BOEM
Bureau of Ocean Energy Management

OCS Scientific Committee Meeting
Wednesday, May 14, 2014 – 1:30-2:35

Comprehensive Seafloor Substrate Mapping and Model Validation in the Atlantic

Page: 317

Atlantic OCS Region

Regional Rank: 8

Josh Wadlington

Geographer

Office of Renewable Energy Programs

josh.wadlington@boem.gov

703-787-1765

BOEM
Bureau of Ocean Energy Management

Comprehensive Seafloor Substrate Mapping and Model Validation in the Atlantic

What information is needed?

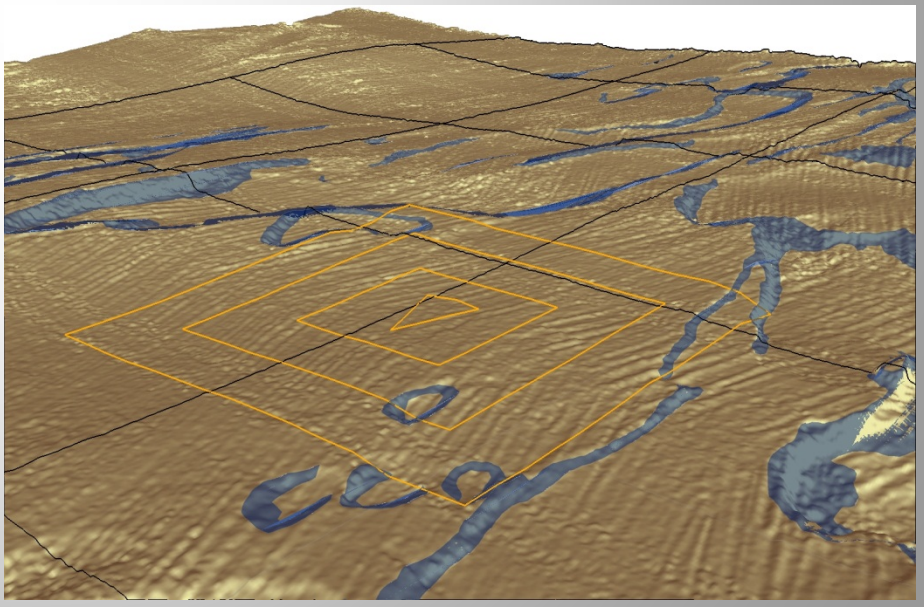
- High quality information about the composition of seafloor substrate and sediments

Where is the information needed?

- In potential areas of renewable energy development in the Atlantic region

Why is the information needed?

- To assess the environmental effects of renewable energy development
- To prevent the inadvertent destruction of marine habitats and shipwrecks
- To improve ecological and cultural evaluations performed under NEPA



Atlantic OCS Region

Comprehensive Seafloor Substrate Mapping and Model Validation in the Atlantic

Previous and Current Related Efforts

- New York Department of State Offshore Atlantic Ocean Study
- NOAA National Centers for Coastal Ocean Science (NCCOS) Biogeographic Assessment
- BOEM/NOAA Northeast Fisheries Science Center Benthic Habitat Assessment
- The Nature Conservancy/ UMass Dartmouth Seafloor Imagery Database Analysis

Limitations

- Sparsely distributed data that requires statistical interpolation
- High cost of vessel time to conduct geophysical surveys

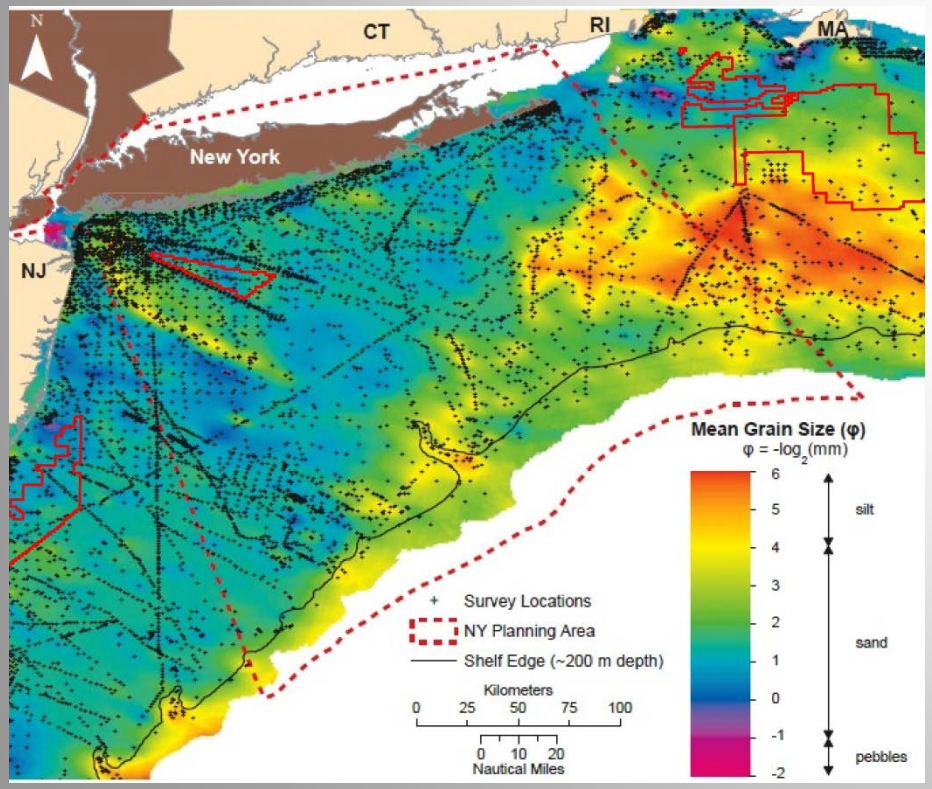
Atlantic OCS Region

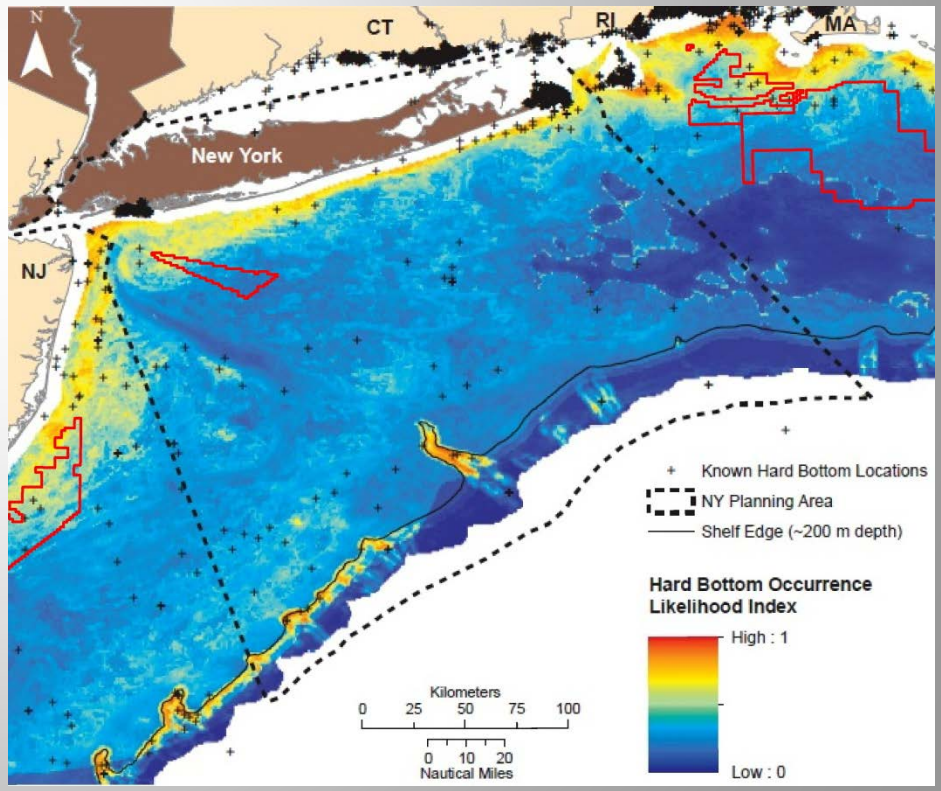
Comprehensive Seafloor Substrate Mapping and Model Validation in the Atlantic

BOEM
Bureau of Ocean Energy Management

Objective

- Validate existing substrate and sediment models
- Provide finer-resolution substrate , sediment and habitat data in areas selected for groundtruthing





Atlantic OCS Region

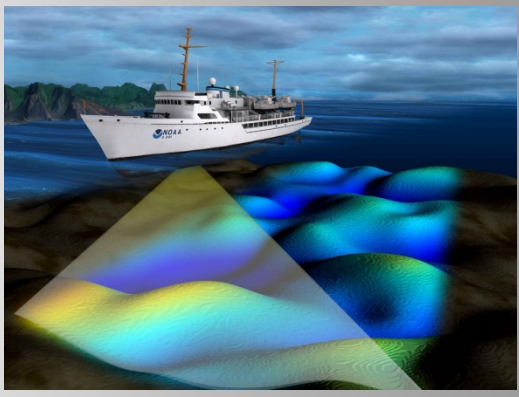
BOEM
Bureau of Ocean Energy Management

Comprehensive Seafloor Substrate Mapping and Model Validation in the Atlantic

Methods

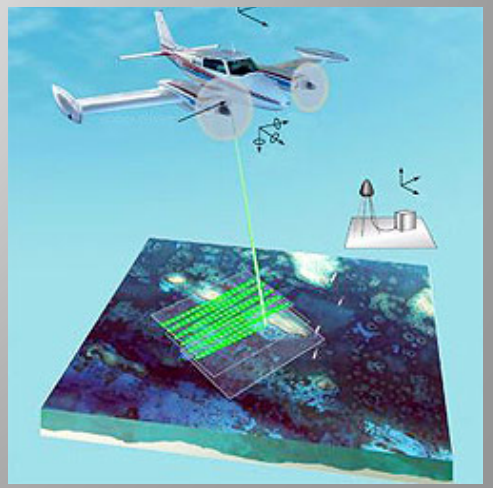
1. Obtain baseline seafloor data using all available sensors and collectors

    - Multi-beam
    - Side Scan Sonar
    - Magnetometer
    - Core Sampling
    - Grab Sampling
    - Scuba
    - Video
    - ROV
    - Test efficacy of Airborne LiDAR Bathymetry (ALB)



2. Iterative updating of predictive models and uncertainty estimates

    - Updated as fieldwork is completed



Atlantic OCS Region

Questions?