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Estimating RUSLE's rainfall factor in the part of Italy with a Mediterranean rainfall regime

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Abstract. The computation of the erosion index (EI), which is basic to the determination of the rainfall-runoff erosivity factor R of the Revised Universal Soil Loss Equation (RUSLE), is tedious and time-consuming and requires a continuous record of rainfall intensity. In this study, a power equation ($r^2 = 0.867$) involving annual erosion index ($EI_{30\text{-annual}}$) in the Mediterranean part of Italy is obtained. Data from 12 raingauge stations are used to derive and then test a regional relationship for estimating the erosion index from only three rainfall parameters. Erosivity rainfall data derived from 5 additional stations are used for validation and critical examination. The empirical procedures give results which compare satisfactorily with relationships calibrated elsewhere.

Keywords: erosion index, rainfall, erosivity, Revised Universal Soil Loss Equation

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