



Continental Shelf Characterization, Assessment and Mapping Project

Bathymetric Mapping on the West Florida Shelf

The C-SCAMP group at USF uses multibeam echosounders to survey previously unmapped areas of essential habitat for reef fish and other important species on the West Florida Shelf. Vessel support was provided by the Florida Institute of Oceanography.

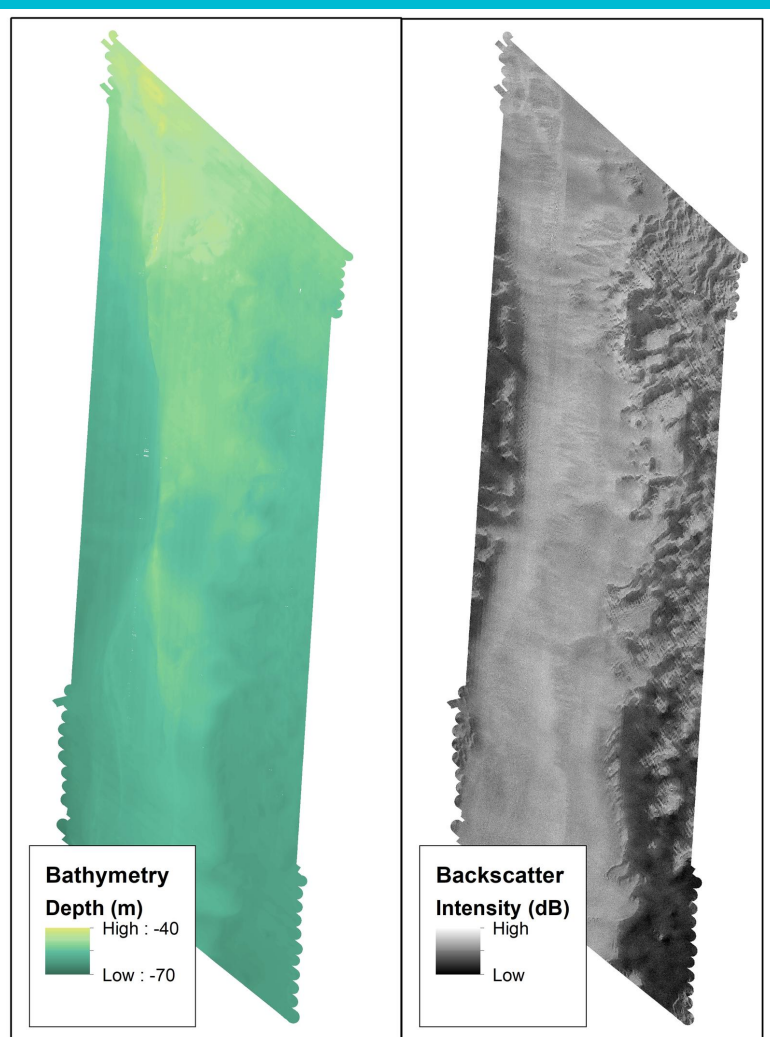


Bathymetry collected by USF, USGS, and NOAA on the West Florida Shelf (above), bathymetry and backscatter collected in the Southwest Florida Middle Grounds (below).

Multibeam echosounders transmit an acoustic pulse through the water and measure the two-way travel time for that energy to return after reflecting off the seafloor. With sufficient knowledge of the ambient oceanographic conditions, it is then possible to calculate the depth of the seafloor accurate to within inches.

Bathymetry refers to the depth and shape of the seafloor. Just as topographic maps depict the elevation of landforms above sea level, bathymetric maps do the same for features below sea level.

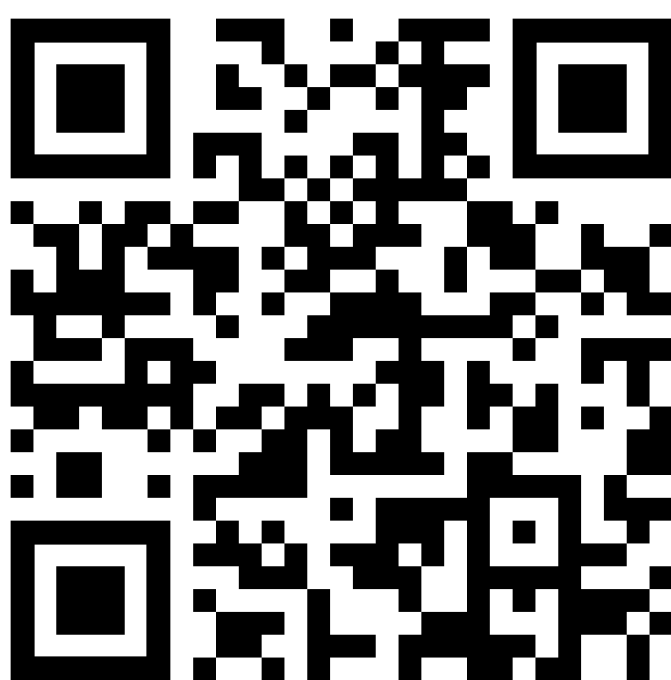
Backscatter is a measure of the intensity of the acoustic return (echo) from the seafloor. The calculation is complex, but in simple terms a higher backscatter value typically corresponds to a harder material such as rock or coral. Lower backscatter values tend to indicate a softer seafloor composition such as mud or loose sand.



Bathymetry and backscatter data are essential ingredients in generating benthic habitat maps for various species. Creating such maps for the West Florida Shelf better informs decision-making for the responsible management of commercially important fisheries and the protection of vulnerable species.



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PUBLICATIONS

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Characterizing Benthic Habitats in two Marine
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Murawski, Steven. “Habitat Mapping and
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Presentation to the Gulf of Mexico Fisheries
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