

## **Distribution and frequency of thunder events in Sri Lanka**

**D.U.J. Sonnadara**

Department of Physics, University of Colombo, Sri Lanka

A study was carried out to analyze the thunderstorm activity over Sri Lanka using thunder day data. A thunder day is simply a calendar day in which thunder is heard at least once at a given location. Two sets of data were collected and analyzed; annual totals for 10 stations for a period of 50 years and monthly totals for 20 stations for a period of 20 years. The average annual thunder days over Sri Lanka was found to be 75. Compared to other locations considered, a high number of annual thunder days (>100) were recorded in Ratnapura, Colombo and Bandarawela. Most locations show no significant long-term trends (upwards or downwards) in thunder activities. However, Colombo, the capital of Sri Lanka which has close to 1 million people shows an increasing trend of 0.8 thunder days/year. Although there is a high variability between years of the number of thunder days, the general variation within a year is clear. Thunderstorm activities are high for two periods March - May and September - November, which coincide with the 1<sup>st</sup> inter-monsoon and 2<sup>nd</sup> inter-monsoon periods overlapping with the arrival and withdrawal of the South-West monsoon period. Compared to the dry zone, the wet zone, especially the south-western region has high thunderstorm activity. There is a clear spatial difference in thunderstorm activities in the south-west and north-east monsoons seasons.

*Financial assistance given by the National Research Council, Sri Lanka for the research grant number NRC 06-18 is greatly acknowledged.*