

# **Recognizing signs of snowpack instability**

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The agility and power of today's snowmobiles allow riders to easily access avalanche terrain with a speed and thrill that makes it easy to overlook noticeable signs of snow instability. Paying attention to clues of instability and knowing how to react to them is a sizeable advantage in staying safe while riding in the backcountry.

The first and most obvious sign of snow instability is recent avalanche activity. This important clue is full confirmation that unstable snow exists and that more avalanches are probable. It is crucial that the aspect and elevation of recently avalanched slopes are noted and that slopes with similar orientation are avoided. Riding next to existing avalanches is just bad judgment and is asking for trouble. In addition, when notable signs of instability are present all slopes steep enough to avalanche should be viewed as if they will slide and avoided if possible.

At times fresh avalanche activity is easy to identify by large debris piles and defined crowns. Other times, recent avalanche activity may not always be noticeable. Fresh or windblown snow may cover crowns and debris and poor visibility due to fog or falling snow can make it difficult to see or assess the extent of avalanche activity. In these situations a keen eye, heightened awareness of weather and terrain, and having some avalanche education are all important factors when deciding where to ride.

If recent avalanche activity is not visible, other signs of instability can still be present. Shooting cracks and collapsing of the snowpack are two obvious signs of snow instability. These symptoms are most often accompanied by a loud whoompfing sound, and a physical settlement of the slope may be felt. If you are near or on a slope when this happens it is best to get off the slope quickly.

Slopes collapse and crack due to the failure of a weak layer within the snowpack. Weak layers form in many different ways, but all pose the same problem. They will collapse and fail when too much weight (ie you and your sled) is added to the snowpack and the resulting stress overrides its strength. This can produce an avalanche if the slope is steep enough. It is important to communicate your observations of instability to all of your group's members and make a solid game plan to stay out of harm's way.

Finally, the easiest and safest way to gather information about instability in the backcountry is to call the nearest avalanche forecast center for an up to date report on conditions before venturing into the backcountry. Keep in mind forecast centers love to hear your frontline backcountry observations, especially about signs of instability. Recognizing and understanding signs of instability and communicating with others about them are tools that will help ensure you and your group many more days of safe riding in the mountains.

