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## Landscape Evolution of a mesoscale catchment in the Northern Franconian Jura, Germany: Impacts of Geology when using Landscape Evolution Models.

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When modeling landscape evolution a uniform set of defining parameters is used to describe a heterogeneous landscape. This poses a particular challenge when reconstructing the fluvial history of the Weismain river basin (~125 km<sup>2</sup>). Located in the Northern Franconian Jura, Germany, the evolution of the landscape is closely related to its underlying bedrock. The Weismain river and its tributaries are deeply incised into a limestone plateau forming small, well-defined valleys that are opening up to wider floodplains in the lower parts of the catchment, where sandstone is dominant. The karstic nature of the catchment complicates a model calibration for the whole basin and therefore the reconstruction of its evolution.

In this study, we focus on two sub-catchments of the Weismain River where either lime- or sandstone are prominent. We are using the landscape evolution model CAESAR-Lisflood to model the sediment outputs of those tributaries and compare them to high-resolution, OSL-dated fluvial archives derived from extensive fieldwork. The numerical modeling approach should give insight into geomorphic processes, connectivity inside the system, and the possible impact from sub-surface irregularities in the area.