

## **GNFAC Avalanche Advisory for Thu Mar 6, 2014**

Good Morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Thursday, March 6 at 7:30 a.m. A **Montana Import Group** in partnership 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 picked up .8 inches of SWE (snow water equivalent) totaling 6-8 inches of high density snow. The mountains around West Yellowstone and Big Sky received .2-.3 inches of SWE equaling a few inches of snow while the mountains around Bozeman picked up a trace to one inch of snow.

This morning temperatures are a few degrees above or below freezing with Brackett Creek Snotel site being the warmest at 39 degrees F. Winds are strongest in the Hyalite area and mountains around Big Sky. Hyalite weather station is recording gusts close to 70 mph while Big Sky is showing gusts around 50 mph out of the WSW. The rest of the advisory area is looking at winds of 10-20 mph with gusts around 30 mph. Today, winds will remain strong out of the WSW and temperatures will warm into the mid to high 30s F. An active weather pattern will make snow showers likely in the mountains around Cooke City and West Yellowstone where an additional 1-3 inches is possible. The northern ranges could see a trace to one inch by this afternoon. Tonight and tomorrow look to be warm, windy and dry.

### Snowpack and Avalanche Discussion

#### Cooke City

Over the past 48 hours Fisher Creek Snotel site has received 1.2 inches of SWE with higher amounts likely at upper elevations. This latest round of moisture continues the impressive run of never ending snow in the mountains around Cooke City ([chart of current and median SWE amounts](#)).

Without time to adjust, the snowpack will remain stressed under the weight of the new snow. On slopes that have received a recent wind load, more weight and stress has been added to the pack. Over the past few days, many natural avalanches have been observed in steep-wind loaded terrain.

Today, wind loaded slopes are the primary avalanche concern. Upper elevation slopes leeward to west-southwest winds will be the most likely to encounter fresh wind slabs. Areas of wind deposited snow may break deeper and wider than one might expect.

Also, weak layers near the ground may produce unmanageable deep slab avalanches. The way to trigger one of these slides is to ride near rocks or other places where the snowpack is relatively thin ([video](#)). Pay close attention to the characteristics of the slope and avoid areas where the snowpack is shallow and weak.

For today, human triggered avalanches are likely and the avalanche danger is rated [\*\*CONSIDERABLE\*\*](#).

#### Gallatin Range Madison Range

#### Lionhead area near West Yellowstone

In the mountains near Big Sky and West Yellowstone, consistent snowfall has gradually buried a weak layer of facets that formed in January - it is now buried 2-3 feet deep and has gained strength over the past few weeks. **HOWEVER**, this layer has remained weak on isolated slopes and has recently produced both natural and human triggered avalanches.

Yesterday, a large natural was observed near the northern boundary of Big Sky Resort ([photo](#)). This was an impressive slide that broke nearly 1,000 ft. wide and up to six feet deep. The slide failed on the January facet layer but stepped down into facets near the ground. It was likely triggered by a natural cornice fall.

Another impressive slide took place in the upper A-Z Chutes at Big Sky Resort during control work yesterday ([photo](#)). Although this slide was intentionally triggered, it's a good example of what is possible in the backcountry. In addition, a large natural was also observed on the NE face of Fan Mountain.

In the northern Gallatin Range, a few natural slides were observed in Hyalite on Tuesday ([avalanche1](#), [avalanche2](#), [avalanche3](#)). These slides initiated in steep, rocky areas and produced crowns around 2-3 feet deep. I suspect these slopes were loaded with the additional weight of wind-blown snow.

Today, the most likely place to trigger an avalanche will be on wind loaded slopes. A few inches of new snow and strong winds out of the west-southwest have likely formed wind drifts on upper elevation-leeward slopes. Due to the warmer temperatures fresh wind slabs could be stubborn, but once triggered these slabs could break deeper and wider than one might expect. There is the possibility of avalanches stepping down to deeper layers as seen in the avalanches around Big Sky.

**Cornices:** It's worth noting that cornices are growing large in size and have been the triggers for large avalanches over the past week. As more snow, wind and warm temperatures put additional stress on these monsters, they will continue to break loose and produce large triggers. Avoiding slopes directly under cornices is highly recommended. Also, give cornices a wide berth along ridgelines as they can break farther back than one might expect.

For today human triggered avalanches are likely on steep wind loaded slopes which have a [CONSIDERABLE](#) avalanche danger. All other slopes have a [MODERATE](#) avalanche danger.

### The Bridger Range

The Bridger Range has been warm and windy over the past few days. Snow available for transport is minimal and the snowpack is getting plenty of time to relax. Without a persistent weak layer problem, avalanche activity has been confined to steep, upper elevation slopes – specifically those that have been wind loaded.

On Monday, a skier near Arrowhead Peak in the northern Bridgers observed a large natural avalanche that occurred below the ridgeline. This slide broke 250 feet wide and occurred in steep-rocky terrain.

Fortunately most slopes are stable as a skier found near Ross Pass earlier in the week.

Today, natural avalanches are unlikely but human triggered avalanches are possible and the avalanche danger is rated [MODERATE](#).

Mark 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.

**BACKCOUNTRY SKIERS AND RIDERS NEEDED FOR MSU SURVEY**

This project aims to collect GPS location information and survey responses from backcountry skiers and riders to better understand what types of terrain decision we make. The focus is on backcountry skiers and riders of all abilities and experience. You need not be an expert backcountry skier to participate in this research. For more information and to sign up: [www.montana.edu/snowscience/tracks](http://www.montana.edu/snowscience/tracks)