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Variation trends of air temperature and snow depth in the Japanese Alps

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Mountainous areas are quite sensitive to global-scale environmental changes, such as warming. Therefore, the effect of global warming on these meteorological elements is a critical issue. However, Mt. Fuji Weather Station, which was once a symbol of meteorological observation in mountainous areas in Japan, has remained unmanned since August 2004. Of the other observation sites of the Japan Meteorological Agency, Nobeyama, at 1350 m.a.s.l. elevation, is the highest. When evaluating the effects of a global-scale warming event on regional-scale environmental change in the Japanese Alps at a high elevation of 1350 m.a.s.l., it must be noted that the lack of meteorological observation data at high elevations impedes any evaluations of the effects of warming on the ecological system and water resources in mountainous ranges. A network of 14 meteorological observatories has been developed by Shinshu University in the Japanese Alps, which have already started recording observations. The highest observation site is Mt. Yari, at 3125 m.a.s.l.. Observation data from these sites are sent to a computer at the laboratory via a data communication mobile telephone network or a phone line throughout the year. These meteorological observation data are available on the laboratory website in quasi-real time. The interannual variability of annual mean air temperature and snow depth in the Japanese Alps region are discussed.