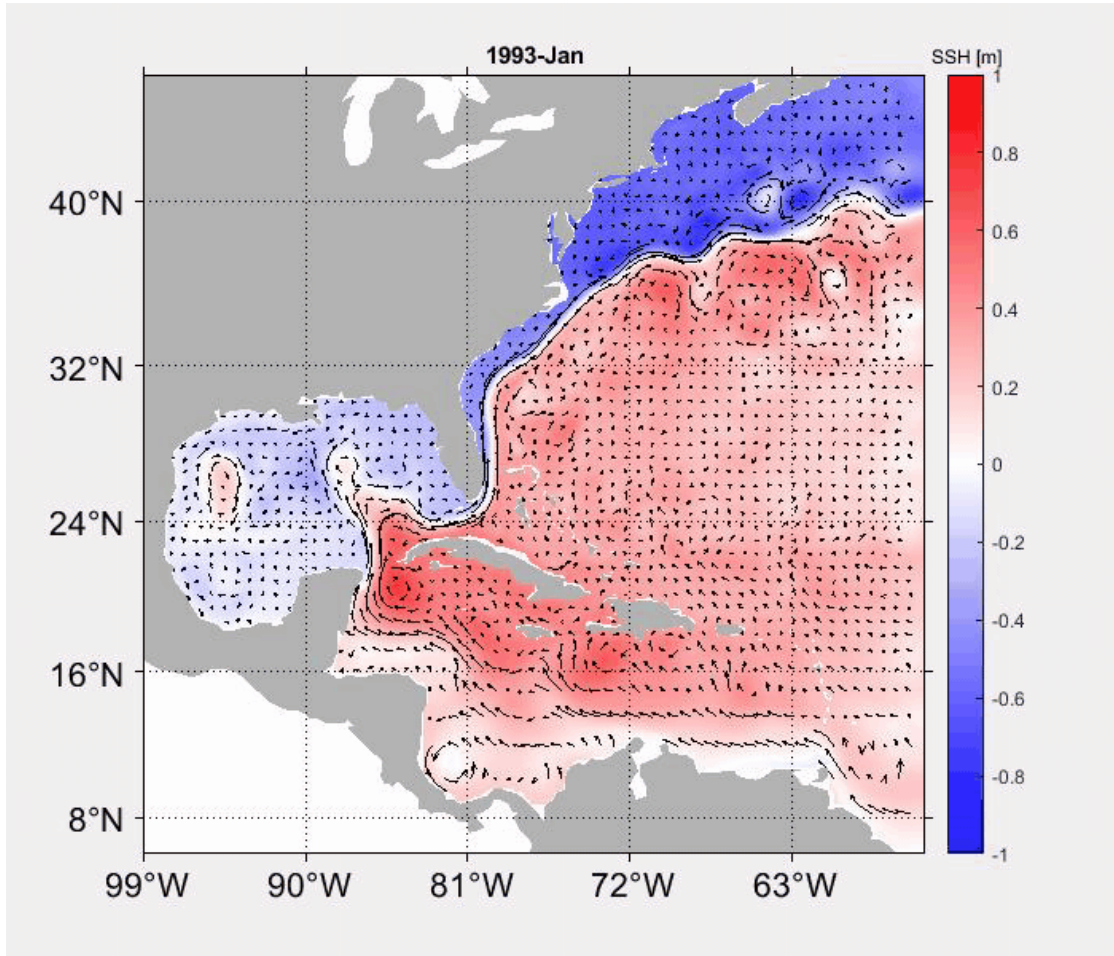
Result: capability to model and predict the transport of heat, salt, organisms, nutrients, and pollutants

Supporting SECOORA's actions on

1. Coastal hazards and climate variability
2. Ecosystems (living marine resources and water quality)
3. Safe and efficient marine operations



Accomplishments

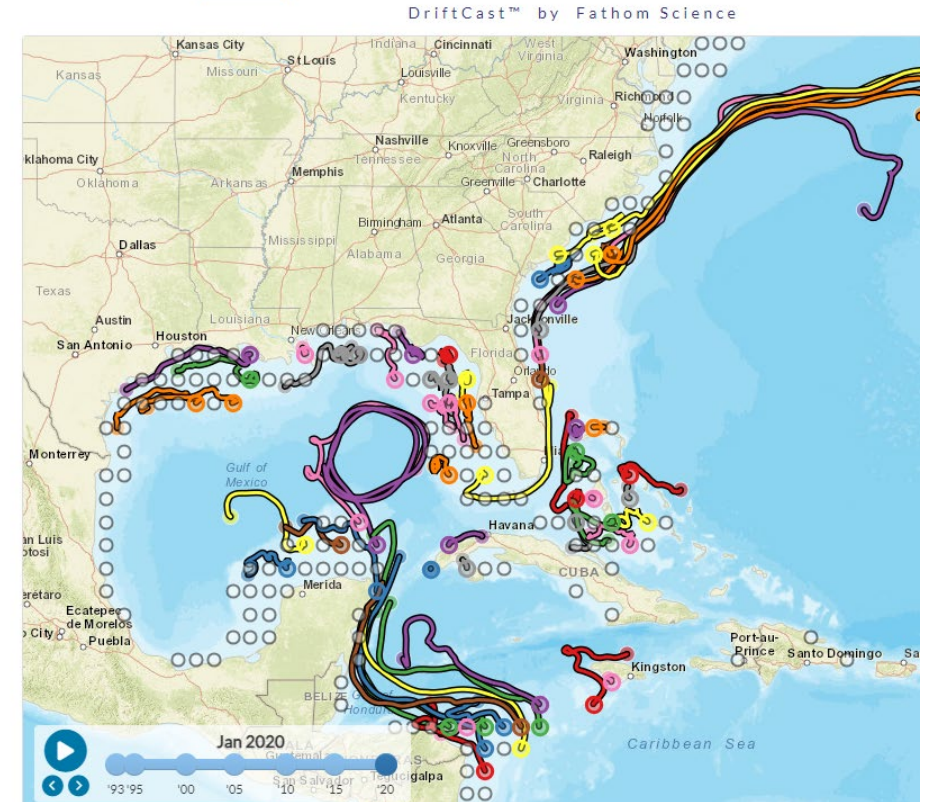
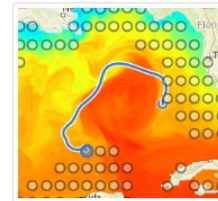


DRIFTCAST™

Library Report About

MAPS	
<input type="checkbox"/>	Surface temp
<input type="checkbox"/>	Salinity
<input type="checkbox"/>	Surface height
<input type="checkbox"/>	Currents
<input type="checkbox"/>	Temp + currents

Drifters are passive particles moved by ocean surface conditions. Semi-transparent circles show drifter starting positions. Click on a drifter to activate it and highlight its path. Click it again to deactivate it.



Looking Ahead

Questions and publications in progress

- Extreme conditions (e.g., peak currents)
- Marine heat waves (Wu and He, submitted)
- Coastal sea level (Wu et al, in prep)
- Biogeochemical reanalysis for 1993-2020

Running quasi-operational CNAPS nowcast/forecast to support SECOORA in addressing

- Coastal hazards (e.g., storms)
- Water quality (e.g., oil spills, harmful algal blooms)
- Marine operations (e.g. navigation, fisheries)

