GNFAC Avalanche Forecast for Fri Mar 7, 2014

Good Morning. This is Mark Staples with the Gallatin National Forest Avalanche Advisory issued on Friday, March 7 at 7:30 a.m. **Grizzly Outfitters**, in partnership with the **Friends of the Avalanche Center**, sponsors today's advisory. This advisory does not apply to operating ski areas.

Mountain Weather

Yesterday the Bridger Range received 10 inches of heavy snow (15% density) and all other areas received 4-6 inches of similar snow. Low elevation areas received some rain. Temperatures this morning were in the 20s F. Ridge top winds yesterday were blowing 20-30 mph with some gusts of 50 mph. This morning winds had eased and were blowing westerly 10-15 mph gusting to 25 mph. Today temperatures should warm to near 30 F and by afternoon winds should ease a bit more. About 1 inch of new snow should fall today.

Snowpack and Avalanche Discussion

Cooke City

Yesterday the Fisher Creek SNOTEL site recorded 0.9 inches of snow water equivalent (SWE) that fell as 6 inches of dense snow. This snowfall continues an unbelievable period of nearly constant snowfall since late January (**chart from Fisher Creek**). With this constant loading, natural avalanches have been observed every time there has been a break in the weather. Some have broken within the new snow. Some avalanches seen early this week propagated over wide areas and broke 2-3 feet deep. This wide propagation indicates there may be a recently formed, faceted layer near an ice crust 2-3 feet deep. In rocky areas with thin snow, skiers or riders can possibly trigger massive avalanches breaking near the ground (**video**). For today some natural avalanches are possible, but skier or snowmobile triggered slides are likely and the avalanche danger is rated **CONSIDERABLE**.

Gallatin Range Madison Range

Lionhead area near West Yellowstone

Yesterday's precipitation totaled 1 inch of snow water equivalent (SWE) near West Yellowstone, 0.7 inches near Big Sky, 0.6 inches near Carrot Basin, and 0.4 inches south of Bozeman in Hyalite. In low elevation areas some of this precipitation fell as rain.

Yesterday in Hyalite Canyon on Mt. Blackmore my partner and I found the January facets buried almost 3 feet deep (ECTP 22). One problem is that many slopes produced avalanches in late December and early January. These slopes may have a weaker snowpack than slopes where we typically perform stability tests. Keep this in mind. The slope where you hope to ski or ride may be weaker than the slope where you dig a snowpit. Evaluate stability based on the big picture not just what you find in one snowpit. Recent avalanche activity trumps all other data.

While stability has been slowly improving and the layer of January facets buried about 3 feet deep has been gaining strength, there are two problems:

1. Yesterday's precipitation was a rapid and heavy load especially near West Yellowstone. Whether it fell as snow, rain, or a mix of the two, it all counts as weight added to the snowpack. More weight means more

stress on buried weak layers.
2. Avalanche activity continues to occur. This activity hasn't been a widespread cycle of avalanches, but avalanches have occurred at least somewhere on most days.

Together, these facts tell us there's a good chance of more avalanches today. Most slides have broken on the January facets (**photo**) but not all. One cornice triggered slide (**photo**) near Big Sky Resort propagated on the January facets over 1000 feet wide and stepped down to the ground in one section. About 2 weeks ago several slides (**photo**) near West Yellowstone in the Lionhead area also broke near the ground.

There are two ways to rate the avalanche danger (**danger scale**). One is based on the likelihood of triggering an avalanche. The other is based on travel advice. With recent avalanche activity and yesterday's rapid heavy load of snow, I am using travel advice because I would be making careful snowpack evaluations and making conservative decisions. For this reason today the avalanche danger is rated **CONSIDERABLE**.

Bridger Range

Yesterday the Bridger Range received 10 inches of snow with nearly 1.5 inches of SWE. This snow fell in a period of about 5 hours. This rapid, heavy load is a red flag by itself. An avalanche was spotted on Saddle Peak yesterday involving the new snow that ran from the summit past the cliffs. The Bridger Bowl Ski Patrol found that the new snow had bonded fairly quickly, and they did not trigger any avalanches at the end of the day. The snowpack in the Bridger Range has been strong and should support this load on most slopes. However, this heavy load makes me nervous because such loads have a way of finding any weakness in the snowpack. For today the avalanche danger is rated **CONSIDERABLE** on slopes steeper than 35 degrees and **MODERATE** on less steep slopes.

I 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.

CORNICES

It's worth noting that cornices are growing large in size and have been the triggers for large avalanches over the past week. As more snow and wind put additional stress on these monsters, they will continue to break loose especially as they creep during warm weather. Avoid slopes directly under cornices, and give them a wide berth along ridgelines because they can break farther back than one might expect.

BACKCOUNTRY SKIERS AND RIDERS NEEDED FOR MSU SURVEY

This project aims to collect GPS location information and survey responses from backcountry skiers and riders to better understand what types of terrain decision we make. The focus is on backcountry skiers and riders of all abilities and experience. You need not be an expert backcountry skier to participate in this research. For more information and to sign up: www.montana.edu/snowscience/tracks