Invitation to Geokolloquium of the Faculty of Geoscience and Geography,

A contribution of LALUC (Latin American Land Use under Climate change network)

Wed, 4th November 2026, 14:15 Uhr in MN 14

How can lake sediments reveal past land-use change in the Argentine Pampas?

Dr. Romina Achaga

Universidad Nacional del Centro de la Provincia de Buenos Aires

Land use has intensified and changed over recent decades, with implications for soil erosion and sediment transport. Lake sediments provide valuable archives for investigating how human activities and climate variability have altered landscapes over time. To investigate the potential impacts of agricultural intensification and climate change on sediment dynamics, we study sediment cores from three shallow lakes in the Argentine Pampas, one of the World's major agricultural regions. Previous work on these sediment cores has used environmental magnetic and geochemical proxies to reconstruct environmental changes over the last three centuries. We are now integrating existing results with preliminary grain-size analyses, historical land-use data, and sediment and soil samples from the three study sites, using End-Member Modelling Analysis (EMMA), a statistical framework for grain-size unmixing.

This talk presents pilot research conducted at the Landscape Geoscience Group in collaboration with Prof. Dr. Elisabeth Dietze and Dr. Lisa Feist. We aim to characterize sediment source dynamics and transport processes and explore whether shifts in the sedimentary record can be linked to changes in land use. By comparing multiple lake records, we seek to differentiate site-specific responses from regional patterns of environmental change and develop a framework for investigating sediment source dynamics under agricultural intensification across the Argentine Pampas.



The talk will be followed by a discussion including coffee, tea and cookies in room 16-4.

Everyone is welcome!!