



A massive avalanche on Arden Peak, N. Gallatin Range, March 3rd. Photo: M. Zia

April 15, 2024

We just ended our 34th year of operation. This winter was challenging on several fronts, with an unusually late start to the season and a persistent weak layer that created unprecedented instability. We had many days of avalanche warnings, weeks with avalanches occurring daily, and a scary number of avalanches that people triggered far away from the starting zones. This winter we had 46 incidents reported which resulted in 16 people caught or carried, 9 partial burials and 3 injuries. Thankfully, no one was killed in an avalanche.

We started daily advisories on December 7th, and the snow height for the next month of field days was 1-1.5 feet, barely enough to ski or sled. Snow in mid-January helped the depth but brought an onslaught of avalanche activity. At the end of January, I wrote, *“This year is unique in my 29 years of avalanche forecasting in southwest Montana. Large avalanches are being triggered from hundreds of feet away long after the most recent snowfall. Even a few inches of new snow are causing us to elevate the danger. This is not like other seasons, and it's making our entire forecasting team nervous. We are recalibrating our risk and notching back our travel plans due to a great deal of uncertainty about what it will take for things to become more stable.”*

Our messaging for most of the winter was simple: stay out of avalanche terrain. And we had lots of evidence. Our forecasting team and backcountry travelers saw and triggered many avalanches with day-after-day activity. The danger and risk were obvious. From January 8 to March 8 the danger was rated Considerable or High every day in the southern ranges of the forecast area. We issued 10 early season bulletins and 130 daily forecasts, which ended on April 14th. We will continue giving updates twice per week through April.

Our team of avalanche specialists, including Alex Marienthal, Ian Hoyer, Dave Zinn and myself, dug pits, made movies, investigated avalanches, wrote forecasts and taught classes. This season, our intern, Zach Peterson, crushed it as our field partner and digital organizer. He is a professional ski guide, snowmobiler, mechanic, trail breaker and hard worker. Every evening he uploaded the day's public observations which was a substantial task.

The Friends of the Avalanche Center and the GNFAAC worked together to teach avalanche classes. Shannon Regan, Education Coordinator, worked tirelessly through the season to offer classes. This was no small feat given the lack of snow in December and January which is when the bulk of our education

efforts occur. In total, the Friend's 45 instructors offered 95 classes to 4,876 people, including 701 youth and 802 snowmobilers.

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- Number of avalanche forecasts and field days: 130 and 128
 - Number of snowpits we recorded in SnowPilot.org: 95
- Number of observations submitted by the public and forecasters this season: 697
- Number of days with an Avalanche Warning: 21, the most in GNFAC history
- Approximate percentage of median snow water equivalent on Dec 1 and April 14: 50% and 75%
 - What this means in English: The season started bleak, stayed bleak, and the latest storms brought the snowpack to $\frac{3}{4}$ of normal, which is still near record lows.
- Number of flat tires, broken a-arms, broken forecasters: 0
 - Last time this occurred: never.
- Reported avalanches: 462
 - Number of these that were remotely triggered: 72 or 15%
 - Number of mountain goats caught and partially buried: 1 at Big Sky...no reported injury!
- Number of failed attempts to summit The Throne (a pimple of a hill) in the Bridger Range: 3
 - Reasons for failure: It was too dangerous, and we were scared.
- Total avalanche deaths since the start of the avalanche center in 1990: 57
 - 8 Seasons without fatalities: 23-24, 19-20, 12-13, 03-04, 98-99, 96-97, 94-95, 90-91
- Days Doug shouldered his skis and walked down the slope because skiing was so grim: 1
 - His partner that day, who assured him it would be "reasonable" skiing: Dave (who maintains to this day that it was indeed reasonable).
- Number of videos and total views: 138 and 2,634,391 views (1.3 million views more than last year!)
- Total followers on Instagram, Facebook, YouTube, and Twitter: 24,400; 19,000; 8,290; and 2,347.

The GNFAC relies on many individuals and community partnerships to operate. The Friends of the Avalanche Center, along with a grant from Montana Fish, Wildlife and Parks, help fund our education program and operations with 50% of our total budget. This spring, we will send out a detailed annual report outlining all our programs, budget, and community support.

Enjoy the spring and summer. I asked our office Magic 8 Ball if next winter would be better than this year, and it answered, "Without a doubt". So there you have it.

All the best,



Doug Chabot
Director

Forest Service
Gallatin National Forest Avalanche Center