

TEMPORAL BEACH ALTERATIONS ALONG THE COAST OF  
SEBERANG TAKIR TO KUALA IBAI THROUGH THE  
DEVELOPMENT ACTIVITIES

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TAKIR TO KUALA IBAI THROUGH THE DEVELOPMENT ACTIVITIES**

**By**

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**Research Report submitted in partial fulfillment of  
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**DEPARTMENT OF MARINE SCIENCE  
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE  
UNIVERSITI MALAYSIA TERENGGANU**

**DECLARATION AND VERIFICATION REPORT  
FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled:

**Temporal Beach Alteration Along the Coast of Seberang Takir to Kuala Ibai Through the Development Activities by Siti Norjannah binti Johari, Matric No. UK 16015** have been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfillment toward obtaining the **Degree of Science (Marine Science)**, Faculty of Maritime Studies and Marine Science, University Malaysia Terengganu.

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## LIST OF ABBREVIATIONS

### Abbreviations

%	-	percentage
$\Phi$	-	Phi
°	-	Degree
'	-	minutes
g	-	gram
km	-	kilometer
m	-	meter
mm	-	millimeter
$\mu\text{m}$	-	micrometer
$\text{ms}^{-1}$	-	meter per second
HT	-	High Tide
MT	-	Mid Tide
LT	-	Low Tide
N	-	North
NSD	-	Net Shore Drift
GPS	-	Global Positioning System

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## ABSTRACT

A study on coastal processes that is based on the predominant events occurring erosion and deposition. The objective of this study is to know the processes that occur before and during the Northeast Monsoon and the impact to coastlines from Seberang Takir to Kuala Ibai. The changes of the beach profile have been surveyed and sediment samples were collected at different time. During Northeast Monsoon, the coastline was influenced by strong waves and currents. Based on beach profile analysis, four out of seven stations experienced erosion during the monsoon season. However, based on the sediment characteristics, only 3 stations experienced decreasing of mean size value which are station 4, 5 and 6. Decreasing of mean value indicates an excess of coarser particles. Sorting of sediments during the monsoon indicates that four stations experienced increasing value of sorting. Increasing value of sorting indicates that sediments in station 3, 5, 6 and 7 are moderately and poorly sorted due to the high wave energy during monsoon season. The changes of beach profile depends on tides, winds and waves that influenced the sediment transportation on beach. The relationship between the particle size and beach slope also depends on these factors.

## ABSTRAK

Kajian mengenai proses pantai iaitu berdasarkan banyak berlakunya hakisan dan timbunan. Tujuan kajian ini adalah untuk mengetahui proses yang berlaku ketika sebelum dan selepas Monsun Timur Laut iaitu impaknya kepada pesisiran pantai bermula dari Pantai Seberang Takir sehingga Pantai Kuala Ibai. Perubahan terhadap profil pantai telah dikaji dan sampel telah diambil pada masa yang berlainan ketika Monsun Timur Laut. Pesisiran pantai dipengaruhi oleh ombak dan arus yang kuat. Berdasarkan analisis profil pantai, 4 dari 7 stesen mengalami hakisan ketika musim monsun. Walaubagaimanapun, berdasarkan ciri-ciri sedimen, hanya 3 stesen mengalami penurunan nilai min iaitu stesen 4, 5 dan 6. Penurunan nilai min menunjukkan saiz pasir semakin kasar. Nilai sisihan sedimen ketika monsun menunjukkan 4 stesen mengalami peningkatan nilai sisihan. Peningkatan nilai sisihan menunjukkan sedimen di stesen 3, 5, 6 dan 7 adalah tersusun secara sederhana dan tidak sempurna berdasarkan tenaga ombak yang tinggi ketika monsun. Perubahan profil pantai bergantung kepada pasang surut, angin, ombak dan pengangkutan sedimen dari pantai. Perkaitan antara saiz partikel dan kecerunan pantai juga bergantung kepada angin, ombak dan pasang surut air laut.