

METEOROLOGICAL INFLUENCES ON PHYSICAL
CHARACTERISTICS OF KUALA TERENGGANU COAST

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**Meteorological Influences on Physical Characteristics of Kuala
Terengganu Coast**

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**Research Report Submitted in Partial Fulfillment of
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DECLARATION AND VERIFICATION REPORT
FINAL YEAR RESEARCH PROJECT

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

Meteorological Influences on Physical Characteristics of Kuala Terengganu Coast by Mohamad Azlan Bin Abdul Rahman Matric No. **UK 17859** have been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfillment towards obtaining the Degree **Bachelor of Science (Marine Science)**, Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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ABBREVIATIONS

| | |
|-----|--------------------------------|
| °C | degree Celcius |
| M | meter |
| Mg | Milligram |
| mm | millimeter |
| m/s | meter per second |
| ppt | part per thousand (‰) |
| DO | dissolved oxygen |
| NE | Northeast |
| SW | Southwest |
| SCS | South China Sea |
| UMT | Universiti Malaysia Terengganu |

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ABSTRACT

This study was completed to determine the meteorological influences on the physical characteristics of Kuala Terengganu coast. The samplings were conducted on March, April, July, and October 2010. These months were selected to study the influences of monsoons transitional period; Northeast monsoon and Southwest monsoon. The data was collected by using Valeport 308 current meter and Hydrolab datasonde, and analyzed by using MATLAB software. This study also uses the rainfall and wind speed data from Malaysia Meteorological Department to analyze the meteorological influences on the physical characteristics of seawater. From the result obtained, the rainfall and mean wind speed are highly influence the physical characteristics of seawater temperature and salinity. Besides, the monsoon transitional period also influence the physical characteristics of seawater. Transitional period is between March to July. It is between Northeast monsoon and Southwest monsoon. The temperature was highest on July, while the salinity was higher in March 2010. The seawater temperature range in July was in between 30.4 °C to 31.8 °C with consistent salinity at approximately 32.5 ppt. The surface seawater salinity in April was in range between 32.2ppt to 32.7ppt, which the salinity at the inshore of transect 3 was very lower; 32.2ppt, compared to the other transects.

ABSTRAK

Penyelidikan ini selesai untuk menentukan pengaruh meteorologi pada ciri-ciri fizikal pantai Kuala Terengganu. Pengambilan sampel air dilakukan pada bulan Mac, April, Julai dan Oktober 2010. Bulan ini dipilih kerana untuk menganalisis pengaruh tempoh peralihan monsoon Timur laut dan monsoon Barat daya. Data ini diperolehi dengan menggunakan Valeport 308 current meter dan Hydrolab Datasonde. Setelah data diperolehi, ia akan diproses dan dianalisa dengan menggunakan perisian MATLAB. Penyelidikan ini juga memerlukan data taburan hujan dan kelajuan angin dari Jabatan Meteorologi Malaysia untuk menentukan pengaruh meteorology terhadap ciri-ciri fizikal air laut. Dari keputusan yang diperolehi, taburan and kelajuan angin sangat mempengaruhi ciri-ciri fizikal seperti suhu dan salinity air laut. Selain itu, tempoh musim peralihan juga mempengaruhi ciri fizikal air laut. Tempoh peralihan ialah diantara bulan Mac dan Julai. Ini adalah peralihan antara monsun Timur Laut dan monsun Barat Daya. Suhu air laut tertinggi ialah pada bulan Julai, sementara saliniti pada Mac 2010 adalah lebih tinggi. Suhu air laut pada bulan Julai berada diantara 30.4°C ke 31.8°C dengan salinity yang konsisten pada 32.5ppt. Salinti permukaan air laut pada bulan April berada di antara 32.2ppt ke 32.7ppt, di mana saliti di perairan pantai transet 3 sangat rendah; 32.2ppt berbanding dengan transet lain.