Mountainous areas are quite sensitive to global-scale environmental changes, such as warming. Therefore, the effects of global warming on these meteorological elements is a critical issue. We have developed a network of 14 meteorological observatories in the Japanese Alps, which have already started recording observations. The highest observation site is Mt. Yari, at 3125 m. Observation data from these sites are sent to a computer at the laboratory via a data communication mobile telephone network or phone line throughout the year. These meteorological observation data are available on the laboratory website in quasi-real time. The interannual variability of the annual mean temperature and the snow depth in the Japanese Alps region are discussed.