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Editorial

Introduction: Seas, Lakes, and Rivers in the Adriatic, Alpine, Dinaric, and Pannonian Regions during the Quaternary

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Like other regions located in tectonically active areas, the Adriatic, Alpine, Dinaric, and Pannonian regions have undergone numerous changes during the Quaternary. Active tectonic processes influence the Earth's surface processes, from the formation of the environment to erosion and sedimentation. By studying ancient sedimentary archives and surface processes, we seek to understand how the ever-changing environment may affect humankind at present and in the future. Quaternary research is thus important not only for its scientific value but also for societal reasons. This gives even more impetus to Quaternary research.

In the regions covered in this Special Issue, the Quaternary landscape was largely shaped by seas, lakes, and rivers and by transitions between marine, lacustrine, and fluvial environments. Tectonic processes and climate changes with past glaciations and sea-level fluctuations also contributed significantly to landscape-shaping. Seas, lakes, and rivers respond to climatic and tectonic changes and are therefore particularly interesting to study. A growing body of research is now focusing on these topics in this area.

This Special Issue brings together selected papers from the 6th Regional Scientific Meeting on Quaternary Geology: Seas, Lakes, and Rivers. The meeting was held in a hybrid format as both a virtual and in-person meeting in Ljubljana, Slovenia, 27–29 September 2021. It brought together researchers working on Quaternary geology, geomorphology, stratigraphy, and related topics in the Adriatic, Alpine, Dinaric, and Pannonian regions. This meeting was the first to be hosted by the Slovenian INQUA Committee (SINQUA), as the previous five meetings had been organised by the Croatian INQUA Committee. Together with the Croatian and Italian Quaternary communities, including 19 partner institutions and associations from the region, SINQUA organised this meeting with the main theme "Seas, Lakes, and Rivers", which was the focus of the keynote lectures and the virtual excursion. The organising and scientific committee included researchers from the Slovenian INQUA Committee (SINQUA); the Croatian INQUA Committee (CRO-INQUA); the Geological Survey of Slovenia (GeoZS); the Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU), the Institute of Archaeology (IzA) and Karst Research Institute (IZRK); the Faculty of Natural Sciences and Engineering, University of Ljubljana (UL NTF); the CNR—Institute of Geosciences and Earth Resources (IGG); the University of Padua (UNIPD); the CNR—Institute of Environmental Geology and Geoengineering, Milano Unit (IGAG); the Institute of Quaternary Palaeontology and Geology, the Croatian Academy of Sciences and Arts (HAZU); the Croatian Geological Survey (HGI); the Faculty of Science at the University of Zagreb (PMF); the Faculty of Mining, Geology, and Petroleum Engineering at the University of Zagreb (RGNF); the Archaeological Museum of Istria (AMI); Flinders University, Adelaide, Australia (FLIN); the Slovenian Geological Society (SGD); the Geomorphological Society of Slovenia (GMDS); the Italian Association for Quaternary Research (AIQUA); the Faculty of Arts, University of Ljubljana (UL FF); and the Marine Biology Station Piran (NIB-MBP).

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Around fifty researchers from nine countries participated in the meeting. Many new research results were presented and collected in the book of abstracts, which is available online [1]. Scientific sessions included presentations on (1) seas and transitional environments; (2) archaeology, earthquakes, and structural geology; (3) projects; (4) lakes, forelands, and mountains; (5) karst; and (6) aeolian sediments. Virtual excursions featured Quaternary marine, lacustrine, and fluvial sites in the broader region. Despite the hybrid format of the meeting, the presentations stimulated lively discussions in a friendly atmosphere.

Contributions were solicited for the Special Issue on the conference theme and other Quaternary topics in the region. Topics most relevant to the region and welcome in the Issue include: (a) the Quaternary geology of the Adriatic, Alpine, Dinaric, and Pannonian regions; (b) Quaternary marine, lacustrine, and fluvial environments; (c) geological, geophysical, geomorphological, sedimentological, geochronological, stratigraphic, palynological, palaeopedological, and other Quaternary records; (d) Quaternary climate change and glaciation records; (e) tectonic records in Quaternary sedimentary archives; (f) the evolution of Quaternary basins; (g) karst systems during the Quaternary; (h) limnology; (i) the geoarchaeology, geoheritage, and geoconservation of Quaternary phenomena; and (j) geohazards.

Despite the wide range of topics and many contributions to the scientific meeting in Ljubljana, this Special Issue managed to cover only a fraction of the new knowledge being presented by the Quaternary community in the region. For example, the paper "Seismic activity in the Celje Basin (Slovenia) in Roman times—archaeoseismological evidence from Celeia" presents evidence of seismically induced liquefaction in fluvial sediments that caused the differential subsidence of a Roman road and was probably the result of a major earthquake that occurred before 350 CE [2]. We hope that the paper will stimulate further multidisciplinary research on Quaternary topics in the region.

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