

# SEASONAL ANALYSIS OF BEACH SEDIMENTATION ON THE SOUTH TEXAS COAST

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## ABSTRACT

Systematic profiling and sampling of eleven beach sites along more than 100 miles of Mustang and Padre Islands shows seasonal as well as geographic trends. On the basis of sediment characteristics and beach morphology, three geographic areas can be delineated; the northern, convergence, and southern provinces. Mean grain size and sorting values in both the northern and southern provinces show little seasonal variation, whereas the convergence province displays great temporal variation. Skewness shows a wide temporal variation throughout the entire study area.

Beach morphology also varies throughout the area. The northern and southern provinces have rather flat profiles without a pronounced berm and with a gently sloping foreshore. The convergence province contains beaches with a steep foreshore, pronounced berm, and a landward sloping backshore. Although there is a general tendency for each beach to retain its own general morphology, there are seasonal modifications and geographic variations. Changes in beach morphology, as shown by monthly surveys, indicate that the eleven sites tend to respond as a single group or that the changes may be associated with one of the three provinces. There is a general tendency for beach morphology to conform to seasonal energy levels. The sites were each surveyed considerably after the termination of the systematic study and the profiles were remarkably similar to those surveyed in the same month two years previously.

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