“Offshore Video Survey and Oceanographic Analysis: Georges Bank to the Chesapeake” project

Executive Summary

The “Offshore Video Survey and Oceanographic Analysis: Georges Bank to the Chesapeake” project utilized spatial data products that will significantly advance the understanding of marine habitats and ecological function in the Northeast Atlantic. From trophic dynamics and the northern edge of Georges Bank to the mouth of Chesapeake Bay, this study provided new information about several species groups observed in a video survey. Additionally, the project has advanced a comprehensive database of information on the benthic habitat and associated oceanographic conditions on the U.S. Northeast Shelf at a scale vital to fisheries managers, spatial planners, and the wider community of stakeholders.

The project was completed through two phases. During the first phase, the project team assembled and validated published data from the most recent five years of the University of Massachusetts Dartmouth, School for Marine Science and Technology scallop video survey. The data were idealized and published, but not available in a central location. This phase was critical to assembling a range of data to facilitate combined analysis and integration into public data portals.

In the second phase of the project, two years (2009-2012) of data from the SMART scallop survey and NECOFS were used to create new products describing the seabed habitat, seafloor substrate, and associated oceanographic conditions on the U.S. Northeast Shelf at a scale vital to fisheries managers, spatial planners, and the wider community of stakeholders.

Oceanographic findings

- Bottom salinities have tended to fluctuate more across the whole of Georges Bank.
- Temperature and salinity values were derived from the Northeast Coastal Ocean Forecast System.
- Temperature and salinity values were derived from the Northeast Coastal Ocean Forecast System.
- The Great South Channel appears to be an area of lower variability in bottom temperatures.
- For temperature, values are lower in the center of Georges Bank and in the center of the Gulf Stream.
- The most variable areas of either average or minimum surface water are off the Northumberland Bank and on the North Carolina Outer Banks.

Biological findings

- The Great South Channel appears to be a hot spot of biodiversity, with a higher diversity of benthic epifauna, and larger coarse substrate types.
- Moon snails were not quantified until 2005.
- The most variable areas of either average or minimum surface water are off the Northumberland Bank and on the North Carolina Outer Banks.
- Temperature and salinity values were derived from the Northeast Coastal Ocean Forecast System.
- Temperature and salinity values were derived from the Northeast Coastal Ocean Forecast System.
- The Great South Channel appears to be an area of lower variability in bottom temperatures.
- Temperature and salinity values were derived from the Northeast Coastal Ocean Forecast System.