



How morphometric characteristics affect flow accumulation values

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Remote sensing methods (like aerial based LIDAR recording, land-use recording etc.) become continually more available and accurate. On the other hand in-situ surveying is still expensive. Above all in small, anthropogenically uninfluenced catchments, with poor, or non-existing surveying network could be remote sensing methods extremely useful. Overland flow accumulation (FA) values belong to important indicators of higher flash floods or soil erosion exposure. This value gives the number of cells of the Digital Elevation Model (DEM) grid, which are drained to each point of the catchment.

This contribution deals with relations between basic geomorphological and morphometric characteristics (like hypsometric integral, Melton index of subcatchment etc.) and FA values. These relations are studied in the rocky sandstone landscapes of National park České Svycarsko with the particular occurrence of broken relief. All calculations are based on high-resolution LIDAR DEM named Genesis created by TU Dresden. The main computational platform is GIS GRASS .

The goal of the conference paper is to submit a quick method or indicators to estimate small particular subcatchments threatened by higher flash floods or soil erosion risks, without the necessity of using sophisticated rainfall-runoff models. There is a possibility to split catchments easily to small subcatchments (or use existing disjunction), compute basic characteristics and (with knowledge of links between this characteristics and FA values) identify, which particular subcatchment is potentially threatened by flash floods or soil erosion.