previously set foot on the lower West Rib. Before arriving in Alaska, Benoit had climbed solo in Bolivia on peaks above 20,000 feet. He intended to use these climbs to acclimatize for Denali.

After flying into basecamp on the Kahiltna glacier on May 22, Benoit moved up the lower West Rib according to his planned schedule. On May 26, Benoit left his highest camp at the top of the couloir, following footprints towards the "Upper West Rib camp." He reported snowy conditions to the first bergschrund, then reported that conditions got icy. He decided to climb through a mixed rock section. While attempting this, his ice ax "lost its grip" on the rock and he fell over backwards onto the "50–55-degree" slope. He rolled and slid on the snow between rocks then onto a snow slope, passing over the bergschrund. He came to rest in a sitting position, "face up in the direction of the mountain." When he tried to move, he noticed pain in his right shoulder. He also found that his tent and ice ax were lost in the fall. He descended to the couloir camp, dug a trench for shelter, and went to sleep for the night. Around 0800 on May 27, he called for Ranger assistance with his FRS radio and reached Ranger Tucker Chenoweth at basecamp.

Benoit was flown to basecamp, where a physician assessed him, finding injuries to his shoulder and ankle. Benoit then joined Ranger Dave Weber on a K2 flight back to Talkeetna. He refused additional medical care or transfer. **Analysis**

Solo climbing always carries greater inherent risks and requires a much higher level of self-sufficiency. The West Rib route has significant objective hazard with a highly crevassed approach up the Northeast fork of the Kahiltna glacier as well as steep technical climbing with the possibility of very large falls. Most climbing parties use running protection on the steeper slopes starting at the main couloir at the base of the West Rib. Given the conditions present on May 26, snow pickets, ice screws, and rock protection would have been standard accepted practice to climb the route with a roped group. Solo climbing makes placing protection and self-belaying much more difficult, to the point where it would be nearly impossible to protect the route in the event of falls.

All climbing requires constant risk assessment in relation to the climber's ability and comfort level. It is common for solo climbers to set up ropes on steep and technical portions of climbs. If solo climbers choose to travel unroped, they risk being killed in the event of any slip or fall. (Source: Kevin Wright, Mountaineering Ranger)

AVALANCHE

Alaska, Denali National Park, Werewolf/Hut Towers, Freezy Nuts

On May 24, four members of an expedition were flown on to the Ruth Glacier with the intent to climb several surrounding snow and ice routes. Weather

conditions in the area (4,500 feet) were unseasonably warm, with nighttime temperatures consistently above freezing. Over the next several days, the team made early morning attempts on the Japanese Couloir of Mount Barille and the West Ridge of Mount Dickey. In both cases, they aborted their climb because of signs of rapid warming in the snowpack. Because of the unfavorable climbing conditions, two members of the team elected to fly out on May 28, two days before their scheduled pick up. Canadians Andrew Herzenberg (39) and Israeli Avner Magen (42) opted to stay in and make an attempt on "Freezy Nuts," a 2500-foot snow and ice gully between the Werewolf and Hut Towers.

First climbed in 1996, this route is widely considered an up-and-coming classic because of its easy approach and relatively moderate climbing. The route is very narrow (less than ten feet wide) for about 1,500 feet and has a steep 600-foot headwall. The route is exposed to hanging snow and ice on adjacent rock walls. According to past trip reports, an average time for a team to ascend and descend this route is about 12–15 hours.

According to other climbers camped nearby, the pair left camp to begin their ascent just before 0100 on May 29. Photographs recovered from a camera show 6–12 inch boot penetration during their ascent of the lower portion of the route, indicating that early morning temperatures had not allowed for a surface freeze.

Sometime in the early afternoon on May 29 a climber also camped in the Ruth Gorge area, witnessed a "sizable" avalanche come down the "Freezy Nuts" gully. Unaware of the deceased pair's exact plans, the reporting climber only became concerned when they did not return to their tent by that evening. The reporting climber decided to ski across the glacier to where he could see the debris cone at the base of the gully and noticed what appeared to be scattered equipment and possibly a body. At 2056, the climber spoke with NPS staff in Talkeetna via satellite phone and reported his concerns.

At 2220, two NPS ranger staff departed Talkeetna via helicopter to pick up the reporting climber and investigate the incident site. Upon arrival, two bodies were immediately spotted, both on the surface and along the leading edge of a relatively small debris cone. The helicopter was able to land safely at the toe of the debris to within 100 feet of the bodies and rangers were able to exit the aircraft and confirm the two climbers' deaths.

Due to the late hour, the helicopter and crew returned to Talkeetna that night. The bodies and equipment were recovered the following morning via NPS helicopter and were transferred to the State of Alaska Medical Examiner in Talkeetna.

Analysis

Although "Freezy Nuts" is slowly gaining a reputation as a classic moderate snow and ice gully, it is an extremely recessed and narrow route subject to

substantial objective hazards, particularly in poor weather conditions, such as after new snow or during warmer temperatures. Much of the route acts a funnel for sliding snow or falling debris.

Beginning on May 24, many climbing parties in the Ruth Glacier area reported a rapid warming trend and subsequently altered their climbing objectives. According to the deceased pair's climbing partners, they were concerned about the snow conditions before their climb on May 29. They chose to mitigate the hazards by climbing during the coldest hours and, according to a short audio clip recovered from Avner Magen's camera, they seemed prepared to turn around at any point. Although it is impossible to say exactly what ensued during their ascent, the end result is that they fell to the bottom of the climb while descending. The last of their photographs showed them about midway down the climb, one belaying the other downclimbing. Their ropes were found attached to one of the climbers, rigged for rappel. It is possible that either a fall occurred, or that a rappel anchor failed, and that the avalanche that occurred was the result of, or even secondary to their fall. However, given the weather history and the signs of instability in the area, it is likely that an avalanche caused the fall. The debris cone at the base of the gully was one of several cones that had likely occurred over the past week. Each of these avalanches can be characterized as having a relatively small destructive force and small to medium dimensions; however, because of the large vertical fall of the debris, the consequence of being carried is very high. This particular avalanche may be characterized as WL-U-R3-D2: a wet loose-snow avalanche, unknown trigger, medium size relative to its path, and small relative to its destructive potential.

It is not clear when Herzenberg started climbing mountains, but Magen was an accomplished mountaineer and chronicled his climbs from all over the world on his website. This was their first climbing trip in the Alaska Range. According to their climbing partners, they both had some experience with ice climbing and mountaineering.

Although it's difficult to conclude the exact cause of their accident, it is safe to say that the warm conditions on May 29 gave them a smaller margin of safety. (Source: Mik Shain, Mountaineering Ranger)

(Editor's Note: In a press release by Raveena Aulakh from the "Toronto Star," we learned something about these two men, information not normally found in official reports:

"On Monday, shocked friends and colleagues in Toronto [date unknown] were trying to come to terms with the loss of two men described as 'brilliant.' 'It's a very tough time for everyone in the department,' said Craig Boutilier, chair of the U. of Toronto computer science department where Magen was an associate professor. 'One thing to know about Avner is that he was a fantastic researcher... The stuff that he researched wasn't esoteric but was very deep theoretically,' said Boutilier.

"In another corner of the city, Herzenberg's colleagues at laboratory medicine and pathobiology department in the Faculty of Medicine at University Health Network were trying to understand the sequence of events. 'He was dedicated to research in kidney pathology, he was very generous as a collaborator with other physicians and scientists and he was an excellent teacher,' Richard Hegele, chair of the department, said of the assistant professor. 'He enthusiastically participated in training of new generations of specialists.'

"Both faculties have set up tribute pages on the departments' websites.")

FALL ON ICE/ROCK, PROTECTION PULLED OUT, PLACED INADEQUATE PROTECTION Alaska, Mount McKinley, Cassin Ridge

On June 7, Belgian climber Joris Van Reeth of Borgerhout (27) was killed in a fall while climbing the Cassin Ridge. He was leading a highly technical section of the route known as the Japanese Couloir when his anchor appeared to fail and he fell 100 feet in rocky terrain. Van Reeth fell to the approximate elevation of his partner Sam Van Brempt (24). Van Brempt was not injured, and after confirming that his friend had died in the fall, he used his satellite phone to call Denali National Park rescue personnel.

A climbing ranger was flown in the park helicopter to Van Brempt's location at the 13,000-foot level to assess the terrain for a possible shorthaul rescue and recovery, although fog and clouds moved in before a rescue could be performed. While on the reconnaissance flight, the ranger had observed a second, unrelated team climbing on the route several hundred feet below the Belgian party. According to Van Brempt, who called back via satellite phone later that night, two Japanese climbers reached him in the early evening and assisted Van Brempt in lowering Van Reeth's body down to a safer location just above the Northeast Fork of the Kahiltna Glacier at 11,500 feet.

Denali National Park rescue personnel took advantage of a break in the clouds to evacuate Sam Van Brempt from the base of the Cassin Ridge late Thursday night June 10. (Source: Denali Park and Preserve News Releases, Maureen McLaughlin)

Analysis

Examination of the photos taken of the accident revealed only two pieces of rock protection (a cam and a stopper) still clove hitched to the ropes. There were no ice screws. The last piece of ice protection would have been approximately 20 meters below his last stance. This explains why a long leader fall was taken. The actual location of his last anchor position is unknown so it cannot be determined with absolute certainty why his rock protection failed.

The most probable scenario is that the cam and stopper were in the same crack and that the cam levered the flake apart, releasing both pieces of rock