



Shared Prosperity Dignified Life



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Economic and Social Commission for Western Asia (ESCWA)

Improved Groundwater Management in the Arab Region

Use of the Gravity Recovery and Climate Experiment (GRACE) mission to monitor groundwater storage change: National workshop for Jordan and State of Palestine

Amman, 25-26 February 2024

INFORMATION NOTE

I. BACKGROUND

Arab States are among the most water scarce in the world, with 19 States out of 22 below the water scarcity threshold including 13 States below the absolute water scarcity threshold. Freshwater scarcity is aggravated by several factors, including dependency on transboundary water resources, pollution, climate change, non-revenue water losses, inefficient use, increasing demand, insufficient investment, as well damage to infrastructure due to conflict. Water scarcity is a significant challenge for sustainable development, as it directly affects the ability to ensure access to water and sanitation for all, while also having important implications for energy and food security, economic development, as well as urban and rural livelihoods. Groundwater is a crucial pillar of water security in the Arab region as it is heavily relied upon and it is the primary source of freshwater in more than 11 Arab States.

The United Nations Economic and Social Commission for Western Asia (ESCWA) has secured funding from United Nations Development Account and the Government of Sweden to support Arab States in improving their water security by strengthening their capacities for the sustainable management of groundwater resources. The activities aim to (1) improve availability and accessibility to groundwater data and information through the Arab Groundwater Knowledge Platform (2) improve assessment of climate change impacts on groundwater resources in the Arab region through capacity development and pilot case studies; (3) advance the use of innovative technologies for the management of groundwater resources on the national and transboundary levels.

A training manual was developed on the use of the Gravity Recovery and Climate Experiment (GRACE) mission to monitor groundwater storage change. Pilot study areas from ESCWA Member States were selected based on demand. Jordan and Palestine have shown interest in applying case studies on selected aquifers. Therefore, this national workshop is held in coordination with experts in GRACE mission applications, and in participation of representatives from Jordan and Palestine for training on assessing the impacts of climate change on groundwater resources and on the use of remote sensing for groundwater management.

II. OBJECTIVES OF THE MEETING

The national workshop aims to build capacities of national teams from Jordan and Palestine to achieve integrated and sustainable groundwater management by providing a practical training with a focus on enhancing the use of innovative technologies considering climate change.

The workshop aims to:

- Present and explain the manual for using GRACE mission to monitor groundwater reserve change, including the necessary data, opportunities and challenges;
- Guide trainees to apply the above-mentioned manual to the study area and draw conclusions about the study findings and inform decision-making related to groundwater management;
- Enable national teams to use the Arab Groundwater Knowledge Platform;
- Add the outputs of each study to the Arab Groundwater Knowledge Platform related to groundwater.

III. PARTICIPANTS

The workshop will gather national focal points and nominated representatives from Jordan and Palestine from the ministries responsible for groundwater management who have basic knowledge of groundwater modeling, geographic information system (GIS) and remote sensing.

IV. ORGANIZATION OF THE MEETING

The workshop is organized by ESCWA in coordination with ACSAD and will be held in-person from 25 to 26 February 2024. The workshop is expected to begin at 9:00 am and conclude by 16:00 pm each day and will be held at the W Amman hotel, in Amman, Jordan.

V. ADMINISTRATIVE ISSUES

Sponsored participants are kindly requested to provide a copy of their passport identification page to ESCWA (Mr. Moneem Murrah murrahm@un.org) no later than **25 January 2024** to be eligible for financial coverage.

For sponsored participants, financial support covers the cost of roundtrip travel to Amman, a daily subsistence allowance, and a terminal allowance to cover airport transfers, as appropriate. Financial support is provided in accordance with United Nations Financial Rules and Regulations.

Participants are responsible to arrange their own hotel accommodation and airport pick-up, and for securing their own visa to Jordan.

On the morning of the **first day** of the workshop, sponsored participants are kindly requested to provide ESCWA with the following documents:

1. Passport that includes airport stamps;
2. Original boarding pass(es);
3. Copy of the e-ticket, if changed;
4. Visa fees receipt (if applicable).

VI. DOCUMENTATION

- ESCWA (2022). ESCWA Water Development Report 9: Groundwater in the Arab Region. E/ESCWA/CL1.CCS/2021/2. Available at: <https://www.unescwa.org/publications/water-development-report-9>
- ESCWA (2021). Impact of climate change on groundwater resources in the Dibdibba aquifer system, Iraq. E/ESCWA/CL1.CCS/2021/RICCAR/TECHNICAL REPORT.9. Available at: <https://www.unescwa.org/publications/impact-climate-change-ground-water-resources-dibdibba-aquifer>
- ESCWA (2021). Impact of Climate Change on Groundwater Resources in the Eocene Aquifer System. E/ESCWA/CL1.CCS/2021/RICCAR/TECHNICAL REPORT.8

Available at: <https://www.unescwa.org/publications/impact-climate-change-groundwater-resources-cocene-aquifer-system>

- ESCWA (2021). Assessment of Climate Change Impacts on Groundwater Resources using RICCAR Data in the Beni-Amir Aquifer (Tadla Complex, Morocco). E/ESCWA/CL1.CCS/2021/RICCAR/TECHNICAL REPORT.12. Available at: <https://www.unescwa.org/publications/climate-change-groundwater-riccar-data-beni-amir-aquifer>
- ESCWA and BGR (2013). Inventory of Shared Water Resources in Western Asia. Available at: <http://waterinventory.org/>
- Draft training manual on linking climate change to groundwater modeling.
- Draft training manual on using GRACE mission to monitor change in groundwater storage.

VII. CORRESPONDENCE

Inquiries and confirmation of participation should be submitted to the following meeting focal points:

For substantive issues:

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