507 E1

A comparative study of the ambient air temperature at Anuradhapura and MahaiIiuppallama

The purpose of this study was to compare the rates of variation (if any), of the mean minimum, mean maximum and mean air temperatures at Anuradhapura and Maha Illuppallama and investigate whether these variations are due to enhanced greenhouse effect or urbanization or both.

Data were analysed to study possible trends by filtering the time series and then carrying out linear regression analyses. Data for the months of January, April, July and October over the period 1953- 2000 were used in this work.

Analyses indicated that mean minimum, mean maximum and mean air temperatures have been increasing both at Anuradhapura and at Maha Illuppallama by varying rates, except for the mean maximum air temperature at Maha Illuppallama in July and October, where very insignificant decreases are indicated. Taking into account the location of the station at Maha IIIuppallama and the fact that both mean minimum and mean maximum air temperatures at this station have been increasing, it is likely that these increases are due to enhanced greenhouse effect than to urbanization effects.

The fact that the rates of increase of all the temperature series at Anuradhapura are in general; higher than those at Maha Illuppallama, and the fact that, at Anuradhapura, the rates of increase of mean maximum air temperature are higher than the rates of increase of mean minimum air temperature, suggest that these increases are due probably to both the enhanced greenhouse effect and urbanization.