

## **GNFAC Avalanche Advisory for Fri Dec 17, 2010**

Good Morning. This is Mark Staples with the Gallatin National Forest Avalanche Advisory issued on Friday, December 17, at 7:30 a.m. Montana Import Group, in cooperation with the Friends of the Avalanche Center, sponsors today's advisory. This advisory does not apply to operating ski areas.

### Mountain Weather

Yesterday's weather made a perfect day to be outside, and today's weather should bring more of the same except for cold temperatures. This morning southerly winds were blowing 10-15 mph, and mountain temperatures were near 0 degrees F except in the Bridger Range where temperatures were near 10 degrees F. With an inversion this morning some valley temperatures were much colder as in West Yellowstone where temperatures were -20 F. Today winds will remain mostly calm, skies will be mostly sunny, and temperatures will rise to the mid teens F.

### Snowpack and Avalanche Discussion

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

In the mountains near Big Sky and Cooke City, a layer of very weak faceted snow exists under snow that has fallen since the end of last week. Near Big Sky these facets are buried 10-17 inches deep and near Cooke City they are buried closer to 2 feet deep. Yesterday the Yellowstone Club Ski Patrol triggered a small avalanche on surface hoar while traversing a low angle, E-facing slope just out of bounds near a snow study plot ([photo](#), [video](#)). Nearby on Yellow Mountain a skier couldn't isolate a column of snow without it failing on this surface hoar layer, and the Moonlight Basin Ski Patrol observed a cornice triggered avalanche just outside their boundaries in an area they call the "Forest Service Wall". On Wednesday, I found the same layer near Beehive Basin ([photo](#), [video](#)). Similar conditions exist near Cooke City where snowmobilers encountered 4 avalanches on Wednesday and triggered one of them. A regular observer just south of Cooke City observed a cornice triggered avalanche about 1-3 feet deep.

Buried surface hoar is the main concern near Big Sky. It exists mostly on aspects and elevations where it was not destroyed by strong, westerly winds last week. Near Cooke City, buried surface hoar as well as radiation recrystallized facets are the main concern, and these weak layers exist on nearly all slopes. These weak layers make dangerous avalanche conditions that require careful snowpack evaluation and conservative decision making. To ski or ride in avalanche terrain safely will require multiple snowpits to ensure your chosen slope does not have one of these weak layers. For today the avalanche danger is rated [CONSIDERABLE](#).

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

The mountains near Bozeman and West Yellowstone including the southern Madison Range mostly lack persistent weak layers like surface hoar. Yesterday, Doug and I fired up our Nytro snowmobiles for their first big ride of the season at Lionhead. We dug countless pits on many different aspects and elevations looking for surface hoar and didn't find it. Mostly we found strong, supportable, and stable snow except on one north facing slope where we found a layer of very small, faceted crystals approximately 1 foot deep that was reactive in stability tests. Persistent weak layers exist on some slopes, and skiers found surface hoar near the Bacon Rind drainage on Wednesday, but these weak layers are not widespread. We haven't found any widespread, persistent weak layers in the Bridger or Gallatin Ranges either, and recent observations confirm this.

Isolated areas may harbor unstable snow and require a careful evaluation of stability. The good news is that if we find stable snow in a snowpit on a representative slope, we can feel reasonably confident that the snow where we plan on skiing or riding will be stable as well. For today, human triggered avalanches remain possible and the avalanche danger is rated [MODERATE](#).

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.

#### 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.