Abstract

Diploma thesis is focused on changes of natural organic matter within hydrological extremes in headwater areas of the upper Vydra. The increace in these concentrations and increased transport to surface waters negatively affect the environmental and social environment. The main aim of this work is to analyse the amount and variability of organic metter in relation to selected runoff events with clarification of these relationship. The change in the amount of concentrations and variability of Dissolved Organic Carbon (DOC) was evaluated with respect to the preconditioning of the catchment (over a period of 14 days) and the influence of hydroclimatic conditions during the episodes. The dependence of each variable on DOC concentrations was also examined. The dependence of parameters (water temperature, conductivity, flow rate, pH, Dissolved Oxygen, Dissolved Organic Carbon concentration) within the campaigns and the subsequent similarity of the profiles were also investigated. The data for this work were provided by the Department of Physical Geography and Geoecology, Faculty of Science, Charles University. The evaluating of relationship and processes was determined, for example, using Principal Component Analysis (PCA Analysis), hysteresis loop or Pearson's correlation coefficient. The greatest influence on the change in concetrations and variability of organic carbon in watercouses was the change in groundwater level and streamflow. The greater lag time of maximum DOC concentrations behind maximum streamflou and the higher mean DOC concentrations during the episode were primarily due to previous conditions without a precipitation-runoff event.

Key words: organic substances, Dissolved Organic Carbon (DOC), peatland, water flow, hydro-climatic conditions