Hydrogeologic and hydrochemical framework of the shallow regolith aquifer, southern Oban massif (Nigeria)

Cadre hydrogèologique et hydrogèochimique d'un aqufère de socle fracturè altèrè, massif du sud de l'Oban (Nigèria)

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Introduction

The development of groundwater resources in the Oban massif basement complex area has been on for several years without much success due to the fact that basement complexes are problematic aquifers.

The objective was to delineate and characterize the architecture of the regolith aquifer using Surface geological mapping and geoelectrical measurements.

Study area

Oban basement complex with tropical climate

Major results

Study results have been used to develop a generalized hydrogeologic model for the Oban massif.

The concentrations of majority of the physicochemical parameters are within the WHO (1993) standard for the drinking and domestic purposes.

Silicate weathering and Cation-exchange process control the water chemistry.

The study also highlights the management of groundwater in the area.

Conclusion

Geoelectrical method has been used to delineate and characterize the different groundwater bearing units of the Precambrian Oban massif.