

Studying the Spatial Variations of Stable Isotopes (^{18}O and ^2H) in Precipitation and Groundwater Resources in Zagros Region

Authors : Mojtaba Heydarizad

Abstract : Zagros mountain range is a very important precipitation zone in Iran as it receives high average annual precipitation compared to other parts of this country. Although this region is important precipitation zone in semi-arid and arid country like Iran, accurate method to study water resources in this region has not been applied yet. In this study, stable isotope $\delta^{18}\text{O}$ content of precipitation and groundwater resources showed spatial variations across Zagros region as southern parts of Zagros region showed more enriched isotope values compared to the northern parts. This is normal as southern Zagros region is much drier with higher air temperature and evaporation compared to northern parts. In addition, the spatial variations of stable isotope $\delta^{18}\text{O}$ in precipitation in Zagros region have been simulated by the models which consider the altitude and latitude variations as input to simulate $\delta^{18}\text{O}$ in precipitation.

Keywords : groundwater, precipitation, simulation, stable isotopes, Zagros region

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