

## **GNFAC Avalanche Advisory for Sat Feb 20, 2010**

Good Morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Saturday, February 20, at 7:30 a.m. **On Site Management**, in cooperation with the **Friends of the Avalanche Center**, sponsor today's advisory. This advisory does not apply to operating ski areas.

### Mountain Weather

A cold arctic air mass parked over Montana has brought 1-2 inches of new snow to our advisory area over the past 24 hours. Today will deliver much of the same with mountain snow showers depositing an additional 1-2 inches by this evening. Winds will be light out of the north at 5-10 mph and temperatures will remain cold with highs in the upper teens and lows in the single digits F.

### Snowpack and Avalanche Discussion

#### *The Bridger Range:*

Snow continues to pile up in the Bridger Range with 3-4 inches falling over the past few days. This may not seem like a significant amount of new snow, but when added to an already stressed snowpack from last weekend's storm, every bit adds up. In the past week close to 3 inches of water ([snow water equivalent](#)) has fallen in the Bridger Range equaling close to February's monthly average. This large load has been deposited over multiple weak layers and has stressed the snowpack to the point failure resulting in many large avalanches, most notably the avalanche on Saddle Peak. Although the slide on Saddle was the climax of the avalanche cycle in the Bridgers, other significant avalanches occurred on Bridger Peak, one north of Bridger Bowl near Brackett Creek, and another in the Flatirons north of Ross Peak. All of these large and destructive avalanches failed on weak faceted snow near the ground which formed in early December.

Another large human triggered avalanche was reported yesterday near Flathead Pass where a group of skiers cut a large cornice that slid down and propagated the slope below. This slide propagated close to a 1,000 feet across, ran nearly 1,000 vertical and had a crown depth of 4-5 feet. The skiers who triggered this slide also found a well preserved layer of surface hoar layer about 20 inches below the surface on sheltered east facing slopes that produced full propagation and clean shears in stability tests. Additional stress has been added to the pack by strong west winds that blew on Wednesday forming stiff wind slabs near the ridgelines. These wind slabs are now covered by 3-4 inches of new snow making them more difficult to detect, but they will still fail with the proper trigger. For today, human triggered avalanches are probable on slopes steeper than 35 degrees and the avalanche danger is rated [CONSIDERABLE](#). The avalanche danger is rated [MODERATE](#) on all slopes less than 35 degrees.

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

As spring inches ever closer and the sun rises higher in the sky, snow conditions will become more variable depending on the aspect of the slope. North facing slopes will obviously stay cold and powdery while south facing slopes will quickly feel the effects of the sun, forming more layers of crusts and weak snow. This type of facet-crust combination on south facing slopes has been responsible for multiple human triggered avalanches over the past few days in the northern Madison Range. Similar conditions exist on south facing slopes near Cooke City where a snowmobiler triggered an avalanche on Sunday.

Yesterday my partner and I toured into Beehive Basin where we experienced notable signs of instability. We got one SE facing slope to collapse and crack under our skis prompting us to put on our skins and head back to the ridge. We also examined a human triggered avalanche that took place this past Sunday on a well traveled south facing slope. This slide failed on near surface facets that developed over a sun crust that formed during a quick stint of high pressure in the middle of last week. Two other human triggered avalanches were reported on Wilson Peak to the east of Beehive Basin, which took place on south facing slopes and failed on the same layer of near surface facets. Although these weak layers closer to the surface are more likely to produce avalanches, facets near the ground remain present and continue to hold the potential to produce avalanches especially in areas around rocks or cliff bands where the snowpack is shallow. With multiple weak layers in the snowpack human triggered avalanches remain probable. For today, the avalanche danger is rated **CONSIDERABLE** on all slopes steeper than 35 degrees and **MODERATE** on slopes less than 35 degrees.

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

The snowpack structure in the southern mountains remains poor. Facets near the ground exist on all slopes while a layer of buried surface hoar can be found on sheltered slopes 1.5 to 2 feet below the surface. This layer of surface hoar is producing clean shears with light force during stability tests and will most likely be the layer to produce avalanches in the southern ranges. One rider in the Lionhead area got extremely lucky this past Monday when he was caught and buried to his head in an avalanche that most likely failed on this surface hoar layer. As the storm track continues to go north depositing only light amounts of snow in the southern ranges, skiers and riders will continue to push higher and deeper into avalanche terrain. Despite the fact that it is getting harder to trigger an avalanche, odds show that the more slopes that get tested the greater the chance of finding the one that fails. As humans it is very difficult to be patient when it comes to skiing and riding, but the snowpack has all the patience in the world. For today make wise decisions and chose which slopes you ride carefully because some slopes will avalanche while others will not. For today, slopes steeper than 35 degrees have a **CONSIDERABLE** avalanche danger while all 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).

## **Avalanche Education**

### **1. 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)

### **2. 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