Spatial distribution of chemical components in fresh snow at the Japanese Alps

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The Japanese Alps area is one of the world's best snowy regions. In this area winter precipitation is observed mainly two patterns such as winter monsoon pattern and low pressure pattern. Therefore, the chemical characteristics of the snowpack are different by snowfall types. In order to understand hydro-chemical cycle of this area, it is important to evaluate the influence of snowfall. The purpose of this study was to clarify spatial distribution of chemical components in fresh snow. We conducted a snow pit study immediately after snowfall, on the route from Matsumoto to the city of Japan Sea side. Snow density and temperatures were measured every 0.03 m. After these measurements, we collected fresh snow samples. The samples were melted, then pH, electric conductivity and major ions (Na^+, K^+, Mg^{2+}, Ca^{2+}, Cl^-, NO_3^- and SO_4^{2-}) were analyzed in clean room. The concentrations of the sea salt components in fresh snow were lower at the inland observation point.