

Deep Slab Avalanches

Submitted by Mark Staples on Thu, 03/20/2014 - 06:05

We have a deep slab avalanche problem throughout the advisory area. Adjacent mountain ranges likely have this problem as well. It exists because the entire winter's snowpack rests on a layer of facets near the ground. It produced avalanches in late December and early January and again following heavy snowfall in February and early March. This weak layer of facets, formed in early December during extreme cold weather will be a concern for the rest of the season.

Dealing with this layer is tricky for many reasons:

1. It is difficult to trigger avalanches on this layer because it is buried so deep. Read Doug's [analogy on finding the trigger point](#) for these slides.
2. Tracks on a slope do not mean it is stable. It just means other riders did not hit a trigger point.
3. You may not see any recent avalanches on this layer prior to triggering one.
4. Assessing this layer in the field is tough because stability tests do not work well on weak layers buried deeper than about 3-4 feet.
5. A deep slab avalanche is usually not survivable. Rescue gear ensures we can find your body but does not guarantee you'll survive. Airbag packs can be tough to deploy in such violent slides and do not prevent severe trauma.

What to do?

First and foremost, this layer changes the nature of the entire season. Its ability to produce big avalanches makes us more conservative than in other seasons. Our most ambitious objectives may need to wait for another year. Stability varies from day to day and month to month, but it also varies from season to season. This season is unstable.

Second, the odds of triggering avalanches on this layer go up every time it snows. Every day without new snow decreases the odds of triggering an avalanche on this layer??but only a very little bit. It is best to give the snowpack as many days as possible without a new load from either snowfall or wind before skiing or riding on it.

Even after many days without loading slopes with a thick snowpack can still be dangerous. Good places to trigger deep slab avalanches are areas where the snowpack is relatively thin. Look for exposed rocks as signs of a thin spot in the snowpack.

Will warm weather help?

Warm spring weather will not make this layer stronger. The only way for this layer to gain strength is for really warm weather to add melt water to this layer and then get cold enough for the snowpack to refreeze. Then it will be very strong and the light will become green. If it doesn't refreeze, the snowpack will become very weak and may produce large wet slab avalanches.

For more reading, check out this [detailed document](#) from the Canadian Avalanche Center.