

## Twin Lakes Avalanche Accident, Twin Lakes, WA—01-29-2001

Two snowshoers caught, one partially buried, one completely buried, one killed; one buried and presumed dead

Accident and Rescue narrative by Joanne Stanford, Stevens Pass Ski Patrol, Stevens Pass, WA and Mike Stanford, WSDOT Avalanche Control, Stevens Pass, WA

**Accident Summary--**

The avalanche was classified as a **SS-AO-2F** (US Classification), Soft slab, released by snowshoer, size 2 (or perhaps 3, relative to the path) flowing avalanche, approximately 16-18 inches (.5 m) deep X 6-8 ft wide spreading out as it moved downhill and into the gully. Slope aspect was westerly, elevation ~3000 ft (915 m), with slope angle at the fracture line of about 40°. Vertical fall of the slide was approximately 50-60 ft (about 80-90 ft slope distance), ending in a significant terrain trap in the creek at the bottom.

In the International Avalanche Classification, this slide would be classed as a:

**Zone of Origin--**A3-B2-C1 (Soft slab, new snow fracture, dry snow avalanche)

**Zone of Transition--**D2-E2 (Channeled avalanche, flowing along the ground)

**Zone of Deposition--**Unknown at this time, however the debris was reported as generally coarse and dry at the time of deposition

**Day 1**

Monday, January 29, 2001

After leaving the Tall Timber Trailhead (just north of the Napeequa Crossing Campground on White River Road northwest of Lake Wenatchee) and snowshoeing up the Napeequa River Trail to the northeast of the road junction, two snowshoers, Seneca and Jay, arrived at the upper Twin Lake (see aerial photo—Figure 1 below) at approx. 1445/1500, along with their three dogs. One dog belonged to Seneca and the other two were Jay's (Katie & Collier). On the way to the lake it was snowing lightly, temperatures were relatively cold and winds mostly light. They stayed for just a few minutes and then turned around and started out at approximately 1515 hours. As they left the upper lake their route took them under a west facing cliff band with an open creek at the bottom of a ravine at about the 3000 ft (915 m) level. See Figures 2 and 3 for the cliff band and the short steep slope that lay just below the cliff.



**Figure 1. Aerial photo showing location of the accident. Lake Wenatchee lies about 5 miles to the south-southeast of the lower Twin Lake.**



**Figure 2. Photo of the short but steep slope that was traversed and subsequently released.**



**Figure 3. West facing cliff band that was probably cross loaded by the increasing winds.**

At this time the wind and temperature had increased and there was an increase in blowing snow. Reports from the nearby Tall Timber Ranch indicated that the temperature had increased from the teens to about 30° F in an hour and a half around the time of the accident (see the hourly weather data from nearby Stevens Pass below). During the traverse down and across the ravine, the snowshoers triggered a small slide (see Figure 4 below) that caught both of them and swept them down toward the creek—see Figures 4 and 5 below for the terrain trap that lay below the relatively small slope. Seneca stated that Jay was 20' to 25' in front of her and described the slide as approximately 75' to 100' wide, splitting and flowing around "brush". Seneca's head stayed above the slide. Her pole straps were on and she tried to "pole her way out of the slide". Her left leg was stuck more than her right and ultimately she was buried up to her waist. While she was digging herself out she was yelling for Jay but got no answer. Her dog and Katie were on top the snow and "freaked out". However, there was no sign of Jay or Collier. Seneca probed with her ski pole for approx. 10 minutes, but during this time she heard "whumping sounds" and noticed that the wind was increasing.



**Figure 4. Photo of the fracture line and crown face taken after rescuers arrived at the scene.**



**Figure 5. The creek and terrain trap below the steep slope.**

As a result she decided to leave for her own safety and try to get help. She crossed over to the other side of the creek and traversed out to the Napeequa River trail. She reported the accident to Stan Fishburn at Tall Timber Ranch and they called 911 at 1830 hours. Because it was dark, the avalanche danger was still perceived as high, and Jay's potential for survival was decreasing every minute the sheriff decided to wait until morning to search. At this time there were stars visible and very little wind.

### Day 2

Tuesday, January 30, 2001

The rescue group met at Tall Timber at 0700 hours.

Eight college students from Whitworth College in Spokane had been at Tall Timber for 3 weeks participating in a backcountry awareness course taught by Stan Fishburn, director of Tall Timbers Ranch. I had made previous arrangements to meet with the students at 0900 for 3 hours. On this last day of their program, they wanted to watch my avalanche dog Denali work and I was going to spend some time with them on beacon searches.

At approx. 0900, Mike Stanford (an avalanche control team member from WSDOT at Stevens Pass and the avalanche rescue advisor) and Matt Fields (Chelan County Deputy Sheriff) decided to send in an initial party of four. Stan Fishburn was very familiar with the area so he was appointed as the team leader. One of the college students, Dusty and two other rescuers journeyed into the site on snowshoes. When they arrived at what they thought was the location, they reported that most of the recent snowfall had sluffed off and felt fairly confident that it was safe for more searchers to come and assist with the rescue operation.

At 12:50 my avalanche dog Denali, four more college students and I started in to the accident location. We arrived at approx. 1445. In the meantime the initial party had been probing what they presumed was the slide debris below the cliff band.

I had Denali sit and rest and then started her search. For an hour we searched around most likely burial spots, the trees and the creek bed. During this time Seneca's statement about the brush kept going through my head. Where we were initially, there was a leafless tree in the middle of the slope and two firs on either side but no brush. Then I looked down the creek and

saw brush. As a result one searcher and I moved to that area.

Denali and I took one more break. I fed her some food and she drank some water. I then started her search again. At approx. 1600 Denali alerted next to a large boulder. I called for another shovel and probe and I also started to dig. We uncovered a ski pole 1 ½' deep. I radioed Search Base (that had been established at Tall Timbers Ranch) that we found a pole. After hearing the description of the pole we were informed that it was Seneca's pole.

Upon this site confirmation, we moved the remaining searchers down to that area. Search Base had earlier advised us to come out at 1600 hours. We requested that we be allowed to stay longer and Search Base then advised us to come out at 1700, in order to avoid crossing potentially unstable avalanche terrain in the dark.



**Figure 6. Rescuers searching for surface clues and probing most likely burial areas.**

The searchers probed around likely spots while Denali continued to search around the alders and other likely burial spots. As we moved down the creek she alerted (not a strong alert, but an alert none the less) next to an alder over the creek bed. I dug down approximately 2 feet, put her back in the hole and she once again started to dig up the creek. We pulled her out and continued to dig. By now the time was 1740 hours, the wind was increasing and tree bombs were dropping.

We decided to leave at that time. We marked the site of the ski pole and the hole that Denali alerted on with surveyors tape, and came out safely in the dark.

### **Day 3**

Wednesday, January 31, 2001

I wasn't physically able to return to the site the next day so I called Larry Goldie (another professional patroller from Stevens Pass Ski Area) and his search dog Scooby to come down from Stevens Pass, about an hour and a half away. We had a briefing at 0630 at Tall Timber, and then fifteen searchers including Larry and Scooby were on the trail at 0730.

As they journeyed toward the site Larry and three others moved out ahead of the rest, as they wanted to get Scooby in first to search without additional contamination in the area. They arrived on scene about 10 minutes ahead of the rest of the group. Larry said Scooby wasn't her normal excited self. He used every trick he could to get her excited but she didn't appear to be interested. However, she did alert on the same hole that Denali alerted on the day before.

After Scooby searched for approx. ½ hour the rest of searchers arrived on scene and formed a probe line under the direction of the accident site commander Tim (Chelan County sheriff's deputy). Fifteen searches then formed a probe line and began to fine probe perpendicular to the creek bed, the upper end of the probe line starting where the ski pole had been found. At 1050 after 5 probe steps one of the probers reported a strike and Jay was subsequently found.

He was 8' down creek from the recovered ski pole and approximately 4' deep. He had his right arm over his face to form an air pocket and was dug out directly over running water. After subsequently discussing the position of the victim, Larry and I decided that both dogs did get Jay's scent but it was traveling down the creek and coming up next to the alder.

The accident site was a west facing slope, elevation approx. 3200 ft (975 m).. The slope angle was approx. 40°. Around the time of the accident the temperature rose rapidly Monday afternoon when the front passed through and winds were shifting (from east to west). At Tall Timber Ranch the temperature was reported as rising from the teens to 30° in under two hours. The winds at the 5000 ft level at nearby Stevens Pass were gusting up to 60 mph Monday afternoon (see the attached hourly weather data from the ski area automated weather site). The deepest part of the crown was approx. 6' to 8' wide and 16 to 18" deep, spreading out somewhat as it moved downhill. The path was approx. 20' to 25' wide and 80' to 90' long, all in all a relatively small but dangerous slide, especially considering the terrain trap and the creek. The slab was apparently formed from a combination of increasing winds and rising temperatures, with surface hoar as the weak layer and an old ice crust as the sliding surface.

### **Ancillary Weather and Avalanche Information—**

Data compiled by Mark Moore, Northwest Weather and Avalanche Center

#### **Automated Weather Data**

Tumwater Mountain weather station lies about 20 miles south-southeast of the accident site—note that the precipitation gage was not heating, but both the snowdepth, winds and temperatures were all peaking or had just peaked around the time of the incident.

Tumwater Mt. (Leavenworth), Wash.      01/29/01      2300 PST

Precipitation gage not heating

DATE	TIME	BATT	TEMP	WINDSPEED (MPH)			WDIR	PREC	PREC	SNOW
	(PST)	(V)	DegF	MIN	AVG	MAX	AVG	(1HR)	ACCUM	DEPTH
			4280	4280	4280	4280	4280	4280	4280	(In.)

01/29	2300	12.8	28	1	6	20	340	0.00	0.04	19
01/29	2200	12.9	26	0	2	6	41	0.00	0.04	20
01/29	2100	13.0	27	0	3	12	326	0.00	0.04	20
01/29	2000	13.0	26	0	4	13	24	0.00	0.04	20
01/29	1900	13.1	27	0	4	16	23	0.00	0.04	20
01/29	1800	13.3	27	0	9	26	325	0.00	0.04	20
01/29	1700	13.4	27	0	6	30	338	0.00	0.04	20
01/29	1600	13.5	26	0	13	27	300	0.00	0.04	20
01/29	1500	13.5	27	4	11	26	294	0.00	0.04	20
01/29	1400	13.7	26	0	9	25	303	0.03	0.04	18
01/29	1300	13.6	28	3	13	28	292	0.01	0.01	16
01/29	1200	13.6	25	0	5	15	122	0.00	0.00	20
01/29	1100	13.8	24	0	3	13	240	0.00	0.00	17
01/29	1000	13.0	23	0	5	21	340	0.00	0.00	17
01/29	0900	12.7	16	0	3	8	12	0.00	0.00	13
01/29	0800	12.5	15	0	1	6	41	0.00	0.00	17
01/29	0700	12.5	14	0	2	8	165	0.00	0.00	13
01/29	0600	12.5	14	0	2	6	157	0.00	0.00	17
01/29	0500	12.6	14	0	2	6	144	0.00	0.00	175
01/29	0400	12.6	15	0	0	3	234	0.00	0.00	18
01/29	0300	12.6	15	0	0	1	268	0.00	0.00	17
01/29	0200	12.6	15	0	0	2	258	0.00	0.00	17
01/29	0100	12.7	15	0	0	2	283	0.00	0.00	17
01/29	0000	12.7	15	0	0	1	241	0.00	0.00	17

DATE	TIME	BATT	TEMP	WINDSPEED (MPH)			WDIR	PREC	PREC	SNOW
	(PST)	(V)	DegF	MIN	AVG	MAX	AVG	(1HR)	ACCUM	DEPTH

As evident from the weather data from the two Stevens Pass weather stations below (located about 15 miles to the southwest of Twin Lakes), Cascade pass winds shifted from light easterly to strong westerly around noon or early afternoon. This



brought warm air over the passes from the west and gradually eroded the previously cold air covering much of the Cascade east slopes. As the winds increased in the afternoon, precipitation also increased, and the winds aloft gradually mixed downward, presumably reaching the Twin Lakes area during the early-mid afternoon. This combination of warming, increasing precipitation and strengthening winds changed snowpack stability substantially, as indicated in the avalanche forecast issued both on the day prior to and the day of the accident.

Stevens Pass Ski Area, Wash.												01/29/01		2300 PST	
DATE	TIME	TEMP	TEMP	WIND (MPH)		WDIR	WIND (MPH)		WDIR	PREC	PREC	24HR			
		DegF	DegF	AVG	MAX	AVG	AVG	MAX	AVG	(1HR)	ACCUM	SNOW			
	(PST)	5600	5200	5600	5600	5600	5200	5200	5200	4000	4000	(in.)			
01/29	2300	//.	23	21	18	38	309	12	26	246	0.01	0.55			
01/29	2200	//.	23	21	20	40	297	10	23	246	0.00	0.54			
01/29	2100	//.	22	20	19	37	301	9	24	260	0.00	0.54			
01/29	2000	//.	22	20	23	38	298	12	31	265	0.04	0.54			
01/29	1900	//.	22	21	27	49	298	15	35	263	0.05	0.50			
01/29	1800	//.	22	20	29	57	299	14	35	259	0.01	0.45			
01/29	1700	//.	22	20	40	63	300	24	46	249	0.01	0.44			
01/29	1600	//.	22	20	33	62	299	21	49	255	0.00	0.43			
01/29	1500	//.	22	20	37	60	297	21	45	255	0.03	0.43			
01/29	1400	//.	23	21	27	45	297	13	34	264	0.07	0.40			
01/29	1300	//.	23	21	17	48	312	16	34	248	0.07	0.33			
01/29	1200	//.	24	21	6	18	338	14	30	247	0.03	0.26			
01/29	1100	//.	24	22	2	10	299	12	32	256	0.06	0.23			
01/29	1000	//.	24	22	2	10	298	10	26	270	0.01	0.17			
01/29	0900	//.	23	21	2	7	277	11	34	257	0.00	0.16			
01/29	0800	//.	22	21	3	9	266	8	23	265	0.00	0.16			
01/29	0700	//.	20	21	0	4	243	6	22	271	0.01	0.16			
01/29	0600	//.	22	23	2	7	137	6	22	159	0.05	0.15			
01/29	0500	//.	13	19	5	7	97	12	19	105	0.06	0.10			
01/29	0400	//.	13	17	5	8	99	14	20	96	0.01	0.04			

01/29	0300	//./	13	23	3	6	100	9	15	98	0.00	0.03
01/29	0200	//./	13	22	4	7	101	10	17	94	0.02	0.03
01/29	0100	//./	13	18	5	7	96	13	18	95	0.01	0.01
01/29	0000	//./	13	25	3	5	98	3	13	95	0.00	0.00

DATE	TIME	TEMP	TEMP	WIND (MPH)	WDIR	WIND (MPH)	WDIR	PREC	PREC	24HR
		DegF	DegF	AVG	MAX	AVG	AVG	MAX	AVG	(1HR) ACCUM SNOW

Stevens Pass Highway US-2, Wash.                      01/29/01                      2300 PST

DATE	TIME	BATT	TEMP	PREC	PREC	SNOWDEPTH	
		(V)	DegF	(1HR)	ACCUM	24HR	TOTAL
	(PST)		4000	4000	4000	(in.)	
01/29	2300	13.5	25	0.00	0.64	10	53
01/29	2200	13.5	25	0.00	0.64	9	54
01/29	2100	13.5	26	0.00	0.64	10	53
01/29	2000	13.5	26	0.03	0.64	10	53
01/29	1900	13.5	26	0.07	0.61	46	52
01/29	1800	13.6	25	0.02	0.54	45	51
01/29	1700	13.5	26	0.00	0.52	8	51
01/29	1600	13.5	26	0.01	0.52	8	48
01/29	1500	13.5	27	0.03	0.51	45	52
01/29	1400	13.7	27	0.10	0.48	8	51
01/29	1300	13.7	27	0.07	0.38	5	47
01/29	1200	13.8	28	0.03	0.31	4	47
01/29	1100	13.6	28	0.04	0.28	3	47

01/29	1000	13.5	27	0.03	0.24	3	47
01/29	0900	13.5	20	0.00	0.21	3	46
01/29	0800	13.5	17	0.01	0.21	45	45
01/29	0700	13.5	17	0.00	0.20	3	46
01/29	0600	13.7	17	0.07	0.20	3	46
01/29	0500	13.4	17	0.06	0.13	2	45
01/29	0400	13.8	17	0.02	0.07	1	44
01/29	0300	13.8	16	0.01	0.05	1	44
01/29	0200	13.5	17	0.02	0.04	1	44
01/29	0100	13.5	17	0.02	0.02	1	44
01/29	0000	13.5	16	0.00	0.00	1	44

DATE	TIME	BATT	TEMP	PREC	PREC	SNOWDEPTH
(V)		DegF	(1HR)	ACCUM	24HR	TOTAL

### Avalanche Forecast Information

The following forecast information was issued by the Avalanche Center on Sunday morning, January 28, the day prior to the accident, and described the snowpack layering as a potentially dangerous one:

"As a result, backcountry travelers should use increasing caution in avalanche terrain as

some sensitive and gradually larger slabs of 12 to 18 inches are probable by later Monday".

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BACKCOUNTRY AVALANCHE FORECAST FOR THE OLYMPICS, WASHINGTON CASCADES AND MT HOOD AREA

These forecasts apply to back country avalanche terrain below 7000 feet.

They do not apply to highways or operating ski areas.

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0830 AM PST Sunday, January 28, 2001

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ZONE AVALANCHE FORECASTS. . .

WASHINGTON CASCADES. . .OLYMPICS. . .

Moderate avalanche danger above 5 to 6000 feet and low below slowly increasing mid-late Sunday through early Monday, becoming moderate above 4 to 5000 feet and low below. Further increasing danger likely Monday, becoming considerable above 4000 feet and moderate below.

MT HOOD AREA. . .

Moderate avalanche danger above 6000 feet and low below slowly increasing mid-late Sunday through early Monday, becoming moderate above 4 to 5000 feet and low below. Further increasing danger likely Monday, becoming considerable above 4 to 5000 feet and moderate below.

SNOWPACK ANALYSIS.....

In most areas below 5 to 6000 feet the snowpack consists of generally small amounts of recent mostly lower density light wind deposited snowfall overlying a melt-freeze crust formed last Sunday, with the near surface crust extending up to about 5000 feet in the north Cascades and 7000 feet in the extreme south Cascades and Mt Hood area. Beneath this weakening and relatively thin crust another 4-10 inches of recent snowfall lies over a slightly stronger early January crust, with some other minor crusts interspersed within this relatively recent snowfall. Also a thin and mostly breakable surface crust formed on most sun-exposed slopes Friday and Saturday along with continued development of weak surface hoar in most areas overnight. Although this snowpack structure and the lack of a surface slab are producing a generally low avalanche danger below about 5 to 6000 feet, the low density near surface snow and areas of weak surface hoar are helping maintain a potential for a substantial increase in the danger if higher density slabs are deposited over these surfaces in the future-and this scenario seems increasingly likely during the week ahead. At higher elevations, mainly above 5 to 6000 feet, briefly moderate winds Friday either eroded recent snow down to this crust on wind exposed terrain or created some shallow winds slabs on lee slopes, mainly northwest through southwest exposures. Although the mostly shallow slabs started to settle and stabilize Saturday, stabilization has been less significant on shaded terrain and a moderate danger remains above 5 to 6000 feet. Previous southerly winds may have also created shallow slabs on north and northeast exposures above about 6000 feet.

It should be noted that radiational heat loss from the snow surface during the clear skies and relatively low air temperatures of the past few days and nights have allowed the snowpack to continue to weaken and facet, especially near both last Sunday's and the early January crust. In areas where a very shallow snowcover persists-near exposed ridges and in many areas along the Cascade east slopes, this recent faceting has helped to maintain weak recrystallized snow near the ground along with the potential for slide releases to the ground if future heavy loading occurs. While significant strengthening of the snow in the middle of the pack has occurred in the Olympics and most areas near and west of the Cascade crest and this should prevent slides reaching the still weak and faceted snow near the ground, a significant rain event or very heavy loading may still produce some isolated larger full-depth avalanches that may release to the ground, especially in areas where less mid-pack strengthening exists.

SUNDAY. . .

Considerable areas of low clouds or fog are expected along the Cascade east slopes below about 3000 feet on Sunday. Otherwise variable mid and high clouds in the north and mainly high clouds in the south early Sunday should be followed by increasing clouds and increasing winds mid-late Sunday with light rain or snow expected to spread to most areas Sunday night and early Monday, along with slowly lowering freezing levels. This weather should allow for a further slight decrease in the avalanche danger early Sunday. However, as winds and snowfall increase late Sunday through early Monday, increasingly dense wind slabs are expected to develop over a variety of weak layers or sliding surfaces, including surface hoar, low density snow or one of several sun or melt-freeze crusts. All of this should lead to a general increase in the avalanche danger. Although strong and cool east winds expected near the passes should help develop new wind slabs on west exposures, increasing southwesterly winds at higher elevations should develop new slabs on east and northeast exposures. As a result of these differing winds and a significant temperature inversion near the Cascade passes, rather dramatic changes in the avalanche danger are likely depending on slope elevation and exposure.

MONDAY. . .MONDAY NIGHT. . .

Moderate rain or snow, along with a chance of local freezing rain, should decrease and become more showery mid Monday morning. However, showers should increase and become moderate to heavy mid-day and Monday afternoon, along with strong winds and further lowering freezing levels. This should continue to load a variety of weak layers with increasing density and gradually larger wind slabs, with considerable danger developing above about 4000 feet and increasing wind slabs possible below 4000 feet, especially on southeast through northeast exposures. As a result, backcountry travelers should use increasing caution in avalanche terrain as some sensitive and gradually larger slabs of 12 to 18 inches are probable by later Monday. While briefly decreasing showers are expected late Monday, moderate winds and low freezing levels should help maintain existing moderate to considerable avalanche danger.

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Backcountry travelers should be aware that elevation and geographic distinctions are approximate and a transition zone between dangers exists. Remember there are avalanche safe areas in the mountains during all levels of avalanche danger. Contact local authorities in your area of interest for further information.

NWAC Mountain Weather Forecasts and mountain weather data are also available by visiting our Web site at [www.nwac.noaa.gov](http://www.nwac.noaa.gov).

Moore/Forest Service Northwest Weather and Avalanche Center

**On the day of the accident, the NWAC avalanche forecast for the Cascades continued to indicate an increased avalanche danger and increased potential for slides releasing on previously deposited surface hoar:**

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BACKCOUNTRY AVALANCHE FORECAST FOR THE OLYMPICS, WASHINGTON CASCADES AND MT HOOD AREA

These forecasts apply to back country avalanche terrain below 7000 feet.

They do not apply to highways or operating ski areas.

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9 AM PST Monday 29 January 2001

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ZONE AVALANCHE FORECASTS.....

OLYMPICS. . .WASHINGTON CASCADES. . .

Avalanche danger increasing Monday and becoming considerable above 4000 feet and moderate below. Avalanche danger slightly decreasing Tuesday, becoming considerable above 5000 feet and moderate below.

MT HOOD AREA. . .

Avalanche danger increasing Monday and becoming considerable above 5000 feet and moderate below. Avalanche danger slightly decreasing Tuesday, becoming considerable above 6000 feet and moderate below.

SNOWPACK ANALYSIS....

In the Olympics and west of the Cascade crest, the upper snow pack generally consists of stable firm crusts and softer intermediate layers early Monday. The crusts were formed by rain that fell at warmer temperatures about a week ago and in early January. Newer surface snow at higher elevations in the north Cascades was seen to be eroded away or packed into wind crusts. On some slopes, smooth eroded or icy surfaces may act as smooth sliding surfaces for snow expected Monday. The deeper snowpack has been found to be firm and generally stable. But east of the Cascade crest underlying crust layers have been weakened by cooler temperatures, and may not be stable if loaded by significant new snowfall. On both sides of the crest on sheltered slopes, areas of about 1 cm surface hoar frost that developed the last couple days should also act as a weak layer for new snowfall.

Monday.....

About a week of dry weather is coming to an end on Monday morning. Initial southeast crest level winds should shift to strong southwest, with a switch from east to west in the Cascade passes. The switch may bring some initial warming at the passes before cooling takes over. Moderate to heavy snowfall is generally expected Monday in the Olympics and near and west of the Cascade crest. Initial lighter winds and cooler temperatures should be followed by stronger winds and heavier snowfall, which should promote unstable storm cycle profiles and new slab layers, mainly on north to east slopes at higher elevations and on more varied exposures near the passes. Surface hoar frost may act as weak layers on some slopes. Easy skier triggered 6-8 inch soft slab avalanches are already reported from Mt Hood on Monday morning. Backcountry travelers should use increasing caution near avalanche terrain. Snowfall and winds should decrease Monday night.

Tuesday.....

Slightly renewed light to moderate rain or snow is expected in the north Cascades Tuesday, with light rain or snow further south, generally at slightly warming temperatures. The overall decreased winds and snowfall should generally allow new storm cycle slab layers from Monday to settle and partly stabilize. Further snowfall in the north Cascades may continue to build or maintain unstable profiles and new slab layers, or load layers from Monday. New or lingering slab layers should be most likely on north to east slopes at higher elevations and in the north Cascades. Back country travelers should continue to use caution near avalanche terrain, and periodic stability evaluations are recommended.

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Backcountry travelers should be aware that elevation and geographic distinctions are approximate and a transition zone between dangers exists. Remember there are avalanche safe areas in the mountains during all levels of avalanche danger. Contact local authorities in your area of interest for further information.

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Ferber/Forest Service Northwest Weather and Avalanche Center

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