GNFAC Avalanche Forecast for Mon Apr 15, 2024

Good morning, this is Dave Zinn with a spring weather and snowpack update on Monday, April 15th. The Gallatin National Forest Avalanche Center has stopped issuing daily avalanche forecasts for the season. We will issue weather and snowpack updates throughout April on Monday and Friday mornings. This information does not apply to operating ski areas.

Mountain Weather

On Monday morning, mountain temperatures are in the 20s F at upper elevations near Island Park and Cooke City and in the 30s to low-40s F across the rest of the advisory area. Winds are all over the map, blowing 5-15 mph from the south, west, and north. It is raining in Bozeman, Big Sky, West Yellowstone and Island Park, with 1-2” of snow at higher elevations in Island Park and Cooke City.

Well above-freezing temperatures will continue Monday and Tuesday, with a mix of rain, snow, and sun. A winter storm arrives on Tuesday night. Temperatures will cool to below freezing. Winds will be from the west to the northwest. Storm totals will be 10-15” near Cooke City, 8-12” near Bozeman and Big Sky and 5-10” in West Yellowstone and Island Park by the time snow tapers off on Thursday.

Snowpack and Avalanche Discussion

All Regions

Variations in this week’s weather will drive a wide range of avalanche conditions. Monday and Tuesday will be the warmest days, with a mix of rain, snow, and sun and a continuation of wet snow avalanche activity. Snow and cooler temperatures move into the area on Tuesday night, increasing the risk of dry snow avalanches. As Alex described from the Bridger Range on Sunday, conditions evolve quickly in the spring, and our decision-making needs to evolve with these changes (**video**).

On Monday, mountain temperatures remained above freezing for four days at all but the highest elevations. All bets are off as rain adds water to the snowpack. Wet loose snow and wet slab avalanches are likely. Yesterday, a group of riders remotely triggered a wet slab avalanche near the Taylor Fork (**photos and details**), and wet slab avalanches failed naturally above Quake Lake (**photo and details**) and in the Southern Gallatin Range in Yellowstone National Park (**photo and details**). These are destructive additions to the widespread wet, loose snow avalanches that initiate at a point and fan out as they entrain snow (**photos from Bridgers**). The snow is unstable on a spectrum, from when the upper few inches of the snowpack are wet and slushy to the entire snowpack being unsupportable. Avoid steep slopes and runout zones where these scenarios are present.

Avalanches within the new and wind-drifted snow will become the primary concern mid-week as cooler temperatures and snowfall return to the area. The size and likelihood of storm snow avalanches will be directly related to the amount of new snow and wind we receive. Watch for signs of instability, such as shooting cracks, and dig down to ensure you have a supportable crust below the new snow, testing for instability to this level. Avoid steep slopes where you find instability.

Finally, give the large cornices along ridgelines a wide berth when on ridgetops, and be cautious when traveling on slopes below them, as a collapse can trigger an avalanche below (**Sphinx photo**, **Iceberg Peak photo**). Consider older persistent weak layers and wind slabs on upper elevation slopes that remained shady and cool during the warm-up.

Daily forecasts are done for the season, but avalanches will continue. Remain diligent with your snowpack assessments and route-finding, and adapt your decision-making to changing conditions.

Upcoming Avalanche Education and Events

Hyalite Road Closure: Hyalite road is closed to ALL MOTORIZED VEHICLES until the morning of May 16. This is a regular annual road closure to reduce road damage during the spring thaw. Bicycle and foot traffic are allowed. Contact the Bozeman FS Ranger District for more info.

Events and Education Calendar.

Loss in the Outdoors is a support group for those affected by loss and grief related to outdoor pursuits. Check out the link for more information.

GENERAL SPRING SNOWPACK AND TRAVEL ADVICE

Spring weather can be highly variable and create a mix of avalanche problems. 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 with more spring snow to come makes avalanches possible 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 snowstorms. New snow instabilities tend to stabilize quickly, but it's a good idea to give fresh snow a day to adjust before hitting big terrain. New snow instabilities can be challenging to assess, and spring storms bond to old snow differently across aspects and elevations. Conservative terrain selection is essential during and immediately following storms. Avoid wind-loaded slopes and slopes steeper than 35 degrees 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 aspect or elevation 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 the 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,
- Rollerballs or pinwheels 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 Alex'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, Alex, Ian and Dave

For more spring travel advice see this **article** from our GNFAC forecaster blog.