

GNFAC Avalanche Forecast for Thu Jan 21, 2016

Good morning. This is Alex Marienthal with the Gallatin National Forest Avalanche Advisory issued on Thursday, January 21, at 7:05 AM. Today's advisory is sponsored by [**Cooke City Super 8/Bearclaw Bob's and Edward Jones**](#). This advisory does not apply to operating ski areas.

Preliminary Report on Cedar Basin Avalanche Fatality

On Tuesday, January 19th, two on-duty Yellowstone Club (YC) Ski Patrollers were helping two MSU graduate students collect data for snow science research. They were on private land in an uncontrolled backcountry setting, when, skiing back in-bounds to the YC, one of the patrollers triggered an avalanche. He jumped off a cornice onto a steep (39-42 degrees) wind-loaded slope which avalanched on his second turn. The slide broke 2-4 feet deep, 300 feet wide and carried him through a terrain trap of thick trees. He was partially buried at the toe of the debris 300 vertical feet below. His partners got to him within three minutes, but the trauma was fatal. We are all deeply saddened by the death of a fellow snow professional. Our hearts are broken for his family and friends.

Here is a [**video of yesterday's accident investigation**](#), a [**marked picture of the slope**](#) and more [**photos of the site**](#).

Mountain Weather

Since yesterday morning most mountain locations received 2-4" of new snow while the Bridger Range received over 8" of high density snow. Over the last 24 hours winds were westerly at 10-20 mph with gusts over 30 mph. Temperatures this morning are in the single digits to low teens F and will rise to near 30 F in the northern mountains today. The southern mountains will be cooler with temperatures in the low 20s. Wind will be out of the west-southwest at 10-15 mph and skies will be partly sunny in the northern areas with more cloud cover in the southern areas. The next 48 hours will be warm and dry with the next chance for snow Saturday afternoon.

Snowpack and Avalanche Discussion

[**Bridger Range**](#) [**Madison Range**](#) [**Gallatin Range**](#)

[**Lionhead area near West Yellowstone**](#) [**Cooke City**](#)

New snow and wind this week have created slabs and added weight to a snowpack that has a poor structure. Gradual snowfall since Saturday has totaled over 1.5" of snow water equivalence ([**SWE**](#)) in most areas. Almost 2.5" of SWE fell in the Bridger Range since Saturday with over 1" of this total since yesterday morning. The snowpack has two buried weak layers ([**video**](#), [**video**](#)). A layer of sugary depth hoar at the base of the snowpack is still capable of producing avalanches ([**video**](#)), and a layer of weak facets near the surface has started to show signs of instability. This layer of facets near the surface has been observed in all areas except Cooke City.

This week, we have had reports of avalanches that were confined to new snow and fresh wind slabs ([**photo**](#)), as well as avalanches that failed on the depth hoar and near surface facets. The avalanche that killed a skier in the Northern Madison Range on Tuesday failed on depth hoar near the ground on a wind loaded slope ([**video**](#), [**photo**](#), [**photo**](#)). This avalanche could have been fatal even if it were smaller because the terrain alone had high consequences with dense trees in the path ([**photo**](#)). Also on Tuesday, a skier triggered a large avalanche in the Bridger Range with a very fortunate outcome as no one was caught ([**photo**](#), [**photo**](#)). This slide likely failed on

near surface facets below the past week's snowfall. Avalanches are all the evidence we need to know that the snowpack is unstable and avalanche terrain should be avoided.

New snow in the past week and strong wind over the last 48 hours has put stress on an unstable snowpack. Human triggered avalanches are very likely on wind loaded slopes and natural avalanches are possible. Today, the avalanche danger is HIGH on all wind loaded slopes and CONSIDERABLE on all other slopes throughout the advisory area.

I will issue the next advisory tomorrow morning by 7:30 a.m. If you have any snowpack or avalanche observations to share, drop us a line at mtavalanche@gmail.com or leave a message at 587-6984.

BEACON PARK

The Friends of the Avalanche Center and Bozeman Parks and Rec installed a Beacon Park at Beal Park. It is a great way to practice single and multiple burials. It is available 9 a.m. -4 p.m., M-F.

EVENTS and AVALANCHE EDUCATION

A complete calendar of classes can be found [HERE](#).

Dillon: January 23 and 24, *Intro to Avalanches w/ Field Course*, <https://www.ticketriver.com/event/18441>

West Yellowstone: Saturday, January 23, and 30, *1hr Avalanche Awareness*, West Yellowstone Holiday Inn, 7-8:30 p.m.

Advanced Avalanche Workshop w/ Field Course

January 27, 28, and 30: <https://www.ticketriver.com/event/16862>

Course content includes: snowpack metamorphism, the mechanics of avalanche failure and fracture, and decision-making. Different topics are covered each evening session. The field session includes snowpack analysis and avalanche rescue scenarios.

Cooke City: Saturday, January 30, *Companion Rescue Clinic for Snowmobilers*. Information and registration here: <https://www.ticketriver.com/event/18078>

Lewistown: Saturday, January 30, 9:00 a.m., *1hr Avalanche Awareness for Snowmobilers*, Lewiston Honda-Polaris. More information can be found [HERE](#).

EVENT at BRIDGER BOWL: February 6, *King and Queen of the Ridge*. A day of hiking and skiing the Ridge as a fundraiser for the Friends of the Avalanche Center. Teams and individuals are welcome! More info here: <http://bridgerbowl.com/event/king-and-queen-of-the-ridge>