

**Emmanuel Obuobie**

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**Estimating groundwater recharge in the context of future climate change in the White Volta River Basin, West Africa.**

Sustainable development, use and management of groundwater resources vis-à-vis challenges of population growth, land degradation and future climate change among others, require quantification of groundwater recharge and understanding of recharge processes. This study estimates the amount and spatial distribution of groundwater recharge at different spatial scales in the White Volta River Basin, using the chloride mass balance, water table fluctuation, and hydrological modeling techniques. It also evaluates the impact of future climate change on recharge. The results show that the different recharge estimating techniques give similar recharge values and that the recharge in the basin is expected to increase, with increase in the annual variability, due to future climate change.