

## **GNFAC Avalanche Advisory for Thu Mar 17, 2011**

Good morning and happy St. Patrick's Day. This is Mark Staples with the Gallatin National Forest Avalanche Advisory issued on Thursday, March 17, at 7:30 a.m. **Team Bozeman and Yamaha**, in cooperation with the **Friends of the Avalanche Center**, sponsors today's advisory. This advisory does not apply to operating ski areas.

### Mountain Weather

Last night the snow kept falling and temperatures dropped. In the past 24 hours, 17 inches fell near Cooke City and West Yellowstone, 12 inches near Big Sky and Hyalite Canyon, and 9 inches near Bridger. Although winds eased yesterday afternoon, they increased overnight and were blowing 10-30 mph from the western half of the compass this morning. Temperatures, which have been close to freezing in recent days, dropped to the teens F. Today, temperatures will rise into the low to mid 20s F and westerly winds will blow 5-15 mph. Light snowfall may linger but the storm has ended with dry air pushing into SW Montana this morning.

### Snowpack and Avalanche Discussion

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

Snow water equivalent (**SWE**) is the amount of water you would get if the snow melted. At remote SNOTEL sites, it is the most accurate measurement of precipitation. SWE in the past 48 hours:

1.3 inches - Shower Falls in Hyalite

1.3 inches - Lone Mountain at Big Sky

1.3 inches - Brackett Creek in the northern Bridger Range

2.1 inches - Alpine weather station at Bridger Bowl

To get a sense of these numbers, 2.1 inches of SWE in December is typically about 4 feet of snow but in this storm it is about 1 foot of snow.

Ski patrols at Big Sky reported triggering avalanches on wind loaded slopes with explosives while ski cuts were less effective. These avalanches did propagate over large areas. Stability issues will mostly be confined to the new snow which has multiple layers formed by meteorological changes during the storm. While these layers will quickly gain strength, it's important to remember that most avalanches occur during or immediately after a storm. Be conservative and give the snowpack a little time to adjust to this load because a few slopes likely harbor weak snow that can produce a big avalanche. Human triggered avalanches will be most likely on wind loaded slopes especially ones loaded by strong W winds yesterday morning. Today the avalanche danger is **CONSIDERABLE** on all wind-loaded slopes and **MODERATE** elsewhere.

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

48 hour SWE totals for the southern mountains are:

2.1 inches - Carrot Basin in the southern Madison Range

2.4 inches - Madison Plateau near West Yellowstone

2.3 inches - Fisher Creek near Cooke City

Near West Yellowstone and Cooke City the 3 day totals are about 3 inches of SWE. In simple terms, more snow = more avalanches. With such a load, any slope with even the slightest weakness can produce an avalanche. Mt Republic near Cooke City is a good example ([photo](#)).

The southern Madison Range contains a thin layer of weak facets now buried about 4 feet deep ([photo](#), [video](#)). Eric found this layer both in Teepee Basin and near the Bacon Rind drainage. Snowfall during this storm has added significant stress to this layer which could produce large avalanches today. Today the avalanche danger is rated **CONSIDERABLE** on all slopes.

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 Video Clip from Utah**

<http://youtu.be/1ynAm5Wao1I?hd=1>

This is a great clip of a snowmobiler triggering a slide on March 9<sup>th</sup> in the Uinta Mountains, UT. He hurt his leg, trashed his machine, but should recover fine. Watching the clip a few things stand out:

1. Small slopes can be dangerous, especially when slides push you into trees.
2. His helmet cam shows how fast even a small slide accelerates.
3. Partners watching from a safe zone are worth their weight in gold.