

Spatial distribution of snow chemistry in the Japanese Alps region

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The Japanese Alps region is one of the heaviest snowy regions in Japan. 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. We conducted a snow pit study immediately after snowfall, on the route from Itoigawa, Joetsu and Iida to Matsumoto. We collected only fresh snow samples in winter season. In this study we aimed to clarify spatial distribution of chemical components in fresh snow at the Japanese Alps region. 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 Na^+ concentration correlates well with Cl^- concentration. These ions are considered to be sea-salt components. On the other hand, SO_4^{2-} concentrations included non-sea-salt components.