LOCALIZATION OF FLASH FLODS IN SLOVAKIA IN 1990 - 2010

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Abstract

Flash floods aren´t new phenomena, but long time existing natural hazard which is affecting many human activities in country. There is many of studies focused on possibility of flash flood forecasting or on estimating most vulnerable areas in country. In these cases we are working just with possibility or propability of flash floods instead of real empirical datas. We can forecast possibility of creation of condition which can produce heavy rain and we can estimate areas, which should be the most vulnerable ones. As the most vulnerable are considered river basins which are created by the flysch. In these areas many flash floods have occured yet (Prietrž 2009, Mala Svinka river basin 1998). In our poster presentation we are trying to prove these pressupositions. We have to study hydrograms from chosen water gauge stations in Slovakia. We have worked with 112 station in interval from 1989 to 2010. Chosen station are situated in small river basins or in upper parts of bigger rivers, where is higher propability of flash flood occurence. For estimating flood wave as flash flood it should have some important parameters. It should be the wave with 1- year or longer return period and the the time from begging to culmination shouldn´t be longer than 6 hours. Whole flood wave shouldn´t be longer than 24 hours. All these selected waves have occured in the sommer season of the year (may – november) due to charakteristics of initial rain (ussualy it is a heavy storm which occur mainly in this season). There were many of flood waves which fulfill these parameters and there was only weak relation with geological conditions. Only in two cases (Myjava and Polhoranka river basins) are watersheds created by flysch. In other river basins, where this type of flood is occuring most often, the flysch stones are creating only part of watershed and in other river basin (Hutná) is flysch total missing. In these watersheds is rapid concentration time of floods caused by other factors.

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