



Hydrological aspects of tile drainage systems in a small agricultural catchment in the Bohemo-Moravian Highland

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The objective of this paper is to characterise the tile drainage runoff and discuss its hydrological aspects. Statistical characteristics of stream runoff are described and compared to the runoff from tile drained subcatchments and undrained subcatchments as well. Selected rainfall runoff situations were studied in the subcatchments.

The study area of the Kopaninsky stream experimental catchment (7,1 km²) - a part of the Vltava (Moldau) river basin - is located in the Bohemo-Moravian Highland, Pelhřimov district. The land use is prevailingly agricultural. Nearly 50 % of the catchment's area is covered by arable land, 37 % by forest and 12 % by grassland. The systematic tile drainage systems were built in the catchment during the years 1960-1980, tile drained area occupies approximately 10 % of the catchment.

The monitoring network consists of rain gauges and ultrasound sensors for recording the discharges by V-notches, all the equipment belongs to the Research Institute for Soil and Water Conservation.

Estimation of the drainage runoff portion in the Kopaninsky stream catchment was calculated according to the tile drained area on the basis of runoff volume from the monitored drainages. The portion of drainage runoff from the total stream runoff reaches 5 - 30% (in all months of the monitored period). Estimation comprises up to 15% variability in individual months according to monitored drainage systems entered to the calculation.

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