

MULTI-CRITERIA EVALUATION APPROACH TO COASTAL
VULNERABILITY INDEX DEVELOPMENT AT PORT KLANG,
SELANGOR AREAS USING ANALYTIC HIERARCHY PROCESS
(AHP).

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COLLEGE OF BUILT ENVIRONMENT
UNIVERSITI TEKNOLOGI MARA MALAYSIA

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AUTHOR'S DECLARATION

I declare that the work in this thesis 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 Under - Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Climate change is without a doubt the most pressing issue that the general population is facing right now. According to research, there has been a rise in temperature and a shift in rainfall patterns, particularly in Malaysia. Climate change's consequences and scope are expanding. These kinds of changes have far-reaching consequences, especially for individuals living along the shore. It is critical for direct assessments to collect data on this subject since the general public's knowledge and attitude on climate change may impact the final result of adaptation and mitigation options. The aim of this study is to create a coastal vulnerability index using analytical hierarchy process for analyzing the coastal vulnerability in Port Klang, Selangor. The research may be separated into three distinct phases: preliminary investigation, data gathering, and data analysis. The final CVI map was created to assess the risk of the Port Klang coastline. There are 6 parameters used to develop the CVI namely, rate of erosion and accretion, geology, coastal slope, geomorphology, topography(elevation), and mean tidal range. According to the research, there are 5 different degrees of vulnerability along the coast: very low, low, moderate, high, and very high. The outcome of this research is a coastal vulnerability index (CVI) map that will be used to show the vulnerable area at Port Klang, Selangor by its degree of vulnerability. The results show that the parameter that has the greatest impact on coastal vulnerability is topography, with a likelihood of 31.5% to cause coastal erosion, while the parameter that has the least impact is mean tidal range, with a likelihood percentage of 3.8%. These results may be useful to other researchers attempting to protect Malaysia's shoreline and increase socioeconomic resilience to the effects of climate change. Although the topography shows to be affecting the vulnerability of Port Klang the most, but the value of cvi at Port Klang shoreline still very low.

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