

GNFAC Avalanche Advisory for Mon Dec 27, 2010

This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued on Monday, December 27, at 7:30 a.m. **Bountiful Table**, in partnership with the **Friends of the Avalanche Center**, sponsors today's advisory. This advisory does not apply to operating ski areas.

Mountain Weather

Since yesterday afternoon a surprise storm has deposited 6-8 inches of snow in the mountains around Big Sky, West Yellowstone and Cooke City. The Bridger Range and northern Gallatin Range picked up 2-3 inches. Winds have been blowing out of the W-SW at 15-30 mph with gusts reaching close to 40 mph in Hyalite and Cooke City. Mountain temperatures are currently in the mid-teens to mid-twenties F and will rise into the low 30's F by this afternoon. Winds will remain strong today out of the west delivering light bands of moisture to southwest Montana. An additional 1-2 inches of snow is possible by this afternoon. A more potent storm is forecasted to impact our area Wednesday and Thursday.

Snowpack and Avalanche Discussion

The northern Madison Range:

A buried layer of surface hoar in the mountains around Big Sky remains our primary avalanche concern. The tricky part about surface hoar is it is highly susceptible to spatial variation - it exists on many slopes, but not on all. Yesterday, skiers in Dudley Creek north of Big Sky did not find this layer while skiing north facing slopes but did experience minor cracking and collapsing along the ridge. These are different conditions from what Mark found in Beehive Basin on Thursday and what Doug and I found in McAtee Basin a week ago ([video](#)) ([photo](#)). In addition, strong W-SW winds and fresh snow have put additional stress on this layer. Areas that have received recent wind loading will be the most susceptible to avalanche activity.

This type of erratic distribution makes careful snowpack and terrain evaluation paramount. Skiing in an area with buried surface hoar is like climbing a hard gear route; it is important to focus on your protection...i.e dig numerous snowpits, in order to travel as safely as possible. Today, strong winds and fresh snow have upped the avalanche ante making human triggered avalanches likely and the danger is rated **CONSIDERABLE**.

The southern Madison and southern Gallatin Ranges, the mountains around Cooke City, the Lionhead area near West Yellowstone and the Washburn Range:

Over the past 24 hours close to a half inch of water (SWE) as accumulated in the southern ranges. This latest shot of snow has been accompanied by strong winds which have loaded leeward slopes. Areas of wind deposited snow now rest over a variety of old snow surfaces ranging from bullet proof wind press to weak faceted crystals that formed during the latest round of high pressure. No matter what kind snow surface these slabs rest upon, they will most likely produce avalanches under the weight of a skier or rider. For this reason the avalanche danger is rated **CONSIDERABLE** on all wind loaded slopes. Slopes that have not received wind loading have a **MODERATE** avalanche danger.

The Bridger Range and the northern Gallatin Range:

The snowpack outside of Big Sky and Cooke City lacks the distribution of widespread weak layers, but isolated pockets of weak snow can be found. Yesterday, my partner and I skied in the northern Bridger Range near

Frasier Lake and felt as if we were at a white elephant gift party; we had no idea what kind of conditions we were going to unwrap next. The winds were cranking and the skiing consisted of everything from recycled powder to breakable wind crust, but we left with a smile because we did not find any layers willing to propagate fractures during stability tests in four separate pits. This was encouraging since buried surface hoar was found near Flathead Pass last week. Mark also found stable conditions while skiing in Hyalite yesterday. He did mention the surface snow was weaker than he expected, something we will have to pay attention to as we get more snow.

Although the northern ranges did not receive quite as much snow, pockets of instability can still be found; specifically near the leeward side of ridgelines. For today, human triggered avalanches are possible on slopes steeper than 35 degrees and the avalanche danger is rated **MODERATE**. Less steep 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.

Avalanche Education

Avalanche Awareness for Snowmobilers and Skiers, West Yellowstone, Holiday Inn;

Lectures: Saturday, January 1 from 12-5 p.m.; Field: Sunday, January 2 all day.

No Registration Required. ([more information](#))

There are many upcoming avalanche classes in the month of January. Check them on our education page at: <http://www.mtavalanche.com/workshops/calendar>