THE ALTERNATIVE DETEMINATION OF R-FACTOR (RAINFALL EROSIVITY FACTOR) IN THE HUSÍ CREEK CATCHMENT

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Evaluation of rain erosion efficiency is one of the basic pillars of research in the field of soil erosion risk assessment. As part of empirical modelling using the USLE (Universal Soil Loss Equation) family models, the erosion efficiency of rain is represented by the R factor, which can be determined by a number of recommended procedures. This article presents possible alternative ways of determining the value of the R factor based on the annual and monthly sums of precipitation totals. The individual methods are compared with each other and confronted with the procedures used in the Czech Republic and their advantages or disadvantages are also discussed. The aim of the paper is to present relatively simple calculation procedures based on standard measurement of precipitation totals and also to find a suitable procedure for calculating the R factor for application in the Czech Republic. The Husí potok catchment area near the town of Fulnek was chosen as a model area, where long-term monitoring of rainfall-runoff processes takes place. Calculations of R factor values were performed for 4 selected rain-gauge stations and the period 2015 to 2019. The most promising alternative procedure for calculating the R factor appears to be the method according to Wischmeier and Smith (1978), which takes good account of the variability of precipitation totals during the year. Furthermore, the results indicate a much lower rate of rain erosion in the period compared to the long-term R-factor values used by other authors.