

Extreme Rainfall Frequency Analysis For Meteorological Sub-Division 4 Of India Using L-Moments.

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Abstract : Extreme rainfall frequency analysis for Meteorological Sub-Division 4 of India was analysed using L-moments approach. Serial Correlation and Mann Kendall tests were conducted for checking serially independent and stationarity of the observations. The discordancy measure for the sites was conducted to detect the discordant sites. The regional homogeneity was tested by comparing with 500 generated homogeneous regions using a 4 parameter Kappa distribution. The best fit distribution was selected based on ZDIST statistics and L-moments ratio diagram from the five extreme value distributions GPD, GLO, GEV, P3 and LP3. The LN3 distribution was selected and regional rainfall frequency relationship was established using index-rainfall procedure. A regional mean rainfall relationship was developed using multiple linear regression with latitude and longitude of the sites as variables.

Keywords : L-moments, ZDIST statistics, serial correlation, Mann Kendall test

Conference Title : ICCCE 2014 : International Conference on Construction and Civil Engineering

Conference Location : Bangkok, Thailand

Conference Dates : December 24-25, 2014