



## **Assessment of sediment yield in a sloping Mediterranean watershed in Cyprus**

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In the Mediterranean region, water catchment sediment yield as a result of erosion is higher than in many other regions in Europe due to the climatic conditions, topography, lithology and land-use. Modelling sediment transport is difficult due to intermittent stream flow and highly irregular rainfall conditions in this region. The objective of this study is to quantify sediment yield of a highly sloping Mediterranean environment. This study is conducted in the Peristerona Watershed in Cyprus, which has ephemeral water flow. In the downstream area a series of check dams have been placed across the stream to slow the flow and increase groundwater recharge. The surface area of the watershed, upstream of the check dams, is 103 km<sup>2</sup> with elevation changing between 1540 m and 280 m and a mean local slope higher than 40% for the mountainous part and lower than 8% for the plain. The long-term average annual precipitation ranges from 755 mm in the upstream area to 276 mm in the plain. The surface extent of the sediment that was deposited at the most upstream check dam during two seasons was measured with a Differential Global Positioning System. The depth of the sediment was measured with utility poles and bulk density samples from the sediment profile were collected. The sediment had a surface area of 12600 m<sup>2</sup> and an average depth of 0.23 m. The mean of the sediment dry bulk density samples was 1.05 t m<sup>-3</sup> with a standard deviation of 0.11. Based on these values, area specific sediment yield was computed as 1 t ha<sup>-1</sup> per year for the entire catchment area upstream of the check dam, assuming a check dam sediment trap efficiency of 15%. Erosion in the watershed is currently modeled with PESERA using detailed watershed data.