CARAMBAR – Deep-water Processes and Coral Mounds along the Slopes of Little and Great Bahama Bank

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Project Background

During a multibeam, seismic, and coring cruise called CARAMBAR (October 31 - November 29, 2010), the slope and basin setting along the western side of Great Bahama Bank and the northern slope of Little Bahama Bank were investigated (Figure 1). This cruise on the ship *Le Suroît* was co-organized by the universities of Bordeaux and Marseille, and financed by a grant from the French federal funding agency. The chief scientist on board was Thierry Mulder.

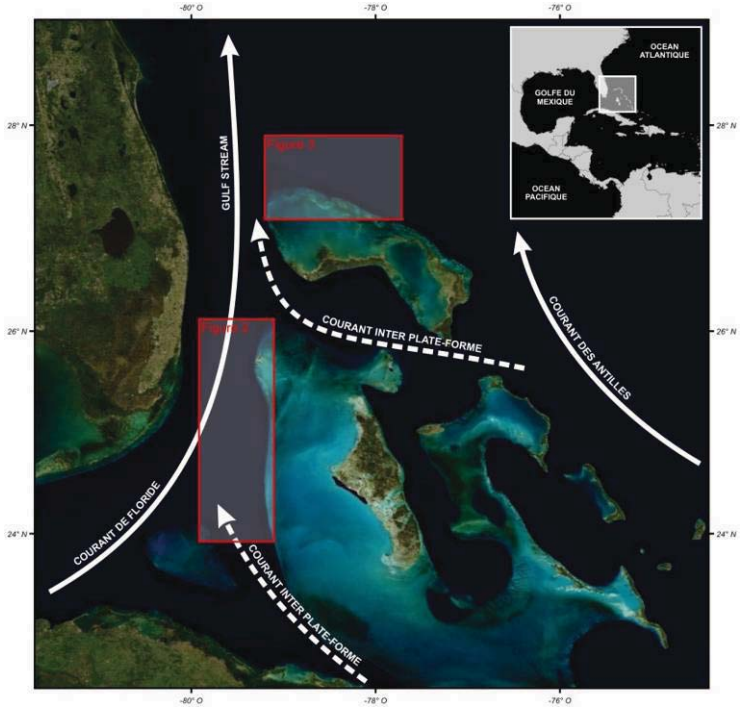

Figure 1: Location map of the two areas surveyed during the CARAMBAR cruise. In both areas, multibeam (EM302) data for seafloor topography, high-resolution multi-channel seismic data, and chirp sonar data were simultaneously acquired. In addition, over 20 piston cores with lengths reaching from 5 – 20 meters using a Küllenberg system were taken of the various sub-environments. (From Mulder et al., in press).

Project Objectives

The primary objective of this international project is the characterization of the morphology and geometry of the carbonate slope system and its relationship to sedimentary processes. Several aspects within this objective can be investigated using the comprehensive data set provided by the CARAMBAR cruise. In addition, the seismic data can be calibrated to the lithology and stratigraphy of the ODP Legs 101 and 166 and Küllenberg cores. Based on the available data, the following sub-projects will be conducted by the participating institutions.

1. Geometry and sedimentary evolution of the recent carbonate turbidite system, including the initiation of the slope gullies.

2. Carbonate slope architecture and geometry of sedimentary bodies using multi-channel seismic data.
3. Sedimentary changes during the Late Pleistocene (including stratigraphy and paleo-environment).
4. Geometry and initiation of large slope failure.
5. Distribution and sequence stratigraphy of cold-water coral mounds.
6. Very high-resolution Holocene stratigraphy to relate sedimentation to known climate events and coastal records.
7. Physical and reservoir properties and their link to diagenesis.
8. Characterization of organic matter in the slope sediments.

The University of Miami will be involved in projects 4, 5 and 7, which we describe in more detail on the following pages.

References

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