# SOILS FOR FUTURE UNDER GLOBAL CHALLENGES

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# ASSESSMENT OF SOIL EROSION USING THE EROSION POTENTIAL METHOD AND THE UNIVERSAL SOIL LOSS EQUATION IN THE GRAČANICA RIVER CATCHMENT (PRIJEPOLJE)

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## Introduction

Soil erosion is one of the most common type of soil degradation, which causes significant danger to socio-economic development.

The river Gračanica, the tributary of the river Lim, is located in the southwestern part of the Republic of Serbia, in the municipality Prijepolje.

A=33.06 km<sup>2</sup>

O=31.83 km



# Methodology

Both methods are implemented and calculated within the geographical information system (GIS) surrounding ArcMap (10.8.1) and GiSuS–M tool extension.

### **Results and discussion**

The eroison coefficient (Zsr)  $\rightarrow$  0.358



USLE  $A = R * K * L * S * C * P [t * ha^{-1} * god^{-1}]$ EMP  $W_{god} = T * H_{god} * \pi * \sqrt{Z^3} * A [m^3/god]$ 

L=12.00 km



The difference between EPM and USLE shows about 17% more soil loss obtained by USLE than by the EPM method. The EPM method could be considered more accurate because it was developed in the Republic of Serbia in similar conditions as in this research area.

#### Conclusion



