

Short Summary of Northwest Avalanche Accidents—1998-99

Summary prepared by Northwest Weather and Avalanche Center

Accident 1/18/1999

Accident--Snowboarder triggered avalanche near Mt Baker, WA; 1 caught and buried--still missing and presumed dead

Accident date: 1/18/99

Location: Mt Baker Wilderness, just east of Mt Baker Ski area on Shuksan Arm (just below area that more recent accident occurred on 2/14/99)

Elevation and aspect: 4700 ft (1737m), E aspect; vertical fall ~2-300 ft

Size: SS-AR-R2 (snowboarder)

Weather: Heavy snow, strong winds, very poor visibility

Preliminary Accident Narrative:

Snowboarder went under ropes marking ski area boundary and presumably boarded off relatively small but steep (~35-45 degrees) east facing roll that feeds into a large gully. This gully (Rumble Gully) acts as a funnel for larger slides that normally release from a much larger N-NE facing bowl about 800 vertical above, and it also marks a lower bench area that accumulates significant debris. The boarder presumably released a 1-2 ft wind slab that swept him into the lower bench and gully induced terrain trap about 2-300 ft vertical below, apparently burying him quite deeply. When friends of the snowboarder reported him overdue at base, the ski patrol was dispatched. Upon arrival, the patrol saw faint evidence of a slab release when arriving near scene, although there were sketchy reports about exactly where the snowboarder left the ski area boundary. Strong winds, heavy snow and poor visibility hampered both the search and any visual evidence about the extent or size of the avalanche. Additionally, the gully and likely burial area posed an extreme and unacceptable high danger to would-be rescuers, as it was threatened by a possible release of very large avalanches from the highly unstable and steep ridgeline above. Upon conducting avalanche control of the nearby area, a much larger slide (approximately 8-10 ft fracture) released and re-covered the likely burial area with a very deep deposit. Subsequent probing failed to locate the apparent victim, and the search was called off after continuing heavy snowfall and strong winds created an increasing danger for rescuers. Later efforts with dog teams also failed to locate the apparent victim.

Ancillary information--NW Weather and Avalanche Center had issued an avalanche warning for high danger for the Washington Cascades above 4000 feet on Monday, 1/18/99, due to a combination of heavy snowfall and high winds, and singled out northeast exposure slopes.

Accident 1/29/1999

Accident: Snowboarder triggered slab slide near Spout Springs Ski Area in the Blue Mountain of Oregon; 1 snowboarder caught, buried, killed

Accident date: 1/29/99

Location: Near the Spout Springs Ski Area, east-northeast of Tollgate, OR in the Blue Mountains. Approximately 5000 ft elevation.

Awaiting a more detailed report from the Umatilla National Forest, but appears that victim triggered a slab that buried him about 3 feet deep.

Ancillary information: NWAC does not specifically forecast for this mountain range, but had issued an avalanche warning for the Washington Cascades, Olympics and Mt Hood area for high danger above 4000 feet and considerable below on Thursday, 1/28/99, and reissued the warning for high danger at all elevations in the Washington Cascades and Olympics on Friday, the 29th.

Accident 2/14/99 --[more detailed summary available](#)

Accident: 1 snowboarder caught, buried, killed; 1 skier caught, buried--still missing and presumed dead

Accident date: 2/14/99

Location: Mt Baker Wilderness, just east of Mt Baker Ski area on Shuksan Arm (just above the accident that occurred on 1/18/99)

Elevation and aspect: 5300 ft (1615m), N-NE aspect; vertical fall ~1500 ft (457m)

Size: SS-N-4 (previous skiers or snowboarders may have caused beginning of shear failure to old crust, unclear whether there were other skiers/boarders near the crown at the time of failure, but appears unlikely; cornice collapse could have contributed to or initiated release)

Weather: Partly cloudy

Preliminary Accident Narrative:

The day of the accident appears to have been the first time that the slope on which the avalanche released had been skied or boarded for a week or more--this was due to the consistent series of storms that had buffeted the area and the associated heavy snowfall, strong winds and poor visibility. The slope which released was a convex roll that wrapped around a cliff band and vertical rib about 100 yards beyond the developed area and into the Mt Baker Wilderness. Slope angles near the fracture line were estimated in the 30-45+ degree range, depending on the exact location of measurement, with the size of the slab dimensions about 12-14 ft deep X 450 ft wide X 150-200 ft vertical, with this initial slab triggering multiple secondary releases of 1-4 feet or more. Weight of the initial slab release were estimated as containing 1-3000+ tons of snow, with significantly more snow entrained by both the initial slide and the numerous secondary releases. The class 4 avalanche (US classification, Size 4 in the Canadian size scale) descended about 1800 ft (549m) vertical, overrunning several lower benches, depositing large amounts of debris in both bench areas (estimated at 10-20 feet+ for over 100 yards), and destroying several trees adjacent to the lower bench. Wind blast from the slide also was reported as knocking over several skiers who witnessed the event from a knob just above the lower bench/gully area. From piecing together eyewitness reports, it appears that the snowboarder was in the process of traversing across the path runout just below the cliff band when the slab released. He apparently tried to outrace the slide but was caught within the upper bench area and his last seen area was marked and provided the information necessary to begin and execute a probe line--which subsequently located the victim in a vertical head-up position about 9 feet under the surface. Meanwhile, the avalanche continued over a breakover below the upper bench, triggering further releases and flowing on toward the lower bench and gully. Two skiers who were on a knob to the skier's right of the lower bench apparently saw the slide and attempted

to ski out of the way. Unfortunately, the skiers chose different directions for safety and only one was able to escape the oncoming slide. The other skier was caught, and buried, with a ski, hat and glasses blown high onto the flank of the gully and left as the only visible clues once the avalanche came to rest lower in the gully adjacent to the base of the Shuksan Arm Chair #8.

This slide probably released on a hard rain crust which was formed following heavy rain in late December and subsequent cooling in early January. While most recent avalanche activity had generally involved only the most recently deposited snow, two other isolated but very large slides were reported during the previous week or two at locations well removed from the Mt Baker ski area (Crystal Mountain and Snoqualmie Pass). Also, despite the insulating effect of very large amounts of recent snow (from 2-350+ inches of snow during the previous month throughout the Cascades), there had been reports of poor attachment of the very large amounts of new snow to the crust as well as some faceting of the snow just above the crust--which generally was reported as buried under 6-15 feet of new snow, depending on location.

Ancillary information--Prior to the accident NWAC forecasts indicated a considerable avalanche danger above 5000 feet, and had singled out northeast through northwest facing slopes on the northern volcanoes (including Mt Baker) as having larger and more unstable wind slabs due to heavier recent snowfall and strong winds.