
[JJ] Evening Poster | M (Multidisciplinary and Interdisciplinary) | M-GI General Geosciences, Information Geosciences & Simulations

[M-GI25]Environmental changes in mountainous area

convener:Keisuke Suzuki(Department of Environmental Sciences, Faculty of Science, Shinshu University), Yoshihiko Kariya(Department of Environmental Geography, Senshu University), Chiyuki Narama(新潟大学理学部理学科, 共同), Akihiko SASAKI(Department of Geography and Environmental Studies, Kokushikan University)
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Mountainous areas provide water resources to the populated downstream areas, protecting the diversity of ecosystem and providing tourism attraction. To access the mountain environment changes and mitigate the impacts of global warming influences, a cross-cutting session is proposed to share the scientific knowledge among various fields; such as climatology, hydrology, geography, glaciology, water/carbon/material cycle, eco-diversity, etc.

[MGI25-P16]The Local Wind System on the Slope of Mt.Norikura

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Keywords:mountain-valley wind, thermally circulation

In this study, a continuous observation has been conducted in the east slope of Mt.Norikura in Japanese Alps and the diurnal wind cycles has been examined based on observational analysis. As the result, the wind system where continuous observations and studies are insufficient was revealed.

Mt.Norikura is significantly affected by upper wind like mainly westerlies. However, when upper wind is relatively weak and the solar radiation and radiation cooling are sufficient, a diurnal wind cycle reflecting valley-wind (upward flow) in daytime and mountain-wind (downward flow) in nocturnal tends to develop. The typical mountain-valley winds dominants especially from summer to autumn. In addition to typical wind system, there are many days that wind direction is upward in the morning and changes downward in the afternoon. This wind system dominants especially in spring. In the Mt.Norikura from winter to spring, snow widely cover the ground. It is thought that snow surface play role to cool air in surface layer, therefore katabatic winds develop on the snow surface. In the winter, it is thought that the development of thermally circulation is suppressed due to strong upper wind, low solar radiation and high albedo, there are a few days that wind direction diurnally change.