

HYDROGEOLOGY AND WATER RESOURCES SESSION

Şebnem Arslan, Sarmad Latif, Celalettin Şimşek

Water resources are facing increasing pressures due to climate change, growing water demand, pollution, and changes in land use. Understanding the quantity, quality, and renewal processes of these resources is essential for ensuring sustainable water management, protecting ecosystems and safeguarding water security for future generations. This session aims to bring together current scientific research, methodological advances, and practical applications in hydrogeology and water resources. Topics will include the hydrogeological characteristics of aquifers; groundwater occurence and flow, recharge, and discharge mechanisms; springs; surface water–groundwater interactions; hydrogeochemical processes; and isotope hydrogeology. Other key topics within the scope of the session include changes in water availability and quality under natural and anthropogenic influences, groundwater contamination and contaminant transport mechanisms, the impacts of climate change on water resources, drought and water scarcity, hydrogeological modeling, groundwater management, sustainable water use, managed aquifer recharge, and the assessment of hydrogeological risks. The session seeks to foster interdisciplinary research that bridges geoscience-based knowledge generation with the protection and sustainable management of water resources. It also aims to provide a platform for translating scientific findings into actionable insights for the development of water policies, the resolution of environmental challenges, and the safeguarding of water security for future generations.