

## The New and Improved Avalanche Danger Scale

By Doug Chabot

“For today the avalanche danger is rated *CONSIDERABLE* on all slopes in the Bridger and northern Gallatin Ranges” was a common advisory last winter. Anyone who has read an avalanche advisory in the U.S. or Canada knows the five descriptor words: *Low, Moderate, Considerable, High* and the rarely used *Extreme*. These heavily weighted words convey the danger rating for a specific time in a defined region. Introduced to North America in 1994, they inform all backcountry users about the potential risk of avalanches.

In 2005, after 16 years of use, the U.S. and Canadian professional avalanche community decided the danger scale needed to be revised. Words like “probable” were confusing, and the scale was weighted toward probability instead of consequence. The objectives were to clarify terminology and definitions, develop a model of avalanche hazard and revise the danger scale. After five years of discussion and debate, this winter the new North American Public Avalanche Danger Scale will be used by all the avalanche centers.

The five-level warning system still uses the same signal words of *Low* through *Extreme*. The greatest percentage of avalanche fatalities happen at the *Considerable* level which, not coincidentally, also caused the most deliberation. In addition to words, the danger scale also includes the numbers 1-5 and a specific color matched with each signal word to standardize the scale across multiple languages and countries. A set of newly developed universal icons are linked to the scale as well. These simple graphics are the new international standard to represent danger levels.

A column labeled “Travel Advice” has been updated with clear, strongly worded statements on the avalanche conditions and travel recommendations. Fewer than 20 word sound bites communicate the conditions and seriousness of travel in avalanche terrain.




The next column, “Likelihood of Avalanches” is the meat of the scale. It defines the likelihood of avalanches being triggered, both naturally and by people. The five terms used to describe the chances of triggering a slide are *unlikely, possible, likely, very likely* and *certain*. Don’t be fooled by these common words; they convey a very serious risk assessment.

An entirely new and significant addition to the danger scale is the column “Avalanche Size and Distribution.” Grant Statham of Parks Canada and one of the lead authors of the new scale wrote, “Avalanche danger is defined as a combination of likelihood and size, thus the addition of size and distribution makes the system risk-based by introducing consequence into the danger scale.” Backcountry users factor in consequence on a daily basis. “Will this slope rip big? Where’s it going to take me? Will I see a few large avalanches or many small ones?” The new scale answers these questions with a specific danger rating.

Avalanche danger can change rapidly which is why we spend our days in the field and write an avalanche advisory every morning. The new danger scale has tightened up the standard language of

forecasters, but it can't convey the complexities of the snow. If the question is, "What is the avalanche danger?" just answering "Moderate" is not adequate. That's why the advisory is more than one word. Advisories are narrative and we tell a story every day about weather, snowpack and avalanches. It's a compilation of the entire season of snow, an encyclopedic account of instability, avalanches and observations. This new danger scale adds clarity to that discussion. Grant said, "Well, in the end it's just a scale; nothing more than a table of carefully crafted words, symbols and colors designed with the best of intent to help the public better understand and manage their risk."

The new Danger Scale can be downloaded at: [http://www.avalanche.org/danger\\_card.php](http://www.avalanche.org/danger_card.php)

North American Public Avalanche Danger Scale				
Avalanche danger is determined by the likelihood, size and distribution of avalanches.				
Danger Level		Travel Advice	Likelihood of Avalanches	Avalanche Size and Distribution
5 Extreme		Avoid all avalanche terrain.	Natural and human-triggered avalanches certain.	Large to very large avalanches in many areas.
4 High		Very dangerous avalanche conditions. Travel in avalanche terrain <u>not</u> recommended.	Natural avalanches likely; human-triggered avalanches very likely.	Large avalanches in many areas; or very large avalanches in specific areas.
3 Considerable		Dangerous avalanche conditions. Careful snowpack evaluation, cautious route-finding and conservative decision-making essential.	Natural avalanches possible; human-triggered avalanches likely.	Small avalanches in many areas; or large avalanches in specific areas; or very large avalanches in isolated areas.
2 Moderate		Heightened avalanche conditions on specific terrain features. Evaluate snow and terrain carefully; identify features of concern.	Natural avalanches unlikely; human-triggered avalanches possible.	Small avalanches in specific areas; or large avalanches in isolated areas.
1 Low		Generally safe avalanche conditions. Watch for unstable snow on isolated terrain features.	Natural and human-triggered avalanches unlikely.	Small avalanches in isolated areas or extreme terrain.
Safe backcountry travel requires training and experience. You control your own risk by choosing where, when and how you travel.				