VARIATIONS OF SOIL PCO_2 IN KARST DEPRESSIONS AND SPRING WATER OF THE SWABIAN ALB, SOUTHERN GERMANY

Sebastian BAUER, Gernot SCHÜLE, Thekla Abel, Martin SAUTER

Institute of Geology, University of Tuebingen, Sigwartstrasse 10, 72076 Tuebingen, Germany, email: sebastian.bauer@uni-tuebingen.de

The aim of this work was to obtain data of soil air CO_2 concentrations at different depths as well as the change of concentration with time in order to understand dissolution of calcium carbonate near the surface as well as residual CO_2 partial pressures in spring water from a karst catchment. Sampling sites where located in karst depressions, in order to obtain larger sampling profiles of several meters in an otherwise thin soil cover. Sampling locations for soil air CO_2 measurements where chosen under agriculturally used fields, grassland and forested areas to allow for the identification of the effects of different types of vegetation on soil CO_2. Measured values at the spring and a balance approach are used to determine a CO_2 balance of the whole catchment area.