北アルプスが夕立に及ぼす影響

The influence that the Northern Japan Alps have on showers

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山脈周辺のAMeDASでは平地部よりも早い時間に降水を観測していた．そこで山脈周辺の相当温位場の解析とタイムラプスカメラによる雲の様子の撮影を行った結果、日中斜面が日射によって加熱されることにより山脈付近で上昇流が発生していることが分かった．動画中での雲の流れに疑問を持ちAMeDASのデータを集め解析すると夕立のあった日では午後地上で熱的低気圧による海風である日本海側からの北風と広域の南風がぶつかる収束線がある場合が多く、その収束線に沿って東西方向の雲列が発生し平地部に夕立をもたらしていることが分かった．また地上風の様子より山脈上に発達した対流雲が盆地底部上空の雲列へもたらす影響もあると思われる．

キーワード：北アルプス、夕立、収束線
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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 exceptions. 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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