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Geospatial Analysis of Potential Climate Change Impacts on Coastal Urban Settlements of Nigeria for The 21st Century

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At present there are substantial scientific uncertainties about the nature and magnitude of climate change impacts that might result from an effective doubling of CO2 concentrations in the atmosphere of the coastal urban settlements of Nigeria. This is because large percentage of Nigeria's urban population lives in coastal cities. Thus, this study examines the potential impact of climate change impacts on the coastal cities of Lagos and Port Harcourt using the Model for the Assessment of Greenhouse Gas Induced Climate Change (MAGICC-SCENGEN) and Geographical Information System (GIS) interpolation techniques. The results confirm that sea level rise may occur with a consequence of submerging all coastal cities of the Niger delta area and a larger part of Lagos. The parts left un-submerged may face an incessant risk of flooding. These will also disrupt communications, damage vital infrastructures and affect urban settlements along the coast. The impacts of climate change may be felt also by a wide spectrum of socio-economic variables like human health, transport, energy, industry and other service sectors.

0.1 Key Words: Climate change; Coastal Cities; MAGICC-SCENGEN; GIS;

0.2 Temperature; Precipitation