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Soil erosion and sediment fluxes in a Mediterranean marl landscape, Campiña de Cádiz, SW Spain.

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Abstract
Marl landscapes, especially in the Mediterranean, show evident traces of high present-day and past soil erosion rates. The tendency to develop hillslope channels leads even at moderate rainstorm magnitudes to a significant increase of slope-to-slope connectivity, resulting in high amounts of mass transfer from upper parts of the hillslopes towards footslopes and valleyfloors. To analyse the intensity of this transfer a study was conducted focussing on late Holocene sediments correlative to modern-time soil erosion in the marl landscape of SW Spain. Based on field observations and sediment analysis several landscape positions within a medium-scale catchment were explored. Depending on landscape constellation, the sediment characteristics reflect the influence of past processes at this position, referring to either hillslope processes or alluvial processes or an interchange of them. By identifying the predominant geomorphic components and processes in the study area a conceptual model of the geomorphic system as a whole was developed.

(transmission of fig. impossible)
Fig. Proposed conceptual model of the predominant geomorphic components and processes controlling the marl landscape of western Andalusia. Magnitude and frequency of rainstorm events determine geomorphic activity, system connectivity and transported material properties. Arrows denote linkages between compartments and transport direction.