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The coast evolution and regulation in Wanquan River Estuary, Hainan Island

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In this paper, sediment samples were collected along the Wanquan beaches and sieved in the laboratory in order to obtain the grain size distributions and associated parameters, i. e. mean grain size, sorting coefficient and skewness. Furthermore, we have calculated the longshore drift sediment transport rates and equilibrium cross-sectional areas of the entrance channel by using the method of sedimentary dynamics. The results indicate that the longshore drift sediment transport is dominated by waves with a direction from south to north, which result in rapid changes of the entrance channel. Therefore, some suggestions were proposed for improving the water quality and restoring the ecosystem of estuary. The engineering method includes increasing the sea-route of entrance channel, tidal prism and water exchanges in Shamei Lagoon.

Paper (PDF)

关键词: tidal inlet; geomorphic evolution; environment engineering; Wanquan River Estuary doi: 10.1360/gso40314