

The origins of water sources in the region of Annaba: confirmation using isotopic tools

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Abstract The studied area contains several superficial or deep water tables, which constitute the main sources of groundwater. The complexity of the exchange between groundwater and superficial water, as well as the casting of urban and industrial wastes remain unclear and require the application of isotopic techniques. Hence, a campaign involving 48 samples was conducted. We attempted to find the links between those groundwaters. We noticed that the water levels of oxygen 18 (¹⁸O) range from –6.5‰ in Orelait to 0.12‰ in Oued Meboudja. The majority of oxygen-18 values are homogenous and less than –5‰. However, some values belong to the evaporated water area, indicating an enrichment of these waters. The isotopic study showed that evaporation is important in the studied region.

Key words groundwater, isotopic tools, evaporation, oxygen-18, superficial or deep water tables