

[GNFAC Avalanche Forecast for Mon Jan 4, 2016](#)

Good morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Monday, January 4, at 7:30 a.m. Today's advisory is sponsored [World Boards](#) and [Lone Peak Brewery](#). This advisory does not apply to operating ski areas.

Mountain Weather

Southwest Montana is under an unusual weather pattern. Currently, strong temperature inversions are in place with most valley locations recording temps in the single digits to low teens, while the mountains have temperatures in the mid to upper 20s F. Typically, when an inversion is in place conditions are relatively calm, but this morning winds are blowing 10-20 mph out of the W-SW with ridgetop gusts reaching upwards of 30 mph. Today, temperatures will remain above average with most mountain locations seeing highs in the mid-20s to low 30s F. Winds will continue to blow 10-20 mph out of the W-SW with ridgetop gusts pushing 30 mph. Skies will become increasingly cloudy as a weak storm system approaches from the southwest. The southern mountains could see a trace of snow tonight while the northern mountains will remain dry.

Snowpack and Avalanche Discussion

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

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

Despite a poor snowpack structure, avalanches are becoming harder to trigger. This is due to the fact that facets near the ground are now capped by a dense and supportable slab, which is making it more difficult to impact this buried weak layer ([video](#)). Also, the snowpack is becoming more relaxed without a recent loading event, which is making conditions less reactive to human triggers. However, all the necessary ingredients for avalanches remain present in the snowpack ([photo](#), [photo](#), [photo](#)).

Yesterday, Doug and I rode into the Lionhead area near West Yellowstone and observed numerous human triggered avalanches, most of which occurred around Christmas. We also found a thick slab sitting over facets near the ground. This dense slab made it difficult to initiate a fracture in stability tests; however, once a fracture was initiated it propagated easily. We both agreed we would not trust any slope steeper than thirty degrees simply due to the weak snowpack structure. This is consistent with what skiers and riders have been finding across much of the advisory area.

In areas where the slab is thinner or less dense, it's still possible to get signs of instability such as cracking and collapsing as skiers found in the southern Gallatin Range yesterday. It's also in these thinner areas where you're most likely to trigger an avalanche. Watch out for these thinner spots which are usually located near rock outcrops, cliff bands and scoured areas. If the weak layer is impacted in a thinner spot it can propagate into thicker portions of the snowpack creating a large and dangerous slide ([video](#)).

Outside of facets near the ground, there are a few mid-pack instabilities that should be watched out for. These problems mainly exist in areas that have been wind affected or wind loaded. Yesterday, skiers in the northern Bridgers got recently formed wind slabs to propagate in stability tests. These fresh wind slabs may be resting over near surface facets that formed during the recent high pressure. Doug and I found this weak surface layer in the Lionhead yesterday, but it lacked an overlying slab ([video](#)). This could easily become the next major avalanche problem once we get more snow.

But for now – the primary concern is avalanches failing on facets near the ground. Because this layer is weak and widespread, human triggered avalanches remain possible and the avalanche danger is rated **MODERATE**.

Doug will issue the next advisory tomorrow morning at 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.

EVENTS and AVALANCHE EDUCATION

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

Bozeman: January 6, *Women's Avalanche Awareness and Beacon 101*, Beall Park, 6-8 p.m.

January 8 and 9, *Companion Rescue Clinic*, REI, Fri 6-8p.m., Sat 10a.m.-2p.m.

January 13, *Ihr Avalanche Awareness*, REI, 6-7:30 p.m.

West Yellowstone: January 9, 23, and 30, *Ihr Avalanche Awareness*, West Yellowstone Holliday Inn, 7-8:30 p.m.

Livingston: January 14, *Ihr Avalanche Awareness*, Neptune's Brewery, 6-7:30 p.m.

Cooke City: January 16, *Ihr Avalanche Awareness*, Visitor's Center, 6-7:30 p.m.

January 30, *Companion Rescue for Snowmobilers*, <https://www.ticketriver.com/event/18078>

Dillon: January 19, *Ihr Avalanche Awareness*, UM Western Library, 6:30-8 p.m.

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

ASMSU Intro to Avalanches w/ Field Course

January 20, 21 and 23 or 24: <https://www.ticketriver.com/event/16861>

The workshops will be held on Wednesday and Thursday evenings, with a field course on either Saturday or Sunday. Different topics will be presented each evening. Topics include: avalanche terrain recognition, the effect weather has on avalanche hazard, the development of the mountain snowpack, decision making skills, and basic search and rescue procedures.

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.