

SPATIAL AND TEMPORAL CHANGES OF AIR TEMPERATURE IN SRI LANKA

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Climate change, rainfall fluctuations, global warming, sea level rise are some of the important environmental issues discussed among the researchers, scholars and decision makers. Several examples of very significant increasing trends of sea surface temperature (SST) and land surface temperature (LST) can be seen. IPCC declared the year 2005 as the hottest year in the history of the humans.

The main objective of this paper is to find evidence of changing patterns of air temperature in Sri Lanka using secondary data available in different governmental and non-governmental organizations. The daily air temperature data (during the period 1961-2001) collected from the Meteorology Department and daily surface temperature data (during the period 1881-1981) collected from the NASA were the main data sources. In addition to the GIS techniques such as surface interpolation, summarization by zone and geo-statistics, regression and time-series analysis were used to achieve the set objectives.

The study identifies that the average temperature has been increasing in some areas like Nuwara-Eliya, Anuradhapura, Colombo, Maha-Illuppallama, Hambanthota and Angunukolapalassa in Sri Lanka whilst some stations depicting a declining trend of temperature. The high temperature area has also expanded during the same period.