

The influence that the Northern Japan Alps have on showers

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Data from AMeDAS located around the mountains (Northern Japan Alps), showed precipitation at earlier times above Matsumoto Basin (which includes Matsumoto City, Azumino City, and Omachi City) than in other flat areas' data. As a result of the analysis of movies of the clouds by time lapse camera and the equivalent potential temperature around the mountains, it was found that rising air flows occurred near the mountains in the daytime because of slope being heating by solar radiation. Observing recordings, the movements of the clouds didn't match my expectations. Therefore, I collected and analyzed AMeDAS' data. There are many cases in which there is a convergence line between the southern winds from the Pacific High and the northern winds from the Sea of Japan which are caused by thermal low on land, in afternoon. A line of Cumulus clouds was found from east to west, which caused a shower on the flat area along the convergence lines. Moreover, it seems that the row of clouds that formed above Matsumoto Basin and winds near the ground cause convection clouds which develops in the mountain range to form.

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