IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Regional Training Course on the Field Measurements for Isotope Hydrology Studies

Hosted by

Government of the Republic of Malta

through the

Water unit within

The Energy and Water Agency

Qormi, Malta

12 October to 16 October 2026

Ref. No.: TN-RER7017- EVT2603361

Information Sheet

Purpose

This training offers participants practical and theoretical parts, allowing them to apply their knowledge and develop skills in sampling groundwater (springs, wells, boreholes, drainage galleries) as well as interconnected water bodies for both stable and radioactive isotopes over the course of a week. When conducting field measurements for isotope hydrology studies, several critical factors must be considered to ensure accurate data processing and interpretation. Recognizing the uncertainties and potential errors from sampling, sample handling, and laboratory analysis is important for drawing technically reliable conclusions about hydrological systems. Field campaigns are typically designed based on existing data and sampling locations. The area of interest is then to evaluate potential sampling sites, such as representative locations, types and locations, and site accessibility. This assessment informs the planning of the field campaign, the selection of sampling sites and parameters (e.g., specific isotopes, chemical and other parameters), and the equipment to be used for the measurements.

Working Language(s)

The working language(s) of the event will be English.

Deadline for Nominations

Nominations received after **17 July 2026** will not be considered.

Project Background

The project builds on the achievements of RER7013, "Evaluating Groundwater Resources and Groundwater-Surface-Water Interactions in the Context of Adapting to Climate Change", which provided a first overview of groundwater and surface water resources, including transboundary water resources, in 27 participating Member States and sought to improve the capacity and self-reliance of participating Member States to introduce isotope hydrology in water resources planning, management, and development at national and transboundary levels. The phase two project seeks to increase coverage and capacity of the regional network in the European TC (TCEU) region, which was consolidated during RER7013, for the monitoring and evaluation of water resource quality and quantity using isotope techniques. In order to promote greater regional cooperation, the project continues to encourage participating countries to work together to improve the characterization of shared aquifers, address identified data gaps and facilitate the use of isotope hydrology for the formulation of water-related policies. This third aspect is outlined as a new component of the project, given the need and interest of several participating countries. Ultimately, the project aims to enhance evidence-based decision-making for integrated water management to improve water security in Member States of Europe and Central Asia.

Scope and Nature

The aim of the training course is to apply the theoretical knowledge in isotope hydrology to a concrete project. Participants will be enabled during the course to use the tools that can be used in the field measurements to support the diversity of the isotope hydrology studies. The objectives are as follows:

a. Re-fresh and expand on the use of naturally occurring isotopes in understanding infiltration/recharge processes and groundwater dynamics (origin of water, groundwater dating, etc.).

b. Design a field study based on existing hydrological, hydrometeorological and hydrochemical data as well as geological and topographical maps.

c. Select the parameters that need to be measured and sampled to achieve the set goal (groundwater recharge, assessment of potential active saline water intrusion, residence time of the groundwater, etc).

d. To plan and coordinate a field study in a given time (estimate time for taking samples, planning equipment etc.) including the installation of the basic equipment.

e. To interpret and present the results of the study (basics).

Participants' Qualifications and Experience

Participants should have a university diploma with a technical/scientific profile that attests to substantive experience with the use of hydrological, hydrogeological or hydrochemical techniques, and/or their involvement in water resources monitoring, assessment and/or management. They should preferably have a good understanding of water-related/hydrogeological issues.

As the course will be conducted in English language, participants should have sufficient English. language proficiency to follow the training and express themselves without difficulty.

Application Procedure

Candidates wishing to apply for this event should follow the steps below:

1. Access the InTouch+ home page (https://intouchplus.iaea.org) using the candidate's existing Nucleus username and password. If the candidate is not a registered Nucleus user, she/he must create a Nucleus account (https://websso.iaea.org/IM/UserRegistrationPage.aspx) before proceeding with the event application process below.
2. On the InTouch + platform, the candidate must:
    a. Finalize or update her/his personal details, provide sufficient information to establish the required qualifications regarding education, language skills and work experience ('Profile' tab) and upload relevant supporting documents;
    b. Download and complete the Designation of Beneficiary and Emergency Contact Form, and upload to InTouch+ ('Profile' tab under the personal section) specifying the document name. If already provided, kindly discard this step; and
    c. Search for the relevant technical cooperation event (EVT2601577) under the 'My Eligible Events' tab, answer the mandatory questions and lastly submit the application to the required authority.

NOTE: Completed applications need to be approved by the relevant national authority, i.e. the National Liaison Office, and submitted to the IAEA through the established official channels by the provided designation deadline.

For additional support on how to apply for an event, please refer to the InTouch+ Help page. Any issues or queries related to InTouch+ can be addressed to InTouchPlus.Contact-Point@iaea.org.

Should online application submission not be possible, candidates may download the nomination form for the training course from the IAEA website.

Administrative and Financial Arrangements

Nominating authorities will be informed in due course of the names of the candidates who have been selected and will at that time be informed of the procedure to be followed with regard to administrative and financial matters.

Selected participants will receive an allowance from the IAEA sufficient to cover their costs of lodging, daily subsistence and miscellaneous expenses. They will also receive either a round-trip air ticket based on the most direct and economical route between the airport nearest their residence and the airport nearest the duty station through the IAEA's travel agency AX Travel Management, or a travel allowance, or they will be reimbursed travel by car/bus/train in accordance with IAEA rules for non-staff travel.

NOTE: A medical certificate signed by a registered medical practitioner dated not more than four months prior to starting date of the event must be submitted by candidates when applying for a) events with a duration exceeding one month, and/or b) all candidates over the age of 65 regardless of the event duration

Disclaimer of Liability

The organizers of the event do not accept liability for the payment of any cost or compensation that may arise from damage to or loss of personal property, or from illness, injury, disability or death of a participant while he/she is travelling to and from or attending the course, and it is clearly understood that each Government, in approving his/her participation, undertakes responsibility for such coverage. Governments would be well advised to take out insurance against these risks.

Note for female participants

Any woman engaged by the IAEA for work or training should notify the IAEA that she is pregnant

The Board of Governors of the IAEA approved new International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources. The Standards deal specifically with the occupational exposure conditions of female workers by requiring, inter alia, that a female worker should, on becoming aware that she is pregnant, notify her employer in order that her working conditions may be modified, if necessary. This notification shall not be considered a reason to exclude her from work; however, her working conditions, with respect to occupational exposure shall be adapted with a view to ensuring that her embryo or foetus be afforded the same broad level of protection as required for members of the public.

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