

Water, Land, and Infrastructure: Geologists and Engineers for Safety and Sustainability

National Council of Geologists · National Council of
Engineers

Euro-Mediterranean Water Forum 2026 · 29 September – 2 October · La Nuvola, Rome

KEY INFORMATION

Date	2 October 2026
Time	9:00 – 12:00
Room	Bosforo
Format	Panel discussion
Language(s)	Italian

SUMMARY

This session examines the interactions between geology, engineering, and water resource management in the Mediterranean context, which is characterized by increasing climate and hydrogeological vulnerability. Technical, regulatory, and strategic solutions are presented to enhance territorial safety, protect groundwater resources, and adapt infrastructure to emerging climate scenarios.

AGENDA & SPEAKERS

Time	Speaker Name & Title	Organization	Role / Topic
9:00	Maria Spena, President	One Water Committee	Panelist – Opening Session
	Eng. Angelo Domenico Perrini, President	National Council of Engineers (CNI)	Panelist – Opening Session
	Geol. Roberto Troncarelli, President	National Council of Geologists (CNG)	Panelist – Opening Session
	Geol. Filippo Cappotto, President	CNG Study Center Foundation	Panelist – Opening Session
9:20	Geol. Giovanni Pantaleo, Coordinator	Water Resources Commission – CNG	Panelist – Introduction to the Session

Time	Speaker Name & Title	Organization	Role / Topic
9:40	Prof. Francesco Fatone	Marche Polytechnic University	"Sustainable Wastewater Treatment and Safe Reuse in Italy: Current Scenario and Future Challenges" - Speaker
10:00	Geol. Rudy Rossetto	Sant'Anna School of Advanced Studies, Pisa	"Managed Aquifer Recharge in Italy: A Solution to Cope with Water Scarcity and Adapt to Climate Change" - Speaker
10:20	Geol. Manuela Ruisi	Water Resources Commission – CNG	"Measuring to Understand and Manage: Hydrogeological Monitoring and Groundwater Resource Protection" - Speaker
10:40	Dr. Francesco Colianni	Sicilian Regional Government – Department of Energy, Water and Waste	"The Reuse of Reclaimed Wastewater as a Key Circular Economy Measure" - Speaker
11:00	Geol. Silvia Fabbrocino	University of Naples Federico II	"A New Water Culture in the Mediterranean: Bridging Geosciences, Innovation, and Transnational Cooperation" - Speaker
11:20	Eng. Alberto Romagnoli, National Councillor for Environment and Territory	National Council of Engineers (CNI)	Roundtable Discussion The Contribution of Technical Professions to National Strategies for the Sustainable Management of Water Resources Moderator
	Geol. Giovanni Andiloro, Member	Water Resources Commission – CNG	Moderator
	Geol. Roberto Troncarelli, President	National Council of Geologists (CNG)	Speaker
	Eng. Angelo Domenico Perrini, President	National Council of Engineers (CNI)	Speaker
	Geol. Endro Martini, Member	Water Resources Commission, CNG	Speaker

BACKGROUND & RATIONALE

The Mediterranean Basin is recognized as one of the world's major climate change hotspots, with significant impacts on water availability, the frequency of extreme weather events, and the stability of both natural and human systems.

Located within this context, Italy faces a structurally high level of hydrogeological vulnerability, further exacerbated by infrastructure that is often inadequate to cope with emerging climate regimes.

The Mediterranean region is characterized by a negative water balance, driven by decreasing precipitation trends and increasing evapotranspiration. This situation requires management strategies based on managed aquifer recharge, wastewater reuse, and the optimization of water distribution systems.

Italy's hydrogeological vulnerability is further intensified by fragmented responsibilities and uneven monitoring systems, making coordinated action between technical professions and public institutions essential.

Water and soil protection infrastructure must be reimagined according to climate resilience criteria, incorporating Nature-Based Solutions (NBS), early warning systems, and integrated forecasting models.

Euro-Mediterranean cooperation represents a strategic opportunity to share data, technologies, and governance models that support the sustainable management of water resources.

Emergency response alone is no longer sufficient. Preventive planning is required, based on data-driven approaches, continuous monitoring, geological and hydrological knowledge, and engineering expertise. Collaboration between geologists and engineers is essential for designing resilient infrastructure, protecting water resources, ensuring territorial safety, and supporting the transition toward sustainable management models.

OBJECTIVES

1. Promote Interprofessional Cooperation

Promote cooperation among technical professions through an integrated geological, geotechnical, hydrological, and engineering approach to the planning of public and private works.

Develop shared operational protocols between the National Council of Geologists (CNG) and the National Council of Engineers (CNI) for hydrogeological risk assessment and hydraulic infrastructure design.

2. Define Strategies for the Water Transition

Identify innovative solutions for water storage, distribution, reuse, and protection in scenarios of increasing aridity.

Promote the adoption of Managed Aquifer Recharge (MAR), advanced treated wastewater reuse, and state-of-the-art groundwater monitoring systems.

3. Support Climate Adaptation of Infrastructure

Facilitate the adaptation of infrastructure to climate change through the revision of technical regulations and the adoption of Nature-Based Solutions (NBS) for mitigating hydraulic and hydrogeological risks.

Advocate for the inclusion of climate criteria in engineering design codes and risk management plans.

4. Identify Financing and Governance Models

Promote the use of European funding mechanisms and Euro-Mediterranean partnerships to accelerate territorial safety and resilience projects.

Encourage dedicated financial instruments for water resilience and the regeneration of vulnerable territories.

5. Provide Legislative Proposals for Policymakers

Develop concrete legislative recommendations aimed at simplifying authorization procedures for risk mitigation projects.

Define guidelines for streamlining administrative processes, with particular attention to urgent soil protection and water management interventions.

TARGET AUDIENCE

- Policymakers
- Technical professionals
- Financial institutions
- Water resource management authorities and organizations
- Public administrations
- District River Basin Authorities and Integrated Water Service Operators
- Research centers and universities active in hydrogeology, hydraulic engineering, and climate change studies
- Euro-Mediterranean organizations involved in cross-border water cooperation
- Civil society organizations and stakeholders

EXPECTED OUTCOMES

- Development of a joint policy document by the National Council of Geologists (CNG) and the National Council of Engineers (CNI), providing guidelines for territorial safety and the sustainable management of water resources.
 - Collection and dissemination of Italian case studies demonstrating the effectiveness of integrating geology and engineering in the design of resilient infrastructure.
 - Formulation of technical recommendations to be submitted to European and national institutions for updating infrastructure design criteria and authorization procedures.
 - Proposal of a **“Euro-Mediterranean Position Paper on Water Transition”** to be presented at the Forum.
 - Definition of a minimum set of hydrogeological and climate monitoring indicators for vulnerable territories.
 - Joint commitment by CNG and CNI to establish a **Permanent Technical Working Group on Integrated Water Resource Management**.
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