



# Olympics

Issued: 7:15 PM PST Wednesday, December 28, 2016 by Garth Ferber

NWAC avalanche forecasts apply to backcountry avalanche terrain in the Olympics, Washington Cascades and Mt Hood area. These forecasts do not apply to developed ski areas, avalanche terrain affecting highways and higher terrain on the volcanic peaks above the Cascade crest level.

A solo skier was killed in triggered 8-10 inch x 200 yard wide slab avalanche in the back country at White Pass on Tuesday. The accident was near the pass level on a run locally called the Grand Couloir and apparently due to a terrain trap into which the victim was carried and where avalanche debris was deeper. The White Pass Ski Patrol and the NWAC will compile an accident report and make it available on the NWAC web site as soon as the report is completed.

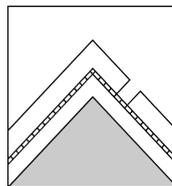
**The Bottom Line:** The 12/17 persistent slab problem should remain the main problem at Hurricane Ridge. Continue to avoid steeper slopes especially in less skied areas at Hurricane Ridge. New or recent wind slab and new storm slab are also very likely on Thursday.

Elevation	Thursday		Outlook for Friday
Above Treeline	High	Very dangerous avalanche conditions. Travel in avalanche terrain not recommended.	Considerable
Near Treeline	High	Very dangerous avalanche conditions. Travel in avalanche terrain not recommended.	Considerable
Below Treeline	Considerable	Dangerous avalanche conditions. Careful snowpack evaluation, cautious route-finding and conservative decision-making essential.	Considerable

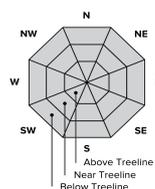
## Avalanche Problems for Thursday

### Persistent Slab

Persistent slabs can be triggered by light loads and weeks after the last storm. You can trigger them remotely and they often propagate across and beyond terrain features that would otherwise confine wind and storm slabs. Give yourself a wide safety buffer to handle the uncertainty.



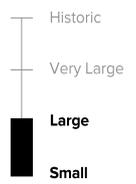
Avalanche Problem



Aspect/Elevation



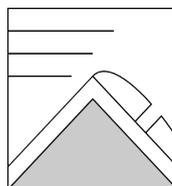
Likelihood



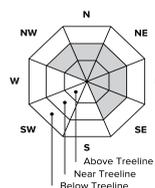
Size

### Wind Slab

Wind slabs can take up to a week to stabilize. They are confined to lee and cross-loaded terrain features and can be avoided by sticking to sheltered or wind scoured areas.



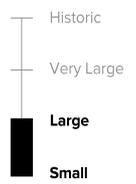
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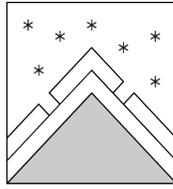
Likelihood



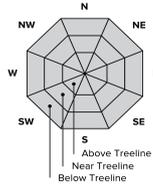
Size

## Storm Slabs

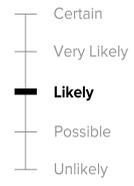
Storm slabs usually stabilize within a few days, and release at or below the trigger point. They exist throughout the terrain, and can be avoided by waiting for the storm snow to stabilize.



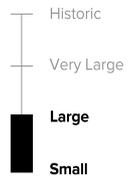
**Avalanche  
Problem**



**Aspect/Elevation**



**Likelihood**



**Size**

# Snowpack Analysis

## Weather and Snowpack

A system Thursday and Friday 12/22-12/23 with low snow levels deposited about 8-10 inches of snow at Hurricane.

A strong front and strong west flow aloft was seen over the Olympics and Cascades on Monday and Tuesday. The NWAC station indicated strong south to southwest winds Monday and Tuesday with almost 2 feet of new snow for the 48 hours ending Wednesday morning with a cooling trend.

## Recent Observations

NWAC pro-observer, Matt Schonwald was at Hurricane Ridge on Wednesday and reported the 12/17 PWL is still causing collapsing on all aspects especially in less skied areas below ridge lines. Recent natural wind slab releases of 10-12 inches were also seen on N-NE slopes off ridges at about 6000 feet. A 2-4 foot x 150 foot wide wind slab crown on the convex north slope below the visitor overlook was seen which may have released on a buried surface hoar layer from around Christmas Eve.

## Detailed Avalanche Forecast for Thursday

West southwest flow aloft will carry the next front across the Northwest on Thursday afternoon and night. Winds should increase in most areas on Thursday but significant new snow during the daylight hours is expected mainly in the Olympics and northwest Cascades. A warming trend should also be seen with temperature inversions possible Thursday in the central west and southwest Cascades.

The 12/17 PWL persistent slab problem should remain the main problem at Hurricane Ridge. Recent and new loading may make this layer more sensitive to triggering. Remember that persistent weak layers are generally involved in larger avalanches. Continue to avoid steeper slopes especially in less skied areas at Hurricane Ridge.

Recent and renewed west to southwest winds make wind slab most likely on northwest to southeast aspects on Thursday.

New storm slab is also very likely at Hurricane due to new snow and the warming trend on Thursday.

## Mountain Weather Synopsis for Thursday & Friday

Warm frontal moisture will continue to ride over flat upper level ridging that is centered over the Pacific Northwest today. This will mean continuing light rain and snow for the north Cascades and Olympics with decreasing clouds and precipitation further south. There is a large north to south snow level gradient over our region as well, with much milder temperatures expected down in Oregon. The frontal boundary will quickly sag south this evening, producing a period of moderate to heavy precipitation especially for the west slopes of the central Cascades. There will be a slight warming trend today. A shift from east to west winds should allow snow levels to bump up to 3500 feet for Snoqualmie Pass area this evening. A brief period of strong westerly winds should accompany the frontal passage late this afternoon and evening. Showers should continue overnight in a period of NW flow, with perhaps a convergence zone forming downwind of Vancouver Island. The trailing longwave trough will swing through the area on Friday, keeping the air mass unstable enough to support scattered showers mainly along the west slopes of the Cascades. Weak ridging will flop over the area Friday night as we get a break between weather systems.

24 Hour Quantitative Precipitation ending at 4 am			Snow Level/Freezing Level in feet																																																					
Location	Fri	Sat																																																						
Hurricane Ridge	.50 - .75	lt .10																																																						
Mt Baker Ski Area	1.00 - 1.50	lt .10																																																						
Washington Pass	.75	lt .10																																																						
Stevens Pass	1.00 - 1.50	lt .10																																																						
Snoqualmie Pass	1.00 - 1.50	lt .10																																																						
Mission Ridge	lt .25	0																																																						
Crystal Mt	lt .25	lt .10																																																						
Paradise	.50	lt .10																																																						
White Pass	.25 - .50	lt .10																																																						
Mt Hood Meadows	lt .25	lt .10																																																						
Timberline	lt .25	lt .10																																																						
LT = less than; WE or Water equivalent is the liquid water equivalent of melted snow in hundredths of inches. As a rough approximation 1 inch of snow = about .10 inches WE, or 10 inches of snow = about 1 inch WE.			<b>Day</b> <table border="1"> <thead> <tr> <th></th> <th>Olympics</th> <th>Cascades</th> <th>Cascades</th> <th>Central Cascades</th> <th>South Cascades</th> <th>Easterly Flow in Passes</th> </tr> </thead> <tbody> <tr> <td>Thursday Morning</td> <td>3000'</td> <td>1500'</td> <td>1000'</td> <td>2000'</td> <td>7500'</td> <td>*</td> </tr> <tr> <td>Thursday Mid-day</td> <td>4500'</td> <td>2500'</td> <td>2000'</td> <td>2500'</td> <td>7500'</td> <td>*</td> </tr> <tr> <td>Thursday Afternoon</td> <td>3000'</td> <td>2500'</td> <td>2500'</td> <td>3000'</td> <td>6000'</td> <td>*</td> </tr> <tr> <td>Thursday Evening</td> <td>2000'</td> <td>2000'</td> <td>2000'</td> <td>3500'</td> <td>5500'</td> <td></td> </tr> <tr> <td>Thursday Night - Friday</td> <td>1500'</td> <td>1500'</td> <td>500'</td> <td>1500'</td> <td>2000'</td> <td></td> </tr> <tr> <td>Friday Night</td> <td>1500'</td> <td>500'</td> <td>0'</td> <td>500'</td> <td>1500'</td> <td></td> </tr> </tbody> </table>						Olympics	Cascades	Cascades	Central Cascades	South Cascades	Easterly Flow in Passes	Thursday Morning	3000'	1500'	1000'	2000'	7500'	*	Thursday Mid-day	4500'	2500'	2000'	2500'	7500'	*	Thursday Afternoon	3000'	2500'	2500'	3000'	6000'	*	Thursday Evening	2000'	2000'	2000'	3500'	5500'		Thursday Night - Friday	1500'	1500'	500'	1500'	2000'		Friday Night	1500'	500'	0'	500'	1500'	
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			Cascade Snow / Freezing Levels noted above refer to the north (approximately Mt Baker and Washington Pass), central (approximately Stevens to White Pass) and south (near Mt Hood). Freezing Level is when no precipitation is forecast.																																																					
			* Note that surface snow levels are common near the passes during easterly pass flow and may result in multiple snow / freezing levels.																																																					