



## **Evaluation of the dynamics of soil water potential and modelling water fluxes in forest soils of a drinking water catchment**

Soil water fluxes are a crucial component for linking terrestrial and aquatic ecosystems. They determine the amounts of nutrients and pollutants potentially mobilized and transported from soils into streams and rivers. Changes in soil water fluxes are discussed as one potential reason for increasing concentrations of dissolved organic carbon (DOC) in many streams in the northern hemisphere. This surface water browning seriously threatens water quality.

In this MSc-thesis project, soil water potential, soil moisture and temperature of four soil profiles should be evaluated for differences between the soils and seasonal trends of 1.5 years of measurements. These data form the basis for modelling soil water fluxes using a hydrologic model (e.g. Brook90, CMF, Catflow, echoRD). The objectives of this study include the parameterization of a model for the four sites, including respective calibration and sensitivity analysis based on the available measurement data. The models shall be used to compare the four sites towards major characteristics and drivers of soil water transport. The MSc-thesis can be written in English or German.

This MSc-thesis is part of an ongoing project aiming to identify the most important DOC sources in a drinking water catchment in the Ore Mountains (Sosa reservoir). It is a joint project between TU Dresden, TU Bergakademie Freiberg and the Saxon State Office for Environment, Agriculture and Geology (<https://www.boden.sachsen.de/quellstarke-von-gelostem-organischem-kohlenstoff-doc-aus-boden-22509.html>).

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