

## **GNFAC Avalanche Forecast for Thu Feb 18, 2010**

Good Morning. This is Mark Staples with the Gallatin National Forest Avalanche Advisory issued on Thursday, February 18, at 7:30 a.m. **Jeff King at Edwards Jones Investments**, 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 morning 1-2 inches of snow fell throughout most of the advisory area. With cold air descending from the north, temperatures this morning were in the low teens to high single digits F. Winds decreased last night and were blowing 5-10 mph from the north this morning. Today will be cloudy and colder than recent days. High temperatures will reach the upper teens F and light northerly winds will blow 5-10 mph. Snowfall is likely today but only 1-2 inches will accumulate.

### Snowpack and Avalanche Discussion

#### *The Bridger Range:*

What happened: On Tuesday morning an massive avalanche occurred on Saddle Peak when a skier stepped on a cornice which broke, tumbled down the slope, and triggered the avalanche. Yesterday afternoon when Karl and I heard of clearing skies and good visibility on Saddle, we raced out of the office like CSI detectives on the lead of a hot tip. We found a crown face nearly 5ft tall and almost 1000ft wide. The avalanche ran about 2000ft vertical down one of the most popular and heavily skied slopes on Saddle Peak. We have numerous [photos](#) and several videos ([video1](#), [video2](#), [video3](#)) worth viewing. Avalanches breaking deep also occurred on Bridger Peak and several areas north of Bridger Bowl including the Flatirons area.

Why: Over the weekend, the Bridger Range received almost the same amount of precipitation that it typically receives in the entire month of February. While this was about 2.5 ft of snow, it was 3 inches of water weight. Over the area that slid on Saddle Peak, this heavy snow added up to roughly 4.5 million pounds which was placed on the snowpack in only a few days. This weight is equivalent to about six 747 jumbo jets. The trigger for this avalanche happened to be a tumbling cornice, but it didn't matter whether it was a cornice or a skier. The weight of the trigger was insignificant. What was important was finding the right place on the slope to initiate a fracture in the weak layer, and this spot was one of the several rock bands near the summit.

What now: Deep slab instabilities are difficult to predict. We know facets near the ground have been stressed and have produced avalanches. For now patience is the key and the snowpack needs more time to adjust to the weight of the weekend's heavy snow. Today, the avalanche danger is rated **CONSIDERABLE** on all wind loaded slopes. On slopes without a wind load, the danger is **MODERATE**, which means it's still possible to trigger avalanches.

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

Avalanche activity has occurred throughout the advisory area. Near Big Sky, ski patrols have triggered some stiff wind slabs, skiers in Beehive Basin observed recent natural avalanches, backcountry skiers on Lone Mountain triggered a slide, and snowmobilers on Buck Ridge triggered a few slides as well. Near Cooke City human triggered avalanches occurred on Crown Butte and natural avalanches occurred on Miller Mountain. Skiers on Mt Ellis found instabilities in multiple snowpits about 10 inches deep and opted for low angle slopes. On many slopes recent snow rests on a layer of near surface facets that was buried on February 10. A regular

observer near Cooke City has found this layer mostly on slopes with a southerly aspect. Just to keep things interesting, buried surface hoar exists on a few slopes as Eric found on Buck Ridge.

For today, the avalanche danger is rated **CONSIDERABLE** on all wind-loaded slopes steeper than 35 degrees and **MODERATE** on all other terrain.

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

In the southern mountains the primary avalanche concern is a layer surface hoar buried 1.5 to 2 ft deep. Even though this layer does not exist on all slopes, it has been found on enough slopes to cause concern, and it continues to show signs of instability. On Monday a snowmobiler was buried near Lionhead, and a natural avalanche on Mt Two Top (just outside the advisory area) was observed by a Gallatin Snow Ranger. Facets near the ground are the secondary avalanche concern. This layer has been experiencing a game of tug-of-war. As it adjusts to the weight of snow from old storms, it receives more stress with each new storm. An avalanche breaking on the surface hoar layer could easily add the extra stress necessary for the avalanche to step down and break near the ground.

For today, the avalanche danger is rated:

**CONSIDERABLE** on all wind-loaded slopes;

**CONSIDERABLE** on all slopes steeper than 35 degrees;

**MODERATE** on slopes less than 35 degrees that were not affected by the wind.

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).

## **Avalanche Education**

### **1. Bozeman: Lindley Center**

Join the Friends of the Avalanche Center TODAY from 6 p.m. to 8 p.m. for a FREE 2-hour beacon practice. All ages welcome.

### **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](http://events@moonlight.com) or 406-993-6026

