

بسم الله الرحمن الرحيم





شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



جامعة عين شمس

التوثيق الإلكتروني والميكرو فيلم

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**ASSESSMENT OF REMOTE SENSING CLASSIFICATION
TECHNIQUES AND CHANGE
DETECTION FOR UPDATING GIS DATA BASE**

by
Eng. Mohamed Ismail Sayed Ahmed

A Thesis submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirement for the Degree of

MASTER OF SCIENCE
in
CIVIL ENGINEERING

Under Supervision of

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GIZA, EGYPT
October 1998

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ABSTRACT

Remote Sensing images are utilized for various applications, such as land use mapping, exploration, generation of land use, soil, water, and vegetation, as well as monitoring of variations & land cover over time and space.

Many projects and studies have been made using Remote Sensing data in many countries, the world. In Egypt, individual efforts have been made by some authorities such as Soil, Water, and Environment Research Institute (SWERI), which is performing many projects in the Remote Sensing and Geographic Information Systems fields. This research

I want to dedicate this thesis to my parents, my brother and my precious wife who support me during the whole time of this research

are applied to a study an area in the Delta Governorate, where Remote Sensing images are acquired for the Landsat TM, IRS P6 and SPOT satellites. Different classes, such as water, urban, cultivated and un-cultivated lands are classified, with special attention to the major crops in Egypt, which are cotton and rice. Then, the classification process is evaluated using many statistical measures, the ground truth data, such as the overall accuracy and Kappa coefficient. Another technique for the evaluation of the accuracy of the classification is to compare the area of different crops obtained from the field with the area obtained from the field. The research also includes the detection methods. Many LANDSAT TM images and ground truth data are used for this study. The output of this research is a map of the digital base map in an established GIS

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TABLE OF CONTENTS

Abstract	ii
Acknowledgments	iii
Abbreviations	xi
Table of Contents	iv
List of Tables	viii
List of Figures	ix
 Chapter (1): INTRODUCTION	 1
1.1 Summary	1
1.2 Research Objectives	1
1.3 Thesis Outlines	2
 CHAPTER (2): LITERATURE REVIEW.....	 4
2.1 Remote Sensing Data	4
2.2 Different Remote Sensing Satellites	6
2.2.1 NOAA	6

2.2.2	Radarsat	8
2.2.3	ERS-1	8
2.2.4	Landsat	9
2.2.5	SPOT	10
2.2.6	JERS -1	12
2.2.7	IRS	13

Geometric & Radiometric corrections of Remote

	Sensing Images	13
2.3.1	Geometric Correction	13
2.3.1.1	Polynomial Modeling Approach	15
2.3.1.2	Satellite Modeling Approaches	16
2.3.2	Radiometric Corrections	18
2.4	Remote Sensing Classification Techniques	21
2.4.1	Definition	21
2.4.2	Ground Truth	22
2.4.3	Classification Techniques	22
2.4.3.1.	Supervised Classification	23
2.4.3.2	Unsupervised Classification	23
2.4.3.3	Parallel Piped Classification	24

2.4.4	Mathematical Models	24
2.4.4.1	Maximum Likelihood Classification Technique	24
2.4.4.2	Minimum Distance Classification Technique	26
2.4.5	Pervious Classification Experience in Egypt	29
2.4.5.1	The Status of Agriculture Lands in Egypt	29
2.4.5.2	Cultivated Area Estimation	30
2.4.5.3	Crop Area Estimation	31
2.4.5.4	Geographic Information System for Soil Characteristics	31

CHAPTER (3): EXPERIMENTAL WORK WITH VARIOUS REMOTE

SENSING CLASSIFICATION TECHNIQUES		32
3.1	Summary	32
3.2	Study Area	32
3.3	Remote Sensing Satellite Data	33
3.4	Ground Truth	39
3.5	Experimental Work	41
3.5.1	Classification Process	42
3.5.2	Signature Separability	45
3.5.3	Principle component Analysis (PCA)	47

3.5.4 Analysis of Results	61
---------------------------------	----

CHAPTER (4): APPLYING REMOTE SENSING TECHNIQUES FOR

CHANGE DETECTION	62
------------------------	----

4.1 Change Detection	62
----------------------------	----

4.2 Experimental Work	63
-----------------------------	----

4.2.1 Classified Image Technique	63
--	----

4.2.2 Principal Component Analysis (PCA) technique	69
--	----

4.3 Utilization Change Detection Output for Updating GIS	
--	--

System	74
--------------	----

4.3.1 Study Area	75
------------------------	----

4.3.2 Ground Truth	77
--------------------------	----

4.4 Analysis of Results	90
-------------------------------	----

CHAPTER (5) CONCLUSION & RECOMMENDATION	91
---	----

5-1 Conclusions	91
-----------------------	----

5-2 Recommendations	92
---------------------------	----

REFERENCES	93
------------------	----

Appendices	101
------------------	-----

Appendix 1.....	101
-----------------	-----

Appendix 2.....	109
-----------------	-----

Appendix 3.....	112
-----------------	-----

LIST OF TABLES

Table (3-1) SPOT XS specifications for the chosen area	35
Table (3-2) LANDSAT TM specification for the chosen area .	36
Table (3-3) Center of gravity of the training areas	39
Table (3-4) Reference and classified samples	50
Table (3-5) Error (confusion matrix) of TM image	53
Table (3-6) Accuracy measures of the classification process for TM image	53
Table (3-7) Areas of different classes for TM images	54
Table (3-8) Areas of crops of classified TM using bands (2,3,5)	54
Table (3-9) Accuracy measurement of the classification process for TM bands (2,3,5)	55
Table (3-10) Areas of crops of classified TM image.	55
Table (3-11) Accuracy measures of classification techniques	56

Table (3-12) Error (confusion matrix) of SPOT image	58
Table (3-13) Accuracy measures of classification process for TM image	58
Table (4-1) Area of different land cover class	64
Table (4-2) Cultivated and uncultivated lands produced by change detection.	64
Table (4-3) Output data from the PCA change detection Technique	72