



## **Soil-Erosion Modelling along Badland Hillslopes in a Dryland Environment of NE Spain**

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Badlands are hillslopes of unconsolidated sediments with no or little vegetation that cannot be used for agriculture and are characterised by their desert like appearance and their very high soil erosion rates. This study assesses the feasibility of modelling soil erosion rates from badlands of the Isabena Watershed in the Pre-Pyrenees, NE Spain using a field-work integrated, process-based, semi-distributed modelling approach. For this purpose, a field campaign was carried out recently to collect model parameterisation data on slope, vegetation cover, aspect, infiltration and particle size distribution as well as testing data on water and sediment fluxes. Four typical badland formations were selected in the field as a function of form, extent and internal gully system to enable a comparative study of badland processes. The four badland types were then modelled using a soil-erosion routine based on the MUSLE (Modified Universal Soil Loss Equation) approach coupled with a hydrological model. The fieldwork results as well as the modelling results and a sensitivity analysis for different spatial representations of the badland types are presented. The poster discusses the limitations but also the advantages of the MUSLE approach for the modelling of extreme soil-erosion rates from badlands, specifically in regard to the scaling of sediment budgets towards the regional scale.