

## GNFAC Avalanche Advisory for Fri Jan 13, 2012

Good morning. This is Mark Staples with the Gallatin National Forest Avalanche Advisory issued on Friday, January 13 at 7:30 a.m. This advisory is sponsored by Cooke City Motorsports & Yamaha in partnership with the Friends of the Avalanche Center. This advisory does not apply to operating ski areas.

### Mountain Weather

This morning mountain temperatures were in the mid teens F except near West Yellowstone and Cooke City where temperatures were in the single digits F. Ridgetop winds were blowing 5-15 mph mostly from the W with gusts of 25-35 mph. Over the Bridger Range and Hyalite winds were blowing stronger at 25-40 mph. Today will be similar to yesterday. Under mostly sunny skies temperatures will warm into the mid 20s F. Winds shouldn't change much and remain westerly blowing 10-15 mph with gusts of 20-30 mph. Weather models continue to show the current ridge of high pressure flattening on Sunday followed by a trough of low pressure approaching SW Montana. This trough will bring cold temperatures and some precipitation.

### Snowpack and Avalanche Discussion

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

Unfortunately there is never a point when conditions switch from unstable to stable. Instead, the odds of triggering an avalanche simply decrease. Almost 2 weeks ago, following the New Year's Eve storm, all slopes were unstable and obvious signs on instability, like recent avalanches and collapsing and cracking, were widespread for at least a week after this storm. Signs of instability have become more isolated. Yesterday near Cooke City, skiers experienced two collapses during a long tour.

The reason signs of instability continued for so long is that snowpack structure is bad. In most cases a slab 1-2 feet thick rest on a variety of weak layers of faceted snow. This slab is supportable and if you don't get off your sled or step out of your skis, it will be hard to tell what's under it. Conditions might "feel good" when they are not. In some places like Mt. Ellis there is a layer of buried surface hoar ([photo](#)). On some S facing slopes, there are weak facets next to an ice crust. Two experienced skiers found this layer in Hyalite Canyon just as Doug did earlier this week ([video](#)). I found a similar layer near Cooke City on Wednesday. On other slopes the snowpack is relatively shallow and has big, obvious depth hoar crystals under the supportable slab.

There are a few ways to reduce the odds of triggering an avalanche:

- Manage slope angles. With each degree of steepness over 30 degrees the odds of triggering an avalanche increase.
- Avoid fresh wind slabs and drifts. The combination of wind and new snow Tuesday night loaded isolated slopes. Snowmobilers near Cooke City triggered a few small, slab avalanches in the new snow yesterday. Triggering small avalanches can sometimes trigger larger avalanches. Check out Karl's explanation of the difference between a wind loaded and non wind loaded slope ([video](#)).
- Avoid steep rocky, terrain where snowpack depth is more variable and wind loading is more likely. These highly variable areas increase the odds you will find the trigger point for an avalanche.

While the odds of triggering an avalanche have slowly decreased, variability has increased. This variability means some slopes are more prone to producing avalanches than others. For this reason each slope deserves a

careful evaluation of snow and terrain. Today 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.

#### Beacon Parks

The Friends of the Avalanche Center installed a Beacon Training Park outside West Yellowstone last Friday. It's located south of town on the main snowmobile trail. Stop by and do a quick practice before heading off into the mountains!

#### Events/Education

##### Bozeman

[20/20 Hindsight - Lessons from recent accidents](#). Tuesday, January 17th, 6:30-7:30 p.m. at Montana Import Group

##### Cooke City

[1-hr Avalanche Awareness Lecture](#). Saturday, January 14, 5-6:00 p.m. at Cooke City Community Center.

##### 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.

##### Great Falls

[1-hr Avalanche Awareness Lecture](#) Thursday, January 19<sup>th</sup>, 7-8 pm at Greenup Performance

##### Billings

[Snowmobiler Introduction to Avalanches with Field Course](#). Lectures on Tuesday, January 24 from 6-9 p.m. at Hi-Tech Motor Sports with an all day field session in Cooke City on Sunday, Jan 29. PRE-REGISTER BY JAN 23 at Hi-Tech!! Register with Sharon at 406-652-0090; [hitech@hi-techmotorsports.com](mailto:hitech@hi-techmotorsports.com).