

E1-01: Diurnal variation of rainfall during different seasons at four meteorological stations

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The rainfall Sri Lanka receives is of 3 different types - monsoonal, convectional and depressional. The monsoonal rainfall, which is mainly orographic, occurs during the 2 monsoons, the South-West (May - September) and North-East (December - February). Between these 2 monsoons there are 2 periods of transition known as the First intermonsoon (March - April) and the Second intermonsoon (October - November). The rainfall during these intermonsoonal periods is mainly convectional. During the Second intermonsoon, Sri Lanka is also influenced by depressions that form in the South-West Bay of Bengal and the South-East Arabian Sea. Rainfall during the Second intermonsoon is fairly widespread.

The purpose of this study was to analyse the 3-hourly rainfall recorded at the 4 meteorological stations at Colombo, Nuwara Eliya, Anuradhapura and Hambantota during the 5-year period 1990 - 1994.

The analysis revealed that the highest daily rainfall peak occurs between 1430 and 1730 h

- (i) at Nuwar Eliya throughout the year,
- (ii) at Anuradhapura during the South-West monsoon and Second intermonsoon,
- (iii) at Hambantota throughout the year except during the Second intermonsoon. At Colombo, the highest daily rainfall peak occurs between 1730 and 2030 h except during the South-West monsoon when the peak occurs in the morning between 0230 and 0530 h.

The analysis also revealed that, with the exception of the South-West monsoon rainfall at Colombo, more than 5% of the daily rainfall occurs during the period 1130 to 2330 h. This value is more than 75% during

- (i) the First intermonsoon at these stations,
- (ii) the Second intermonsoon at Nuwara Eliya and Anuradhapura,
- (iii) the South-West monsoon at Anuradhapura and
- (iv) the North-East monsoon at Colombo.