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## Pleistocene river terrace development in the Baza Basin, Spain: Processes and chronology.

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River terraces are common features of landscapes worldwide, formed by the complex interplay of erosion and sedimentation processes. Despite their ubiquity, many questions remain unanswered about the mechanisms and their boundary conditions that influence their formation and evolution. The Guadix/Baza Basin in Andalusia, located within the Granada UNESCO Geopark, is an ideal natural laboratory for studying terrace evolution. Over time, this basin has undergone significant geological changes, from being a closed depression filled with sediments from the surrounding mountains to the establishment of a new river system during the Middle to Late Pleistocene after river capturing. This change from an endorheic to an exorheic fluvial system resulted in the formation of several generations of river terraces, often accompanied by calcareous sinter formations, in deeply incised valleys.

This DFG-funded research project aims to investigate the processes underlying the evolution of the newly established fluvial system after river capturing, with a particular focus on the dynamics of fluvial erosion. To establish a terrace chronostratigraphy, luminescence dating techniques for the terrace sediments are applied in combination with U/Th dating for terrace-associated calcareous sinter formations. The chronostratigraphy will elucidate the dynamics of landscape evolution following the pivotal event of river capture. Expected outcomes include estimates of erosion rates and an understanding of the typical incision patterns of local rivers.

This poster provides an overview of the project objectives, outlines the methodology employed, and presents and discusses the first chronostratigraphy of the eastern Baza sub-basin based on luminescence and U/Th datings.

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