



## **Measurements of interrill erosion on flysch soil under different land use (SW Slovenia)**

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There is relatively little data about soil erosion in Slovenia. This phenomenon did not cause much difficulties in the past, thus soil erosion measurements were rare. In April 2005 we started to perform measurements of interrill soil erosion on the Dragonja river basin, in Marezige, SW Slovenia, with the intention to deepen the knowledge about this phenomenon. The Dragonja river basin belongs to the submediterranean climate region where flysch soil predominates.

Eight 1-m<sup>2</sup> experimental plots were set up on locations with different land use types: on bare soil in a young olive grove (2), in an overgrown meadow (2) and in the forest (4). The experimental plots in the forest were placed on soil with two different slopes. Surface runoff from each of the experimental plots is collected in reservoirs. As a rule, samples of water and detached soil mixture from the reservoirs are being taken weekly. The samples are being dried in the laboratory and the concentration of undissolved particles is determined. A tipping bucket rain gauge is located next to the experimental plots for monitoring of precipitation and intensity of erosive events. In the near future the measuring field will be upgraded with two additional experimental plots equipped with tipping bucket flow meters for temporal monitoring of the surface runoff, and with a disdrometer (laser precipitation monitor) that enables a detailed insight in rainfall events erosivity. Research results will improve rainfall erosivity indices, help with the calibration of the foreign erosion models on local conditions and enable regional assessment of the soil erosion risk in the flysch regions of Slovenia.

Preliminary measurements (May 2005 to April 2006) showed interrill soil erosion of

9013 g/m<sup>2</sup> (90 t/ha) on bared soil in the olive grove with a slope of 5.5°; 168 g/m<sup>2</sup> (1.68 t/ha) on the overgrown meadow with a slope of 9.4°; 391 g/m<sup>2</sup> (3.91 t/ha) in the forest with a slope of 7.8°; and 415 g/m<sup>2</sup> (4.15 t/ha) in the forest with a slope of 21.4°. The total precipitation amount in the reference year reached 1044 mm, which is slightly lower than the long-term average for the area of Marezige, which is between 1100 and 1200 mm. The annual soil erosion for the experimental plots was also calculated with the RUSLE2 model, whose results showed a high underestimation of the actual soil erosion.