



## Terrestrial cosmogenic nuclides in Danube sediments record vertical movement in a transect from the Eastern Alpine Foreland into the Vienna Basin (Austria)

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Quaternary landscape evolution in the Vienna Basin and the adjacent area west of its subsiding area is controlled by sediment redeposition, aggradation and erosion of the Danube, local normal faulting, and overall regional uplift. Glacial - interglacial climate dynamics highly influence the hydrodynamics and amount of sediment transport. Over the last 9 years sediments exposed during construction and drilling as well as from surface outcrops were sampled for cosmogenic nuclide age determination and uplift/incision rate calculation.

The Vienna Gate marks the transition of the Danube alluvial plain in the west (Tullnerfeld) into the extensional structure of the Vienna Basin. At this border, the Danube flows on top of an approximately 2 km wide segment of Penninic Flysch units before it enters the Vienna Basin to the east. Within the transtensional structure of the Vienna Basin, several fault blocks record local uplift and subsidence. Outside of the Vienna Basin, regional uplift is documented by fluvial terrace deposits at elevated positions located at different heights above the recent Danube riverbed.

The current status and tectonic context of numerical ages ranging between 250 kyr and 3 Ma will be presented in detail at the conference. Few locations appear to be sedimentologically unsuitable for cosmogenic nuclide burial age dating, those scenarios will be explored and discussed.

