

DETERMINATION OF SEA SURFACE TEMPERATURE  
ALONG KUALA TERENGGANU COASTAL WATERS

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**DETERMINATION OF SEA SURFACE TEMPERATURE ALONG KUALA  
TERENGGANU COASTAL WATERS**

**By**

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**Research Report submitted in partial fulfillment of  
the requirements for the degree 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: Determination of sea Surface Temperature Along Kuala Terengganu Coastal Waters by Nurul Nadiah Binti Abu Hasan Matric No. UK15323 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 of Science (Marine Science), Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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## LIST OF ABBREVIATIONS

ATSR	Along Track Scanning Radiometers
AVHRR	Advanced Very High Resolution Radiometer
MODIS	Moderate Resolution Imaging Spectrometer
NOAA	National Oceanic and Atmospheric Administration
SST	sea surface temperature
$\mu\text{m}$	micrometer

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## **ABSTRACT**

A study to determine the sea surface temperature along Kuala Terengganu coastal waters has been carried out. In determining the value of SST along Kuala Terengganu, there are 2 ways of conducting this project; taken in-situ data and image satellite data (MODIS-Aqua and Terra). In-situ data which are taken by using Hydrolab datasonde and YSI multiprobe, is converted into Microsoft Excel and analyze. Image satellite data were processed by using ENVI 4.5 and ArcGIS software by using Level 2. The data is converted into excel and compare it with in-situ data. There are high regression between in-situ and satellite data which mean that there are correlation between satellite image data and in-situ data. Thus, the satellite image data of MODIS is accurate and can be use to determine the SST value along Kuala Terengganu coastal waters. The range of SST along Kuala Terengganu coastal waters is between 28.87<sup>0</sup>C and 31.6<sup>0</sup>C.

## **PENENTUAN SUHU PERMUKAAN AIR DI SEPANJANG PERAIRAN KUALA TERENGGANU**

### **ABSTRAK**

Kajian untuk menentukan suhu permukaan air di sepanjang perairan Kuala Terengganu telah dijalankan. Untuk menentukan suhu permukaan air tersebut, terdapat dua kaedah yang digunakan; in-situ dan data dari imej satelite( MODIS). In-situ data dikesan dengan menggunakan Hydrolab datasonde dan YSI multiprobe manakala imej dari satelite pula menggunakan imej yg dimuat turun dari laman web MODIS dan diproses dengan menggunakan perisian ENVI 4.5 dan ArcGIS. Data dari kedua-dua sumber kemudiannya dimasukkan ke dalam Microsoft Excel dan dianalisa. Data menunjukkan terdapat regresi yang tinggi di antara data in-situ dan data dari satelite. Ini menunjukkan yang terdapatnya korelasi di antara dua data tersebut. Kesimpulannya, data dari satelite MODIS boleh digunapakai dan datanya adalah tepat dalam menentukan suhu permukaan air di sepanjang perairan Kuala Terengganu.