

## **GNFAC Avalanche Advisory for Mon Jan 17, 2011**

Good morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Monday, January 17, at 7:30 a.m. World Boards, in cooperation with the Friends of the Avalanche Center, sponsors today's advisory. This advisory does not apply to operating ski areas.

### Mountain Weather

Over the past 24 hours the mountains around Cooke City have picked up over a foot of snow totaling 1.4 inches of water ([Fisher Creek Snotel](#)). The mountains around West Yellowstone have received 6-8 inches over the past 24 hours while the mountains around Bozeman and Big Sky have squeezed out 2-3 inches. Temperatures this morning are in the mid 20s to low 30s F and winds are cranking out of the WSW at 20-30 mph. Winds have been picking up over the past few hours with gusts in Hyalite topping 70 mph; gusts near Big Sky are breaking 50 mph. More snow and wind are forecasted today with an additional 2-3 inches falling in the south and 1-2 inches in the north. Mountain temperatures will remain warm with highs climbing into the upper 30s. An unsettled weather pattern will continue through tonight, with cooler temperatures arriving tomorrow.

### Snowpack and Avalanche Discussion

#### The mountains around Cooke City and the Washburn Range:

Over the past 48 hours, 1.5-2 feet of new snow has accumulated in the mountains around Cooke City - totaling 1.8 inches of water ([SWE](#)). Not only has the snow been cranking, but so have the winds. This morning winds have been averaging 30 mph with gusts up to 50 mph at 10,000 ft near Lulu Pass ([weather station](#)). This combination of snow and wind has created very dangerous avalanche conditions.

Yesterday, a group of skiers triggered a wind slab avalanche outside of Cooke City that ran the entire slope. Today I expect wind loaded slopes to avalanche naturally. Under these conditions, avoiding steep wind drifted slopes and avalanche run out zones is highly advised.

With more snow and wind forecasted throughout the day, avalanche conditions will remain elevated. Today, a [HIGH](#) avalanche danger exists on all wind loaded slopes; slopes without a wind load have [CONSIDERABLE](#) avalanche danger.

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

The mountains around West Yellowstone have picked up a foot of snow over the past two days totaling 1 inch of water. Although the snowpack prior to this storm lacked persistent weak layers, this new load has been applied rapidly, adding a large amount of stress to the pack.

When snow of this quantity arrives in a short period of time, persistent weak layers are not required for avalanches to occur. Failures within in the storm snow are common during or immediately after a storm of this size. Yesterday, skiers in the southern Madison range triggered numerous soft slab avalanches and witnessed one natural slide that broke up to a foot deep and propagated over 200 ft across. This is an obvious indication the snowpack is under an enormous amount of stress.

Although new snow avalanches are today's primary concern, triggering a slide on deeper layers is possible. Riders should be wary of shallow areas where the snowpack is less than a meter deep. These areas are

likely weaker and could act as trigger points for avalanche activity.

Today, a fast and heavy load has made human triggered avalanches likely on all slopes and the avalanche danger is rated [CONSIDERABLE](#).

#### The northern Gallatin and northern Madison Ranges and the Bridger Range:

The northern ranges have been the forecasted underdog in this storm and the predictions are proving true. With only 2-4 inches of snow falling in the mountains around Bozeman and Big Sky - the generally stable snowpack in these areas has had an easy time supporting this new load.

While the snowpack in the northern ranges remains relatively quiet, a few problem areas do exist. Our main concern is the strong winds that accompanied this storm. Constant winds have easily transported the new snow, forming soft slabs on leeward slopes favored by westerly winds. These slabs will likely fail under the weight of a skier or rider.

A secondary concern is weak faceted snow near the ground. This layer is not widespread, but can be found in areas where the snowpack is shallow. Doug found this layer in Beehive Basin yesterday while on the hunt for buried surface hoar ([video](#)). Fortunately Doug did not find the surface hoar to be reactive in stability tests, but was disappointed by the weakness of this faceted layer near the ground.

Today, strong winds and new snow have made human triggered avalanches likely on wind loaded slopes where the avalanche danger is rated [CONSIDERABLE](#). All slopes that have not received a wind load have [MODERATE](#) avalanche danger.

Doug 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 Park in Bozeman

Feeling rusty with your avalanche transceiver? The new beacon park at Beal Park in Bozeman is up and running. It's got four transmitters and the park is open 9 a.m. to 8 p.m. every day. The Friends of the Avalanche Center and the City of Bozeman worked together to make this possible.

#### Avalanche Education

##### January 18, Tuesday in Cody, WY

The Friends of the Avalanche Center will be sponsoring a FREE 1 hr Basic Avalanche Awareness @ Mountain Valley Motorsports – 7pm to 8pm. Call 307-587-6218 for more info.

##### January 19, Wednesday in Bozeman

The Friends of the Avalanche Center will be sponsoring a FREE 1 hr Basic Avalanche Awareness @ REI – 6:30pm to 7:30pm. Register at [www.rei.com/bozeman](http://www.rei.com/bozeman)

For additional information and a listing of other avalanche classes, go to:

<http://www.mtavalanche.com/workshops/calendar>