Prioritizing Areas for Future Seafloor Mapping, Research, and Exploration in the Southeast U.S. Atlantic

Why We Care
Spatial information about the geomorphology, surficial habitats, and underlying geology of the seafloor is critical for decision-making by marine research and management organizations tasked with ensuring safe navigation, sustainable fisheries, smart resource use, and sound ecological stewardship in U.S. coastal and ocean waters. Improving coordination of seafloor mapping goals among research and management organizations results in leveraging resources while achieving each agency’s mandates and missions faster and more economically. Mapping the full extent of the U.S. Exclusive Economic Zone is a top national priority, and NOAA is working to achieve this goal.

NOAA’s Southeast and Caribbean Regional Collaboration Team and National Centers for Coastal Ocean Science developed a participatory mapping and web-based tool to identify common spatial management priorities across partner organizations in the Southeast Region. This framework spatially captures and summarizes:

- What areas are most important?
- Why are these areas important?
- How quickly is data collection needed?
- What data products are needed most?

The prioritization approach has been successfully applied in the state of Washington, Florida, New York and Alaska, as well as regions of the Great Lakes, U.S. Caribbean and West Coast. Recently, actionable intelligence from these prioritizations resulted in actions taken to map these gaps.

What We Did
The prioritization application contained existing geospatial data available through GIS portals (e.g., essential fish habitats, habitat areas of particular concern, energy lease areas, navigation, etc.) and data provided by partners. The inventory of spatially relevant datasets provided the context for participants to designate their organization’s priority areas.

Results from 25 participating organizations were analyzed using clustering and other spatial statistical techniques to identify significant relationships among priorities, issues, and ranking criteria.

“Predictive models show areas of deep corals, but new bathymetry and seafloor maps are critical to validate these models” - SE Prioritization Participant

Final results are publicly available on an interactive map and integrated into other relevant products, including: justification for NOAA fleet allocation, ocean exploration mission planning, Integrated Ocean and Coastal Mapping and Inter-agency Working Groups, and toward SEABED 2030. They were also compiled into a technical report and shared with operating and funding agencies to assist with aligning programmatic goals and resource allocation.

Benefits of Our Work
These regional seafloor mapping priorities will help organizations
1. better understand how their priorities align with other SE US partner needs,
2. position to more efficiently coordinate on projects
3. leverage assets and resources to fill their most pressing data and information gaps in the Southeast U.S. coastal and outer continental shelf.

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Spatial priorities ranked by number of coins input by all participants. Yellow indicates regions of highest priority needs for seafloor maps, dark blue is lower need. Areas along the coastline and along the outer continental shelf including hardbottom habitats received the most responses.