

## **GNFAC Avalanche Forecast for Mon Dec 24, 2012**

Good morning and Merry Christmas Eve. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Monday, December 24 at 7:30 a.m. Today's advisory is sponsored Montana Import Group in partnership with the Friends of the Avalanche Center. This advisory does not apply to operating ski areas.

### Mountain Weather

Over the past 24 hours the mountains around West Yellowstone and Cooke City picked up 2-3 inches of snow. The southern Madison Range and mountains around Big Sky including the northern Gallatin Range picked up 1-2 inches. The Bridger Range has remained dry. Today, the southern ranges will see an additional 3-5 inches while the north will pick up 2-4 inches. Currently, temperatures are in the teens F and winds are blowing 10-20 out of SSW. Today, highs will reach into the 20s F and winds will remain out of the WSW at 10-20 mph. Snow will taper off this evening as the storm pushes east. Very little snow is expected tonight and Christmas Day looks to be dry.

### Snowpack and Avalanche Discussion

Avalanches are all about timing. When conditions are stable, there is nothing wrong with playing in avalanche terrain. If conditions are unstable, playing in avalanche terrain is like gambling - the house has better odds and you'll likely to end up losing.

But what happens when stability is somewhere in between? In this case, some slopes are stable while others are not. Since it may be difficult to figure out which is which, assessing the snowpack carefully and using cautious route finding and conservative decision making is the best way to approach riding in the backcountry.

A recently released [interactive article](#) by the New York Times discusses the fatal avalanche at Stevens Pass last winter and describes how poor decision making contributed to this accident.

Today, there will be two main avalanche problems to consider.

1. **Wind Slabs:** New snow and wind will form shallow soft slabs in wind loaded terrain. The snow surface on which these slabs form will determine how sensitive they are to human triggers. On some slopes, weak and faceted snow formed over the past few days will provide an unstable foundation for wind deposited snow. This scenario will make wind slabs easier to trigger. On slopes that do not have faceted snow on the surface, slabs will bond quickly making them less susceptible to human triggers. Looking for obvious signs of instability such as shooting cracks and recent avalanche activity are bull's eye clues that the snowpack is unstable.
2. **Buried persistent weak layers:** These continue to produce avalanches on isolated slopes. Yesterday, Doug got unstable results during stability tests on a layer of buried facets in the northern Bridger Range ([video](#), [snow pit](#), [photo](#)). Skiers also found facets near the ground in Middle Basin north of Big Sky. Buried facets are not present on all slopes, but seem to be most prevalent in areas where the snowpack is less than a meter deep. Avoiding steep, upper elevation slopes with a shallow snowpack will be the best way to mitigate this problem ([photo](#)).

Southern Madison Range Southern Gallatin Range

Lionhead area near West Yellowstone Cooke City

Over the past 48 hours 4-6 inches of snow has fallen in the southern ranges with more forecasted through today. New snow and wind will form sensitive soft slabs on the lee side of ridgelines and cross loaded terrain features. Wind slabs will likely increase in size and distribution as more snow and wind impact the area.

Buried facets are not widespread in the southern ranges, but are something to look out for in steep, rocky terrain.

Today, human triggered avalanches are likely on wind loaded slopes steeper than 35 degrees which have a [CONSIDERABLE](#) avalanche danger. All other slopes have a [MODERATE](#) avalanche danger.

Northern Madison Range Northern Gallatin Range Bridger Range

The northern ranges have only received 1-2 inches of snow over the past few days. This load is not enough to increase the avalanche hazard.

However, buried persistent weak layers and a variable snowpack continue to make human triggered avalanches possible. Steep, upper elevation slopes, specifically those with a shallow snowpack will be the most likely to produce an avalanche.

Today, human triggered avalanches are possible and the avalanche danger is rated [MODERATE](#). The avalanche danger could climb to [CONSIDERABLE](#) on steep wind loaded slopes if today's storm comes in stronger than expected.

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.