

Avalanche Accident on Mt Hood, Oregon, 5/31/1998



(Much of this data derived from a personal account of the rescue by Glenn Kessler, USDA-Forest Service Wilderness/Climbing Ranger)

Preliminary information regarding the Mt Hood, Oregon Avalanche Fatality:

Date: Sunday morning, ~10:25 PDT 5/31/1998

Location: slab fracture occurred ~200 vertical feet below the westernmost summit ridge at 10,800 ft.; climbers caught about 100 vertical feet below

Type: SS-A0-3, 300 feet wide, 2 ft average slab depth-crown fracture varies from 1-5 ft.; SE exposure; slide ran from approximately 10,800 ft. level to 9,550 ft. level (1250 ft. vertical); slope angle at fracture line ~35-40 with the climbers on ~25-30 slope at the time of slide release.

Accident Description: A group of 10 climbers (Mazama basic climb school) was ascending the West Crater Rim Route on the south side of Mt Hood (an alternate to the standard south or hogsback route) on the way to the summit mid-morning Sunday, May 31st, when either warming, melt or weakening of recent snow combined with the weight of the climbers to produce a relatively large slab avalanche. Intermittently wet weather with generally lowering freezing levels had been received during much of the preceding week, and this had produced an estimated 1-2 feet of new snow at higher elevations on Mt Hood, with the bulk of new snow falling at relatively low snow levels (~6-7000 feet) on Friday. While some showers occurred in the area Saturday morning, partial clearing Saturday afternoon was followed by further clearing late Saturday. This allowed late afternoon sun and rising freezing levels late Saturday to produce surface snow melt of the upper 1-2 inches of snow. This was followed by clearing skies and radiational cooling of the previously melted snow overnight, which helped form a briefly stabilizing 1-2 inch thick surface crust over much of the recent new snow. At the time of the accident Sunday morning, the weather was fair and both the air and snow were warming rapidly, with a freezing level around 10,000 feet (Salem in Oregon reported a 9993 ft freezing level Saturday afternoon, an 11,451 ft freezing level early Sunday morning and a 12,125 ft freezing level later that afternoon). Earlier climbing parties (leaving Timberline around midnight) had apparently summited Hood while climbing predominantly on this firm crust. However by mid morning the crust had deteriorated significantly, with some climbing parties reporting postholing through the recently received snow to an old crust, with the recent snow probably containing some weak layers near the old snow surface. The main climbing party involved in the accident consisted of three roped teams of three, who were being assisted by an unroped leader who was apparently traversing between the groups to lend assistance. Suddenly a loud crack was heard and the slab slide (approximately 2 feet average depth by 300 feet wide) overwhelmed the lead rope team and the climb leader, sweeping them downslope (the two trailing rope teams were not involved in the slide, but were left above a steep slope near Hawkins Cliff). The crown of the slab lay approximately 100 feet vertical above the highest rope team at the time the slide was triggered. Although the leader lost his ice axe he was able to fight the slide and come to rest before being swept over a steep (~45-50) breakover in the slope. The rope team, however, was swept over the steep breakover, through the Hot Rocks area and downslope through the gully between Crater Rock and Hawkins Cliff/Castle Crags a considerable distance. Having been carried down from 10,700 ft., two of the rope team came to rest and were partially buried at ~9,850 ft. (rope still attached between them), with the third member completely buried at ~9,650 ft.

(the rope having been severed). The leader of the group descended the slide path looking for the rope team. He found one person buried to his waist and another mostly buried with only her head and arms above the snow surface. He partly extricated these two stunned victims and then proceeded downslope to look for the other victim.

Meanwhile, several other climbing parties had witnessed the accident. Witnesses on the south side Hogsback alerted a US Forest Service climbing ranger on patrol who was a few (~50 ft.) feet below them and climbing with a member of Portland Mountain Rescue-who was also a former climbing ranger. The ranger and Mountain Rescue member organized a 4-person hasty team which included themselves. They recruited volunteers among the climbers on the Hogsback to assist with communication and other aspects of the Search and Rescue event. The rescue team then traversed across the Hot Rocks area to the slide path and then descended the path into the debris, performing a quick visual and beacon/transceiver search. Having marked scattered gear along the slide path, the rescue team came upon the two partially buried victims (who had been found earlier by the climb leader).

Two of the rescuers proceeded to further extricate and stabilize these injured climbers, while the other two rescuers continued down toward the toe of the slide performing a further hasty search for visual clues. Because the partly buried victims reported that none of the team members were wearing transceivers and no signal was detected, probe lines were organized. About ten other climbers were at the scene when the two rescuers arrived near the toe of the slide. These individuals were haphazardly probing the relatively large debris area with ski poles. In this area the slope angle was now ~25 and the slide had narrowed to about 60 feet; associated avalanche debris spread over an area that measured about 60 ft. wide by 500 ft. upslope distance, and ranged up to 8+ ft deep at its deepest point near the toe. The rescue team leader organized the volunteer searchers into two probe teams, one working a line up from the toe of the slide and the other working a line about 250 feet above them. Because a trail of blood was faintly evident on the right side (climber's right) of the debris path the teams were instructed to work this side of the debris. Members of Portland Mountain Rescue who were on Ready Team patrol were dispatched and arrived within minutes to assist search and rescue efforts. As more volunteers arrived on the scene, they were added to the probe lines. Permission having been granted to bring motorized transport into designated Wilderness, two Timberline Ski Area snow cats were dispatched to haul up additional search gear, personnel, and an avalanche dog and handler. The probe lines continued to move up the slope as the dog arrived and began to work the debris area without luck. Close to the area of the largest debris buildup, on the right side of slide path, the lower probe line called a strike. Upon digging down some 4½ feet at the strike location the third victim was found lying face down oriented with his head upslope. This victim was uncovered about 1½ hours after burial. He was not breathing and had no pulse. It was readily apparent that death resulted not from suffocation but from significant injuries suffered in the fall.

Of the two partially buried climbers, the more seriously injured victim suffered a fractured pelvis, a fractured tibia/fibula and an assortment of severe internal injuries. The other injured rope team member suffered a fractured ankle and facial lacerations. Having been stabilized at the scene, both injured climbers were transported by snow cat to Timberline Lodge and then onto a Portland hospital, the more seriously injured being transported by Life Flight and the other by ambulance. The team leader suffered a sprained ankle and he descended on foot with the remaining 6 members of his team, who had, with some assistance, slowly descended from their position on a portion of the slope that had not avalanched.

Another party consisting of two small rope teams and two unroped members was only 100-150 feet ahead of the rope team caught in the slide when the avalanche occurred. This group was directly along the right flank (climber's right) of the slide and just beyond the fracture, except for one roped member who was knocked down and carried ~100 ft slope distance before his fall was stopped by the self arrest action of another team member. After this mishap, this entire party continued up to the summit unaware of the larger accident and the fatal nature of the slide they had narrowly escaped.

During the rescue and recovery, further daytime heating and strong late spring sunshine combined with the recent snow to produce other natural avalanches around Mt Hood, fortunately none of these in the vicinity of the rescuers.

Posted in the Forest Service Climbers' Register at Timberline Lodge was a sign stating "HIGH AVALANCHE HAZARD! on the upper mountain" which was updated Saturday, May 30 at 8PM, only hours before the parties involved in the avalanche set out. The time and date of the update were printed on the posting. Both parties involved in the slide had signed in and obtained Wilderness permits at the Climbers' Register in the early morning hours on Sunday. Two separate snowpits dug at 5 PM on May 30 both produced easy shovel shear results of a 2-foot cohesive new snow layer which sat atop a hard older crust. These tests were performed on a 30 degree slope of SE aspect at 10,100 ft.

Comments: It is interesting to note that despite the previous week's weather, besides the Forest Service climbing ranger's team, most of the other climbing parties encountered on the mountain at the time of the accident were not carrying avalanche beacons. Although several climbers owned beacons, they had left them in their vehicles near Timberline.

As this was the first clear weekend day in some time on Mt Hood, approximately 100-120 climbers had signed up to climb the mountain. Some of these climbers who were later interviewed remarked about how beautiful the day was, and about the fact that they hadn't really considered avalanches to be a problem-after all it was late in the season and it was such a beautiful day. Such remarks seem to emerge as part of a general theme of common mistakes when considering late season avalanche accidents ...i.e., a part of the theme that "avalanches don't happen on beautiful days". Unfortunately, minds seem to wander in May and June and often tend not to include-or at least to minimize- avalanche danger as part of the mix of reality that should be considered. In fact, presumably for these and other reasons, a secondary maximum in monthly Northwest avalanche fatalities occurs in May-a maximum not too far removed from the mid-winter Northwest maximums of January and February.

Photo: The photo below is courtesy KGW-Television in Portland, Oregon, and was available from the [KGW-TV Sky Cam](#) at Timberline Lodge on Mt Hood. This particular picture was zoomed in on the mountain after the event-and was taken Monday morning, about 24 hours after the event. The large fracture appearing crack in the right middle of the picture is the Hogsback bergschrund (crack produced when a moving mass of snow slides away from an anchored part of the snowpack) which cuts across the shallow snow ridge above the saddle near Crater Rock. Another smaller bergschrund also appears near the upper middle of the photo-uphill and just left of the lower and larger schrund. The actual avalanche for this incident appears as a long crack in the upper left of the photo, cutting across the top of Crater Rock, the large protruding rock (~800 ft high) in the left foreground; the deepest part of the fracture lies just below the rocks where the fracture line begins to extend downhill to the left.

