

Characteristic of Thunderstorm Events Over Bangladesh in Pre-monsoon Season-2008 Using Radar and Trmm Products

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Abstract

Thunderstorm events are generally widespread over Bangladesh during pre-monsoon season. During April and May, northeastern, southeastern and northwestern parts of the country get severely affected by severe thunderstorms, locally known as Kalbaishakhi or Nor'westers. In Bangladesh about 1 or 2 tornadoes are associated with Nor'westers in a year. These severe thunderstorms have significant socio-economic impacts especially in the northeastern, southeastern and northwestern parts of the country.

In 2008, maximum average gust associated with thunderstorm was recorded as 32 knots during pre-monsoon (March-May) season. We have made an attempt to study the thunderstorms using Dhaka RADAR observations and TRMM Precipitation Radar (PR) products. TRMM PR 2A25 data were used and analysis was done to study the vertical cross section of convective systems. The available data from the Plan Position Indicator (PPI) scans of BMD S-band weather radar were also used to investigate the structure of precipitation field. It is revealed that during pre-monsoon season the average maximum intensity of rainfall horizontally and vertically was 36 mm/hr and 22 mm/hr respectively. The maximum intensity of rainfall was around at 1-6 km level. The average depth of the cloud was about 13 km and speed of propagation varies from 31 to 68 km/hr. Direction of propagation of thunderstorm was from northwest to southeast and it occurred mostly during evening and night time.