

# **GNFAC Avalanche Advisory for Sun Jan 16, 2011**

Good morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Sunday, January 16, at 7:30 a.m. Alpine Orthopedics, in cooperation with the Friends of the Avalanche Center, sponsors today's advisory. This advisory does not apply to operating ski areas.

## Mountain Weather

Warm, wet weather has parked it over southwest Montana producing valley rain and mountain snow. Since yesterday morning, 5-6 inches of heavy snow has fallen in the mountains around Cooke City totaling a half inch of water ([SWE](#)). The mountains around West Yellowstone have picked up 3-4 inches while the mountains around Big Sky and Bozeman have picked up 1-2 inches. Currently, temperatures are in the mid to high 20s F and winds are blowing out of the WSW at 15-30 mph with gust in Hyalite reaching 45 mph ([Hyalite Weather Station](#)). Today, more snow is expected with an additional 3-6 inches falling in the mountains around West Yellowstone and Cooke City, while 2-3 inches will accumulate in the mountains around Big Sky and Bozeman. Winds will stay strong out of the WSW and mountain temperatures will climb into the 30s F. An unsettled weather pattern will continue through tomorrow.

## Snowpack and Avalanche Discussion

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

The southern Ranges have received a healthy shot of snow over the past few days. This latest round of snow has been accompanied by strong WSW winds, which have developed thick, cohesive slabs on leeward slopes. Yesterday, an observer in Cooke City noted deep snow on Henderson Bench as well as substantial wind loading in the Rasta Chutes new Lulu Pass.

Although a well structured snowpack has produced a generally stable foundation for this new load, a few issues need to be addressed. First, warm weather has developed a dense layer of snow near the surface that now rests upon a less dense layer 10-12 inches down. Mark and I found this to be our main stability concern in Bacon Rind yesterday. This upside down type of instability doesn't last long and shouldn't produce avalanches that fracture over huge areas, however, this has the potential to be a problematic recipe as the snowpack tries to adjust, especially in areas that have received heavy deposits of wind drifted snow. Second, new snow and wind throughout the day will continue to add stress to the snowpack. Backcountry travelers should pay close attention to changing conditions and avoid steep slopes and avalanche run out zones if the snow continues to pile up.

Today, human triggered avalanches are likely on all wind loaded slopes where the avalanche danger is rated [CONSIDERABLE](#). Slopes steeper than 35 degrees without a wind load have a [MODERATE](#) avalanche danger, and slopes less than 35 degrees without a wind load have a [LOW](#) avalanche danger.

## The northern Madison Range:

A buried layer of surface hoar 2-3 feet deep continues to separate the northern Madison Range apart from the rest of our advisory area. This pesky layer has become less active over time, but continues to carry the potential for producing avalanches. Frequent snowpack evaluations are the best way to determine the strength and distribution of this layer. This is not always straight forward since this surface hoar layer is intermittent. For this reason, extra caution on slopes steeper than 35 and/or wind loaded slopes is warranted in this area.

In addition to the buried surface hoar factor, strong WSW winds over the past few days have scoured some slopes and loaded others. Although warm temperatures have helped stabilize wind loaded slopes, the possibility of triggering a wind slab is not out of the question. As more snow and wind arrive today with the next system, the odds of triggering a wind slab avalanche will increase.

For today, human triggered avalanches are possible in the northern Madison range and the avalanche danger is rated MODERTE.

#### The Bridger Range and northern Gallatin Range:

The northern ranges have received only an inch or two of new snow over the past few days. This lack of precipitation has kept the avalanche danger from rapidly increasing. One component that has affected these areas is strong WSW winds. Yesterday, a skier north of Bridger Bowl reported stiff, punchy wind slabs along the ridgelines, which produced tricky skiing conditions. In some areas these thick, cohesive slabs rest over weak faceted snow that formed during periods of cold weather. These slabs have the potential to fail under the weight of a skier or rider creating heightened avalanche conditions in wind loaded terrain. For today, a MODERATE avalanche danger exists on all wind loaded slopes or slopes steeper than 35 degrees. A LOW avalanche danger exist on less steep slopes without a wind load.

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 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>