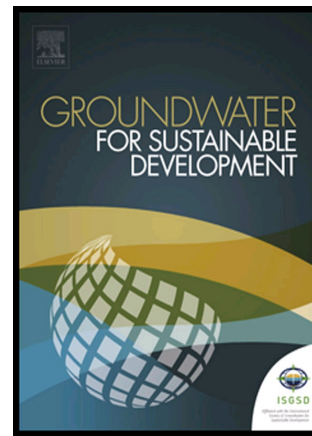


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### STRONTIUM ISOTOPES AS A TOOL FOR ESTIMATION OF GROUNDWATER RECHARGE AND AQUIFER CONNECTIVITY

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STRONTIUM ISOTOPES AS A TOOL FOR ESTIMATION OF GROUNDWATER  
RECHARGE AND AQUIFER CONNECTIVITY

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**ABSTRACT**

Aflaj waters and groundwaters hosted in limestones, ophiolite and alluvium of northern Oman were investigated for their strontium content and  $^{87}\text{Sr}/^{86}\text{Sr}$  ratio. The main objective of this investigation is to identify different sources of recharge and to establish hydrological inter-aquifer connectivity. Most of the water seems to acquire its isotope signature from interaction with carbonate and evaporite rocks.

Based on the correlation between  $^{87}\text{Sr}/^{86}\text{Sr}$  and  $1/\text{Sr}$ , the contribution of groundwater from both the Hajar Super Group (HSG) and ophiolite aquifers in addition to direct infiltration of running waters can be identified for the Aflaj samples.

The relationship between  $^{87}\text{Sr}/^{86}\text{Sr}$  and  $1/\text{Sr}$  indicates aquifers' inter-connectivity and suggest that the ophiolite aquifer is recharged from the alluvium and HSG aquifers. Groundwater of the

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