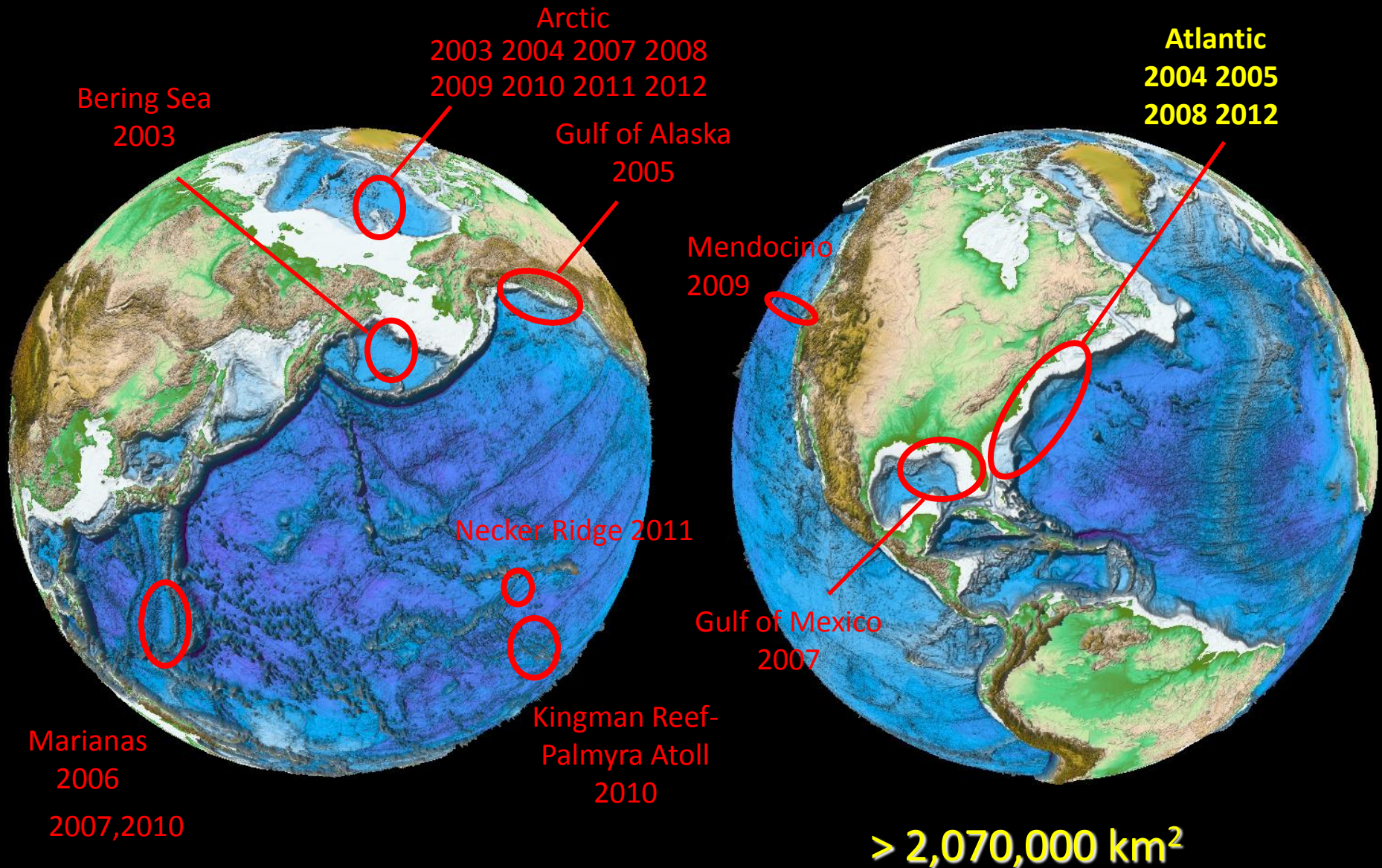


# U.S. SEABED AND HABITAT MAPPING INITIATIVES

Larry Mayer  
Center for Coastal and Ocean Mapping  
University of New Hampshire, U.S.A.



# UNH CCOM-JHC U.S. Law-of-the-Sea Bathymetric Mapping to Date







# Why do we need to map?

Smith and Sandwell - satellite altimetry based bathymetric compilation

**~90% of the ocean basins mapped at this scale**

**12 kHz Multibeam Bathymetry**



# Interagency Working Group On Ocean And Coastal Mapping

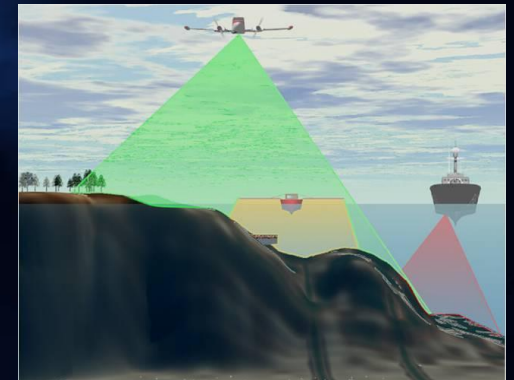
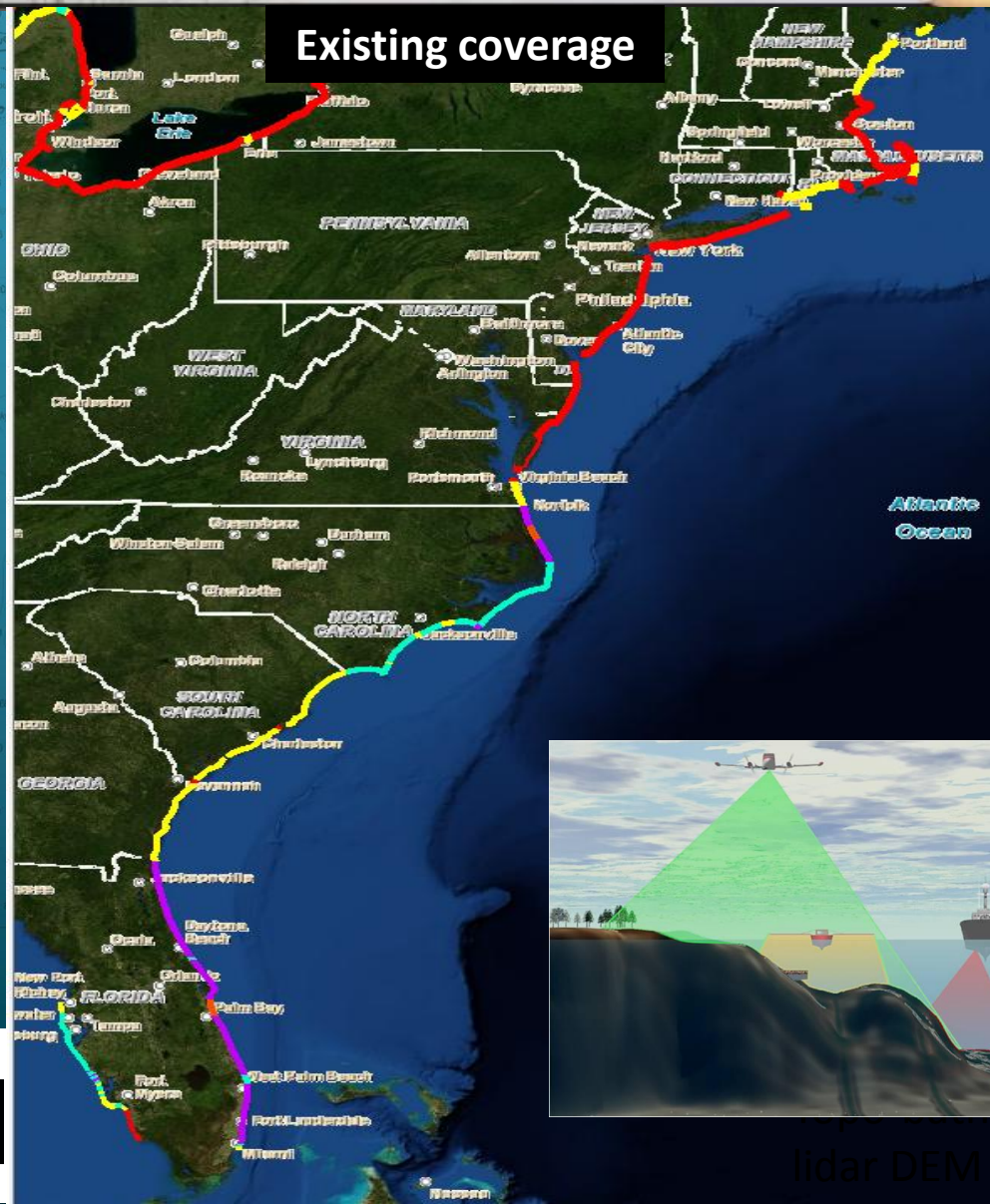
## National Coastal Mapping Program

LIDAR and imagery

revisit goal - 5-10 yrs

Rapid response to events

To 1 km offshore



lidar DEM





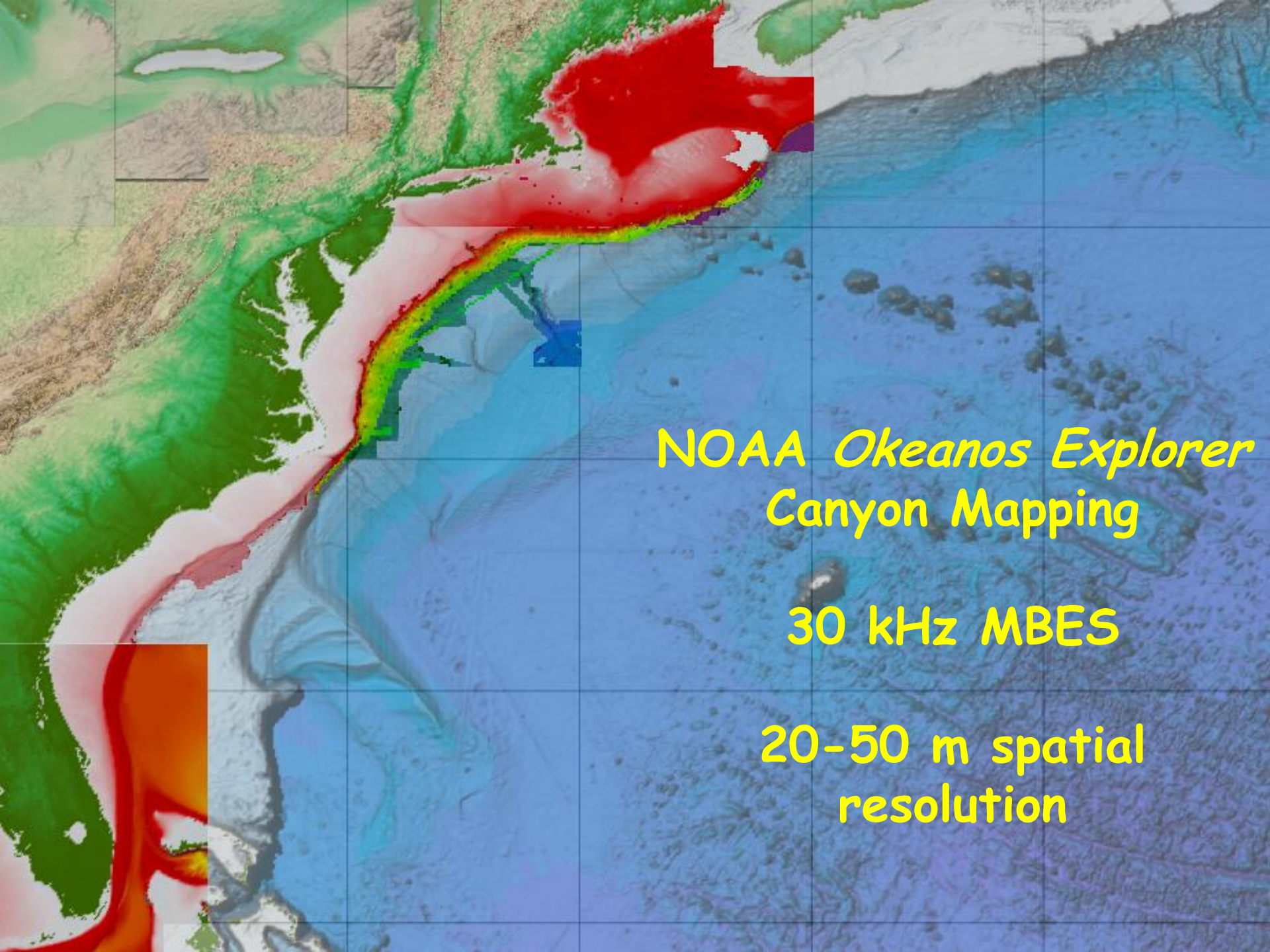


## NOAA NGDC Coastal Relief Model

Compilation mostly  
from NOS  
hydrographic surveys

90 m spatial resolution



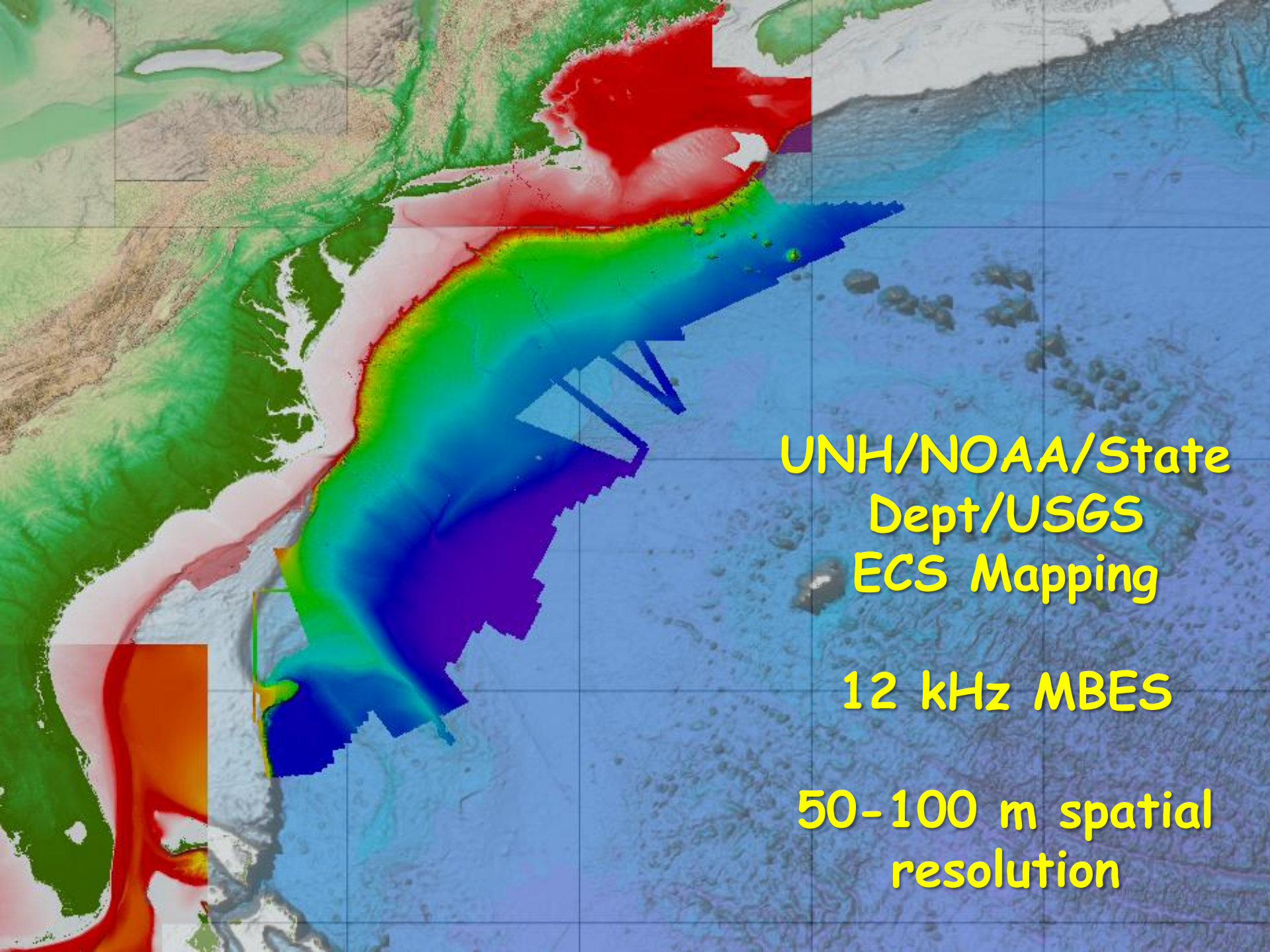


NOAA *Okeanos Explorer*  
Canyon Mapping

30 kHz MBES

20-50 m spatial  
resolution



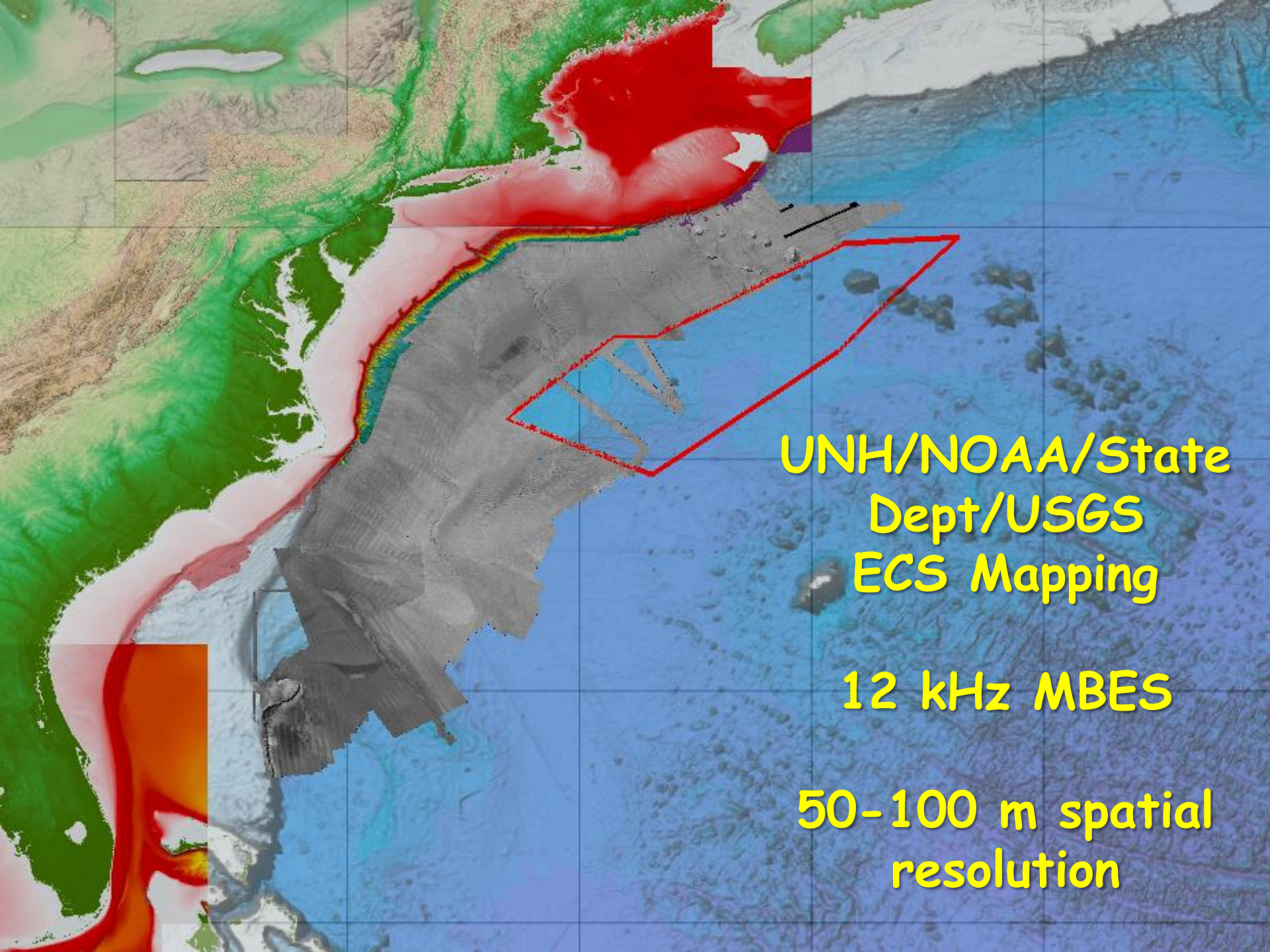


UNH/NOAA/State  
Dept/USGS  
ECS Mapping

12 kHz MBES

50-100 m spatial  
resolution





UNH/NOAA/State  
Dept/USGS  
ECS Mapping

12 kHz MBES

50-100 m spatial  
resolution

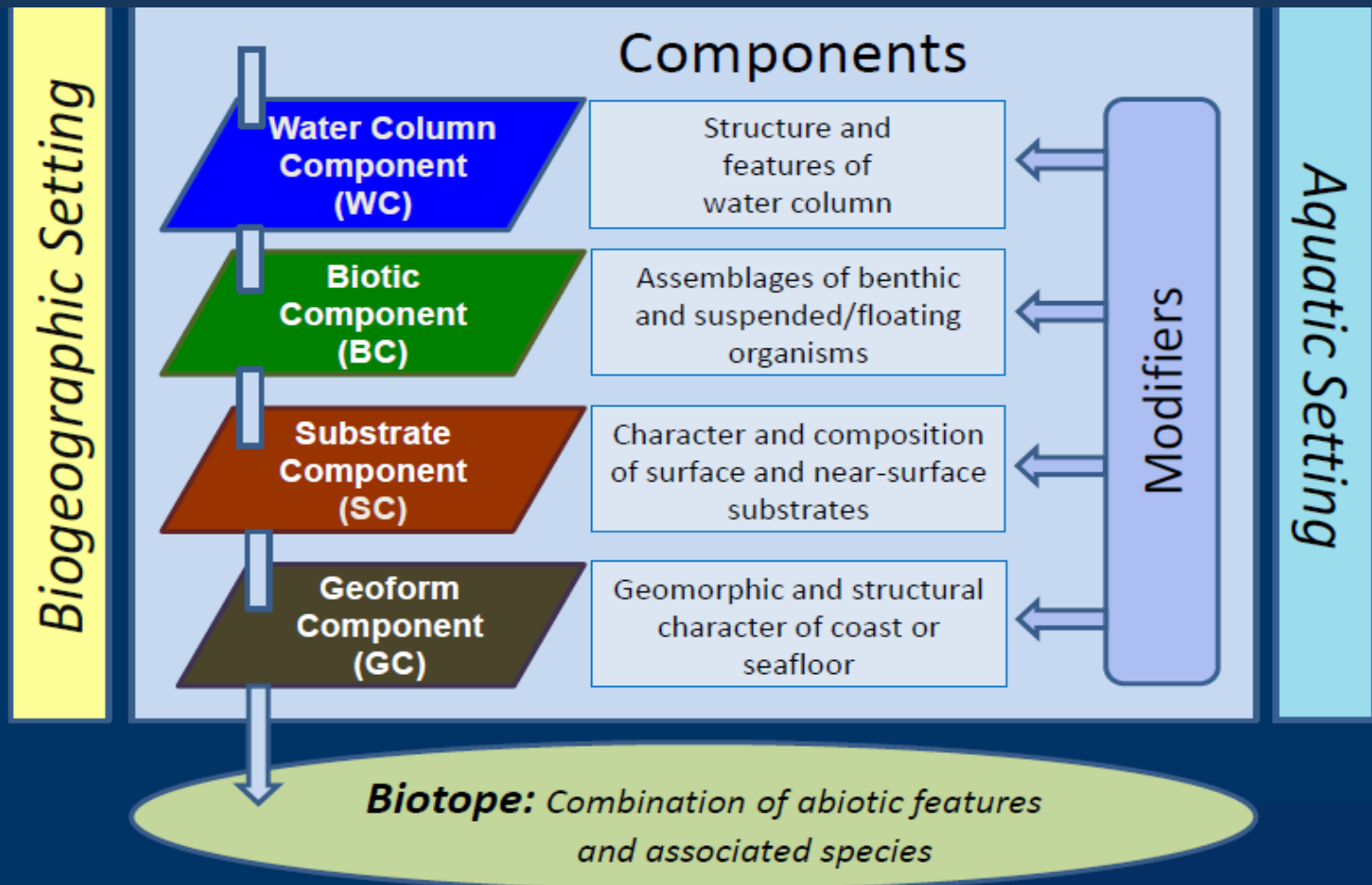


# Have adopted a standard classification scheme

NCCOS 



# Coastal and Marine Ecological Classification Standard (CMECS)





# The Nature Conservancy Northwest Atlantic Marine Ecoregional Assessment (NAMERA), 2009

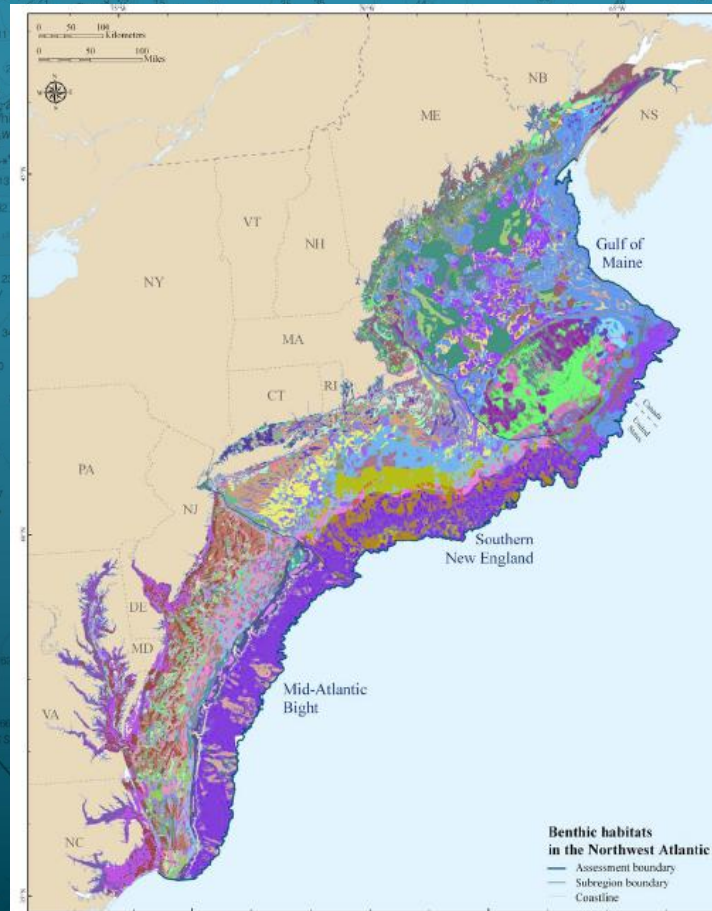
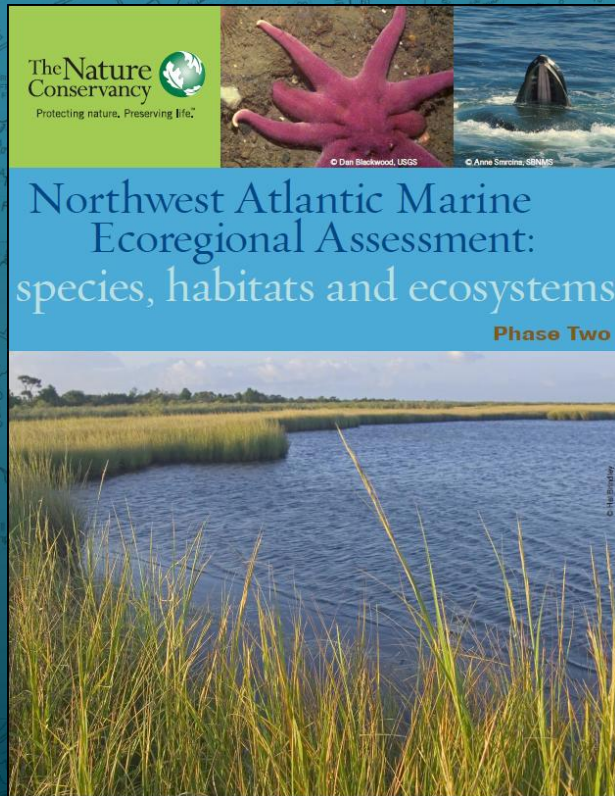


Figure 3-15. Benthic habitats of the Northwest Atlantic region.

Coastal Relief  
Model

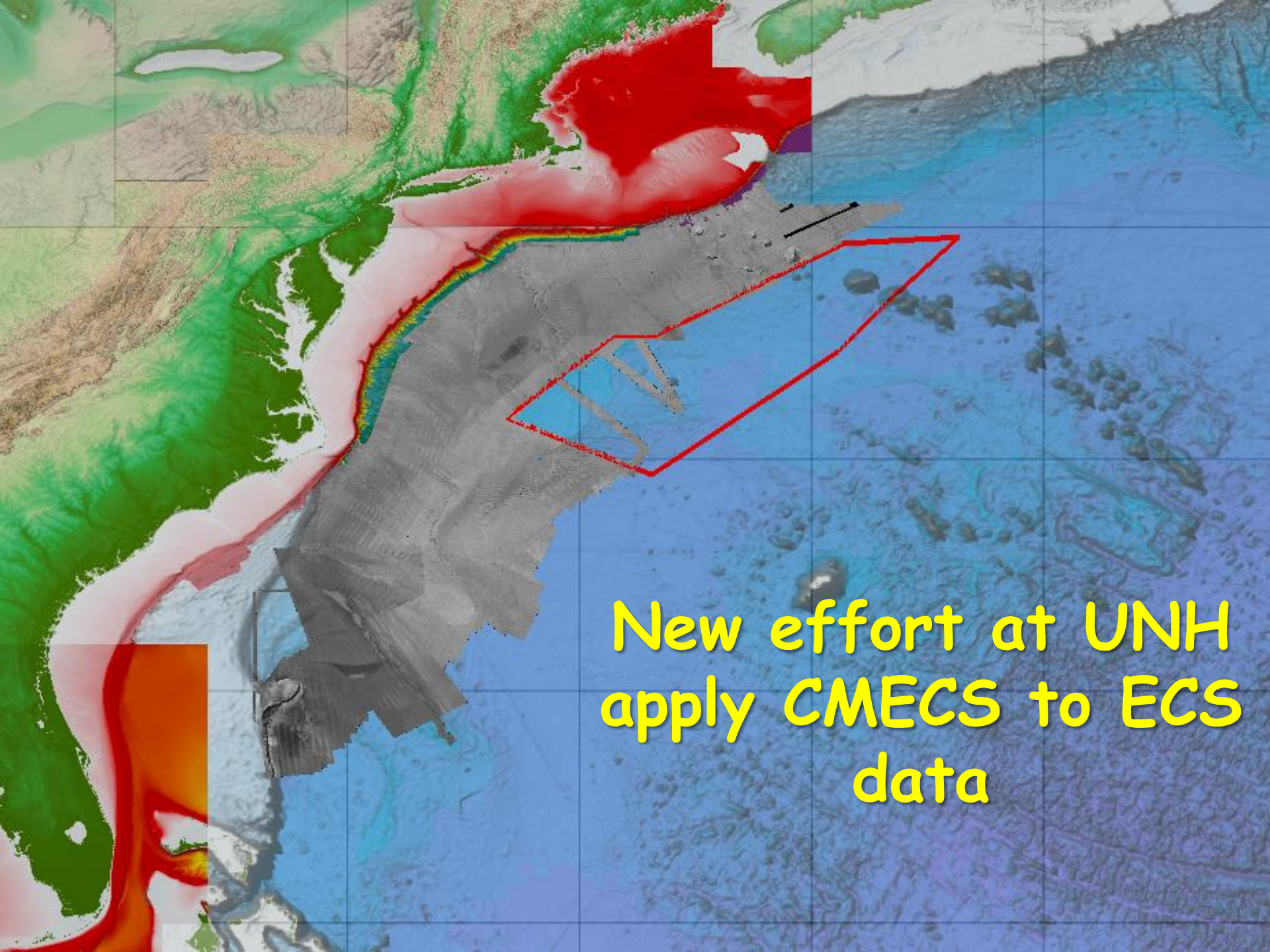
NOAA NMFS  
Grab Samples

72 Benthic  
Habitat Units

Organized by  
organism type  
communities







New effort at UNH  
apply CMECS to ECS  
data



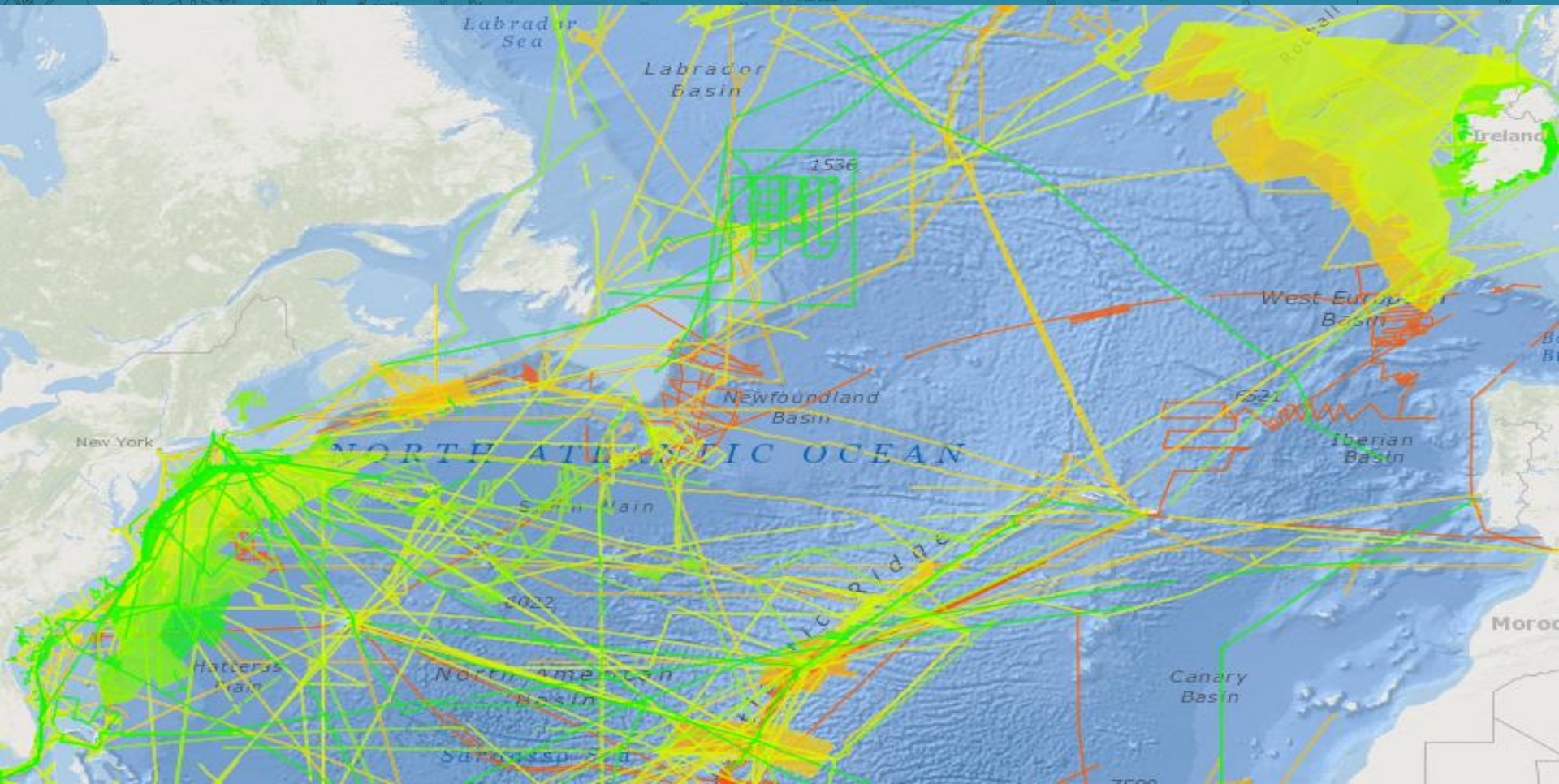
# RECOMMENDATIONS

- Harmonize habitat classification schemes – a common language
- Better definition of what it is we need to map to extract useful habitat information
- Establish standards and protocols for backscatter collection



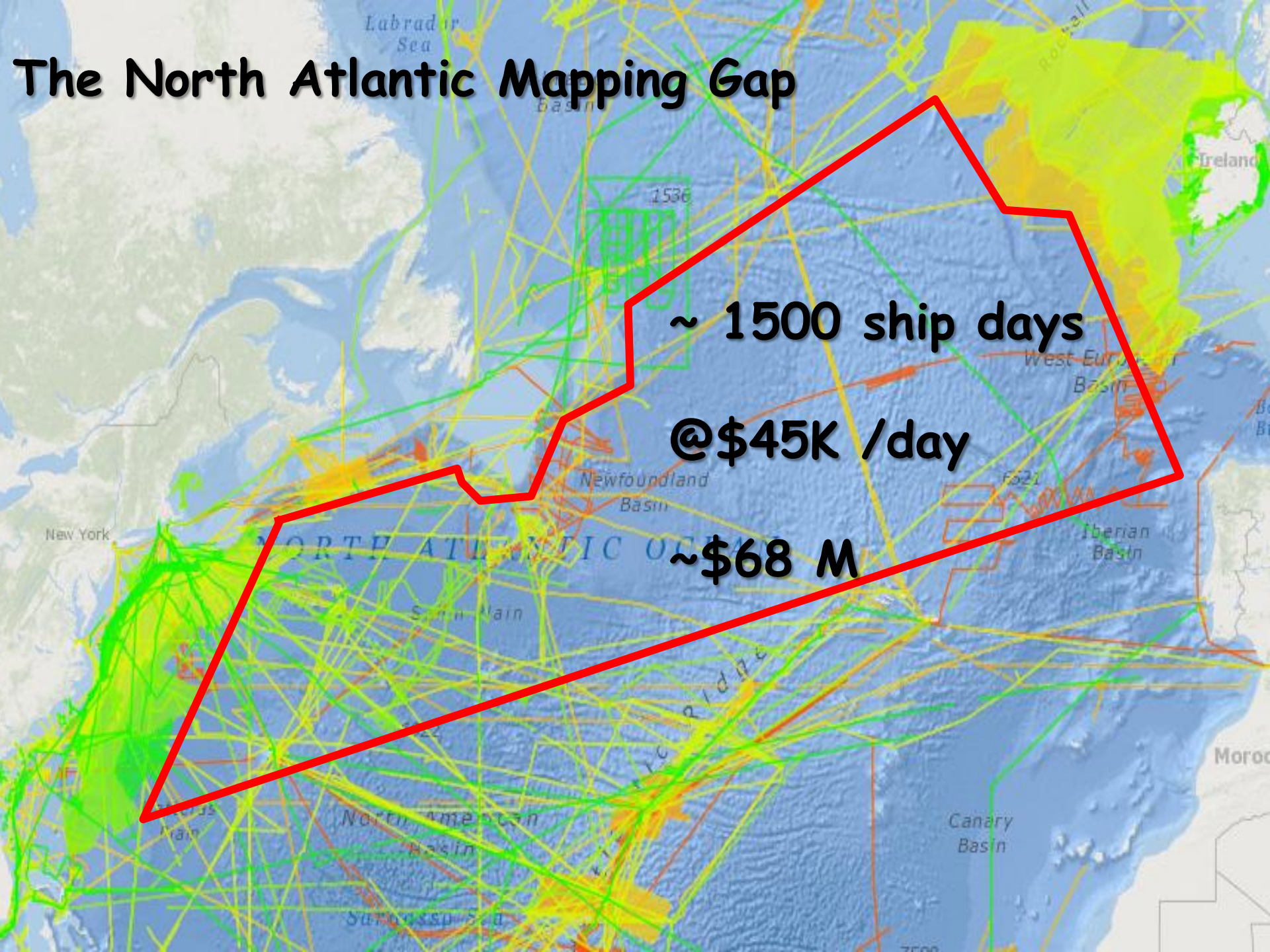
# RECOMMENDATIONS

- Fill the North Atlantic Mapping Gap





# The North Atlantic Mapping Gap



**~ 1500 ship days**

**@\$45K /day**

**~\$68 M**