

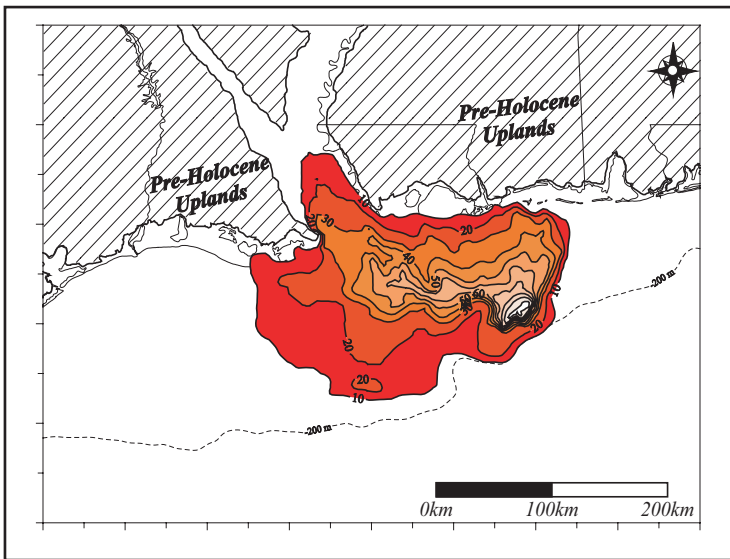
Stratigraphic, Geomorphologic, and Coastal Studies

The Louisiana Coastal Zone is a premiere location to examine fluvial, deltaic, and coastal processes. In the last several years the need for management of this coastal zone has resulted in an enhanced need to clearly document how these processes affect the geomorphology and stratigraphy of regressive and transgressive coastal plains. Stratigraphic and coastal studies within the Department of Earth and Environmental Sciences at the University of New Orleans provide students the opportunity to pursue a wide range of theoretical and applied research interests, some examples of current research include:

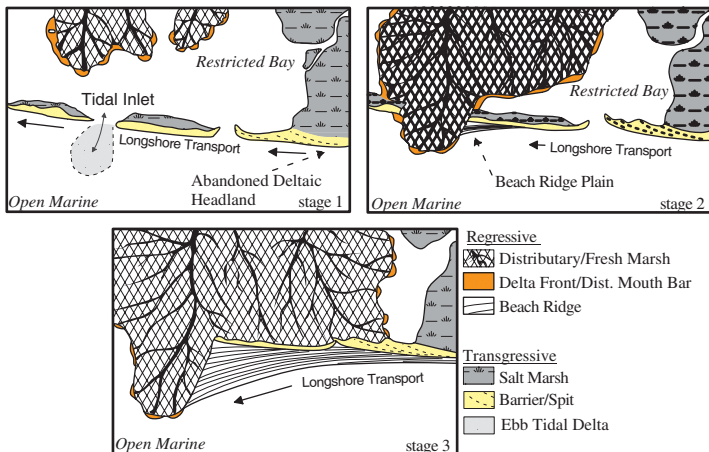
- 1) The role of interior marsh loss on tidal prisms, shoreline change, and tidal inlet evolution along the central Louisiana shoreline,
- 2) The influence of compactible sediments on land subsidence and resultant coastal habitat changes through time,
- 3) The Holocene stratigraphy and evolution of the coastal zone,
- 4) The role of forcing factors, such as hurricanes and relative sea-level rise on the Louisiana barrier island systems.



UNO students acquiring vibracores in Timbalier Bay, Louisiana from the R/V Mudlump and Greenhead. Cores were used to map the distribution of subsurface paleo shorelines that contain sandy strata suitable for coastal renourishment projects.

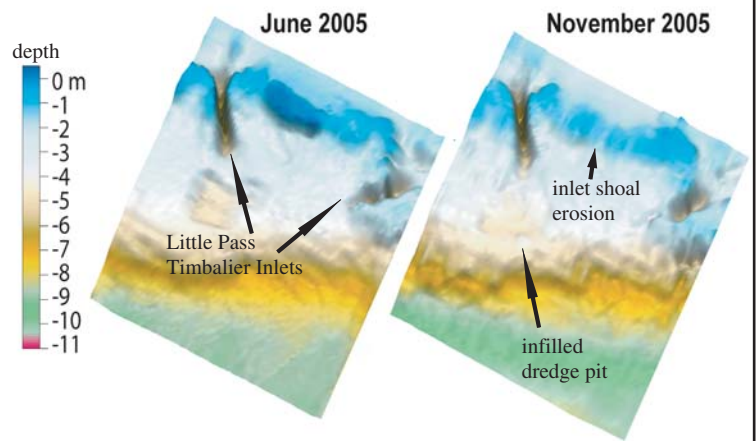


Isopach map of the topstratum lithosome. The topstratum represents a Holocene sedimentary package that was deposited in fluvial, deltaic, and marine environments (from Kulp et al., 2002).

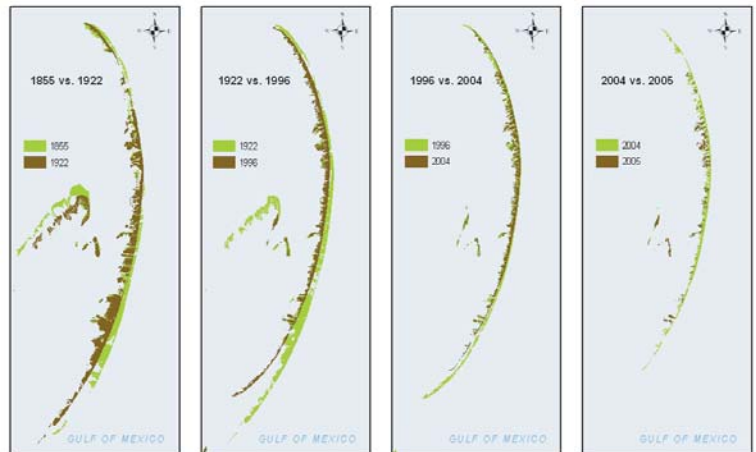


Conceptual geomorphologic model for the development of regressive deltaic headland stratigraphy along some deltaic headlands of the south-central Louisiana shoreline. (from Kulp et al., 2006).

Impact of 2005 Hurricanes at Little Pass Timbalier Tidal Inlet



Digital elevation models for Little Pass Timbalier showing the change in the inlet morphology and inlet shoal system as a result of the 2005 hurricanes (Miner et al., 2006).



Land change analysis for the Chandeleur Islands between 1855 and 2006 (from Penland et al., 2006). Note the dramatic reduction in land area because of the 2005 hurricanes.