

CARBONATE SEDIMENTS OF THE GULF OF MEXICO

Rezak, R., and G. S. Edwards, Department of Oceanography, Texas A&M University, College Station, Texas 77843.

The carbonate deposits of the Gulf of Mexico may be grouped into three general categories: 1) carbonate shelves, 2) coral-algal reefs, and 3) deep water carbonates.

The West Florida shelf and the Campeche shelf are examples of open, inclined shelves on which sediments of both biogenic and non-biogenic carbonate are accumulating. The distribution patterns of these sediments are to a large degree relict Pleistocene and early Holocene patterns.

Coral-algal reefs are considered a separate category as they occur not only on carbonate shelves but also on terrigenous shelves of the western and northern Gulf. Reefs such as the Flower Garden reefs in the northwestern Gulf occur on prominences near the shelf edge. They differ from reefs in the southern Gulf in that they represent the submerged reef-bank stage of development in Logan's Reef Model 1. The crests of the Flower Gardens reefs are populated by the Diploria-Monastrea-Porites community. Absence of the Acropora palmata community is most probably due to water depth. On the Campeche Reefs this assemblage begins at the depth of about 40 ft. None of the reefs in the northwestern Gulf rise to levels above 60 ft.

Deep water carbonates are primarily pelagic oozes consisting of globigerinids, coccolithophorids and pteropods. Deep water coral "reefs" have been reported on the lower continental slope of the northern Gulf. These are local accumulations of ahermatypic corals and are probably not widespread.