AI-driven digitalization solutions for Water and WEFE Nexus in the Mediterranean

30 June 2025
12.00-14.00 CET
Online
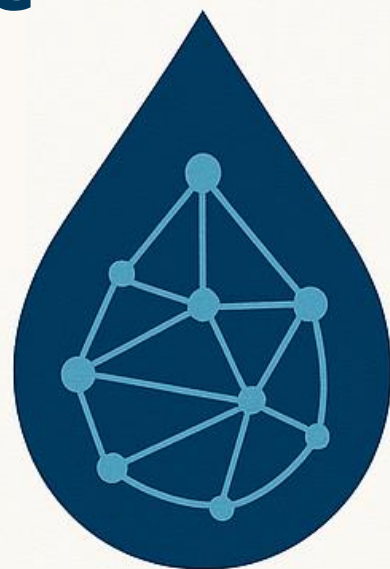
AI-driven digitalization solutions for Water and WEFE Nexus in the Mediterranean
Date: 30th June, 2025
Hour: 12:00-14:00 CEST
Format: Online

Register here: https://forms.cloud.microsoft/e/3WXfb5PsDU
Zoom Link: https://us02web.zoom.us/j/88250152920

Background:

Digitalization for natural resources management refers to the strategic adoption and integration of conventional and innovative digital policies and technologies in sectoral and cross-sectoral domains that contribute to sustainable development objectives. Digital solutions, including **Artificial Intelligence (AI),** can provide substantial benefits to Water management as well as to the management of interconnected systems of Water-Energy-Food-Ecosystems (WEFE) in a Nexus approach. **Digital transformation** for introducing such solutions at all levels involves, among others, leveraging advanced digital tools, data analytics, innovative technologies and related governance and managerial approaches to optimize the efficiency, sustainability, and resilience of related resources.

The Union for the Mediterranean (UfM) agenda prioritizes the Digital Transformation of the Water Sector, with a strong emphasis on Strategic Planning and Capacity Development. Aligned closely with the objectives set forth in the UfM Ministerial Declaration on Water, this strategic initiative seeks to leverage digitalization technologies and innovative solutions to enhance water management, improve operational efficiencies, and foster greater resilience in water resources.

Furthermore, a regional consultation process is ongoing aiming to promote **digital transformation for advancing WEFE Nexus** in the Mediterranean, particularly under evolving climate change impacts. The consultation includes the identification of related Strengths, Weaknesses, Opportunities, and Threats (SWOT). Based on these, recommendations will be shaped for promoting digital transformation as a contribution to the draft 'WEFE Nexus Strategy in the Mediterranean Source to Sea continuum' as well as a technical input to key regional political fora like the UfM Ministerial Meeting on Water, the Barcelona Convention, etc. This science-driven consultation involves regional and national decision makers and stakeholders in a Living Lab approach. It is facilitated by the PRIMA ACQUAOUNT, TALANOA-WATER and H2020 TRANSCEND projects, in service of and with the support of UfM and other institutional partners.

In that context, the **webinar** will contribute to aligning the related technical work lines and regional consultations by providing updates, sharing best practices with emphasis on AI, and seeking feedback towards further action, including towards establishing a related Community of Practice within the PRIMA WEFE4Med.

Objectives:

- Informing on new AI methods in digital water management, including in a WEFE Nexus approach.
- Informing on progress on the regional consultation for Digital Transformation for WEFE Nexus in the Mediterranean.
- Discussing the draft capacity building plan and key performance indicators (KPIs) of the UfM Digital Transformation of Water Sector.
- Building a Community of Practice (CoP) on digital transformation for integrated natural resources management, with emphasis on AI.

Aimed webinar outcomes:

- Increased knowledge of new methods in digital integrated water management among participants.
- Stakeholders informed on progress and next steps of Digital Transformation for WEFE Nexus towards he UfM Ministerial Meeting on Water
- Stakeholder-reviewed UfM capacity building plan on Digital Transformation on Water Sector towards implementation.
- KPIs refined through stakeholder feedback, ensuring meaningful measurement of training impact.
- Input to engagement mechanisms and priority topics for a Community of Practice on Digital Transformation for WEFE Nexus.

Participants:

Representatives from UfM Mediterranean member states, specifically:

- National water and other sectoral ministries and regulatory agencies
- Water utilities (local, regional, and national levels)
- Academic institutions and research centers
- Regional and national stakeholder organizations and practitioners
- Private sector entities involved in water management and technology

Draft Agenda	
Time (CEST)	**Session/Topic**
12:00-12:05	**Opening session** *Speaker: Stephen Borg (Deputy Secretary General) and Frederic de Dinechin (Senior Policy Advisor), UfM; Omar Amawi (Deputy Director) PRIMA Foundation* Welcome and opening remarks • Introductory overview of the agenda. • UfM Digital Water Transformation project and webinar objectives. • Overview of digital transformation for WEFE Nexus.
12:05-12:45	**Exposure to new methods, including AI, in digital water management and emerging technologies** *Speaker: Dr. Georg Petersen (Water resources specialist), HYDROC GmbH*

This session will provide an interactive and practical introduction to the use of emerging technologies, including AI, in integrated water management, covering key topics such as:

- Remote sensing opportunities in data acquisition and management: opportunities using remote sensors.
- AI-driven digitalization of water infrastructure: understanding how artificial intelligence can enhance the monitoring, control and optimization of water systems.
- AI-powered data analytics for decision-making: exploring how machine learning and predictive analytics can improve decision-making in integrated water management.

Regional case studies: presenting successful AI-driven digitalization implementations in Mediterranean utilities, highlighting lessons learned and best practices.

12:45-13:05	**Progress of regional consultation on Digital Transformation for WEFE Nexus** ***Speaker: Vangelis Constantianos (Executive Secretary & Regional Coordinator), GWP-Med*** Presentation on the regional process, SWOT analysis and recommendations, including interactive discussion.
13:05-13:20	**Presentation of UfM capacity building planning on Digital Transformation of Water Sector** ***Speaker: Dr. Georg Petersen (Water resources specialist), HYDROC GmbH*** • Presentation of draft capacity building plan, including training topics, delivery mechanisms, and implementation timeline. • Group feedback and recommendations for capacity building plan improvements.
13:20-13:35	**Interactive KPI testing and refinement** ***Speaker: Cristi Constantin (Communication Specialist), HYDROC GmbH*** • Overview of draft KPIs designed to measure training effectiveness. • Group discussion on the proposed KPIs to confirm their clarity, relevance and practicality. • Gather group-based recommendations for improvements.
13:35-13:50	**Planning session towards a Community of Practice (CoP) on Digital Transformation for Water and WEFE Nexus** ***Speaker: Cristi Constantin (Communication Specialist), HYDROC GmbH*** • Introduction to the CoP concept. Group discussion of preferred engagement mechanisms.
13:50-14:00	**Conclusions and next steps** ***Speaker: Dr. Georg Petersen (Water resources specialist), HYDROC GmbH Frederic de Dinechin (Senior Policy Advisor), UfM; Omar Amawi (Deputy Director) PRIMA Foundation*** • Brief summary of Webinar conclusions • Closing remarks from UfM and PRIMA