

Groundwater quality in the Ndop Plain, a CVL depression, N.W. Cameroon, Central Africa

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The Ndop Plain is a depression along a chain of volcanoes that cuts diagonally across Cameroon known as The Cameroon Volcanic Line. With population increase, there is a high water demand for domestic and irrigation uses. 70 % of the population depends on ground water sources of little known chemical quality. The Rocks in the area are of igneous (granitic and volcanic) and metamorphic origin and constitute a natural source for the enrichment of water chemistry. The convergence of numerous rivers in the centre of the plain poses a potential pollution from the varied geology and human activities. Wirmvem (2010) revealed water of poor microbial quality hence, prevalence of water borne diseases in the area. The spatial and temporal components of groundwater have not been evaluated for possible pollution pathways and duration. The on-going study seeks to a. Assess in detail, the physic-chemical properties of the groundwater; b. Characterize the resource (flow regime, evolution, recharge mechanism and age) by using stable isotopes (D and O18) and environmental isotopes (CFCs, SF6 and 3H); and c. Asses the geological control on water composition. The following outcomes are expected: suitability of water sources for human and animal consumption and irrigation, a baseline hydrogeochemical data and source rock chemistry, a water management tool for the government hence, a great input to the lacking knowledge on numerous groundwater resources in Cameroon highly used.

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