

E1-23: Significance in contribution of easterly waves to rainfall

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Among the weather systems which bring rain in particular, to the tropical areas, easterly waves play an important role. Several types of waves travel westward in the equatorial and tropical tropospheric easterlies with wavelengths of 2000 - 4000 km and a life span of 1-2 weeks. The easterly waves are important for two reasons: (1) they bring rainfall to areas which are generally dry as long as the trades remain undisturbed (2) easterly waves occasionally develop into tropical cyclones.

Easterly waves can be considered as important weather systems producing rain in many places in Sri Lanka during the North-East monsoon period. Moderate or fairly heavy rain is produced by the clouds over areas near the wave crests of the easterly wind flow.

Rainfall at a number of places in Sri Lanka during the last North-East monsoon period have exceeded the average. The daily rainfall from December 1993 to March 1994 at Trincomalee, Batticaloa, Nuwara Eliya, Badulla, Kurunegala, Ratnapura and Colombo and Upper wind data (pilot and radar) observed in Colombo for the same period were analysed to identify the connection between easterly wave crests passing over Sri Lanka and the rainfall. It was observed that the significant rainfall that occurred periodically at a number of places was associated with the crests of waves in easterlies.