EBC Ocean & Coastal Resources Program

The Northeast Ocean Data Portal
Supporting Ocean Policy and Planning
Welcome

Payson Whitney

Chair, EBC Ocean & Coastal Committee
Vice President, Water & Coastal Engineering
ESS Group, Inc.
Welcome to Pierce Atwood LLP

Michelle O’Brien

Partner
Pierce Atwood LLP
Program Introduction

Kelly Knee

Program Chair & Moderator

Executive Director, Ocean Science

RPS North America

Environmental Business Council of New England
Energy Environment Economy
Introduction to the Northeast Ocean Data Portal

Nick Napoli

Ocean Planning Director
Northeast Regional Ocean Council
Northeast Regional Ocean Council

- Formed by the New England governors in 2005
- Voluntary forum for states, federal agencies, and other regional organizations (rotating state and federal co-chairs)
  - Healthy Ocean and Coastal Ecosystems Committee
  - Coastal Hazards Committee
  - Ocean Planning Committee
NROC Ocean Planning Committee

•Began regional ocean planning activities before Obama-era Executive Order

•Established the Northeast Ocean Data Portal in 2009

•Supported the development of the 2016 Northeast Ocean Plan by the Northeast Regional Planning Body (under Obama-era EO)

•June 2018, Trump Administration Executive Order
  •eliminates the RPB
  •points to regional ocean partnerships (ROP) that are “voluntarily convened by governors”
  •allows for those ROPs to express regional priorities for federal coordination
NROC Ocean Planning Committee

• Since June 2018 release of new EO
  • Hosted two full-day public meetings
  • Conducted interviews with over 50 individuals from a wide range of sectors/interests
  • Agreed to advance regional priorities under NROC Ocean Planning Committee with an expanded membership
  • Identified and communicated regional priorities to the federal Ocean Policy Committee
NROC Ocean Planning Committee

• 2019 NROC Ocean Planning Committee Focus
  • Northeast Ocean Data Portal and regional data priorities
  • Best practices for regulatory and management decision-making
    • Use of data
    • Early consultation and pre-application practices
    • Stakeholder engagement
    • Agency and interjurisdictional coordination
  • Regional forums for emerging/important issues
Source of over 4,000 map products showing the footprint of activities and resources

Federal, state, and stakeholder provided data

Customized to address regional stakeholder and agency needs

Informed and vetted by regional stakeholders and experts
• NE Portal is complementary to and coordinated with other data sources
  • Mid-Atlantic Ocean Data Portal
  • Marine Cadastre
  • NERACOOS
• Data are well documented, including full metadata and brief descriptions
• Products developed to inform planning, management, and early regulatory stages; acknowledge and support many other potential uses (e.g. fisheries management, academic research)
• Portal is a tool to support consultation (not a replacement) and could indicate potential areas for additional inquiry - potential regulatory issues, stakeholders who may need to be engaged, additional data needs
Portal Use

INCREASE IN OVERALL SITE USE & DATA DOWNLOADS

Bandwidth increased 7x 2015-2018

2013 2014 2015 2016 2017 2018

December 14, 2018

Dr. Walter Cruickshank
Acting Director
Bureau of Ocean Energy Management
1800 C Street, NW
Washington, DC 20240

Dear Dr. Cruickshank:

As long-time supporters of both the offshore wind and fishing industries, we write to urge the Bureau of Ocean Energy Management (BOEM) to continue to pursue policies for the offshore wind leasing and permitting process that will help minimize conflicts among developers, the fishing industry, and other stakeholders.

Massachusetts and Rhode Island have championed offshore wind and set ambitious renewable energy goals. Our states understand that smart planning and consultation with stakeholders, particularly the fishing industry, will allow offshore wind to flourish in the United States, protect important ocean resources, and maintain access for existing users. However, we have heard from our constituents who believe that BOEM is not currently taking this balanced approach. This is particularly true with respect to the fishing industry.

The seafood industry is a vital economic engine for our states—supporting 89,400 jobs in Massachusetts and Rhode Island. For example, in 2016, $257 million of seafood was landed in New Bedford, MA and $50 million in Point Judith, RI. These communities, which have suffered federally-declared fisheries disasters over the last decade, can ill-afford additional hardships resulting from a hybrid development process.

We have seen the offshore wind development process work successfully off the Rhode Island coast, where the nation’s first offshore wind project currently provides energy to the residents of Block Island and beyond. With a strong reliance on collaborative and meaningful engagement, Rhode Island’s experience proved that offshore wind and other marine industries can operate in harmony. We should apply these lessons to projects off the East Coast.

Though we recognize BOEM utilizes outreach discussions, workshops, and initiatives such as “Sprint from the Start” to improve communication between the fishing industry and wind developers, many of our constituents consider the existing efforts to be insufficient. These interactions are often lone cases with no feedback, missing the broader opportunity to identify conflicts and mitigate potential harms before awarding leases. Similarly, we are not confident that BOEM has met the charge as set out in the Outer Continental Shelf Lands Act (OCSLA) that BOEM...
Select Uses of the Northeast Ocean Data Portal

Planning and Management
- New England Fishery Management Council (NEFMC) Deep Sea Coral Amendment Alternatives
- NEFMC Clam Dredge Exemption Framework Alternatives
- USCG waterways management, including deploying aids to navigation and ice breaking assets
- USCG Port Access Route Study (PARS) – Nantucket Sound
- US Navy identify areas for testing underwater autonomous vessels and potentially affected stakeholders
- NOAA charts
- CT Blue Plan for Long Island Sound
- NY Geographic Information Gateway
- NYSERDA Offshore Wind Master Plan
- Boston Harbor Barrier Feasibility Study
- MA oil and hazardous materials flow study

Regulatory and Siting
- Northeast and NY Wind Energy Area Transit Corridor Development
- Vineyard Wind EIS
- South Fork Wind Farm Construction and Operations Plan
- New York Draft Wind Energy Areas
- NEMAC Mussel Farm sited in Mass Bay – first shellfish farm in federal waters on Atlantic Coast
- NERACOOS wave buoy sited in Cape Cod Bay to inform mariners transiting the canal
- Manna Fish Farm Alternative Siting Analysis
- Proposed Atlantic Link Transmission Cable through the Gulf of Maine – proposed and alternative routes and permitting process details provided via Portal
- States use Portal to inform coastal effects test and federal consistency under CZM
- Consultants supporting permitting and leasing, and developing custom apps for regulated clients

Regulatory and Siting (continued)
- EPA to review other agency EA and EIS and comment on other agency actions
- USACE regulatory division permitting
- NOAA Office of Habitat Protection and Protected Resources Division consultations
- BOEM Guidelines for Renewable Energy Activities
- Massachusetts Aquaculture Siting Tool – MA-ShellfAST

Education and Research
- UMass Dartmouth; UMass Boston
- UMaine
- Brown
- Boston University
- URI
- Island Institute
- Pew
- Old Dominion University
Overview of the Northeast Regional Ocean Council and the Northeast Ocean Plan

Ted Diers
Administrator
Watershed Management Bureau
New Hampshire DES
Summary of Executive Order 13840 “Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States”

Deerin Babb-Brott

Principal Assistant Director
White House Office of
Science and Technology Policy
I. Initiatives and Actions
   i. Science and Technology Highlights 2018
   ii. Executive Order on Ocean Policy
   iii. National Science and Technology Council

II. Overview of *Science and Technology for America’s Oceans*

III. Questions
Science and Technology Highlights 2018

Ocean Science Highlights:

- **E.O. 13840**
  - Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States
- **SOST Ocean Decadal Vision**
  - NSTC ten-year plan identifying research needs and opportunities
- **DARPA’s Ocean of Things program**
  - Sensor network for persistent maritime situational awareness
- **NOAA & BOEM’s Ocean Reporting Tool**
  - Geospatial tool for exploring, permitting, siting, & de-conflicting ocean uses
- **NOAA’s EcoCast**
  - Big Data tool for real-time fishing and management planning
- **NOAA’s Digital Imagery Fisheries Monitoring**
  - New technologies to identify and measure fish from digital images
Select Polar Science Highlights:

- Stratified Ocean Dynamics of the Arctic (SODA) project
- Arctic Science Ministerial
  - International October meeting, signed Joint Statement
- Mapping Polar Regions
  - NASA Launched the Ice, Cloud and Land Elevation Satellite-2 (ICESat-2)

Select Natural Disaster Resilience Highlights:

- NOAA’s record setting hurricane forecast
  - Predicted Hurricane Florence within 2 miles of the observed landfall with 5 days lead time; NOAA improved its next generation weather forecasting model, the Finite Volume on a Cubed-sphere (FV3) model
- Improving Earthquake and Tsunami Resilience
  - NOAA & USGS mapped underwater fast moving tectonic faults in southeastern Alaska
Executive Order 13840

• Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States

• Simplifies and elevates to focus on geospatial data, regional and coastal ocean management problem solving, and ocean S&T

• Establishes interagency Ocean Policy Committee (OPC), co-chaired by OSTP and CEQ
Ocean Policy Committee

• Engage and collaborate with regions through regional ocean partnerships
• Coordinate the release of unclassified data and other information that agencies collect, and support common information management systems such as the Marine Cadastre
• Coordinate and ensure Federal participation in projects conducted under the National Oceanographic Partnership Program (NOPP)
• Supported by 2 subcommittees:
  • Ocean Science and Technology (OST [SOST])
  • Ocean Resource Management (ORM)
ORM Subcommittee

- Co-Chairs: U.S. Navy, NOAA, DOI
- Identify regional data needs (through NOAA/BOEM study)
- Identify and review agency data availability (Spring 2019)
  - Compare stakeholder request datasets to available agency data collections
  - ID agencies responsible for datasets and propose methods for release
  - Explore ways to increase access to industry data
- Develop and implement data plan for the prioritization and release of datasets for OPC review (Plan July 2019; Implementation October 2019+)
Top 10 Regional Data Needs

1. Jurisdiction and regulated areas
2. Abundance and distribution of marine species
3. Synthesized oceanographic parameters
4. Commercial fishing effort - Vessel Monitoring System (VMS)
5. Vessel traffic - Automatic Identification Systems (AIS)
6. Human and cultural use areas
7. Commercial fishing effort - Vessel Trip Report (VTR)
8. Bathymetry
9. Sand and borrow sites
10. Species and habitat locations, including benthic habitat
Top 10 Regional Priority Issues

1. Offshore aquaculture siting
2. Fisheries management
3. Community resilience and climate adaptation
4. Offshore renewable energy siting and leasing
5. Sand and sediment management
6. Species and habitat management
7. Water quality (marine debris, acidification, HABs, oil spills)
8. Oil and gas exploration and extraction
9. Ocean disposal
10. Maritime and navigation safety
OST Subcommittee

- Co-Chairs: NSF, ONR, NOAA, OSTP

- Identify priority research and technology needs (March 2019)

- Develop a list of recommended prioritized projects supporting agency R&T needs (May 2019)

- Develop and present to the OPC recommendations on course of action the OPC and/or its agencies can take to execute prioritized projects (July 2019)
Priority Research and Technology Needs

• Numerous materials address priority ocean-related research and technology needs relevant to or developed by government, industry, and academia (NAS SeaChange; Ocean Decadal; NOAA TFORT)

• OST action is not intended to replicate these efforts

• Identify research priorities that reflect interagency recommendations, present near-term opportunities, and support Administration policies
National Science and Technology Council

• Cabinet-level council established by Executive Order in 1993 to coordinate science and technology policy across the executive branch

• Chaired by OSTP on behalf of the President

• Objectives include the establishment of clear national goals for Federal S&T investments, and the completion of statutorily mandated reports to Congress
NSTC Structure

National Science and Technology Council
Chaired by the President
Assistant to the President on S&T presides in place of the President

Executive Director

Committee on Environment
OSTP Liaison, OMB Rep, Agency Co-chairs, Executive Secretary
Subcommittees & Working Groups
Committee on Homeland & National Security
OSTP Liaison, OMB Rep, Agency Co-chairs, Executive Secretary
Subcommittees & Working Groups
Committee on Science
OSTP Liaison, OMB Rep, Agency Co-chairs, Executive Secretary
Subcommittees & Working Groups
Committee on Technology
OSTP Liaison, OMB Rep, Agency Co-chairs, Executive Secretary
Subcommittees & Working Groups
Committee on S&T Enterprise
OSTP Liaison, OMB Rep, Agency Co-chairs, Executive Secretary
Subcommittees & Working Groups
Committee on STEM Education
OSTP Liaison, OMB Rep, Agency Co-chairs, Executive Secretary
Subcommittees & Working Groups
The NSTC is comprised of 6 committees that are chaired by agencies and OSTP, with OMB representation.

Each committee is comprised of sub-bodies, that may include:
- Subcommittees
- Interagency Working Groups (IWGs)
- Task Forces
- Fast Track Action Committees
Select Recent NSTC Reports

- Plan for Addressing Critical Research Gaps Related to Emerging Contaminants in Drinking Water
- Charting a Course for Success: America’s Strategy for STEM Education
- Science and Technology for America’s Oceans: A Decadal Vision
- IARPC Arctic Research Plan FY2017-2021
- Coordinated Strategic Plan to Advance Desalination for Enhanced Water Security (in prep)
- Aquaculture Science and Technology (in prep)
- National Plan for Civil Earth Observations (in prep)

Can be found at: https://www.whitehouse.gov/ostp/documents-and-reports/
Science and Technology for America’s Oceans: A Decadal Vision

- Identifies pressing research needs & areas of opportunity within the ocean S&T enterprise for 2018-2028
- Builds off of first plan published in 2007, which was updated in 2013
- Further builds the S&T foundation to improve our knowledge & stewardship of the ocean, address issues of national & global importance, & inform decision-making for the coming decade
Science and Technology for America’s Oceans: A Decadal Vision

- Provides guidance for U.S. Federal agencies & non-Federal sectors to align resources & areas of expertise
- Does not prescribe metrics and agency-specific tasks
- Guides the development of future Federal ocean research implementation plans
5 Goals to Advance U.S. Ocean S&T

1) Understand the Ocean in the Earth System
2) Promote Economic Prosperity
3) Ensure Maritime Security
4) Safeguard Human Health
5) Develop Resilient Coastal Communities
Goals, Objectives, Priorities

• Each goal has 3-5 objectives; actionable priorities support each objective:

• Goal – Understand the Ocean in the Earth System

• Objective – Modernize R&D Infrastructure

• Priority – Extend the Argo Program to include full-ocean depth coverage, biogeochemical sensors, and turbulence sensors
Goal 1 – Understand the Ocean in the Earth System

1) Modernize Research and Development (R&D) Infrastructure
2) Harness Big Data
3) Develop Models of the Earth System
4) Facilitate Research to Operations

Image Courtesy of NSF
Goal 2  Promote Economic Prosperity

1) Expand Domestic Seafood Production
2) Explore Potential Energy Sources
3) Assess Marine Critical Minerals
4) Balance Economic and Ecological Benefits
5) Promote the Blue Workforce

Image Courtesy of NSF
Goal 3  Ensure Maritime Security

1) Improve Maritime Situational Awareness

2) Understand a Changing Arctic

3) Maintain and Enhance Marine Transportation

Image Courtesy of U.S. Navy
Goal 4  Safeguard Human Health

1) Prevent and Reduce Plastic Pollution
2) Improve Forecasts of Marine Contaminants and Pathogens
3) Combat Harmful Algal Blooms
4) Discover Natural Products

Microplastics. Image Courtesy of NOAA
Goal 5  Develop Resilient Coastal Communities

1) Prepare for Natural Disasters and Weather Events
2) Reduce Risk and Vulnerabilities
3) Empower Local and Regional Decision-Making

Satellite photos of Ortley Beach, New Jersey, before (left) and after (right) Hurricane Sandy. (Images courtesy of NOAA and Google)
Cross-Cutting Topics

1) The modernization and management of ocean-related infrastructure

2) An educated, diverse, and dynamic “blue” workforce

Image Courtesy of NSF

Image Courtesy of NOAA
5 Areas of Immediate Ocean Research & Technology Opportunities

1) Fully integrate Big Data approaches in Earth system science
2) Advance monitoring and predictive modeling capabilities
3) Improve data integration in decision-support tools
4) Support ocean exploration and characterization
5) Support ongoing research & technology partnerships

No. 4 includes improved seafloor mapping to better inform maritime transportation operations
3-D view of Astoria Canyon
Image Courtesy of NOAA
Thank You

Questions?

Deerin Babb-Brott
Principal Assistant Director, Ocean and Environment
White House Office of Science and Technology Policy
Portal Demonstration and Overview

Emily Shumchenia

Ocean Planning Support Scientist
Northeast Regional Ocean Council
NETWORKING BREAK
Case Study – Portal Use: Dredge Material Disposal Siting and Planning

Ivy Mlsna

Biologist

New England Ocean & Coastal Protection Unit, U.S. EPA

Environmental Business Council of New England

Energy Environment Economy
Examples of EPA Region 1’s Use of the NE Ocean Data Portal to implement our regulatory programs

Ivy Mlsna
Environmental Business Council
March, 22 2019
Example 1: Siting an Ocean Dredged Material Disposal Site (ODMDS) for Northern Massachusetts, New Hampshire, and Southern Maine
Under MPRSA section 102, EPA is responsible for designating sites for the ocean dumping of all materials, including dredged material. EPA designates ocean disposal sites through rulemaking and sites are published at 40 CFR 228. EPA bases the designation of an ocean disposal site on environmental studies of a proposed site, environmental studies of regions adjacent to the site, and historical knowledge of the impact of disposal on areas similar to the sites in physical, chemical and biological characteristics. All studies for the evaluation and potential selection of dredged material disposal sites are conducted in accordance with the 40 CFR 228.5 and 228.6. Only dredged material that is permitted (or, in the case of a federal navigation project, authorized) for disposal under the MPRSA may be disposed in an EPA designated ocean dredged material disposal site.
Ocean Disposal Site Criteria

EPA must consider the ocean disposal criteria published in the 40 CFR 228.5 and 228.6, when selecting a site for designation.

Some specific factors considered in a site designation evaluation include:

- Geographic position of disposal site;
- Depth of water at disposal site;
- Bottom topography at disposal site;
- Oceanic conditions at disposal site;
- Existing water quality and ecology of disposal site;
- Natural resources that use disposal site or nearby areas;
- Proximity to beaches, historical/cultural sites and marine sanctuaries;
- Interference with shipping, fishing, recreation and other legitimate uses of the ocean;
- Types and quantities of waste that will be disposed at site; and
- Feasibility to manage and monitor the site.
Zone of Siting Feasibility for a potential ODMDS in northern Massachusetts, New Hampshire, and southern Maine

Environmental Assessment (EA) Alternative Analysis included:

- No Action
- Cape Arundel Disposal Site (CADS)
- Expanded Cape Arundel Disposal Site
- The Historic Isles of Shoals Site (IOSH)
- Isle of Shoals-North (IOSN)
Preferred Alternative:

Isles of Shoals – North (IOSN)
Screening for bottom topography at disposal site: Sediment Grain Size
Screening for interference with shipping, fishing, recreation and other legitimate uses of the ocean:
Herring fishery activity for 2015-2016
Screening for interference with shipping, fishing, recreation and other legitimate uses of the ocean:

2013 All Vessel Density
Screening for Historical/Cultural Sites: Shipwrecks in the Gulf of Maine in the vicinity of IOSN
# Tentative Schedule

<table>
<thead>
<tr>
<th>Task</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed Rule &amp; NEPA Document</td>
<td>April 15, 2019</td>
</tr>
<tr>
<td>Public Review of Proposed Rule (30 days)</td>
<td>April 15, 2019 – May 15, 2019</td>
</tr>
<tr>
<td>CZMA consistency (60 days)</td>
<td>April 15, 2019 – June 15, 2019</td>
</tr>
<tr>
<td>Final Rule Published</td>
<td>August 19, 2019</td>
</tr>
<tr>
<td>Designation Complete – IOSN open</td>
<td>September 23, 2019</td>
</tr>
</tbody>
</table>

For More Information on ODMDS Site Designation:
Regina Lyons
Lyons.regina@epa.gov
617-918-1557
Example 2: Burial-at-Sea
Identification Confirmed on Body Found in Fishing Nets

December 27, 2016

EPA R1 has not designated an ocean body disposal area, but we can help prevent conflicts like this from arising in the future!

PROVINCETOWN – The body pulled from the sea by fishing nets near Provincetown on December 15th has been confirmed by the Cape and Islands District Attorney’s office as a burial at sea.

Officials said the body of Robert Carnevale, of Rhode Island, had been interred at sea.

The fishing boat Hera reported the sighting to Provincetown police early that morning and soon brought the body to police at the Provincetown town pier.

Where in the ocean should we “bury” the bodies?
Burial at sea of human remains which are not cremated shall take place no closer than 3 nautical miles from land and in water no less than one hundred fathoms (six hundred feet); all necessary measures shall be taken to ensure that the remains sink to the bottom rapidly and permanently.

Cremated remains shall be buried in or on ocean waters without regard to the depth limitations specified above provided that such burial shall take place no closer than 3 nautical miles from land.
Case Study – Portal Use: Offshore Wind Siting and Planning

Nick Napoli
Northeast Regional Ocean Council

Emily Shumchenia
Northeast Regional Ocean Council
Moderated Discussion

Moderator: Kelly Knee, RPS

Panelists:

- Deerin Babb-Brott, White House OSTP
- Ted Diers, NH DES
- Ivy Mlsna, US EPA
- Nick Napoli, Northeast Regional Ocean Council
- Emily Shumchenia, Northeast Regional Ocean Council

Environmental Business Council of New England
Energy  Environment  Economy
EBC Ocean & Coastal Resources Program

The Northeast Ocean Data Portal
Supporting Ocean Policy and Planning