



The role of plant architecture on runoff and erosion processes – field observations and an experimental approach

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Abandoned fields in Mediterranean mountain environments are mostly covered by shrub vegetation with very variable density. Investigations during the last decades have shown, that even very close vegetation is not able to hinder erosion processes. But there is only a weak knowledge on the influence of plant formation types and plant architecture on runoff and erosion processes.

The present study investigates on one hand the occurrence of different geomorphological activity types (sheet erosion, rill erosion, deposition) on abandoned fields in the Pyrenees as well as to describe and quantify the dominating plant architectures within the studied area. On the other hand it elucidates with an experimental approach the role of shrubs with different architecture on runoff and erosion.

The results show an influence of plant architectural types on runoff generation, which is attributed to an influence on interception and runoff concentration. But this variability is hardly identifiable in the field due to the spatial dependency and spatial coupling of runoff, erosion and deposition processes.