The Ocean Is a Busy Place …
What’s on the Portal?

- 3,000+ map layers organized under 11 themes
- Ocean planning and educational resources: Portal news blog, “Ocean Stories,” calendar, webinars
- Users can create and join groups to collaborate and share maps
Ocean Stories

Five Decades at Sea, Scallopers See Changes in Business & Environment
“All RPB member entities should use the Data Portal as an important, but non-exclusive, source of information to help identify potential conflicts, impacts, and potentially affected stakeholders.”
Data Partnerships & Collaboration

Portal Team/MARCO works closely with RPB to identify key data needs.

Ocean Mapping Data Team serves as point group for guidance.

Currently developing datasets to further Ocean Plan implementation

Frequently share and develop data with Northeast, federal agencies states
Relationship Among Federal, Regional and State Portals

MarineCadastre.gov

BOEM

NORAD

MARCO

Mid-Atlantic Ocean Data Portal

State Portals

NROG

Northwest Regional Ocean Council
Oceanography Data

27 data maps in Oceanography theme, with more under development

Maps illustrating bathymetry, acidification monitoring sites, seabed forms, sediments by grain size, canyon areas

20 maps illustrating net primary productivity and fronts probability by season and year
Regional, Okeanos and NOAA/NOS Bathymetry Map Layers
The data displayed here is a compilation of data collected during the Atlantic Canyons Mapping cruises. The multibeam products are generated by the Okeanos Explorer's Mapping Data Team at the Center for Coastal and Ocean Mapping Joint Hydrographic Center at the University of New Hampshire after each mission. For each cruise, additional data are available by visiting the Atlantic Canyons Mapping Data Viewer.

**Source:** NOAA Ship Okeanos Explorer

**Notes:**
These data not to be used for navigation. Although these data are of high quality and useful for planning and modeling purposes, they are not suitable for navigation.
Sample of MARCO/MAFMC Okeanos Research Requests

- Validation/refinement of coral habitat prediction models and new models showing diversity and abundance

- Improved data on fish species distribution and abundance, seasonality and habitat requirements

- Assessing/monitoring demonstrated and anticipated effects on canyons from various disturbances

- Expanded multibeam mapping (especially from 100-500M, including canyon heads and shelf) with backscatter processed to create maps of bottom habitat types
2013 Spring Max Fronts Probability and Canyons Map Layers
2013 Spring Max Fronts Probability

Fronts play an important role in upper ocean processes. Fronts can impact ocean fisheries, for example, by influencing the spatial distribution of biological productivity and by controlling the accumulation of marine debris, which serves as a beacon to higher trophic levels. The NOAA CoastWatch Oceanic Front Probability Index measures the probability of sea surface temperature front formation based on data from NOAA's GOES satellites. These data represent seasonal 'max' values of ocean fronts for Spring 2013 and were generated using fronts probability data available from CoastWatch. The data were processed to monthly rasters, then computed into composites representing seasonal maximum values. The seasons are as follows: Winter- January, February, December; Spring- March, April, May; Summer- June, July, August. Fall- September, October, November.

Source: NOAA CoastWatch, NOAA NOS, NOAA NWS Monterey Regional Forecast Office; seasonal composites, Rutgers University

Notes:
The Oceanic Front Probability Index is an EXPERIMENTAL dataset, distributed for scientific evaluation. The source dataset by NOAA CoastWatch is based on sea surface temperature (SST) data; daily SST averages were calculated, then an edge detection algorithm was applied to identify fronts. The index for front probability was then calculated using the number of times a pixel is counted as a front divided by cloud-free days for the time period. This helps to eliminate days in which the fronts are masked out by clouds. NOAA CoastWatch accepts no liability for use of these data products. NOT to be used for navigation.
Case Study: Mid-Atlantic Coral Conservation

With aid of Portal data, fishermen, conservationists and MAFMC worked together to ID likely coral habitats

Discussions led to a compromise: 38,000 square miles placed off limits to bottom-tending gear

Frank R. Lautenberg Deep-Sea Coral Protection Area named for longtime New Jersey Senator
Success Story: MAREA Cable Line

TE SubCom (on behalf of Facebook and Microsoft) used the portal as one source of information to ensure the highest capacity submarine cable to eventually cross the Atlantic is sited to reduce conflict with bottom dredges and trawling.

Many ocean stories on the portal website
Marine Life & Data Analysis Team (MDAT) Project

- Created one of largest online collections of marine life maps in world
- Searchable library of thousands of maps showing populations/abundance for species of fish, birds and mammals
- Being used to identify Ecologically Rich Areas (ERAs) in the Mid-Atlantic
- Research and data collection conducted by Duke University Geospatial Ecology Lab
Framework for Identifying ERAs

- Draft Framework included in Draft Mid-Atlantic Regional Ocean Action Plan - Summer 2016

- Five ERA components:
  1. Productivity
  2. Biodiversity
  3. Species abundance
  4. Rarity
  5. Vulnerability
Framework for Identifying ERAs (cont’d)

Additions to Draft Framework:

– Data sets to be cross-checked with known species of Indigenous cultural importance

– Four types of ERAs
  • Fixed
  • Clustered
  • Ephemeral
  • Ambulatory

RPB approved March 21, 2017

Presented for finalization today June 20, 2017
MDAT Data Review – Species Data

Fish
- 82 species
- Biomass
- 1979-2014; 2005-2014

Mammals
- 29 species / guilds
- Predicted density
- Monthly, Annual

Avian
- 40 Species
- Predicted relative density and occurrence
- Seasonal, Annual
MDAT Data Review - Summary Products

For species groups:

1. Group Abundance / Biomass
2. Species Richness
3. Biodiversity Index
4. Core Abundance / Biomass Area Richness
Data Communication – Existing model story map

Understanding the Confidence

In addition to knowing the estimated densities of cetaceans, model users may want to know how confident the modeling team is in the density estimates. Many factors may influence this confidence, including how much surveying was conducted, where and when it occurred, the number of cetaceans that were sighted, and the statistical details of the modeled relationships between cetacean density and oceanographic conditions.

Because these factors can vary both geographically and seasonally, the team developed uncertainty maps that pair with the density maps and express how confident the team is in each pixel of the density maps. As might be expected, the maps show that uncertainty was often highest in locations that received less survey effort—such as the areas beyond the continental shelf—and during seasons other than summer, when surveying was less frequent. Uncertainty was also highest for the most rarely sighted species, such as killer whales along the East Coast, which were only sighted 11 times over 20 years of surveying.

Examples:
- Humpback Whale
- Fin Whale
- Bottlenose Dolphin
- Harbor Porpoise

https://goo.gl/yTM9fH
What’s Next?

More recent and past years of VTR and VMS fishing data, searchable by port

More current years of Automatic Identification System (AIS) vessel traffic maps

Oceanography data showing surface and bottom temps over time, more current fronts and productivity layers

A collection of maps illustrating offshore sand resource locations and mining activities in Mid-Atlantic
Register for an Account

Visit portal.midatlantic.org and fill out our form. It’s free and easy! You can even use your Facebook or Twitter account.

Registering for an account unlocks the full potential of the Portal.