

Regional Characteristics of Variation of Snowfall and Snow depth in Japan

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In recent year, mean air temperature in Japan has been rising with global warming (JMA, 2009). It is predicted that snowfall and snow depth in Japan varies according to rising mean air temperature. However, the snowfall and snow depth may differ from region to region, because Japanese islands extends from north to south and has rough terrain. In this study, we examined regional characteristics of variation in snowfall and snow depth and the relationship to other meteorological elements.

This study analyzed archived data of daily mean air temperature, precipitation, snowfall and snow depth at 89 stations which has continuously observed snowfall from 1961 to 2009. Based on these data, we calculate mean air temperature, cumulative precipitation, cumulative snowfall, maximum snow depth in winter season and examine changing trend and coefficient of correlation these data. In this study, winter season was defined from the day when first snow of the season observed to the day when last snow of the season observed.

Significant decrease in cumulative snowfall is observed around southern coastal regions from northern latitude of 38 degrees. Likewise, significant decrease in maximum snow depth is observed same area. However, significant decrease in cumulative snowfall and maximum snow depth is observed on the Sea of Japan side and the Pacific side, there is no significant correlation between the Sea of Japan side and the Pacific side due to a difference in the factor contributing to snowfall.