Geophysical Research Abstracts
Vol. 19, EGU2017-11748, 2017
EGU General Assembly 2017

Deep karstified dolomite aquifer as a source of drinking water - isotopic measurements

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The Ljubljana Moor extends from the southern part of Ljubljana, the capital of Slovenia, to Krim-Mokrc karstic mountains. The sedimentation basin of Ljubljana Moor is filled up in the central part with lacustrine and marshy sediments and on the borders of the basin are the gravel fans. In the base of sedimentation basin is prequaternary karstified upper triasic dolomite. Ljubljana Moor aquifer is one of the biggest and very important drinking water sources in the central part of Slovenia. The water field Brest with 13 wells is situated in southern part of Moor, on Iška fan. The wells of different depth, from 28 m to 200 m, pump groundwater from various geological units, quaternary sediments and karstified dolomite.
The land use on recharge area is agriculture and urbanization and in the last decade we monitor the deterioration of groundwater quality in quaternary sediments. In 2011 the 200 m deep well (VD Brest-3a) was drilled to catch the groundwater better quality in triasic dolomite that is in hydraulic connection with the karstic area in hinterland. To determine the recharge dynamic, origin and age of groundwater in dolomite, we provide several isotopic samplings on different depths. We measured oxygen (δ18O), deuterium (δ2H) and inorganic carbon (δ13CDIC).
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