

ANALYSIS OF RAINFALL TREND USING MANN– KENDALL TEST AND THE SEN’S SLOPE ESTIMATOR IN UDUMALPET OF TIRUPUR DISTRICT IN TAMIL NADU

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ABSTRACT

Rainfall is one of the vital climatic factors that can indicate climate change. Spatial and temporal changes of rainfall would influence runoff, soil moisture and groundwater reserves. Analysis of precipitation trends is important in studying the impacts of climate change for water resources planning and management. The present study was conducted to determine trends in the annual and seasonal total rainfall over Udumalpet region of Tamil Nadu using 33 years (1981-2013) monthly rainfall data at four rain-gauge stations. The trend analysis was done by using Mann-Kendall test and Sen’s slope estimator. The results indicated that an increasing trends varied between 43.82 mm/year at Thirumurthy nagar station and 29.37 mm/year at Nallar station, decreasing trend between 2.59 mm/year at Amaravathy nagar to 2.50 mm/year at Udumalpet. The presence of trend in annual and seasonal rainfall series determined by Mann-Kendall Z statistics and Sen’s Slope estimator reflected in the linear regression analysis.

KEYWORDS: Rainfall Trend, Mann-Kendall Test, Sen’s Slope Estimator, Regression

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