The groundwater geochemistry in a semi-arid, fractured crystalline basement area of Dodoma, Tanzania

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Abstract

The chemical character of groundwater is generated through processes including the leaching of surficial and near-surface soil salts, cation exchange and mineral dissolution of, in this case, mainly amphiboles and sodic plagioclase. Molar ratios thermodynamic analysis using a NETPATH geochemical model and standard Piper trilinear and Gibbs diagrams have been used to establish these geochemical processes. Though the groundwater is dominantly of NaCl type, it is apparently suitable for general irrigation purposes.