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Geomorphometric analysis for the hinterland of the roman sites Chimtou and Bulla Regia (Central Medjerda Valley), North Tunisia

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The intra-mountain Medjerda Valley is located in North Tunisia and is characterized by its namesake the Oued Medjerda. The Valley has been settled since at least the latest Paleolithic period. Archaeologists from the German Archaeological Institute (DAI) have been studying the region since 1965, concentrating on Roman settlements. Since January 2021 the joint research project "Conquest, Ecology and Economy in Islamic North Africa: The Example of the Central Medjerda Valley" focuses on the subsequent Islamic settlement of the middle Medjerda Valley between Late Antiquity and the Early Medieval Period. The overall project aims to understand the economic and social transformations of the region triggered by the Muslim conquests and subsequent regime changes.

As part of this project, we want to focus on sediment archives in the immediate hinterland of the archaeological sites Chimtou and Bulla Regia, which are located in the central Medjerda Valley. We want to increase our knowledge on local changes in environmental conditions to establish a knowledge base on how economic and social change of the region affects the landscape balance and sediment fluxes.

In this presentation we will present a morphometric analysis of the study area: a GIS-based classification of landforms by applying the algorithm Geomorphons and results from a soil erosion model (USPED). Our results show that combining both methods allows us to derive information on landscape sensitivity, increases our process understanding and supports identify areas of erosion and deposition. Although we currently do not have the opportunity to go into the field, we here introduce a methodological framework, which allows a first geomorphological characterization of a study area – nevertheless, ground checking will be a task for future field work.