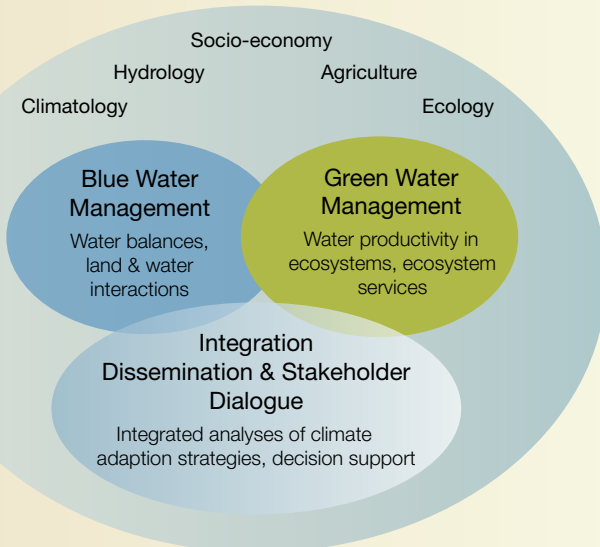


What is special about this research?

GLOWA Jordan River provides applied scientific support for water managers in the Jordan River basin based on state-of-the-art science, and explicitly addressing the problems associated with climate and global change in a transboundary context.

It is expected that the results will:

- Give guidance as to the potential change and variability in temperatures and precipitation, and to the anticipation of extreme climatic events in the basin over the coming decades, analysing its impacts on the water resources
- Indicate how new sources of surface („blue“) water can be utilized to the best advantage in the basin
- Suggest how land use planning and crop patterns can be managed so as to make full use of water retained in the soil (“green water“)
- Predict actual and potential changes in ecosystem services and biodiversity in the basin.



Project team

Germany/Europe

- Karlsruhe Institute of Technology
- Leibniz Centre for Agricultural Landscape Research Müncheberg
- Ruhr-University of Bochum
- University of Freiburg
- University of Hannover
- University of Heidelberg
- University of Kassel
- University of Potsdam
- University of Tübingen
- Stockholm Environment Institute

Israel

- Arava Institute for Economical and Environmental Studies
- ARO Volcani Center
- Ben Gurion University of the Negev
- Galilee Technology Center
- Hebrew University of Jerusalem
- Kinneret Limnological Laboratory
- Mekorot
- STAV-GIS Ltd.
- Tahal Consulting Engineers Ltd.
- Tel Aviv University
- Tel-Hai Academic College
- University of Haifa
- Water Authority
- Weizmann Institute of Science

Jordan

- Arab Technologist for Economical and Environmental Consultation
- Ministry of Water and Irrigation
- Mu'tah University

Palestinian Authority

- Al-Quds University
- An-Najah National University
- Arab Agronomist Association
- Biodiversity & Environmental Research Center
- House of Water and Environment
- Israel/Palestine Center for Research and Information
- Ministry of Agriculture
- Palestine Academy of Science & Technology
- Palestine Hydrology Group
- Palestinian Water Authority
- University of Bethlehem

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An international study of the future of the water scarce Jordan River basin under the impact of climate and global change



Teams of researchers from Germany, Israel, Jordan and the Palestinian Authority working on how best the hazards posed by climate and global change to the future of the Jordan River basin can be faced and overcome

SPONSORED BY THE

This project is part of a larger research initiative launched by the German Federal Ministry of Education and Research under the title "Global Change in the Hydrological Cycle".





Background and aims of the GLOWA Jordan River Project

Water scarcity has been a feature of life in the Jordan River basin from time immemorial. Over the last century the situation has become gradually more severe because of the increasing population of the region, its development for agriculture and changes in rainfall patterns and consequent droughts.

The potential impact of climate change and land use change on the region is likely to be very damaging unless steps are taken to adapt.

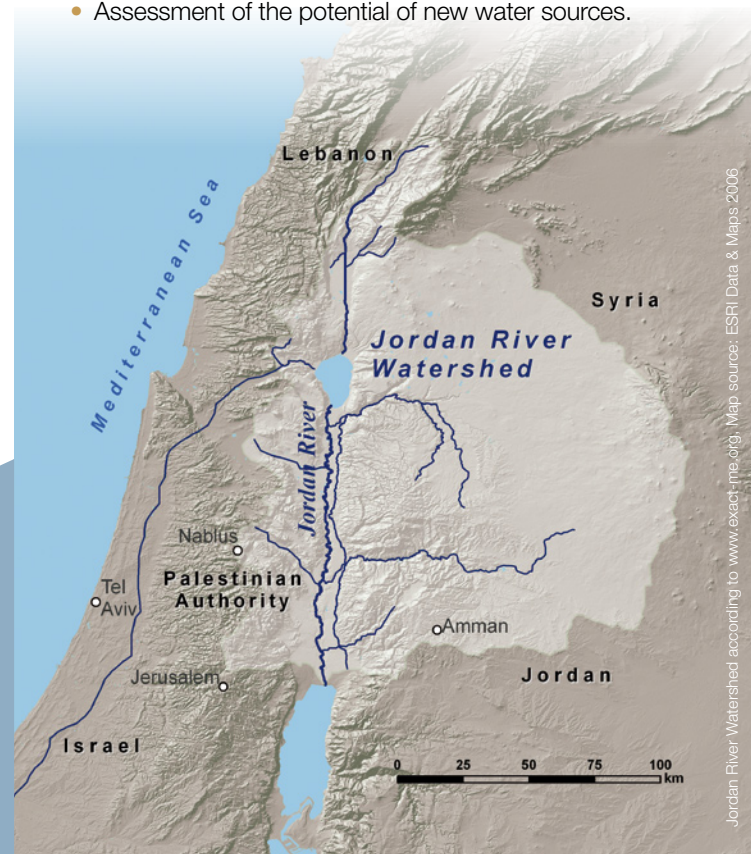
The forty research teams taking part in GLOWA Jordan River, whose membership is made up of scientists and stakeholders from Germany, Israel, Jordan and the Palestinian Authority, are working in the belief that their findings will help ensure that future management of the water resources of the area is effective and will provide a good example of IWRM - Integrated Water Resources Management.

It is an essential element of the policy of GLOWA that its findings should not only be available in academic publications but be formulated in such a way that those who have to take decisions about water management can readily consult them and use them in their decision making.

What research is being done?

Teams from GLOWA Jordan River are working on:

- Development of alternative scenarios which will clearly indicate the choices open to those responsible for the deployment of water resources and regional planning in the coming decades
- Development of a science based, easy-to-use planning tool for catchment, national and regional water resources management
- Regional climate change projections
- Assessment of the water balance of the Jordan River basin and its interactions with land management
- Assessment of the impact of climate change on hydrological, ecological and agricultural systems
- Analyses of climate adaptation strategies for water and land management via assessment of the water productivity in natural and agricultural ecosystems
- Assessment of ecosystem services, and the role green and blue water play in supporting them
- Assessment of the potential of new water sources.



Conveying the results of GLOWA Jordan River to a wider audience

Innovative aspects of the project include the introduction of two new tools for the dissemination of results.

WEAP – the Water Evaluation and Planning tool

WEAP integrates in a user-friendly and effective way the scientific results of the project and helps to transfer them into application. WEAP can be used for visualizing, evaluating and comparing different water management strategies and interventions in the region under climate and global change. In that way, the impact of climate and global change on water resources and different adaptation options can be explored jointly between scientists and stakeholders.

Story and Simulation Approach

The SAS approach presents the findings of the project to key stakeholders (officials from the Water Authorities in the region and from key ministries, active NGOs and others) and works out with them scenarios on what the long term alternatives for water management in the region are. The scenarios include information suitable for planning purposes and are intended to take account of economic and other factors which influence long term planning as well as purely scientific findings.

