Recognizing Avalanche Terrain

Submitted by Eric Knoff on Thu, 03/12/2015 - 08:38

The snowpack changes from year to year, even day to day but, the terrain on which snow falls remains constant. Understanding and recognizing avalanche terrain are critical tools for safe decision making in the backcountry.

During stable snow conditions, riding in avalanche terrain is safe and acceptable. When snow conditions are unstable, avoiding steep slopes and avalanche run out zones is key to avoiding avalanches.

In unstable snow conditions it's not uncommon to trigger avalanches from gentle and seemingly safe terrain. This is known as remote triggering. Every year snowmobilers get caught and sometimes killed by remotely triggered avalanches. The most common scenario involves avalanches being remotely triggered from low on the slope. Paying attention to slope steepness from bottom to top is crucial in determining if that slope is capable of producing an avalanche. If a low angle slope is connected to a steep slope above it is avalanche terrain. An inclinometer is a useful piece of equipment for measuring slope angles quickly and effectively.

Riders may also misjudge avalanche terrain on heavily treed slopes. It is not uncommon for riders to mistakenly assume avalanches are unlikely on heavily treed slopes. In some cases trees can act as anchors to help stabilize the slope, but this is not a reliable approach. A general rule is if trees are spaced far enough apart to ski or ride between them the slope is capable of producing an avalanche. Trees also increase the potential of traumatic injury if caught in an avalanche.

Slope size is another component often overlooked by backcountry travelers. Over the past decade most fatal avalanches in the United States have occurred on small to medium sized slopes ranging from less than 50 vertical feet to a few hundred vertical feet. Smaller avalanches are especially dangerous when they lead to terrain traps such a gullies or creek beds. Even small slopes can carry large consequences.

Paying close attention to terrain can mean the difference between triggering an avalanche and riding incident free. Low angle slopes, heavily treed slopes and small slopes all have the potential to produce dangerous avalanches under the right conditions. If snow stability is the question then terrain is the answer. Avoiding avalanche terrain during unstable conditions is the only true way of avoiding avalanches.