

Isotopic Characterization of Shallow Groundwater Resources in Lagos Coastal Basin, Nigeria

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Research Methodology

This study employed stable and radioactive isotopic measurements to unravel the source of recharge and residence time of shallow groundwater system in Lagos Coastal Basin. Thirty (30) samples for stable isotopes of ²H and ¹⁸O, 21-samples for radioactive tritium and 9-samples for ¹⁴C and ¹³C isotopes were collected and analyzed. Figure 1 below shows the plot of $\delta^2\text{H}$ against $\delta^{18}\text{O}$.

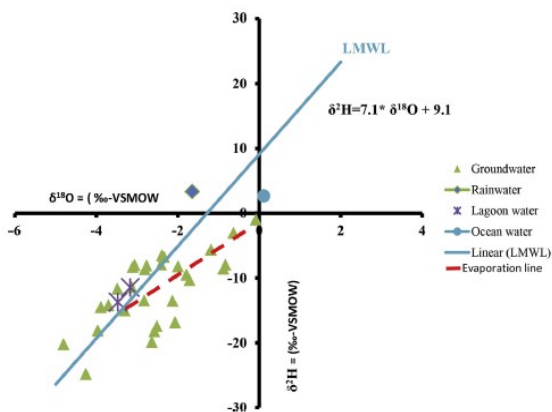


Figure 1: Plot of $\delta^2\text{H}$ versus $\delta^{18}\text{O}$ (‰) for groundwater in Lagos Coastal Basin

Discussion of Results

The environmental isotope plot in Figure 1 portrays that the samples fell above, below and along the global meteoric waterline (GMWL), indicating that the groundwater samples were of meteoric origin following Craig (1961).

References

Craig (1961) *Science* **133**, 1833- 1834.