

Chemical Composition on the snow surface in the Tateyama Mountains in Toyama Japan

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In this study, we carried out an analysis of chemical composition, EC and pH on snow surface in Tateyama Mountains in Toyama Prefecture, Japan, and we aimed to reveal their influence of seasonal transformation change and space spatial distribution of chemical composition of snow surface in during snowmelt season, and to research examine the effects on of volcanic gas in the mountain on the chemical composition, which has become active in 2012 for snow surface.

As a result of analysis of chemical composition in Tateyama, The most major chemical species most included ion was chloride ion in all measured site in snow surface from April to June. The concentration was highest at the site located near the Jigokudani fumarole. More than 90% of the chloride consisted of raichousou. non-sea salt chloride ion account for over 90% origin.

Measurement of EC was the largest and pH was showed the snow was generally acidic (3-5) and that it was lowest at the site in near the raichousou fumarole.

Near the raichousou was nearest site of three, if The results suggest would appeared that the high concentration of the chloride ion and the low pH of the snow were due to derived from the hydrogen chloride derived from contained volcanic gas from the fumarole, Jigokudani.

From On the surface of snow during July and to August, the most major chemical species changed to largest number of sulfate ion was contained.

It means that snow surface at this time chemical The sulfate ion seems to be composition is supplied from different origins, which that are not derived from neither sea salt and nor volcanic gas.

Origin of the sulfate ion was not clear, it might be derived from the soil surface exposed after the snow melting.

We know that concentration of chemical composition was included as much as before snowmelt in Tateyama, and major component changed from chloride ion to sulfate ion.

Especially, high concentration of chloride ion was considered the effect of volcanic gas from Jigokudani.

Chemical composition might affect the ecosystem of microorganism on the snow and ice and surrounding area.

Keywords: volcanic gas, Tateyama Mountains, snowmelt season, chemical composition, snow surface