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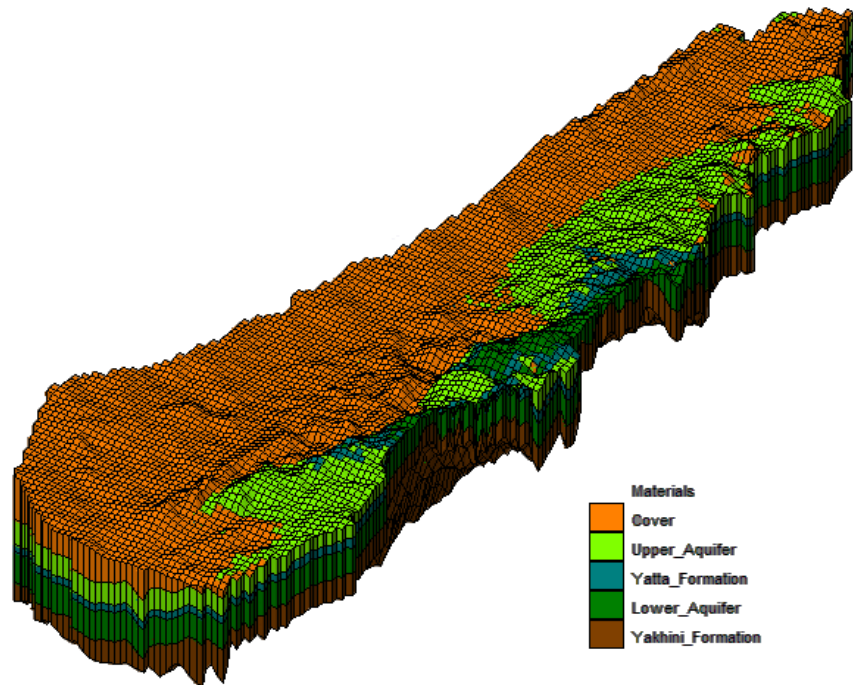


السلطة الوطنية الفلسطينية
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Compiled Base Data for the Numerical Groundwater Flow Model of the Western Aquifer Basin

Volume 1- General Background



Final Report
SUSMAQ- MOD #07 V0.4

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Sustainable Management of the West Bank and Gaza Aquifers

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NERC British
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<p>Disclaimer</p> <p>This report is an output from the Hydrogeology and Flow Modelling Study, part of the SUSMAQ project.</p> <p>The findings, interpretations and conclusions expressed are those of the authors (the team) and should not be attributed to other collaborators on the SUSMAQ project.</p> <p>The project does not guarantee the accuracy of the data included in this publication. Boundaries, colours, denominations and other information shown in maps, figures, tables and the text does not imply any judgment on legal status of territory or the endorsement of boundaries. The typescript of this report has not been prepared in accordance with procedures appropriate to formal printed texts, and the partners and funding agency accept no responsibility for errors.</p>	<p>Contact Details</p> <p>Professor Enda O’Connell Project Director University of Newcastle upon Tyne Tel: 0191 222 6405 Fax: 0191 222 6669 Email: P.E.O’Connell@ncl.ac.uk</p> <p>Engineer Fadle Kawash Deputy Chairman Palestinian Water Authority Ramallah, Palestine Tel:02 295 9022 Fax 02 2981341 Email: fkawash@pwa-pna.org</p> <p>Dr. Amjad Aliewi Operations and Technical Manager Team Leader, Hydrogeology and Flow Modelling Sunrise Building Al-Irsal Road Al-Bireh/Ramallah, Palestine Tel. 02 298 89 40 Fax. 02 298 89 41 e-mail: a.s.aliewi@susmaq.org</p>
<p>The SUSMAQ Project</p> <p>The aim of the project is to increase understanding of the sustainable yield of the West Bank and Gaza aquifers under a range of future economic, demographic and land use scenarios, and evaluate alternative groundwater management options. The project is interdisciplinary, bringing together hydrogeologists and groundwater modellers with economists and policy experts. In this way, hydrogeological understanding can inform, and be informed by, insights from the social sciences. The results of the study will provide support to decision-making at all levels in relation to the sustainable yield of the West Bank and Gaza aquifers.</p> <p>The project runs from November 1999 to October 2004, and is a partnership between the Palestinian Water Authority, University of Newcastle and the British Geological Survey. The project is funded by the United Kingdom’s Department for International Development (DFID).</p>	<p>The Hydrogeology and Flow Modelling is part of the SUSMAQ project.</p> <p>The Modelling study focuses on the geology and hydrogeology of the Western Aquifer Basin (WAB), its inflows (recharge) and outflows (spring and well abstractions).</p> <p>This report provides the data collected for the Basin which will help in modelling the flow system and its aquifers.</p>
<p>Bibliographical Reference</p> <p>Compiled Base Data for the Numerical Groundwater Flow Model of the Western Aquifer Basin-Volume1-General Background. Report No.: SUSMAQ-MOD #07 V0.4. Sustainable Management for the West Bank and Gaza Aquifers, Palestinian Water Authority (Palestine) and University of Newcastle upon Tyne (UK).</p> <p>Study Team Newcastle University/SUSMAQ: Dr. Amjad Aliewi- Team Leader, Dr. Geoff Parkin – Modelling Advisor, Eng. Muath Abu Saada- GIS and Modeller. PWA/SUSMAQ: Hydrogeologist. Abbas Kalbouneh- Hydrogeology Researcher, Eng. Raslan Yassin- Modelling Researcher, Hydrogeologist. Clemens Messerschmid-Research and Coordination Advisor. Contributors from the PWA/Water Resources and Planning Directorate: Eng. Omar Awwad, Eng. Khalil Saleh, Hydrogeologist. Omar Zayed, Eng. Adel Yassin, Eng. Deeb Abdul Ghafour.</p>	<p>Feedback</p> <p>The SUSMAQ and PWA teams will appreciate any feedback on this report. Feedback should be sent to the above contacts.</p>

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SECTION A
INTRODUCTION

Section A

Introduction

1. Scope and objectives

This report is published in the framework of the SUSMAQ Project, the Sustainable Management of the West Bank and Aquifers Project between the Palestinian Water Authority and the University of Newcastle upon Tyne. The SUSMAQ project has two main engines, numerical flow and pollution models of the basin and management options for a sustainable and effective future use of the aquifer under changing demand, and demographic and economic conditions. The models will serve as a tool for planning, development and operation of the water resources.

The compiled base data report is one milestone for the creation of a planning and management platform for the Western Aquifer basin and this report aims to lay-down the foundation of a database for the Western Aquifer basin. This database is intended to provide a reasonable basis for the modelling of the groundwater system of both aquifers of the Western Aquifer Basin (WAB). In particular, this report provides the data necessary to construct hydrogeological conceptual models of the basin.

The objectives of this report are as follows:

- 1) Collect and collate, as much as possible, sets of data that are listed below;
- 2) Establish a robust, reliable and flexible mechanism through which a considerable amount of the collected datasets can be obtained;
- 3) Provide processed enlarged sets of hydrological and hydrogeological data relating to the WAB;
- 4) Present an improved scientific understanding of the WAB groundwater system.

The report summarizes the collection of data, the achieved understanding and the performed calculations and analysis on the (WAB). Because of the amount of data used and collected in the project, this report will appear in several volumes, a text volume, called General Background, and two data volumes in addition to one volume of groundwater maps.



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