

## **GNFAC Avalanche Forecast for Fri Feb 12, 2010**

Good Morning. This is Mark Staples with the Gallatin National Forest Avalanche Advisory issued on Friday, February 12, at 7:30 a.m. **Gallatin County Search and Rescue**, in cooperation with the **Friends of the Avalanche Center**, sponsor today's advisory. This advisory does not apply to operating ski areas.

### Mountain Weather

Since yesterday 1-3 inches of snow fell in southwest Montana. This morning temperatures were in the mid to high teens F with winds blowing 10-20 mph mostly from the west. Once again winds increased yesterday afternoon and evening blowing as hard as 30 mph. Snowfall started this morning with about 1 inch of new snow. It will end this afternoon before resuming later tonight. By tomorrow morning another 2-4 inches will accumulate. Today high temperatures will reach the mid 20s F and winds will blow 15-25 mph from the west.

### Snowpack and Avalanche Discussion

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

During seven of the last 10 days measurable snowfall has occurred in the southern Madison and Gallatin Ranges and the mountains near West Yellowstone. This snowfall has been only a few inches each day but has added slowly to make excellent skiing and riding conditions. This loading is what we like because it is not a rapid addition of weight to the snowpack. Unfortunately the snowpack contains two significant weak layers that remain active despite this slow loading. These weak layers are:

1. Big faceted crystals near the ground.
2. Surface hoar buried 1 1/2 feet deep.

Surface hoar is a dangerous weak layer and has shown [obvious signs](#) of instability. What makes it so dangerous is that it remains very weak for a long time, and it does not exist on all slopes. Fortunately it is not buried too deeply and is easy to see in snowpits where it readily fractures in stability tests. Prime locations are sheltered slopes like some near Hebgen Lake and the Bacon Rind area ([photo](#)). Unlike the surface hoar layer, large faceted crystals near the ground exist on all slopes and have been a problem all season. Knowing this unpredictable layer exists is enough to keep me off any steep slope.

For today, all slopes steeper than 35 degrees and slopes with wind drifted snow have a **CONSIDERABLE** avalanche danger. All other slopes have a **MODERATE** avalanche danger.

*Bridger, northern Madison, and northern Gallatin Ranges, mountains around Cooke City and the Washburn Range:*

In the northern half of the advisory area and the mountains near Cooke City, a similar layer of facets exists near the ground. On Wednesday I found them near Big Sky around Buck Ridge where they showed no signs of strengthening. The only reason these facets were not more reactive is that they have not been heavily stressed by recent snowfall. The slow loading of recent snow will help in the long run, but for now it adds just enough stress making stability assessments difficult. As more snow falls and the cumulative loading increases, it is hard to know how close it pushes this weak layer to its breaking point.

To further complicate matters, a few warm sunny days and clear cold nights early this week have created a new weak layer. In some places this layer is surface hoar, and in others it is a layer of near-surface facets. This layer is only covered by a few inches of new snow but makes a great weak layer on which newly formed wind slabs rest. These fresh wind slabs have been triggered by skiers and riders in the Bridger Range and near Cooke City where winds have readily transported the new snow forming progressively larger wind slabs about 12 inches thick. Larger avalanches breaking on facets near the ground have also occurred this week and last weekend like one on [Bridger Peak](#). Another broke 4 ft deep on a southerly aspect of Crown Butte near Cooke City.

For today all slopes with wind drifted snow have a **CONSIDERABLE** avalanche danger. Other slopes have a **MODERATE** avalanche danger.

I will issue the next advisory tomorrow morning at 7:30 a.m. If you get out in the backcountry let us know what you find. You can reach us at 587-6984 or email us at [mtavalanche@gmail.com](mailto:mtavalanche@gmail.com).

## **8<sup>th</sup> ANNUAL KING AND QUEEN OF THE RIDGE, Saturday, February 13**

The K&Q of the Ridge raises money for avalanche education and has helped us significantly expand our classes in recent years. All three of us will be hiking the ridge for dollars this Saturday. You can sponsor all three of us, just one or donate a flat fee. I'm not sure Doug has many hikes in him, so consider a flat donation for his hikes. Consider sponsoring Eric for each lap, but watch out because he's got quite a few in him. Mail us at [mtavalanche@gmail.com](mailto:mtavalanche@gmail.com).

You can also [make a donation to Team Tyler](#) in memory of **Tyler Stetson**. Tyler was killed in an avalanche in Beehive Basin in January 2008. *Team Tyler* is comprised of family and friends who are traveling to Bridger Bowl from all over the country to compete and honor Tyler's life.

### **Avalanche Education**

#### **1. Cooke City Fire Hall**

One Hour Avalanche Awareness Class - Saturday, February 13<sup>th</sup> 6:30 pm to 7:30 pm

#### **2. Bridger Bowl**

AAI Level 1 Avalanche Course - Friday, February 19<sup>th</sup> to Sunday, February 21<sup>st</sup>

[www.americanavalancheinstitute.com](http://www.americanavalancheinstitute.com)

#### **3. Bridger Bowl**

AAI Level 2 Avalanche Course - Monday, February 22<sup>nd</sup> to Thursday, February 25<sup>th</sup>

[www.americanavalancheinstitute.com](http://www.americanavalancheinstitute.com)

#### **4. Moonlight Basin**

Comprehensive avalanche awareness class - Thursday, March 4<sup>th</sup> to Saturday, March 6<sup>th</sup>

[events@moonlight.com](mailto:events@moonlight.com) or 406-993-6026