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AUGUST 2023

COASTAL EROSION CATEGORIZATION THROUGH GEOSPATIAL  
ANALYSIS ALONG KUALA NERUS TO MARANG SHORELINES,  
TERENGGANU

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COLLEGE OF BUILT ENVIRONMENT  
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PERLIS

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**Thesis submitted to the Universiti Teknologi MARA Malaysia  
in partial fulfilment for the award of the degree of the  
Bachelor of Surveying Science and Geomatics (Honours)**

**AUGUST 2023**

## AUTHOR'S DECLARATION

I declare that the work on this project/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA (UiTM). This project/dissertation is original and it is the result of my work, unless otherwise indicated or acknowledged as referenced work.

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## ABSTRACT

Coastal dynamics in Southeast Asia are controlled by a unique equilibrium between the northeast and southwest monsoons. In the context of sea-level rise and climate change, monsoon regimes have an impact on coastal dynamics. This condition results in erosion along the coastline. This research was intended to determine the rate of erosion and accretion along the Kuala Nerus to Marang shoreline during the seasonal monsoon. The objectives of this research are to extract shoreline erosion and accretion information by using satellite imagery and to determine the category of shoreline erosion along the Kuala Nerus to Marang shoreline according to the Department of Irrigation and Drainage (DID). This research focus on three (3) categorization of erosion based on the Malaysia National Coastal Erosion (NCES) 2015 by the total rating in category 1(Critical), 2 (Significant) or 3 (Acceptable). The outcomes of this study produced the erosion and accretion rate along Kuala Nerus to Marang shoreline by using digitizing method of two (2) years image which is in 2019 and 2021. The highest erosion rate is 38.2m at MU 3 and the lowest erosion rate is 0.5m at MU 1 meanwhile, the highest accretion rate is 23.8m at MU 1 and the lowest accretion is MU 3. Furthermore, categorization of erosion along Kuala Nerus to Marang shoreline are based on two parameter which is physical parameter and economic parameter. This study also provides three (3) management units in order to know more precise on which area occur most of erosion. Kuala Nerus and Marang coastal area frequently occur erosion since exposed with the northeast monsoon. This study provided information on erosion in an effort to inform the government or various organisations involved in the coastal study and try to address the issue before it worsens.

**Keywords:** Coastal, Erosion, Accretion, Category, Sentinel-2A, Malaysia National Coastal Erosion (NCES) 2015.

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