

GLOBAL CLIMATE CHANGE: THE EARTH SYSTEM FROM PAST TO FUTURE SESSION

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Climate change is one of the most serious global challenges we face today. To understand the human-driven changes we're seeing today and anticipate what may come next, we need to look at how Earth's climate changed naturally in the past. During the Quaternary, which began 2.6 million years ago, glacial and interglacial periods repeatedly alternated. Evidence of these changes is preserved in ice cores, paleoglacial deposits, tree rings, cave deposits, and marine and lake sediments. By analyzing and dating these records, geoscientists can determine why and how quickly the climate changed in the past. These records also provide some of the most substantial evidence for evaluating future climate scenarios. In this session, we aim to bring together researchers who study past climates and those who model the present and future. We welcome contributions on Quaternary geology and geomorphology, glacial and periglacial processes, paleoclimate archives, geochronology, sea-level change, paleohydrology, and climate and surface-process modeling. Contributions from related disciplines that address climate impacts on water resources, coasts, agriculture, and natural hazards are also welcome. We expect participants from geology, meteorology, geomorphology, geography, hydrology, geophysics, archaeology, paleontology, and environmental science, as well as engineers and practitioners who use climate data in water management, coastal and urban planning, or disaster-risk work. We invite everyone, including students and early-career researchers, who wants to understand how lessons from Earth's past can inform the decisions societies make today.