



Analysis of linkage between abiotic and biotic parameters and specific runoff in small catchment situated on crystalline rocks in Czech Republic

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The issue of influence of landscape matrix on the runoff amount and its single components in the catchment of Kopanisky stream was researched in this study. The catchment of Kopaninsky stream is situated in palaeozoic mostly acid crystalline rocks which are specific in its geomorphology and hydrogeology. For the purpose of runoff separation three different methods were applied. The method of hydrograph separation joined with analysis of underground water level fluctuation (Kliner and Knezek, 1994) and two methods based on analysis of recession limb of runoff hydrograph (Dolezal and Jain, 1997; Kulhavy, 2001). All three methods were confronted. The complex evaluation of runoff characteristics was elaborated (two and three components runoff separations, specific runoff - modulus of outflow) for the whole catchment as well as for individual subcatchments. The land use overview for separate subcatchments was elaborated. Further the soils were categorized and hydrogeologic environment was analysed in separate subcatchments and its influence on vulnerability (infiltration capacity) was assessed. The linkage between specific runoff ($l.s^{-1}.km^{-2}$) in separate subcatchments and landscape matrix, soil and hydrogeological parameters in the whole researched period, drought periods (periods with baseflow only) and periods with percolative regime (extra-vegetative periods) was assessed.

Key words: catchment, runoff separation, landscape matrix, soil, hydrogeological parameters.