GNFAC Avalanche Advisory for Sun Apr 15, 2018

Good Morning. This is Doug Chabot with spring snowpack and weather information on Sunday, April 15th at 6:45 a.m. The Gallatin National Forest Avalanche Center has stopped issuing daily avalanche advisories for the season. We will update weather and snowpack information every Monday and Friday for most of April. Eric will update this information tomorrow morning. This bulletin does not apply to operating ski areas.

Avalanche Fatality

Yesterday morning a solo skier triggered an avalanche descending off the north summit of Saddle Peak. A few hundred feet from the top he triggered an avalanche that broke 1-3' deep, 100' wide, and carried him 1500' vertical distance down the narrow path. Our investigation at the crown revealed dense wind-drifted snow resting on a thin ice crust (the bed surface). Skiers on a chairlift at Bridger Bowl witnessed the slide and alerted the ski patrol who then responded as volunteers for Gallatin County Search and Rescue (GCSAR). Three patrollers climbed Saddle Peak and descend the slope picking up a beacon signal near the toe of the debris. The victim's gloved hand was sticking out of the snow and the rescuers were able to reach his head quickly. Resuscitation efforts were not successful. Approximately 75 minutes elapsed from the avalanche to extrication. I visited the scene yesterday afternoon and will have more information later today and a full report early in the week.

All of us at the avalanche center are deeply saddened by this accident. The skier was known to many and we offer our sincere condolences to his friends and family.

Four photos of the avalanche are posted **HERE** with more being uploaded later today.

Mountain Weather

In the last 24 hours the mountains around West Yellowstone picked up 2" of snow, with up to an inch falling in other areas. This morning is mostly cloudy with winds 10-25 mph out of the southwest, and a freezing line of 7,000'. Mountain temperatures will rise into the 40s F this afternoon. Scattered precipitation today will drop rain or snow (1-2") depending on the elevation. Thunderstorms are likely. Tonight will be below freezing and winds will shift to the southeast.

Snowpack and Avalanche Discussion

Bridger Range Gallatin Range Madison Range Lionhead Range Cooke City

Yesterday's avalanche fatality should give us pause, no matter where we ski or ride. Since Wednesday the Bridger Range has received almost 5" of snow water equivalent (40" of snow) while other areas have gotten upwards of 2.5" of SWE. This is a lot of weight and many slopes avalanched naturally on Friday. Winds created thick slabs and also grew cornices even bigger (**photo**). A few feet of new snow and wind-loading since Wednesday, natural avalanches on Friday, a skier fatality on Saturday, are all red flags. Avalanches in this new snow are still possible today, especially if the snow is resting on an ice crust.

Snow stability is not simple this time of year and I expect a lot of changes to occur in the snowpack today, especially if it rains. Rain quickly creates unstable conditions. Snow, rain, gusty winds, and thunderstorms are all on the menu. Dry avalanches could be triggered in the morning, especially on wind-loaded slopes, and wet

avalanches in the afternoon. We need to keep our thinking and decision-making nimble with rapidly changing conditions.

If you have not done so already, check out our spring avalanche advice below.

Share your observations with us on Instagram! #gnfacobs

Posting your snowpack and avalanche observations on Instagram (#gnfacobs) is a great way to share avalanche and weather information with us and everyone else this spring.

You can also drop a line via our website or email (mtavalanche@gmail.com) and we will share pertinent avalanche, weather and snowpack info as timely as possible.

Spring weather can be highly variable and create a mix of avalanche problems to watch out for. Snow conditions and stability can change drastically from day to day or hour to hour. Anticipate rapid change and plan accordingly. Abundant snowfall over the winter (**graphic**) with more spring snow to come will make avalanches possible well into summer.

NEW SNOW AND WIND LOADED SLOPES

Spring storms are notorious for depositing heavy amounts of snow in the mountains. Even with a deep and generally stable snowpack throughout the advisory area, heavy and rapid loads of new snow will decrease stability. The main problems to look out for are avalanches breaking within the new snow, wind slabs, and loose snow avalanches. The likelihood of triggering an avalanche spikes during and immediately after snow storms. New snow instabilities tend to stabilize quickly, but it's a good idea to give new snow a day to adjust before hitting big terrain. New snow instabilities can be difficult to assess, and spring storms bond to old snow differently across aspects and elevations. Conservative terrain selection is essential during and immediately following storms. Wind loaded slopes and slopes steeper than 35 degrees should be avoided for 24-48 hours after new snow and wind.

New snow can quickly change from dry to wet on a spring day, and stability can decrease rapidly with above freezing temperatures or brief sunshine. New snow may bond well early in the morning, and then easily slide later. Wet loose slides are likely during the first above freezing temperatures or sunshine immediately after a storm. Anticipate changes in snow stability as you change terrain and over the course of the day. An early start is always an advantage. Be ready to change plans or move to safer terrain at the first signs of decreasing stability.

WET SNOW AVALANCHES

Spring and wet snow avalanches go hand-in-hand. Above freezing temperatures, rain, and/or intense sunshine cause the snow to become wet and weak, and make wet avalanches easy to trigger or release naturally. Conditions tend to become most unstable when temperatures stay above freezing for multiple days and nights in a row.

Avoid steep terrain, and be aware of potential for natural wet avalanches in steep terrain above you, if you see:

- Heavy rain,
- Above freezing temperatures for more than 24 hours,
- Natural wet avalanches,
- Roller balls or pin wheels indicating a moist or wet snow surface,
- Or if you sink to your boot top in wet snow.

In general, if the snow surface freezes solid overnight, the snowpack will be stable in the morning and stability will decrease through the day as snow warms up. The snow surface hardness, rate of warming, duration of sunshine, aspect and elevation determine how fast stability will decrease through the day. Be aware that sunny aspects may have a wet snow avalanche danger while shadier slopes still have a dry snow avalanche danger. Getting off of steep slopes should be considered when, or before, the above signs of instability are present. Wet snow avalanches, whether loose snow or slabs, can be powerful, destructive and very dangerous. Conservative terrain choices, starting early in the day, and careful observations can keep you safe. See Eric's recent **video,** and this **article** for more spring travel advice.

CORNICES

Cornices along ridgelines are massive and can break under the weight of a person (**photo**). Prolonged above freezing temperatures and rain make them weaker and possible to break naturally. They can break off suddenly and farther back than one might expect. Cornice falls can also entrain large amounts of loose snow or trigger slab avalanches. Stay far back from the edge of ridgelines and minimize exposure to slopes directly below cornices. Regardless of whether a cornice triggers a slide or not, a falling cornice is dangerous to anyone in its path.

DISCLAIMER

It does not matter if new snow falls or not, avalanches will continue to occur until the existing snowpack is mostly gone. Always assess the slope you plan to ride with diligence and safety in mind. Do not let your guard down. Travel with a partner, carry rescue gear and only expose one person at a time in avalanche terrain.

Have a safe and enjoyable spring and summer!

Doug, Eric, and Alex

Info and Announcements

May 3-4th, **Give Big** online fundraising campaign! A 24-hour fund-raising campaign for the Friends of the Avalanche Center and other local nonprofits.

Hyalite Canyon road is closed to vehicles and reopens May 16th.

On April 12, 2018, **Fisher Creek SNOTEL** reached its most SWE on record for one season!!!

Sledders, mark your calendar for May 19, the **2nd Annual Sled Fest** in Cooke City. It's a fundraiser for the Friends of the Avalanche Center and there will be a DJ, raffle prizes and BBQ on the mountain.