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Title: (IWG3A)GPS Observation and Analysis of the Precipitable Water Vapor during Typhoon Ramasun Influencing the East China Coast in 2002

Abstract:

The GPS remote technique from a ground-based GPS network developed in recent years provides an effective way to measure the vertical integrated atmospheric water vapor, or precipitable water vapor (GPS/PWV). In this paper, the GPS network in Yangtze River Delta and the principle of the estimation of PWV is introduced briefly. The precision of the GPS/PWV data from the GPS network is verified through comparing with the PWV data based on the radiosond data, the results present good quality of the GPS/PWV data. The analysis of the time series of GPS/PWV data reveals a feature of the PWV rapid increase at the GPS stations which the typhoon is approaching. The duration, range and the maximum of the increasing PWV correlate positively with the intensity and the amount of the typhoon. After the PWV rapid increasing ends, the PWV begin to fluctuate in a value level of about 60 mm, the typhoon precipitation occurs general 12 hours later. The peak of the PWV temporal fluctuation indicates the occurrence of an intense precipitation. The GPS/PWV in the typhoon center distribution in a spiral style and the rain bands are usually embraced in the high PWV regions. The continuous decrease of the PWV indicates the end of precipitation when the typhoon moves away northeastward.

Presentation Mode:

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