

RAINFALL VARIATION TRENDS IN DETERMINING THE LENGTH OF THE HYDROLOGICAL GROWING SEASON (HGS) IN NORTHWESTERN STATES, NIGERIA

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Abstract

This paper examines the pattern of Hydrologic Growing Season in a part of North-Western Nigeria in relation to crop production and yield. It makes use of daily rainfall data obtained from Sokoto Agricultural Development Project (SADP) In two agro-climatic zones of the State. Daily rainfall data were also obtained from the Nigeria Meteorological Services, Oshodi for a period of 30 years (1981 – 2011). The data were used to estimate the onset and cessation dates of the rains using the accumulated rainfall approach from which the mean length of the Hydrologic Growing Season was derived. Phonological aspect of rainfall indicates expected dates of onset of rains vary from May 20 in the Western zone to June 24 in the extreme Northern zone of the State. Mean cessation dates range from August 30 to September 24 while the mean length of the Hydrologic Growing Season is approximately 91 days. A decreasing pattern of occurrence in the length of the Hydrologic Growing Season is detected and adoption of more efficient strategies for alleviating or avoiding the adverse effects of the shortfall on agricultural practices is suggested for rain fed agriculture.