



Landscape development under human influence – a case study from the low mountain range Spessart

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Little is known about human settlement in prehistoric times in the low mountain ranges in central Germany. One of these ranges, the Spessart mountains, are known from written sources of the 1850s to have been a very poor area, where people suffered from starvation and numerous diseases. New interdisciplinary research in one catchment provides evidence that the region has first been settled during Neolithic times and provided a much higher soil fertility until early / high medieval times. Soil erosion due to extreme rainfall events and agricultural land use removed the thin fertile loess cover from the slopes of the catchment combined with gully incision. At the intersection of the catchment fan and the alluvial plain of the Elsava River, a high to late medieval archaeological moated site was excavated in 2008 and 2009. Detailed stratigraphy of the sediments in the moat enabled an environmental reconstruction of the area and in particular showed the beginnings of instability within the catchment. This instability continued presumably until ~ 1900 AD, and this persistence was caused by different land use techniques that could be reconstructed from various geomorphological features. Initial results indicate a rotating wood - pasture - agriculture cultivation system that was used within the catchment on slopes with a north west aspect. The intense charcoal production associated with this cultivation system enables anthracological investigations which provides the opportunity for reconstruction of the vegetation composition on a local scale at a high temporal and spatial resolution. This is then combined with paleobotanical macro remains and pollen analysis to enable a comprehensive palaeoenvironmental context for this poorly studied archaeological landscape. By quantifying sediment flux, these landscape reconstruction results provide a foundation for archaeological and geomorphological research in a wider context throughout central Germany.