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Comparison of Rainfall Induced Soil Erosion under Saturated and Drainage Conditions

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We will present soil erosion results from a tilting 2 m by 6 m erosion tank. Rainfall induced soil erosion under different rainfall intensities, slopes, and for both saturated and unsaturated initial soil moisture conditions are systematically studied under controlled laboratory conditions. The variation in initial soil moisture content is critical for the assessment of physically based soil erosion models. We explore in detail the relation between soil moisture and soil detachability and between soil drainage and soil detachability. Comparisons of the measured eroded soil (particle size distribution and temporal distribution) with the results from an erosion model are also presented.