

## [GNFAC Avalanche Advisory for Sun Feb 10, 2013](#)

Good morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Sunday, February 10 at 7:30 a.m. **Gallatin County Search and Rescue** in partnership with the Friends of the Avalanche Center sponsors today's advisory. This advisory does not apply to operating ski areas.

### Mountain Weather

Overnight, a fast but intense storm delivered **eleven** inches of snow to the northern Gallatin Range and **eight** inches to the mountains around Big Sky. Strangely enough the southern Madison Range picked up two inches while the Lionhead Area, Bridger Range and mountains around Cooke City squeaked out a trace to one inch. Currently, temperatures are in the single digits F and winds are blowing 10-20 out of the N with gusts reaching close to 30 mph. Highs today will climb into the teens and winds will remain out of the north at 10-20 mph. Snow showers will linger in the mountains through the morning hours, but skies will gradually begin to clear by this afternoon. Clear skies and colder temperatures will be on tap for tomorrow.

### Snowpack and Avalanche Discussion

#### Northern Gallatin Range Northern Madison Range

The surprise storm that hammered the northern Gallatin Range and mountains around Big Sky last night will certainly have a negative effect on snowpack stability. With close to .5 inches of SWE falling in a few hours, the snowpack will struggle to adjust to this rapid load.

Today, there will be two main avalanche problems.

#### **1. Wind Slabs**

#### **2. Buried Persistent weak layers**

In upper elevation terrain, moderate north winds will be strong enough to transport the new snow onto leeward slopes. Slopes facing the southern half of the compass will be most susceptible to slab formation. Fresh wind drifts will be sensitive to human triggers and will be especially dangerous in high consequence terrain.

Buried persistent weak layers do not exist on all slopes making this a tricky problem. Yesterday, I toured up Mt Ellis and found buried facets to be widespread ([video](#)). However, this is not the norm. In most areas, persistent weak layers have a sporadic distribution and appear to be most present on slopes that had a shallow snowpack during the January dry spell. Watching for signs of instability such as cracking/collapsing and digging multiple snowpits in the area you plan to ride is the best way to ensure you are not walking directly into the dragon's den.

Today, new snow, wind slabs and buried persistent layers make human triggered avalanches likely on wind loaded slopes and slopes steeper than 35 degrees which have a **CONSIDERABLE** avalanche danger. All other slopes have a **MODERATE** avalanche danger.

#### Bridger Range Southern Madison Range

#### Southern Gallatin Range Lionhead area near West Yellowstone

Although these areas are not dealing with new snow instabilities, they have a few problems of their own.

In the mountains around West Yellowstone, a layer of facets buried 1-2 feet deep can be found on most aspects and elevations. Yesterday, skiers in the southern Madison Range got unstable results during stability tests and experienced a few large collapses – both signs of instability. Though this layer is gaining strength, it can't be fully trusted. Digging snowpits to assess this layer is a good insurance policy before committing to avalanche terrain.

In the Bridger Range, the snowpack is well adjusted. There are a few areas where weak snow can be found 2-3 feet below the surface, but this problem is not widespread. Steep slopes below ridgelines or variable areas such as the west side are places humans could possibly trigger an avalanche. Pay attention to changing snow conditions and avoid areas where you can shove your pole straight to the ground.

Today, human triggered avalanches are possible and the avalanche danger is rate **MODERATE**.

### Cooke City

Consistent snowfall in the mountains around Cooke City has kept the development of persistent weak layers to a minimum. Mark rode this area a few days ago found a generally stable snowpack (**video**). While most slopes offer green light conditions, there are a few areas to look out for. Mid to low elevation slopes where the snowpack is thinner hold the weakest snowpack structure (**photo**). Be cautious when riding in these areas, specifically around creek beds or steep gullies. In upper elevation terrain, there is the possibility a stubborn wind slab could pop loose under the weight of skier or rider.

Today, generally safe avalanche conditions exist and the avalanche danger is rated **LOW**.

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](mailto:mtavalanche@gmail.com) or call us at 587-6984.

### **February 16: 11<sup>th</sup> Annual King and Queen of the Ridge**

The **Avalanche Center**, **Montana Ale Works** and **Beartooth Powder Guides** have already entered as teams. Organize your own team or come out as an individual hiker. Better yet, let others do the hiking for you and **donate** instead! If you would like to donate to the Avalanche Center team of Mark and Eric (30 lap goal!) drop us a line at [mtavalanche@gmail.com](mailto:mtavalanche@gmail.com). Pledges can be made per lap or just a flat donation. Kids and families are encouraged to hike too! Prizes will be awarded to the most hikes (1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup>); most money raised; most laps for a team; most money raised for a team. **More Information** / **Registration Form**

### **Ice Creek Lodge in Valhallas (Canada) available at a deep discount!**

Funds benefit the Friends of the Avalanche Center. Dates are March 22-29, 2013. This backcountry touring lodge is a Helicopter ride in and holds up to 10 people. The lodge is private, has full kitchen, sauna, etc., and will be a world class March trip into the Valhalla's!

[http://www.icecreeklodge.com/back\\_country\\_lodge\\_accommodation.html](http://www.icecreeklodge.com/back_country_lodge_accommodation.html)

Interested? Contact Eric Ladd at 406-570-0639 or [eric@theoutlawpartners.com](mailto:eric@theoutlawpartners.com)