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Determination of Change in Temperature and Precipitation Temporal Trends for Climate Change Detection over Nigeria

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This study examines the trends of rainfall and temperature over Northern Nigeria using Non-parametric statistical approaches to determine the change points in the rainfall and temperature trends and to test for the significance of these change points.
The data consists of 60 years (1946-2007) monthly rainfall covering 12 meteorological stations in Northern Nigeria and 60 years (1948-2007) daily temperature covering eight (8) grids extracted from the NCEP-NCAR re-analysis project for the Northern part of Nigeria.
The study revealed that rainfall has been on the decline since the 1960s and 1970s this was consistent with the change point detection analysis which also revealed that the change points occurred between 1960 and 1970. The temperature trend also revealed that there has been a gradual increase in temperature which began in the 1960s and 1970s which was also consistent with the change point analysis which confirmed that the change points in temperature occurred between 1960 and 1970. The shift in the temperature and rainfall trends are recognized as results of recent climate change that became pronounced in the 1960s and 1970s.