

## Abstract

This thesis deals with rainfall and water runoff regime in the catchment area of river Klabava. The aim of this thesis is to find changes in the rainfall-runoff regime during the period of observations (1950-2014) and if so, were these changes caused by climate changes or human activities. The research part includes description of rainfall-runoff process and Klabava catchment area description. In the applied part there is an analysis of precipitation – runoff regime for long-term time series of average and minimal annual, monthly and seasonal discharges and annual, monthly and seasonal precipitations using single and double mass curves and statistical tests testing absolute homogeneity, relative homogeneity and trend (by Mann-Whitney-Pettit, Alexandersson, Mann-Kendall tests). The tests were performed by freely available software AnClim designed for these purposes. Mann-Kendall test was performed by MULTMK/PARTMK available as a MS Excel macro for free. Plus, there is basic discussion of floods in Klabava river basin and flood seasonality. The homogeneity tests haven't found many changes at all, most of the detected changes concern the minimal runoff time series. The precipitation annual amount was detected with a raising trend, while the runoff time series seem to have no trend at all. Achieved results were discussed and compared with similar studies in the Czech Republic.

**Key words:** Klabava River, rainfall-runoff relations, runoff trends, flood, seasonality