

## [GNFAC Avalanche Advisory for Wed Dec 4, 2013](#)

Good morning. This is Mark Staples with avalanche information issued Wednesday, December 4 at 7:30 a.m. Today's information is sponsored by **Gallatin County Search and Rescue** in partnership with the **Friends of the Avalanche Center**. Daily advisories and danger ratings will begin on Friday, December 6.

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### Mountain Weather

No new snow fell yesterday, but storm totals since Sunday are impressive. Most places received a total of 10-15 inches of new snow while Cooke City received over 2 feet. Cold weather is the story this morning with temperatures in the negative teens F and northerly winds blowing 10 mph and gusting to 15 mph. On Lionhead near West Yellowstone, winds were blowing 10-15 mph and gusting to 25 mph from the NNW. Today, there will be some sunshine but high temperatures will only reach the negative single digits F and maybe 0 F if we're lucky. Fortunately winds should lessen a bit through the day and only blow 5-10 mph by this afternoon.

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### Snowpack and Avalanche Discussion

#### [Cooke City](#)

The mountains near Cooke City received about 2 feet of snow containing 3 inches of [snow water equivalent \(SWE\)](#) which is a major load on the snowpack. For comparison, we consider 1 inch of SWE to be a lot of weight. This snow fell on a snow surface that had become weak and faceted during dry weather over Thanksgiving ([video](#)). These faceted snow crystals at the old snow surface could not support this load of new snow and at least 20 natural avalanches were seen yesterday by a skier south of town ([photo1](#), [photo2](#)). Weak snow also exists near the ground and will allow avalanches to break deeper making even bigger slides on some slopes.

Dangerous avalanche conditions exist today. Recent slides are a major warning sign from Mother Nature that other slopes are unstable and only need a rider on them to produce an avalanche. Consider riding in meadows or on low angle slopes. You can also trigger avalanches if a steeper slope is above you. This scenario killed a rider on Scotch Bonnet in [January 2010](#).

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

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

The mountains near Big Sky, West Yellowstone, and south of Bozeman received 10-15 inches of snow with 1.0-1.7 inches of [SWE](#). The Big Sky Ski Patrol continues to trigger avalanches on north facing slopes of Lone Mountain including a slope that does not have a history of producing avalanches ([photo](#)). These slides broke on facets near the ground. In other places the weakest layer is the old snow surface. Other slopes may have a fairly strong snowpack and avalanches will only occur in the new snow as the Big Sky Ski Patrol found on some south facing slopes yesterday. With a mixed bag of conditions, look for instabilities in two places: (1) near the ground, or (2) within the new snow and at the new snow/old snow interface. Even though winds have generally been light, watch out for any signs of wind drifted snow which will easily slide.

#### [Bridger Range](#)

Doug and I skinned up the Slushmans area at Bridger Bowl yesterday which still has backcountry conditions and gave us insight into what the snowpack may look like further south on Saddle Peak. This area received about 14 inches of new snow since Sunday. The weakest layer was the old snow surface about 1-1.5 feet deep, but it wasn't as bad as we expected ([video](#)). On many slopes this layer isn't too weak. In other places it could produce an avalanche, and I would jump on small test slopes and perform quick stability tests on this layer before committing to bigger slopes. Otherwise, our main concern was slides breaking within the new snow on any wind affected slope.

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## **DANGER RATINGS AND FIELD OBSERVATIONS**

We will begin issuing daily avalanche advisories on Friday, December 6. We rely on your observations, pictures or snowpits to make our forecasts accurate. Drop us a line at [mtavalanche@gmail.com](mailto:mtavalanche@gmail.com) or call in your observations in at 587-6984.

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## **EVENTS/EDUCATION**

BOZEMAN: December 6, 6:30 p.m. American Legion, \$10, Gallatin Valley Snowmobile Association Christmas Party, <http://gvsa.net/>

BOZEMAN: December 11, 7 p.m., International Mountain Day, Emerson Cultural Center, Avalanche Forecasting and Awareness. <http://www.mtavalanche.com/images/13/international-mountain-day>

FOUR CORNERS: December 11, 7 p.m., 1-hour Avalanche Awareness for Snowmobilers at the GVSA Groomer Shed, <http://gvsa.net/>

WEST YELLOWSTONE: Snowmobiler Intro to Avalanches w/ Field Course, West Yellowstone: 19 and 20 December. Info and registration: <https://www.ticketriver.com/event/7116>