

ACC028-P04

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## Monitoring of 3 m-profiles of ground temperature on the summit area of Mt. Fuji (2008-2010): Toward elucidation of perm

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Permafrost occurrence on the summit of Mt. Fuji was reported at the beginning of 1970's. Public attention has been paid to possible changes in surface and underground conditions including the permafrost on the Mt. Fuji in relation to recent climate change.

The occurrence of permafrost have not confirmed during our 2-year monitoring of two soil temperature profiles down to 3m on the summit area of Mt. Fuji since 2008.

At the one site, we observed deep seasonal frost reaching over 3m depth. However, every summer heavy rain event triggered large increase in soil temperature and deeper 2-3m frozen layer was rapidly thawed by heavy rain events during autumn rainy season. At the other site, insulation effect of snow cover weakened frost penetration into the ground and heating by rain infiltration kept soil temperature relatively higher throughout the monitored period.

Our investigation suggested that soil temperature regime is highly various over years and the thermal status of frozen ground is unstable on the summit area of Mt. Fuji. It is difficult to evaluate the influence of recent climate change on the underground condition on the summit of Mt. Fuji using available information at this moment. This kind of evaluation of long-term change in soil temperature regime and frozen ground status should be done based on multipoint and long-term monitoring of ground to the deeper extent ,together with surface micrometeorological observation.

Keywords: Mt. Fuji, Permafrost, Rain infiltration, Monitoring, Soil temperature