

## **GNFAC Avalanche Advisory for Sat Jan 3, 2015**

Good morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Saturday, January 3, at 7:30 a.m. Today's advisory is sponsored by [Spark R&D](#) and [World Boards](#). This advisory does not apply to operating ski areas.

### Mountain Weather

Over the past twelve hours the Bridger Range received nearly 12 inches of new snow. The mountains near Big Sky including the northern Gallatin Range picked up 3-5 inches while the mountains around West Yellowstone and Cooke City squeezed out 1-3 inches. This morning light snow continues to fall and temperatures are in the teens F. Winds are blowing 10-20 mph out of the W-NW with stronger gusts being recorded around Big Sky. Today, snow will taper off by late morning and temperatures will remain in the teens F. Winds will continue to blow 10-20 out of the W-NW with stronger gusts possible along the ridgelines. Another round of snow will develop late tonight with 2-4 inches possible by tomorrow morning.

### Snowpack and Avalanche Discussion

#### Bridger Range

A moist northwest flow continues to favor the Bridger Range. Over the past twelve hours more than a foot of new snow has fallen totaling more than 1" of SWE (snow water equivalent). Although the snowpack in the Bridger Range is relatively strong, this rapid and heavy load will likely create widespread instability.

The primary concern today will be avalanches failing on the new snow – old snow interface. Calm days and cold clear nights prior to this storm formed a layer of surface hoar and/or near surface facets, which is now capped by over a foot of new snow.

Today, natural and human triggered avalanches are likely on wind loaded slopes and slopes steeper than 35 degrees which have a **HIGH** avalanche danger. Less steep, non-wind loaded slopes have a **CONSIDERABLE** avalanche danger.

#### Gallatin Range   Madison Range   Lionhead area near West Yellowstone

The mountains south of Bozeman did not receive nearly as much snow as the Bridger Range. [Shower Falls](#) Snotel site and [Carrot Basin](#) Snotel site are both showing 3-4 inches of new snow totaling .3 inches of SWE. The snowpack in these areas should have little problem supporting this recent load ([photo](#)).

The primary avalanche concern in the mountains south of Bozeman will be wind slabs. Moderate winds out of the W-NW have transported snow onto leeward slopes. Recently formed wind slabs will likely be resting over a layer of surface hoar and/or near surface facets that formed over the past few days ([video](#), [photo](#)). This combination will make any wind loaded slope especially sensitive to human triggers.

There is the possibility of avalanches failing on deeper layers in the snowpack. Yesterday, my partner and I traveled to Bacon Rind and got unstable results on a layer of surface hoar buried two feet deep. This layer is not widespread throughout our advisory area, but should be looked for and assessed before committing to steeper terrain.

Today – Wind slabs and weak layers make human triggered avalanches likely on wind loaded slopes which have **CONSIDERABLE** avalanche danger. Non-wind loaded slopes have a **MODERATE** avalanche danger.

### Cooke City

The mountains near Cooke City generally have a deep and stable snowpack. The main problem today will be wind slabs (**photo**). A few inches of new snow combined with light to moderate W-NW winds will create small pockets of wind drifted snow in upper elevation, leeward terrain. This problem should be easy to recognize and avoid.

Today the avalanche danger on slopes steeper than 35 degrees is rated **MODERATE**. Less steep slopes have a **LOW** danger. If snow and wind continue through the day, the avalanche danger could bump up to **CONSIDERABLE** on steep, wind loaded slopes.

### **Two New Articles Posted:**

Read Doug's article on "**Human-Factors and Digging**" and also Mark's companion article titled "**A survey of our class at MSU**".

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.

### **AVALANCHE EDUCATION and EVENTS**

Take a look at our **Education Calendar** for all our classes being offered.

**1-hour Avalanche Awareness for Snowmobilers**, West Yellowstone, 7 p.m., Saturday, January 3, Holiday Inn.

**1-hour Avalanche Awareness for Snowmobilers**, Cooke City, 6:30-8 p.m., Monday, January 5, Cooke City Community Center.

**1-hour Avalanche Awareness for Snowmobilers**, Billings, 6:30-8 p.m., Wednesday, January 7 at Hi-Tech Motor Sports.

**Companion Rescue Clinic**, Bozeman, Fri eve and Sat field, January 9 and 10, REI. Register for the class here: [www.rei.com/stores/bozeman.html](http://www.rei.com/stores/bozeman.html)

**1-hour Avalanche Awareness for Snowmobilers**, West Yellowstone, 7 p.m., Saturday, January 10, Holiday Inn.