

## ABSTRACT

# The Development of an Automated Watershed Management System for Trinidad and Tobago

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Conflicting demands for land in the Northern Range of the Republic of Trinidad and Tobago have led to degradation of the watersheds to unacceptable levels. Efficient and effective management strategies are needed to combat the rate of degradation. The starting point for any management programme of the watersheds is an inventory of geo-physical and socio-economic data that can be readily combined and analysed. Consequently, an automated watershed management system (AWMS) for Trinidad and Tobago have been developed and tested in the Maracas and Santa Cruz watersheds. AWMS is developed on the IDRISI<sup>TM</sup> GIS and image processing system. It embraces the use of the soils and land use/land cover mapping units for collecting data, since the problems in the watershed are land related problems. By managing the land problems, the water problems should inevitably be solved. Soil surveys and land use/land cover surveys captures a wide variety of data relating to land, thus making them favorable sources of data. This report proposes the use of GIS in watershed management in Trinidad and Tobago. It outlined the problems causing degradation in the watersheds, reviews the literature on selected aspects of watershed management, shows the stages in the development of the proposed automated watershed management system (AWMS),

developed applications for the test sites (Maracas and Santa Cruz watersheds) and the results of the analyses.

|                                                  |   |
|--------------------------------------------------|---|
| INTRODUCTION                                     | 1 |
| 1.1 Objectives                                   | 1 |
| 1.2 Scope                                        | 1 |
| LITERATURE REVIEW                                | 2 |
| 2.1 Watershed Management                         | 2 |
| 2.2 Watershed Management in Watershed Management | 2 |
| 2.3 Watershed Management in Watershed Management | 2 |
| 2.4 Watershed Management                         | 2 |
| 2.5 Watershed Management                         | 2 |
| 2.6 Watershed Management                         | 2 |
| 2.7 Watershed Management                         | 2 |
| 2.8 Watershed Management                         | 2 |
| 2.9 Watershed Management                         | 2 |
| 2.10 Watershed Management                        | 2 |
| 2.11 Watershed Management                        | 2 |
| 2.12 Watershed Management                        | 2 |
| 2.13 Watershed Management                        | 2 |
| 2.14 Watershed Management                        | 2 |
| 2.15 Watershed Management                        | 2 |
| 2.16 Watershed Management                        | 2 |
| 2.17 Watershed Management                        | 2 |
| 2.18 Watershed Management                        | 2 |
| 2.19 Watershed Management                        | 2 |
| 2.20 Watershed Management                        | 2 |
| 2.21 Watershed Management                        | 2 |
| 2.22 Watershed Management                        | 2 |
| 2.23 Watershed Management                        | 2 |
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| 2.27 Watershed Management                        | 2 |
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| 2.29 Watershed Management                        | 2 |
| 2.30 Watershed Management                        | 2 |
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| 2.99 Watershed Management                        | 2 |
| 2.100 Watershed Management                       | 2 |