

Supplementary material to “Coastal Impact Underestimated From Rapid Sea Level Rise”

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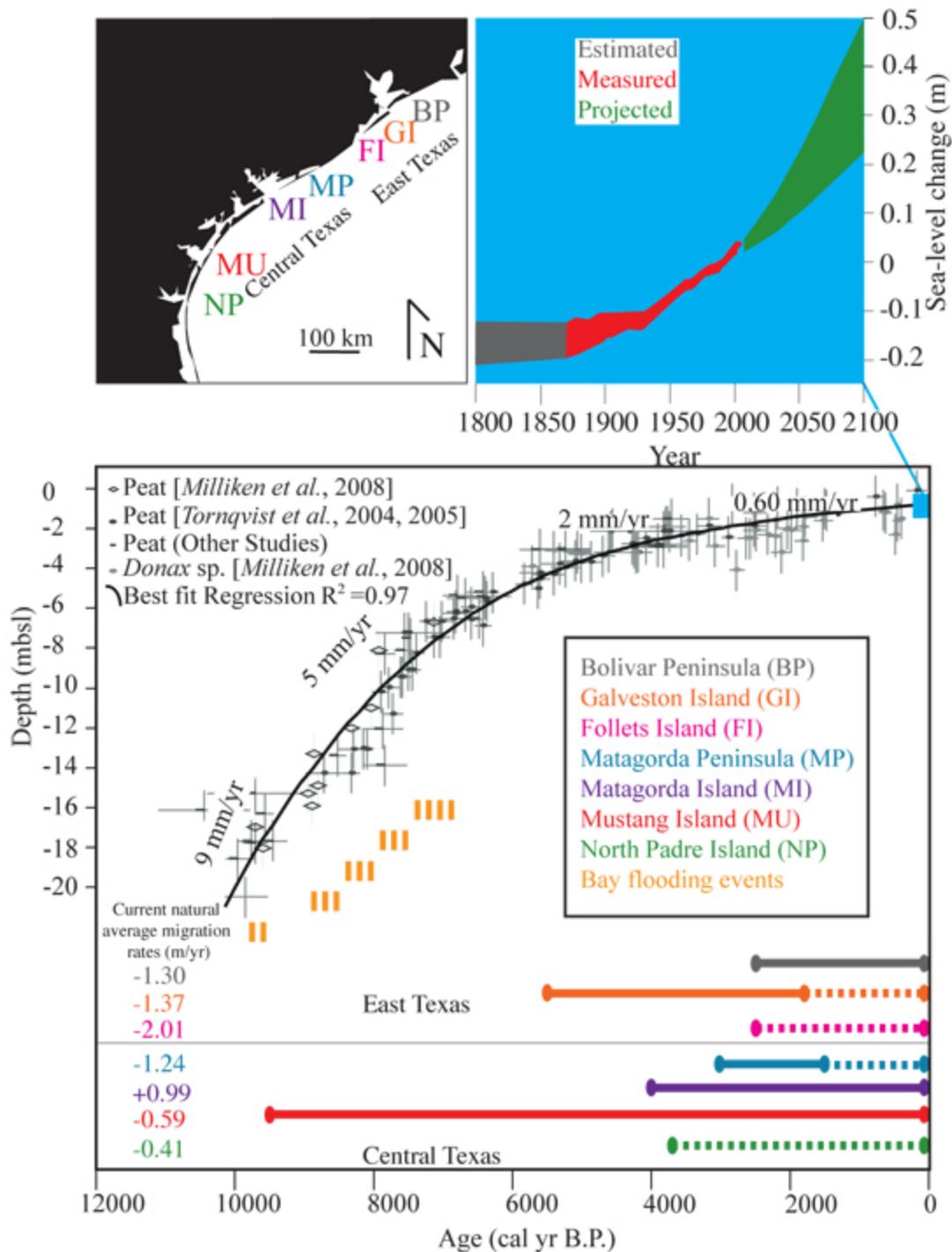


Fig. S1. Coastal evolution in western Louisiana and Texas relative to sea level rise. The location of barrier islands is depicted in the upper left inset map. The composite sea level curve for the northwestern Gulf of Mexico, based on radiocarbon dates from peat samples taken at different depths (denoted by meters below sea level (mbsl)), is from *Milliken et al.* [2008]. Error bars are noted. Historic sea level records (1800 to present) and projected future ranges are also shown in the upper right inset (adapted from *Bindoff et al.* [2007]; note important exceptions to this from

Rahmstorf [2007] and *Pfeffer et al.* [2008], which are not shown). The dashed orange vertical lines represent periods of rapid flooding of Texas and Louisiana bays that are believed to have been caused by short-lived rapid sea level rises, perhaps a few decimeters in magnitude. Colored horizontal bars denote previously established coastal barrier island histories, with dashed lines representing retreat and solid lines representing stability. Note Mustang Island's long history of stability, in contrast to barrier islands of the upper Texas coast that formed after sea level rise rates slowed to 2 millimeters per year or less. Ages are in calibrated years before present (cal yr B.P.). Current rates of shoreline migration (from Texas Bureau of Economic Geology) are shown to the right of each barrier island.