EARTH OBSERVATION SYMPOSIUM (B1)
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LINEAMENT STUDY IN GROUNDWATER EXPLORATION USING SPACE BASED TECHNOLOGY: A CASE STUDY OF OWO LGA, ONDO STATE, NIGERIA.

Abstract

Fractures are important in terrain evaluation toward understanding the tectonic history, groundwater accumulation and environmental planning for an area. Satellite remote sensing offers the prospect of studying lineaments in deciphering the degree of fracturing and groundwater accumulation. This study focuses on Owo Local Government Area of Ondo State. The area was subsetted from a NigeriaSat-X imagery covering Southwestern Nigeria. Lineaments were extracted, and the generated lineament map was compared with published geological map of the area. Lineament density and lineament intersection were subsequently obtained from the lineament map. An evaluation was made to show the relationship between the extracted lineaments, geology and groundwater accumulation in the study area. Results indicate that areas with high propensity for groundwater accumulation exist where there are high concentrations of interconnected lineaments. This study further confirms the usefulness of satellite imagery (radar) in groundwater exploration, particularly on basement complex terrain.