Palestinian National Authority
Palestinian Water Authority

السلطة الوطنية الفلسطينية
سلطة المياه الفلسطينية

SUSMAQ

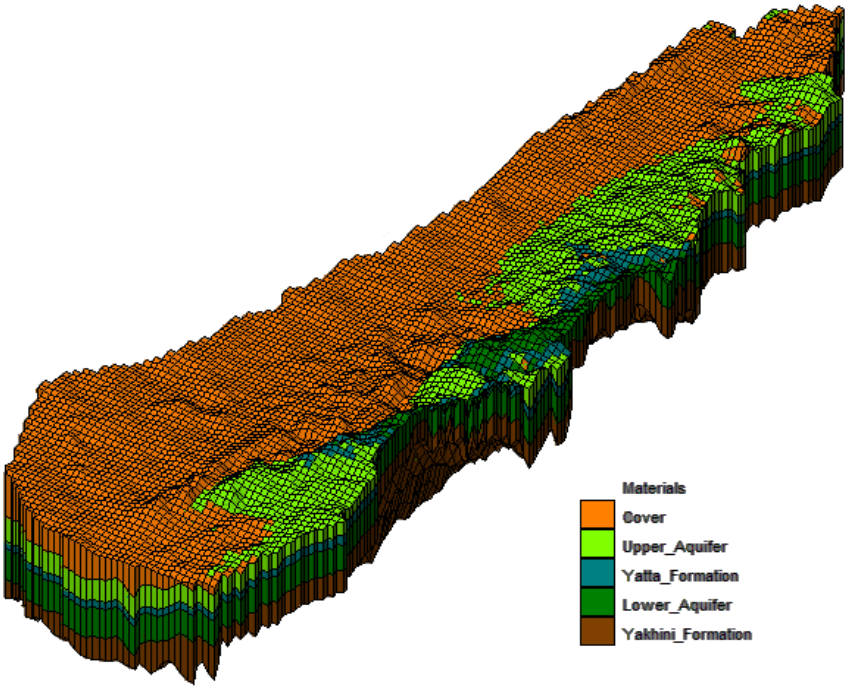
Sustainable Management of the West Bank and Gaza Aquifers

UNIVERSITY OF NEWCASTLE

NERC British Geological Survey

Department for International Development
DFID

Development of Utilisation and Status of Water Resources in Historical Palestine Until Fall 1998



Final Report
SUSMAQ-MOD #05 V 0.1

This is a Direct Translation from Hebrew and a Reproduction of the 1999 Hydrological Service of Israel Annual Report on Water Resources

Translated by:

SUSMAQ TEAM

October 2002

Disclaimer

This report is an output of the Flow Modelling and Hydrogeology component of the Sustainable Management of the West Bank and Gaza Aquifers (SUSMAQ) project.

The material of this report is a direct translation (from Hebrew to English) and a reproduction of the 1999 Annual Report of the Hydrological Service of Israel (HSI) about the status and utilisation of Water Resources in Israel and Palestine (although the word Palestine is not mentioned in the Israeli report).

The project does not guarantee the accuracy of the data included in this HSI publication. Data, boundaries, colours, denominations and other information shown in maps or figures or tables do not imply any judgment on legal status of territory or the endorsement of boundaries. Therefore, SUSMAQ is not responsible for any factual errors in this report. Likewise, 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 such errors.

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The SUSMAQ Project

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.

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).

The Flow Modelling and Hydrogeology Component is part of the SUSMAQ project.

The Flow Modelling and Hydrogeology study focuses on the geology and hydrogeology of the Western Aquifer Basin (WAB), its inflows (recharge) and outflows (spring and well abstraction).

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Bibliographical Reference

This report should be referenced as: SUSMAQ (2002). Development of Utilization and Status of Water Resources in Historical Palestine Until Fall 1998, Working Report No. SUSMAQ-MOD#05 V0.1. Sustainable Management of the West Bank and Gaza Aquifers, Palestinian Water Authority (Palestine) and University of Newcastle upon Tyne (UK).

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Translated by **SUSMAQ TEAM**

Feedback

The SUSMAQ and PWA teams will appreciate any feedback on this report. Feedback should be sent to the above contacts.

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MANAGERIAL REPORT

Introduction

The present report covers the development of the status and operation of water resources in Israel based on the data found in the computerized data bank of the Hydrologic Service. In addition, the report includes:

- Estimates of natural recharge.
- Distribution of pumped water from groundwater basins according to quality ranges.
- Water and salt balances in the Coastal basin and the Yarkon-Taninim basin.
- Analysis and forecast of the development of the groundwater situation in the Coastal basin.
- Model application (in the Yarkon-Taninim basin) for the purpose of predicting the consequences of pumping distributions on the water levels, on flow directions and on spring yields.

The water resources reported include the groundwater basins, the Kinneret Lake, and watersheds. The state variables include water levels, spring production, chloride concentration (as an indicator of salinity), nitrogen concentration (as an indicator of pollution). The operational data include pumpage and artificial recharge in wells and spreading fields. The Kinneret Lake data include water balances, water levels and chloride concentrations. The surface water data include precipitation and flow to the Mediterranean Sea.

The groundwater basins are divided into cells (reporting cells). The data and estimates refer to these cells.

The state variables reported are the results of processing forecasts. The material presented serves in general as a background for accepting decisions by the water resource managers. These can also be of aid to engineers and researchers
For the description of the development of the present situation of water resources in the face of long-term importance, there are three points of view:

- The possibility of differentiating the long-term effects of a range of human activity on the state of water resources.
- Identifying the existing or predicted problems in the long-term and short-term which are affected by planning and operation of the water systems.
- The time series of data provides a basis for understanding of the problems and for planning solutions.

Full report/document is not available online