



## **Response of rivers to late Pleistocene and Holocene climate change and subsidence, Southern Vienna Basin, Eastern Austria.**

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Climate and subsidence can be assumed to act as main influence factor on sequence development of Mitterndorf Basin. Mountainous catchments provide strong coarse clastic sediment supply during cold periods while higher increase of precipitation and vegetation cover during warmer periods cause overbank deposition and stream incision. The climate and tectonic impact produces very distinct sequences of unsorted sandy coarse gravels and fine grained overbank deposits. Overbank deposits are often pedogenic altered and contain rich faunas of terrestrial molluscs. In this study we focus on the distribution of overbank fines and stream evolution to reconstruct the late Pleistocene landscape development and fluvial dynamics of the Pleistocene Mitterndorf pull apart basin (Southern Vienna Basin) and the main controlling mechanism of environmental change. Data from field studies, geophysical surveys and available logs were used to trace the geometry and the dimension of overbank deposits and to get fault information. Gained mollusc assemblages give climate and age information while the organic content allows radiocarbon dating. Aerial images, field surveys and historical maps were used to reconstruct recent fluvial activity. Our study shows that overbank deposition is associated with warm and humid climate and distribution is also strongly influenced by tectonic activity. Furthermore, extension is mainly restricted to alluvial fans of Mitterndorf basin.