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Monitoring Land Use and Urban Changes in Kaduna Using Satellite Data

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ABSTRACT

The utilization of satellite imageries from Landsat 7 ETM+ and Landsat 8 were processed to monitor LULC change that has taken place in Kaduna City from 2001–2014. The spatio-temporal monitoring of urban change is an important element in checking the various activities on which urban land is being put into. Kaduna as a metropolitan and cosmopolitan city, is witnessing land cover and land use change at various scales. The use of remote sensing and GIS tools were helpful in understanding the various conversions within the land cover as well as expansion within the land uses during the period of study. Three different image classification algorithms, namely image differencing, unsupervised and supervised classification were used for the purpose of detecting change. A change map showing the different degrees of increase and decrease in land cover classes was obtained from the post classification comparison. Also, the study has utilized GIS tool in understanding the changes in various land uses within Kaduna City. The study reveals incompatible uses within the Kakuri industrial area, where residential houses have taken over some of the industrial sites.