

The Geospatial Technology Research Focus on Morphological Changes in the Nintavur Coastal Area

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ABSTRACT

This research examines the geomorphological transformations occurring along the Nintavur coastal area, with a particular focus on coastal erosion driven by both natural processes and human activities. Leveraging advanced geographical technologies, the study aims to document and analyse the extent and nature of shoreline changes over recent decades. The investigation employs a combination of primary data, gathered through structured questionnaires, direct field observations, and interviews, and secondary sources, including previous studies and satellite imagery from 1991, 2001, 2011, and 2021. Using ArcGIS 10.9 and the Digital Shoreline Analysis System (DSAS), the research quantifies shoreline dynamics and assesses the progression of coastal erosion. The study also evaluates associated impacts such as groundwater degradation. By integrating multiple data sources and analytical techniques, this work seeks to clarify the principal factors driving coastal erosion in Nintavur, assess recent trends, and highlight the resulting environmental damages. The findings provide a comprehensive overview of the challenges faced by the region and underscore the value of geospatial technologies in coastal management.

Keywords: coastal erosion, geographical technology, morphological changes