

**ON DETERMINING EFFECTIVE ONSET RAINFALL AND ITS VARIABILITY OVER SOKOTO STATES, NIGERIA (1971-2015)**

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**ABSTRACT**

Peasant crop farming is the major economic activity especially in the sahel and sub-humid area of Africa whose fortunes can easily be affected by fluctuations in the rainfall regime. In the light of the above this study investigated the historical record rainfall data to determine effective onset rainfall and its variability over Sokoto. Daily rainfall data of 1971-2015 were acquired from Environment Management Programme Federal University of Technology Minna. A drought monitoring and Early Warning (EW) methodology based on an intra-seasonal Rainfall Monitoring Index (IRMI) were adopted. The findings revealed that effective onset rainfall have been variable with the mean onset date at 40<sup>th</sup> pentad (20<sup>th</sup> July). The years with an early onset date were found to have higher rainfall distribution and intensity (figure 3a-i). Of the two rainfall extreme (flooding and drought), the result revealed a prevalence of drought (table 2). The mild drought ( $0.1 < IRMI \leq 1$ ) revealed 28%, severe drought ( $0.010 < IRMI \leq 0.1$ ) 8% and very severe drought ( $IRMI \leq 0.01$ ) representing 7%. Owing to variability in the inter-seasonal onset rainfall we recommend a continue monitoring of the rainfall scenerios to effectively communicated it exact effective data to rain-fed farmers for proper agricultural planning in the region.

**Keywords: Onset Rainfall, Inter-Seasonal Variability, Intra-Seasonal Variability, Drought.**