



Transient tracers as tools for studies of shallow aquifer vulnerability

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Transient tracers such as tritium (^3H) and its radioactive decay product ^3He have recently been used to characterize flowpaths, age structures, and recharge rates in aquifers storing young (several decades old) groundwater. In addition, these tracers provide information on the degree of mixing and dispersion in groundwater flow systems. We place the transient tracer methodology into the context of aquifer vulnerability studies and highlight the results through selected case studies.