

A STUDY OF THE PHYSICAL WATER PARAMETERS AT
KERTEH COASTAL AREA

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A Study of the Physical Parameters at Kerteh Coastal Area.

By

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Research Report submitted in partial fulfillment of
the requirement for the degree of
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**DEPARTMENT OF MARINE SCIENCE
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
UNIVERSITI MALAYSIA TERENGGANU**

DECLARATION AND VERIFICATION FORM

FINAL YEAR RESEARCH PROJECT

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

A Study of the Physical Water Parameters at Kerteh Coastal Area

by Ong Siang Ying, Matric No. Uk 20132 has 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 Bachelor of Science (Marine Science), Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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TABLE OF CONTENTS

CONTENT	PAGE
DECLARATION AND VERIFICATION REPORT	ii
ACKNOWLEDGEMENT	iii-iv
LIST OF FIGURES	ix- xiii
ABBREVIATIONS	xiv
LIST OF APPENDICES	xv
ABSTRACT	xvi
ABSTRAK	xvii
CHAPTER 1: INTRODUCTION	
1.1 Introduction	1-2
1.2 Important of Physical and Chemical Water Parameters	2
1.2 Problem Statement/Justification	3-4
1.3 Objectives	4
CHAPTER 2: LITERATURE REVIEW	
2.1 Local Setting	5-6
2.2 Coastal Area System	6-7
2.3 Estuary	8-10
2.4 The Moosoon	10-11
2.5 Water Parameters	
2.5.1 Temperature Distribution	12-13

2.5.2 Salinity Distribution	13-14
2.5.3 Dissolve Oxygen Distribution	15-16
2.5.4 pH Distribution	16
2.5.5 Conductivity	17
CHAPTER 3: METHODOLOGY	
3.1 Sampling Description	
3.1.1 Sampling Site	18-19
3.2 Data Obtained	19-21
3.2.1 Water parameters	22
3.3 Data Analysis	22
CHAPTER 4: RESULTS	
4.1 Temperature Distribution	
4.1.1 Temperature Profile of High Tide for June 2011	23-25
4.1.2 Temperature Profile of Low Tide for February 2012	26-28
4.1.3 Temperature Profile of High Tide for February 2012	28-30
4.2 Salinity Distribution	
4.2.1 Salinity Profile of High Tide for June 2011	31-33
4.2.2 Salinity Profile of Low Tide for February 2012	33-35
4.2.3 Salinity Profile of High Tide for February 2012	36-38
4.3 Dissolve Oxygen (DO) Distribution	
4.3.1 DO Profile of High Tide for June 2011	38-40
4.3.2 DO Profile of Low Tide for February 2012	41-42

4.3.3 DO Profile of High Tide for February 2012	43-45
4.4 pH Distribution	
4.4.1 pH Profile of High Tide for June 2011	45-47
4.4.2 pH Profile of Low Tide for February 2012.	48-49
4.4.3 pH Profile of High Tide for February 2012.	50-52
4.5 Surface Temperature, Salinity and Dissolved Oxygen (DO)	
4.5.1 Surface Temperature Distribution	53-54
4.5.2 Surface Salinity Distribution	55-56
4.5.2 Surface Dissolve Oxygen Distribution	57-58
CHAPTER 5: DISCUSSION	
5.1 Physical Characteristic	
5.1.1 Temperature Distribution	59-61
5.1.2 Comparison of Temperature Profile of June 2011 and February 2012.	61-62
5.1.3 Salinity Distribution	63-65
5.1.4 Comparison of Salinity Profile of June 2011 and February 2012.	65-66
5.1.5 Dissolved Oxygen (DO) Distribution.	66-68
5.1.6 pH Distribution	68-70
5.1.7 Physical Process	70-71
CHAPTER 6: CONCLUSION	72-73
REFERENCES	74-80

APPENDICES

81

CURICULUM VITAE

82

LIST OF FIGURES

Figure		Page
2.1	Map of Kerteh	6
2.3 (a)	Salinity structure with highly stratified	9
2.3 (b)	Salinity structure with moderately stratified	9
2.3 (c)	Salinity structure with vertically mixed.	10
2.4 (a)	Surface Circulation of Southwest Monsoon	11
2.4 (b)	Surface Circulation of Northeast Monsoon	11
3.1.1	Location of Sampling Site at Kerteh, Terengganu	18
3.2	Flow Chart of the Methodology to obtain the Data of Water Parameters	21
4.1.1(a)	Depth vs Temperature($^{\circ}$ C) for transect 1 when high tide in Southwest Monsoon	24
4.1.1(b)	Depth vs Temperature($^{\circ}$ C) for transect 2 when high tide in Southwest Monsoon	25
4.1.1 (c)	Depth vs Temperature($^{\circ}$ C) for transect 3 when high tide in Southwest Monsoon	25
4.1.2 (a)	Depth vs Temperature($^{\circ}$ C) for transect 1 when low tide in Northeast Monsoon	27
4.1.2 (b)	Depth vs Temperature($^{\circ}$ C) for transect 2 when low tide in Northeast Monsoon	27

4.1.2 (c)	Depth vs Temperature($^{\circ}\text{C}$) for transect 3 when low tide in Northeast Monsoon	28
4.1.3 (a)	Depth vs Temperature($^{\circ}\text{C}$) for transect 1 when high tide in Northeast Monsoon	29
4.1.3 (b)	Depth vs Temperature($^{\circ}\text{C}$) for transect 2 when high tide in Northeast Monsoon.	30
4.1.3 (c)	Depth vs Temperature($^{\circ}\text{C}$) for transect 3 when high tide in Northeast Monsoon	30
4.2.1 (a)	Depth vs Salinity(ppt) for transect 1 when high tide in Southwest Monsoon	32
4.2.1 (b)	Depth vs Salinity(ppt) for transect 2 when high tide in Southwest Monsoon	32
4.2.1 (c)	Depth vs Salinity(ppt) for transect 3 when high tide in Southwest Monsoon.	33
4.2.2 (a)	Depth vs Salinity(ppt) for transect 1 when low tide in Northeast Monsoon	34
4.2.2 (b)	Depth vs Salinity(ppt) for transect 2 when low tide in Northeast Monsoon	35
4.2.2 (c)	Depth vs Salinity(ppt) for transect 3 when low tide in Northeast Monsoon	35
4.2.3 (a)	Depth vs Salinity(ppt) for transect 1 when high tide in Northeast Monsoon	37

4.2.3 (b)	Depth vs Salinity(ppt) for transect 2 when high tide in Northeast Monsoon	37
4.2.3 (c)	Depth vs Salinity(ppt) for transect 3 when high tide in Northeast Monsoon	38
4.3.1 (a)	Depth vs DO (mg/L) for transect 1 when high tide in Southwest Monsoon	39
4.3.1 (b)	Depth vs DO (mg/L) for transect 2 when high tide in Southwest Monsoon	40
4.3.1 (c)	Depth vs DO (mg/L) for transect 3 when high tide in Southwest Monsoon	40
4.3.2 (a)	Depth vs DO (mg/L) for transect 1 when low tide in Northeast Monsoon	41
4.3.2 (b)	Depth vs DO (mg/L) for transect 2 when low tide in Northeast Monsoon	42
4.3.2 (c)	Depth vs DO (mg/L) for transect 3 when low tide in Northeast Monsoon	42
4.3.3 (a)	Depth vs DO (mg/L) for transect 1 when high tide in Northeast Monsoon	44
4.3.3 (b)	Depth vs DO (mg/L) for transect 2 when high tide in Northeast Monsoon	44
4.3.3 (c)	Depth vs DO (mg/L) for transect 3 when high tide in Northeast Monsoon	45

4.4.1 (a)	Depth vs pH for transect 1 when high tide in Southwest Monsoon	46
4.4.1 (b)	Depth vs pH for transect 2 when high tide in Southwest Monsoon	47
4.4.1 (c)	Depth vs pH for transect 3 when high tide in Southwest Monsoon	47
4.4.2 (a)	Depth vs pH for transect 1 when low tide in Northeast Monsoon	48
4.4.2 (b)	Depth vs pH for transect 2 when low tide in Northeast Monsoon	49
4.4.2 (c)	Depth vs pH for transect 3 when low tide in Northeast Monsoon	49
4.4.3 (a)	Depth vs pH for transect 1 when high tide in Northeast Monsoon	51
4.4.3 (b)	Depth vs pH for transect 2 when high tide in Northeast Monsoon	51
4.4.3 (c)	Depth vs pH for transect 3 when high tide in Northeast Monsoon	52
4.5.1 (a)	Surface temperature along the coast of Kerteh when high tide in Southwest Monsoon	53
4.5.1 (b)	Surface temperature along the coast of Kerteh when low tide in Northeast Monsoon	54

4.5.1 (c)	Surface temperature along the coast of Kerteh when high tide in Northeast Monsoon	54
4.5.2 (a)	Surface Salinity along the coast of Kerteh when high tide in Southwest Monsoon.	55
4.5.2 (b)	Surface Salinity along the coast of Kerteh when low tide in Northeast Monsoon.	56
4.5.2 (c)	Surface Salinity along the coast of Kerteh when high tide in Northeast Monsoon	56
4.5.3 (a)	Surface Dissolve Oxygen along the coast of Kerteh when high tide in Southwest Monsoon.	57
4.5.3 (b)	Surface Dissolve Oxygen along the coast of Kerteh when low tide in Northeast Monsoon.	58
4.5.3 (c)	Surface Dissolve Oxygen along the coast of Kerteh when high tide in Northeast Monsoon	58

ABBREVIATIONS

%	:	Percentage
km	:	Kilometer
m	:	Meter
⁰ / ₀₀	:	Part per thousand (ppt)
⁰	:	Degree
'	:	Minutes
⁰ C	:	Degree Celsius
NE	:	Northeast
SW	:	Southwest
a.m.	:	Ante meridiem
p.m.	:	Post meridiem
DO	:	Dissolve Oxygen
mg/L	:	milligram per Liter

LIST OF APPENDICES

Appendices	Page
A Sampling sites coordinate for each station	81

ABSTRACT

This study was conducted along the coast of Kerteh, Terengganu. The objectives of this study are to determine the physical-chemical water parameters which are temperature, salinity, pH and dissolved oxygen (DO) of the seawaters during Southwest Monsoon and Northeast Monsoon at Kerteh, Terengganu and to determine the different between within Southwest Monsoon and Northeast Monsoon. The study was conducted in two months which were June 2011 and February 2012. The data collected during high tide and low tide session based on the tides table. The data were taken at 13 stations. The data were analyzed by using the MATLAB software version 2008. The result showed that the level of temperature, salinity, pH and DO of water was affected mainly by the input of freshwater from Kerteh River and inflow of saltwater from the sea. The saltwater intrusion into the estuary was prevented by the sufficient movement of the river runoff causing the freshwater and saltwater to mixed and formed a vertical mixing. The result also showed that water temperature and salinity during the high tide of SW monsoon is warmer than the low tide and high tide of NE monsoon. This was proved that Kerteh influenced by the monsoon climate.

ABSTRAK

Kajian ini telah dijalankan di sepanjang pantai Kerteh, Terengganu. Objektif kajian ini adalah untuk menentukan parameter fizikal-kimia air yang suhu, kemasinan, pH dan oksigen terlarut (DO) air laut semasa Monsun Barat Daya dan Monsun Timur Laut di Kerteh, Terengganu dan untuk menentukan perbezaan antara dalam Monsun Barat Daya dan timur laut Monsun. Kajian ini dijalankan dalam dua bulan iaitu Jun 2011 dan Februari 2012. Data yang dikumpul semasa air pasang dan sesi air surut berdasarkan jadual pasang surut. Data yang telah diambil pada 13 stesen. Data dianalisis dengan menggunakan perisian MATLAB versi 2008. Data yang direkodkan menunjukkan bahawa tahap suhu, kemasinan, pH, dan oksigen terlarut terjejas terutamanya oleh input air tawar dari Sungai Kerteh dan kemasukan air masin dari laut. Pencerobohan air masin ke muara telah dihalang oleh pergerakan air sungai yang mencukupi menyebabkan air tawar dan air masin mencampur dan membentuk percampuran yang menegak. Hasil kajian juga menunjukkan bahawa suhu air dan kemasinan ketika air pasang tinggi di SW monsun adalah lebih tinggi daripada air surut dan air pasang di monsun Timur Laut. Ini telah dibuktikan bahawa Kerteh dipengaruhi oleh iklim monsun.