

GNFAC Avalanche Advisory for Sat Mar 1, 2014

Good Morning. This is Mark Staples with the Gallatin National Forest Avalanche Advisory issued on Saturday, March 1 at 7:30 a.m. The [**Pinhead Classic Telemark Festival**](#), in partnership with the **Friends of the Avalanche Center**, sponsors today's advisory. This advisory does not apply to operating ski areas.

MISSOULA AVALANCHE

In case you haven't heard. A house in Missoula was destroyed by an avalanche on Mt Jumbo on the north side of town yesterday. Three people were caught in the house and all survived. A woman was recovered alive three hours after the avalanche struck. [Read more](#) about this amazing story.

Mountain Weather

Crazy weather this morning. Temperatures range from -20 F in the Bridger Range to -10F in Big Sky to +21 F on Lionhead near West Yellowstone. The mountains near Bozeman and Big Sky received 1-3 inches of snow since yesterday, near West Yellowstone 7 inches, near Cooke City 10 inches. Believe it or not, winds in the mountains are blowing less than they are in some valley locations. Most mountain weather stations have winds blowing 10 mph gusting 15-25 mph from the SW; however, the Bridger Range has a very cold E wind.

Today temperatures shouldn't change much and late today winds should shift to the W and slowly start pushing this stationary cold front out of the area. There should be a little warming tomorrow and much warmer temperatures by Monday. Cooke City may get a few inches of snow today while the rest of the area should see snow but little accumulation. A better chance of snow returns sometime Sunday mainly for the southern areas

Snowpack and Avalanche Discussion

Cooke City

The month of March begins with another 1.0 inch of [snow water equivalent](#) (10" of snow). Yesterday Eric observed a lot of graupel, like hail, falling with this new snow. Nearly continuous snowfall during the last month ([graph](#)) has placed a tremendous load on the snowpack. Some slopes produced large slides like an [avalanche on Barronette Mtn](#) on 2/20. Isolated slopes have yet to produce large avalanches until skiers or riders hit them in the right spot. Just south of town on Wednesday, a skier triggered slide 10 feet deep when he skied across an area where the snowpack was only 1 foot deep. See pictures of this slide: [before](#), [after](#), [crown](#). These types of avalanches are low probability/high consequence, meaning few will occur and are hard to trigger but will be very large and destructive. Read Doug's article on [Deep Slab Avalanches](#) to understand more.

A more common problem will be avalanches 1-2 feet deep involving the new snow and wind-blown snow. Today these avalanches are very likely on wind loaded slopes where the avalanche danger is [HIGH](#). Non wind loaded slopes have a [CONSIDERABLE](#) danger.

Gallatin Range Madison Range

Lionhead area near West Yellowstone

Weird weather can make weird avalanches which surprise even the most experienced people. Today is one of those times. Yesterday the Big Sky Ski Patrol was surprised how easily they triggered avalanches in the new

snow with both ski cuts and explosives. Avalanches in the backcountry could break within the new snow or on a weak layer buried about 3 feet deep. This weak layer produced a snowboard-triggered avalanche on Wednesday on Lone Mountain ([photo1](#), [photo2](#)) and a skier-triggered avalanche on Thursday about 1/2 mile north ([photo](#)). A snowmobile-triggered slide occurred along Buck Ridge in the 2nd Yellowmule on Thursday as well.

Fewer slides have occurred in the northern Gallatin Range and this weak layer seems to be stronger but does exist and should be evaluated ([photo](#), [video](#)).

Further south near West Yellowstone, avalanche problems include new snow and a similar weak layer buried 3 feet deep ([photo of weak layers](#)). However, avalanches may also break near the ground ([video](#), [photo1](#), [photo2](#)). Large avalanches shouldn't occur on every slope but assume they will as you travel under big bowls. Give these big slopes a wide berth because avalanches may run further than you expect.

Today is a good time to avoid avalanche terrain. Triggered a slide today is likely and the avalanche danger is rated **CONSIDERABLE**.

The Bridger Range

With air temperatures of -20 degrees F in the Bridger Range, frostbite will be a greater hazard than avalanches. The Bridger Bowl Ski Patrol found a good bond between the new and old snow but was still able to produce new snow slides with ski cuts in steeper terrain. Deeper layers in the snowpack are strong and have not produced any reported avalanches. However, I'm hesitant to fully trust the snowpack in the Bridger Range. The steady load of new snow in February and a heavy load yesterday is enough of a red flag. Give the snowpack at least a few days to adjust to this loading. Although winds have been light, they were blowing from the E this morning and may have loaded a few slopes that normally don't receive a wind load. Watch for these slopes. Today wind loaded slopes steeper than 35 degrees have a **CONSIDERABLE** avalanche danger. All other slopes have a **MODERATE** 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 or call us at 587-6984.

EVENTS

Pinhead Classic: TODAY at Bridger Bowl, come early and register at the Jim Bridger Lodge to participate in the untraditional dual slalom "race" course. Then come to the Emerson Ballroom for drinks, awards, prizes, auction, raffle, and dinner. All proceeds support the Friends of the Avalanche Center. [More info](#)

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