

PHYSICAL CHARACTERISTICS OF REDANG ISLAND WATER

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FACULTY OF MARITIME STUDIES AND MARINE SCIENCES  
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**PHYSICAL CHARACTERISTICS OF REDANG ISLAND WATER**

**By**

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**Research Report submitted in partial fulfillment of  
the requirements for the degree of  
Bachelor of Science (Marine Science)**

**Department of Marine Science  
Faculty of Maritime Studies and Marine Science  
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# Final Research Project Report Declaration and Verification Form



**DEPARTMENT OF MARINE SCIENCE  
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE  
UNIVERSITI MALAYSIA TERENGGANU**

## DECLARATION AND VERIFICATION REPORT

### RESEARCH PROJECT I AND II

It is hereby declared and verified that this research report entitled:  
Physical characteristics of Redang Island water By Faizura Binti Md Fadzir,  
Matric No. UK 15486 have been examined and all errors identified have been corrected.  
This report is submitted to the Department of Marine Science as partial fulfillment  
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## LIST OF ABBREVIATIONS

DO	-	dissolved oxygen
mg/L	-	miligram per liter
m/s	-	meter per second
NE	-	north-east
SW	-	south-west
‰	-	part per thousand
°C	-	degree celcius

## ABSTRACT

The study of physical characteristics of Redang Island water was conducted at Redang Island, Terengganu, during end of March, 2009. The physical parameter of Redang Island, which are temperature, salinity, dissolved oxygen and current was collected from eight transects around Redang Island, where each transect consist of four stations. The temperature, salinity and dissolved oxygen data was measured by using YSI 6600 multiparameter while the current circulation data was measured by using Acoustic doppler current profiler. The graph of Depth vs temperature, Depth vs salinity, Temperature vs salinity and Depth vs dissolved oxygen and was plotted using Microsoft excel and the graph of current flow and current speed was plotted using Matlab software. The temperature and salinity distribution at Redang Island are consistent. The obvious thermocline and halocline layers occurred at transect 2. The DO concentration are constant at all stations. The results showed that the current at the transects which facing the Terengganu mainland flow eastward while at the opposite transect, the current flow westward. The current speed are higher at surface and slower at the middle water and surface water.

## CIRI – CIRI FIZIKAL PULAU REDANG

### ABSTRAK

Kajian mengenai ciri – ciri fizikal Pulau Redang telah dijalankan di Pulau Redang, Terengganu. Bacaan parameter fizikal seperti suhu, saliniti, oksigen terlarut dan aliran arus di ambil daripada lapan transect mengelilingi Pulau Redang, di mana setiap transect terdiri daripada empat stesen. Data suhu, saliniti dan oksigen terlarut diukur dengan menggunakan YSI 6600 multiparameter manakala data aliran arus diukur dengan menggunakan Acoustic doppler current profiler. Graf Kedalaman melawan Suhu, Kedalaman melawan Saliniti, Suhu melawan Saliniti, dan Kedalaman melawan Oksigen terlarut diplot dengan menggunakan perisian Microsoft Excel manakala graf pergerakan arus dan kelajuan arus diplot menggunakan perisian Matlab. Suhu dan saliniti di Pulau Redang adalah tetap. Lapisan thermocline dan halocline yang ketara dapat dilihat pada transect 2. Kepekatan oksigen terlarut adalah konsisten di semua stesen. Bagi transect yang menghadap daratan Terengganu, arah pergerakan arus adalah ke timur manakala di kawasan transect yang bertentangan pula, arah pergerakan arus adalah ke barat. Kelajuan arus paling tinggi di permukaan air, dan lebih perlahan di bahagian pertengahan air dan juga di bahagian dasar.