RESEARCH PAPER:

Rainfall distribution pattern in Aurad taluka of Bidar district (Karnataka)

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SUMMARY

Rainfall during monsoon season and its variability govern the cropping system in the Aurad region. Daily rainfall data of thirty four years (1976-2009) have been analyzed for establishing the long term averages of monthly, seasonal and annual rainfall and its variability. The over all mean annual rainfall at Aurad region was 846 mm, which was distributed as 673.7 mm, 101.6 mm, 60.2 mm and 10.7 mm in monsoon (June- September), post monsoon (October - December), summer (March - May) and winter (January - February), respectively. The coefficient of variation of 28.7 indicated that rainfall was more or less stable over the years. Monthly rainfall had unimodel peak, August received maximum mean rainfall of 212.3 mm followed by July (188.5 mm). The study also revealed that the rainfall and rainy days during monsoon season ranged from 386.4 to 1129.5 mm and 25 to 64 days, respectively.

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Agriculture being mainly rainfed in Aurad Taluka region of Bidar district, Karnataka state, India is characterized by uneven and erratic distribution of rainfall. Since rainfall is the only source of moisture, the spatio-temporal distribution of rains holds the key in determining the fate of entire crop productivity in the region. Knowledge of average monthly, seasonal and annual rainfall is helpful in understanding the general picture of the particular region.

Agriculture will be adversely affected by an increase or decrease amount of rainfall and shifting of time of rainfall. The annual and seasonal rainfall received and its variability directly influences the success or failure of crops through its beneficial or adverse effect their 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. Aurad, the Taluka of Bidar district, Karnataka, India, is predominantly a rainfed region. South west monsoon is the predominant monsoon in the region. The agricultural crop productivity largely depends on the rainfall distribution and its intensity during the rainy season. Rainfall analysis for crop planning was carried out in different regions of the country as reported by Marviya *et al.* (1991), Karthikeyan *et al.* (2008) and Singh *et al.* (2009), Suchit and Singh (2009), Parvender *et al.* (2008). A similar attempt was made at Agriculture Research Station, Bidar, to analyze the rainfall distribution pattern in monthly, seasonally and annually for Aurad region.

MATERIALS AND METHODS

Daily rainfall data for the past 34 years (1976-2009) 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.

RESULTS AND DISCUSSION

The daily rainfall data for the period from 1976 to 2009 were analyzed and the results were presented under different heads for mean, standard deviation (mm) and coefficient of variance (%) of annual and seasonal rainfall and the per cent of different seasonal rainfall *vis-à-vis* annual rainfall (Table 1). The highest and lowest rainfall (mm) recorded in annual and in different seasons was also presented as shown in Table 2. The coefficient of variability