

## Temporal and Spatial Variations of Precipitation of Landfalling Typhoons in the Taiwan Area

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This study examines the temporal and spatial variations of precipitation structure of landfalling typhoons by using reflectivity data taken from the Doppler radars in Taiwan. Five typhoons landed Taiwan during the period of 1996-2001 with different track and intensity was analyzed. The grid- averaged reflectivity data in four quadrants divided according to the direction of movement were used to show the evolution of

the eyewall, the rainbands in the annular area outside the eyewall, and areas extended to 300 km from the center of the storm. More than 60 hours radar data with time interval of 6 or 8 minutes were analyzed in this study.

The contraction of the eyewall during landfall period, the concentric eyewall replacement cycle, the outward and/or inward propagating spiral rainbands, and the organized convective precipitation areas related to the topography were identified in this study. The asymmetric characteristic of the precipitation structure of typhoons was documented and the effect of vertical wind shear and the topography of Taiwan on the nature of these precipitation features were also described.

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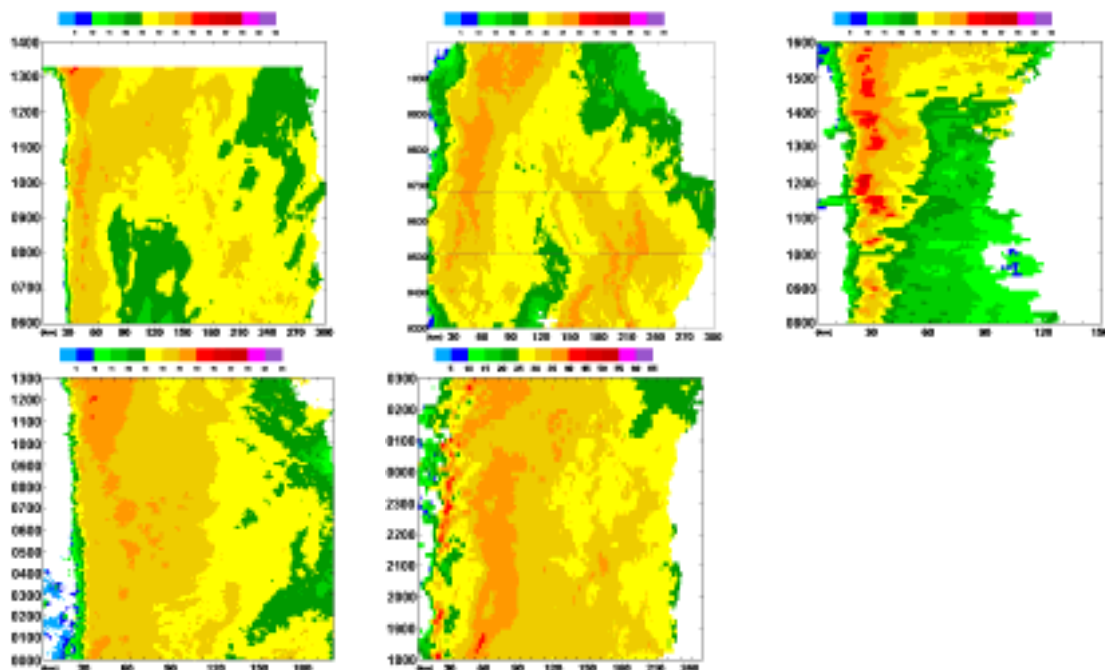


Fig.1. Time (in interval of 6 or 8 minutes)-space (radius of the storm) variations of the annular- averaged 4 km height radar reflectivity of 5 landfalling typhoons, starting from upper left, Herb (1996, 7), Kai-Tak (2000, 7), Toraji (2001, 7), Nari (2001, 9), and Lekima (2001, 9), respectively.