

Local Features of Snow Cover of Japan in January

By

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A comparison of snow cover on three features, *i.e.*, snow type, layer structure and depth was carried out based on the data observed around the end of January mainly in 1974 at five places in Japan, that is, Sapporo (Endo *et al.*, 1974), Shinjo (Higashiura *et al.*, 1975), Yamagata (Abe *et al.*, 1976), Fukui (Shimizu *et al.*, 1971) and Mt. Zaō (Abe *et al.*, 1976). The snow features at the five places are shown in Fig. 1. The snow depth is expressed in cm and the air temperature in °C. In Sapporo, the northernmost and coldest city of the four cities among the five places, the snow cover largely consists of settled snow and depth hoar. In Fukui, the southernmost and warmest city, on the other hand, the snow cover consists only of granular snow. In the other cities in intermediate latitudes, such as Shinjo and Yamagata, both the settled and the granular snow constitute the snow cover. The snow cover at Mt. Zaō consists of settled snow only. The maximum snow depth is found in Shinjo among the four cities.

It is considered from the above observational results that, although the observational dates are not all the same, the general features of snow cover on the plains of Japan at the end of January prevail as shown in Fig. 1 and the most effective factor to cause such a feature on snow type is the air temperature. Therefore, it will be concluded that the snow type on the plains of the Japanese Islands in midwinter changes with latitude: the lower the latitude, the higher the thickness percentage of granular snow layers; in other words, the snow cover mainly consists of granular snow in lower latitudes, of depth hoar and settled snow in higher latitudes and of settled snow and granular snow at the intermediate latitudes.

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1月の日本各地の積雪の違い

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主として 1974 年 1 月末の日本各地の積雪の違いを文献により調べ図示した。調査対象地は、札幌、新庄、山形、福井の 4 市と蔵王山とである。これら 4 市のうち最北地の札幌では、積雪は大部分しまり雪としもざらめ雪とから、最南地の福井ではざらめ雪のみから、中間の新庄や山形市では、しまり雪とざらめ雪の双方から、蔵王山ではしまり雪のみから構成されていた。積雪深については新庄が最大であった。

調査日には多少の違いがあるが、日本各地の 1 月末の雪の様子は図に示されたようなものであり、雪質の違いは気温の違いによると考えられる。それゆえ、日本各地の平野部の真冬の雪質は緯度によって決まると結論されよう。すなわち高緯度の積雪はしまり雪としもざらめ雪とから、低緯度ではざらめ雪から構成されているといえよう。