



## **Multi-variable connection of slope, discharge and sinuosity in the Pannonian Basin**

J. Petrovszki

Eötvös Loránd University, Department of Geophysics and Space Science, Hungary (geojudit@gmail.com)

Many papers discuss the connection between different river parameters. Leopold and Wolman (1957) analyzed how the river pattern changes with the changing slope and water discharge. Schumm and Khan (1972) demonstrated the sinuosity variations as a function of the slope. Timár (2003) merged these planar diagrams and the result was a pseudo-3D diagram, suggesting that the sinuosity changes depending on the slope, at a given discharge. My work aims to make a real 3D diagram, using the rivers of the Pannonian Basin.

Viczián (1905) gave the slope and water discharge values for the rivers in the Pannonian Basin, except the area of the Great and Little Hungarian Plain. The meandering rivers of this area also were digitized, using the map sheets of the Second Military Survey of the Habsburg Empire (the survey of these maps was made in the second half of the 19th century), and their sinuosity was calculated. The first 3D-graph was made using 13 rivers (Ondava, Laborec, Uh Latorica, Drava, Tisza, Hron, Sajó/Slaná, Váh, Maros/Mures, Olt, Szamos/Somes and Kis-Szamos/Somesul-Mic rivers) and this show the expected results. The rivers of the Hungarian Plains are also processing to complete the graph with higher discharge and lower slope data.

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