

[GNFAC Avalanche Forecast for Thu Dec 27, 2012](#)

Good morning. This is Mark Staples with the Gallatin National Forest Avalanche Advisory issued on Thursday, December 27 at 7:30 a.m. Today's advisory is sponsored by the Montana FWP Recreation Trails Grant. This advisory does not apply to operating ski areas.

Mountain Weather

Yesterday afternoon the mountains near West Yellowstone received 2-3 inches of snow and other areas received about an inch. It was snowing this morning with an additional 2 inches recorded near Big Sky by 6 a.m. Temperatures were in the low teens and high single digits F this morning, and winds were averaging 10 mph from the NW with gusts of 15-20 mph. Snowfall will end this morning with little additional accumulation. Some snow will return tonight mainly in the mountains near Bozeman and Big Sky where 1-3 inches will fall. Areas further south should only receive a dusting.

Snowpack and Avalanche Discussion

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

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

I wish that I could give a green light to ski, ride, and sled on all steep slopes but I can't. Even though many slopes are stable, some are not. Recent observations include:

1. Yesterday Eric skied near Hebgen Lake just north of West Yellowstone where he found strong snow on SE aspects. He avoided NE aspects where he found weak facets near the ground that propagated cracks in his stability tests under hard force ([photo](#), [video](#)).
2. Doug skied a little further north near the Bacon Rind drainage and found no weak snow.
3. Two days ago near Big Sky on Wilson Peak a snowshoer was climbing a SW facing slope with about 3 feet of snow just above treeline. The slope collapsed with a loud whumph (a clear sign of unstable snow) when his snowshoes punched through a supportable layer of snow.

Unfortunately the difference between slopes with strong snow and slopes with weak and possibly unstable snow is not obvious. We have not found a pattern with respect to aspect or elevation. To find the weakest snow, thus places to avoid, look for slopes where the snowpack is less than 3 feet deep ([photo](#), [video](#)). On these slopes weak facets may exist in bottom foot of the snowpack. Some places like Mt Ellis have lots of weak snow but lack the overburden of a slab to provide both the stress and the structure to produce an avalanche.

Dig several quick snowpits looking signs of instability which include weak snow under a slab and extended column test results that propagate a crack. Finding this combination is enough evidence to choose a slope less than 30 degrees steepness or one with a deeper and stronger snowpack. Also identify areas on a slope with thinner snow. These areas with thin snow are possible trigger points for an avalanche. For today, variability in the snowpack makes human triggered avalanches possible and the avalanche danger is [MODERATE](#).

NEW WEAK LAYERS FORMED

Last week's period of cold, sometimes clear weather, turned the top few inches of snow into weaker, small grained facets. These did not form everywhere, and to further complicate their distribution, strong winds on

Friday scoured them from some slopes too. This layer is now capped by the recent snows. It is not deep enough to be a grave avalanche concern yet, but we'll be looking for it since these layers tend to persist.

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.

ARTICLES

At the GNFAAC we write articles for various publications: Carve, Montana Snowmobile Association Newsletter, The Avalanche Review. We also post these on our website, so if you are interested in reading more about avalanches check out [“Our Articles” on the “Education” page](#). Recent ones include:

- Temperature Induced Dry Snow Avalanches
- Why dig a Snowpit?
- Professional Secrets for a Quick Avalanche Rescue
- Time: The Deciding Factor

EDUCATION

TOMORROW: Friday, December 28, World Premier of “Snow Guardians” at 7:00 p.m. at the Emerson Cultural Center. More information here: <http://www.snowguardians.com/>

Thursday, January 3, 6:00 p.m., 1-hour Avalanche Awareness lecture at 406 Brewing Company, Bozeman.

Tuesday, January 8, 7:00 p.m., 1-hour Avalanche Awareness at Big Timber High School.

Wednesday, January 9, 6:30 p.m., 1-hour Avalanche Awareness at REI, Bozeman.

Thursday and Saturday, January 10 and 12, Rescue Clinic. Thursday at 6:00 p.m. at REI, Bozeman and Saturday at 10 a.m. in the field, location TBD. More info [here](#).

Saturday and Sunday, January 12 and 13, Snowmobiler Introduction to Avalanches with Field Course. For more information and to sign up: <https://www.ticketriver.com/event/4979-snowmobiler-introduction-to-avalanches-w-field>