

## BAR MORPHOLOGY AND RELATIONSHIP TO SHORELINE CHANGE ON A RENOURISHED BEACH: HARRISON COUNTY, MISSISSIPPI

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A long-term pattern of erosion, especially in specific and discontinuous areas, along the wholly renourished beach in Harrison County, Mississippi, prompts the need to periodically renourish the entire beach. These 'Hot Spots' along with a varying pattern of shoreline change have been documented; however, a definitive cause is elusive. Variables such as shoreline orientation, culvert locations, harbor structures, and profile morphology have all received attention. While bar morphology on the Harrison County beach has been studied, it has not been compared to shoreline change patterns. In the present research, bar morphology has been categorized using four basic morphologies as both primary and secondary patterns. In addition, the offshore distances of the nearshore bars and shoreline structures were mapped. Bar morphology categories were classified at 50 m intervals and then compared to shoreline change patterns from 1993 to 2000. Initial results from the western portion of the study area suggest highly eroding areas are associated with wide nearshore bar zones and a dominance of widely spaced transverse bars (bars oriented at high angles to the shoreline) that together may indicate higher offshore sediment transport. Structures, both large (harbors) and small (culverts) have localized effects on bar type; the highest levels of erosion are associated with these structures and/or the bar morphology that they create.