

## **GNFAC Avalanche Forecast for Sun Jan 22, 2012**

Good morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Sunday, January 22 at 7:30 a.m. **Mystery Ranch** in partnership with the **Friends of the Avalanche Center** sponsors today's advisory which is dedicated to **Andrew Greicar** who was killed in an avalanche outside of Cooke City nine years ago today. This advisory does not apply to operating ski areas.

The Gallatin National Forest Avalanche Center continues a **Backcountry Avalanche Warning for the Sothern Madison Range and Lionhead area near West Yellowstone**. Heavy snow and strong winds have loaded an extremely weak snowpack causing unstable conditions. **Today, natural and human triggered avalanches are likely and the avalanche danger is HIGH on all slopes**. Areas of unstable snow exist. Avalanche terrain including avalanche run out zones should be avoided.

### Mountain Weather

Over the past 24 hours snowfall totals equal: 10 inches in the northern Madison Range, 8 inches in the Bridger Range, 4-6 inches in the southern mountains and 2 inches in the northern Gallatin Range. Winds decreased yesterday as the storm settled in; however, they picked back up this morning and are blowing 15-30 mph out of the WNW. Currently, mountain temperatures are ranging from 5° to 15° F under clear skies. Today, skies will remain mostly clear and temperatures will warm into the high teens to low 20s F. Winds will stay out of the W at 15-30 mph. Clouds will build by this evening and winds will increase as another storm system approaches from the west.

### Snowpack and Avalanche Discussion

#### *The Southern Madison Range and Lionhead area near West Yellowstone:*

In the southern Madison Range and Lionhead area near West Yellowstone heavy snowfall and strong winds are pushing a very weak snowpack past its breaking point. A pervasive layer of weak facets at or near the ground are failing catastrophically under the weight of the new snow, producing widespread natural and human triggered avalanches.

Yesterday, skiers near Hebgen Lake remotely triggered numerous slides, a clear indication of highly unstable conditions ([photo](#)). Other skiers and snowmobilers in the area also reported widespread instability ([photo](#)). I expect hair trigger conditions will continue through today.

Due to the unstable nature of the snowpack it will be possible to trigger avalanches from a distance including the bottom of the slope. Avalanches also have the capability of propagating long distances and pulling back into lower angle terrain.

Today, the avalanche danger is rated **HIGH** on all slopes and travel in avalanche terrain is not recommended.

#### *The mountains around Cooke City:*

A more variable distribution of persistent weak layers in the mountains around Cooke City is making stability assessment a bit more difficult. Some slopes have a deeper and stronger snowpack which is supporting the most

recent load, while other slopes have a variety of weak faceted layers which are failing and producing natural and human triggered avalanches ([video](#)).

Yesterday, Mark and his partner observed a large natural avalanche on the SE face of Scotch Bonnet ([photo](#)), the result of a heavy wind load. Mark also heard of a snowmobiler who was partially buried in a slide on the south end of Henderson Bench.

The bottom line is Cooke City has received a significant amount of snow over the past five days, which is putting a tremendous amount of stress on the snowpack. While some slopes will stay put, many will avalanche under the weight of a skier or rider. Any slope that has received a wind load will be especially prone to avalanches.

Being conservative is the name of the game. Be extra cautious when traveling in avalanche terrain and always be thinking about the consequences of a slide.

Today, human triggered avalanches are very likely on wind loaded slopes which have a **HIGH** avalanche danger. Non wind loaded slopes have a **CONSIDERABLE** avalanche danger.

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

The Bridger Range and mountains around Big Sky received 8-10 inches of snow over the past 24 hours totaling close to 1 inch of **SWE**. The southern Gallatin Range received roughly half that amount. This rapid and heavy load is pushing a weak snowpack close to the tipping point. The additional weight of skier or rider will likely tip the scales on wind loaded slopes and slopes steeper than 35 degrees where human triggered avalanches are likely.

The northern Gallatin Range received less snow over the past 24 hours, but picked up enough to keep the avalanche hazard elevated. Wind loaded slopes are today's primary avalanche concern, but in areas like Mt Ellis and Little Bear which have a weaker snowpack, steeper slopes will also be prone to human triggered avalanches.

The Hyalite Drainage in the northern Gallatin Range deserves a special mention because it has more stable conditions. Recently formed wind slabs could produce an avalanche, but the overall likelihood of triggering a slide is less in this area.

Today, a stressed out snowpack will make human triggered avalanches likely on wind loaded slopes and slopes steeper than 35 degrees where the avalanche danger is rated **CONSIDERABLE**. Less steep, non wind loaded slopes have a **MODERATE** avalanche danger.

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**

### **Bozeman**

[Introduction to Avalanches with Field Course](#). MSU, SUB Ballroom C, 7-9:30 p.m. Jan 25 and 26 with a field day Jan 28.

### **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 Sue at 406-652-0090; [hitech@hi-techmotorsports.com](mailto:hitech@hi-techmotorsports.com).