

## **GNFAC Avalanche Advisory for Thu Dec 10, 2009**

Good Morning. This is Mark Staples with the Gallatin National Forest Avalanche Advisory issued on Thursday, December 10 at 7:30 a.m. **Javaman**, in cooperation with the **Friends of the Avalanche Center**, sponsor today's advisory. This advisory does not apply to operating ski areas.

### Mountain Weather

With recent temperatures dipping into negative double digits, a mere -5 degrees F seemed relatively warm as I walked into the office this morning. Mountain temperatures were near -10 degrees F this morning except near Cooke City where they were -20 degrees F. Winds have been blowing 15-30 mph from the west northwest and will continue at those speeds today with temperatures warming to just above zero. Since yesterday morning snow showers produced a trace to one inch of new snow, and today some snow may fall but will not accumulate.

### Snowpack and Avalanche Discussion

*The Bridger, northern Gallatin, northern Madison Ranges and mountains around Cooke City:*

Yesterday Doug and I went to the northern Bridger Range spending most of our time dealing with a dead snowmobile battery, strong winds, and serious wind chills that had us wearing multiple down jackets while skinning uphill. Near Fairy Lake we found evidence of more faceting in the snowpack as a result of recent cold weather, but the layer of most concern was buried 4-6 inches deep under snow that fell last weekend. Currently this layer does not have enough stress from overlying snow to create a serious problem. Skiers just north of Bridger Bowl also experienced strong westerly winds forming thick wind slabs that easily cracked but did not slide.

The northern Gallatin Range also has nearly three feet of supportable snow similar to that in the Bridger Range. The northern Madison Range has a snowpack 2-3 feet deep with weak faceted snow sandwiched between denser layers. On Tuesday the Big Sky Ski Patrol triggered a thick wind slab that stepped down into these faceted layers running 1500 vertical feet. Also on Tuesday both the Big Sky and Yellowstone Club ski patrols found surface hoar at all elevations. In many places strong winds likely destroyed this potential weak layer while in other areas light snowfall may have preserved it. Near Cooke City south facing slopes have a snowpack similar to that in the Big Sky area with layers of faceted snow sandwiched between crusts. On north facing slopes near Cooke City the snowpack is deeper and a little stronger more like the snowpack in the Bridgers.

Today, the primary avalanche concerns are wind slabs formed by recent west and northwest winds. While these wind slabs do not appear very sensitive they are widespread and human triggered avalanches are possible. For this reason the avalanche danger is rated **MODERATE**.

*The southern Gallatin and southern Madison Ranges, the Lionhead Area near West Yellowstone:*

Heading further south leads to a thinner snowpack which can be observed driving from Big Sky to West Yellowstone. At the ground the snowpack temperature is always 32 degrees F while temperatures at the snow surface can be the same as air temperatures which have been as low as -35 degrees F leading to big temperature differences in the snowpack. These differences combined with a thin snowpack create large temperature gradients that form weak faceted snow. This snow makes riding difficult without getting stuck, but it also makes a good recipe for avalanches once more snow falls. Until then watch out for recent wind drifts that could fracture and slide. For today, the avalanche danger is rated **MODERATE** on wind-loaded slopes and **LOW**

elsewhere.

I will issue the next advisory tomorrow morning at 7:30 a.m. If you get out in the backcountry give us a call or email with your observations. You can reach us at 587-6984 or email us at [mtavalanche@gmail.com](mailto:mtavalanche@gmail.com).

## **AFTERNOON TWITTER UPDATES**

When we find interesting snowpack conditions or hear of avalanche activity we send out tweets. This gets you information quicker than waiting for the next morning's advisory. Check out our latest at:

<http://www.mtavalanche.com/twitter> or <http://twitter.com/avalancheGuys>

## **AVALANCHE EDUCATION**

1. GREAT FALLS: On Saturday, December 12 at 10am until 3pm a FREE Avalanche Awareness Workshop will be offered at the Fish and Game Office in Great Falls. This class will have multiple presentations covering terrain, avalanches, weather, rescue, and human factors.
2. BOZEMAN: On Tuesday, December 15 at 7pm there will be a FREE one hour Avalanche Awareness Lecture at the Bozeman Public Library.
3. WEST YELLOWSTONE: TWO DAY GUIDES COURSE. On Thursday, December 17, (noon-5pm) at the Holiday Inn is an afternoon of avalanche lectures. Friday, December 18, will be in the field. Registration is NOT required. More info at: <http://www.mtavalanche.com/education/classes/snowmobilers>
4. BOZEMAN: Montana Outdoor Science School is offering a Level 1 Avalanche Course January 7-10. For more information, contact Moss at 406-582-0526.