Conference Abstract

Groundwater ecosystems in changing times

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Abstract

Waterbodies worldwide undergo changes and this influences the ecosystems with the resident communities. Groundwater is no exception. However, few studies have so far focused on how the combined effects from catchment management and a changing climate impact the communities living in the groundwater. In 2019-2021 in southwestern Czech Republic, we sampled fauna and microorganisms in 37 wells that had been monitored by CHMI for up to 40 years and that varied in the trends in chemical and physical properties. The wells tapped the shallow quaternary and deeper aquifers of seven major hydrogeological zones. As expected, more quaternary than deeper wells showed - stronger - trends in physical and chemical properties of the groundwater. The chemical property changing significantly in the highest proportion of wells, i.e. 100% of the wells sampled for fauna, was silica. The trend of silica was increasing in all cases. Faunal numbers were lowest in the wells with the highest silica values. This may be an indirect effect of the interaction between changing agricultural practices and climate change, and may have implications for ecosystem functions, such as the use of groundwater for drinking water production.

Keywords

groundwater ecology; groundwater organisms; hydrogeological patterns

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