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Constructing Palaeo-DEMs in landscape evolution: example of the Geren catchment, Turkey

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How to reconstruct the past landscape and how does this influence your modelling results? This is an important paradigma in the soilscape and landscape evolution modelling community. Here an example of Turkey will be presented where a 300 ka LEM simulation requested to the thoroughly think about the initial landscape as an important input. What information can be used to know the morphology of a landscape 300 ka ago? The Geren catchment, a tributary of the upstream Gediz river near Kula, Turkey, has been influenced by base level changes during the Late Pleistocene and Holocene. Different lavaflows have blocked the Gediz and Geren river several times over in the timespan of the last 300 ka -200 Ka and in the recent Holocene. The heavily dissected Geren catchment shows a landscape evolution which is more complex than just a reaction on these base level changes. The steps and inputs of the palaeo DEM reconstruction will be presented and the modelling results will be presented.

Keywords: Digital Elevation Model, Palaeo DEMs, Numerical modelling