



Variation trend of stream runoff in the Japanese Alps catchment

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The Japanese Alps region is known to experience some of the heaviest snowfall in the world. In this region, precipitation brought by snowfall is more important as a water resource than rainfall. This region experiences exceptionally heavy snowfall that is extreme even by world standard, and in spring, the melting snow becomes a valuable water resource for the region. Snow plays the role of a natural white dam by accumulating in watersheds during winter.

Recent studies have reported that the amount of snowfall in Japan will decrease as a result of global warming. However, these studies used data observed at low altitudes. The question arises whether the same theory can be applied to high-altitude mountain areas. Observations of the amount of snow have not been carried out in high-altitude mountain in Japan where the temperature is colder than the threshold temperature of snow/rain even with the temperature rise observed in recent years. Therefore, we cannot discuss the effect of global warming on the change in the amount of snow in the mountainous region of Japan based on observation data. Therefore, in this study, we discuss the relationship between snowmelt runoff and the amount of snow using observation data for the Japanese Alps catchment.