DEPOSTIONAL ENVIRONMENTS OF THE MISSISSIPPI RIVER DELTAIC PLAIN—SOUTHEASTERN LOUISIANA[1]

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Seaward progradation of the land surface by the present and former Mississippi River deltas has created the Recent deltaic plain of southeastern Louisiana. Each time the Mississippi has advanced a major deltaic lobe seaward, subsequent abandonment of the overly extended river course in favor of a shorter, more direct route to the Gulf has occurred. These course changes and accompanying shifts in centers of deposition have resulted in the distribution of deltaic sediments along a 200-mile arc in coastal Louisiana. As soon as a depositional center or delta is abandoned, marine transgression begins. This process is aided by subsidence of the deltaic plain as a result of tectonism and gradual consolidation of deltaic deposits. Nevertheless, the net result of the struggle between the advancing deltas and the encroaching sea has been an over-all increase in the size of the Recent deltaic plain.

The sediments of four major depositional environments are complexly interfingered in the deltaic plain: (1) *Fluvial*—natural levee, point bar, abandoned course and abandoned distributary sediments deposited in fresh to brackish water principally in inland areas within and along streams; (2) *Fluvial-Marine*—prodelta, intradelta and interdistributary sediments laid down near the mouths of distributary channels in brackish to marine water; (3) *Paludal*—marsh, swamp, tidal channel and lacustrine deposits formed primarily in situ; and (4) *Marine*—bay-sound, reef, beach and nearshore gulf sediments formed by erosion and deposition in marine water. Processes active within each environment and the distribution and physical properties of associated deposits or soil types are of vital interest in investigations of engineering geologists.

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