

Snow Business - A firsthand account of producing an avalanche forecast.



Submitted by Eric Knoff on Thu, 02/20/2014 - 11:09

I'm dreaming of fresh and stable powder when the alarm cuts through the early morning silence like a buzz saw. I quickly roll over and check my phone.

It's 3:15 a.m.

There is no hitting snooze for fear that I'll fall back into the grip of sleep. I will myself out of bed to start my day.

An hour later I'm at the office, beginning the process of putting together the day's avalanche advisory. Sitting down in front of my computer, questions immediately start to boil to the surface. How much and where did it snow? What are the winds doing? What are temperatures going to be for the day? Were any avalanches triggered yesterday? The answers to these questions will ultimately determine what the day's avalanche hazard rating will be.

I take a long pull off my coffee hoping for no big surprises. I can't count the number of times when just a few inches of snow were forecasted, but in the morning there is well over a foot of snow on the ground. With conditions like these, decisions about the avalanche ratings change rapidly.

It is also not uncommon to receive middle-of-the-night observations from backcountry travelers describing recent avalanches they either saw or managed to trigger during the previous day. This sort of information can be a game changer when assembling the forecast.

I give a quick read through of the previous day's advisory to get my gears turning. I then dive into weather observations - checking information from nearly 20 remote stations throughout our seven mountain range forecast area. Wind speeds, temperatures and snowfall amounts are tallied. Then it's time to decipher information from multiple weather models. Combining observations and weather events from the past 24 hours with the projected forecast, I concoct the mountain weather forecast for the day.

Feeling good about my 99% accurate weather forecast, I then proceed to assemble the snowpack discussion. Some days this is an easy proposition...other days it's like climbing a mountain of sand. Due to the size of the Gallatin National Forest Avalanche Center's (GNFAC) forecast area, individual ranges may require separate and very different discussions.

Once the weather and snowpack discussion is complete, it's time to let my inner radio DJ out. Abbreviated forecasts are voice recorded into a digital file and then emailed to various radio stations and media outlets around the valley. On weekdays, a live recording is done with Michelle Wolf on KMMS the Moose.

I then do a juggling act with the phone recorder and computer microphone to put the full advisory into audio formats that the general public can access. This is then followed by a few hand stands and/or sprints up and down the federal building hallway to get the blood flowing. And then, finally, I'll post the advisory onto our website, email the advisory to over 4,000 recipients, fax it, post it on Facebook and send out a Tweet. Whew! This entire process needs to be complete by the crack of 7:30 am.

And this is where my day begins.

Once the advisory is out, I'll organize my gear and get ready to go into the field. Most days I'll focus on an area that has had the most unstable snow or where a recent avalanche has been reported. My partner and I will either ski, snowmobile or both to access the areas where we will be collecting data.

Skiing and snowmobiling in the Montana backcountry is just a perk when your job is to study the snowpack. Powder turns aside, field days generally revolve around digging multiple snowpits on various aspects and elevations, taking pictures and recording video observations. Once data collection is complete, it's time to head back to the office, hop on the computer and upload the observations and media compiled throughout the day.

Tick-tock, the clock says 5pm.

There's just enough time left in my day to head home, scarf down dinner and relax for an hour or two. It's been a good 18 hour day - it's now time to catch some ZZZZ's. That same 3:15 a.m. wakeup call is coming up quick.