Human-landscape Interactions along the Danube from the Neolithic to the Present in Budapest, Hungary

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Geoarchaeological and geomorphological studies were carried out on the alluvial plain of the Danube in an urban environment in the Northwest part of Budapest. The human-landscape interactions were investigated from the Neolithic to the present times.

The environmental reconstruction was produced through inter- and multidisciplinary geomorphological, archaeological, environmental historical researches, using OSL and radiocarbon dating, malacology, stratigraphy, and sedimentological analyses of samples from archaeological excavations, GIS data processing of contemporary and historical maps, archival documents and the spatial pattern of prehistoric archaeological sites.

The Danube is Europe's second longest river with a large catchment area. Its drainage basins' climatic and environmental changes have significant effects on our case study area's environment and its societies. The geomorphological and hydrographical evolutions' long-term and short-term processes as well as the landscape's episodic events were studied by investigating the geomorphological responses to climatic, fluvial and human impacts on the environment.

The landscape evolution from a nature-dominated fluvial environment to a densely built up anthropogenic landscape of a metropolis was revealed. An active river channel used to cross the research area in the Early Holocene. Today only some moderate-sized swampy, waterlogged areas refer to the existence of this former river channel and the subsequent lake and marshy environment. Through time this relict form of the Danube's paleochannel was occupied by streams, draining surface water, ground water and abundant karstic springs. The location of the two prehistoric settlement concentrations along the Danube can be linked with the former existence of the significant tributary streams' confluence. Geomorphological-topographical investigations of the area's archaeological sites revealed that one of the streams has reversed its flow direction through time. From the Roman Period onward, but especially during the Modern Times, the watercourses have been canalised and their channels have been relocated. Today hardly anything is reminiscent of the former alluvial environment in this part of the capital city.