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COASTAL MORPHOLOGICAL DYNAMICS OF NAYACHARA ISLAND USING GEOINFORMATICS

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ABSTRACT

Nayachara, a small island of unconsolidated alluvium, located at the confluence of the Hugly River and the Haldi River at the northern extent of the Bay of Bengal. The island is characterized by complex coastal geomorphological processes along with tidal and cyclonic activities. The present study has analyzed the recent morphological changes of Nayachara Island due to erosion and accretion using a series of multi-temporal satellite images namely IRS 1C 28/11/99, IRS 1C 27/03/2000, IRS 1D 19/02/2001, IRS P6 20/11/2005 and IRS P6 28/02/2008. The entire analytical research work has been performed under a sophisticated remote sensing and GIS environment to achieve higher accuracy in computation. The final output reveals that in very recent years, high rate of erosional activities taking place over the study area. Frequent tides with severe cyclones and soil erosion due to large scale deforestation are strongly responsible for the entire land loss in recent years.

KEYWORDS: Alluvium, Geomorphology, GIS, Multi-Temporal, Remote Sensing

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