

## Characteristics of the snowfall distribution of the 2005/06 winter in Japan

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Heavy snow of the winter of 2005/06 resulted in many disasters and accidents in many regions of Japan. Strong cold-air outbreaks were observed successively from December 2005 to the first half of January 2006, resulting in continuous strong snowfall. The characteristics of the heavy snow were analyzed using surface and radar data.

The normalized maximum snow depth, calculated considering the year-by-year variation, was large in some specific areas. It also had a tendency to be larger in inland areas than in the coastal areas in and to the south of Yamagata and Miyagi Prefectures. Many snow and ice damages were reported in areas where significantly large values of normalized maximum snow depth were analyzed.

The snowfall distributions were analyzed from December 2005 to February 2006 using nationwide radar data in 10-minute intervals provided by the Japan Meteorological Agency. The analysis was applied to the Hokkaido Region, the Tohoku Region, the Hoku-Shin'etsu Region and the Chugoku Region. Precipitating cloud systems were observed one after another during the analysis period in all regions. Linear snow clouds were frequently observed through the analysis period. Moreover, many vortical snow clouds appeared during the period of the strong cold-air outbreak. Fronts and cyclones increasingly appeared during the subsequent period. The total precipitation amount in the entire analysis period showed the distribution concentrated on some specific areas in all regions. In the Hoku-Shin'etsu Region, linear snow clouds contributed the most to the snowfall distribution, and the snowfall was concentrated in the inland areas. The vortical snow clouds, fronts, and cyclones contributed to the snowfall in the vicinity of the plains compared to linear snow clouds.