



# South Atlantic Priority Habitats, Species, and Fisheries



Effects of Noise on Fish, Fisheries, and Invertebrates  
A BOEM Workshop on Data Gaps and Research Needs  
March 20, 2012

Town and Country Resort Hotel San Diego, California

Jaclyn Daly - NOAA's National Marine Fisheries Service  
Roger Pugliese - South Atlantic Fishery Management Council

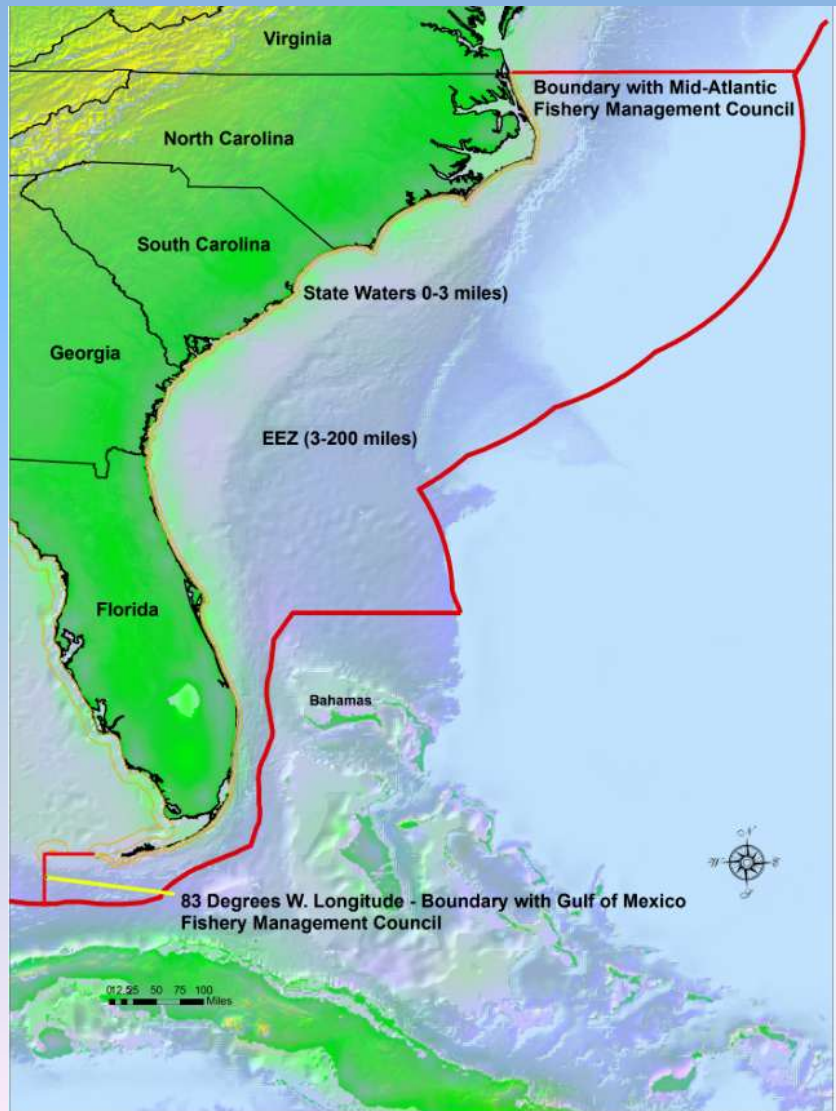


# Overview

- Magnuson-Stevens Fishery Management and Conservation Act and the South Atlantic Fishery Management Council
- South Atlantic Ecosystem, Species, Fisheries
- Ecological requirements and Essential Fish Habitat
- Habitat and Ecosystem Information Systems
- Present and emerging issues/data needs



# Magnuson-Stevens Fishery Management and Conservation Act And the South Atlantic Fishery Management Council



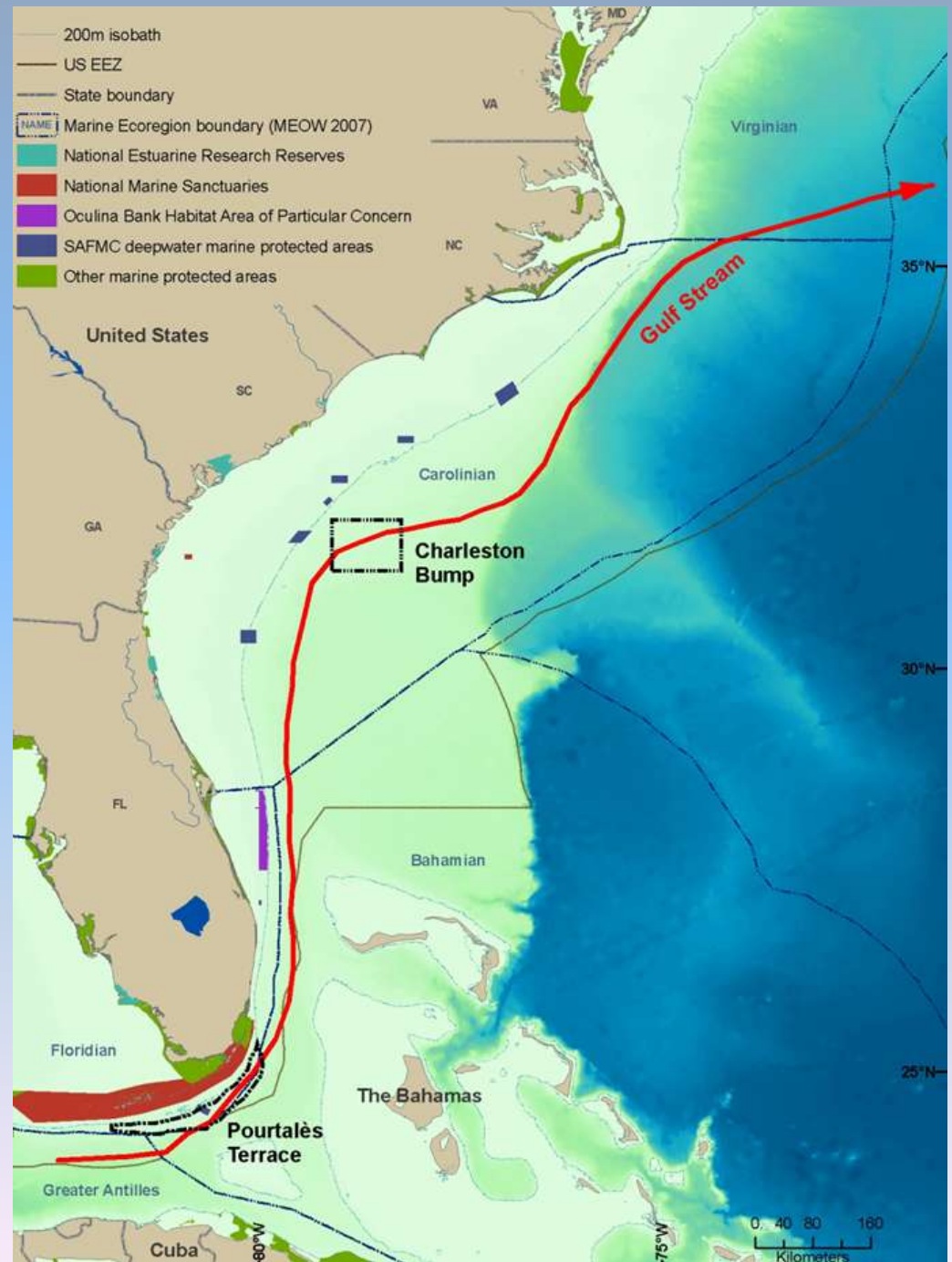
- Conserves and Manages fisheries, fishery resources and fish habitat in the EEZ off NC, SC, GA and E FL
- Prepares Fishery Management Plans and federal regulations (e.g. Allowable Catch Limits, gear, species and area restrictions) which achieve sustainable fisheries and conservation of EFH
- Designates Essential Fish Habitat (EFH) and EFH Areas of Particular Concern for Managed Species to address fishing and non-fishing impacts

# South Atlantic Bight

## Cape Hatteras-Cape Canaveral

Rock reefs covered with attached algae and animals, or "live bottom," comprises up to 20% of the shelf bottom and supports more than 70% of the offshore fisheries.

Supports wide diversity of marine fish, birds, mammals and invertebrates.



# South Atlantic Ecosystem: Oceanography

## Characteristics of the South Atlantic

Range of shelf widths

Along shelf break --

*major boundary current*

*Loop Current*

*Florida Current*

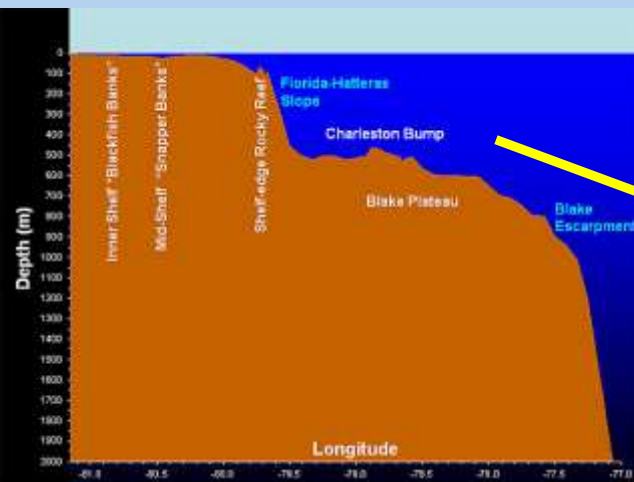
*Gulf Stream*

Freshwater input –

*Distributed input from a number of rivers,  
river drainage basins primarily in these  
coastal states*

Biogeographically –

*temperate to sub-tropical transition zone*



# Fishery Management Plans

## Shrimp Fishery Management Plan

brown shrimp - *Farfantepenaeus aztecus*

pink shrimp - *F. duorarum*

rock shrimp - *Sicyonia brevirostris*

royal red shrimp - *Pleoticus robustus*

white shrimp - *Litopenaeus setiferus*



## Coastal Migratory Pelagics Fishery Management Plan

cobia - *Rachycentron canadum*

king mackerel - *Scomberomorus cavalla*

Spanish mackerel - *S. maculatus*

Cero - *Scomberomorus regalis*

Little tunny - *Euthynnus alletteratus*



## Dolphin-Wahoo Fishery Management Plan

Dolphinfish - *Coryphaena hippurus*

Wahoo - *Acanthocybium solandri*



## Spiny Lobster Fishery Management Plan

spiny lobster - *Panulirus argus*



## Golden Crab Fishery Management Plan

golden crab - *Chaceon fenneri*



# Fishery Management Plans

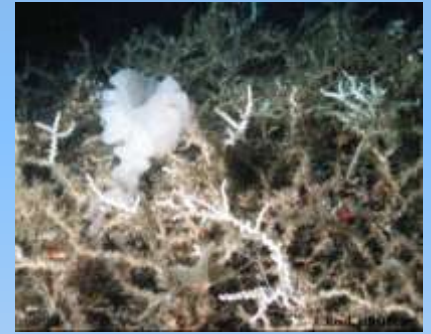
## Snapper-Grouper Complex Fishery Management Plan

Gag - <i>Mycteroperca microlepis</i>	Gray snapper - <i>Lutjanus griseus</i>	Cottonwick - <i>Haemulon melanurum</i>
Red grouper - <i>Epinephelus morio</i>	Mutton snapper - <i>Lutjanus analis</i>	Greater amberjack - <i>Seriola dumerili</i>
Scamp - <i>Mycteroperca phenax</i>	Lane snapper- <i>Lutjanus synagris</i>	Blue runner - <i>Caranx crysos</i>
Black grouper - <i>Mycteroperca bonaci</i>	Cubera snapper - <i>Lutjanus cyanopterus</i>	Almaco jack - <i>Seriola rivoliana</i>
Rock hind - <i>Epinephelus adscensionis</i>	Dog snapper - <i>Lutjanus jocu</i>	Banded rudderfish - <i>Seriola zonanta</i>
Red hind - <i>Epinephelus guttatus</i>	Schoolmaster - <i>Lutjanus apodus</i>	<i>Bar jack</i> - <i>Caranx ruber</i>
Graysby - <i>Cephalopholis cruentata</i>	Mahogany snapper - <i>Lutjanus mahogoni</i>	Lesser amberjack - <i>Seriola fasciata</i>
Yellowfin grouper - <i>Mycteroperca venenosa</i>	Vermilion snapper - <i>Rhomboplites aurorubens</i>	Tilefish - <i>Lopholatilus chamaeleonticeps</i>
Coney - <i>Cephalopholis fulva</i>	Red snapper - <i>Lutjanus campechanus</i>	Blueline tilefish - <i>Caulolatilus microps</i>
Yellowmouth grouper - <i>Mycteroperca interstitialis</i>	Silk snapper - <i>Lutjanus vivanus</i>	Sand tilefish- <i>Malacanthus plumier</i>
Goliath grouper - <i>Epinephelus itajara</i>	Blackfin snapper - <i>Lutjanus buccanella</i>	Gray triggerfish- <i>Balistes capriscus</i>
Nassau grouper - <i>Epinephelus striatus</i>	Black snapper - <i>Apsilus dentatus</i>	Ocean triggerfish - <i>Canthidermis sufflamen</i>
Snowy grouper - <i>Epinephelus niveatus</i>	Red porgy - <i>Pagrus pagrus</i>	Hogfish - <i>Lachnolaimus maximus</i>
Yellowedge grouper - <i>Epinephelus flavolimbatus</i>	Knobbed porgy - <i>Calamus nodosus</i>	Atlantic Spadefish – <i>Chaetodipterus faber</i>
Warsaw grouper - <i>Epinephelus nigritus</i>	Jolthead porgy - <i>Calamus bajonado</i>	
Speckled hind - <i>Epinephelus drummondhayi</i>	Scup - <i>Stenotomus chrysops</i>	
Misty grouper - <i>Epinephelus mystacinus</i>	Whitebone porgy - <i>Calamus leucosteus</i>	
Black sea bass - <i>Centropristis striata</i>	Saucereye porgy - <i>Calamus calamus</i>	
Bank sea bass - <i>Centropristis ocyurus</i>	Longspine porgy - <i>Stenotomus caprinus</i>	
Rock sea bass - <i>Centropristis philadelphica</i>	White grunt - <i>Haemulon plumieri</i>	
Wreckfish - <i>Polyprion americanus</i>	Margate - <i>Haemulon album</i>	
Queen snapper - <i>Etelis oculatus</i>	Tomtate - <i>Haemulon aurolineatum</i>	
Yellowtail snapper - <i>Ocyurus chrysurus</i>	Sailor's choice - <i>Haemulon parra</i>	

# Fishery Management Plans

## Habitat Based Fishery Management Plans

### Coral, Coral Reef and Live Hard Bottom Habitat Fishery Management Plan



### Pelagic Sargassum Habitat Fishery Management Plan

*Sargassum fluitans*

*Sargassum natans*





# Status of Species in the Snapper -Grouper Complex



**OVERFISHED:** Red grouper, red porgy, red snapper, snowy grouper



**OVERFISHING:** black sea bass, red grouper, red snapper, snowy grouper, gag, speckled hind, Warsaw grouper



# Essential Fish Habitat

The South Atlantic Fishery Management Council designates Essential Fish Habitat (EFH) and EFH Areas of Particular Concern (HAPCs) for Managed Species to address fishing and non-fishing impacts

EFH is defined as *“all waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity”*

HAPCs is as a subset of EFH where:

- Ecological function provided by the habitat is important;
- Habitat is sensitive to human-induced environmental degradation;
- Development activities are or will be stressing the habitat type; and
- Habitat type is rare



# Snapper-Grouper Complex: EFH and HAPCs

## EFH

- coral reefs,
- live/hardbottom,
- submerged aquatic vegetation,
- artificial reefs and medium to high profile outcroppings on and around the shelf break zone from shore to at least 183 meters [600 feet (but to at least 2,000 feet for wreckfish)] where the annual water temperature range is sufficiently warm to maintain adult populations of members of this largely tropical fish complex
- spawning area in the water column above the adult habitat and the additional pelagic environment, including *Sargassum*, required for survival of larvae and growth up to and including settlement
- *Gulf Stream*

## HAPCs

- medium to high profile offshore hard bottoms where spawning normally occurs
- localities of known or likely periodic spawning aggregations
- nearshore hard bottom areas
- The Point, The Ten Fathom Ledge, and Big Rock (North Carolina)
- The Charleston Bump (South Carolina);
- mangrove habitat;
- seagrass habitat
- oyster/shell habitat
- all coastal inlets
- all state-designated nursery habitats of particular importance to snapper grouper (e.g., Primary and Secondary Nursery Areas designated in North Carolina)
- pelagic and benthic *Sargassum*
- Hoyt Hills for wreckfish
- Oculina Bank
- all hermatypic coral habitats and reefs
- manganese outcroppings on the Blake Plateau
- Council-designated Artificial Reef Special Management Zones
- Northern South Carolina MPA
- Snowy Grouper Wreck MPA
- Edisto MPA
- Charleston Deep Artificial Reef MPA
- Georgia MPA
- North Florida MPA
- St. Lucie Hump MPA
- East Hump MPA

# Spawning Times of Select Snapper-Grouper Species

- Tilefish (*L. chamaeleonticeps*) Mar – late July ?
- Blueline tilefish (*C. microps*) February – Oct Dusk (?) - night
- Greater amberjack (*S. dumerili*) April – June ?
- Gray triggerfish (*B. capricus*) April – Aug ?
- Knobbed porgy (*C. nodosus*) March – July ?
- Vermilion snapper (*R. aurorubens*) April – late September ?
- Red snapper (*L. campechanus*) May - Oct ?
- White grunt (*H. plumieri*) Mar – Sep ?
- Tomtate (*H. aurolineatum*) Apr - May ?
- Sand perch (*D. formosum*) Mar – Sep (G. of Mexico) ?
- Rock hind (*E. adscensionis*) Jan – Jun ?
- Graysby (*C. cruentata*) Aug – Sep (Curacao) ?
- Speckled hind (*E. drummondhayi*) Jul - Sep ?
- Yellowedge grouper (*E. flavolimbatus*) Apr – Sep ?
- Coney (*C. fulva*) May – Aug off Bermuda Dusk
- Red grouper (*E. morio*) Feb – June ?
- Warsaw grouper (*E. nigritus*) ? ?
- Snowy grouper (*E. niveatus*) Apr – Sep ?
- Black grouper (*M. bonaci*) Jan – Dec (Gulf FL) ?
- Yellowmouth grouper (*M. interstitialis*) Jan – Dec (Gulf FL) ?
- Scamp (*M. phenax*) Feb – Jul Afternoon – night

# Fishery Ecosystem Plan



**FISHERY ECOSYSTEM PLAN  
OF THE SOUTH ATLANTIC REGION  
VOLUME I: INTRODUCTION AND OVERVIEW**

**April 2009**

**South Atlantic Fishery Management Council**  
4055 Faber Place Drive, Suite 201  
Charleston, South Carolina 29405  
(843) 571-4366 / FAX (843) 769-4520  
Toll Free (866) SAFMC-10  
Email: [safmc@safmc.net](mailto:safmc@safmc.net)



THIS IS A PUBLICATION OF THE SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL PURSUANT TO National Oceanic and Atmospheric Administration Award No. FN403NMF4410004

# Comprehensive Ecosystem Based Amendment 1 & 2



## COMPREHENSIVE ECOSYSTEM-BASED AMENDMENT 1 FOR THE SOUTH ATLANTIC REGION



AMENDMENT 8 TO THE FISHERY MANAGEMENT PLAN FOR THE SHRIMP FISHERY OF THE SOUTH ATLANTIC REGION  
AMENDMENT 19 TO THE FISHERY MANAGEMENT PLAN FOR THE COASTAL MIGRATORY PELAGIC RESOURCES IN THE ATLANTIC AND GULF OF MEXICO  
AMENDMENT 6 TO THE FISHERY MANAGEMENT PLAN FOR CORAL, CORAL REEFS, AND LIVE/HARDBOTTOM HABITATS OF THE SOUTH ATLANTIC REGION  
AMENDMENT 4 TO THE FISHERY MANAGEMENT PLAN FOR THE GOLDEN CRAB FISHERY OF THE SOUTH ATLANTIC REGION  
AMENDMENT 9 TO THE FISHERY MANAGEMENT PLAN FOR SPINY LOBSTER IN THE GULF OF MEXICO AND SOUTH ATLANTIC  
AMENDMENT 1 TO THE FISHERY MANAGEMENT PLAN FOR THE DOLPHIN WAHOO FISHERY OF THE ATLANTIC  
AMENDMENT 19 TO THE FISHERY MANAGEMENT PLAN FOR THE SNAPPER GROUPER FISHERY OF THE SOUTH ATLANTIC REGION

(INCLUDING A FEIS, IRFA, FRIR & FSLA/FIS)

**October 2009**

South Atlantic Fishery Management Council  
4055 Faber Place, Suite 201  
North Charleston, South Carolina 29405  
(843) 571-4366 / FAX (843) 769-4520  
Toll Free (866) SAFMC-10  
email: [safmc@safmc.net](mailto:safmc@safmc.net)

National Marine Fisheries Service  
Southeast Regional Office  
265 13th Avenue South  
St. Petersburg, Florida 33701  
(727) 824-5301 / FAX (727) 824-5308



*This is a publication of the South Atlantic Fishery Management Council pursuant to National Oceanic and Atmospheric Administration Award No. FN40330MF4410004*



## COMPREHENSIVE ECOSYSTEM-BASED AMENDMENT 2 FOR THE SOUTH ATLANTIC REGION



AMENDMENT 7 TO THE FISHERY MANAGEMENT PLAN FOR CORAL, CORAL REEFS, AND LIVE/HARDBOTTOM HABITATS OF THE SOUTH ATLANTIC REGION  
AMENDMENT 23 TO THE FISHERY MANAGEMENT PLAN FOR THE SNAPPER GROUPER FISHERY OF THE SOUTH ATLANTIC REGION  
AMENDMENT 21 TO THE FISHERY MANAGEMENT PLAN FOR THE COASTAL MIGRATORY PELAGIC RESOURCES IN THE ATLANTIC AND GULF OF MEXICO  
AMENDMENT 1 TO THE FISHERY MANAGEMENT PLAN FOR PELAGIC SARGASSUM HABITAT OF THE SOUTH ATLANTIC REGION

**July 2011**

South Atlantic Fishery Management Council  
4055 Faber Place, Suite 201  
North Charleston, South Carolina 29405  
(843) 571-4366 / FAX (843) 769-4520  
Email general: [safmc@safmc.net](mailto:safmc@safmc.net)

National Marine Fisheries Service  
Southeast Regional Office  
265 13th Avenue South  
St. Petersburg, Florida 33701  
(727) 824-5301 / FAX (727) 824-5308



*This is a publication of the South Atlantic Fishery Management Council pursuant to National Oceanic and Atmospheric Administration Award No. FN40330MF4410004*

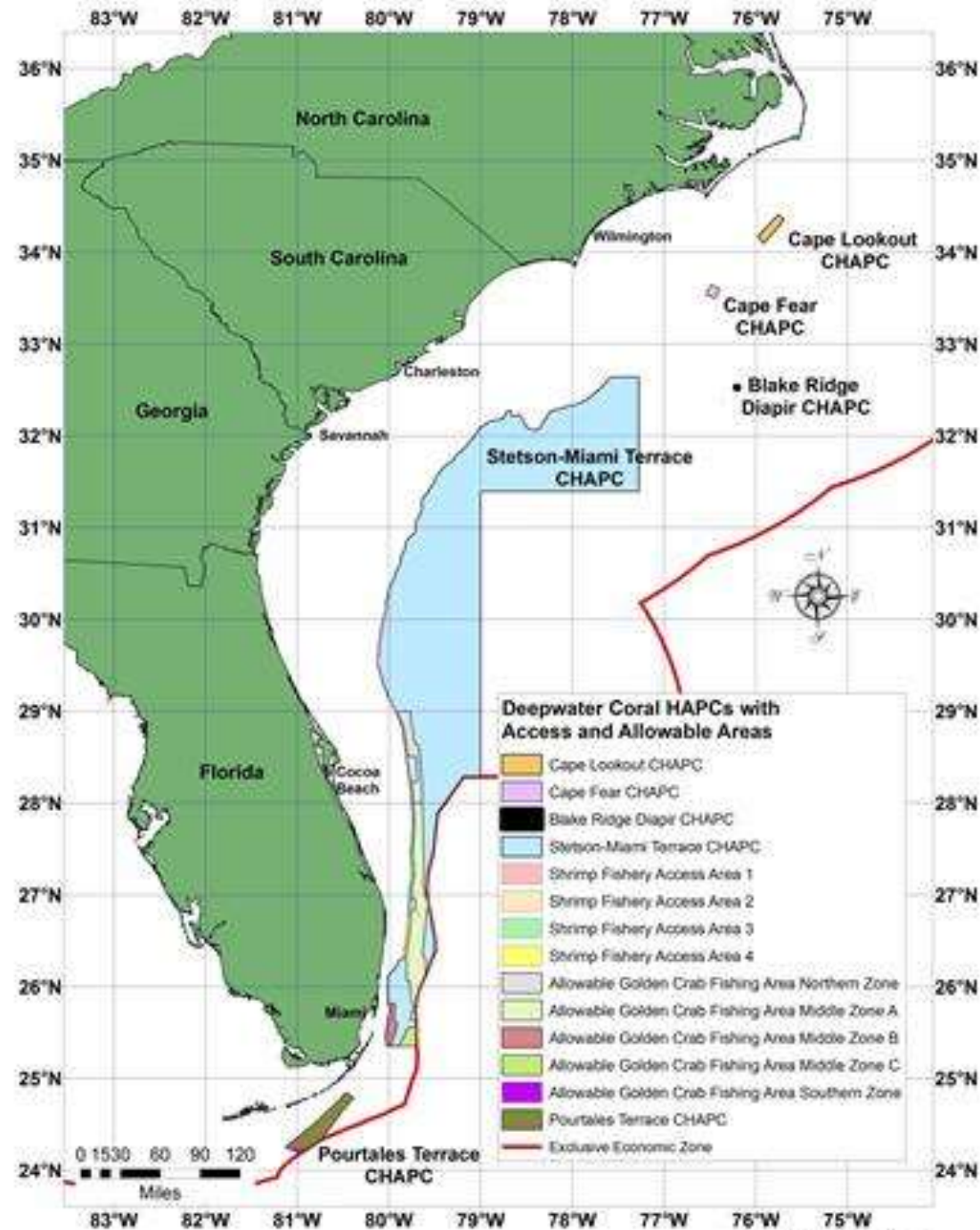
# Deepwater Coral Habitat Areas of Particular Concern

Implemented by CEBA1

Five CHAPCs:

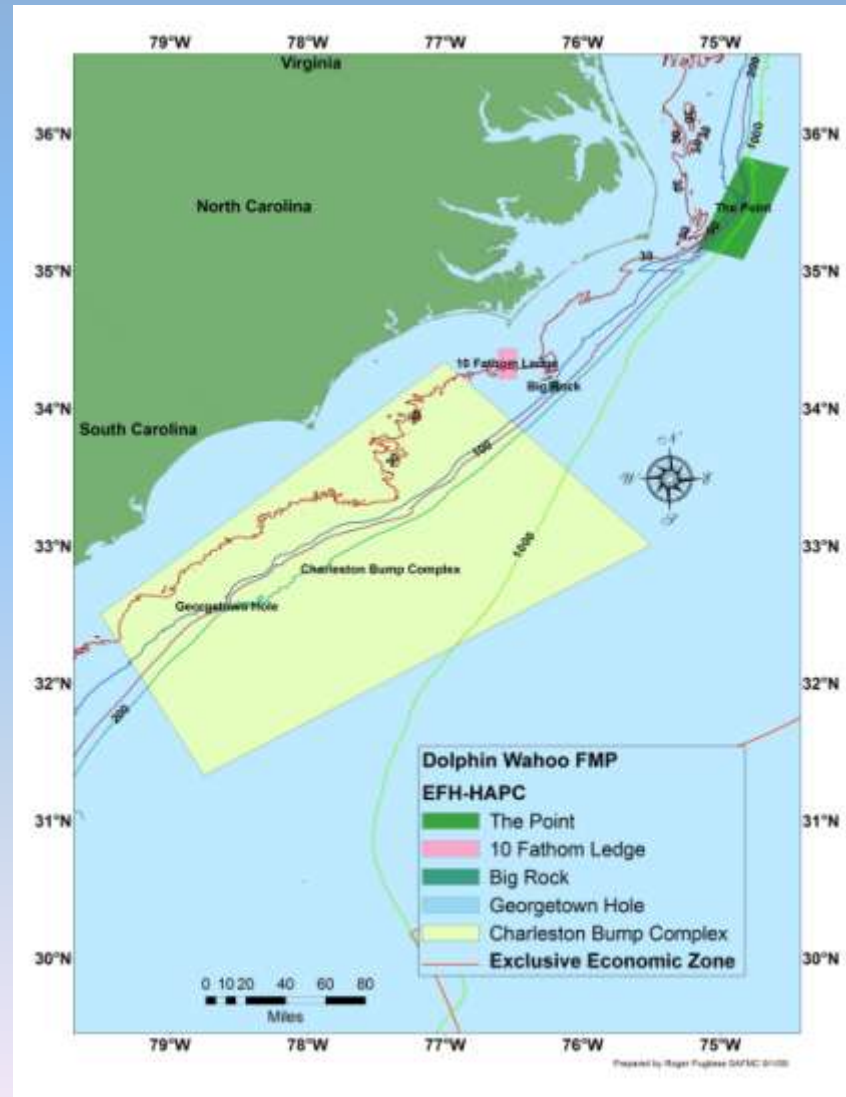
- Cape Lookout CHAPC
- Cape Fear CHAPC
- Stetson-Miami Terrace CHAPC
- Pourtales Terrace CHAPC

- Established Access areas for golden crab and deepwater shrimp fisheries/gears



# Comprehensive Ecosystem Amendment 1

## Spatial Presentations of EFH and EFH-HAPCs





# Spatial Management Measures

- Coral Habitat Areas of Particular Concern
- Special Management Zones
- Gear and Seasonal Closures
- Deepwater Marine Protected Areas
- Essential Fish Habitat and Essential Fish Habitat Areas of Particular Concern

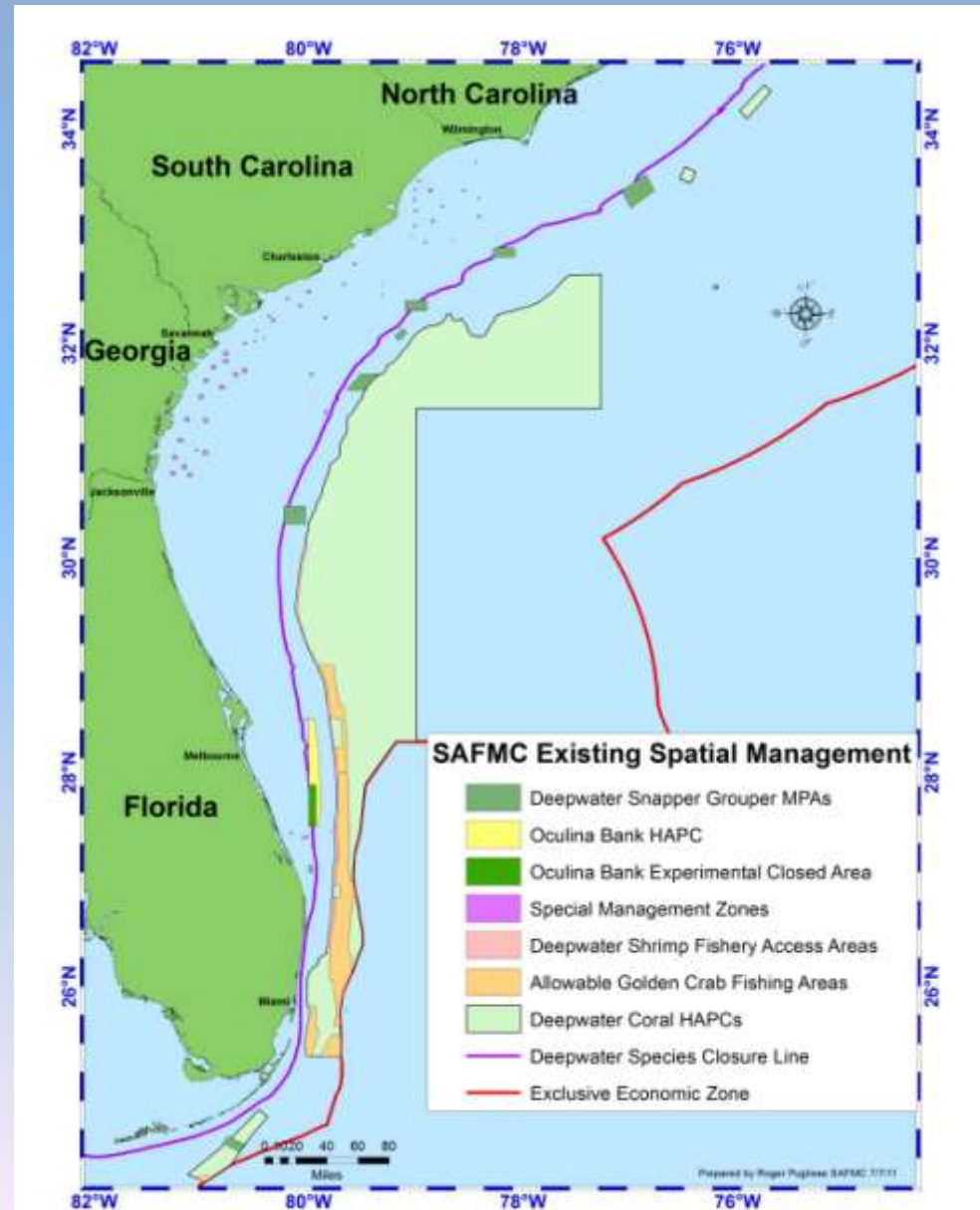
# SAFMC: Spatial Management beyond EFH

## Snapper Grouper FMP:

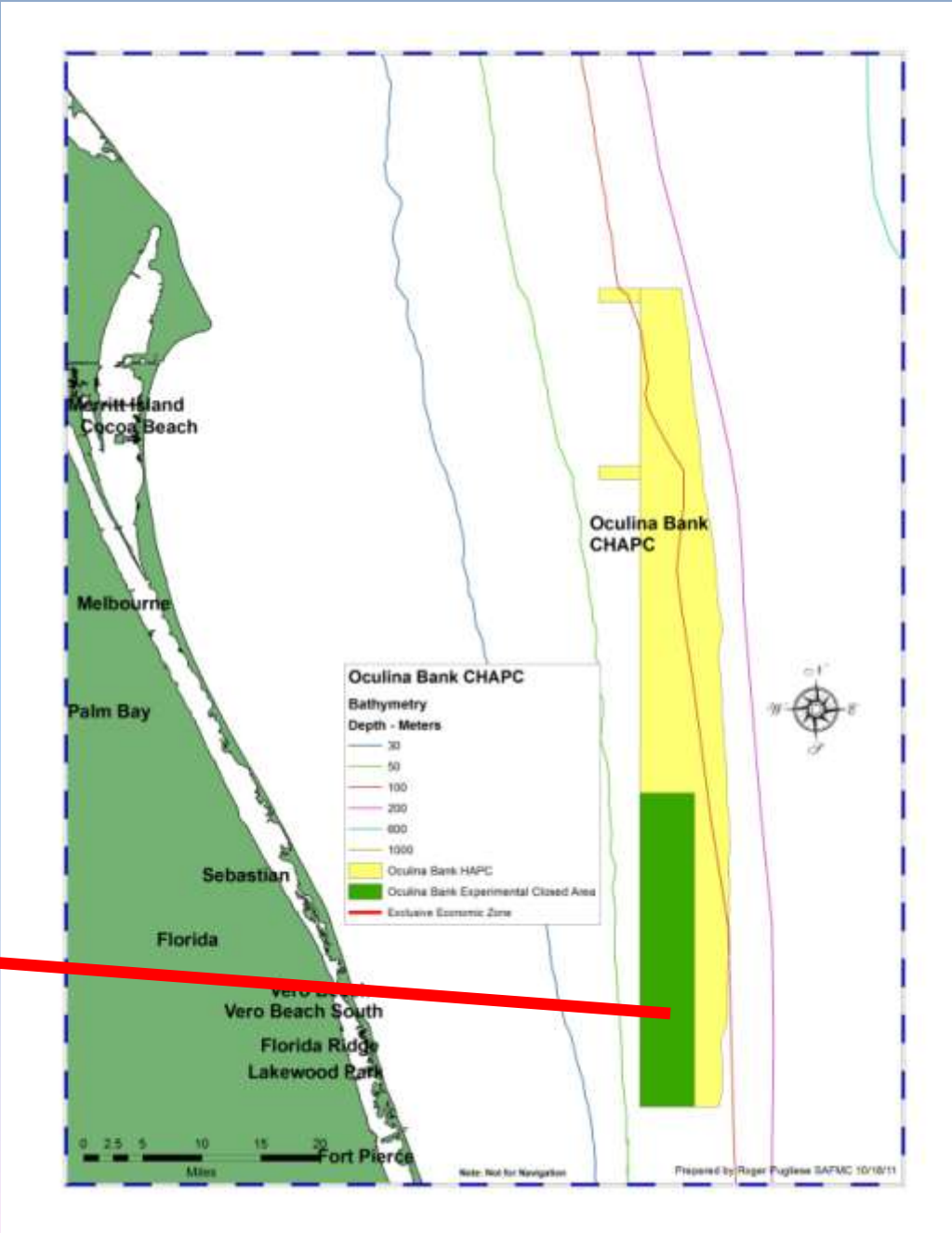
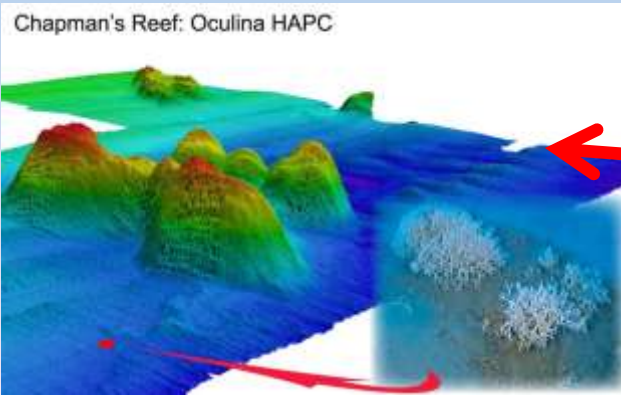
- Deepwater Marine Protected Areas (MPAs)
- Special Management Zones (SMZs)
- Deepwater Species Closure

## Coral, Coral Reef and Live/Hard Bottom Habitat FMP:

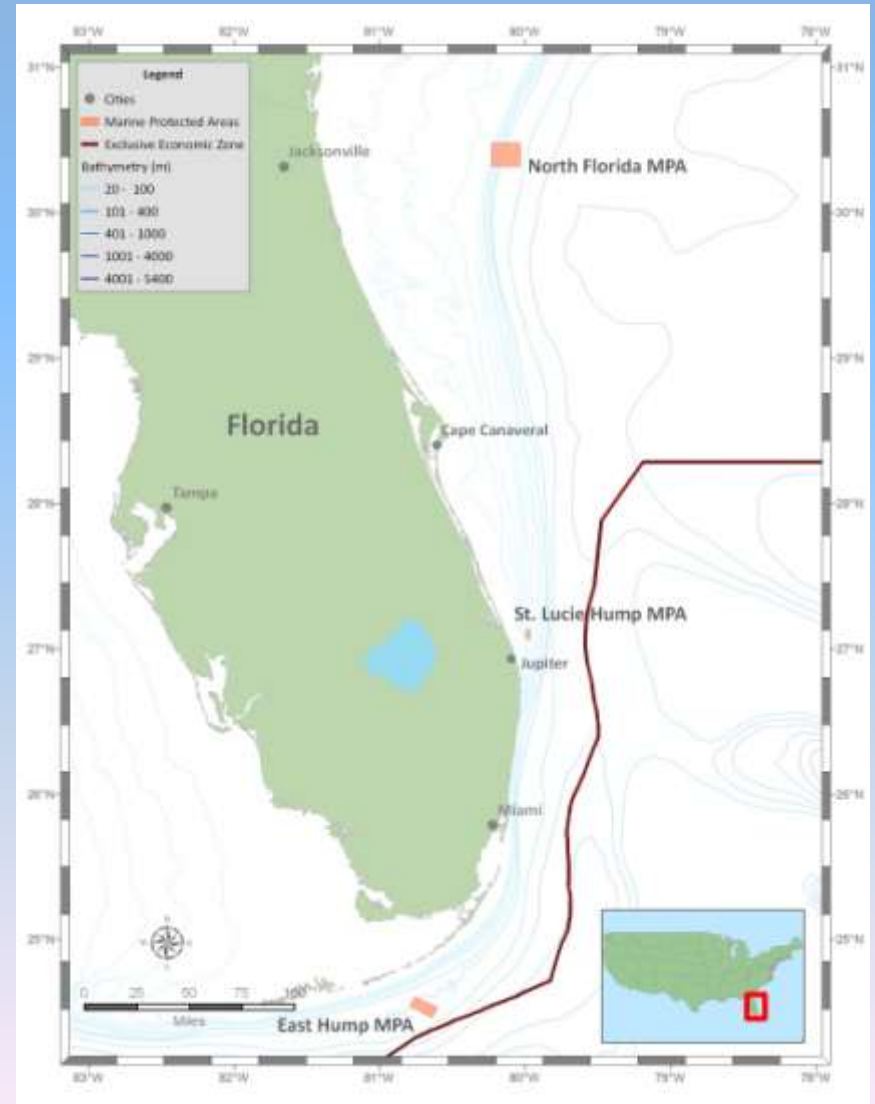
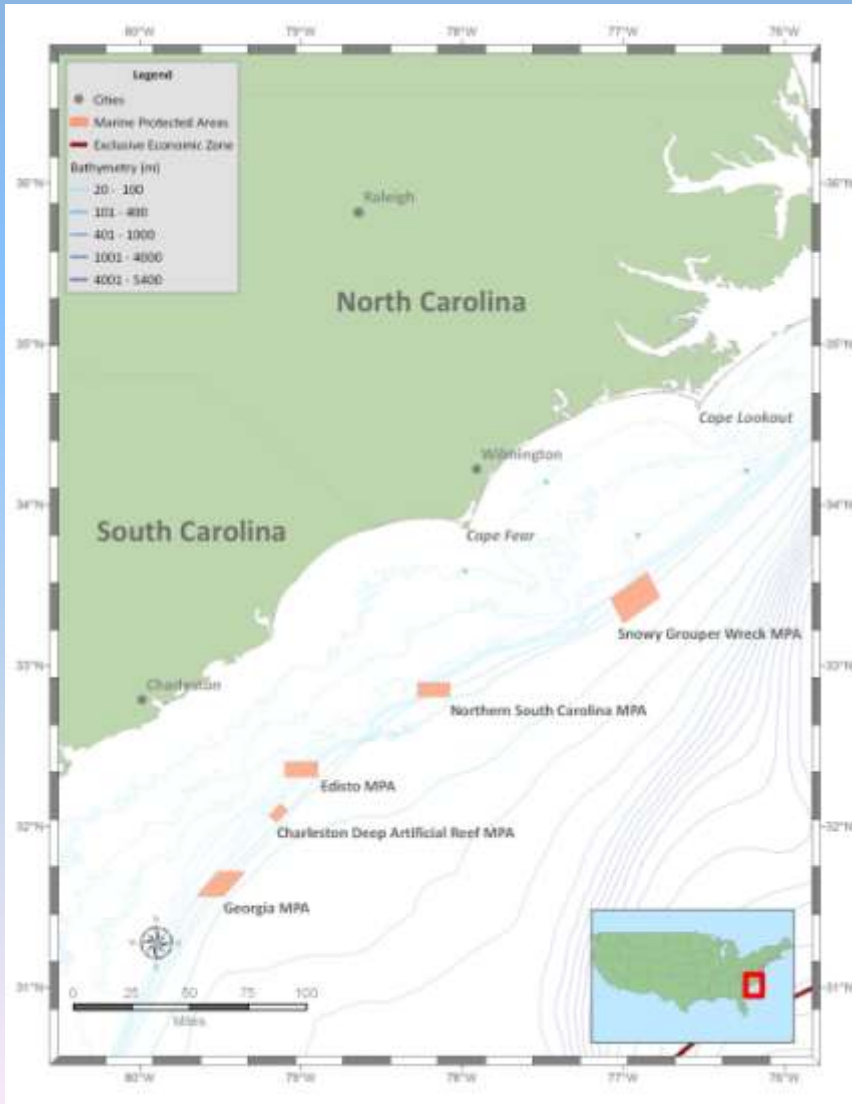
- Coral HAPCs (Oculina and Deepwater Coral)



# Oculina Bank Coral Habitat Area of Particular Concern



# Deepwater Marine Protected Areas



# Spatial presentation of EFH-HAPCs on the South Atlantic Habitat and Ecosystem Web Service



# Development of Ecosystem Support Tools:

South Atlantic Habitat and Ecosystem Webpage

South Atlantic Habitat and Ecosystem Internet Map Server (IMS)

Transition to linked GIS Services for Regulations, Essential Fish Habitat, SA Fisheries, Ocean Energy and Ecospecies Data System as Part of a Digital Dashboard

- Developed in cooperation with Florida Fish and Wildlife Research Institute to support ecosystem-based resource management, habitat, species and ecosystem research, and regional collaboration
  - Web Services provide access to related GIS data
  - Ecosystem Section of the Website provides links to FEP and Digital Dashboard
  - Developing Ecospecies data system will provide online access to South Atlantic species life history data

# SAFMC Habitat and Ecosystem IMS

- Since 2003, the Fish and Wildlife Research Institute (FWRI) has collaborated with SAFMC staff to compile, create and host GIS data of essential habitats in the South Atlantic ecosystem.
- The IMS was designed as a one-stop shop for managers, scientists and the public to explore marine resources of the South Atlantic region.

# GIS Data Layers

- **Base Map Layers** – Bathymetry, Marine Facilities, ATONS, Land Cover
- **Ocean Observing Systems** - National Data Buoys, SABSOON, CORMP
- **Coral Habitat Areas of Particular Concern (HAPCs)** – Oculina studies: Cleila and ROV dive tracks, multibeam survey, proposed deep water lophelia CHAPCs
- **SAFMC Gear Restrictions** – Roller Rig Trawls, Bottom Longlines, Sargassum, Fish Traps, Black Sea Bass Pots
- **SAFMC Essential Fish Habitat and HAPCs** - Snapper Grouper, Shrimp, Red Drum, Spiny Lobster, Coastal Migratory Pelagics, Dolphin Wahoo, Coral, and Golden Crab
- **Management and Regulatory** – special management zones, marine protected areas, state waters, EEZ, sea turtle sanctuary, crab spawning sanctuary
- **Marine Sanctuaries** – habitat data for Gray's Reef and Florida Keys
- **Unique Habitats** – Right Whale Critical Habitat, Southeast US Restricted Area
- **General Habitats** – artificial reefs, fish nursery areas, seagrass, mangroves, salt marsh, tidal flats

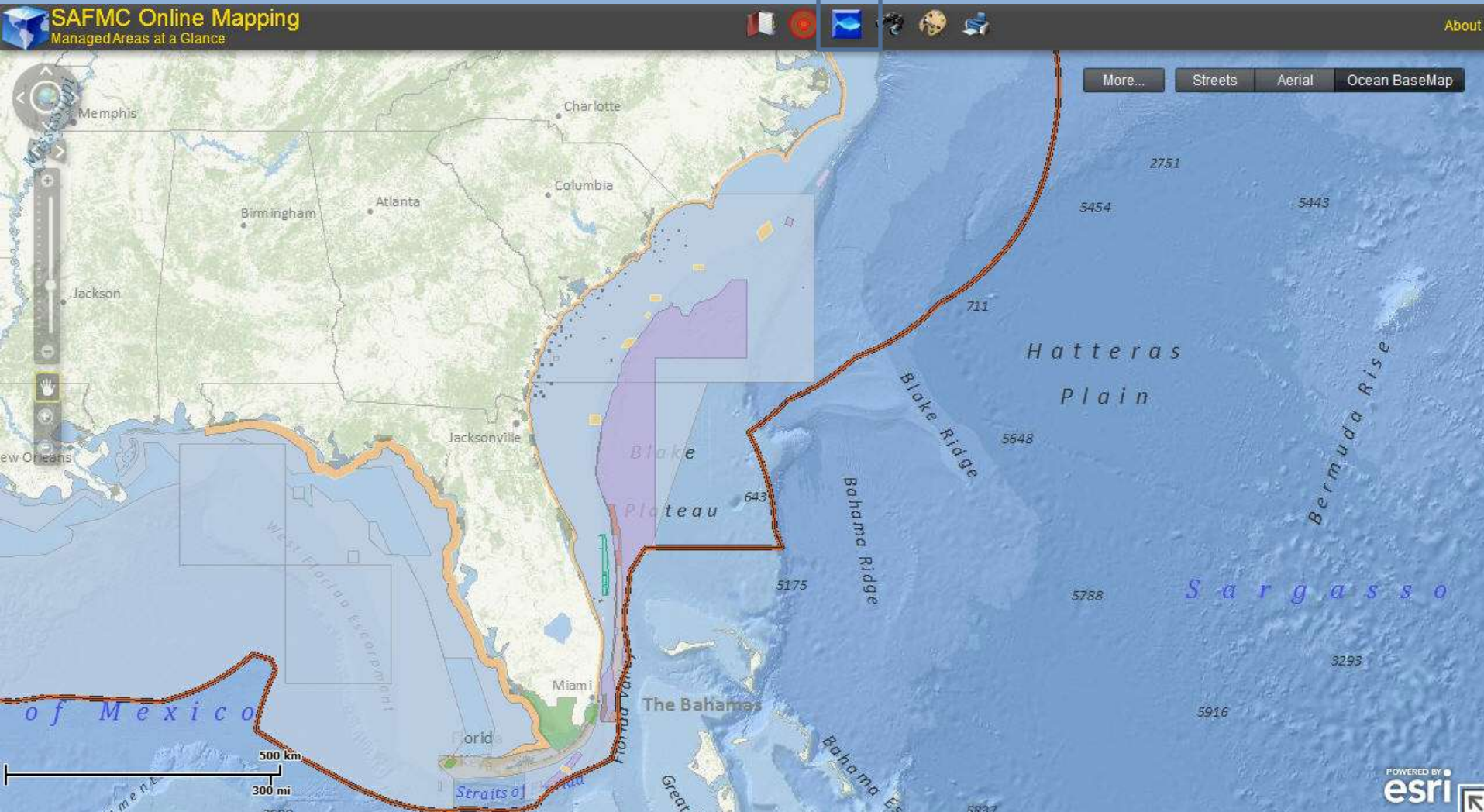


# SAFMC Map Services

- **Essential Fish Habitat (EFH)** – displays EFH and EFH-HAPCS for SAFMC managed species and NOAA Fisheries Highly Migratory Species.
- **Fisheries** - displays Marine Resources Monitoring, Assessment, and Prediction (MARMAP) and Southeast Area Monitoring and Assessment Program (SEAMAP) data .
- **Managed Areas**- displays a variety of regulatory boundaries (SAFMC and Federal) or management boundaries within SAFMC's jurisdiction.
- **Habitat\*** – displays habitat data collected by SEADESC, Harbor Branch Oceanographic Institute (HBOI) and Ocean Exploration dives, as well as the SEAMAP shallow and ESDIM deepwater bottom mapping projects, multibeam imagery, and scientific cruise data.

\* Habitat service is forthcoming

# SAFMC Managed Areas



The graphic displays the initial view of the SAFMC Managed Areas viewer. Deepwater Coral HAPCs, Marine Protected Areas, Special Management Zones, and the Oculina CHAPC are visible.

# SAFMC Essential Fish Habitat Service

SAFMC - Essential Fish Habitat

Return To Home Page | Help | Downloads | Disclaimer

Print | Query SAFMC EFH | Query SAFMC EFH-HAPC

Results

Map Contents

- SAFMC\_EFH\_SERVICE
  - SAFMC EFH-HAPC
    - Coastal Migratory Pelagic
    - Coral, Coral Reef, Live
    - Dolphin-Wahoo EFH-HAPC
    - Snapper Grouper EFH-HAPC
    - Shrimp EFH-HAPC
    - Spiny Lobster EFH-HAPC
  - SAFMC EFH
    - Atlantic Tunas
    - Sharks
    - Sailfish
    - Sword Fish
    - Blue Marlin
    - White Marlin
    - United States
- ESRI\_StreetMap\_World\_2D
  - World Street Map
- Topo Maps
  - NGS USA Topographic Maps

0 25 50 100 150 200 Miles  
Copyright

# SAFMC Fisheries

**SAFMC Fisheries Viewer**  
Fisheries Independent Monitoring Programs

Streets Aerial Ocean BaseMap

**LayerList**  
Layer Visibility

- Fisheries
- Marine Habitat

**SAFMC**  
**SEAMAP - South Atlantic Surveys**  
**MARMAP Program**  
**ArcGIS Viewer for Flex**

Click to continue

POWERED BY **esri**

The screenshot shows a map of the South Atlantic region with a central information popup. The popup contains the SAFMC logo, a welcome message, and a list of links. The LayerList panel on the right shows the 'Fisheries' layer is checked and visible. The map includes labels for 'West Florida Escarpment', 'Bermuda Rise', and 'Sargasso Sea'. A scale bar at the bottom left indicates 500 km and 300 mi. The bottom right corner features the 'POWERED BY esri' logo.

# SAFMC Fisheries

- SEAMAP species data
  - Catch
  - length
- MARMAP species data
  - SAFMC Managed species
  - Other species
- MARMAP gear types
- focal species distributions
  - General area
  - Dominant area
  - Spawning area
- bathymetry
- boundaries for the continental shelf, US Federal State and US Territorial Seas.
- features custom query for SEAMAP species catch data for 2010

# South Atlantic Web Accessible Materials (SAFMC)

- Fishery Ecosystem Plan- (viewable and downloadable by Section)-  
<http://www.safmc.net/ecosystem/Home/EcosystemHome/tabid/435/Default.aspx>
- CEBA1 - [http://www.safmc.net/Portals/6/Library/FMP/CE-BA1%20FINAL%20\(Oct%202009\).pdf](http://www.safmc.net/Portals/6/Library/FMP/CE-BA1%20FINAL%20(Oct%202009).pdf)
- Habitat and Ecosystem Internet Map Server -  
<http://www.safmc.net/EcosystemManagement/EcosystemBoundaries/MappingandGISData/tabid/632/Default.aspx>
- Managed Areas Web Service -  
[http://ocean.floridamarine.org/safmc\\_managedareas/](http://ocean.floridamarine.org/safmc_managedareas/)
- Essential Fish Habitat Web Service -  
[http://ocean.floridamarine.org/sa\\_efh/](http://ocean.floridamarine.org/sa_efh/)
- Fisheries Web Service –  
[http://ocean.floridamarine.org/sa\\_fisheries/](http://ocean.floridamarine.org/sa_fisheries/)
- Ocean Energy and Habitat Services – Under development
- Ecospecies online species life history data system- Under development
- Habitat and Ecosystem Digital Dashboard – Online June 2012

# Regional Data Collection Efforts & Marine Planning Efforts: South Atlantic Alliance

## Priority Issues:

- Healthy Ecosystems
- Working Waterfronts
- Clean Coastal and Ocean Waters
- Disaster-Resilient Communities
- Technical Teams Membership

## Healthy Ecosystems Action Items, Sept. 2011

- Map known distributions of key estuarine/marine habitats/land use cover in each state: determine spatial extent (beach-out first), develop query template for states to capture all appropriate data elements, summarize, and identify common concerns.
- Marine spatial plan for location of key coastal/marine resources and activities for multi-use management decisions: identify major activities (shipping lanes, artificial reefs, ocean disposal areas, sand borrow areas, military use, etc.), determine locations and what data exists, and determine common framework of mapping standards and how to bring data into portal.



<http://www.southatlanticalliance.org/>

# Regional Data Collection Efforts & Marine Planning Efforts: Marine Resources Monitoring, Assessment and Prediction (MARMAP) Southeast Area Monitoring and Assessment Program (SEAMAP)

## Annual/Seasonal/Regional:

Species occurrence, species abundance, biomass

## Life History

- Age and growth
- Maturity sex ratios (Diet, Genetics, toxins, etc.)

## Hydrographic data

- Salinity, Temperature, Depth
- Weather and sea conditions

## Fisheries Management

## Stock Assessment

## Genetics

- species identification
- species stock

## Essential Fish Habitat

- bottom mapping
- nursery areas

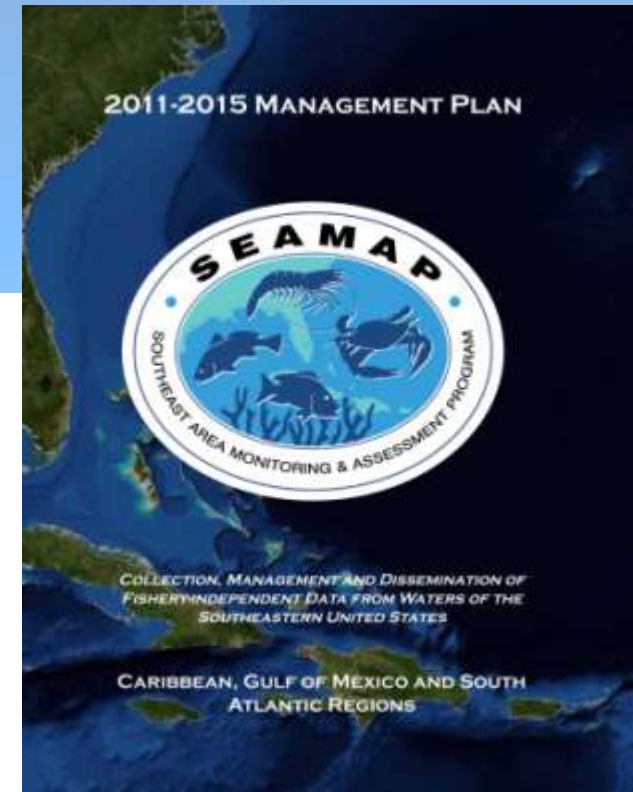
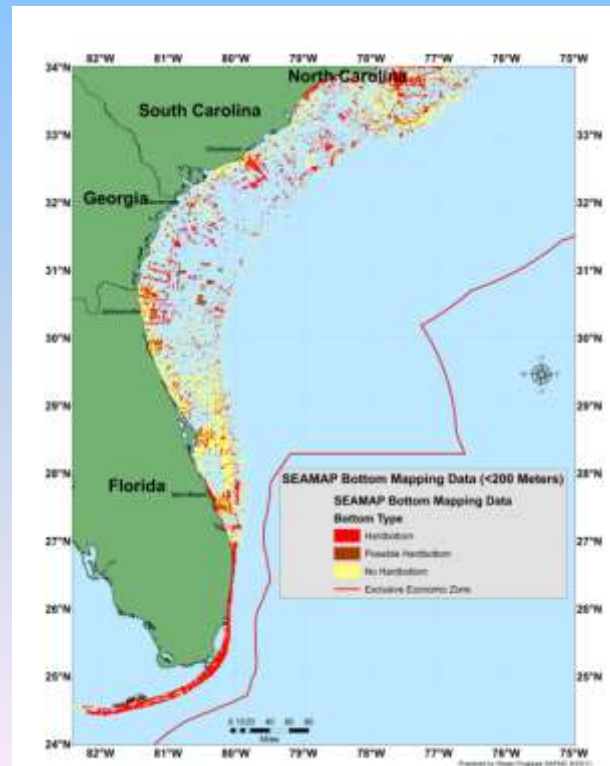
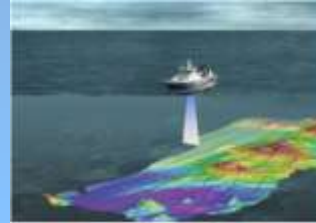
## Graduate student research

## Systematics

## Disease studies

## Toxicology

## Marine turtle monitoring



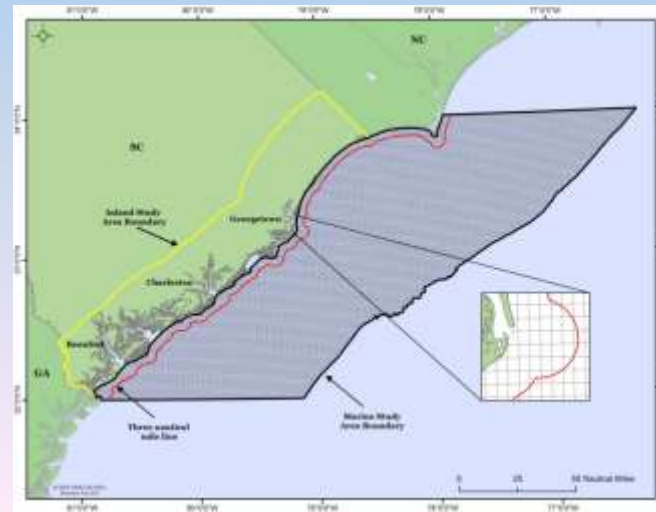
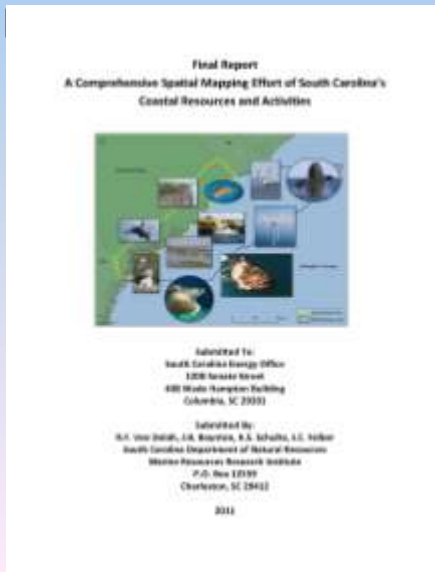


# Regional Data Collection Efforts & Marine Planning Efforts: South Carolina Roadmap to Gigawatt-Scale Coastal Clean Energy Generation: Transmission, Regulation & Demonstration.

SC Regulatory Task Force for Coastal Clean Energy Established  
Geographic Information System compiled of resources and resource use from 30 miles inland to the 200 m depth contour offshore between the 32° and 34° latitudes

Resources: important fishery species, bottom fauna, sea turtle nesting and coastal juvenile distribution, bird nesting habitats and marine mammal distribution (right whales)

Resource use: military restriction zones, shipping activities and routes, sand borrow site locations, ocean disposal area locations, artificial reef zones, areas of commercial fishery activities based on landings, shipwrecks, and various jurisdictional boundaries such as (BOEMR federal boundary, etc.



# Regional Data Collection Efforts & Marine Planning Efforts: Southeast Coastal Ocean Observing Regional Association (SECOORA)

## Southeast Coastal Ocean Observing Regional Association (SECOORA) Build Out Plan

---

*Submitted to NOAA IOOS*

*September 30, 2011*

### **A Unique Region**

The SECOORA region encompasses 4 states, over 42 million people and spans the coastal ocean from North Carolina to the west Coast of Florida. The region is vulnerable to hurricane hazards, potential impacts from oil drilling off Cuba and neighboring regions, and climate change because of low-lying coastal land and corals and other habitats that will be the first indicators of significant ecological impact. A regional observing system is critical to understanding risks and reducing impacts, as well as supporting the economy of the SE. SECOORA is creating customized products to address these thematic areas: Marine Operations; Coastal Hazards; Ecosystems, Water Quality, and Living Marine Resources; and Climate Change.



*Figure 1 The SECOORA Footprint*

The SECOORA region is linked through large-scale circulation patterns. The western boundary current (WBC) of the North Atlantic, comprised of the Loop Current/Florida Current/Gulf Stream system, interacts strongly with coastal waters, intimately coupling the SECOORA region to the global circulation. Changes in shelf width across the region and changes in circulation with time modulate the degree to which the deep ocean interacts with the nearshore environment but throughout the region shelf water properties reflect the WBC influence.

# Data Needs

- **Need for evaluation of competing ocean uses on fish, fish habitat (impacts on habitat, migration, spawning, foraging and on prey species) and on fishery operations and communities**
- **Need for enhanced species and oceanographic monitoring**
- **Need for pelagic/benthic habitat mapping and characterization where existing data is insufficient**
- **Focus on managed species and their prey (priority to address overfished species):**
  - **identify critical habitats and reproductive periods;**
  - **peaks in calling activity have been linked to reproductive behavior in many fish families;**
  - **passive acoustics as a tool to monitor fish presence and behavior**



# South Atlantic Priority Habitats, Species, and Fisheries



**Jaclyn Daly**  
NOAA's National Marine Fisheries Service  
Charleston, South Carolina  
Jaclyn.Daly@noaa.gov

**Roger Pugliese**  
South Atlantic Fishery Management Council  
Charleston, South Carolina  
Roger.Pugliese@safmc.net