# Environmental Studies

# New Jersey Studies of Interest

**Ongoing:**

Integrative Statistical Modeling and Predictive Mapping of Seabird Distribution and Abundance on the Atlantic Outer Continental Shelf (OCS)

- incorporates all available science-quality seabird survey data into high-resolution predictive maps
- provides easily understandable information about the distribution of birds to aid offshore siting decisions to reduce the risk of impacts to birds.
- data is available on BOEM's website

# New Jersey Studies of Interest

**Ongoing:**

Socio-Economic Impact of OCS Wind Development on Fishing

- assesses the economic exposure to commercial fishing along the Atlantic coast from wind development
- evaluates potential displacement/fishing effort changes and economic impacts from site development
- Final report is expected in late 2016
- Data available at MarineCadastre.gov

# New Jersey Studies of Interest

**Ongoing:**

The Identification of Port Modifications and the Environmental and Socioeconomic Consequences

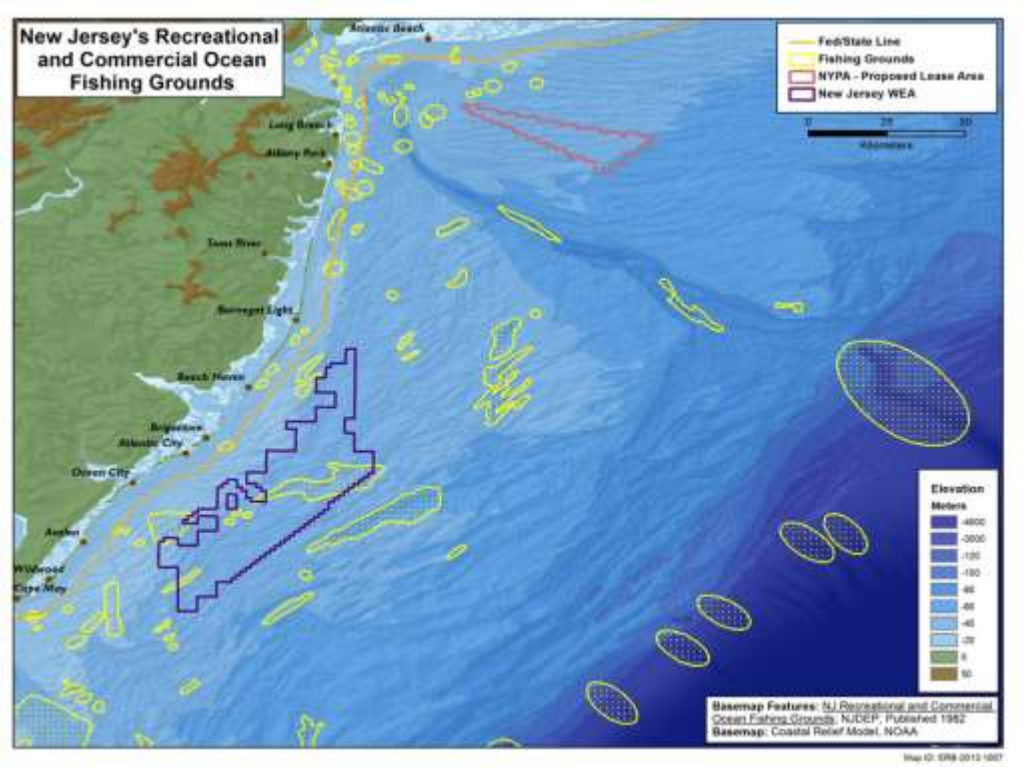
- determines capacity where current ports could potentially handle OSC wind projects
- determines potential environmental and socioeconomic consequences from modifications to ports
- Report to be published May 2016

# New Jersey Studies of Interest

**Completed:**

**New Jersey's Recreational and Commercial Ocean Fishing Grounds**

- digital conversion of a fishing grounds atlas published by the New Jersey Department of Environmental Protection in 1982
- Available at
- MarineCadastre.gov

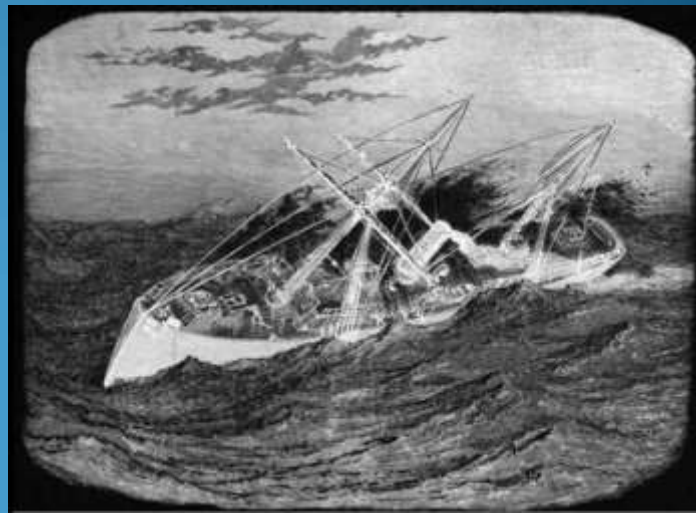


# New Jersey Studies of Interest

**Completed:**

**Inventory and Analysis of Archaeological Site Occurrence on the Atlantic Outer Continental Shelf**

- evaluates current theories on prehistoric settlement patterns and regional geology on the Atlantic OCS where submerged prehistoric sites might be located
- provides historic context /database of historic shipwrecks within the Atlantic OCS region



# Other Data Sources

- **MarineCadastre.gov**

  Partnership between NOAA and BOEM that provides data, tools, and technical support for ocean and Great Lakes planning. MarineCadastre.gov was designed specifically to support renewable energy siting on the OCS

- **midatlanticocean.org/data-portal**

  Online toolkit and resource center through MARCO that consolidates available data and enables users to visualize and analyze information such as fishing grounds, recreational areas, shipping lanes, habitat areas, and energy sites, among others

# New Jersey Studies of Interest

**All BOEM Environmental Studies**

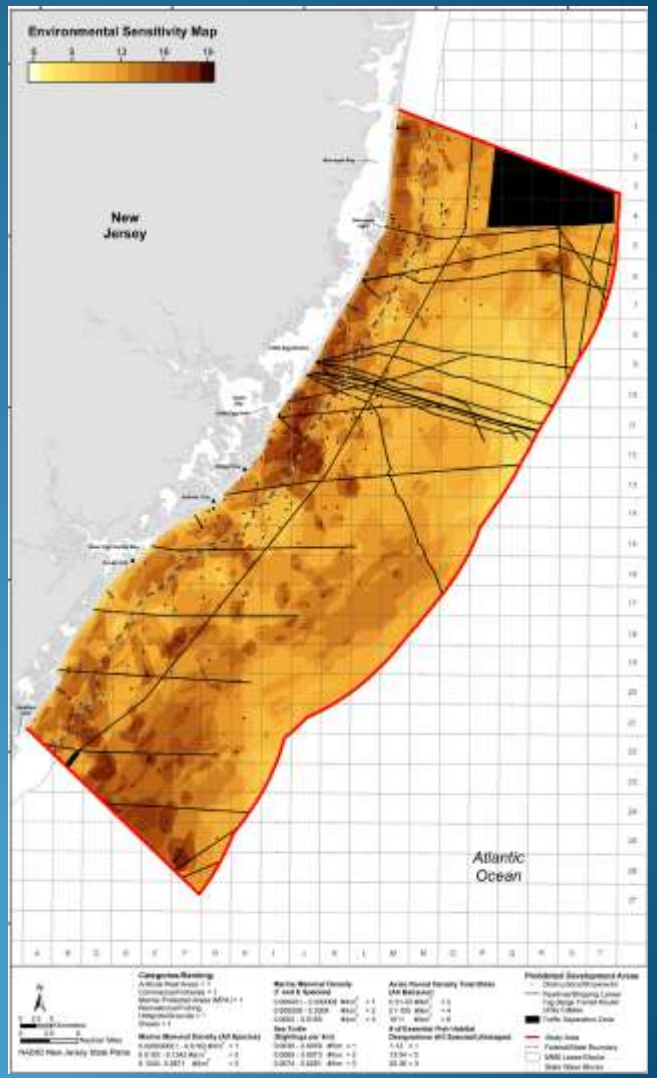
Contact Information:
Dr. Mary Boatman: Mary.Boatman@boem.gov

Studies Available:
http://www.boem.gov/Renewable-Energy-Environmental-Studies/

# New Jersey Offshore Wind Power Ecological Baseline Study

## Overview and Findings:

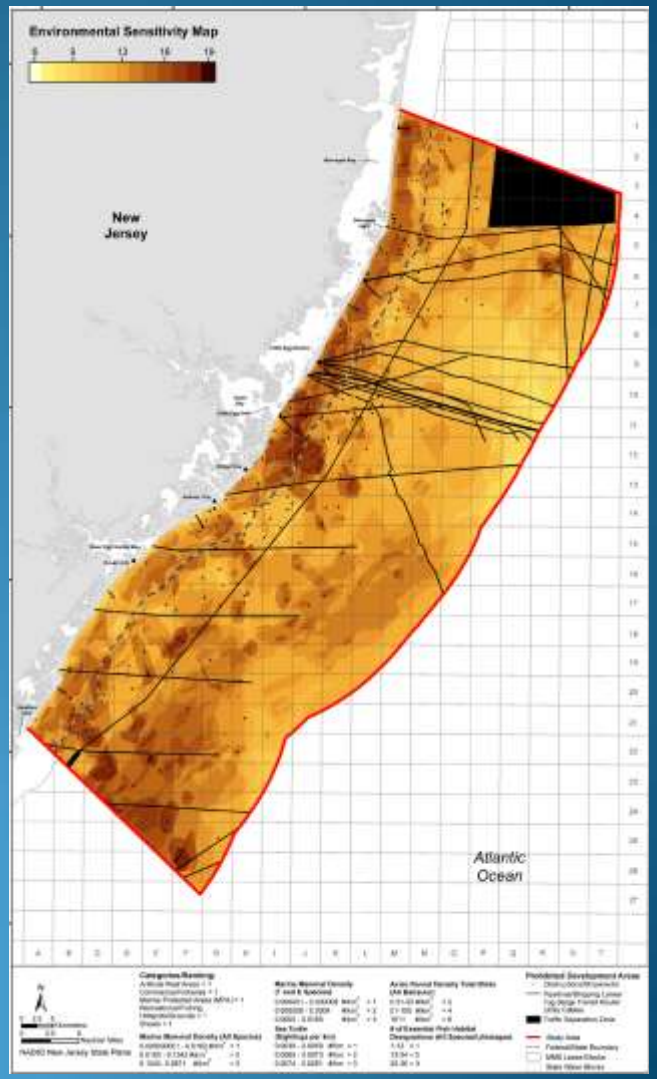
- Study Area: 1,360 square nautical miles ($NM^2$), from Seaside Park to Stone Harbor, out 20 NM from shore.
- Avian densities - highest near shore for all seasons; more pronounced in winter than summer (153 species recorded).
- Highest nearshore bird densities occurred near the coastline and at shoals.
- Marine mammals exhibited clear seasonal patterns in distribution.
- Numerous sightings/acoustic detections of endangered large whale species (North Atlantic right whale, fin whale, and humpback whale) detected during all seasons.



# New Jersey Offshore Wind Power Ecological Baseline Study

## Overview and Findings:

- A thorough review of fish and fisheries resources was conducted, which includes:
- Overview of the ichthyofauna (fish species designated with essential fish habitat [EFH]) of the Mid-Atlantic Bight (MAB) and Study Area
- Ancillary fishes observed during the shipboard and aerial surveys.
- •In addition, physical parameters within the Study Area were measured, including wind speeds, water temperature, salinity, depth, chlorophyll, and dissolved organic matter.



# New Jersey Studies of Interest

**New Jersey Offshore Wind Ecological Baseline Study (NJ OWPEBS)**

Contact Info:
Dr. Gary Buchanan, Director
New Jersey Department of Environmental Protection
Division of Science, Research, and Environmental Health
(609) 984-6070

Data and Reports Available:
http://www.nj.gov/dep/dsr/ocean-wind/index.htm

RUTGERS
Center for Ocean Observing Leadership

Funded by: BPU

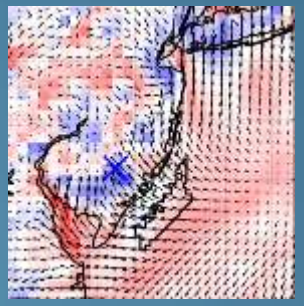
# New Jersey Studies of Interest

## Ongoing:

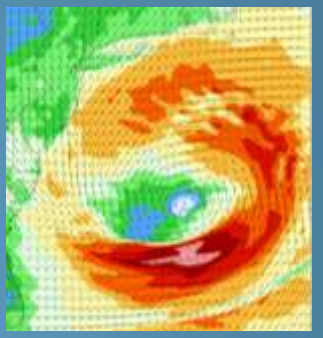
*Modeling & Evaluation of New Jersey's Offshore Wind Resource* (Rutgers Univ.)

- Atmospheric/oceanic modeling of NJ Offshore Wind Lease Areas
- Hourly 3D modeled wind speed 2011-present

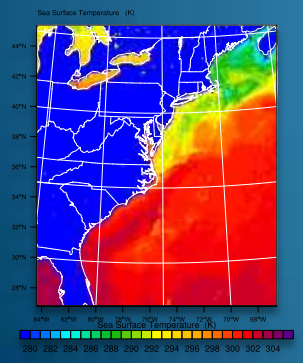
**Innovative Sea Breeze Analyses**



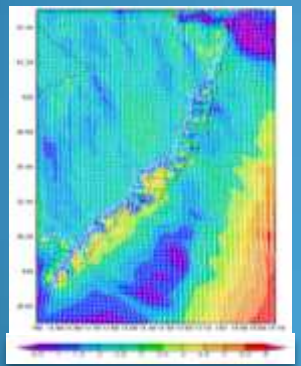
**Tropical Cyclone Modeling**



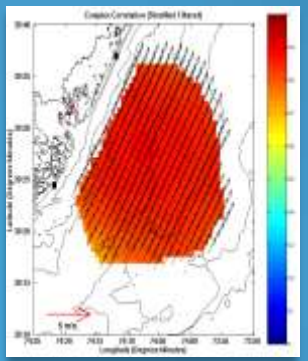
**New Ocean Data**



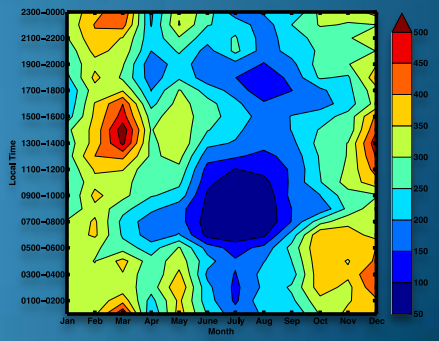

**Hi-Res Weather Model**



**Spatial Validation Data**



**Wind Power Statistics**



RUTGERS
Center for Ocean Observing Leadership

Funded by: BPU

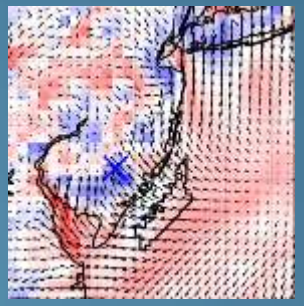
# New Jersey Studies of Interest

## Ongoing:

*Modeling & Evaluation of New Jersey's Offshore Wind Resource* (Rutgers Univ.)

- Hourly kWh data, net capacity factor for hypothetical wind farm scenarios
- Connections with economic models at RU CEEEP

**Innovative Sea Breeze Analyses**



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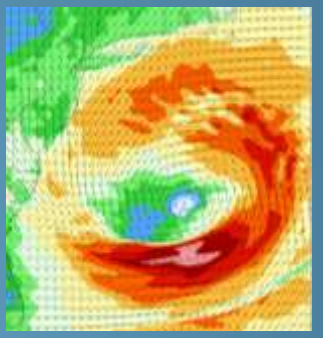

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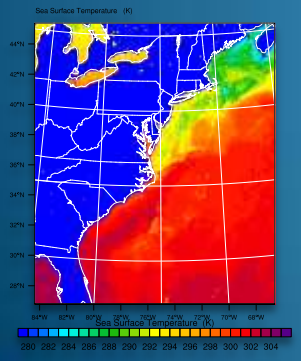


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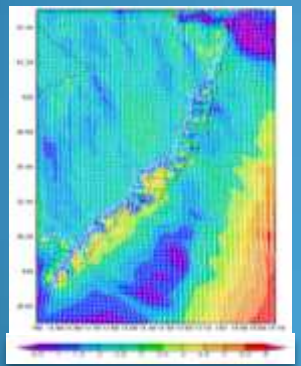

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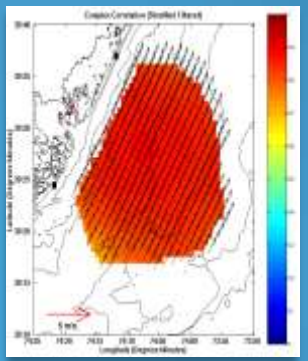

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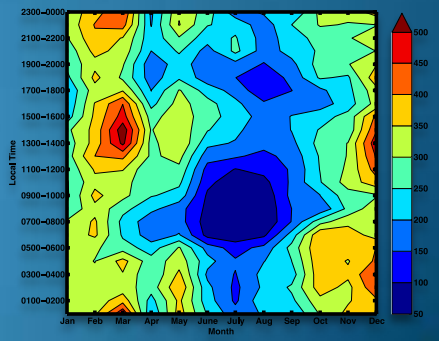


# New Jersey Studies of Interest

**Modeling & Evaluation of New Jersey's Offshore Wind Resource**


Contact Information:

Dr. Rich Dunk: dunk@marine.rutgers.edu

Greg Seroka: seroka@marine.rutgers.edu

Dr. Travis Miles: tnmiles@marine.rutgers.edu


Data and Reports Available:

http://rucool.marine.rutgers.edu/bpu

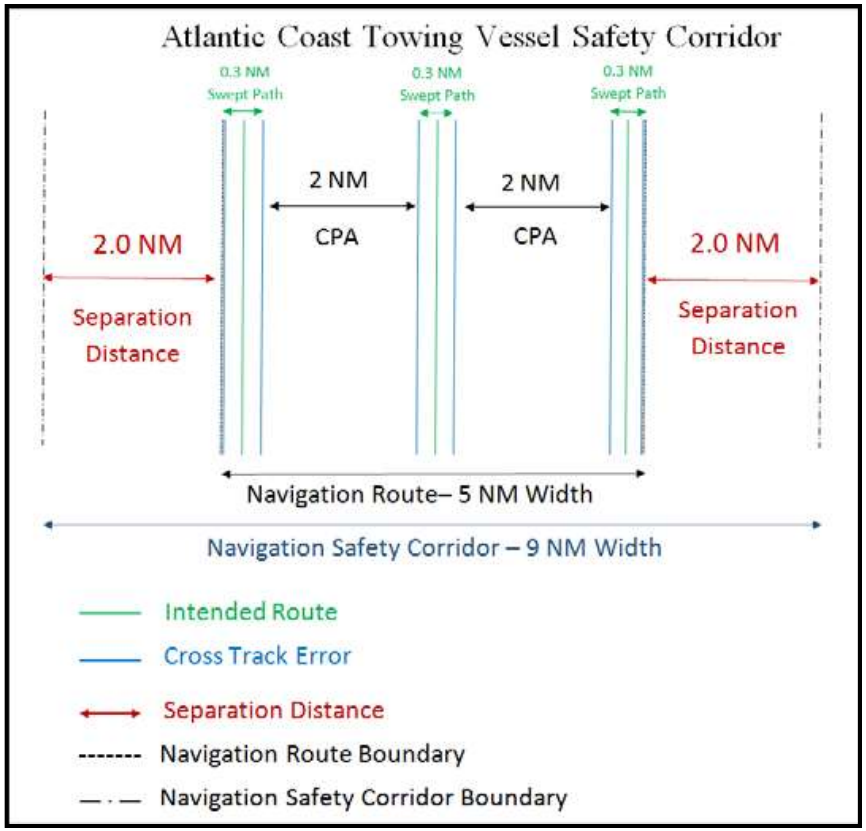
# USCG 5th Coast Guard District – ACPARS

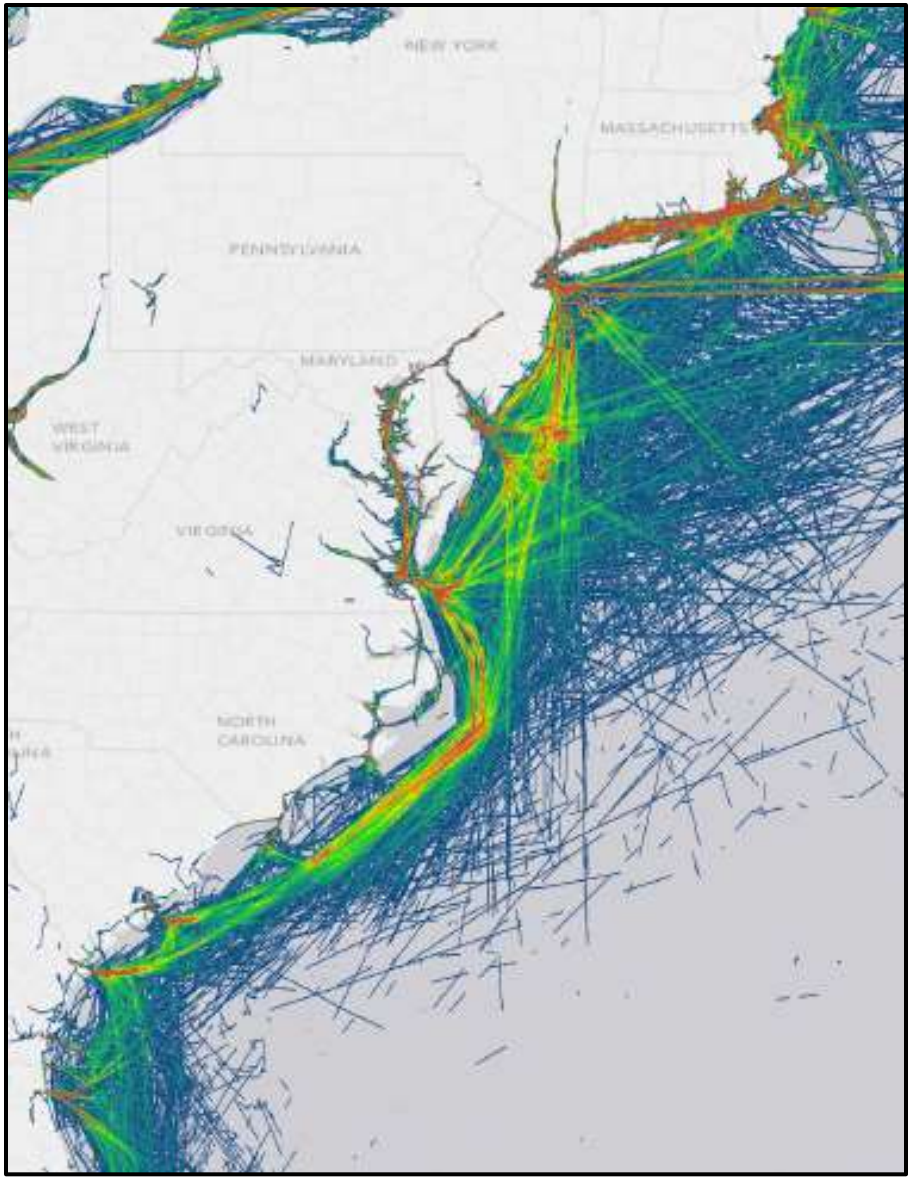
Mr. Doug Simpson – (757) 398-6346 – douglas.c.simpson@uscg.mil

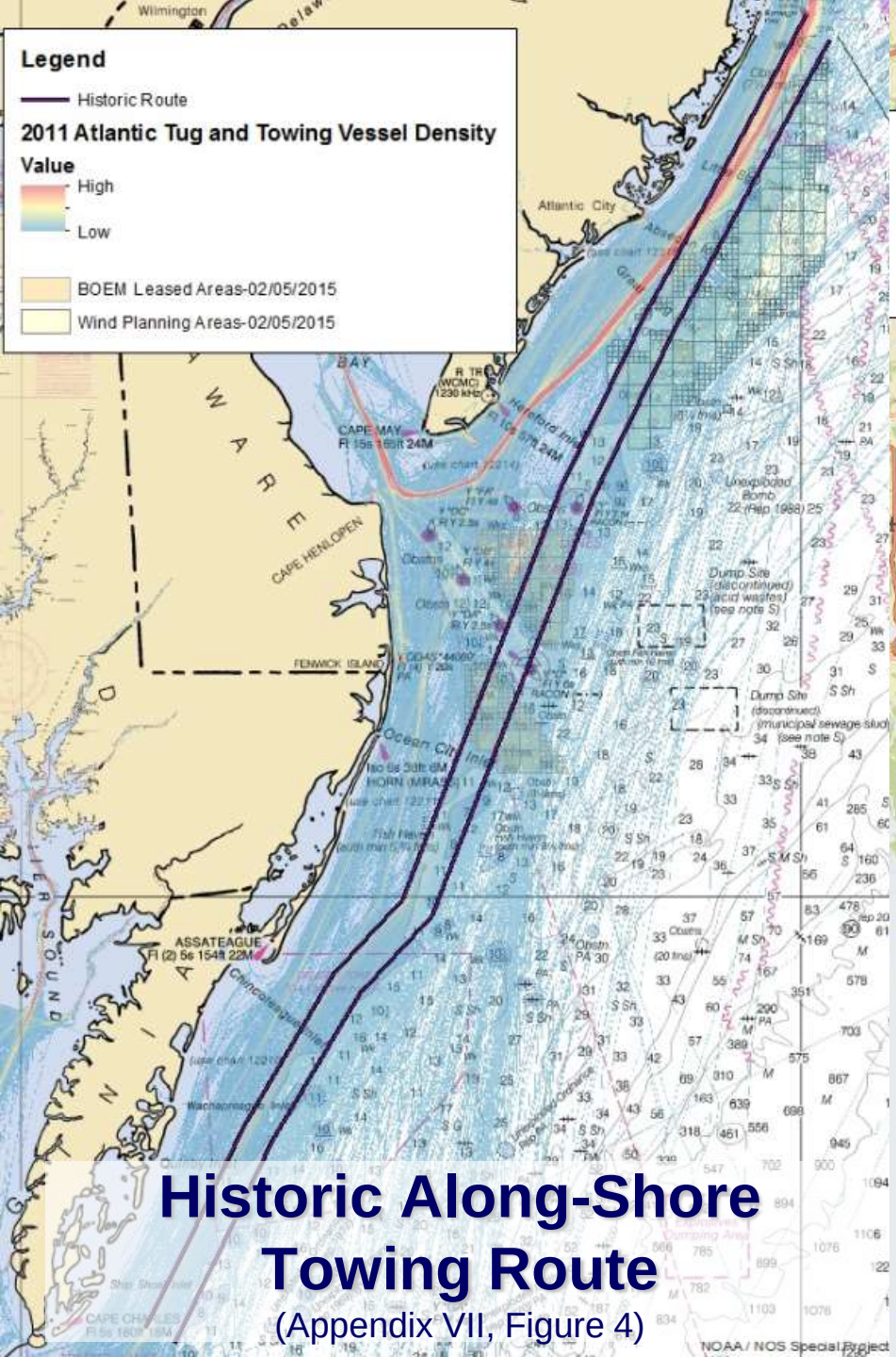
- **Atlantic Coast Port Access Route Study**

  www.uscg.mil/lantarea/acpars

- **Significant outcomes**
  - Marine Planning Guidelines (Encl 2)
  - ID Alongshore Towing Routes (App VII)
  - ID Deep Draft Routes

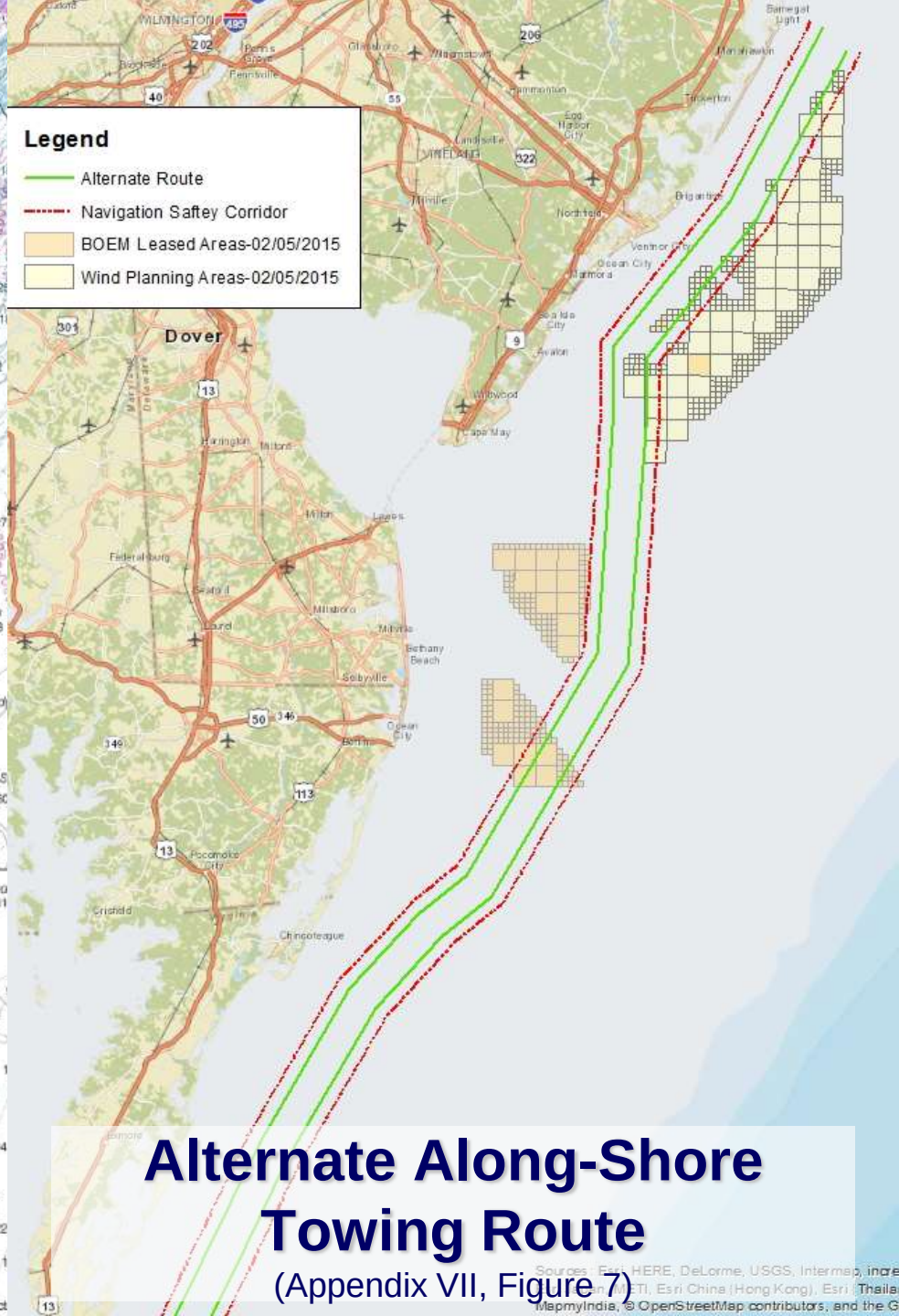




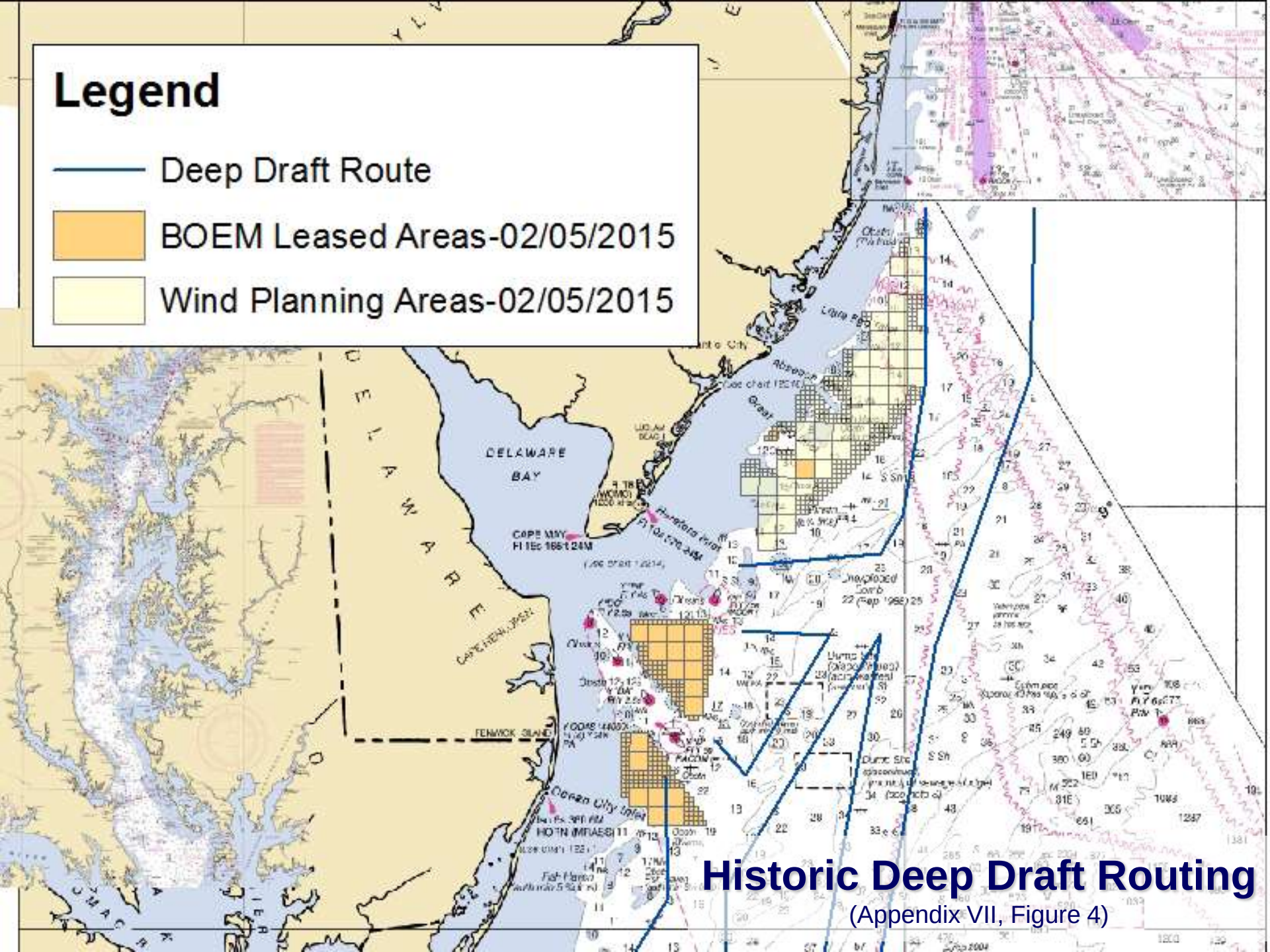

**Historic Along-Shore Towing Route**

(Appendix VII, Figure 4)




**Alternate Along-Shore Towing Route**

(Appendix VII, Figure 7)


Legend
Deep Draft Route
BOEM Leased Areas-02/05/2015
Wind Planning Areas-02/05/2015
DELAWARE BAY
CAPE MAY
Historic Deep Draft Routing
(Appendix VII, Figure 4)