



A STUDY TRENDS OF RAINFALL PATTERN OF MAHARASHTRA STATE BASED ON STATISTICAL TOOLS

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ABSTRACT

Rainfall is an important factor that needs serious attention as Indian agriculture is drastically affected due to change in rainfall pattern. Understanding of rainfall trend is an important tool for future of agriculture. In the present study we see the rain fall is uniformly distributed over the geographical region of Maharashtra state and regression analysis used for the predication model . our study shows rain fall is not uniformly spread over the geographical region of Maharashtra state and the slope parameter estimate regression model in the predication model play an vital role for future prediction of future rain fall.

KEY WORDS: *Graphical Representation, Small Test, Regression analysis , Level of significance.*

INTRODUCTION

The rainfall received in an area is one of the determining factors for the socio-economic activities including agriculture, forestry and bio-diversity, water resources management, industry and tourism of the region. The changes in rainfall pattern may cause heavy floods in some areas while other areas may experience frequent droughts (IPCC, 2007). Due to the possible effects of climate change on rainfall pattern, analysis of rainfall characteristics and its long term variability has got special attention worldwide in recent years. Trend analysis of rainfall is the primary tool to understand its temporal variations. There are several studies in India on the rainfall variability and long term trends (Parthasarathy and Dhar, 1975; Mooley and Parthasarathy, 1984; Sarkar and Thapliyal, 1988;

Soman et al., 1988; Thapliyal and Kulshresthra, 1991; Guhathakurta and Rajeevan, 2008; Krishnakumar et al., 2009; Kumar et al., 2010; Bhatla and Tripathi, 2014). Most of these studies investigated the trends in annual and seasonal rainfall series on the country scale or in regional scales. Studies of Mooley and Parthasarathy (1984), Sarkar and Thapliyal (1988), and Thapliyal and Kulshresthra (1991) have concluded that there is no significant trend in average annual rainfall of the country. Kumar et al. (2010) have reported no significant trend for annual, seasonal and monthly rainfall over India. Similarly, there are studies those focused mainly on the trends in intensity of daily rainfall. For example, Rakhecha and Soman (1994), Sen Roy and Balling (2004), Joshi and Rajeevan (2006), Goswami et al. (2006) and Guhathakurta et al. (2010) have studied the trend in extreme rainfall