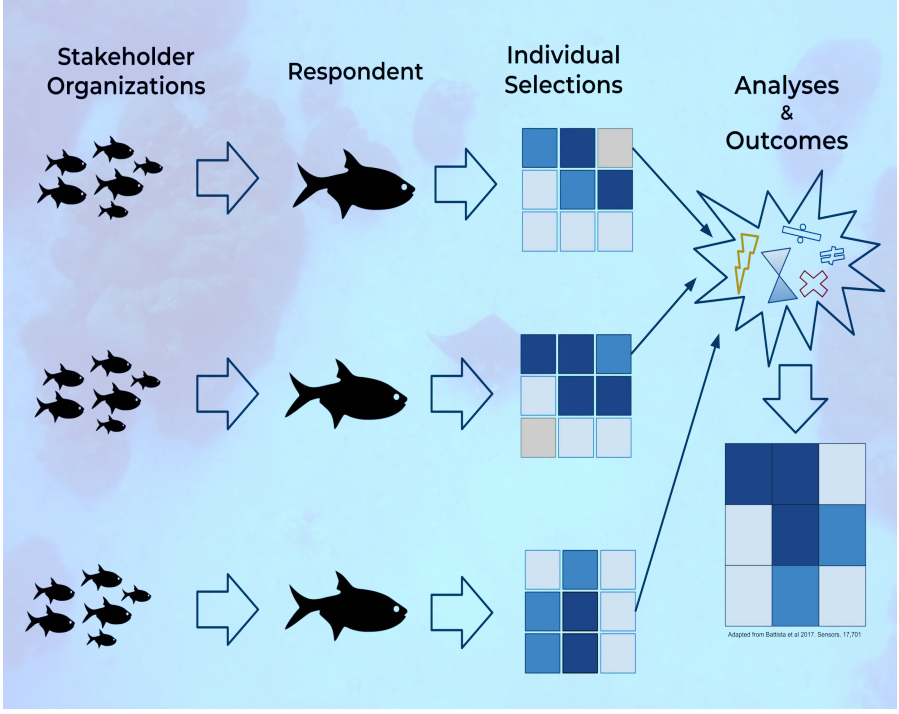
Coastal Coupling Community of Practice
Spatial Priorities Study

Why Participate?

The CC CoP Spatial Priorities Study will gather the community's mapping requirements for modeling. Participation ensures that the CC CoP's mapping priorities are known and shared. These priorities will be utilized in planning, prioritizing and directing funding for mapping projects across the United States, particularly along our rivers, coasts and Great Lakes. Acquisition of topographic and bathymetric data in particular will help to improve modeling for riverine, estuarine, and coastal hydraulic processes, safe navigation, flooding and storm surge forecasts and more. Study results will be integrated with other inputs gathered by NOAA's Integrated Ocean and Coastal Mapping Program for a combined assessment of mapping requirements.

Survey Details



Each organization, group or team selects a person to serve as a participant in the study. The participant accesses the application and fills in the organization's priorities.

Participants select from a grid cell layer covering the study area. Participants select cells using an ArcGIS web application, assigning priority levels to each selected cell.

All participant layers are combined, and analyses are run to determine areas with highest mapping priority, need, or urgency.

How the Survey is Conducted

Once the community has delineated its study area and finalized criteria lists, organizations will select their representative participant. That participant will be instructed further on how to fill out the ArcGIS survey application.

For assistance with the survey contact Cathleen Yung, NOAA IOCM GIS Specialist, at cathleen.yung@noaa.gov

Criteria Definitions

Definitions and descriptions for all criteria (**Priority, Justification, Map Product, Driver** and **Horizontal Resolution**) can be found on the following pages. If you have any questions about which criteria is applicable where, or other questions regarding criteria selection, please contact Cathleen Yung at NOAA IOCM at cathleen.yung@noaa.gov .

Definitions for Criteria Menus

Priority	
Criterion	**Details**
None	Mapping needed, but not within next 10 years
Low	Mapping need in 6-10 years (<50% of cells)
Medium	Mapping need in 3-5 years (<25% of cells)
High	Mapping need in 1-2 years (<10% of cells)

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Definitions for Criteria Menus

Justification - Purpose for Mapping	
Criterion	**Details**
None	None
General knowledge gap	Default/general option; select if none of the other criteria meet your needs
Benthic exploration	Targeted benthic exploration for seafloor characterization
Water column exploration	Targeted water column exploration for water column characterization (e.g. upwelling, seeps, biological origin, biotoxins, harmful algae)
Commercial and recreational fishing	Fisheries management and regulation (e.g. commercial/recreational fishing locations, aquaculture siting, fisheries sampling stations, high bycatch areas, sport/charter fishing)
Cultural/historical resources	Shipwrecks, tribal use areas and other archaeological/cultural/historic resources
Energy	Energy permitting, siting, management, transmission (e.g. oil/natural gas platforms, deepwater ports, wind turbine, tidal/hydropower, cables, pipelines, etc.)
Habitat/biota/natural area	Includes Essential Fish Habitat, Critical Habitat (for marine mammals and other protected species), spawning/nursery areas, feeding grounds, key benthic habitats, habitat mapping, coastal geomorphology and other ecologically significant areas
Coastal/marine natural hazards	Detection, forecast and management of coastal and marine hazards, including weather/storm surge, flooding, tsunamis, earthquakes, geologic faults, harmful algal blooms, etc
Infrastructure (non-energy)	Existing or potential infrastructure development, includes port facilities, bridges, telecommunication cables, roads, etc
Protection/Management Areas	Marine protected area, sanctuaries, conservation areas, restoration sites, dynamic management areas for marine mammals and other protected species
Monitoring	Monitoring of specific study areas for scientific or other purposes (such as coral health monitoring, invasive species monitoring, etc)
Modeling	Modelling of specific study areas for scientific or other purposes
Navigation safety	Safe navigation in U.S. waters, e.g. shipping lanes, ferry routes, harbors/approaches, port facilities and marinas; includes detection of hazards to navigation (rocks, wrecks, other obstructions)
Scientific research	General scientific research, not including monitoring of a specific area
Mineral resources	Critical and base mineral resources, aggregate resources for beach renourishment and/or heavy sands mineral resource, other non-energy mineral resources
Sediment transport	Sediment movement and management needs, managing beach erosion/renourishment or sediment buildups in channels and ports
Maritime Boundaries, Maritime Domain Awareness and Enforcement	Authoritative boundary maintenance, DoD/DHS security operations, countermine measures, border patrols, law enforcement
Recreational activities (other than fishing)	Recreational activities (e.g. boating, ecotourism, swimming and diving)
Public health	Contaminants and hazards that could impact communities, subistence cultures and food safety (e.g. seafood safety) such as contaminated sediments, marine biotoxins, chemicals around oil wells and pipelines, waste and dredge material dumping sites, etc.

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Definitions for Criteria Menus

Map Product	
Criterion	**Details**
None	None
Elevation (bathymetry/topography)	Measurement of height/depth of seabed or coastal terrain. Collected using multibeam sonar, airborne LiDAR or other methods. Processed into bathy grids, Digital Elevation Models for a wide variety of downstream products
Backscatter intensity	Seabed imagery of reflected intensity (acoustic or optical) for location and distribution of different substrate types and habitat
Magnetometer surveys	For detection of magnetic anomalies, ferrous objects, man-made objects or evidence of human activity, cultural resource surveys, archaeological assessment, unexploded ordnance, wrecks, debris, etc
Photographs/videos/imagery (surface or underwater)	Imagery of seabed/benthos/water column. Includes video and still imagery in all spectral bands. May be collected with ROVs, AUVs, other camera platforms, satellites, etc
Biological, chemical or physical samples	Samples collected from seafloor/subseafloor/water column using divers, AUVs, ROVs, cores, grabs, CTDs, rosettes, etc
Substrate/Sub-bottom geologic characterization	Remote-sensing derived (i.e. seismic, chirp subbottom, multibeam sonar, sub-bottom profiling sonars, magnetic susceptibility, self-potential) seafloor type and characteristics (i.e. hardness/roughness/thickness/grain size/substrate type/mineralogy, etc.)
Water column mapping/characterization	Commonly collected with multibeam/split-beam sonar systems; used to identify bubbles, plankton layers, fish, harmful algae, biotoxins, seeps, etc
Shoreline characterization/topographic maps	Delineation and characterization of shoreline/coastal topography/coastal infrastructure and features (port facilities, boat ramps, docks, pipe landfalls, etc)
Habitat map/characterization	Identification/suitability of benthic environment and habitat distribution; derived from remote sensing, optical imaging, and physical sampling
Nautical map and chart products	Electronic Navigational Charts, other products for navigation
Human use statistics	Socioeconomic, demographic, and other statistics regarding human use of ocean areas
Wildlife population characterization	Includes marine mammal, bird, sea turtle surveys; stock assessments
Ocean use infrastructure site maps	Delineation and characterization of oil platforms, wells, pipelines, wastewater treatment plant outfalls, waste dredge material dump sites, shipping lanes, and aquaculture sites
Land use impacts on coastal zone	Location and metadata from wastewater treatment plant inputs and seepages, riverine runoff, stormwater runoff, and other impacts from manmade coastal zone inputs
Other mapping products not listed	

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Definitions for Criteria Menus

Driver
Criterion
None
Blue Economy
Coastal Zone Management Act
Endangered Species Act
Energy Policy Act of 2005
Executive Order 13817 (Reliable Supplies of Critical Minerals)
Executive Order 13840 (Ocean Policy to Advance Economic, Security, and Environment Interests)
Great Lakes Restoration Initiative
Magnuson–Stevens Fishery Conservation and Management Act
National Historic Preservation Act
National Marine Sanctuaries Act
National Park Service Organic Act of 1916
Oil Pollution Act
Outer Continental Shelf Lands Act
2019 Presidential Memorandum on Ocean Mapping (Mapping, Exploration, Characterization)
Public Law 89-560 (Soil Surveys Act)
Public Law 111-11 (Omnibus Public Land Management Act)
Public Law 1115-25 (Weather Research and Forecasting Innovation Act and Tsunami Warning, Education, and Research Act)
National Weather Service Organic Act
Marine Mammal Protection Act (MMPA)
Safety of Life at Sea Convention (Treaty)
Seabed 2030
Lakebed 2030
Great Lakes Water Quality Agreement
Great Lakes Council of Lakes Committees priorities
Coast and Geodetic Survey Act of 1947
Hydrographic Services Improvement Act
USGS Organic Act of 1879
Ocean and Coastal Mapping Integration Act
Ocean Exploration Act
Integrated Coastal and Ocean Observation System Act
Federal Food, Drug, and Cosmetic Act
National Shellfish Sanitation Program Model Ordinance
Other drivers not listed

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Definitions for Criteria Menus

Horizontal Resolution	
Criterion	Details
Not specified	Resolution not specified
<100m	One pixel of data output must represent at most 100x100m of coverage
<25m	One pixel of data output must represent at most 25x25m of coverage
<10m	One pixel of data output must represent at most 10x10m of coverage
<5m	One pixel of data output must represent at most 5x5m of coverage
<1m	One pixel of data output must represent at most 1x1m of coverage