

A STUDY OF TEMPORAL VARIATION OF BEACH FACE  
MORPHOLOGY ALONG MARANG TO  
PULAU KERENGGGA BEACH

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**A STUDY OF TEMPORAL VARIATION OF BEACH FACE MORPHOLOGY  
ALONG MARANG TO PULAU KERENGGGA BEACH**

**By**

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**Research Report submitted in partial fulfillment of  
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**DEPARTMENT OF MARINE SCIENCE  
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**DECLARATION AND VERIFICATION REPORT**

**RESEARCH PROJECT I AND II**

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

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ALONG MARANG TO PULAU KERENGGGA by SITI AFZAN ANI BT MOSLIM,  
Matric No. UK16016 have been examined and all errors identified have been  
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## LIST OF ABBREVIATIONS

g	-	Gram
km	-	kilometer
km/h	-	kilometer per hour
m	-	meter
mm	-	millimeter
ms <sup>-1</sup>	-	meter per second
μm	-	micrometer
NSD	-	Net Shore Drift

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Beach profiling by an observer sighting the horizon from a fixed point.	

## ABSTRACT

Study of Temporal Variation of Beach Face Morphology was conducted along Marang beach to Pulau Kerengga beach, Terengganu. The study was carried out in order to determine the temporal variation of beach face morphology before and during monsoon period and also the changes of the beach slope. The direction of Net Shore Drift (NSD) from Station 1 to Station 8 was also revealed based on the characteristic of sediment and beach profiles. Sediment samplings were carried out at stations with the distance interval of 1 km to 1.5 km except for Station 6 to station 8. Each station was divided into 3 major littoral zones namely High tide, Middle tide and Low tide. Transit Sokkia C410 was used to measure the beach profile properties. Meanwhile, method of moments was employed to calculate the sedimentological characteristic. Based on beach profile analysis, all of eight sampling area was experience erosion during November 2009 and December 2009. Overall, the degree of the slopes was ranged between  $4.01^\circ$  to  $53.7^\circ$ . Value of slope degree of the beach face always changes influence by factors such as strong winds, heavy rain and high the value of tides. The beach face morphology can changes varied depend on environmental forces and seasons.

# **KAJIAN TENTANG PERBEZAAN MORFOLOGI PERMUKAAN PANTAI DALAM SATU JANGKA MASA DI SEPANJANG PANTAI MARANG KE PANTAI PULAU KERENGGGA**

## **ABSTRAK**

Satu kajian perbezaan morfologi permukaan pantai telah dibuat di sepanjang pantai Marang sehingga ke pantai Pulau Kerengga, Terengganu berdasarkan tempoh masa. Kajian ini juga dibuat bagi menentukan perubahan terhadap kecerunan pantai di kawasan kajian. Sementara penentuan arah pergerakan endapan (NSD) telah menunjukkan arah gerakan endapan adalah dari stesen 1 ke stesen 8 dan ditentukan dengan berpandukan kepada ciri- ciri sedimen dan profil pantai. Penyampelan dan pengukuran pantai telah dibuat dengan purata jarak antara stesen ialah antara 1 km kepada 1.5 km daripada setiap stesen kecuali bagi stesen 6 sehingga stesen 8. Bagi setiap stesen merangkumi kawasan zon litoral iaitu pasang surut tertinggi, pasang surut pertengahan dan pasang surut terendah. Penggunaan alat seperti Transit Sokkia C410 telah digunakan untuk mengukur ciri –ciri profil pantai tersebut. Manakala kaedah momen pula digunakan untuk mengukur ciri- ciri parameter sedimentologi. Berdasarkan analisis profil pantai didapati bahawa kelapan- lapan stesen mengalami hakisan semasa bulan November 2009 dan Disember 2009. Bagi darjah kecerunan setiap stesen mempunyai julat antara  $4.01^{\circ}$  to  $53.7^{\circ}$ . Ini disebabkan kebanyakan kecerunan permukaan pantai mengalami perubahan dengan dipengaruhi oleh faktor –faktor seperti angin yang kuat, hujan lebat dan ketinggian air pasang yang tinggi .Oleh itu morfologi permukaan pantai akan mengalami banyak perubahan bergantung kepada musim dan penggunaan pantai keatasnya.