

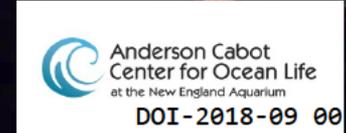
**From:** Bowman, Randal  
**To:** [Downey Magallanes](#)  
**Subject:** Charts from NE Seamounts briefing  
**Date:** Monday, July 10, 2017 8:55:51 AM  
**Attachments:** [Secretary Zinke Briefing Kraus \(1\).pdf](#)

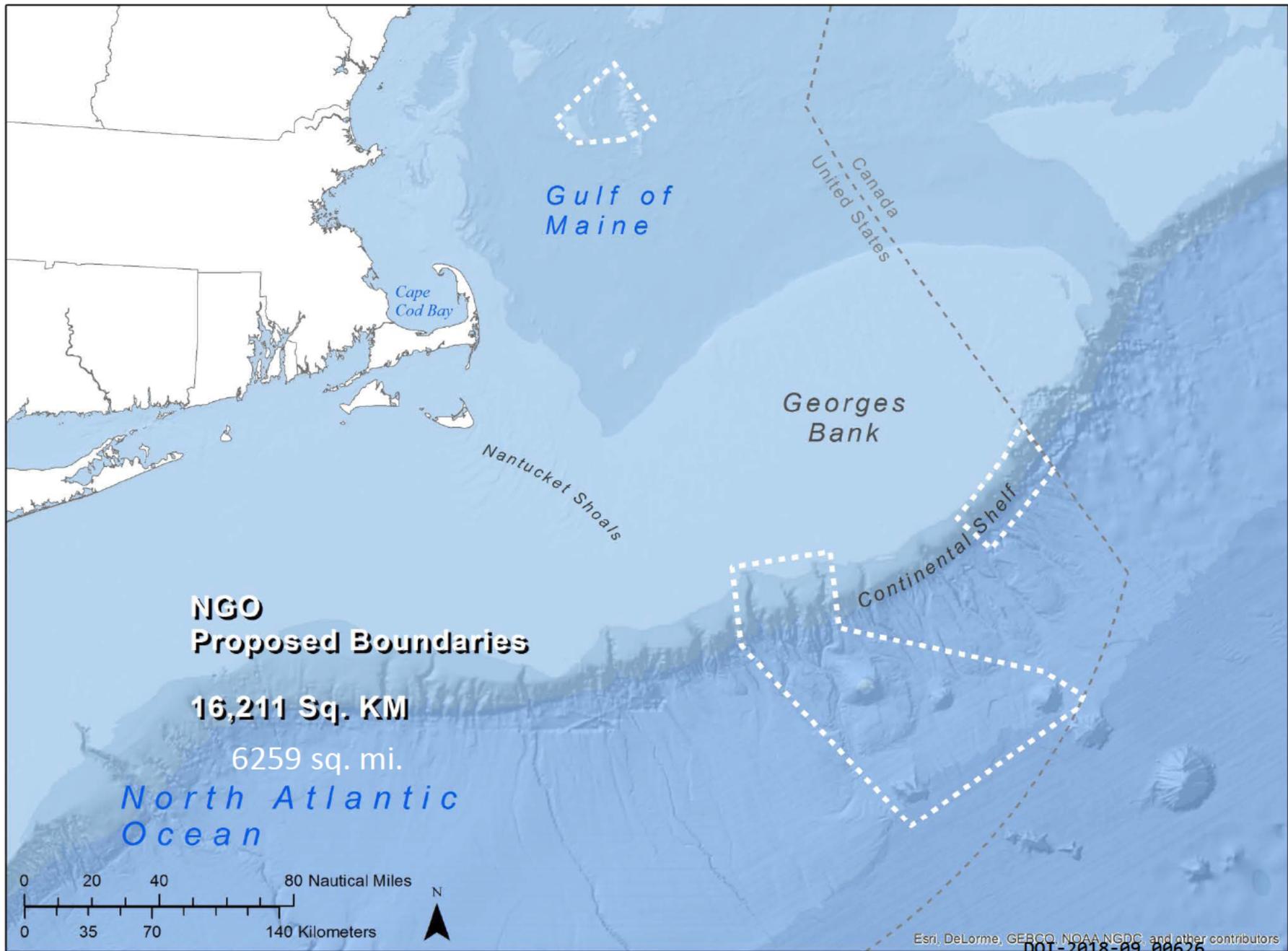
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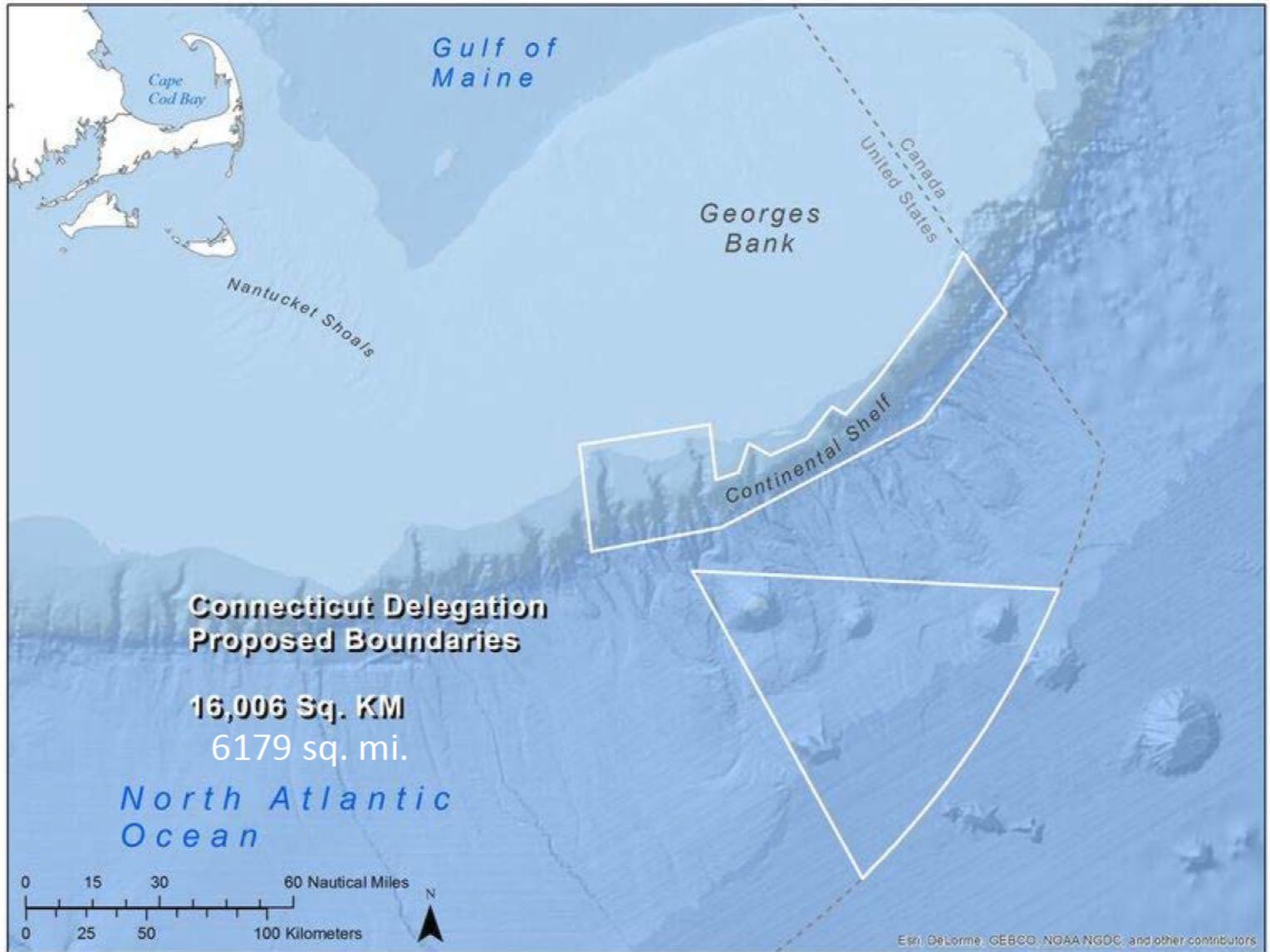
Here is a copy of the briefing with several charts. When you have a chance let me know which one(s) you are interested in and I'll have FWS pull them out and blown up. I presume it is page 17, or possibly 19, or both, but wanted to check so as not to ask them to do it twice.

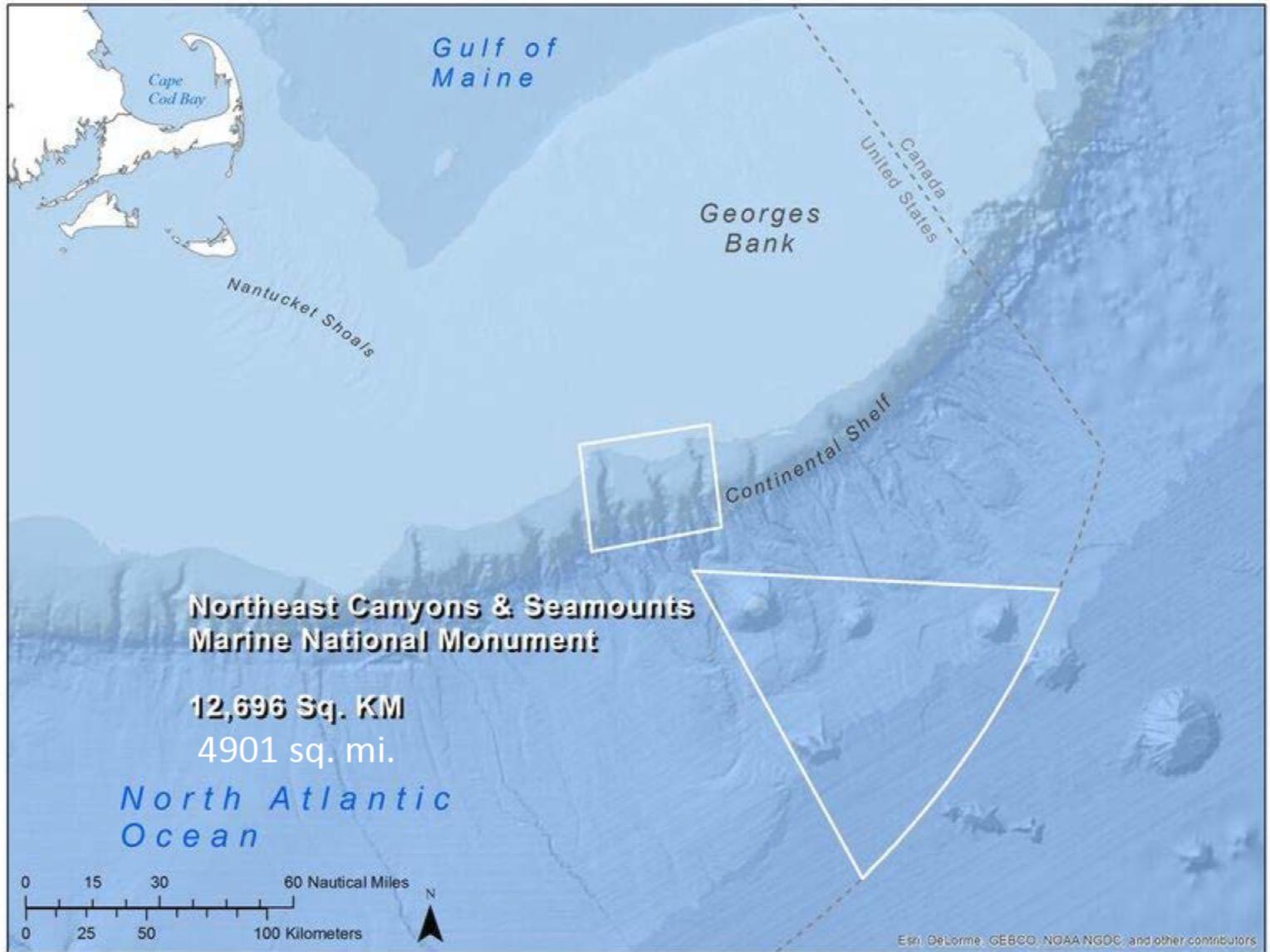
# The Northeast Canyons and Seamounts Marine National Monument

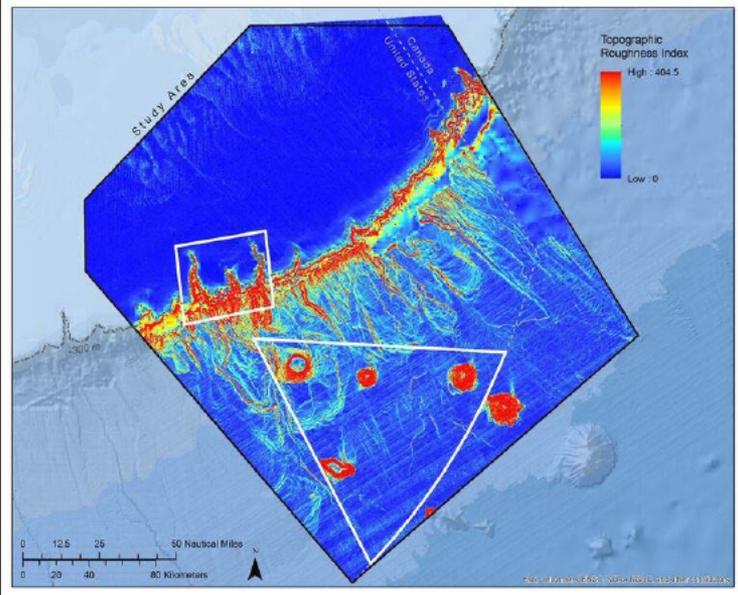
Scott Kraus and Peter Auster



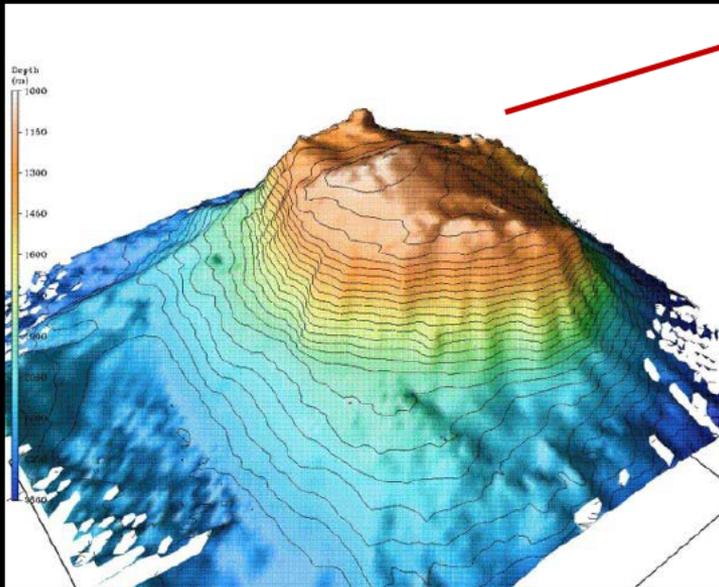




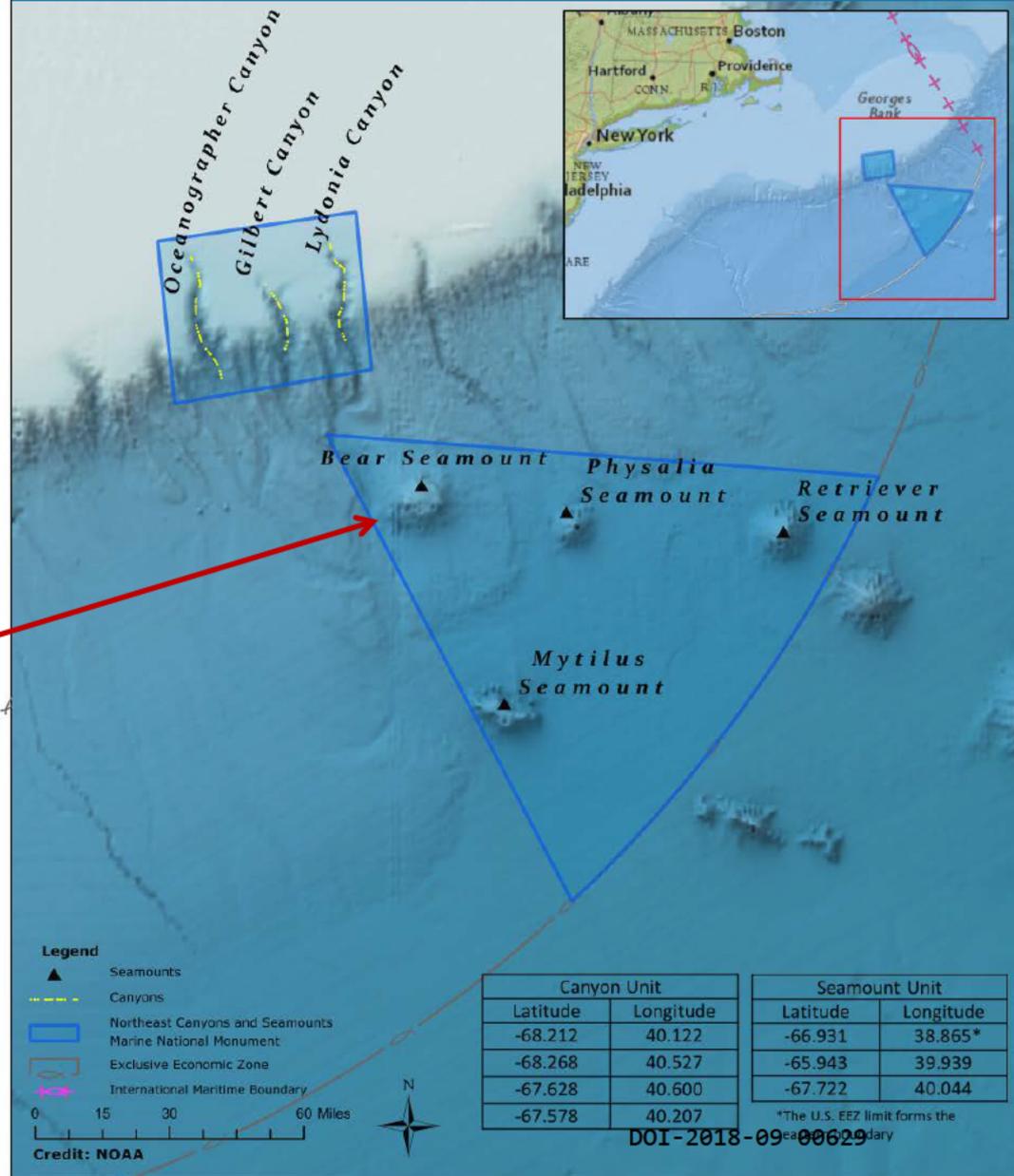




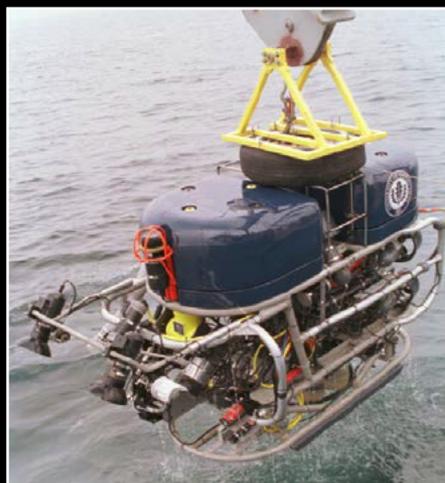
- ~ 4,900 square miles
- Ca 1% of U.S Atlantic EEZ
- Depths range from 1000ft to 14,000ft

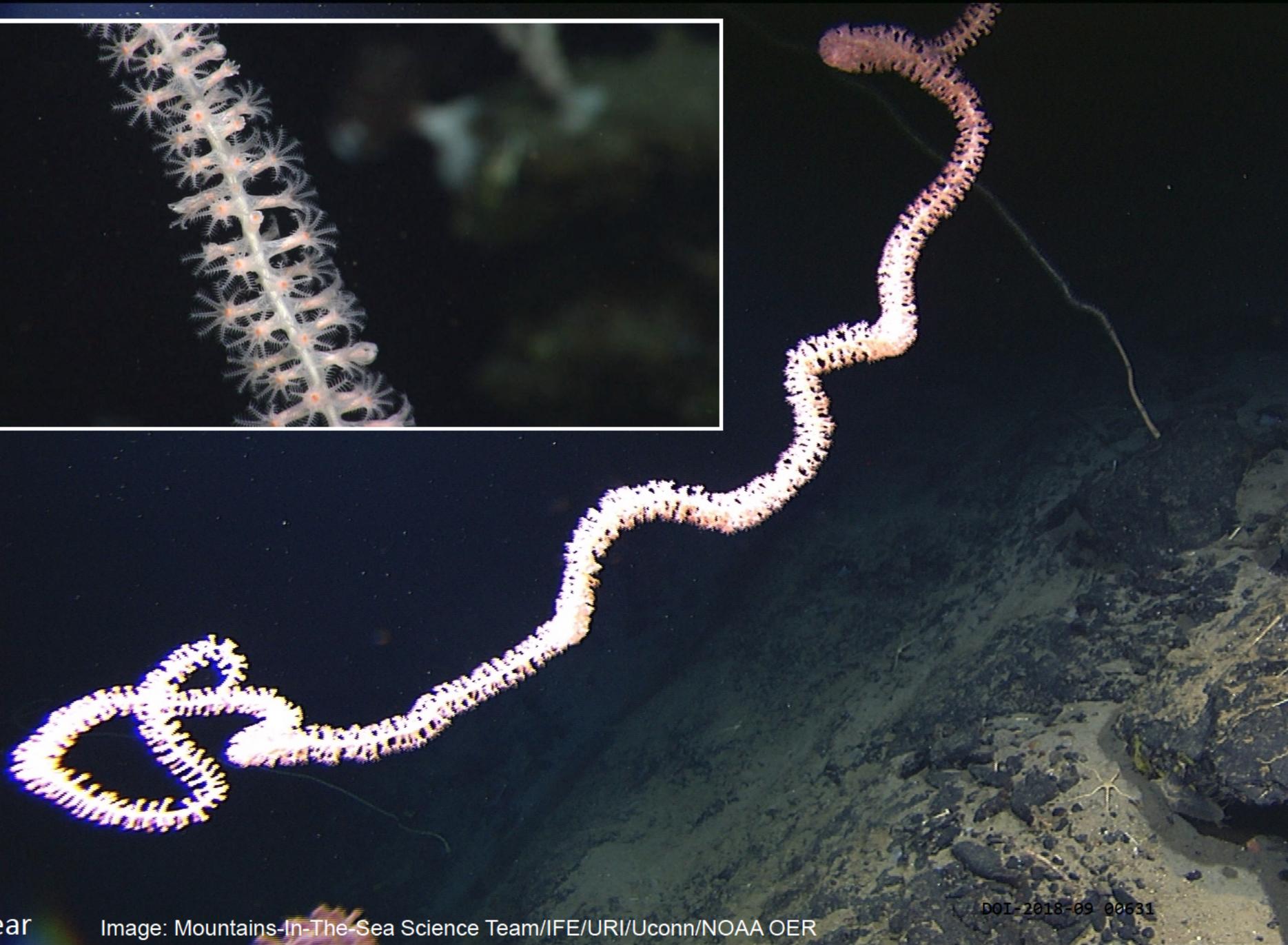


# Northeast Canyons and Seamounts Marine National Monument



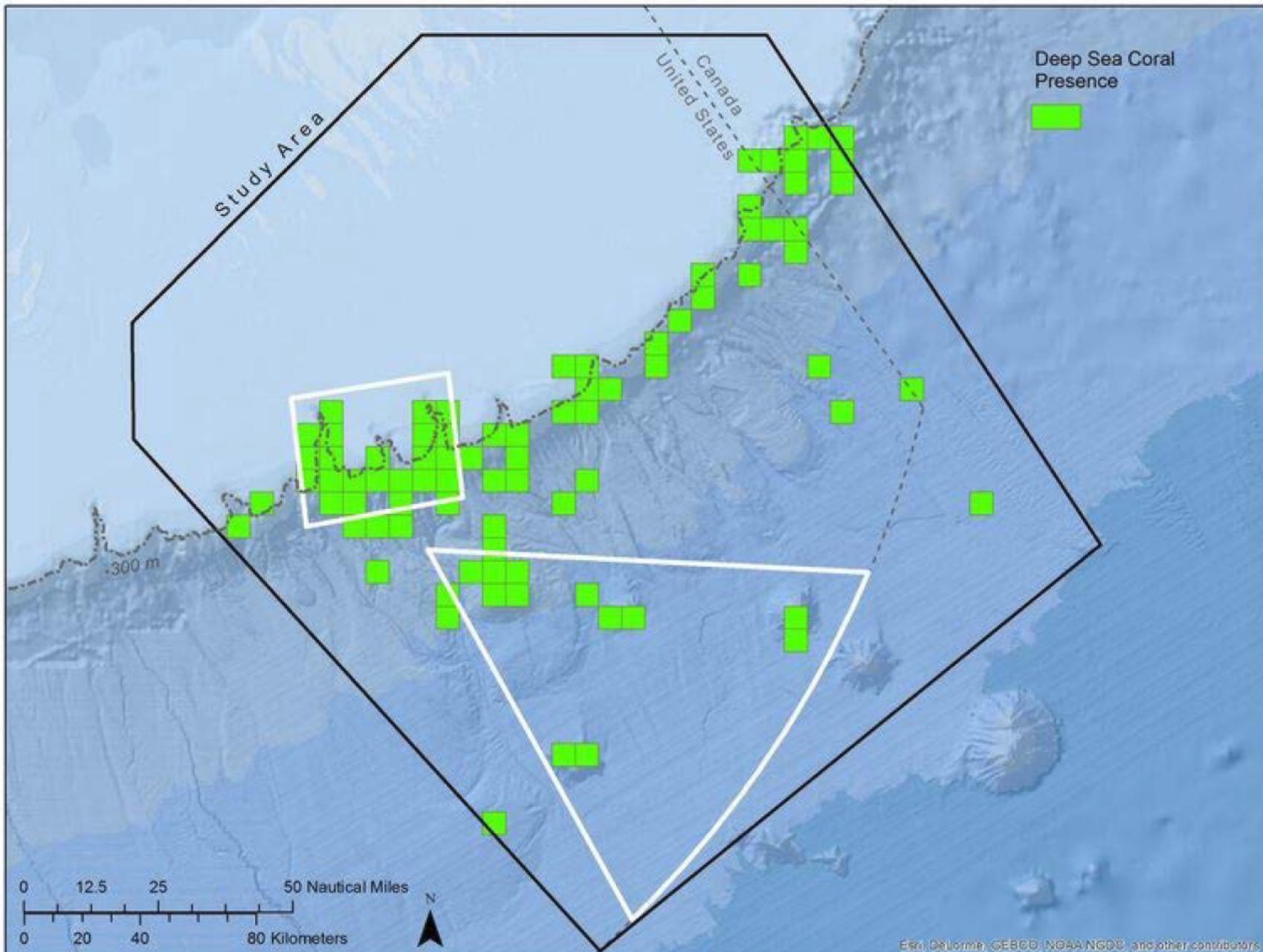
# Tools for research, opportunities for public/private partnerships and engagement

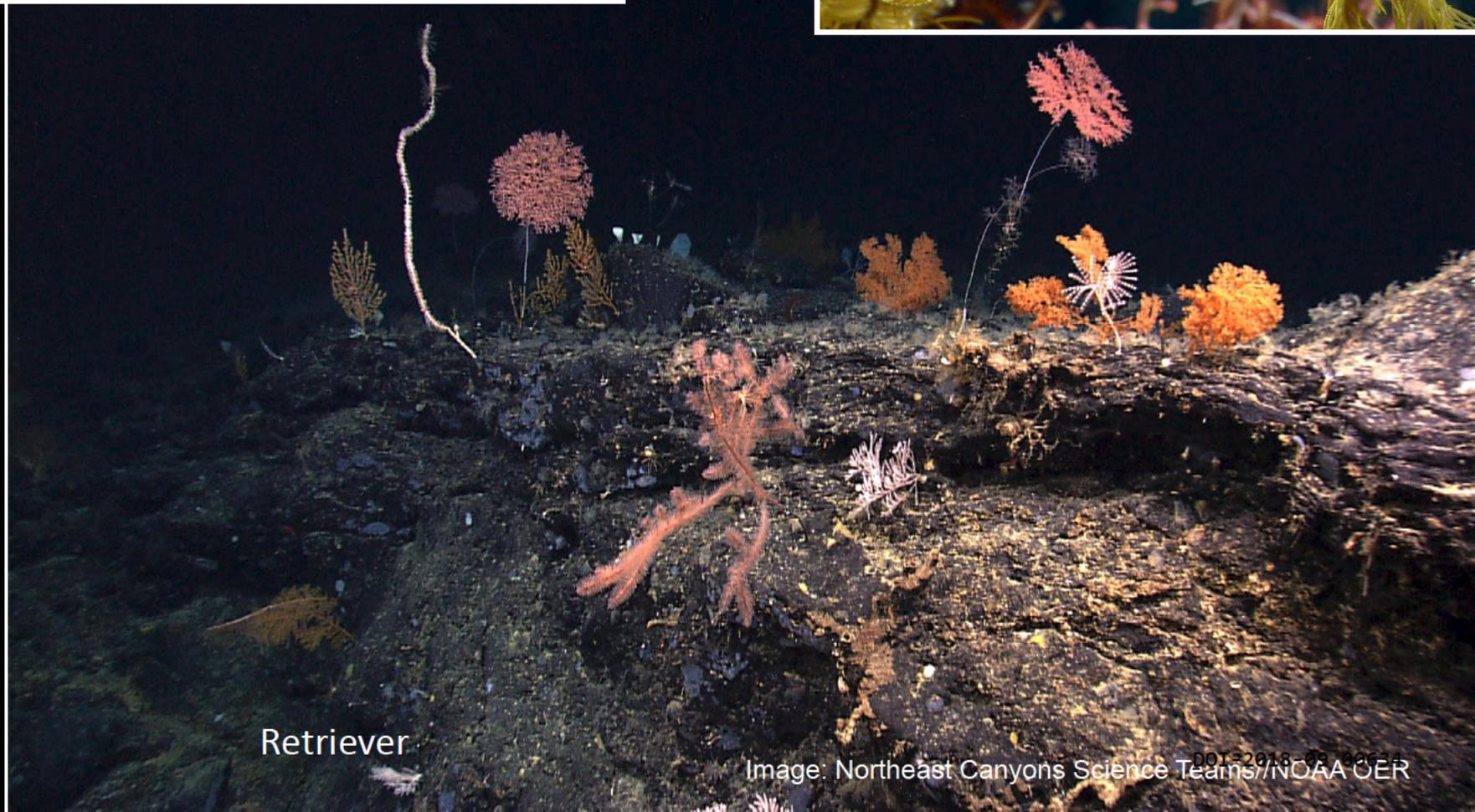




DOI-2018-09 00631







Retriever

Image: Northeast Canyons Science Teams/NOAA OER

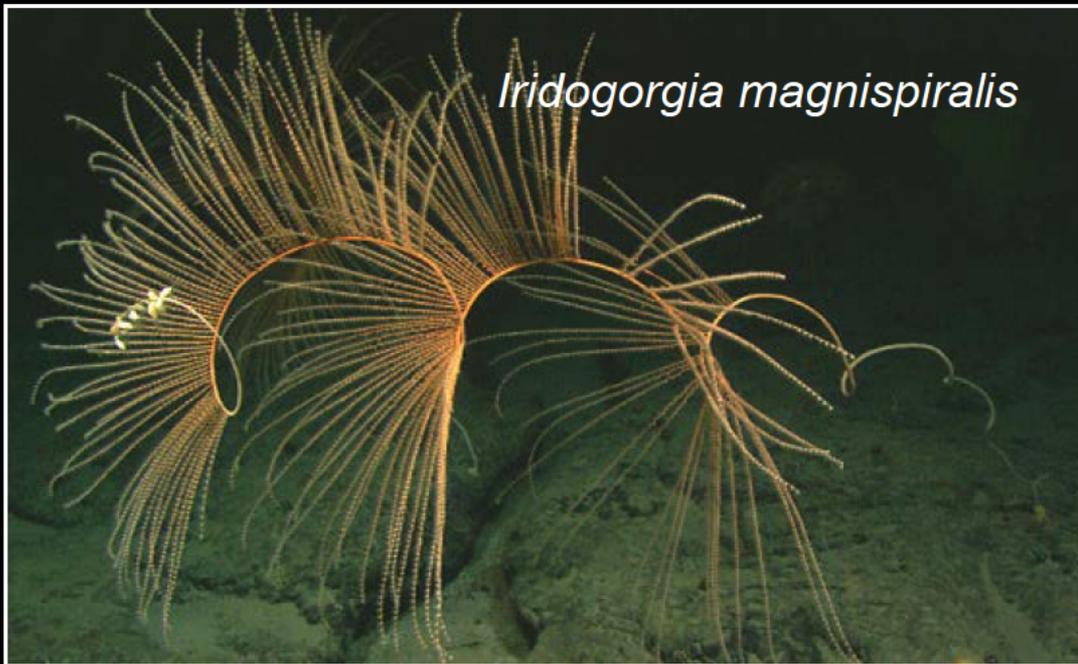
DOI-2018-08 00000000



Lydonia Image: Northeast Canyons Science Teams//NOAA OER

DOI-2018-09 00635

# New Species of Deep-Sea Octocorals



*Iridogorgia magnispiralis*



*Thouarella grasshoffi*



New species?

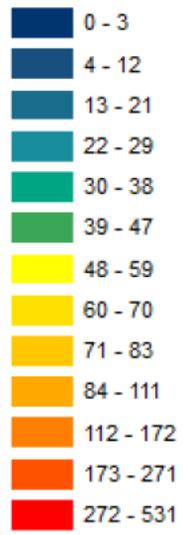
Deep Atlantic Stepping  
Stones Science Team  
/NOAA/IFE/URI

# Deep-Sea Corals Provide Essential Fish Habitat



DOI-2018-09 00637

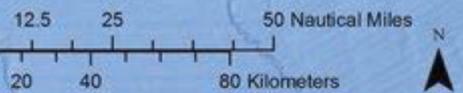
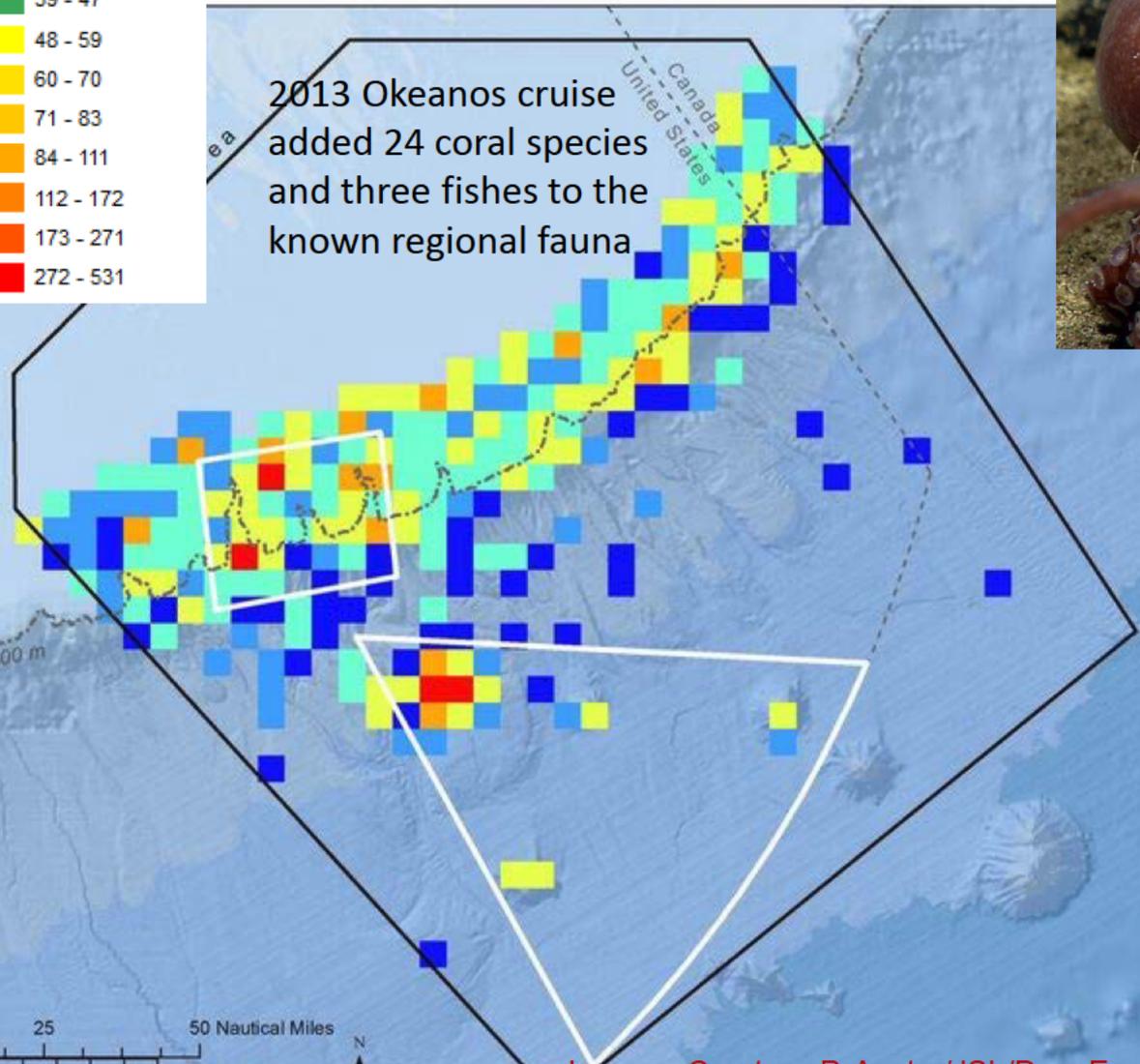
### Species Richness



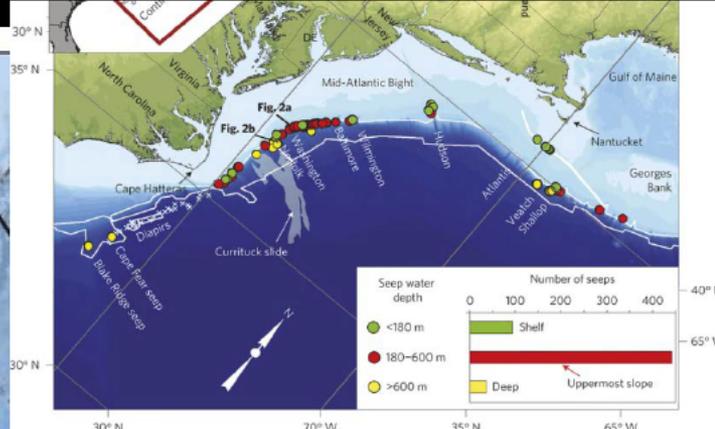
Species rich region - Minimum 73 putative coral taxa from aggregate data sets with 615 coral occurrences in study area. Likely more to come!

# Benthic Species Richness Canyons & Seamounts

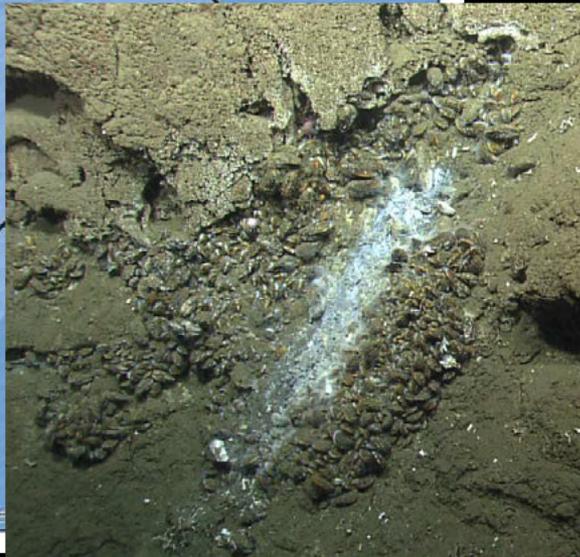
2013 Okeanos cruise added 24 coral species and three fishes to the known regional fauna

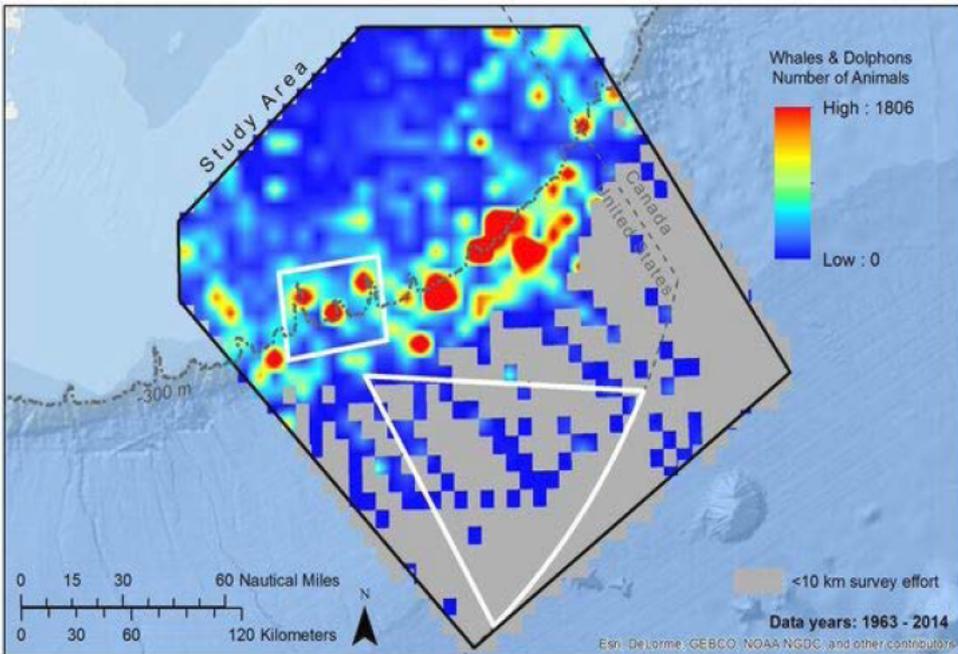
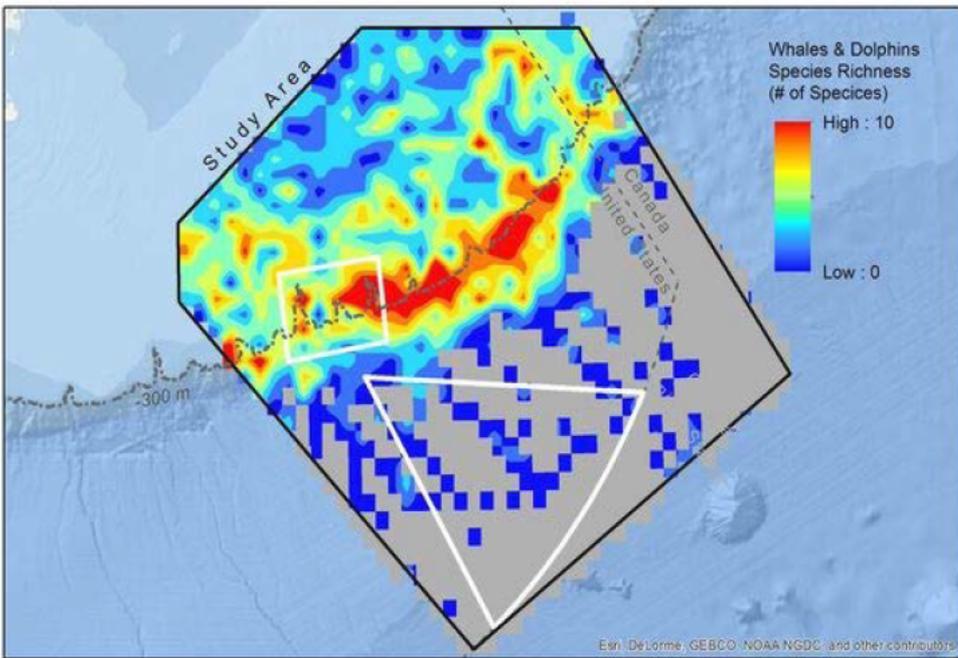


# Cold seeps & chemosynthetic communities



Skarke et al. 2014. Nature Geoscience (9): 657-661.



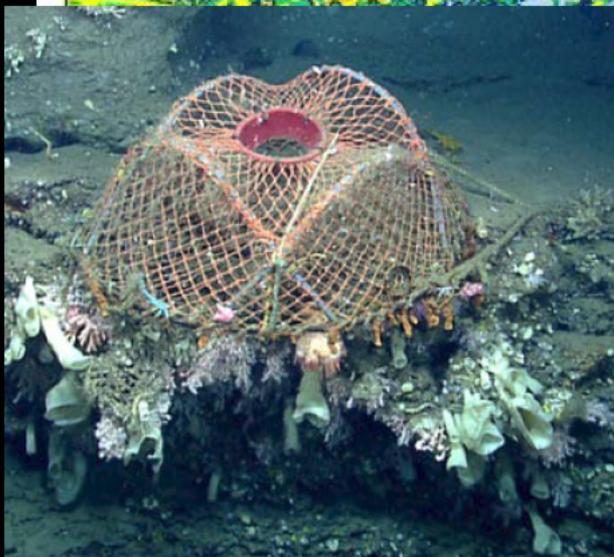
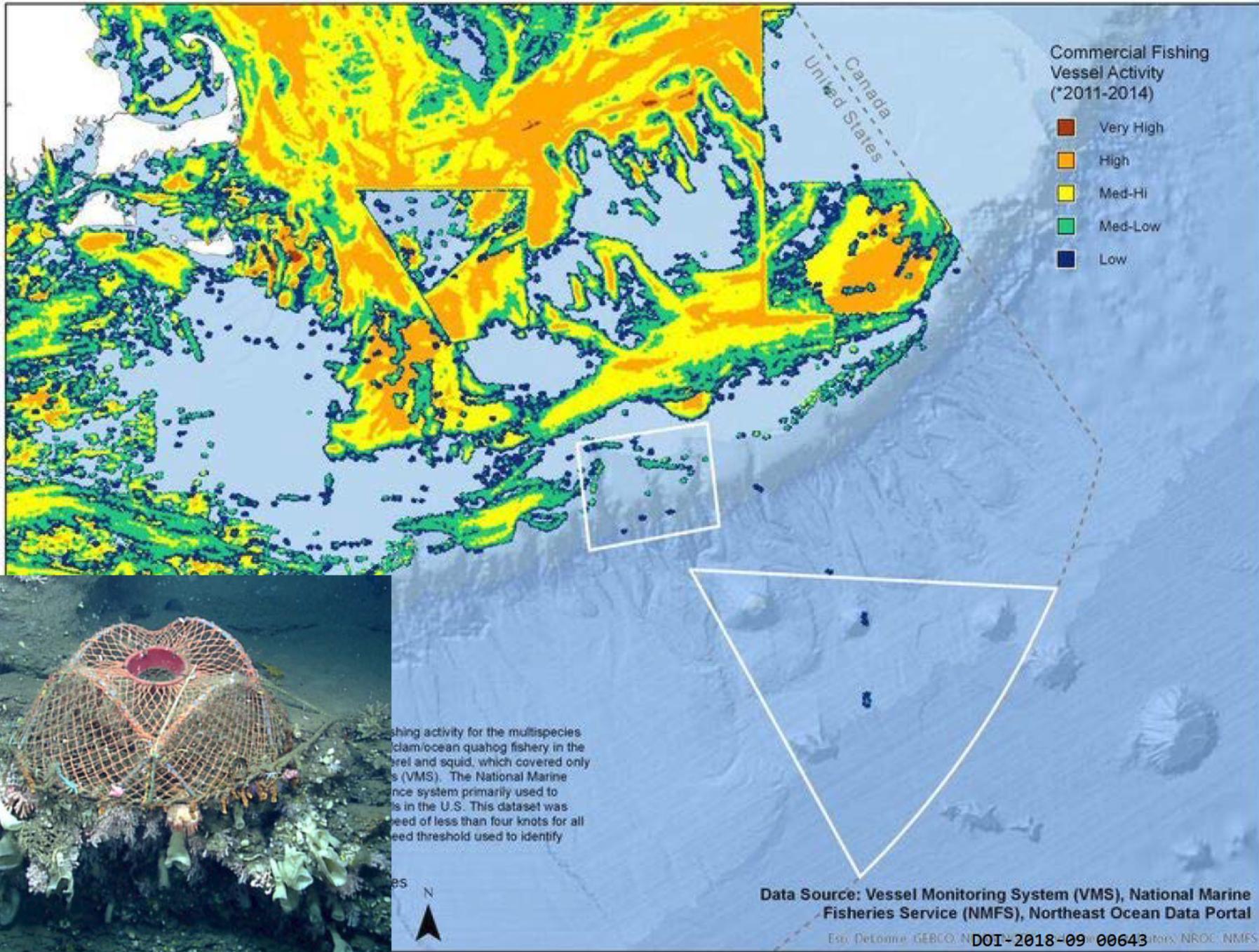


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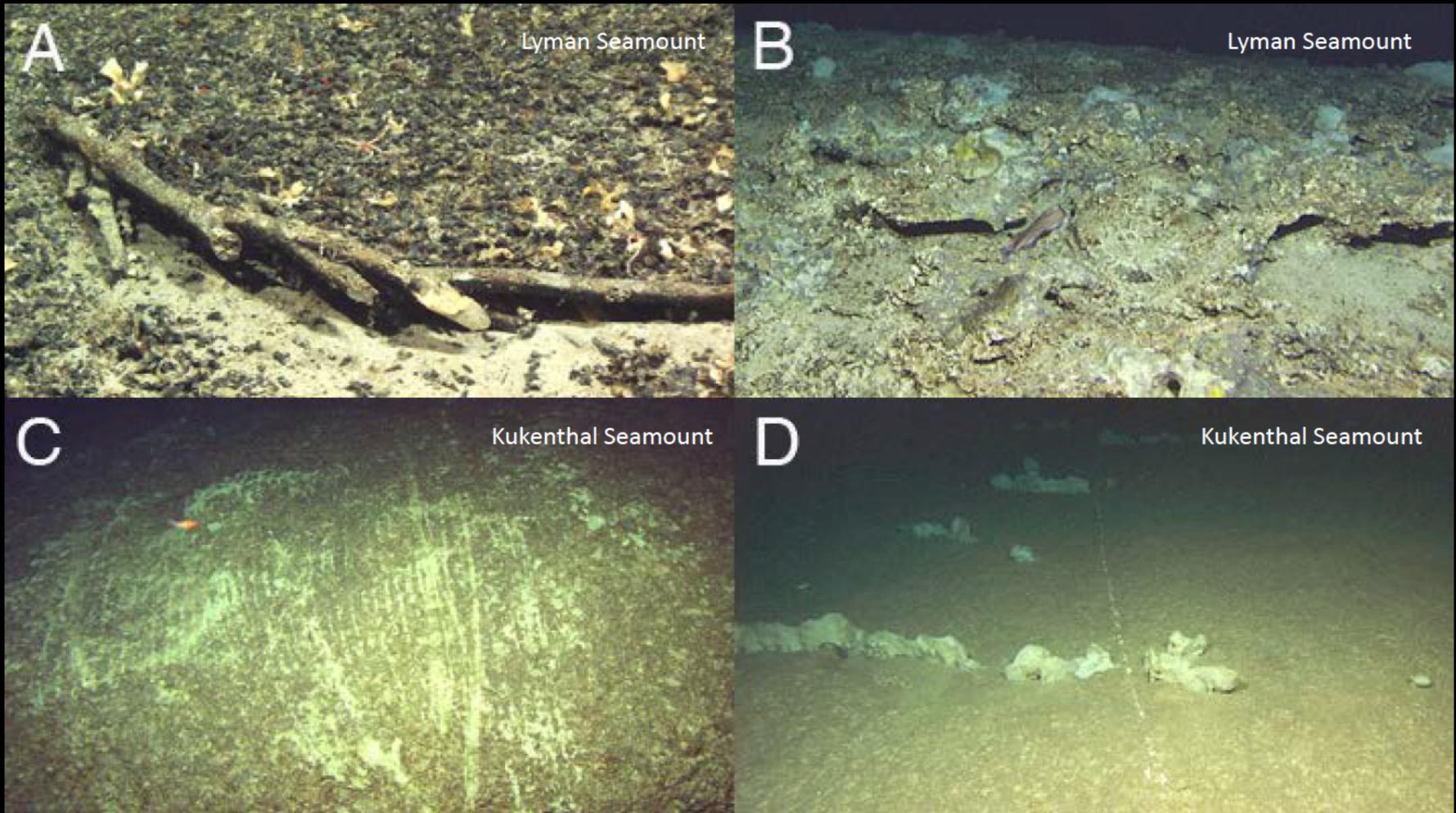


All Photos New England Aquarium



Fishing activity for the multispecies clam/ocean quahog fishery in the area and squid, which covered only a small portion of the VMS. The National Marine Fisheries Service primarily used to monitor activity in the U.S. This dataset was derived from a speed of less than four knots for all vessels above the speed threshold used to identify

# Fisheries-related habitat damage on North Atlantic Seamounts



- Russian bottom trawling activities from 1976-1996 (19,780 tons of fish; no invertebrate records)

# Characteristics of the Monument Area

- High landscape & habitat diversity
- High species richness
- High animal abundance
- Long recovery times if damaged (Low ecological resilience)
- Relatively undisturbed ecosystems
- Exemplars of Atlantic ocean wildlife habitats

