



Measurement of snowmelt recharge of The Ljubljansko Polje aquifer

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The Ljubljansko Polje aquifer is a major source of drinking water of the municipality of Ljubljana. Today the municipal water supply pumping is estimated at 1.5 m³/s of water, providing excellent water supply quality. The aquifer has a surface area of 80 square kilometres and a low annual discharge of 3,0 m³/s. A half of the aquifer discharge is recharge by rainfall and by snowmelt. Fluctuations of the groundwater level have been measured on more than 10 piezometers, which show significant impact of snowmelt on aquifer fluctuation. During the winter season the groundwater level rises significantly. Snowmelt and snow water equivalents have been measured in Ljubljana since 1948. A lysimeter and a snowmelt station were set up in 2003. From the measured data, MODFLOW simulations and remote sensing data impact of snowmelt on the aquifer water balance has been analysed. Snowfall and impact of snowmelt on groundwater discharge vary from year to year with evidence of climate variability impact. The work was funded by the EU FP6 AWARE project.