



AAC Publications

AVALANCHE – Rapidly Warming Snow

Colorado, Tenmile Range, Quandary Peak

In May 2022, Skier 1 (male, 38) and Skier 2 (47) started from the Quandary Peak trailhead at 7:18 a.m. They intended to ski the south gully, a.k.a. Cristo Couloir, on Quandary Peak (14,271'). Both were experienced backcountry skiers. The forecast called for winter-like conditions: 21°F to 32°F, with moderate wind from the north and a chance of snowfall. The snow was dry, with three inches of new snow from the prior night's storm. The sky was overcast with intermittent sun.

Skier 1 wrote to ANAC, "The forecast was showing cold, wintery conditions, and we even packed extra layers. However, during the last 500 to 1,000 feet of skinning, it became warm. The sun came out several times, and conditions were completely calm on the summit, which is unusual for this elevation and climatic zone. The snow was sticky near the top."

At 11:20 a.m., Skier 1 entered the couloir, made a few turns and started a wet, loose slide below him. Skier 2 was around 50 feet above Skier 1 when the avalanche initiated. The avalanche quickly turned into a D2 slide that ran more than 1,000 feet. Neither skier was carried in the slide. The pair continued down by skiing on the old, supportable crust remaining within the cleared-out section of the path.

ANALYSIS

Skier 1 wrote, "We didn't realize how warm the new snow [had gotten]. When we started skinning in the morning, it was cool and the snow was all very dry. The weather became warm and still, with more solar gain than anticipated, despite the high clouds. We failed to notice the tipping point in the snow. Clues should have been that it felt hot (though with little sun) and calm as we skinned up, and that the snow was sticky when we made the first turns off the top. We should have put those two together and skied a lower angle descent."

How could this be avoided next time?

1. Don't get fixed on the target.
2. Remember that backcountry skiing is a dynamic process where things change quickly. Keep thinking critically and make flexible decisions based on the conditions.
3. Don't completely rely on avalanche forecasts, as conditions in the backcountry can be unpredictable.
4. Dig a pit at key places (in this case the top of the couloir) to find out how the snow is reacting.
(Source: Skier 1.)

Images



Skier 1 on the East Ridge of Quandary Peak. The weather was surprisingly warm despite the cloud cover and wintery forecast. This contributed to an avalanche later in the day.



Debris from an avalanche in Quandary Peak's south gully.

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