# STUDY ON BEACH CHANGES ACCORDING TO BEACH CYCLE AND SEDIMENT CHARACTERISTIC AT SETIU BEACH

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# STUDY ON BEACH CHANGES ACCORDING TO BEACH CYCLE AND SEDIMENT CHARACTERISTIC AT SETIU BEACH

By

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**Department of Marine Science**
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**UNIVERSITY MALAYSIA TERENGGANU**
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**JABATAN SAINS MARIN**
**FAKULTI PENGAJIAN MARITIM DAN SAINS MARIN**

**PENGAKUAN DAN PENGESAHAN LAPORAN**
**PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk **Study on Beach Changes According to Beach Cycle and Sediment Characteristic at Setiu Beach** oleh **Mohd Khuzaimee bin Ideris**, No.Matrik **UK12357** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Marin sebagai memenuhi sebahagian daripada keperluan memperolehi **Ijazah Sarjana Muda Sains (Sains Samudera)**, Fakulti Pengajian Maritim dan Sains Marin, Universiti Malaysia Terengganu.

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Mohd Khuzaimee bin Ideris (UK12357)

## ABSTRACT

This study on changes of beach profile, sediment characteristics and determination of Net Shore Drift (NSD) was conducted at Setiu Beach, Terengganu in six month started on August 2007 until February 2008. This study was carried out in order to determine the variation of changes coastal profile and sediment characteristic along the coast before monsoon, during monsoon and also after North East period. Movement of NSD along the coastline was also determined based on the coastal profile and characteristics of sediment studied. This study consists of eight stations with distance in between 500 meter to 600 meter. Sampling was conducted three times which in August 2007, November 2007 and February 2008. Geomorphology sampling data was carried out from the berm area until the low tide (LT) area and the sedimentology sampling was done from the high tide (HT), mid tide (MT) and low tide area of the beach. Dry Sieving Method (Buchanan, 1984) was used in analysis sediment. According to resulted, coastal profile were continuously changes with time in each of station. Moderately coarse grain, moderately sorted, negatively skewed and very platykurtic were dominating most of study area. Movement of net shore drift in station 8 to station 5 and from station 3 to station 5 was moved from downdrift area to updift area. Meanwhile from station 3 to station 1, the movement of net shore drift was moved from updrift area to downdrift area. With this entire indicator, it showed that there was physical force which play important role in determining NSD at the study locations.

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# ABSTRAK

Kajian perubahan profil pantai, ciri-ciri sedimen dan juga penentuan arah Net Shore Drift (NSD) ini telah dijalankan di Pantai Setiu, Terengganu selama 6 bulan bermula pada bulan Ogos 2007 sehingga Februari 2008. Kajian ini dijalankan bertujuan untuk mengetahui perbezaan profil pantai dan ciri-ciri sedimen yang terdapat di sepanjang pantai sebelum, semasa dan selepas musim monsun Timur Laut. Selain itu, arah pergerakan NSD disepanjang pantai Setiu ini juga cuba dikenalpasti berpandukan kepada profil-profil pantai dan ciri-ciri sedimen yg diperolehi. Dalam kajian ini, sebanyak lapan stesen telah diambil dimana jarak bagi setiap stesen adalah diantara 500 meter hingga 600 meter. Penyampelan telah dijalankan sebanyak tiga kali iaitu pada Ogos 2007, November 2007 dan Februari 2008. Penyampelan geomorfologi merangkumi kawasan gumuk pasir sehingga kawasan pasang rendah pantai. Bagi tujuan penyampelan sedimentologi, ia dilakukan dari kawasan pasang tinggi, pasang pertengahan dan juga pasang terendah pantai dan Kaedah Ayak Kering (Buchanan, 1984) telah digunakan dalam analisis ciri-ciri sedimen bagi setiap stesen. Sepanjang tempoh kajian, perubahan profil pantai yang berlaku di setiap stesen sentiasa berubah mengikut masa. Dalam kajian ini juga didapati bahawa pasir sederhana kasar, sisihan hampir sempurna, kepencongan negatif dan kurtosis leptokurtik dan paling leptokurtik telah mendominasi kawasan kajian. Arah hanyutan pantai bersih bergerak yang bergerak mendekati muara adalah dari stesen 8 ke stesen 5 dan dari stesen 3 ke stesen 5. Arah hanyutan pantai bersih yang bergerak menjauhi muara adalah dari stesen 3 ke stesen 1. Ini menunjukkan terdapatnya daya luar yang berperanan dalam membentuk arah NSD di setiap lokasi kajian.