

## **GNFAC Avalanche Advisory for Thu Dec 15, 2011**

Good morning. This is Mark Staples with the Gallatin National Forest Avalanche Advisory issued on Thursday, December 15 at 7:30 a.m. This advisory is sponsored by Montana Ale Works in partnership with the Friends of the Avalanche Center. This advisory does not apply to operating ski areas.

### Mountain Weather

Yesterday an additional 1-2 inches of snow fell. Not much, but a little snow is better than none at all. This morning winds were blowing 15-20 mph from the SW with temperatures in the low teens F. Today will be mostly cloudy and temperatures will be in the high teens F. Winds will increase and blow 15-30 mph from the W. Late this afternoon some moisture should arrive from the north but only produce 1-2 inches of snow. Long range models indicate more snow for the rest of December. Keep your fingers crossed.

### Snowpack and Avalanche Discussion

The Bridger, Gallatin and Madison Ranges, the Lionhead area near West Yellowstone and mountains around Cooke City:

New snow and avalanches: Mountains near Bozeman and Big Sky received the most snow yesterday with a 48-hour snowfall of 6-8 inches while further south the 48-hour snowfall was 4-6 inches. This storm provided just enough snow for local ski patrols to ski cut soft slab avalanches, loose snow avalanches, and a few wind pillows. The Bridger Bowl Ski Patrol noted that yesterday's avalanche activity provided a small "taste of what our future looks like" because there will be significant avalanche activity once more snow falls.

A new problem: Prior to yesterday's snowfall, a combination of clear cold nights and warm sunny days significantly weakened upper layers of the snowpack. This weather metamorphosed (changed) this snow from old, broken snowflakes to weak faceted crystals, otherwise known as "near-surface facets." To compound the problem, a layer of surface hoar, formed on top of these facets in most areas ([photo](#)). Yesterday, Doug and I found this combination throughout the Taylor Fork area in the southern Madison Range ([photo](#)). Often surface hoar is destroyed by sun or wind, but yesterday's snowfall covered and preserved it. Right now these layers of near-surface facets and surface hoar make great riding conditions because the powder seems deeper than it is.

An old problem: At the bottom of the snowpack, old snow from October metamorphosed into big, depth hoar crystals. Avalanches in late November and early December occurred on this layer which hasn't gone away. It is waiting to be stressed by a load of new snow which hasn't come.

The current situation: You can find two basic snowpack structures. In some places the snowpack is greater than 2 ft deep with depth hoar at the bottom, a slab in the middle, and facets on top. On these slopes and any recently wind loaded slope, the avalanche danger is rated [MODERATE](#). Other slopes have a snowpack less than 2 ft deep with depth hoar at the bottom, more facets in the middle, and near-surface facets on top ([video](#)). These slopes have a [LOW](#) avalanche danger if not wind loaded.

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.

### EVENTS/EDUCATION

To check out all our education programs: <http://www.mtavalanche.com/workshops/calendar>

## WEST YELLOWSTONE

[Snowmobiler Introduction to Avalanches with Field Course](#). Lectures TODAY, December 15 with an all day field course on tomorrow, December 16. Advanced registration is NOT required, but encouraged.

## BOZEMAN

Women's 1-hour Avalanche Awareness Lecture. Wednesday, January 4, 6:30- 8 p.m. at REI.

[Snowmobiler Introduction to Avalanches with Field Course](#). Lectures on Saturday, January 7, with an all day field session Sunday, January 8. Advanced registration IS REQUIRED.

## CODY, WYOMING

[Snowmobiler Introduction to Avalanches with Field Course](#). Lectures on Saturday, January 14 at Mountain Valley Motorsports with an all day field session near Cooke City on Sunday, January 15. Advanced registration IS REQUIRED.