

UNIVERSITI TEKNOLOGI MARA

**COASTAL VULNERABILITY
ASSESSMENT FOR SELANGOR
COASTAL, WEST COAST OF
MALAYSIA USING GEOSPATIAL
TECHNIQUES**

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of the requirements for the degree of
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AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Postgraduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

The coast of peninsular Malaysia has a length of about 4,809 km. It shows that Malaysia have rich biodiversity and coastal resources. Therefore, the gift of natural wealth needs to be well preserved in order to last for generations to come. This paper aims to study the level of erosion and stagnation of the Selangor coast at the same time with the aim of assessing changes in coastal patterns and then explain the important erosion level factors in the study area. GIS technology and remote sensing have good accuracy rates with analysis and predictions that can be made to investigate this study. In this paper, both manual methods and coastal extraction processing have been investigated using multi-spectrum satellite imaging. The CVI consists of six variables, i.e. coastal geomorphology, coastal slope, rate of erosion and accretion, mean wave height, mean tidal range and sea level rise. Vulnerability levels for 8 management units along the Selangor coast are categorized into five vulnerabilities: very low, low, moderate, high and very high, based on the ratings of the above-mentioned mentis. The final results are a model to understand the level of change whether erosion or accretion in coastal research areas and the level of coastal vulnerability index for each management unit.

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