E1-26: Probabilistic estimates of rainfall extremes and variability of rainfall during the Yala and Maha Seasons

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The spatial distribution of rainfall over the Island during the Yala (April - August) and Maha (September - March) agricultural seasons was studied by analysing the rainfall at 28 meteorological and rainguage stations scattered throughout the Island. Rainfall data over the period 1961 - 1990 was used.

The probabilistic rainfall estimates, computed for two time scales, namely (a) in 1 year out of 4 years and (b) in 1 year out of 10 years, represent relatively less extreme events and extreme events respectively. The study revealed that, at almost all the stations considered, the Maha rainfall was less variable than the Yala rainfall. This implied that the Maha rainfall was more reliable than the Yala rainfall.

The mean rainfall during both the Yala and Maha seasons was highest generally in the central regions of the South-west quarter of the Island. The extreme (both low and high) values of the probabilistic estimates of rainfall were higher in the central regions of the South-west quarter particularly in the Ratnapura/Avissawella areas and lower, generally in the extreme South-east and extreme North-west and northern regions. Significantly the lower values for the coefficient of variation were also found in the central regions of the South-west quarter. This indicated lesser variability and hence greater reliability in the rainfall in these regions. Also, the gradients of probabilistic high rainfall were steeper than those of the probabilistic low rainfall.