

THE FUTURE OF EARTH SCIENCES AND EARTH SCIENTISTS: NEW METHODS, NEW TECHNOLOGIES, NEW SKILLS SESSION

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The overarching theme of the 79th Geological Congress of Türkiye, "Geosciences in Addressing Global Challenges: Earth–Society–Future," makes the discussion of the future of geosciences and the role of those who will shape it more relevant than ever. Young geoscientists represent the future of our discipline. The knowledge they gain today, together with their scientific curiosity and willingness to explore new approaches, will lay the foundation for developing and effectively using the methods and technologies of tomorrow.

Climate change, urbanization, natural hazards, growing demand for energy and mineral resources, and rapidly evolving technologies are reshaping both the scope of geosciences and the competencies expected of geoscientists. In this changing landscape, the future of geosciences depends not only on improving our understanding of the Earth, but also on translating scientific knowledge into reliable and sustainable solutions to the challenges facing society.

This session aims to explore the opportunities offered by emerging approaches, including artificial intelligence and machine learning, remote sensing, UAV and LiDAR technologies, advanced monitoring systems, 3D modelling, digital twins, data integration, and innovative field and laboratory methods. It also addresses the competencies increasingly important for future geoscientists, such as interdisciplinary collaboration, digital literacy, critical thinking, scientific communication, and professional ethics.

The session seeks to provide a platform for sharing innovative research, practical experiences, and perspectives on the future of the profession, welcoming contributions from across disciplines, particularly from undergraduate and graduate students, early-career researchers and geoscientists entering the profession.