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Perpustakaan Sultanah Nur Zahirah (UMT)
Universiti Malaysia Terengganu

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Mangrove vegetation mapping in selected islands of Kelantan Delta using upervised classification technique and soil pH data / Hasnurul Akhma Hassan.

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MANGROVE VEGETATION MAPPING IN SELECTED ISLANDS OF KELANTAN DELTA USING SUPERVISED CLASSIFICATION TECHNIQUE AND SOIL pH DATA.

By

Hasnurul Akhma Bt. Hassan

Research Report submitted in partial fulfillment of

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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:
MANGROVE VEGETATION MAPPING IN SELECTED ISLAND OF KELANTAN DELTA USING SUPERVISED CLASSIFICATION TECHNIQUE AND SOIL pH DATA

oleh **HASNURUL AKHMA BT HASSAN**, No. Matrik **UK10396**

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TABLES OF CONTENTS

CONTENTS	PAGE
APPROVAL FORM	
ACKNOWLEDGEMENTS	ii
TABLES OF CONTENTS	iii
LIST OF FIGURE	vi
LIST OF TABLES	vii
LIST OF ABREVIATIONS	viii
ABSTRAK	ix
ABSTRACT	x
CHAPTER 1: INTRODUCTION	1
1.1 Objectives	3
CHAPTER 2: LITERATURE REVIEW	
2.1 Mangrove Forest	4
2.2 Physical and Chemical Factors Effecting Soil pH.	5
2.3 Remote Sensing for Mangrove Mapping.	7
2.4 Effect of pH on Plant	9
CHAPTER 3: METHODOLOGY	
3.1 Description of the Study Area	10
3.2 General Approach of the Study	11

3.3 Field Survey

3.3.1 Mangrove Survey 12

3.3.2 Ecological Data Collection 13

3.4 Satellite Image Processing

3.4.1 Geometric Correction 18

3.5 Image Classification 20

3.5.1 Unsupervised Classification 20

3.5.2 Supervised Classification. 21

3.5.3 Accuracy assessment 22

3.5.4 Overlay between mangrove classes and soil pH data. 23

3.6 Producing Soil pH map 24

3.7. Input data for the overlay technique.

3.7.1 Soil pH map. 25

CHAPTER 4: RESULT

4.1 Mangroves Forest Type in Study Area 26

4.2 The Classified Images 27

4.2.1 Unsupervised and Supervised map of selected islands 27

4.3 Soil pH of Mangrove Forest 30

4.4 Accuracy assessment for the supervised classification technique 32

4.5 The Overlay Technique and Final Vegetation Map 33

Perpustakaan Sultanah Nur Zahirah (UMT)
Universiti Malaysia Terengganu

CHAPTER 5: DISCUSSIONS

5.1 Geographical area of the islands 36

5.2 pH condition and pH distribution around the islands 37

5.3 Distribution of the vegetation. 38

5.4 Comparison with other study that used soil pH as secondary data 38

CHAPTER 6: CONCLUSIONS 40

6.1 Recommendations 41

APPENDIX 42

REFERENCES 44

CURRICULUM VITAE 47

LIST OF FIGURES

FIGURE		PAGE
3.1	Study Area at the Kelantan Delta	12
3.2	Sampling Point for Collection of Soil pH	16
3.3	The Study Outline	17
3.4	Outline of soil measuring method.	18
3.5	a) Taken GPS reading and b) Take the soil sample; c) Soil sample has been sorting to sort the unused thing; d) Soil sample take to laboratory analysis.	19
3.6	Steps of supervised classification	23
4.1	Unsupervised classification	29
4.2	Supervised classification	30
4.3	The interpolation map of soil pH using an ordinary kriging method.	32
4.4	The example of result for NF after being overlap with soil pH map.	34
4.5	Final mangrove map	35
5.1	The surrounding and vegetation around the island.	38
Appendix 1: pH meter used in this study		43
Appendix 2: Soil sample for pH data collection.		43

LIST OF TABLES

TABLE		PAGE
4.1	Plant Species Found in Study Area	28
4.2	pH according to type of vegetation	31
4.3	Accuracy table before applying the post-classifier (Overall Classification Accuracy = 89.00%)	33
4.4	The coverage of the different species in Study Area	36

Appendix 3: Soil pH value (raw data) for every station. 43

ABSTRAK

Hutan paya bakau adalah ekosistem kedua yang paling produktif di dunia dan menjadi salah satu ekosistem terpenting. Bertindak sebagai perlindung daripada hakisan ombak, typoon, tsunami serta berfungsi sebagai habitat dan kawasan pembiakan untuk pelbagai spesies hidupan. Tetapi kini, hutan paya bakau semakin diancam kepupusan akibat akitiviti- aktiviti menbersihkan hutan untuk tujuan komersial seperti pembinaan kolam udang. Bukan sahaja di Malaysia tetapi secara global. Masalah kepupusan hutan paya bakau telah menyebabkan pemintaan yang tinggi terhadap penghasilan peta hutan paya bakau secara terperinci sehingga keperingkat spesies bagi tujuan pemerhatian dan pemantauan dilakukan terhadap ekosistem dan kepelbagaian didalamnya. Kajian ini dilakukan adalah untuk melihat taburan pertumbuhan pokok bakau dan pH tanah di kawasan kajian serta melihat hubungkait di antara pertumbuhan pokok- pokok bakau dan pH tanah. Kajian ini dilakukan bagi mengetahui sama ada penggunaan pH tanah sebagai data kedua dapat menghasilkan peta hutan paya bakau sehingga ke peringkat spesies. Melalui kajian ini telah didapati bahawa, ketepatan peta secara keseluruhan adalah 89.00 %. Bagi *Avicennia alba* (AA) nilai ketepatan adalah sebanyak 80.00 %, bagi *Nypa fruticans* (NF) pula adalah sebanyak 95.00 % dan *Sonneratia caesolaris* (SC) adalah sebanyak 90.00 % ketepatan. Nilai ini adalah tinggi dan boleh diterima pakai. Bagi pH tanah pula, nilai maximum dan minimum bagi sesuatu spesies tumbuhan adalah lebih kurang sama di antara satu sama lain. Bagi AA nilai minimum adalah 6.30 manakala maximum adalah 6.88. Bagi NF nilai minimum adalah 6.31 manakala maximum adalah 6.96 dan bagi SC nilai minimum adalah 6.33 manakala maximum adalah 6.90.

ABSTRACT

Mangrove forest is the second most productive ecosystem in the world and become one of the importance ecosystems now. Function as a barrier from tidal waves and storm surges like typhoon, tsunami and acting as habitat and nursery ground for numbers of organism. Now, mangrove forests face a big declining problem from clearing activities for commercial likes build a shrimp pond. This is not only happen in Malaysia, but also in all around the world. This problem results in increasing demand of detailed mangrove map at the species level for monitoring mangrove ecosystems and their diversity. This study is to see the distribution of mangrove vegetation and soil pH at the study area and to determine the relationship between mangrove vegetation and soil pH. This study is to investigate whether using the soil pH as secondary data can be integrated to produce mangrove vegetation map at species level. The overall accuracy assessment for this study is 89.00 %. For *Avicennia alba* (AA) the accuracy assessment is 80.00 %, while for *Nypa fruticans* (NF) the accuracy assessment is 95.00 % and *Sonneratia caesolaris* (SC) is 90.00 %. This value for accuracy assessment is high and accepted. For soil pH, the minimum and maximum value for each species is similarly. For AA minimum value is 6.30 while maximum value is 6.88, NF minimum value is 6.31 while maximum value is 6.96 and SC minimum value is 6.33 while maximum value is 6.90.