

GNFAC Avalanche Forecast for Tue Dec 21, 2010

Good Morning. This is Doug Chabot with the Gallatin National Forest Avalanche Advisory issued on the Winter Solstice, Tuesday, December 21, at 7:30 a.m. **Montana FW&P Snowmobile Program** is the sponsor of today's advisory. This advisory does not apply to operating ski areas.

Mountain Weather

Today is the shortest day of the year. From this date forward we're starting our climb toward summer, but with a forecasted high of 20F today I'm not digging out my flippity-flops just yet. Yesterday, strong west to southwest winds blew 30-40 mph before calming last night to 10-15 mph. Under clear skies mountain temperatures are near 10F. Some clouds will penetrate our southern mountains, but the next 24 hours will be a quiet weather pattern of light winds and no precipitation.

Snowpack and Avalanche Discussion

The northern Madison Range, the mountains around Cooke City and the Washburn Range:

A layer of facets and surface hoar buried 12-16 inches deep around Big Sky and 2 feet under the surface in Cooke City has caused us concern. This layer is breaking in our stability tests, yet avalanche activity has been relatively minor. This is a bit surprising given the 16 inches of new snow that's fallen in Cooke City over the weekend. On Sunday at Buck Ridge, Eric and I found feathery crystals of surface hoar breaking fast and clean across our test column ([video of ECT](#)). The strong winds Sunday night and yesterday created wind slabs which the ski patrols found to be stubborn to release with explosives. On more protected, treed, mid-elevation slopes a few natural slides were seen on Cedar Mountain and also on a small road cut.

Natural slab avalanches, no matter how small, are signs of instability. Even though it's tempting to think the weak layer doesn't exist on high elevation exposed terrain, Eric and I found it preserved under a dense wind slab in MacAtee Basin. For today, the avalanche danger is rated **CONSIDERABLE** on all slopes wind-loaded or steeper than 35 degrees. Lower angled terrain has a very solid **MODERATE** danger since human triggered avalanches are still possible. The surface hoar is seen as a stripe in the snowpit wall—a visual clue of avalanche potential ([photo](#)).

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

The southern Madison Range from Taylor Fork to West Yellowstone lacks the widespread surface hoar and faceted layer that lies to the north. Last week Mark and I found stable snow in three of our four snowpits in Lionhead. I failed to find weakness in all six of my pits in Carrot Basin, yet only a few miles to the east skiers in Bacon Rind found a carpet of surface hoar breaking clean in their stability tests. This discovery was disheartening. Bacon Rind is like a disruptive schoolboy demanding attention and not being a team player. Further south on Saturday, a skier triggered an avalanche on a steep northeast facing slope. It broke 10 inches deep on a 20 foot wide pocket of facets and slid through the trees for 300 feet. Since then, close to a foot of snow fell with very strong winds. Consequently, the avalanche danger is rated **CONSIDERABLE** on all wind-loaded slopes and **MODERATE** on all other terrain.

The Bridger Range and northern Gallatin Range:

The Bridger and northern Gallatin Range only got a few inches of snow since Saturday, but a healthy dose of wind: the exact opposite of what we want. Although there are some slopes with thinner, weaker snow (most notably on the west side of the Bridger Range and on higher elevation north-facing slopes), without new snow the stability is generally good. Our primary concern is on wind-loaded slopes. On Sunday, skiers noted a small isolated wind pocket released in Frazier Basin. For today, the avalanche danger is rated **MODERATE** on all wind-loaded slopes and **LOW** on slopes without any wind drifting.

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.

Upcoming Avalanche Education

There are many upcoming avalanche classes in the month of January. Check them on our education page at: <http://www.mtavalanche.com/workshops/calendar>

Other News

This year REI has chosen Friends of GNFAC as their charity of choice. By making a donation through REI you can help The Friends continue to support the Avalanche Center and promote avalanche education throughout southwest MT.