

STRUCTURE OF THE CONTINENTAL MARGIN NORTHEASTERMOST GULF OF MEXICO

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Continuous seismic reflection profiles were recorded along five traverses across the continental slope and Mississippi cone in the northeastern Gulf of Mexico during joint U. S. Geological Survey - Naval Oceanographic Office investigations, February-April, 1969. The profiles correlate well with previous geophysical studies by other investigators and indicate that: 1) the Florida Escarpment-Cretaceous reef, which is continuous northward from the Straits of Florida, extends north of latitude 29°00'N where it has been buried by southeastward prograding of an embankment of sediments deposited by the Mississippi and adjacent drainage systems; 2) currents flowing through the major trough-like feature formed between the West Florida slope, the prograding embankment and the Mississippi cone have limited sedimentation on that portion of the upper slope and have deposited a well-layered sequence of turbidites along the base of the Florida Escarpment which intertongue with the more homogeneous sediments of the Mississippi cone; and that 3) the turbidity currents have built a low narrow levee along the eastern margin of the cone generally paralleling the escarpment.