

Texas Coastal Processes—Brazos River Delta to Galveston Island

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Abstract

Sites ~60 miles south of Houston along ~35 miles of the SE Texas coastline provide excellent locations to observe coastal sedimentological processes and their resultant deposits. This section of the Texas coast is characterized by barrier islands separated by tidal inlets and river outlets. The larger, sand-ridge cored, prograding Galveston Island contrasts with the smaller, wash-over dominated, retreating Follets Island and is separated by the stable, long-lived San Luis Pass that exhibits well developed flood and ebb tide delta systems. The Brazos River empties into the Gulf of Mexico to the south of Follets Island and forms a wave-dominated delta system. The Brazos River Delta has undergone significant changes due to human intervention and demonstrates the dynamic nature of sediment movement and deposition along the coast. This section of the coast provides insight into the mechanisms of sediment movement and the resultant reservoir characteristics of clastic coastal deposits that can be applied as an analog for subsurface exploration and production.