



## AAC Publications

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### **FATAL AVALANCHE – Triggered by Rockfall**

Colorado, Rocky Mountain National Park, Mt. Meeker

**On May 29, one climber was killed, one seriously injured, and a third person suffered minor injuries in an avalanche on Dreamweaver (III AI3- M2+), a classic couloir route in Rocky Mountain National Park.** The trio were climbing as a team when a massive rockfall triggered an avalanche. The National Park Service and Colorado Avalanche Information Center published the following in December 2022:

Climber 1, a 27-year-old male from Albuquerque, New Mexico, Climber 2, a 23-year-old female from Albuquerque, New Mexico, and Climber 3, a 25-year-old male from Wichita Falls, Texas, made plans to climb the Dreamweaver route on Mt. Meeker during Climber 3's leave from work. They had not completed a mixed snow and rock climb together, but felt Dreamweaver would be an "easy 5th class route." All three had taken mountaineering and climbing classes and ascended numerous 14,000-foot peaks in Colorado in summer and winter.

Climbers 1 and 2 researched the route, weather conditions, and prepared equipment over the following days. Their research included avalanche conditions reports from the Colorado Avalanche Information Center, current route conditions, and weather forecasts. Climbers 1 and 3 were experienced pilots with training to understand weather forecasts and track weather events.

The three left Albuquerque on May 28. They had one avalanche transceiver and stopped to purchase a second. Climber 3 was indifferent about obtaining a third transceiver for himself. They arrived at Longs Peak trailhead around 8 p.m. on Saturday then hiked into the Chasm Lake area, arriving about 1 a.m.

There were intermittent snow showers overnight, and the morning began cloudy and windy. There were two other climbing groups in the Chasm Lake area, and the three groups briefly discussed plans. One had planned to climb Dreamweaver but abandoned their plan due to wintery weather and fatigue. Climbers 1, 2, and 3 discussed alternate plans as they assembled their gear. Climber 3 said, "I wanna see" about conditions in Dreamweaver, and they settled on that. All three wore small climbing backpacks, climbing harnesses, crampons, and helmets. Each had an ice axe, and they had a 70-meter rope and climbing rack with ice screws. Climbers 1 and 3 carried personal locator beacons (PLBs). Climbers 1 and 2 carried the avalanche transceivers, turned off, in their packs.

The three climbers left their camp at 7 a.m. They stopped every 15 to 30 minutes to discuss the route, weather conditions, and how everyone was doing. The weather rapidly cleared around 8 a.m. and the three climbers started up Dreamweaver.

They were ascending the climber's left side of the couloir. At 8:26 a.m., they heard a loud, thunder-like cracking. The climbers saw an "RV sized" rock break off high on the buttress to the climber's right (the Flying Buttress, home to a classic 5.9 route). Park rangers heard the rockfall from the trailhead nearly three miles away as the crow flies.

The immense rock broke up as it fell over 100 vertical feet into the couloir. The rockfall triggered an avalanche when it hit the snow-filled couloir. Climbers 1 and 3 were just above Climber 2. The three climbers ran across the slope to climbers' left. They took about four strides before the mass of rock

and snow hit them. Climber 2 was wearing a GPS watch, and the highest elevation it recorded was at 8:27 a.m.

Climber 2 recalled remaining in a mostly seated position during the avalanche, seeing numerous rocks going over her head, and feeling intense pressure in both her legs as she moved downhill. Her GPS watch measured a maximum speed of 43 mph in the 16 seconds from the highest point to the location she was buried. When the avalanche stopped, she was buried to her chin, facing downhill, with her right arm free. Her backpack was buried with the straps pinning her down in the debris, and the climbing rack around her neck was pulling her head downhill.

Climber 1 recalled free falling at least two times during the avalanche, bouncing above the snow, seeing rock pass by him, periods of darkness, and being hit numerous times throughout his body. He came to rest near the eastern side of the toe of the debris, not buried, laying on his back with his feet downhill. His ice axe was still tethered to this harness, and he had all his equipment.

Climber 1 stood up and walked roughly two body lengths to his right, where he heard Climber 2 yelling his name. He was bleeding from the face and coughing up blood. Climber 1 began to help Climber 2, but quickly had to lay down due to pain.

The other two groups in the area saw the avalanche and rushed to help. They cut the backpack straps and climbing rack to free Climber 2. She directed Climber 1 through the steps to activate the SOS on the PLB he carried—he was confused, disoriented, and in pain. He sent the SOS just before 9 a.m. Once Climber 2 was excavated from the avalanche debris, she and the other climbing groups provided first aid to Climber 1. They searched for Climber 3 in the debris with pickets and ice axes, but none of the groups carried avalanche rescue shovels and probes.

Search and rescue teams arrived at the avalanche site before 12 p.m. They continued to provide care to Climber 1 and search for Climber 3. A brief weather window allowed a Colorado National Guard Blackhawk helicopter with hoist capabilities to fly Climber 1 out just before a lightning storm around 2 p.m. After the storm, rescuers using a RECCO detector located Climber 3 near the eastern edge of the debris. The avalanche had buried him within several body lengths of the other two climbers. It took about 35 minutes for rescuers to excavate him, and there were no signs of life. The avalanche had buried Climber 3 about three feet deep.

## **ANALYSIS**

In most avalanche accidents the person injured by the avalanche, or someone in that person's party, triggers the slide. That was not the case in this accident, where rockfall triggered the avalanche. In Colorado over the last 30 years, about eight percent of fatal avalanche accidents have involved a natural or spontaneous avalanche. [Editor's Note: A similar avalanche occurred in 2021 in the Dead Dog Couloir of Torreys Peak, west of Denver. See ANAC 2022.]

Rockfall is an objective hazard of mountaineering. Mountaineers can reduce but not eliminate the risk from objective hazards. At some point, the choice is to accept the residual risk or not venture into the environment. Accidents from objective hazards are a matter of being in the wrong place at the wrong time.

None of the climbers among three groups carried avalanche rescue equipment. Although it is not uncommon for mountaineers to venture into the mountains without this equipment, it does limit their options in the event of an avalanche accident. In this case, the groups' only option for finding Climber 3 were probing with ice axes in probable burial locations. Given the nature of the rocky debris, it is unlikely the outcome would have been different if the three climbers were all wearing transmitting avalanche transceivers, but the search time would have been shorter.

Although the RECCO system detected Climber 3 under the snow, rescuers did not find RECCO reflectors sewn into the climber's equipment. The RECCO detectors can reflect off metal or electronics. Searchers probably detected the reflection from Climber 3's climbing gear. (Sources: Tara Vessella, National Park Service, and Spencer Logan, Colorado Avalanche Information Center.)

## Images



The lower slopes of the Dreamweaver Couloir before and after natural rockfall triggered an avalanche that seriously injured one climber and killed another.



Close-up of the runout from an avalanche in Dream Weaver Couloir on Mt. Meeker.

## Article Details

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