

## **East Peak/Ted's Buttress Avalanche Incident, 1-16-2009**

Near Crystal Mountain Ski Area, Washington

Prepared by Mark Moore, Northwest Weather and Avalanche Center in conjunction with field report and victim interview from Chet Mowbray, Crystal Mountain Professional Ski Patrol

**Date & Time**—1/16/2000, ~1200 PM PST

**Location**—Ted's Buttress, on the ridge just east of the base of the Crystal Mt Ski Area (outside of the resort boundary)

**Weather**—Cloudy, Very windy—S-SW wind, 40-60 mph, Temp ~31 deg F

**Number in party**—1; 1 caught, injured and partly buried

**Type of Activity**—ski

**Type and Size of slide**—N-HS-R3, releasing from a vertical rib which was cross loaded by the wind

**Other slide parameters:** N-NW aspect; estimated slope angle=35-40 deg; slab about 2-3 ft deep X 300 ft wide; ~6350 ft starting elevation; vertical fall ~1,400 ft; victim caught on approximately 33-34 degree slope at about the 5200 ft level; once caught he was carried about 300 vertical through broken timber

### **Preliminary Accident Summary--**

The following summary was prepared after a victim interview, and subsequent reconstruction of the avalanche incident by Chet Mowbray and Mark Moore.

On Saturday, January 15, 2000, the victim set off up toward East Peak (to the east of the base of the Crystal Mountain ski area) for an overnight solo ski tour. Although the weather on Saturday was reasonable (relatively light winds in the AM followed by gradually increasing ridgetop winds in the afternoon with temperatures in the upper teens to low 20's), and promised good touring, the weather definitely deteriorated significantly Saturday night along with a significant increase in the avalanche danger (see the summary of NWAC forecasts issued below).

After digging a snow cave at approximately 6300 ft, the victim took one run on his alpine gear and then toured back to camp. Later in the evening it began snowing increasingly heavy at times with winds averaging nearly 30 during the early morning hours. During the interview the victim mentioned that the entrance to his snow cave had filled with snow several times during the night.

Around 1000 AM PST, Sunday the 16<sup>th</sup>, the victim skinned up approximately 300 ft vertical above his camp and skied down about 1400 ft vertical to an old ski run named Ted's. At this point, the victim donned skins and began his ascent back toward his snow cave. Around noon and nearing the peak of the storm, with winds averaging 40-45 mph and gusts spiking between 70 and 100 mph at the nearby ski area, the victim was probably between 5200 and 5300 ft elevation when he looked upslope and saw a wall of snow coming toward him. The victim reported that upon being hit, he was under the snow for some time as he was swept through some spruce timber which he struck several times. These tree encounters may have held him up enough for the main body of the slide to pass by, hence keeping him above the main and deeper deposition zone. During

the slide and possibly as he was being swept through the spruce band, the victim sustained significant damage to his left leg. He tried crawling out but eventually resorted to yelling for help. Around 2 PM, a ski area employee near the employee housing area heard the yells for help, and hiked up toward the source of the yells and the victim. Upon arrival, the employee tried to carry the victim for a ways, but finally ended up dragging him almost to the Gold Hills summer road at about the 4500 ft level.

About this same time the ski patrol was notified of the incident and a patroller was dispatched with a snow cat and snowmobile. The patroller arrived on the scene at approximately 3:15 PM and proceeded to stabilize the victim's leg and treat him for mild hypothermia. He was then loaded into the snow cat and transported to the ski area base and patrol first aid room. Despite mild hypothermia and a doctor's diagnosis of significant ligament and cartilage damage around his left knee, the victim should consider himself lucky. The slide was a 2-3 ft fracture and ran almost 1400 ft vertically, depositing a considerable amount of debris in the runout with 2 to 3 ft blocks still much in evidence.

During the post incident interview, the victim stated that he had been caught in a slide the previous winter in the Mt Baker area, during which he lost much of his equipment. He indicated that he was more cautious now in his route selection, and felt that the slope he was on was stable, not considering the slope that lay above him. At the time of the accident, the victim had left all of his gear in his snow cave (including a shovel). It is currently unknown if he had an avalanche transceiver. However considering the fact that he was traveling alone, this point may be moot.

### **Ancillary Snow, Weather and Avalanche Information:**

Increasingly strong winds were in evidence throughout the nearby ski area from early morning up through the time of the incident. Mountain top winds measured near the top of the Rainier Express Chair (at about the 6800 ft level) increased from around 20-30 with gusts to 40 at 6 AM to approximately 30-50 mph average and gusts to over 70 around mid-day. Wind gusts over 100 mph were also recorded at the breakover tower on the Rainier Express chair around mid-day. At the top of the nearby White Pass ski area, wind gusts of over 110 mph were recorded between noon and 2 PM.

Temperatures were also rising during the morning and early afternoon, increasing from 26 deg F at 6 AM PST near the base of the nearby ski area to 31 deg F at 1 PM PST.

In response to these weather conditions, the Northwest Weather and Avalanche Center had issued an Avalanche Warning for an increase in the avalanche danger Sunday, with the back country danger becoming high above 4000 feet and considerable below Sunday afternoon and evening--outside of developed ski areas and highways. Such a trend for increasing danger Sunday was also indicated in the avalanche danger forecast issued on Saturday, which mentioned an increasing likelihood of both natural and human triggered slide releases--especially on northwest through northeast exposures.