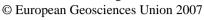
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Rates of soil erosion in an Atlantic area of NW Spain

J. M. Mirás Avalos (1), E. Vidal Vázquez (1), A. Paz González (1), J. Dafonte Dafonte (2), M. Valcárcel Armesto

(1) Universidad de La Coruña- UDC, La Coruña, Spain. tucho@udc.es / Fax: 34-981167065 / Phone: 34-981167000 (2) Universidad de Santiago de Compostela, EPS de Lugo, Lugo, Spain. jdafonte@lugo.usc.es / Fax: 34-98285926 / Phone: 34-982252231

Knowledge of soil loss rates by rainfall erosion under specified climate, soil, topography, and management conditions is important for establishing soil conservation schemes. In Galicia, a region with Atlantic climatic conditions in Spain, field observations over the last decade indicate that interill, rill and ephemeral gully soil erosion may be an important sediment source. The aim of this work was to assess concentrated erosion rates and to describe types of rills and ephemeral gullies and to determine their origin, evolution and importance as sediment sources. Concentrated erosion was surveyed on medium textured soils, developed over basic schist of the Ordenes Complex series (Corunna province, Spain) from 1997 to 2006. Concentrated erosion took place mainly on seed beds and recently tilled surfaces on late spring and by autumn or early winter. During the study period erosion rates were highly variable and the following situations could be roughly distinguished: a) No incision or limited rill incision, i.e., below 1 m³ha⁻¹, generalized rill and ephemeral gully incision in the class of mean values between 2 to 5 m³ha⁻¹. This was the most common erosion pattern and c) Heavy erosion as observed during an extremely winter period, between October 2000 and February 2002, with mean erosion figures about ten orders of magnitude higher than before, thus between 20 and 50 m³ha⁻¹. Thus, low values of soil losses are dominant, but also large values of rill and ephemeral gully erosion occurred during the study period.