

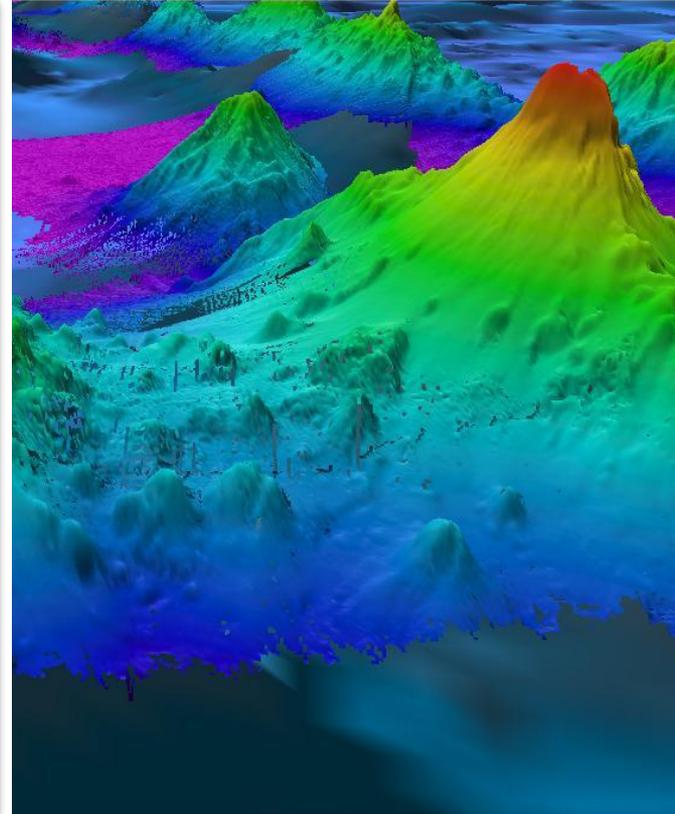


**OCEAN**  
EXPLORATION

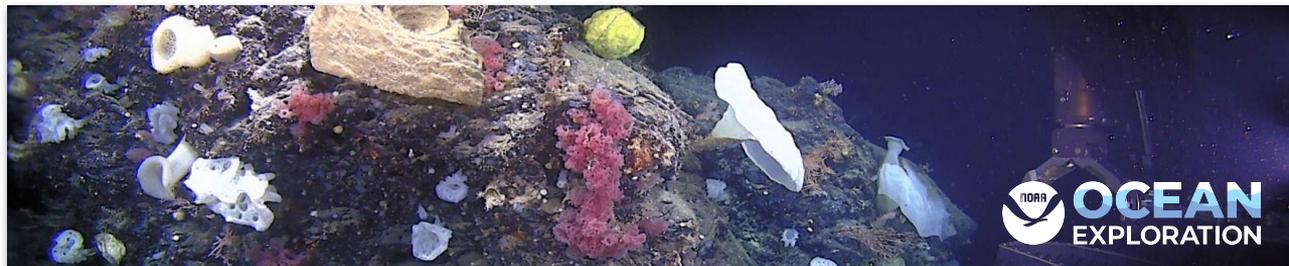
November 2, 2022

# Changing the Face of the Blake Plateau: four years of exploring the Southeast US

Kasey Cantwell, NOAA Ocean Exploration



*Leading national efforts to explore our deep ocean*

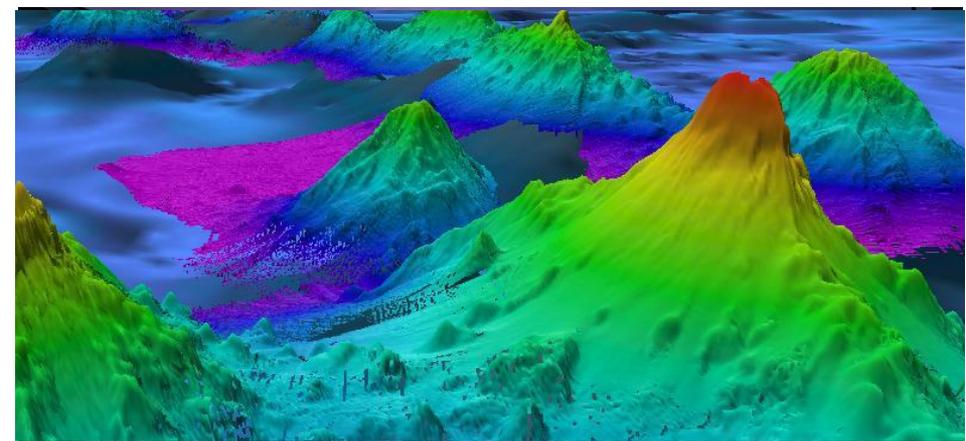




NOAA Ship *Okeanos Explorer*



ROV *Deep Discoverer*



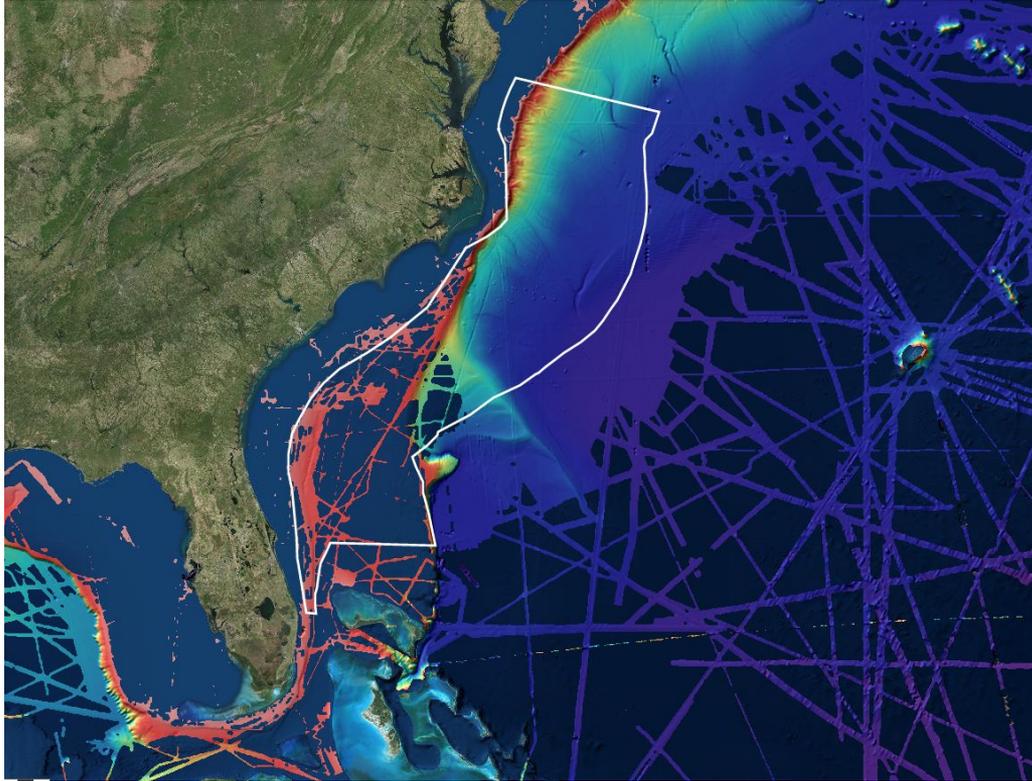


# ASPIRE Accomplishments

- Mapped a total of 119,107 km<sup>2</sup> on the Blake Plateau
  - Completed mapping of almost all of the remaining gaps in the multibeam bathymetry of the Blake Plateau deeper than 200 meters (820 feet)
  - Mapped several hundred new deep-sea coral mounds, including dense mound aggregations at the western edge of the Stetson-Miami Terrace Deepwater Coral Habitat Area of Particular Concern (HAPC)
- Conducted 24 ROV/HOV dives in the HAPC
  - Corals and sponges observed on all of them
  - High-density/high-diversity coral communities observed at several sites
- Dives, mapping and subsequent analysis have identified this region as the largest continuous cold water coral habitat on earth discovered to date



# ASPIRE Multibeam Data

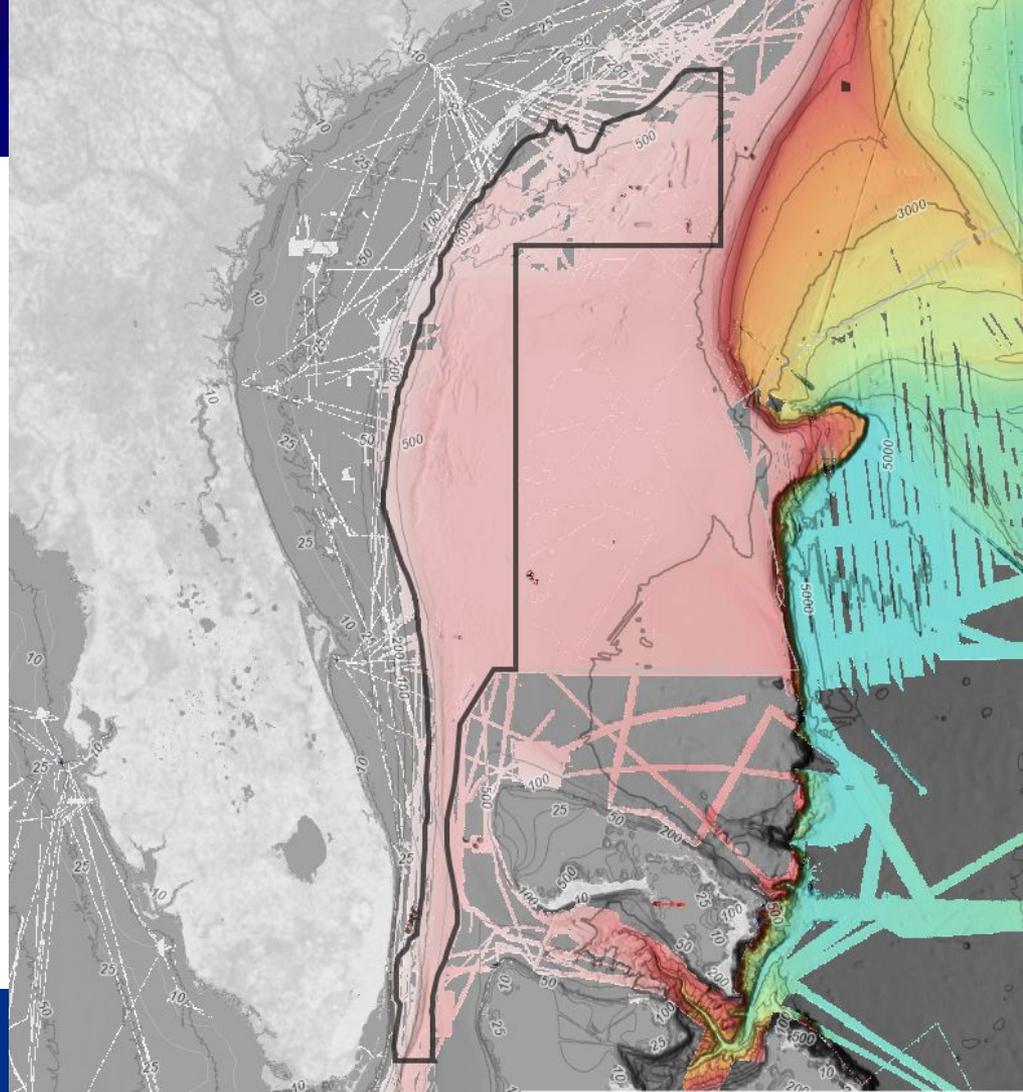


Multibeam bathymetry at the beginning of ASPIRE

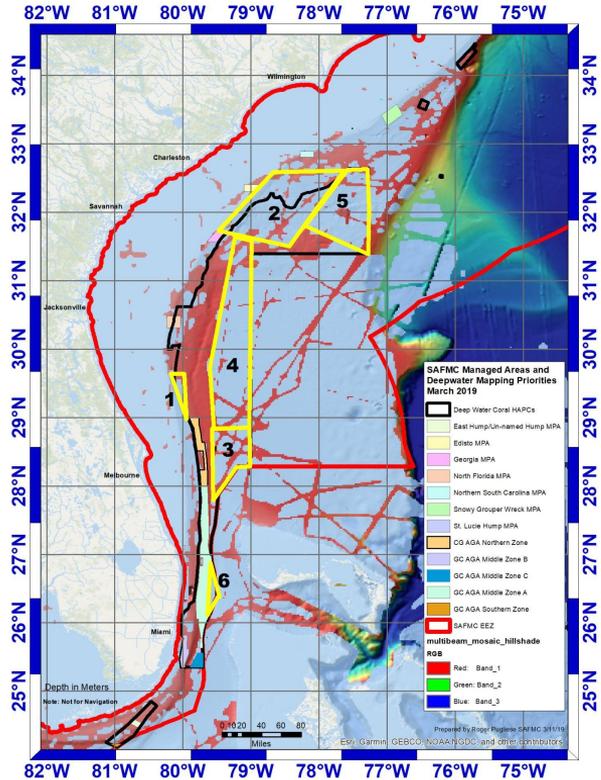
# ASPIRE Multibeam Data

## Multibeam bathymetry at the conclusion of ASPIRE

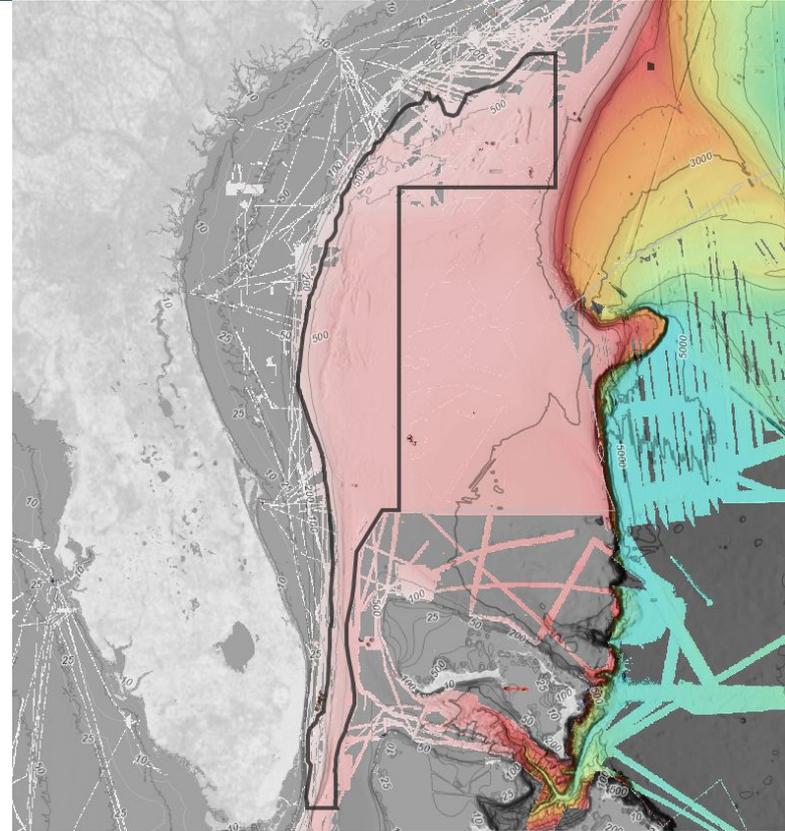
- 14 OER cruises collected mapping data on Blake Plateau
- 3 DEEP SEARCH (DEEP Sea Exploration to Advance Research on Coral/Canyon/Cold seep Habitats) cruises
- 2 OER-supported contract surveys completed by Fugro

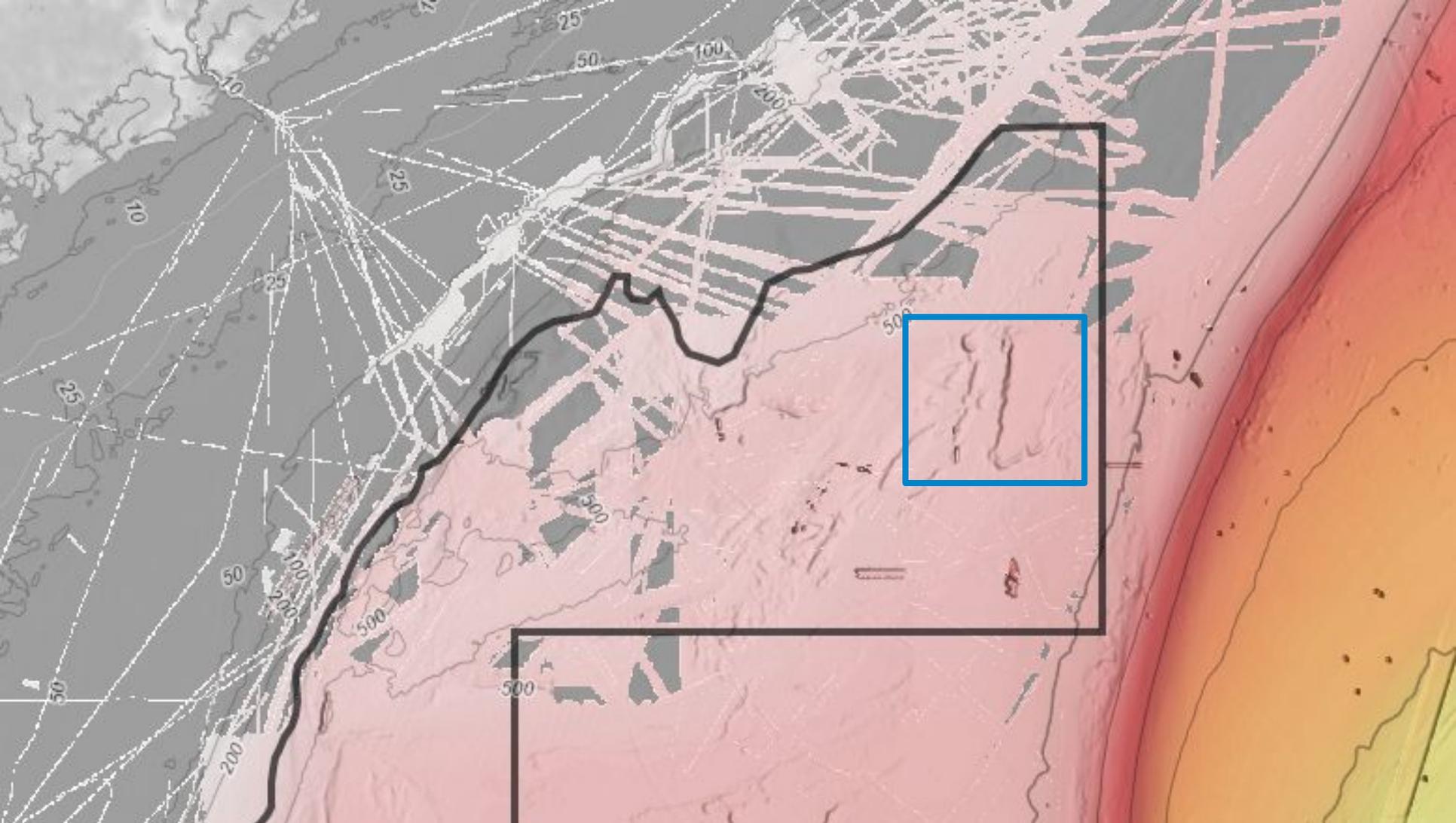


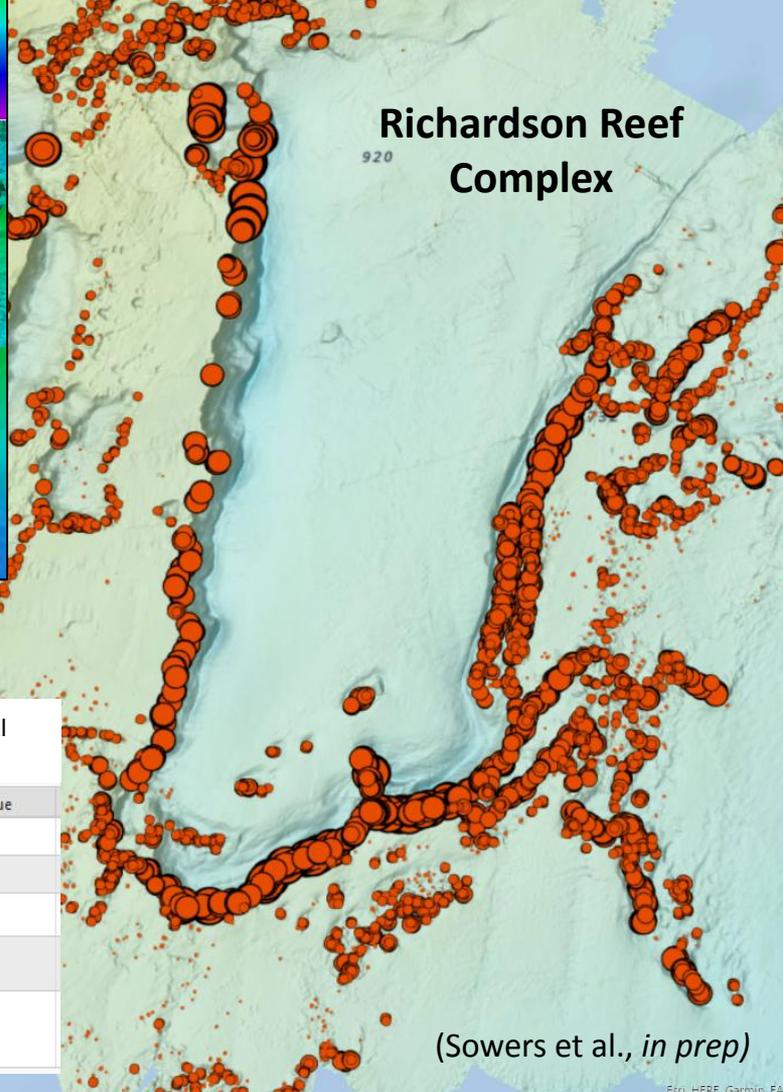
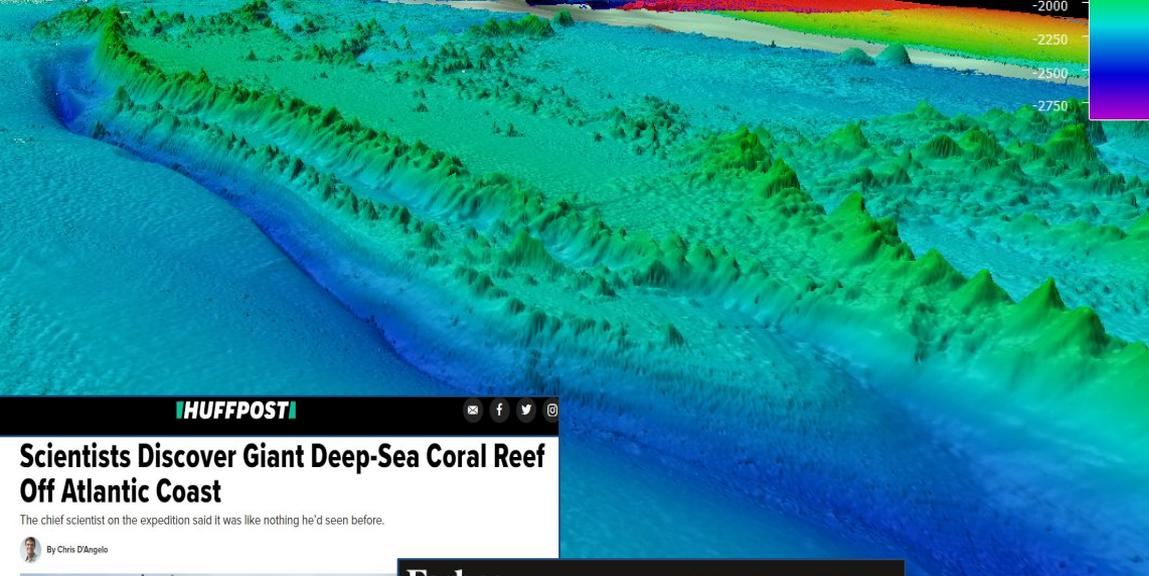
# Addressing SAFMC Priorities



- Addressed priorities 1, 3, 4 to completion
- Mostly completed 2, 5, 6





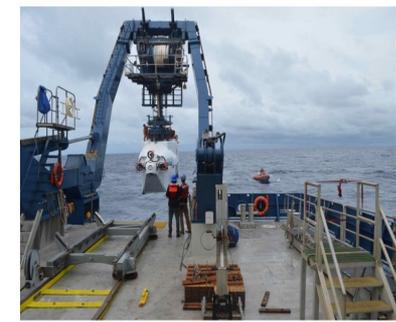


**HUFFPOST**

**Scientists Discover Giant Deep-Sea Coral Reef Off Atlantic Coast**

The chief scientist on the expedition said it was like nothing he'd seen before.

By Chris D'Angelo



THE ATLANTIC OCEAN — As the research vessel Atlantis made its way out to sea from Woods Hole, Massachusetts, last week, expedition chief scientist Erik Cordes predicted the team would discover something no one has ever seen before. It didn't take long.

THE ATLANTIC OCEAN — As the research vessel Atlantis made its way out to sea from Woods Hole, Massachusetts, last week, expedition chief scientist Erik Cordes predicted the team would discover something no one has ever seen before. It didn't take long.

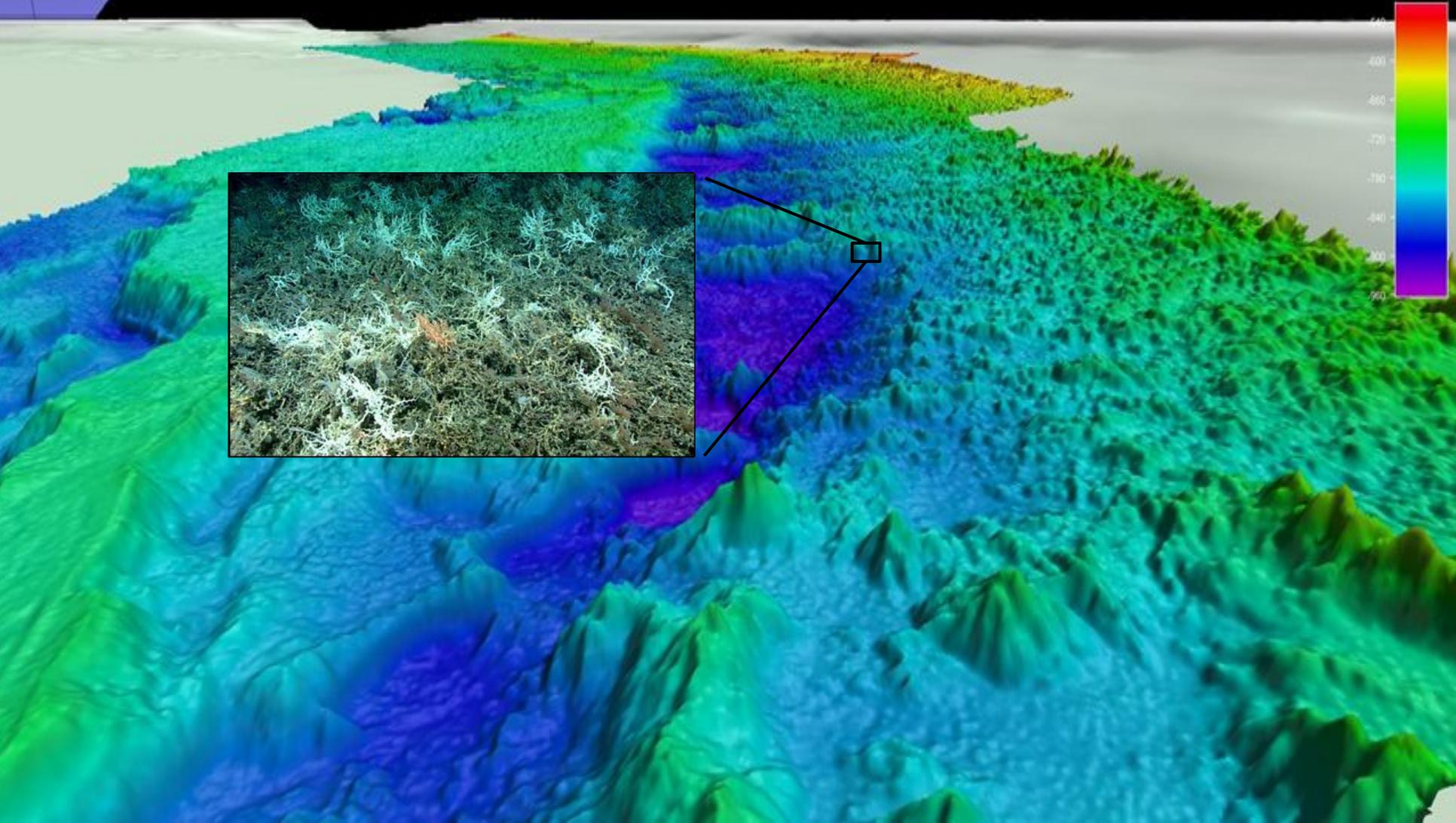
Some 160 miles off the coast of Charleston, South Carolina, a half mile below the ocean surface, is a dense forest of cold water corals. And based on their observations and recent sonar mapping of the ocean floor, researchers estimate that the reef runs for at

**Forbes**      Billionaires      Innovation

**Scientists Discovered A Massive Deep Sea Coral Reef Near South Carolina**

Priya Shukla Contributor  
Science  
I write about the ocean, climate change, and the future of our planet.

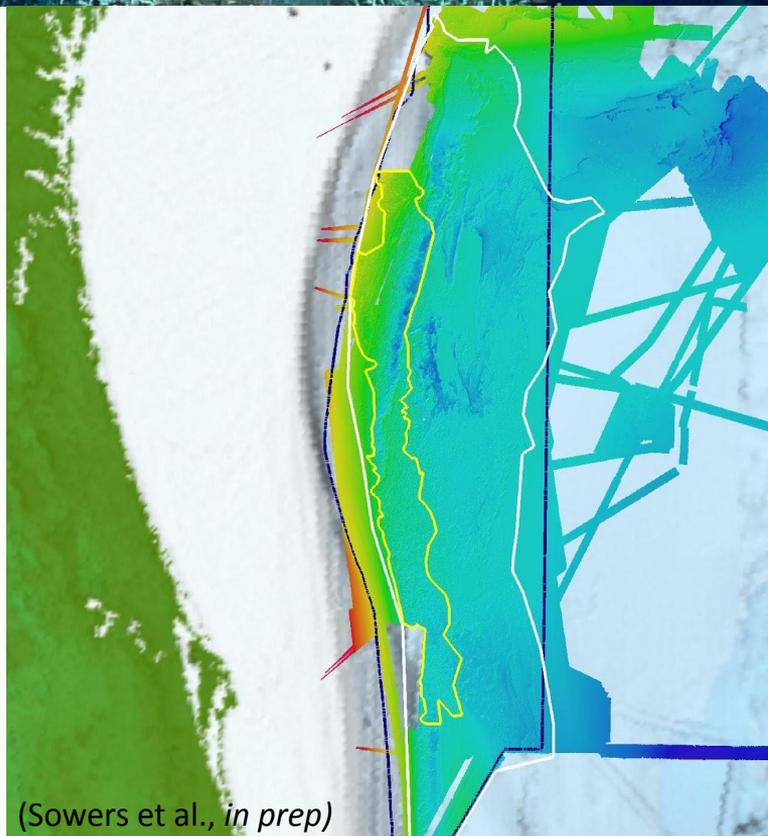




# Significance of “Million Mound” province

- Nearly continuous cold-water coral (CWC) mound province encompasses [6.9\\* million acres](#) ( ~28,047\* km<sup>2</sup> ; white polygon)
- Core of dense mounds covers [1.2 million acres](#) (5,179 km<sup>2</sup> - 248 km x 35 km; yellow polygon)

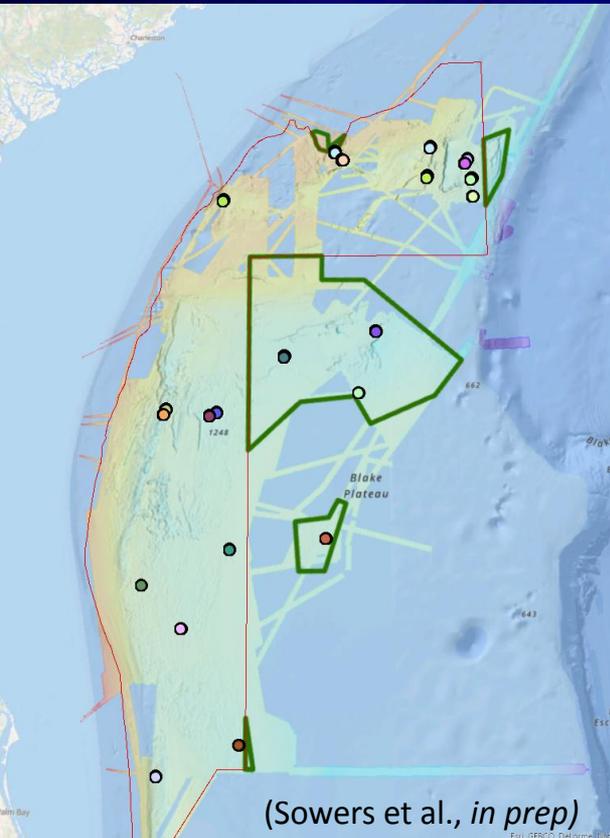
*Note- this model is being run again to be inclusive of the complete Blake plateau mapping, anticipated completion Winter 2022/23*



# Protecting more than just coral

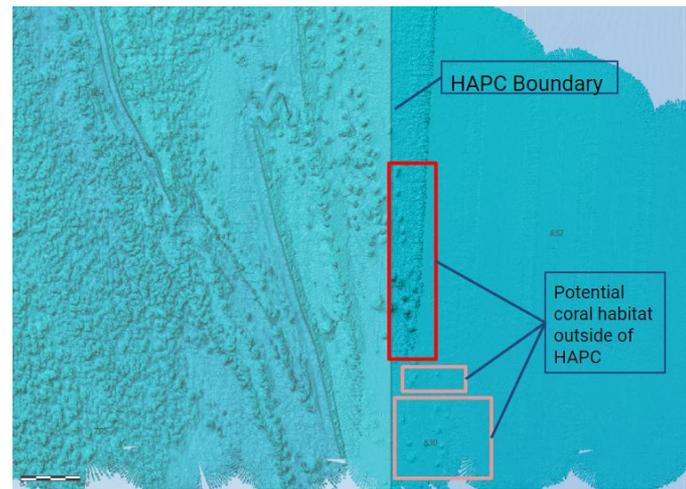


# Habitats outside of the HAPC

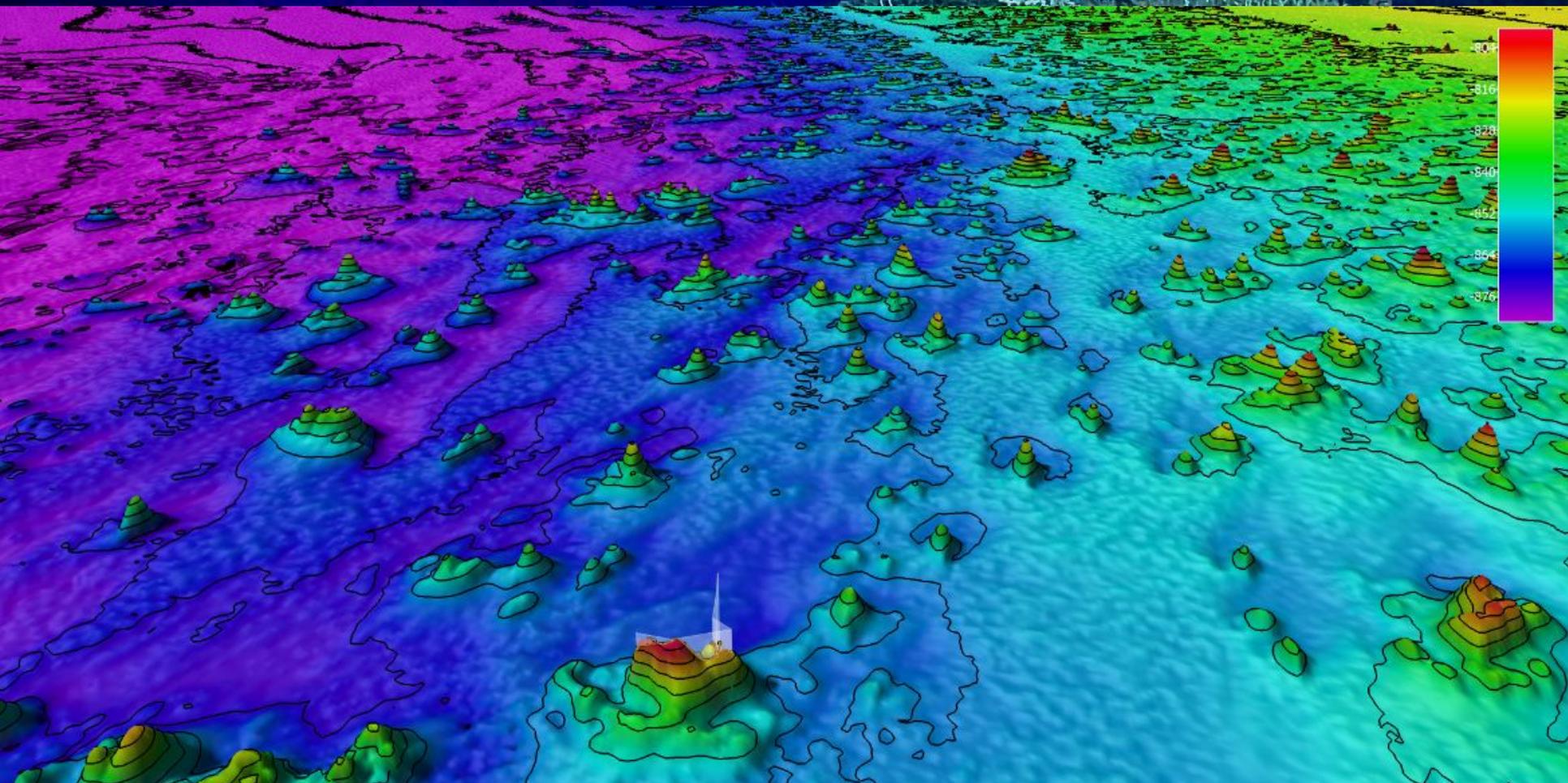


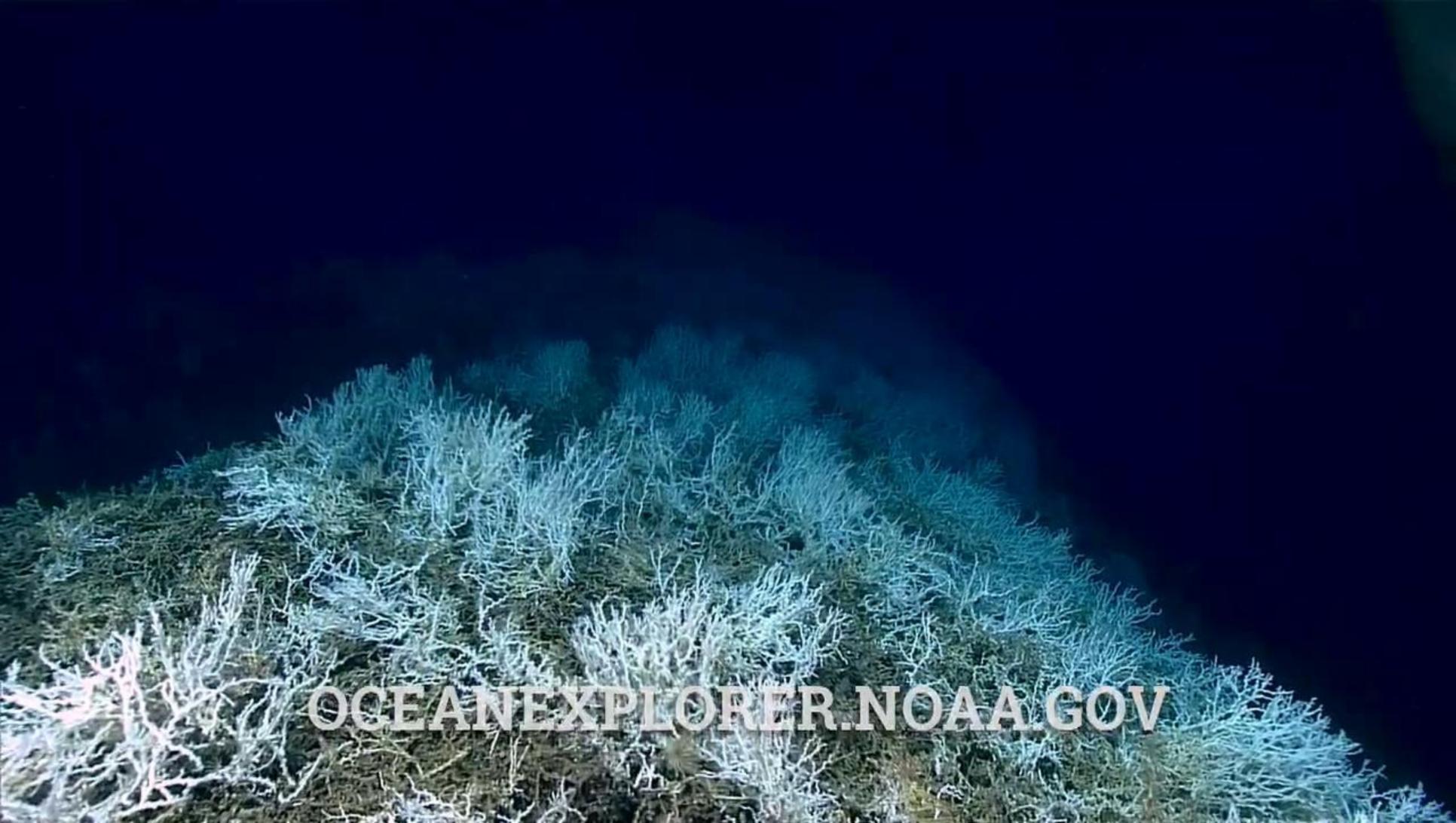
- Recent exploration of the Blake Plateau have revealed coral habitats outside of the HAPC
- ~13,519\* km<sup>2</sup> of mapped features outside of HAPC showing potential coral mounds and/or scarps (green polygons).

\* *Note*- this model is being run again to be inclusive of the complete Blake plateau mapping, anticipated completion Winter 2022/23



# Central Blake Plateau

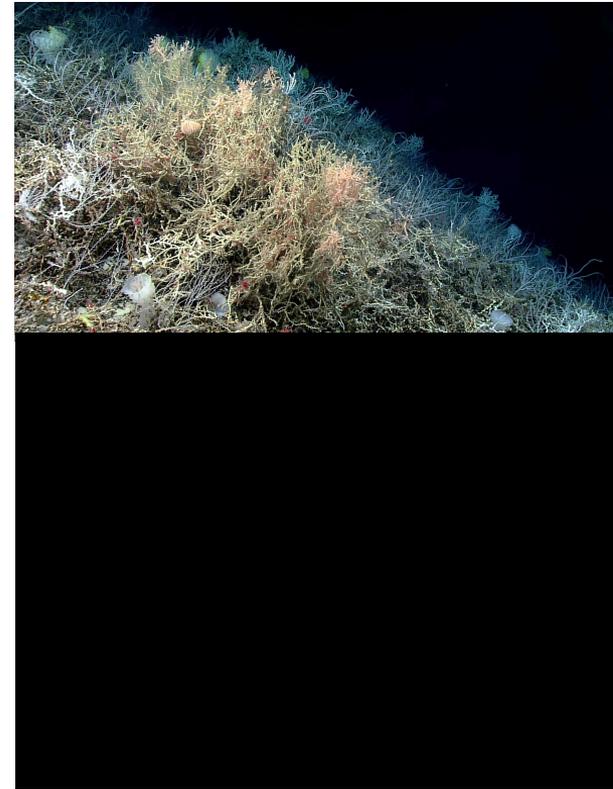


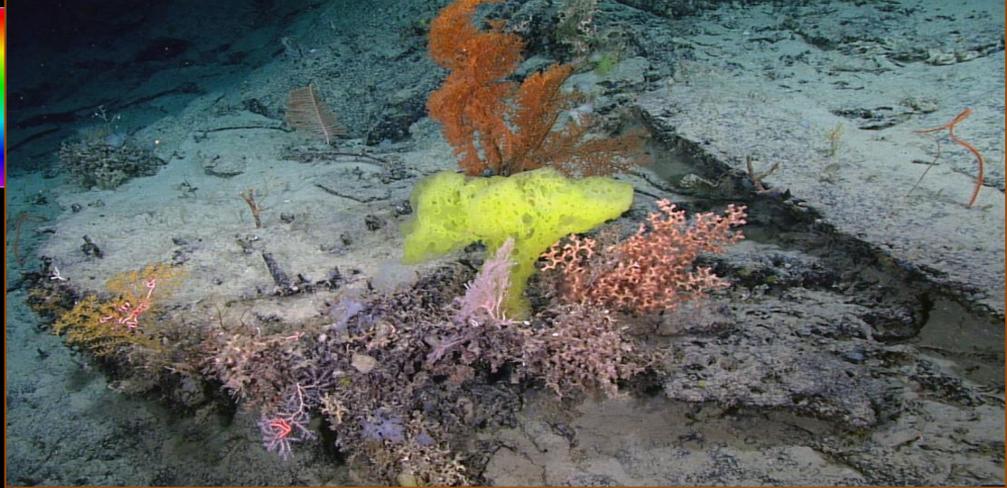
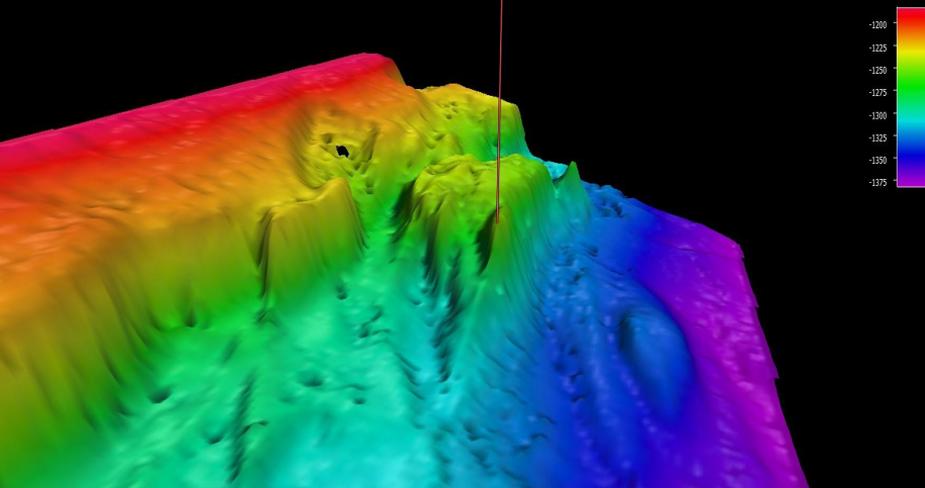
An underwater photograph showing a large, intricate, branching coral structure, possibly a species of sea fan or similar colonial invertebrate. The coral is illuminated from the side, highlighting its complex, tree-like structure. The background is dark, suggesting deep water. The text 'OCEANEXPLORER.NOAA.GOV' is overlaid in white, bold, sans-serif font across the lower portion of the image.

OCEANEXPLORER.NOAA.GOV

# Central Blake Plateau

- Diverse secondary colonialism
  - 15-20% live *Lophelia pertusa* and *Madrepora* sp.
  - Dense coverage of sponges, cup corals, octocorals, and black corals
  - Abundance of visible cryptofauna
- Substrate was carbonate shelves, coral skeletons, and coral skeletal matrix; not soft sediment





# THANK YOU!!!





**OCEAN**  
EXPLORATION

## Explore with us:

 [oceanexplorer.noaa.gov](https://oceanexplorer.noaa.gov)

 [@oceanexplorationresearch](https://www.facebook.com/oceanexplorationresearch)

 [@noaa\\_oceanexploration](https://www.instagram.com/noaa_oceanexploration)

 [@oceanexplorer](https://twitter.com/oceanexplorer)

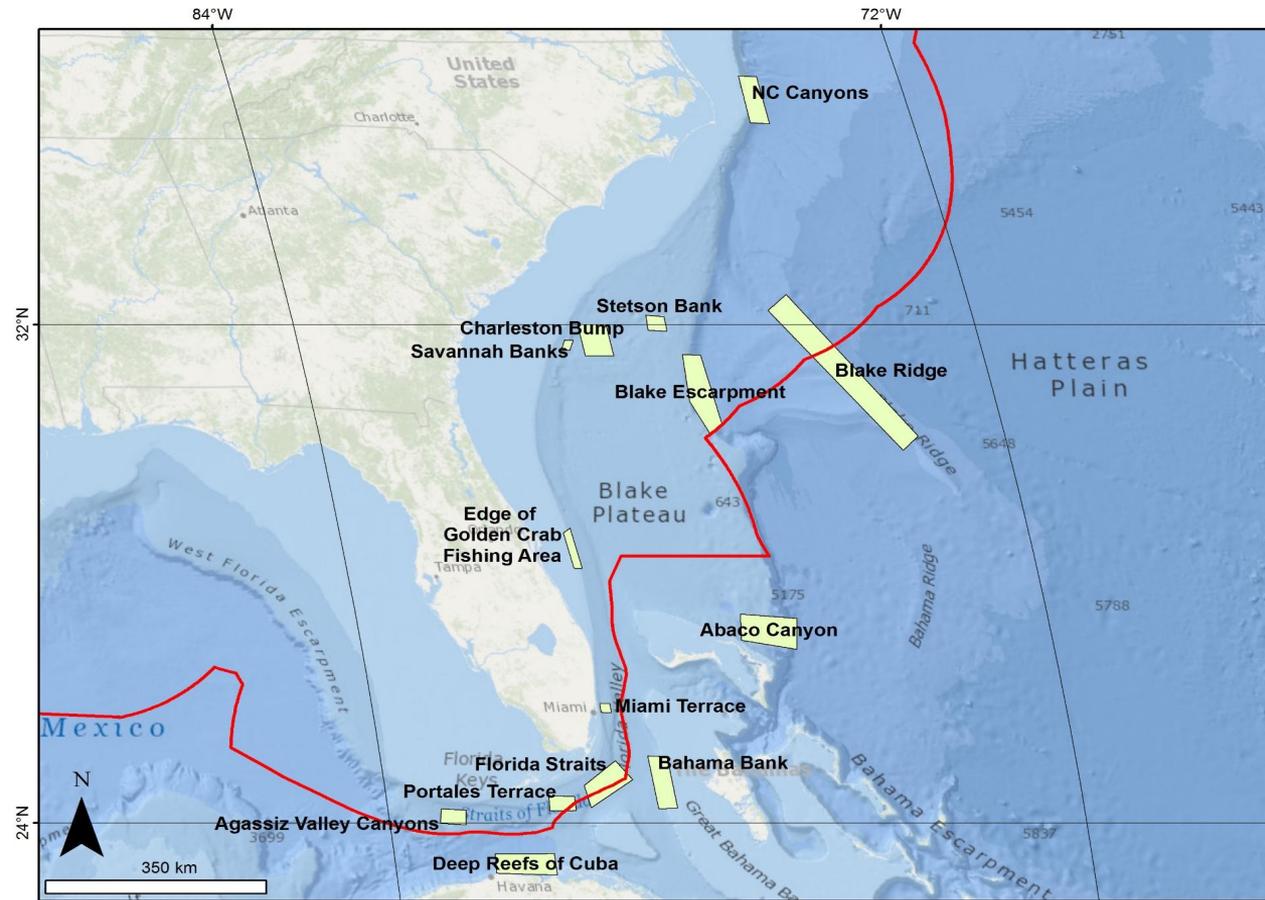
 [@oceanexplorergov](https://www.youtube.com/oceanexplorergov)

## Questions?

 [kasey.cantwell@noaa.gov](mailto:kasey.cantwell@noaa.gov)



# Regional Priorities

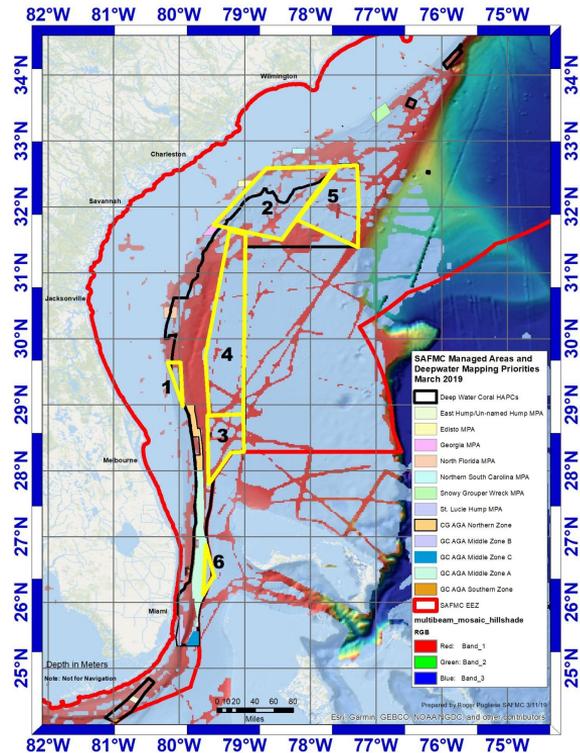
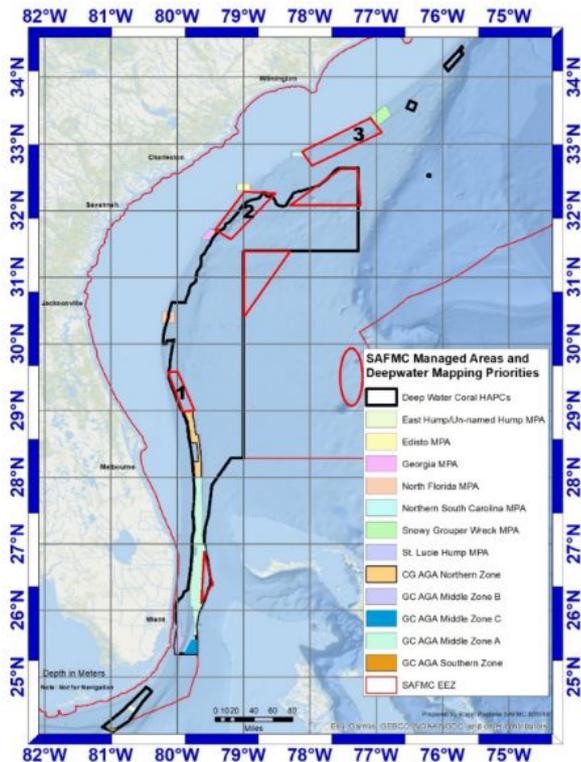


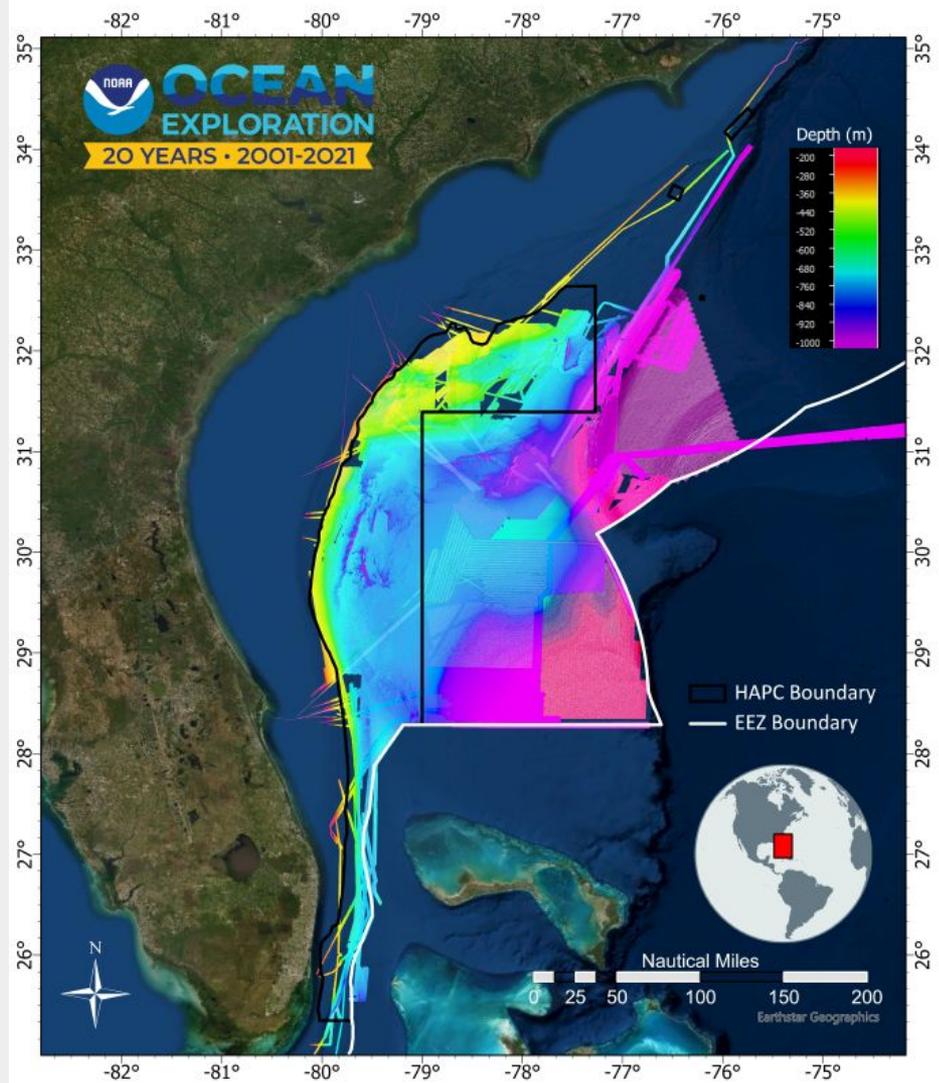
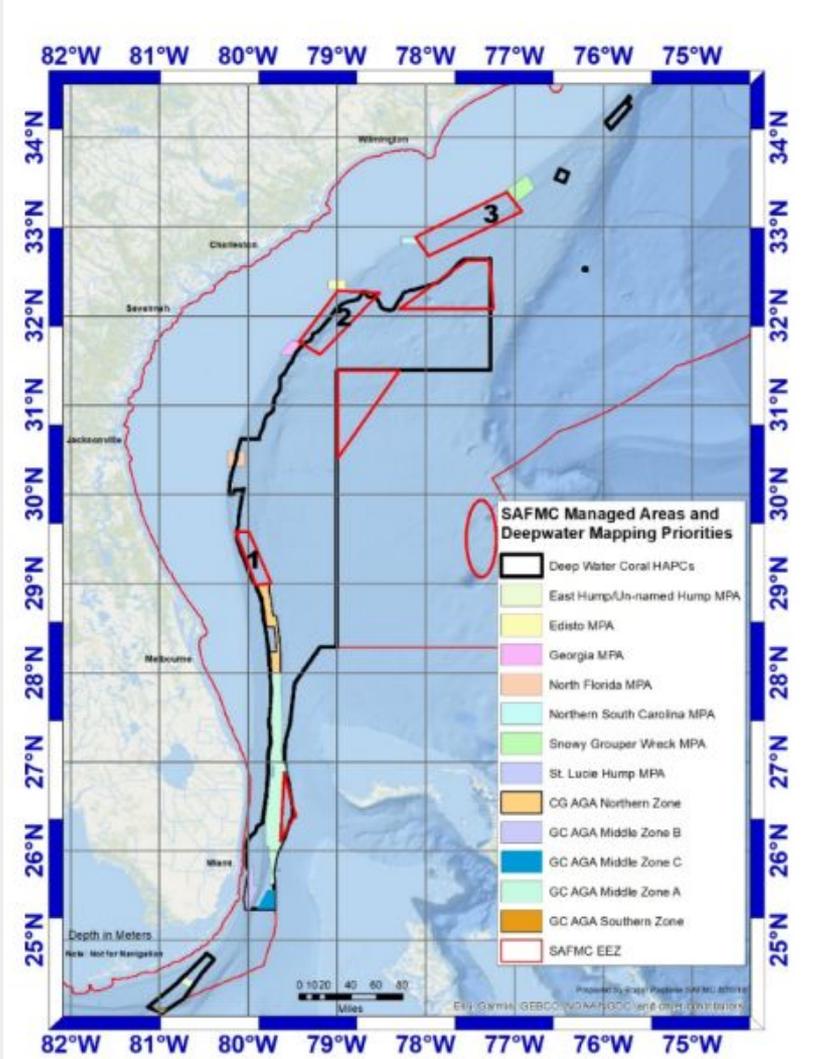
## Science Plan for the Southeast Deep Coral Initiative (SEDICI): 2016-2019

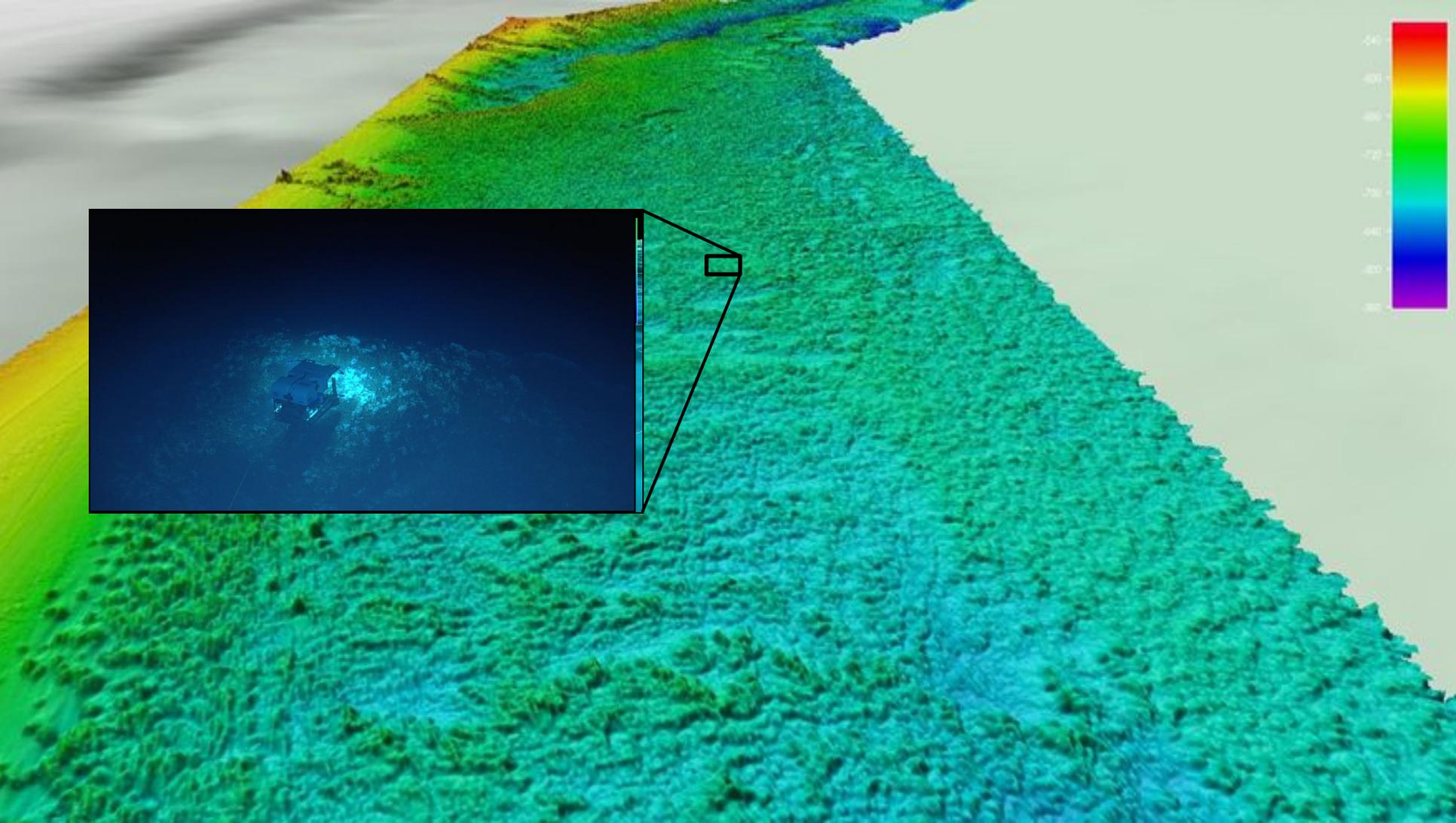


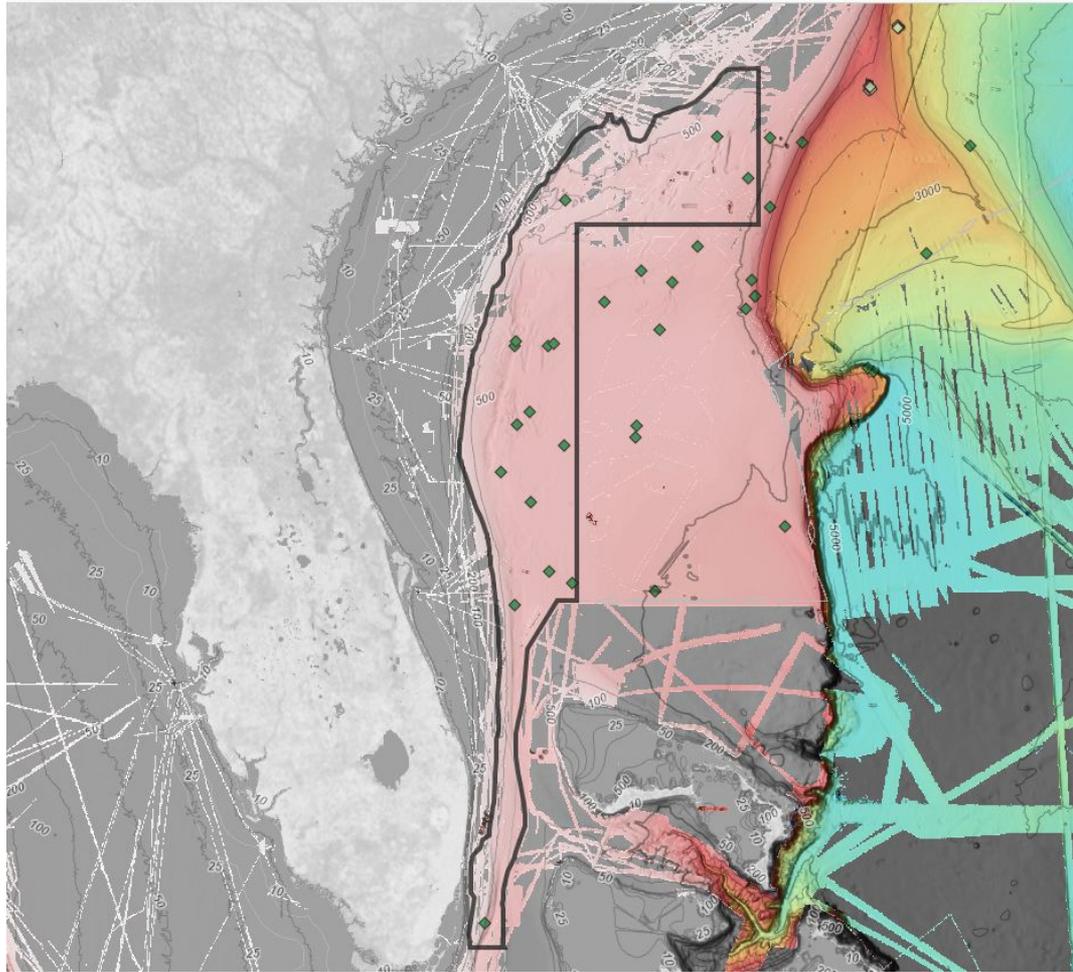
NOAA Technical Memorandum  
NOS NCCOS 230  
March 2017

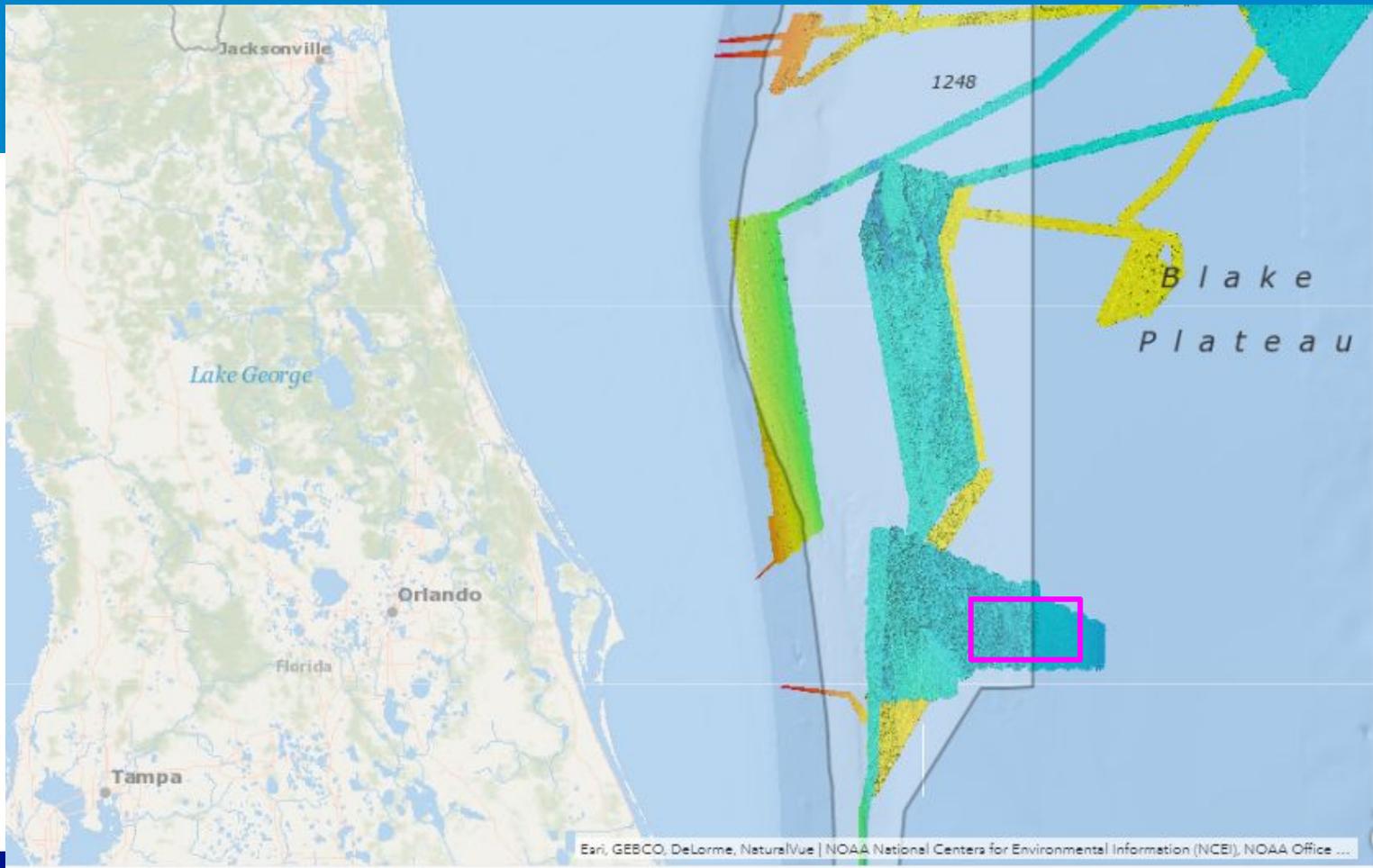
# SAFMC Priorities



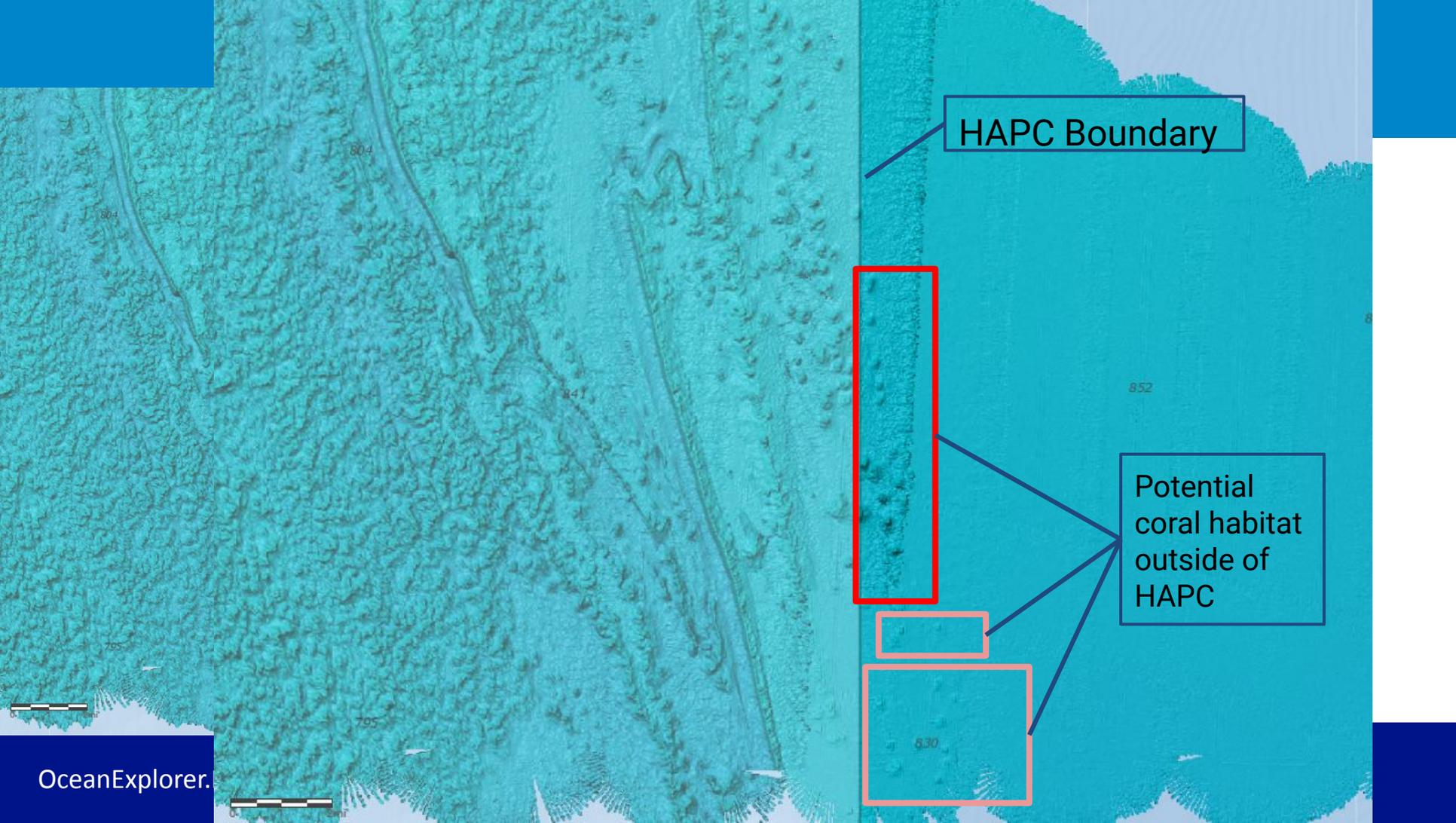




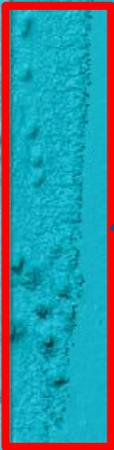




Eari, GEBCO, DeLorme, NatureVue | NOAA National Centers for Environmental Information (NCEI), NOAA Office ...



HAPC Boundary



Potential coral habitat outside of HAPC



# Coral Habitat on the Central Plateau

