

[GNFAC Avalanche Advisory for Mon Dec 19, 2011](#)

Good morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Monday, December 19 at 7:30 a.m. This advisory is sponsored by Gallatin County Search and Rescue. This advisory does not apply to operating ski areas.

Mountain Weather

Over the past 12 hours a fast moving cold front has swept down from the north, depositing 2-3 inches of snow in the mountains around Bozeman and Big Sky. The southern ranges only picked up a trace. Winds spiked during the frontal passage, but have decreased to 5-15 mph out of the NNW. Mountain temperatures are currently in the high teens to low 20s F. Snow showers will taper off this morning and skies will become partly cloudy by this afternoon. Today, mountain temperatures will rise into the high 20s and winds will blow out of NNW at 10-20 mph.

Snowpack and Avalanche Discussion

The Bridger and Madison Ranges, the southern Gallatin Range and the Lionhead area near West Yellowstone:

Avalanche forecasters commonly track well developed weak layers such as surface hoar, depth hoar and near surface facets. By mapping the distribution of a weak layer, many times it becomes possible to determine what areas may be unstable. This year is different.

Our snowpack in many areas is essentially one big weak layer ([photo](#)). At this point, our primary avalanche concern is areas where well developed slabs are present. If a slab does exist it will likely be resting over non-cohesive, sugary facets - a prime structure for creating avalanches. This weak structure has produced avalanches for local ski patrols doing control work over the past few days.

Yesterday, Doug toured into Beehive Basin looking for a small skier triggered slide which occurred on Friday. He did not locate the slide, but managed to find plenty of weak snow.

On slopes where the snowpack is more than two feet deep, mainly wind loaded slopes, human triggered avalanches are possible and the avalanche danger is rated [MODERATE](#). On slopes with less than two feet of snow the danger is rated [LOW](#).

The northern Gallatin Range and mountains around Cooke City:

Mark and I spent the past two days in Cooke City looking/digging for weak snow. We felt like two miners trying to strike it rich. After hours of shoveling and multiple stability tests we concluded our efforts were not going to be rewarded monetarily.

However, our work did pay off and we left feeling satisfied and confident the snowpack is gaining strength. We did occasionally find weak snow willing to react in stability tests, but we concluded it would take a large load or finding a steep slope with an uncharacteristically shallow snowpack to trigger an avalanche ([photo1](#), [photo2](#)).

A similar but slightly weaker snowpack exists in the northern Gallatin Range. Although it's still possible to find weak snow near the ground, recent observations are indicating the pack in this area is also gaining strength. In order to trigger a slide on deeper layers it would require a skier or rider finding the sweet spot. This would most likely be in steep upper elevation terrain where the snowpack is shallow, specifically near rock bands or below ridgelines.

While weak snow near the ground is our primary avalanche concern, near surface instabilities such as surface hoar and near surface facets are now buried by a few inches of new snow. This combination could produce small slab avalanches or fast moving sluffs capable of catching a skier or rider off guard.

Today, heightened avalanche conditions exist on slopes steeper than 35 degrees where the avalanche danger is rated MODERATE. All other slopes have a LOW avalanche danger.

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.

EVENTS/EDUCATION

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

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.

[1-hr Avalanche Awareness Lecture](#). Wednesday, January 11, 6:30-7:30 p.m at REI.

BIG TIMBER

[1-hr Avalanche Awareness Lecture](#). Tuesday, January 10, 7-8 p.m at Big Timber High School.

HELENA

[1-hr Avalanche Awareness Lecture](#). Thursday, January 12, 6:30-8:30 p.m at Exploration Works.

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.