

Transient uses of environmental tracers in a groundwater flow system

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Environmental tracers have widespread use in estimating groundwater sustainability parameters such as recharge and groundwater flow velocity. In many published cases both steady state and a straight sloping water table are assumed. However, there are many other situations where the groundwater system is under transient conditions and/or the water table is undulating. This paper examines a Tothian flow system with an undulating water table in a transient mode. Both recharge and flow velocity show considerable variations depending upon there temporal and spatial location in the groundwater flow system. The impact of these results on sustainability are discussed.