



Propagation of the flood pulses in the epiphreatic zone of karst aquifers: the case of Reka river system, karst plateau, SW Slovenia

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We present and discuss the monitoring of water levels and temperatures of the cave streams in the aquifer of Kras, SW Slovenia. The aquifer is characterized by more than 350 m deep vadose zone and high variability of the main allogenic recharge, the Reka river. The river sinks on the NE side of the aquifer, flows underground for about 40 km towards NW and re-emerges near the bay of Trieste. The river level is reached through six caves along its underground course, where monitoring of water levels and temperatures was established. It is known that extreme events rise the water levels in some of these caves for more than 100 m. Additionally a dye tracing of the river was performed, where field fluorimeters were installed into the caves. The continuous monitoring has revealed the nature of flood pulses propagation through the aquifer. The discussion of results is based on the modeling of channel-restriction system.