

GNFAC Avalanche Advisory for Mon Dec 29, 2014

Good Morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Monday, December 29, at 7:30 a.m. Today's advisory is sponsored by [Bridger Bowl](#) in partnership with the Friends of the Avalanche Center. This advisory does not apply to operating ski areas.

Mountain Weather

Over the past 24 hours the Bridger Range received close to a foot of new snow. The mountains near Big Sky including the northern Gallatin Range picked up 3-6 inches while the mountains near West Yellowstone and Cooke City picked up 2-3 inches. At 4 a.m. mountain temps are in the single digits above or below zero F and winds are light out of the E-NE. Today, temperatures will struggle to climb above zero F under partly cloudy skies and winds will remain light out of the E-NE. Calm and cold weather is in store for the next 24 hours.

Snowpack and Avalanche Discussion

Bridger Range

The Bridger Cloud was in full effect yesterday, depositing nearly a foot of snow in a twelve hour period. This brought the two day storm total to nearly two feet totaling 1.1" of SWE (snow water equivalent). Fortunately, this low density, cold smoke powder did not add a ton of weight/stress to the snowpack.

From what we've seen lately in the Bridger Range, the snowpack should be able to handle this load. This means a majority of the avalanche activity should stay confined to the new snow. Slopes that have received a wind load will be most prone to producing avalanches. Winds were relatively light during the storm, but blew hard enough out of the W-NW to form soft wind slabs below the ridgelines. Non-wind loaded slopes may also produce soft slab avalanches in steep terrain.

A less likely but more serious problem will be avalanches failing on weak layers buried deeper in the pack. A layer of facets buried mid pack and facets near ground still hold the capability of producing avalanches ([photo](#)). It's worth digging a snowpit to assess the strength and distribution of these faceted layers before traveling in avalanche terrain.

Today for the Bridger Range – human triggered avalanches are likely and the avalanche danger is rated [**CONSIDERABLE**](#).

Gallatin Range Madison Range Lionhead area near West Yellowstone

This latest storm did not impact the mountains south of Bozeman quite as hard. However, the mountains around Big Sky and West Yellowstone did receive 6-10 inches of snow over the past few days totaling roughly .5 inches of SWE. This new load will be adding stress to buried weak layers.

Yesterday, Doug and his partner skied at Bacon Rind in the southern Madison Range. They found the same layer of surface hoar that Mark found in the Taylor Fork last week. This layer is now buried around two feet deep and is still reactive in stability tests ([video](#)).

The tricky part about this situation is this layer does not exist on all slopes. Doug traveled just a short distance from his first snowpit and did not find this layer on a neighboring slope. Instead he found a thin layer of near

surface facets that produced unstable results in stability tests. Regardless of the weak layer type, buried facets should never be trusted, especially after a recent loading event. Slopes that are under the additional stress of wind deposited snow will be especially sensitive to human triggers.

Today – The avalanche danger is rated [**CONSIDERABLE**](#) on slopes steeper than 35 degrees. Less steep slopes have a [**MODERATE**](#) avalanche danger.

Cooke City

Over the past 48 hours the mountains around Cooke City received 4-6 inches of new snow totaling .5 inches of SWE. The snowpack in this area should have little problem supporting this new load ([video](#)). The primary avalanche concern today will be wind loaded slopes. Winds have been relatively calm over the past twelve hours, but blew hard enough out of the W-NW during the storm to produce soft wind slabs in upper elevation, leeward terrain. I don't expect fresh wind slabs to break far and wide, but they could produce enough volume to carry or burry a skier or rider. The potential also remains for avalanches to fail on facets near the ground. This problem exists mainly in steep, rocky terrain where the snowpack is thinner.

Today – human triggered avalanches are possible in the mountains around Cooke City and the avalanche danger is rated [**MODERATE**](#).

Get a sense of snowfall, wind and avalanche activity on our “[What's been happening](#)” page. It's something we used to write by hand just to use in the office but decided to put it online. Check it out [HERE](#).

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.

AVALANCHE EDUCATION and EVENTS

Take a look at our [Education Calendar](#) for all our classes being offered.

1-hour Avalanche Awareness for Snowmobilers, West Yellowstone, 7 p.m., Saturday, January 3, Holiday Inn.

Companion Rescue Clinic, Bozeman, Fri eve and Sat field, January 9 and 10, REI. Register for the class here: www.rei.com/stores/bozeman.html

1-hour Avalanche Awareness for Snowmobilers, West Yellowstone, 7 p.m., Saturday, January 10, Holiday Inn.