

Comparison investigation of contribution of the sublimation to the air by blowing snow

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If a strong wind blows in a snow cover region, snow particles which once lay move in the air and are transported to the leeward with energy exchange between the air and the snow cover. Since this blowing snow is generated not only in land but in the vast snow cover region including the sea ice, the influence of the energy exchange will reach far and wide.

On the other hand, according to climate models, temperature rising is predicted in the snow cover region of high latitude which blowing snow also occurs, and the uncertainty of warming prediction has been widely discussed.

Therefore, in this research, the main stress falls on the influence of the water vapor in the snow cover region. The water vapor has the greatest contribution as greenhouse gas. If blowing snow occurs, the snow particles moving in the air sublime and change the water vapor amount of the air. Little attention has been given to the point. It is because the field observation under a fixed climate condition is difficult, observation using instruments which measures blowing snow correctly is hardly carried out in windy regions where sublimation is produced, and so on. In this presentation, the past blowing snow research carried out in the snow cover region is compared, the estimate of the amount of sublimation is arranged, and the contribution of the sublimation to the atmosphere by blowing snow is investigated.

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