IAH's position paper for the 2026 UN Water Conference

Why Groundwater is Core to the Water Action Decade and to Achieving the SDGs

Key messages

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Introduction

The International Association of Hydrogeologists (IAH) is an international scientific and educational non-profit organization for scientists and water professionals involved in the development, management, and preservation of groundwater resources. Since its founding in 1956, the IAH has expanded to include more than 4,500 members worldwide. The mission of IAH is to further the understanding, wise use, and protection of groundwater resources worldwide and, with this objective, to work with national and international agencies and a wide range of stakeholders at local to global level.

The IAH is a cornerstone knowledge sharing, networking, and advocacy platform for the water community, with focus on groundwater and hydrogeology. This is achieved through its more than 50 national chapters, annual world congresses, the peer-reviewed journal "Hydrogeology Journal", mentoring programs, and open-access education tools, including the "Groundwater Project".

Background

Groundwater is the invisible part of the water cycle, a resource often overlooked, despite its indispensable role in our world. It provides half of our drinking water and often 100% in rural areas, 40% of irrigation water and a third of industrial water needs, while also supporting ecosystems, sustaining river flows, and preventing land subsidence and marine saltwater intrusion. Groundwater use continues to grow at alarming rates across most parts of the world, due to its many beneficial and strategic properties of large and steady, while not infinite, supply. It is central to more than 50 of the 169 Sustainable Development Goal targets, highlighting its strategic importance. Groundwater is a key part of the water cycle and cannot be considered independently from surface water; they are interconnected and must be considered together in all water management and policy frameworks.

Recommendations

Water for People

Although most groundwater is of good quality, it can be affected by natural contaminants like arsenic, and by human activities such as agriculture, industries, and poor waste and wastewater handling which introduce substances like pesticides, nutrients, microplastics, pharmaceuticals, and microbial contaminants. Many of these contaminants have short- and long-term negative impacts on human health. Moreover, once polluted, groundwater is costly and difficult to remediate, with potential irreversible or long-terms consequences on water security. Protecting human health and ecosystem health requires groundwater protection: preventive approaches and regulations, including proper land use and protection of critical ecosystems and groundwater supply sources. It also requires the enforcement of health-protective standards for regulated substances and the urgent development of regulatory frameworks to address emerging contaminants.

Water for Prosperity

Groundwater, besides being a key resource for water supply globally, is of wider strategic importance for sustainable development, including for ecosystem conservation, resilient cities and industries, food security, geothermal energy production, land and coastal protection. Through this, groundwater helps ensure poverty reduction, fundamental human rights, and gender equity. What's more, the development of coherent policies designed to simultaneously address integrated (ground)water-related uses and issues, including climate and natural risks, guarantees the implementation of the Sustainable Development Goals.

Water for Planet

The large natural storage and slow movement of water in most groundwater systems offers exceptional drought resilience and is of key importance to enhance water security for a wide range of water users, as well as for ecosystems. Undermining groundwater systems can undermine climate and drought resilience, putting large communities at future risk. This requires appropriate integrated approaches, including nexus approaches and joint surface-groundwater and land resources management.

Water for Cooperation

Given the growing reliance on groundwater resources, including resources that are shared across jurisdictional boundaries, the need for cooperation across borders becomes increasingly urgent. Despite 426 identified transboundary aquifers, only a few are governed by international agreements or arrangements—far fewer than the 600 international agreements governing transboundary surface waters. Countries must take ownership of their transboundary aquifers, including the monitoring, assessment, and management of the resources and funding of same, in cooperation with neighboring states. Strengthening political will and establishing effective cooperation mechanisms are essential to ensure the sustainable and peaceful use of these critical resources.

Water in multilateral processes

Groundwater remains insufficiently represented in the Sustainable Development Goals (SDGs), with no specific targets or indicators addressing its critical role. Groundwater should be strengthened and better represented, across all SDGs, and of course especially in SDG 6. Current efforts led by the International Groundwater Resources Centre (IGRAC) are underway to develop indicators based on monitoring and in situ data. It is essential that the international community, supported by IAH, actively collaborates and advocates for the integration of groundwater into the SDGs. Furthermore, groundwater issues should be further strengthened in the objectives of the Water Action Decade, notably through dialogue and the access to knowledge and the exchange of good practices for their sustainable management and protection.

Investments for water

Strengthening national capacities from Bachelor to doctoral programs in hydrogeology, the technical science of groundwater, is crucial, with each country or region establishing its own training hub. This is necessary to educate, empower and support the youth and future groundwater specialists, scientists and managers who will have the responsibility for this resource. Groundwater education is not enough: creating a robust, sustainable job market is essential to ensure these local experts can sustainably manage groundwater resources.

Groundwater experts should also be trained to engage with other actors in the water sector, including decision-makers, so that groundwater is effectively integrated in all policy areas.

We cannot manage what we don't see or measure: monitoring must be undertaken to track groundwater quantity and quality over time. This is essential to understand aquifers' functioning and detect threats such as over-abstraction, contamination, or decreasing recharge due to global change. Monitoring is a long-term and often costly effort, but a strategic investment. Monitoring must jointly be performed with real-time interpretation and numerical modelling to check data reliability and their adequation to water resource management and protection.