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Research Article

Study on annual and seasonal rainfall variability- Bhalki Tazluk of north eastern transitional zone (Karnataka)

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Summary

The analysis of daily rainfall data of thirty five years (1976-2010) indicate that the average annual rainfall for the Bhalki region will be 884.3 mm with coefficient of variation of 23 per cent indicated that the annual rainfall was more or less stable over the years. The rainfall during 1986-1990 the SD (282.5 mm) was more with a CV of 27 per cent indicating more variability and dependability even though the mean rainfall (1033.8 mm) was higher when compared to other periods. During the months of south west monsoon (SWM) season (June -September) the rainfall ranged from the lowest 326.3 mm in 1994 to the highest 1076.7 in 2010 as against the normal SWM rainfall of 683.5 mm. The analysis of past 35 year's rainfall data revealed that, there was no single severe drought year.

Key words : Annual and seasonal rainfall

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Introduction

The annual and seasonal rainfall received and its variability directly influences the success or failure of crops through its beneficial or adverse effect on growth and yield. Therefore, the study of variability of annual and seasonal rainfall is essential in selection of suitable crops and to take appropriate mitigating measures based on rainfall characteristics (Halikatti *et al.*, 2010). Rainfall analysis for crop planning was carried out in different regions of the country as reported by Singh *et al.* (2008) for Pusa, Bihar. Jat *et al.* (2003) reported rainy season and its variability for crop planning in Udaipur region and Victor *et al.* (1991) reported for Andhra Pradesh. In this context, a similar attempt was made at Agriculture Research Station, Bidar, to analyze the rainfall variability in season and annual wise for Bhalki region.

Resources and Research Methods

Daily rainfall data for the past 35 years (1976-2010) were collected from District Statistical Office, Bidar, for analysis. The rainfall data were critically examined for annual, seasonal and monthly values following the procedure of Panse and Sukhatme (1985). The standard deviation (SD) and coefficient of variance (CV) of rainfall were worked out for the above said periods. Drought intensity was classified as per IMD (Normal (N) rainfall mean $\pm$10 %; slight drought (-11 to -25% of N); moderate drought (-26 to -49 % of N) and severe drought (-50 % and above of N) (Halikatti *et al.*, 2010).

Research Findings and Discussion

The rainfall of 35 years (Table 1, Fig. 1 and 2) ranged from 538.0 mm to 1362.3 mm with a mean of 884.3 mm. The