



Estimations of discharge values for purposes of surface runoff and sediment transport off-site effects assessment

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Many studies dealing with the assessment of increased sediment transport and runoff off-site effects are facing the problem sourcing from the lack of input data. This is often the problem of studies which are focused on the assessment of large areas whereas it can be calculated by widely used methods or models in case of small areas. The procedure for the calculation of values such as average discharges or peak discharge values is very dependent on the input data availability. Of course, the procedure must reflect the type of values which have to be estimated. It is rather different when calculating peak discharge values than when calculating average discharges.

This poster focuses on both the average discharge and peak discharge value estimations using different procedures. Average discharges were calculated as a necessary input for the calculation of sediment trap efficiency in reservoirs which is a part of complex solution within the project NAZV QI102265 "Assessment of soil erosion and phosphorus loads causing eutrophication of stagnant water bodies". Values of average discharges are also used for the classification of extinct pond areas which is solved within the project NAZV KUS QJ1220233 "Assessment of former pond systems with aim to achieve sustainable management of water and soil resources in the Czech Republic". Estimation of peak discharge values are the aim of the project COST LD11031 "Flood characteristics of small catchments" in which a new estimation procedure is being developed.

In both cases the GIS is a necessary tool for the calculation. In the first case, (calculation of average discharges) only the average discharge values in given profiles were used as an input for the calculation which is based on the interpolation of specific runoff values over the analysed area. In the second case, more physic-geographic parameters are taken into consideration as the values of peak discharges are very dependent on them. On this poster, the comparison of different procedures is provided including the analysis on the uncertainty of the results.

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