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Permafrost on Mt. Fuji: a Project Launched by Young Researchers

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Permafrost degradation is a globally focused issue under the recent climatic warming. In this context, rapid degradation of permafrost on Mt. Fuji, the highest mountain in Japan (3776 m a.s.l.), was reported by the Japanese mass media. However, the present scientific knowledge of the permafrost is not enough to evaluate the extent of the degradation because the distribution and thermal conditions of the permafrost itself have remained mostly unknown. Thus, in 2008, young researchers studying permafrost worldwide launched a monitoring project of permafrost on Mt. Fuji using geophysical techniques. Two boreholes about 3 m deep were dug on the summit area, and ground temperatures and meteorological parameters, such as air temperature and precipitation, were started to monitor automatically. Ground penetrating radar was applied to sound the distribution of permafrost on the summit area and south-facing slope. The preliminary data on the ground temperature are significantly high, despite the cold air temperature (mean annual value = -6 deg.C) at the summit. Permafrost absence was confirmed in the one of the boreholes. The velocity of electromagnetic (i.e. radar) wave possibly suggests permafrost absence at shallow depth on the most part of the south-facing slope. These results indicate that a high ground thermal condition by volcanic activity should be considered in permafrost research on Mt. Fuji.