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## **ASSESSMENT OF SOIL EROSION USING FOURNIER INDEXES TO ESTIMATE RAINFALL EROSIVITY**

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### **Abstract**

Soil erosion is one of the most extensive processes of land degradation around the world and its estimation is useful for spatial planning and policy makers for starting to remedy susceptible areas. For the moment, there is no single accepted calculation method, but most estimations are based on the classical or modified form of the Universal Soil Loss Equation (USLE). The goal of this study was to determine USLE's parameters, with accent on the main factor - the rainfall erosivity - using a modified Fournier index, and to estimate the potential erosion, in an area using GIS techniques. The rainfall aggressiveness was analyzed based on monthly and annual average values using the Fournier's index. Until now, this issue was not studied although it affects large areas. This study is based on an area located in the north-eastern part of Romania, in a catchment of 78.83 km<sup>2</sup>, a river of 17.35 km and an elevation ranging from 137 to 720 m above sea level. A map of the annual soil erosion was developed for the study area showing small areas characterized by a very high soil loss hazard, with values between 150 and 500 t·ha<sup>-1</sup>·yr<sup>-1</sup>, indicating the necessity of intervention to limit the erosion.

*Key words:* erosion, rainfall, RUSLE, soil, USLE

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