Abstract

The recherche part of this bachelor thesis deals with evapotranspiration from floodplain forests and its influence on the depth of the groundwater level and mineralization of groundwater. As floodplain forests in the Czech Republic are represented only in smaller fragments, there is a mention of the effect of mineralization on plants. The thesis describes the principle and use of stable isotopes in hydrogeology and the comprehensive characteristics of the area of interest of the experimental part, the Libický luh National Nature Reserve. The experimental part includes the observation of the level, conductivity, temperature, pH, and determination of the isotopic composition of the underground and surface water in Libický luh, where high mineralization of the groundwater was previously detected. The thesis discusses the effect of evapotranspiration on the content of dissolved substances in the water in Libický luh as a possible cause of this phenomenon. It was found that as the temperature rises, the groundwater level drops, and that mineralization remains relatively constant throughout the year. The drop in the groundwater level is evidently caused by intensive evapotranspiration from the floodplain forest during the growing season. However, longer time series of conductivity or hydrochemical analyzes would be needed to demonstrate a direct relationship between evapotranspiration and increased mineralization.

Key words: floodplain forest, evapotranspiration, groundwater, mineralization, stable isotopes, Libický luh