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**A study of the variation of upper atmospheric climatic parameters during SW monsoon along the vertical axis (pressure levels) and their relationship with inland rainfall**

The approach of the study consists of an analysis of upper atmospheric parameters during the monsoon seasons. It was carried out through graphical presentations of those parameters along the pressure levels from 850 to 100 hPa levels. Then

correlation analysis was carried out to find speed, air temperature and dew-point temperature of each pressure level during the southwest monsoon period. Katugastota and Kobonella stations are situated on western and eastern slope of the Knuckles Range. For this study, data available at the Department of Meterology (1968, 71, 74, 1981-86) was used and data along the profile namely $AA_1$ parallel to NE-SW direction via Colombo and Katugastota was analyzed.

The development of a series of relationships between the monthly rainfalls at selected stations along the Colombo – Katugastota profile ($AA_1$) with location specific data and upper atmospheric data of Colombo was the ultimate objective. Some of the findings of the study are given below:

1) The analysis of radar wind data in Colombo shows the highest correlation coefficient for wind speed of the 300 hPa pressure level with the rainfall at Katugastota and Kobonella during southwest monsoon. 2) NO significant relationship between air temperature and rainfall for any pressure level during southwest monsoon. 3) Among the pressure levels, dew-point temperature of the 500 hPa level shows a high correlation with the rainfall during the southwest monsoon. Hence, this is a more influential level for rainfall at Katugastota as well as at Kobonella.