



## **Flood risk assessment in small catchments**

V. David

Czech Technical University in Prague, Faculty of Civil Engineering, Department of Irrigation, Drainage and Landscape Engineering, Prague, Czech Republic (vaclav.david@fsv.cvut.cz)

According to needs of better financial sources targeting in flash flood prevention in Czech Republic there is a demand on a tool which could find the most endangered localities within large areas. Therefore the methodology for small catchment classification from the point of view of floods connected with heavy rainfalls (flash floods) is being developed at the Department of Irrigation, Drainage and Landscape Engineering.

The methodology classifies potential flood risk which is not expressed in probabilistic values but only categories. Main principle of the methodology is on use of risk matrix prepared for this purpose. The risk matrix combines two main aspects of risk which are hazard and vulnerability of urban areas. The classification is mostly based on spatial data and use of GIS, because measured data is often missing in small catchments.

As a hazard the possibility of flash flood occurrence is understood. The hazard is being assessed using different factors which have significant influence on surface runoff process. These factors are so far climatic conditions expressed as totals of 24-hours rainfalls with different time of duration, slopes in catchments, shapes in catchments, soil conditions and land use conditions.

As a vulnerability of urban areas a concentration of endangered building structures in potential floodplain is considered. Potential floodplains are determined with use of DEM analysis.

First applicable version of the methodology is now already completed and is now in phase of testing and improvements. Application of the first version for the area of Central Bohemia region is presented on the poster.

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