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Research Paper

Spatio-temporal analysis of pattern of rainfall in Kerala

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ABSTRACT : Awareness on the spatial and temporal unevenness of average rainfallis essential for efficient management of water resource and agriculture. Variation in rainfall over space and time for a period of 15 years from 2001 to 2015, were studied in Kerala by using cluster analysis using Euclidian distance. The cluster analysis was performed for 3 periods, separately *viz.*, 2001-2005, 2006-2010 and 2011-2015 and the dendrograms were plotted based on the cluster distances. There were large variation the pattern of monthly rainfall in three different periods as the districts formed separate clusters in in each of these periods. Idukki district formed as separate cluster in first period joined with other districts in the second and third period showing the change in the pattern of rainfall.The cophenetic correlation analysis is performed to measure how realistically a dendrogram conserves the pairwise distances between the original unmodeled data points and showed that the clustering fit quite well in all the three periods.

KEY WORDS : Euclidian distance, Cluster analysis, Dendrogram, Cophenetic correlation

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