

## Analysis of Weather Variability Impact on Yields of Some Crops in Southwest, Nigeria

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**Abstract :** The study developed a Geographical Information Systems (GIS) database and mapped inter-annual changes in crop yields of cassava, cowpea, maize, rice, melon and yam as a response to inter-annual rainfall and temperature variability in Southwest, Nigeria. The aim of this project is to study the comparative analysis of the weather variability impact of six crops yield (Rice, melon, yam, cassava, Maize and cowpea) in South Western States of Nigeria (Oyo, Osun, Ekiti, Ondo, Ogun and Lagos) from 1991 - 2007. The data was imported and analysed in the Arch GIS 9 - 3 software environment. The various parameters (temperature, rainfall, crop yields) were interpolated using the kriging method. The results generated through interpolation were clipped to the study area. Geographically weighted regression was chosen from the spatial statistics toolbox in Arch GIS 9.3 software to analyse and predict the relationship between temperature, rainfall and the different crops (Cowpea, maize, rice, melon, yam, and cassava).

**Keywords :** GIS, crop yields, comparative analysis, temperature, rainfall, weather variability

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