

GNFAC Avalanche Advisory for Sun Dec 23, 2012

Good morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Sunday, December 23 at 7:30 a.m. Today's advisory is sponsored Moonlight Basin Ski Patrol and Cliff Gullet Memorial Fund in partnership with the Friends of the Avalanche Center. This advisory does not apply to operating ski areas.

Mountain Weather

Overnight a fast moving weather disturbance dropped 2-3 inches of snow in the mountains around West Yellowstone and Cooke City including the southern Madison Range. The mountains around Bozeman and Big Sky picked up a trace to one inch. Currently, temperatures are in the teens F and winds are blowing 10-20 out of the SSW with gusts reaching close to 30 mph. Today, highs will climb into the 20s F under partly to mostly cloudy skies. Winds will continue to blow 10-20 from the SSW. A more potent storm will impact our area tonight and tomorrow. 1-3 inches is possible by morning with 4-6 inches likely by tomorrow afternoon.

Snowpack and Avalanche Discussion

[Bridger Range](#) [Madison Range](#) [Gallatin Range](#)

[Lionhead area near West Yellowstone](#) [Cooke City](#)

Weather is the architect of avalanches. Precipitation, wind and temperature all play a crucial role in snowpack development. Over the past few days, the storms have eased and the winds have picked up. This has created a more variable snowpack than the one we were dealing with just a week ago. As one experienced backcountry skier put it yesterday - The skiing went from hero to zero in three days. He was describing conditions in a more alpine setting, but the fact is - the snowpack continues change.

Avalanche Problem # 1: [Wind Slabs](#)

Over the past 48 to 72 hours, strong SSW winds have stripped windward slopes, redistributing heavy amounts of snow onto north and east aspects. Dense, nearly supportable wind slabs can be found on the lee side of upper elevation slopes, mainly below ridgelines and cross loaded terrain features. These slabs could be resting over weaker, low density snow making them susceptible to human triggers. Round, hardened wind pillows will be features to recognize and avoid.

In areas that received new snow, shallow soft slabs will found on leeward slopes near ridgelines and in cross loaded gullies. Fresh wind slabs will be sensitive to human triggers, but should stay relatively small in size.

Avalanche Problem # 2: Buried [Persistent Weak Layers](#)

Over the past few days, large natural avalanches have been observed in the northern Bridger Range. These slides occurred on wind loaded slopes, but went above and beyond typical wind slabs. Deep crown lines and good propagation indicate these slides failed on buried facets formed earlier in the season. Buried persistent weak layers are not widespread, but continue to make their presence known. Upper elevation slopes, specifically those with shady aspects (north through east) appear to be holding the weakest snow near the ground. Areas where the

snowpack is non-uniform - mainly in upper elevation, rocky terrain will be likely areas to trigger a deeper slide ([photo](#), [photo](#), [photo](#)).

In areas where the snowpack is uniform and more than a meter deep, generally strong and stable conditions exists ([photo](#)).

A future problem is the surface snow that has become faceted over the past few days of calm, clear weather. This problem does not exist on all slopes, but is something to keep in mind as more storms impact the area. Mark found weak surface snow on the west side of the Bridgers on Friday and I found near surface facets forming on Mt Ellis Yesterday.

Today, human triggered avalanches remain possible and the avalanche danger is rated [MODERATE](#).

I will issue the next advisory tomorrow morning at 7:30 a.m. If you have any snowpack or avalanche observations drop us a line at mtavalanche@gmail.com or call us at 587-6984.

[EDUCATION](#)

Today - Free 1-hour Avalanche Awareness lecture at Bridger Bowl at 1 p.m. on the 4th floor of the Saddle Peak Lodge. No registration necessary.