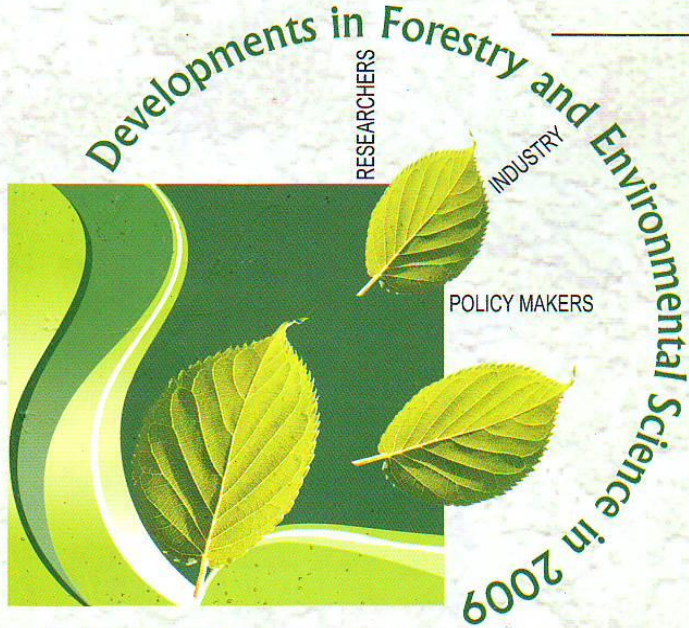


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Temporal variability of rainfall pattern in the Wet Zone of Sri Lanka: (A comparative study for the periods, 1941-1970 and 1971-2000)

E. M. S. Ranasinghe

Department of Geography, University of Colombo, Sri Lanka.

It has been scientifically ascertained that climate, on the global, regional and local scales has been subject to significant change and variability. This leads to the question whether this trend can be observed in Sri Lanka too. Rainfall is substantially more pronounced in Sri Lanka, and its distribution is subject to spatial and temporal variations, leading to distinct patterns of seasonality, regionality and intra-and inter-annual variability in the climate in general, and in the different parameters of the hydro-climate in

particular. Several scientific studies have confirmed that the distribution pattern of rainfall in Sri Lanka has been changed during the recent past, particularly in the last two decades.

The Wet Zone of Sri Lanka (Hereafter referred to as the Wet Zone) occupies 23 percent of the land area in the country. It is the economic power-house and the main population concentration in the country. The Wet Zone has a unique place in the wider geography in Sri Lanka, in terms of its physical geography as well as its human geography. The main element of the climatic milieu is the hydro-climate, in general, and rainfall, in particular, as reflected in the landforms, drainage, natural vegetation, economic activities, settlement patterns, and general social fabric and life style of the people. Eighty three percent of the land area in the Wet Zone is available for use as natural forest, plantation forest, plantation lands (tea, rubber and coconut), paddy lands, lands under permanent minor export crops (cinnamon, cardamom, cocoa and cloves), homestead and residential lands. The remaining 17 percent of the lands consist of streams and their reservations. Therefore, it is worthwhile to identify whether there are significant variability in the temporal dimension of rainfall in the Wet Zone.

This study deals with temporal variability of the rainfall pattern in the Wet Zone within the period 1941-2000, and would ascertain if those patterns signify any differences according to the two 30-year periods analyzed for 1941-1970 and 1971-2000. Of the 182 rainfall stations in this area, only 36 have been employed in this study. In the analysis of temporal variations of rainfall in the wet Zone, the present study has applied the following graphical and statistics methods: 'isomeric' or 'percentage' method; rainfall dispersion; 75 percent probable rainfall; coefficient of variability and time series analysis. The analyzes are done in monthly seasonal and annual basis.