

[GNFAC Avalanche Advisory for Mon Jan 10, 2011](#)

Good morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Monday, January 10, at 7:30 a.m. Javaman, in cooperation with the Friends of the Avalanche Center, sponsor today's advisory. This advisory does not apply to operating ski areas.

Mountain Weather

Frigid cold temperatures are the word this morning with most mountain locations reading 5-10 below zero F. Fortunately winds are light, blowing out of the WSW at 5-15 mph. Mountain temperatures will fight to break zero today with highs reaching 5-10 above. Winds will stay light out of the WSW under partly to mostly cloudy skies. Temperatures will plunge back to double digits below zero tonight, with a gradual warming trend starting tomorrow.

Snowpack and Avalanche Discussion

The northern Madison Range:

The northern Madison Range, specifically the mountains around Big Sky, holds the weakest snowpack in our advisory area. The main culprit for this current designation is a layer of buried surface hoar located 2-3 feet below the surface in many areas. This layer formed over three weeks ago and has gradually gained strength. This strengthening is a trend we like to see but it does cause some stability assessment problems.

The main hurdle with this surface hoar layer is gauging its strength and distribution. A good example of this layer's unpredictable nature was the human triggered avalanche that caught a snowboarder in Beehive Basin on Thursday ([video](#)). This slide occurred on a WSW facing slope that does not have a wide distribution of buried surface hoar. To trigger the slide, the rider needed to find a very specific spot, which they did and produced the resulting avalanche. A good strategy for travelling in an area with buried surface hoar is to dig numerous snowpits and avoid high probability zones - specifically steep and wind loaded slopes.

Along with the lingering threat posed by the buried surface hoar, recent wind loading has created sensitive soft slabs on aspects favored by WNW winds. Triggering a pocket of wind drifted snow will likely stay confined to the new snow, but the possibility of a wind slab stepping down to deeper layers is real.

Today, human triggered avalanches are likely on all wind loaded slopes where the avalanche danger is rated [CONSIDERABLE](#). Slopes that have not received wind loading have a [MODERATE](#) avalanche danger.

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

Yesterday, a skier triggered a wind slab avalanche off the south peak of Saddle while travelling to Argentina Bowl. The skier who triggered the slide was the third skier to descend the slope and luckily escaped unharmed ([photo](#))([photo](#)). This is a poignant reminder that our snowpack has the potential to avalanche, primarily on slopes that have been wind loaded. Although wind loaded terrain is our main avalanche concern, triggering an avalanche on a non-wind loaded slope also remains a possibility.

Yesterday, I skied on the west side of the Bridgers and found variable conditions. My partner and I experienced collapsing and propagations during stability tests on SW facing slopes. However, W-NW facing slopes held a

deeper, more stable snowpack. The difference between a stable and unstable slope was only a matter of a few degrees in aspect ([video](#)). Buried facets are not widespread in the mountains of our advisory area - but they do exist. Paying close attention to shallow areas in the snowpack, such as wind scoured areas, rock outcroppings and convex knolls is an effective practice to avoid triggering a slide on deeper layers.

The slide in the Bridgers comes on the heels of a human triggered slide in the northern Madison Range. The theme to these two slides is that human triggered avalanches are likely when skiing or riding in steep, wind loaded terrain. The take home message from these two events is that our snowpack is capable of producing avalanches and backcountry travelers should practice safe backcountry protocol and be prepared if an avalanche does occur.

Today human triggered avalanches are likely on wind loaded slopes steeper than 35 degrees where the avalanche danger is rated [CONSIDERABLE](#). On less steep, wind loaded slopes OR non-wind loaded slopes steeper than 35 degrees the avalanche danger is rated [MODERATE](#). Generally safe avalanche conditions can be found on less steep slopes without a wind load where the danger is rated [LOW](#).

Doug 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.

Feeling rusty with your avalanche transceiver? The new beacon park at Beal Park in Bozeman is up and running. It's got 4 transmitters and the park is open 9 am to 8 pm every day. The Friends of the Avalanche Center and the city of Bozeman worked together to make this service possible.

Avalanche Education

January 9, Sunday in Helena:

The Friends of GNFAC in cooperation with the Helena Snowdrifters snowmobile club will present a FREE avalanche seminar. The schedule will be as follows:

9am to 11a.m.: 1 hour avalanche awareness lecture; "Dozen More Turns" movie; 12-2 p.m.: Rescue lecture followed by beacon overview. The course will take place at the MACO Building at 2717 Skyway Drive in Helena. For more information : <http://www.mtavalanche.com/workshops/calenda>

January 11, Tuesday in Big Timber:

In partnership with the Sweetgrass County High School in Big Timber, the Friends of the Avalanche Center will offer a FREE Basic Avalanche Awareness Workshop at the Big Timber High School between 7-8 p.m

January 12, Wednesday in Billings:

The Friends of the Avalanche Center in partnership with Families for Outdoor Recreation will offer a FREE Basic Avalanche Awareness Workshop and beacon demonstration at Hi Tech Marine in Billings, MT between 6-8:30 p.m.

January 12, Wednesday in Dillon:

In partnership with the Birch Creek Center at UM Western in Dillon, MT, the Friends of the Avalanche Center will offer a FREE Basic Avalanche Awareness Workshop in Block Hall, Room 311 on the campus of UM Western at 7-8 p.m.

January 15, Saturday in Cooke City:

The Friends of the Avalanche Center will be sponsoring a 1 hr Basic Avalanche Awareness Class @ Cooke City Firehall – 6pm to 7pm

For additional information and a listing of other avalanche classes, go to:

<http://www.mtavalanche.com/workshops/calendar>