TEMPERATURE TRENDS IN SRI LANKA

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Sri Lanka, being a small island, is influenced by temperamental monsoons, and is potentially vulnerable to heat waves. The impact of such temperatures is becoming adverse, which is generally felt as heat exhaustion. Several studies have confirmed this temperature rise, and the current situation has become serious compared to previous decades. The trend detection in this study was carried out using parametric and non-parametric regression analysis. In particular, the statistical significance of the slope parameter of fitted linear models was tested using standard ordinary least square method and non-parametric methods, such as the Mann-Kendall and Sen-Theil tests. For this statistical analysis, daily temperature records for the period 1961-2014, obtained from twenty stations, distributed throughout the island, were used. Baseline data show a significantly increasing trend in the maximum temperature over the decades, in many of the districts. Such increases are felt as heat strikes in most of the districts. The all-time highest temperature was observed in Anuradhapura and Vavuniya Districts, in the Dry Zone, which is a landlocked region. The heat exhaustion observed in Sri Lanka was prominent, during the months of March and April, in which the sun is directly positioned over the equator. Though the reason for the heat wave is the temperature rise due to climate change in general, lack of strong seasonal winds and scanty rainfall may be the likely reasons for the recent heat waves, in Sri Lanka.

Keywords: Extreme values, Heat wave, Regression, Temperature, Trend.