

## ABSTRACT

The U.S. East Coast continental slope from Norfolk Canyon south to Cape Lookout, North Carolina represents a dramatic transition between the Middle Atlantic Bight (MAB) province of major submarine canyons and the South Atlantic Bight province of the Blake Plateau. The central portion of this region, just north of Cape Hatteras, is unique hydrographically: 1) as the zone where the northward flowing Gulf Stream meets the southward flowing Virginia current, and 2) as the zone where the Gulf Stream crosses the underlying southward flowing Western Boundary Undercurrent. Recent investigations revealed that the Hatteras slope (in an area of undetermined geographic extent) is characterized by anomalous biological and physical attributes, including extremely high densities of benthic infauna, unusual communities of benthic fishes and megafaunal invertebrates, a relatively high rate of particulate sedimentation, and sedimentary evidence for an exceptionally high flux of labile organic carbon to the bottom. A portion of this area has long been known as “The Point”.

In addition to the unique physical and biological attributes of “The Point” region, portions of the area have been targets for potential hydrocarbon exploration, particularly in Minerals Management Service blocks 467 and 510 in the Manteo Unit. Such exploration has been considered problematic because of a lack of appropriate environmental data that would allow evaluation of potential exploration impacts. A number of workshops and meetings have occurred over the last decade, and a special panel was appointed to review the state of knowledge needed to evaluate impacts around “The Point” area. One very important discovery learned during this process is that “The Point” is a productive and important fishing area, with physical conditions that concentrate biota (birds, marine mammals, turtles, fishes) in a relatively small part of the ocean. Gradually various types of data have accumulated for “the Point” area, improving our understanding of many issues, but the studies were not coordinated.

Although the quantity of data has increased for the Hatteras slope area around “The Point”, a complete catalogue of all past and ongoing studies was not previously available. The absence of a centralized data management tool has hindered attempts to discuss and evaluate the impacts of proposed hydrocarbon exploration. This project was funded to gather information on all past and current studies conducted in all scientific disciplines related to this area, generate an annotated, computerized bibliography of these studies and reference them to a Geographic Information System (GIS). The project study area was identified as a region 40 km north and south of the proposed Mobil Oil wildcat well with depth boundaries of 20-2000 m. We identified a total of 414 references to published, unpublished, and ongoing studies relevant to the study area. These references were annotated, entered into a ProCite digital database, and sorted into the following chapters: Fishery, Invertebrate, Marine Bird, Marine Mammal, Marine Reptile, Biological Oceanography, Chemical Oceanography, Geological Oceanography, Physical Oceanography, Sargassum, Socioeconomic. To the extent possible the locations of data collection efforts in these studies were determined and imported into the ArcView GIS system from which example maps were generated to geographically illustrate the bibliography. This task was not funded as a data synthesis nor an interactive digital product. However, we believe it is an important foundation for future Environmental Impact Statement or Environmental Assessment efforts in this area off of North Carolina. We hope that it will serve as a model for other such efforts.