Spatial Data Needs and Updates for Mid-Atlantic Ocean Planning

The Mid-Atlantic Regional Council on the Ocean (MARCO) has developed a web-based portal for sharing geographic data for managing ocean and coastal resources. The MARCO Mapping and Planning Portal is an online tool that allows state, federal, and local decision-makers and the public to visualize, query, map, and analyze ocean and coastal data in the Mid-Atlantic region.

The table below identifies some of the highest priority unmet ocean planning data needs as well as data currently under development, but not yet available for the Mid-Atlantic Region. Note that the Northeast Regional Ocean Council (NROC) shares many of these data needs and MARCO and NROC are coordinating on the collection and development of data that cover both regions. The data and information identified for MARCO are fundamental to moving forward with regional ocean planning efforts in the Mid-Atlantic, especially in light of state and Federal goals for accelerating offshore wind power development along the Atlantic Coast. Federal agencies have both data and expertise that could help meet these needs and many relevant studies are currently underway.

We are specifically asking governmental representatives and others in the Mid-Atlantic region:

- Do you have spatial data that might address an identified data gap?
 - If so, please describe the data set and provide a POC (name, telephone, email) that we could contact for additional information.
- Are you aware of any plans to collect data that might address specific identified data gaps?
 - If so, please describe the data collection effort and provide a POC (name, telephone, email) that we could contact for additional information.
- Are there additional ocean planning data needs we have not identified?

The list of data needs includes attributes for the source of the data, the status of data development, the point of contact for the data, and the expected date by which the data will be uploaded to the portal. The notes column contains information about what is already known about the needed data. In some cases, the data and information exist or are currently under development but significant additional effort (e.g. permissions, analysis and formatting) will be required to acquire and prepare the data for use within the regional planning portal. In other cases, the data likely do not currently exist and additional survey and analysis efforts will be needed. As ocean planning moves forward, we expect that additional data needs will be identified (e.g., for socio-economic data) and this list will be updated accordingly.

Spatial Data Needs and Updates for Mid-Atlantic Ocean Planning Note: MARCO has already collected many essential ocean planning data layers. **Expected Date** Category **Data Type** Description **Source of Data Status** Contact Name of Upload to **Notes Portal** I. Existing and Available Data **USCG & DOD** Administrative Military, hazard and Information pertaining to uses of the marine Efforts underway to Brian Smith, Unknown DOD has produced draft East Coast restricted areas environment by the Department of Defense for including ACOE, incorporate NOAA CSC OCS Wind Energy Assessment for training, classified or restricted areas, with unexploded Navy, etc. authorized data into BOEM; in addition, DOD Oil and Gas ordinances, etc. Portal Stipulation Layer exists on Cadastre Biological Dan Dorfman, Coldwater coral Known point locations on coldwater corals and Multiple sources Efforts underway to June, 2012 Points represent only where corals **locations** associated taxonomic information in Mid-Atlantic incorporate NOAA were observed. The absence of a authorized data into Biogeography point does not necessarily indicate Portal Branch the absence of corals. Efforts underway to Jennifer Greene. As soon as Need to add summary data lavers Biological Marine Mammals--Important areas for marine mammals were TNC NAM ERA with SPUE grids combined for The Nature Sightings per Unit Effort determined from point sightings data. Data were compiled data: incorporate vetted by Portal (SPUE) source of data U.S. authorized data into Conservancy Data Review assessed, combined and converted from seasonal multiple species and seasons (e.g. all Navy Marine Portal Team toothed whales). Assessed species species sightings into ten minute squares and effortcorrected. The resulting sightings per unit effort Resource include include fin whale, humpback (SPUE) grids were used to identify important areas Assessment whale, minke whale, northern within the region for each species. (MRA) for the Atlantic right whale, sperm whale, Northeast and sei whale, Atlantic whitesided Virginia Capes dolphin, bottlenose dolphin, harbor porpoise, and Atlantic striped dolphin. Biological Turtles --Sightings per Important areas for sea turtles were determined from TNC NAM ERA Efforts underway to Jennifer Greene, As soon as Need to add summary SPUE grid for Unit Effort (SPUE) point sightings data. Data were assessed, combined compiled data; incorporate The Nature vetted by Portal all three species assessed (green, and converted from seasonal species sightings into ten source of data U.S. authorized data into Conservancy Data Review leatherback and Atlantic loggerhead Portal minute squares and effort-corrected. The resulting Navy Marine Team turtles) across seasons. sightings per unit effort (SPUE) grids were used to Resource identify important areas within the region for each Assessment species. (MRA) for the Northeast and Virginia Capes

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Biological	Turtles Distribrution and Nesting Areas (ESI)	Sea turtle areas displayed on the maps are limited to nesting beaches, and several well-known in-water concentration areas. Sea turtle nesting beaches include sand beach areas where sea turtles come ashore to nest.	TNC NAM ERA compiled; source data from Environmental Sensitivity Index, NOAA	Efforts underway to incorporate authorized data into Portal	The Nature	As soon as vetted by Portal Data Review Team	ESI maps provide a concise summary of coastal resources that are at risk if an oil spill occurs nearby. Vector polygons in this data set represent turtle distribution.
Biological	Large Pelagic Species (sharks, tuna, marlin) Species Richness, Pesistence and EFH	Target species richness: Total # of target species by age class observed within a TMS summed and mapped based on all available data (1965-2004) Persistence: Sum of the number of decades that a	TNC NAM ERA compiled; source data from NMFS- SEFSC and NMFS-	Efforts underway to incorporate authorized data into Portal	The Nature	As soon as vetted by Portal Data Review Team	14 species respresented include: Albacore Tuna, Bigeye Thresher, Blue Marlin, Bluefin Tuna, Dusky shark, Great Hammerhead*, Porbeagle,
Human Use	Vessel Trip Report (VTR) data	Data on effort, catch and value for many commercially important species aggregated to ten minute squares.	NOAA/NMFS	Efforts underway to incorporate authorized data into Portal	The Nature	June, 2012	VTR data are available upon request and can be posted on the portal at appropriate scale and with appropriate attribution. Data will need to be depicted in consideration of confidentiality requirements.
Human Use	Vessel Monitoring System (VMS) fishing data	VMS are required for many commercial fisheries to monitor the position, time at a position, and course and speed of fishing vessels.	NOAA/ NMFS	Data under development	Jennifer Greene, The Nature Conservancy	December, 2012	Data has been transferred from NMFS; Data will need to be processed to provide maximum utility in consideration of confidentiality requirements.
Human Use	Sand, gravel, cobble mining locations; Identified resources	Resource areas where materials are actively mined from the seafloor; Areas which have been identified as potential "donor" sites for materials.	Multiple agencies including ACOE, BOEM, States	Data under development	John Bognar, Rutgers CRSSA	TBD	Currently, we have detailed information for MD only.
Human Use	State landings and fishing effort data	State level information about fishery landings and fishing effort.	States	Not initiated, return on investment for compilation is being evaluated.	<u>Nature</u>	TBD (beyond scope of current portal enhancement funding)	Most ocean fisheries data is covered by federal reporting systems but there are gaps for some state managed fisheries.
Human Use	Municipal and private discharge	Discharge of effluent from waste water treatment plants receiving waste water from households, commercial establishments, and industries in the coastal drainage basin.	EPA	Data under development	John Bognar, Rutgers CRSSA	TBD	In addition to point locations, effluent plume models may be useful for informing ocean planning efforts.

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Human Use	Energy facilities	Examples include nuclear power plant locations and discharge pipe locations, potential/existing hydrokinetic sites, etc.	Multiple agencies including FERC, NREL, NRC, and the EPA	Data under development	John Bognar, Rutgers CRSSA	TBD	
Human Use	Automatic Identification System (AIS) shipping data	AIS is an automated tracking system used on ships and by Vessel Traffic Services for identifying and locating vessels by electronically exchanging data with other nearby ships and VTS stations and provides information such as unique identification, position, course, and speed.	NOAA	Data available	Eric Howard, The Nature Conservancy	June, 2012	
Human Use	Port locations and attributes	Locations of ports, how they relate to shipping traffic and their capacity for servicing offshore energy development	ACOE; Individual ports	Data under development	Chris Bruce, The Nature Conservancy	August, 2012	
		II. Data	to be Collected	d and/or Develop	ped		
Biological	Marine mammal migration paths	Critical seasonal migratory pathways for large whales (toothed and baleen), dolphins and porpoises.	DOE grant to BRI. VA CZM Section 309 grant to VA Aquarium	Data under development	Multiple contacts: see notes	Early 2014	Multiple data collection efforts ongoing currently, including AMAPPS (funded by BOEM, contact Dr. Deborah Epperson), BRI study (funded by DOE, contact Kate Williams), VA Aquarium study (funded by VACZM, contact Laura McKay)
Biological	Coldwater coral predictive distribution model	A high resolution, predictive model of coral habitat and distribution.	Multiple sources	Efforts underway to incorporate authorized data into Portal	NOAA	Early 2013	NCCOS and NEFSC working on a predictive model for the Mid-Atlantic.
Biological	Regional scale sea bird and sea duck predictive distribution model	A high resolution, predictive model for sea bird and sea duck habitat and distribution.	Manomet's CETAP	Data under development	Charlie Menza, NOAA Biogeography Branch	Early 2013	BOEM-funded project underway to enable NCCOS to expand New York scale work to Mid-Atlantic region. Data expected in late 2012.
Biological	Important coastal bird habitat	Point and polygon data on coastal bird use of coastal and marine habitats for nesting, breeding, wintering and stopover.	Multiple sources	No efforts currently underway to obtain and compile data		TBD	Need to leverage existing data and efforts; additional data need to be collected.

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Geophysical	Finite Volume Coastal Ocean Model (FVCOM) results	FVCOM is a coastal ocean circulation model developed by UMASSD-WHOI and includes information on current, wave regime, temperature, salinity and density.	Multiple including UMASS Dartmouth, Rutgers, NERACOOS, and MARACOOS	Data under development	Rick Lathrop, Rutgers CRSSA	TBD	FVCOM will include all of the NROC area and the northern part of MARCO area; additional modeling may be needed for MARCO.
Human Use	Commercial fishing activity	Spatial data interpreted and created using the Fishing Vessel Trip Report and Vessel Monitoring System databases in collaboration with commercial fishing stakeholders to illustrate the distribution, timing, and intensity of commercial fishing activity, with attributes for gear type and harvest species. Additional attributes collected through stakeholder engagement may include information about the specific socioeconomic value of fishing locations to communities.	Commercial fishers via MARCO stakeholder engagement efforts	Data under development	Rick Lathrop, Rutgers CRSSA	June, 2013	Data will need to be processed in consulation with stakeholders to provide maximum utility in consideration of confidentiality requirements. No FVTR or VMS derived data products will be made available without prior approval from NFMS authorities.
Human Use	Recreational fishing activity	Areas where non-commercial fishing (recreational/sport fishing) occurs.	Recreational fishers via MARCO stakeholder engagement efforts	Data under development	Rick Lathrop, Rutgers CRSSA	June, 2013	Variable existing data; Engagement with recreational fishers to begin Summer, 2012
Human Use	Recreational boating activity	Areas where recreational boating (regattas, pleasure, cruises, water skiing, etc.) occurs.	Recreational boaters via MARCO stakeholder engagement efforts	Data development not yet initiated	Rick Lathrop, Rutgers CRSSA	TBD	
Human Use	Areas for non-fishing, non-boating recreational uses	Areas where diving, surfing, swimming, nature viewing, etc. occurs.	Recreational users via MARCO stakeholder engagement efforts	Data under development	Rick Lathrop, Rutgers CRSSA	June, 2013	
Human Use	Cultural use areas	Areas significant to Tribal Nations and other cultures.	Tribe leaders via MARCO stakeholder engagement efforts	Data under development	Rick Lathrop, Rutgers CRSSA	June, 2013	Development and use of these data will be subject to outcome of discussions between Tribal leaders and state and federal agency representatives.