

Generation Condition of the Full-Depth Avalanche Out of the Data of Occurrence For Five Consecutive Years at Shibahara, Niigata Prefecture of Japan

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It is well known that a full-depth avalanche of wet snow occurs when, among others, air temperature rises. However, the exact condition of the generation of a full-depth avalanche appears to be difficult to formulate probably because it strongly depends on the ground surface condition which is difficult to be generalized. It seems that accumulation of field data related to the occurrence of a full-depth avalanche is necessary to advance our knowledge on this matter. In Shibahara, Niigata Prefecture of Japan, a full-depth avalanche is observed to have occurred on the same slope for five consecutive years offering a rare opportunity to study the generating condition. Details of all these occurrences and the meteorological data are collected and carefully studied for the process leading to the avalanche generation. It is then observed that the avalanche occurs under the large snow depth and after the temperature rise up to around 10 degrees Celsius. This effort produced a plot of snow depth against 3-day consecutive positive temperatures suggesting a possible criterion for generation of the full-depth avalanche on this slope. The data of the non-occurrence gave the snow depth minimum value. dependent. However, the method should be beneficiary to the study at another area.