

GNFAC Avalanche Advisory for Wed Mar 28, 2012

Good Morning. This is Doug Chabot with the Gallatin National Forest Avalanche Advisory issued on Wednesday, March 28 at 7:30 a.m. The Yellowstone Club Community Foundation, in cooperation with the Friends of the Avalanche Center, sponsor today's advisory. This advisory does not apply to operating ski areas.

Mountain Weather

Yesterday was sunny with temperatures ranging from the high 20s near West Yellowstone to the low 40s in the Bridger Range. Winds blew 15-30 mph out of the west, but calmed to 10-20 mph out of the southwest last night. Clouds are streaming in from the southwest this morning and winds will increase slightly to 20-30 mph. Temperatures will be near 40F in the north and stay near freezing in the south. In the mountains isolated showers will drop 1-2 inches of snow by tomorrow morning.

Snowpack and Avalanche Discussion

The Bridger Range:

Bridger Bowl experienced their most impressive day of wet slab avalanche activity in memory. Avalanche cycles like this one are rare. It was only the second time in my 22 years of avalanche work that I've seen wet slab activity on this scale. Yesterday, the ski patrol triggered avalanches with explosives that gouged out groomed runs and road cuts plus put debris up to 20 foot deep in the gullies. New snow yesterday morning, above freezing temperatures, and a moist snowpack sitting on facets had stability teetering. Avalanches broke on soggy depth hoar at the ground. By midday explosives weren't needed and the patrol ski triggered wet loose slides that would step down to the facets ([photo](#)). Karl and I were there and took [lots of pictures](#) and made a [video](#) of the carnage. In the backcountry the snowpack would be the same: weak, moist, and barely hanging on. Last night hardly froze at the ridgeline and today's forecasted warm weather will only weaken the snowpack structure further as water replaces frozen bonds. Although today looks to be cloudy, my worry is that any sun will melt the surface snow quickly putting even more liquid water into the snowpack. For today, the avalanche danger will start out at [CONSIDERABLE](#) on all slopes and move to [HIGH](#) if slopes get sunshine.

Additional thoughts on wet avalanches:

1. Skier compaction doesn't matter. These avalanches ripped out some of the highest skier compacted areas on the mountain.
2. We do not fully understand wet slab avalanches. Their timing is finicky and it's difficult to measure a wet snowpack's instability. We have a high level of uncertainty in an arena with very high consequences. Therefore, we're conservative in our decision-making.
3. Wet slab avalanches are problematic this year because of the depth hoar. Even when this layer is moist (moist=you can make a snowball), these will fracture wide.
4. Small, inconsequential looking point release avalanches can trigger big slabs.

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

Direct sunshine and above freezing temperatures allowed the Yellowstone Club Ski Patrol to release a large wet slab avalanche with explosives ([photo](#)) on a slope that gets a lot of solar radiation. At higher elevations the snow is cooler and only moist in the upper snowpack. Big Sky Snow Safety reported it "conditionally stable" as long

as the weather doesn't get too hot and sunny. The southern mountains have been cooler and avalanche activity, both wet and dry, is minimal. Without new snow loads or high temperatures melting and weakening the snowpack the likelihood of triggering an avalanche is decreasing, although the consequences are still dire since slides would be large and destructive. Unfortunately, in most of our area weak chains of depth hoar are underlying our snowpack. Around Cooke City this is harder to find, but thinner slopes, especially those that previously slid, will have it. In the southern Madison Range this layer is much more prevalent. This deep slab instability will remain with us the rest of the season.

For today, the avalanche danger is rated [MODERATE](#). If the sun comes out I expect the wet snow avalanche danger to rise to [CONSIDERABLE](#) quickly.

Mark 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.

Bridger Bowl and Yellowstone Club Wet Slab Avalanche Photos

[Eleven new photos](#) were posted to our website yesterday afternoon. There was a lot of wet avalanche activity in the ski areas, which mirror our backcountry concerns.

Avalanches: Decision-making and Psychology

On March 28 the GNFAC and Friends hosted a Professional Development Workshop on "Decision-making and Psychology". All six lectures are uploaded to YouTube. Making high consequence decisions in dynamic, dangerous environments is tricky stuff. These lectures are by an avalanche worker, forecaster, SEAL, airline pilot, and psychologist. Watch, listen and learn. You can view the lectures here: http://www.youtube.com/playlist?list=PLEFAE2148A0027DF6&feature=view_all