

[GNFAC Avalanche Advisory for Tue Dec 20, 2011](#)

Good morning. This is Doug Chabot with the Gallatin National Forest Avalanche Advisory issued on Tuesday, December 20 at 7:30 a.m. This advisory is sponsored by the Cliff Gullett Memorial Fund in partnership with the Friends of the Avalanche Center. This advisory does not apply to operating ski areas.

Mountain Weather

Mountain temperatures are in the high teens this morning with west to north winds at 15-30 mph and gusts hitting 40 mph. Today will start sunny, but clouds will increase later this afternoon as a cold front brings snowfall late tonight. Steady 20-40 mph winds will blow ahead of the front with nighttime temperatures dropping into the low teens. By morning I'm expecting 3-4 inches of snow with storm totals of 6-8 inches by Wed night.

Snowpack and Avalanche Discussion

The Bridger and Madison Ranges, the southern Gallatin Range and the Lionhead area near West Yellowstone:

With the exception of the northern Gallatin Range and mountains around Cooke City our mountain snowpack is weak, thin and not impressive ([photo](#)). According to the [NRCS we are at 65% of normal](#). That's giving winter a below average grade of "D" and Mother Nature doesn't grade on a curve. Weak snow is defined as unsupported, unconsolidated, and faceted. Every time I step out of my skis or off my snowmobile I sink to the ground confirming its presence. This snowpack will have a difficult time supporting future snows.

My partner and I skied into Beehive Basin in the northern Madison Range on Sunday and found two feet (at most) of sugary, weak snow. In order to have an avalanche we need 4 things: a steep slope, a weak layer, a slab of snow sitting on that layer and a trigger. In Beehive, as in many parts of our advisory area, the missing ingredient is the slab. On slopes with deeper snowpacks this slab exists, which is why the ski patrols were able to release a few avalanches this past weekend with explosives.

For today, the avalanche danger is a function of depth. On slopes where the snowpack is greater than two feet deep, mainly on wind-loaded slopes, a slab exists and the avalanche danger is rated [MODERATE](#). On slopes with less than two feet of snow the avalanche danger is [LOW](#).

The northern Gallatin Range and mountains around Cooke City:

Mark and Eric spent the weekend digging snowpits around Cooke City. This trip was on the heels of Mark's tour up Flanders drainage in the northern Gallatin Range. Although miles apart, there were some similarities. Three or more feet of snow was measured in both areas, plus faceted, weaker snow was found near the ground. Stability tests indicated this layer is slowly strengthening and they concluded it would take a large storm to get it to avalanche; however, buried facets are never to be fully trusted. Occasionally the test columns propagated fractures. These results indicate variability within the snowpack as well as the possibility of triggering a slide. A natural avalanche outside Cooke City on Sunday is further evidence of this possibility ([photo](#)). For today the avalanche danger is rated [MODERATE](#) on all slopes steeper than 35 degrees. All other slopes have a [LOW](#) avalanche danger.

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.

EVENTS/EDUCATION

To check out all our education programs: <http://www.mtavalanche.com/workshops/calendar>

BOZEMAN

[Women's 1-hour Avalanche Awareness Lecture](#). Wednesday, January 4, 6:30- 8 p.m. at REI.

[Snowmobiler Introduction to Avalanches with Field Course](#). Lectures on Saturday, January 7, with an all day field session Sunday, January 8. Advanced registration IS REQUIRED.

[1-hr Avalanche Awareness Lecture](#). Wednesday, January 11, 6:30-7:30 p.m at REI.

BIG TIMBER

[1-hr Avalanche Awareness Lecture](#). Tuesday, January 10, 7-8 p.m at Big Timber High School.

HELENA

[1-hr Avalanche Awareness Lecture](#). Thursday, January 12, 6:30-8:30 p.m at Exploration Works.

CODY, WYOMING

[Snowmobiler Introduction to Avalanches with Field Course](#). Lectures on Saturday, January 14 at Mountain Valley Motorsports with an all day field session near Cooke City on Sunday, January 15. Advanced registration IS REQUIRED.