

**THE OPTIMAL ORDER OF AVERAGE MONTHLY
RAINFALL OCCURRENCE IN ABEOKUTA, OGUN
STATE, NIGERIA**

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ABSTRACT

Rainfall data of Abeokuta was collected from Ogun-Oshun River Basin Development Authority Abeokuta, Ogun state for the period 2002- 2011 and investigated in order to fit a model for the monthly rainfall occurrence data.

This study adopted the Box and Jenkins approach of model identification, parameter estimation and diagnostic checking.

The result of this study reveal that the model

$$W_t = a_t - 0.42a_{t-1}$$

Is sufficient to analyze the rainfall occurrence for Abeokuta.

The optimum order of this model was evaluated for model adequacy by examination of the residual auto- correlation and the overall test of model adequacy using the statistical package called S-Plus and it was found adequate.