made in the Jet Ranger. Rangers Robinson and Buchanan were aboard. The South Face had cleared considerably and was checked closely from 12,000 to 17,000 feet. Parts of the South Buttress and the Cassin Ridge were also checked. The Harvard-Brown Expedition was easily spotted at 11,500 feet on the Cassin. During the two-hour flight, no sign of the missing climbers was found.

The weather was bad on July 22 and did not improve again until the afternoon of July 23. Robinson made a two-hour flight with Kimball Forrest of K-2 Aviation. They checked the South Face routes closely from 16,000 to 19,000 feet. Around the same time, an OAS Cessna 402 piloted by NPS pilot Roy Sanborn flew over the mountain. Buchanan was on board as an observer. The 402 covered the upper mountain extensively from 15,000 feet up. Neither flight found any sign of the KCC expedition. Robinson observed and contacted the Havard/Brown Expedition on the Cassin Ridge; they had not seen the missing party.

The weather deteriorated late that afternoon preventing Robinson from covering the upper 1,000 feet of the South Face. The weather did not improve until the morning of July 26. Buchanan made a flight with Forrest of K-2 Aviation to cover the upper mountain more carefully in a Cessna 185. The South Face and South Buttress were covered extensively from 11,000 feet up except for a cloud layer that hung on the face between 16,000 and 17,000 feet. A search flight was made out the east fork of the Kahiltna Glacier. There was no sign of the missing climbers. Flight time was three and a half hours.

The NPS contract helicopter had returned to Talkeetna and was waiting to go back up for the search. Buchanan left with the helicopter in midafternoon. An extensive search was made from 11,000–20,000 feet except for a cloud layer between 16,000 and 17,000 feet. It was a very good day otherwise and nothing was found. The Harvard-Brown Expedition was observed easily during both flights on July 26. The camp at the junction was removed by Buchanan and turned over to the coroner in Healy. After the flight, search efforts for the missing climbers were terminated.

During all the flights, extensive avalanche activity was observed all over the mountain. The east fork can be a very dangerous glacier with the possibility of large avalanches that can sweep across the entire glacier. The base camp for the American Direct route is in a basin at 11,000–12,000 feet and is in a very hazardous location directly under the South Face. Exposure to avalanches is very high in that location. (Source: Dave Buchanan, Park Ranger, Denali National Park)

Analysis

Ranger Buchanan felt that the chances of the KCC expedition getting very high on the route were slim. They were last observed at least a day below the start before the weather turned bad. Avalanche danger was obviously very high, and continuing storm and avalanche activity would have hidden any trace of the expedition had they been buried earlier.

This accident points out the expenditure of hours and dollars required for a search effort in this area. Added to the Waterman search effort, the total time in searches alone for 1981 exceeds previous years. (Source: J. Williamson)

ALTITUDE SICKNESS, BAD WEATHER, AVALANCHE Alaska, Mount McKinley

On July 19, three members of the four-man Spanish Volaska expedition to the West Buttress of Mount McKinley were descending from the 16,000-foot camp because Gomis Zara-

goza had developed symptoms of altitude illness. Approximately six feet of light snow had been deposited on the steep slope below the camp during a storm on the previous two days. Near the base of the fixed lines at 15,500 feet, the slope in front of the lead man, Zaragoza, avalanched. Zaragoza was unable to stop and pulled the other two members into the avalanche. They stopped approximately 600 feet down the slope and all were half buried in the light snow. The only member with significant injuries was Juan Hoyos (25) who believes he was struck in the face and groin with his ax which was clipped to his body. He sustained lacerations on the left side of his face and a puncture wound in the groin.

The group descended to the 14,000-foot camp where they met an expedition from the US Army. A doctor with that team used 15 stitches to close the wounds on Hoyos' face. He was unable to descend to base camp under his own power and was flown off the mountain on July 21. (Source: David Buchanan, Park Ranger, Denali National Park)

Analysis

We do not know how experienced this group was, but again we see foreign climbers with altitude adjustment problems. In this case, the problem was compounded by an avalanche catching the weakened member of the team.

In general, this was not a good year for foreign climbers on Mount McKinley. (Source: J. Williamson)

STRANDED, BAD WEATHER California, Yosemite Valley

On February 8, 1981, Dan Abend stopped SAR Ranger Bruce McKeeman about 8:30 a.m. in Lower Pines Campground and reported that two of his friends were climbing the South Face of Washington Column. Abend wanted to know what the weather forecast was and what to do about his friends since he did not think they were prepared for snow. McKeeman told Abend that the forecast was for four days of rain and/snow with the snow line at 6,000 feet and that if his friends were not prepared for snow, he should yell up to them and tell them to rappel off the route. Abend said that he would do that. At approximately 4:15 p.m., Abend came into the Valley Ranger Office and reported that his friends were not down from the climb. Rangers Jim Martin and McKeeman interviewed Abend and learned the following: On February 7, Abend had hiked up the Snow Creek Trail but could not get to the top of Washington Column because of deep snow. On February 8 at 10:30 a.m., Abend saw his partners Tucker Tech (22) and David Hirsch (21) three pitches from the top of the climb and yelled up to them that they should rappel off the climb because of the weather and that they could not get down by the Snow Creek Trail because of the deep snow. Tech and Hirsch yelled back that they were going to finish the climb. Abend told the rangers that Tech and Hirsch had down jackets, wool sweaters, one rain coat, three hammocks, one rain fly, canvas pants, tennis shoes, climbing shoes, down sleeping bags, and one head lamp. Abend said that they did not have a stove or matches. Abend also stated that they did not discuss their plans for a descent route. Martin and McKeeman told Abend to give the climbers some time to get down and to let them know if they returned. The rangers also told Abend to contact them on February 9 at noon. It was decided to give Tech and Hirsch all day on February 9 to return from the climb, unless reports were received of cries for help. On the 9th, McKeeman checked the climbing route and North Dome gully with binoculars with negative results. In the evening, the rangers decided to start a search effort at first light on