



Rainfall erosivity factor estimation in Republic of Moldova

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Rainfall erosivity represents a measure of the erosive force of rainfall. Typically, it is expressed as variable such as the R factor in the Universal Soil Loss Equation (USLE) (Wischmeier and Smith, 1965, 1978) or its derivatives. The rainfall erosivity index for a rainfall event (EI30) is calculated from the total kinetic energy and maximum 30 minutes intensity of individual events. However, these data are often unavailable for wide regions and countries. Usually, there are three issues regarding precipitation data: low temporal resolution, low spatial density and limited access to the data. This is especially true for some of postsoviet countries from Eastern Europe, such as Republic of Moldova, where soil erosion is a real and persistent problem (Summer, 2003) and where soils represents the main natural resource of the country. Consequently, researching and managing soil erosion is particularly important. The purpose of this study is to develop a model based on commonly available rainfall data, such as event, daily or monthly amounts, to calculate rainfall erosivity for the territory of Republic of Moldova. Rainfall data collected during 1994-2015 period at 15 meteorological stations in the Republic of Moldova, with 10 minutes temporal resolution, were used to develop and calibrate a model to generate an erosivity map of Moldova.

References

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