

# ABSTRACT

This paper deals with the rainfall-runoff regime in the Stropnice river-basin and its development. The aim of this paper is to answer the question of, were there any changes in the runoff regime during the period 1945 – 2009, and if so, were these changes conditioned by climate or were they caused by human interventions' (e. g. river network modification, changes of the land cover, drainage systems development etc.). The single-mass and double-mass curves were used as the primary methodology. The homogeneity of the time series of mean discharge, precipitation and air temperature were statistically tested using Mann-Whitney-Pettit test and Mann-Whitney test. The Mann-Whitney-Pettit test was performed using the programme AnClim (v5.012), which is freely available online, the Mann-Whitney test was performed using SPSS 15.0. Non-parametric Mann-Kendall test was used for the trend detection, performed in MULTMK/PARTMK by C. Libiseller and A. Grimvall, also freely available online. Some changes in the runoff regime were uncovered in the early 80s', when the runoff decreased, which also happened after 1988. During these periods almost no annual flood occurred. The first decrease of the runoff was caused by a drier season in the 80s'. The second decrease after 1988 was probably caused by a build-up of the Humenice dam, which is capable of transforming the flood discharges and contributes to equalization of the runoff.