

## Recent snow cover fluctuations in the mountainous areas of Japan

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**Abstract** Meteorological data from mountainous areas of Japan have been collected by the National Research Institute for Earth Science and Disaster Prevention (NIED) for over 10 years. We found good correlations between the maximum snow depth and winter air temperature at all sites. Also the gradient of variation in maximum snow depth compared with variation in mean winter air temperature at all sites was close to the mean value of 17% °C<sup>-1</sup>. According to this relationship, snow cover in Japanese mountainous areas is estimated to decrease by 23% in the next 100 years. In the central part of Honshu a given change of winter temperature had a relatively large direct effect on the maximum snow depth in low elevation areas, but not at higher elevation mountain sites.

**Key words** Japanese mountainous area; meteorological conditions; snow cover; water resource

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