

INTEGRATED WITH GEOSPATIAL TECHNIQUES TO ANALYSIS OF MORPHOLOGICAL CHANGES IN SOUTHERN COASTAL AREA OF SRI LANKA.

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Morphological Changes are the changes in the Shape and form of land features over time. Thalalla Bay Beach in the southern coastal area occupies a special place here because it has an untouched and clean coastal area. It has a specific coastal ecosystem and landform such as the protected cove in the shape of a crescent which is about 2km long and flanked by palm trees. The objective of this study is to map and calculate the morphological changes in the Thalalla Bay Beach area. These changes were mapped and integrated with GIS environment based on Google Earth satellite images in 2005, 2015, and the 2023 respectively. Hence, used the geographically digitizing method comparing Google Images from each year and using a field survey. During the last 15 years, this area has changed over time with the formation of new morphological patterns such as dramatically narrowing the estuary and increasing the number of settlements with the increasing tourism. Furthermore, it can be identified that the river gradually widened by 2005, 2015, and 2023. As a result, the size of the beach has increased over time. The result revealed 3.98 ha in 2005 and 8.44 ha in 2023. This is due to the narrowing of the river and the deposition of sediments on the shoreline. The morphological features have changed with the effect of both natural and human factors. The result of the present study can be used for environmental-based institutes to develop sustainable environmental plans and reduce the negative impact caused by land erosion.

Keywords: Coastal, Erosion, Geospatial techniques, Morphological changes, Thalalla Bay beach.

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