

[GNFAC Avalanche Advisory for Tue Dec 13, 2011](#)

Good morning. This is Doug Chabot with the Gallatin National Forest Avalanche Advisory issued on Tuesday, December 13 at 7:30 a.m. This advisory is sponsored by Gallatin County Search and Rescue in partnership with the Friends of the Avalanche Center. This advisory does not apply to operating ski areas.

Mountain Weather

Montana is officially diagnosed with PDD; Powder Deficit Disorder. La Nina is the cure, but she's playing hard to get. We have not had snow since last Monday and there's none forecasted in the next 24 hours. Like a pauper with cupped hands I'm hoping that Thursday will bring a few flakes. This morning mountain temperatures are in the high teens with southwest winds blowing 10-15 mph at the ridgelines. Today, morning clouds/fog will give way to mostly sunny skies with light winds.

Snowpack and Avalanche Discussion

[The Bridger, Gallatin and Madison Ranges, the Lionhead area near West Yellowstone and mountains around Cooke City:](#)

Mountains with a thin snowpack have weakened substantially. Cold nights and fluctuating diurnal temperatures drive this process, which results in a snowpack of unsupportable facets. Eric found this on Mount Ellis ([photo](#)) in the northern Gallatin Range on Saturday. Faceted, unbonded snow made for good skiing, but like Christmas layaway, there's a price for these turns. Once winter elbows in, this weak foundation will produce avalanches under the strain of new snow.

Deeper snowpacks, like those around Hyalite, Cooke City and Taylor Fork, have a 2-4 inch thick layer of facets near the ground. This buried weak layer is not very reactive, but I still don't trust it. It is currently supporting a two to four foot deep snowpack, but it is not strong. In the absence of snowfall this layer has not been stressed. [Our video from last week up Hyalite](#) still rings true today. And if you peek at [all the snowpits we've dug](#) this season you'll see similarities of a weak snow structure: diagrams of layers that look like they are ready to topple.

Right now, avalanche danger is a function of snow depth, which is not the case most times of the year. If the snowpack is less than two feet thick, the avalanche danger is rated [LOW](#) since it is comprised of mostly facets without the burden of a slab.

Slopes with depths over two feet thick have slabs of snow burying a thin layer of weaker, unbonded facets. [Eric's video from last Thursday](#) illustrates our concerns. His stability tests broke clean on these facets in the northern Madison Range. Yesterday, he and Karl Birkeland went back to the same spot and got similar results. For today, the avalanche danger is rated [MODERATE](#) on slopes that have two feet or more of snow, especially if the slope was previously wind-loaded.

Feathery crystals of surface hoar have formed on many slopes ([photo](#)). We are keeping track of it in case it gets buried—even one inch of snow is enough to preserve it. Buried surface hoar is a notorious weak layer.

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/EDUCATION

To check out all our education programs: <http://www.mtavalanche.com/workshops/calendar>

ANACONDA

1-hour Avalanche Awareness Lecture. Wednesday, December 14, 7-8 p.m. at the Metcalf Building.

WEST YELLOWSTONE

Snowmobiler Introduction to Avalanches with Field Course. Lectures on Thursday, December 15 with an all day field course on Friday, December 16. Advanced registration is NOT required, but encouraged.

BOZEMAN

Women's 1-hour Avalanche Awareness Lecture. Wednesday, January 4, 6:30- 8 p.m. at REI.

Snowmobiler Introduction to Avalanches with Field Course. Lectures on Saturday, January 7, with an all day field session Sunday, January 8. Advanced registration IS REQUIRED.

CODY, WYOMING

Snowmobiler Introduction to Avalanches with Field Course. Lectures on Saturday, January 14 at Mountain Valley Motorsports with an all day field session near Cooke City on Sunday, January 15. Advanced registration IS REQUIRED.