

Predicting the avalanche danger level from field observations

Juerg Schweizer

WSL Institute for Snow and Avalanche Research SLF, Davos Dorf, Switzerland

As public avalanche forecasts are done for large regions, backcountry travelers cannot simply rely on the bulletin as local conditions may be different from the forecasted level of danger. It is therefore imperative for backcountry travelers to make their own observations and assess the hazard. This procedure is equivalent to verifying the danger level. During the last eight winters 312 field observations including a snow profile with a stability test, observations on snow surface quality, drifting snow, signs of instability, avalanche activity, and an estimate of the local danger level were made by experienced researcher and forecasters near Davos (Switzerland). We preliminarily analyzed whether the danger level can be estimated based on the occurrence of signs of instability. Whereas the danger level 'Considerable' was frequently associated with whumpfs, shooting cracks and recent avalanching, the analysis revealed that the danger level can rarely be determined based on these observations only. For example, a whumpf is neither a necessary nor a sufficient condition for the danger level 'Considerable' – but of course still a serious sign of instability. With additional information, in particular from the snowpack, a better discrimination between the danger levels seems possible.