

COASTAL INTERDELTAIC SEDIMENTATION IN THE NORTHWEST GULF REGION

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The coastal region of north western Gulf of Mexico extending 900 miles from Mexico to western Florida is a province of clastic sedimentation. One-third of this region is characterized by deltaic plains of the Rio Grande, Colorado-Brazos, and Mississippi Rivers. The remaining 600 miles are occupied by interdeltaic environments consisting of the barrier-island complexes of Texas, Mississippi, Alabama and Florida and the chenier plain of southwest Louisiana.

Environments of barrier island complexes are: the beach-barrier islands, the tidal channels between barriers, and the lagoons behind the barriers. Closely associated with the barrier complexes are the estuaries (such as Galveston Bay). Seaward growth of barriers and lateral migration of tidal channels have resulted in deposition of two distinctive sequences; barrier island and tidal channel. Sedimentation in lagoons has been at slower rates therefore this sequence is thinner than the barrier and tidal channel sequences.

The southwest Louisiana chenier plain (developed contemporaneously with the Mississippi deltaic plain and coastal barriers) consists mainly of fine-grained sediments derived from the Mississippi during floods. Two types of sedimentary sequences are associated with this plain: mud-flat and chenier (abandoned beach). The thickness of chenier plain deposits is about one-third that of the barrier-island complexes.

The five basic interdeltaic sedimentary sequences (barrier island, tidal channel, lagoonal, mud-flat, and chenier) are distinguished on the basis of vertical distribution of grain size, sorting, sedimentary structures and faunas.