

STUDY ON SEDIMENT CHARACTERISTICS AND BEACH PROFILE CHANGES
AROUND KUALA TERENGGANU BEACH

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**STUDY ON SEDIMENT CHARACTERISTICS AND BEACH PROFILE CHANGES
AROUND KUALA TERENGGANU BEACH**

By

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PROJEK PENYELIDIKAN I DAN II**

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LIST OF ABBREVIATIONS

Abbreviation

g	-	gram
km	-	kilometer
km/h	-	kilometer per hour
m	-	meter
mm	-	millimeter
m/s	-	meter per second
μm	-	micrometer
NSD	-	Net Shore Drift

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ABSTRACT

Study on beach profile changes and sediment characteristics was conducted along Tok Jembal to Kuala Ibai beach, Kuala Terengganu. The study was carried out in order to determine the differences of beach profile and sediment characteristics before and during monsoon period. The direction of Net Shore Drift (NSD) was also revealed based on the characteristics of sediment and beach profiles. Sampling was done in eight stations with an interval of distance ranging from 1.5 km to 2 km. Transit Sokkia C410 was used to measure beach profile properties. Meanwhile, method of moments was employed to calculate the sedimentological parameters. Based on the beach profile analysis, five out of eight stations undergone erosion during the monsoon period in November. Also, during the monsoon period, five stations had their beach gradient increased. However, based on the sediment characteristics, only four stations experienced decreasing mean value, which is station 2, 4, 5, and 7. Decreasing mean value indicates that the grain size in that particular area is getting coarser. Sorting of sediments during the monsoon indicates that only three stations experienced increasing value of sorting. Increasing value of sorting indicates that sediments in station 2, 6, and 7 are moderately and poorly sorted, due to the high wave's energy during the monsoon season. Overall, based on beach's width and slope, the sediments in the study area are being transported from station 8 (Kuala Ibai) to station 1 (Tok Jembal).

ABSTRAK

Kajian mengenai profil pantai dan ciri-ciri sedimen telah dijalankan di pantai Tok Jembal sehingga pantai Kuala Ibai, Kuala Terengganu. Kajian ini telah dijalankan untuk menentukan perbezaan profil pantai dan ciri-ciri sedimen sebelum dan semasa musim monsun. Arah Hanyutan Pantai (NSD) telah dapat ditentukan dengan menilai ciri-ciri sedimen dan profil pantai. Proses penyampelan telah dijalankan di lapan stesen yang mempunyai jarak antara 1.5 km sehingga 2 km setiap satu. Transit Sokkia C410 digunakan untuk mengukur profil pantai, manakala kaedah momen digunakan untuk mengukur parameter sedimentologi. Berdasarkan analisis profil pantai, didapati bahawa lima stesen telah mengalami proses hakisan semasa musim monsun. Semasa musim monsoon juga, kecerunan pantai lima buah stesen telah mengalami peningkatan. Bagaimanapun, berdasarkan ciri-ciri sedimen, hanya sedimen di empat stesen telah mengalami penurunan nilai min, iaitu stesen 2, 4, 5, dan 7. Penurunan nilai min menunjukkan bahawa saiz partikel di kawasan tersebut telah menjadi semakin kasar. Nilai sisihan sedimen semasa monsun menunjukkan hanya tiga stesen mengalami kenaikan sisihan. Nilai sisihan yang meningkat menunjukkan bahawa sedimen di stesen 2, 6, dan 7 adalah tersusun secara sederhana dan tidak sempurna, disebabkan oleh tenaga ombak yang tinggi semasa musim monsun. Secara keseluruhannya, berdasarkan kelebaran dan kecerunan pantai, partikel di kawasan kajian telah diangkut dari stesen 8 (Kuala Ibai) ke stesen 1 (Tok Jembal).