

## **GNFAC Avalanche Advisory for Fri Dec 16, 2016**

Good Morning. This is Alex Marienthal with the Gallatin National Forest Avalanche Advisory issued on Friday, December 16<sup>th</sup> at 7:15 a.m. Today's advisory is sponsored by [Excel Physical Therapy](#) and [Community Food Co-op](#). This advisory does not apply to operating ski areas.

### **AVALANCHE WARNING**

**ISSUED ON DECEMBER 16 2016 at 5 a.m.**

The Gallatin National Forest Avalanche Center is issuing a Backcountry Avalanche Warning for the mountains near **Cooke City**, the **Lionhead area near West Yellowstone**, **Southern Madison Range**, and **Southern Gallatin Range**. Heavy snowfall measuring 2 feet in the last 24 hours with strong westerly winds is adding weight to a weak and unstable snowpack. The avalanche danger is rated [HIGH](#) on all slopes. Natural and human triggered avalanches are likely today. Avalanche terrain and avalanche runout zones should be avoided.

This warning will either expire or be updated by 6:00 a.m. on December 17<sup>th</sup>, 2016.

### Mountain Weather

At 4 a.m. temperatures range from below zero F in the Bridger Range to the mid-20s F near West Yellowstone. Over the past 24 hours the mountains near Cooke City and West Yellowstone received 1-2 feet of new snow, the Big Sky area and Bridger Range got 6", and Hyalite got 1-2". Wind yesterday was out of the west at 15-25 mph with gusts in the 50s. Wind this morning has shifted to the north at 5-10 mph. Temperatures today will be in the single digits F and drop to negative teens F this evening. Wind will remain calm out of the north-northeast with speeds increasing to 15-20 mph this afternoon. The southern mountains will get 5-7" of snow today and the northern mountains will get 2-3".

### Snowpack and Avalanche Discussion

Southern Gallatin Range Southern Madison Range

Lionhead area near West Yellowstone Cooke City

Since Wednesday night over 2" of [snow water equivalent](#) (SWE) fell in the mountains near West Yellowstone, and over 2.5" of SWE fell in the mountains near Cooke City. Another .5" of SWE is expected today. Strong westerly winds yesterday formed deep wind slabs and added weight to a weak snowpack. Prior to this storm, natural avalanches that broke on a persistent weak layer of facets near the ground were observed on Wednesday near Cooke City, and a skier was killed last Sunday in an avalanche that also broke on this weak layer ([video](#), [photo](#), [photo](#)). Yesterday, Eric observed natural avalanches next to the road on his way to West Yellowstone, and I found widespread sugary weak facets near the ground at Bacon Rind in the southern Madison Range ([video](#)).

Today, natural and human triggered avalanches are likely. Wind slabs could be 3-4 feet deep, and it will be possible for wind slabs and avalanches in the new snow to trigger a large avalanche on facets near the ground. The avalanche danger today is [HIGH](#). Avoid avalanche terrain and runout zones.

Bridger Range Northern Gallatin Range Northern Madison Range

The mountains near Bozeman and Big Sky received 6" of snow last night and almost a foot of snow since Wednesday night. New snow and strong westerly winds added weight to a weak snowpack, which produced large human triggered avalanches at Big Sky yesterday and at Bridger and the Yellowstone Club earlier in the week ([photo](#), [photo](#), [photo](#)).

Wind slabs or avalanches in the new snow will be easy to trigger today. These slides could bury or injure a person, or cause a larger avalanche to break on weak facets near the ground. Weak facets above an ice crust are prevalent on northerly and east aspects, but have also been found on other aspects ([video](#)). Choose lower angle terrain if you suspect this weak layer. If you decide to travel in steep terrain, first put your shovel in the snow to see if these facets exist at the base of the snowpack. The avalanche danger today is [CONSIDERABLE](#). Cautious route selection and conservative decision making are essential.

Eric will issue the next advisory tomorrow morning at 7:30 a.m.

### **December 11, 2016 Avalanche Fatality:**

A skier was killed in an avalanche on Henderson Mountain outside Cooke City on Sunday, December 11. The skier was in a party of 5 and his descent was the 7<sup>th</sup> track on the slope when it avalanched. He was carried into the trees and buried under 5' of snow. Another person was buried to his waist, uninjured, as he stood in the runout zone. The victim was found with avalanche transceivers and dug up in 15-20 minutes. CPR was initiated, but unsuccessful as trauma was a factor in his death. The slope was only 250 vertical feet, but steep, averaging 40 degrees. The crown was 3' deep and the path was 150' wide. The avalanche broke on a layer of weak, sugary facets sitting on an ice crust 1' above the ground.

We will issue a full report later in the week.

Here is a [video](#) and [7 photos](#) from our investigation.

We rely on your field observations. Send us an email with simple weather and snowpack information along the lines of what you might share with your friends: How much new snow? Was the skiing/riding any good? Did you see any avalanches or signs of instability? Was snow blowing at the ridgelines? If you have snowpit or test data we'll take that too, but this core info is super helpful! Email us at [mtavalanche@gmail.com](mailto:mtavalanche@gmail.com) or leave a message at 406-587-6984.

### **Upcoming Events and Education**

#### **COOKE CITY**

Every Friday and Saturday, **Weekly rescue training and snowpack update**, Soda Butte Lodge **TONIGHT** 6-7:30 p.m. and field location TBA for Saturday.