



Northwest  
Avalanche  
Center



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# Mt Hood

Issued: 6:20 PM PST Thursday, December 29, 2016 by Dennis D'Amico

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, December 27th. 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.

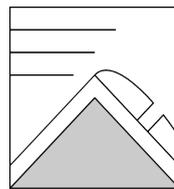
**The Bottom Line:** Generally shallow new wind slab should be the primary avalanche problem due to a period of moderate to strong westerly winds Thursday afternoon and/or Thursday night that may load leeward aspects mainly near and above treeline.

Elevation	Friday		Outlook for Saturday
Above Treeline	Moderate	Heightened avalanche conditions on specific terrain features. Evaluate snow and terrain carefully; identify problem features.	Moderate
Near Treeline	Moderate	Heightened avalanche conditions on specific terrain features. Evaluate snow and terrain carefully; identify problem features.	Moderate
Below Treeline	Low	Generally safe, watch for unstable snow on isolated terrain features.	Low

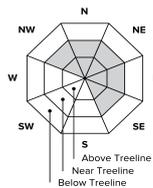
## Avalanche Problems for Friday

### Wind Slab

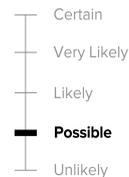
Wind slabs can take up to a week to stabilize. They are confined to lee and cross-loaded terrain features and can be avoided by sticking to sheltered or wind scoured areas.



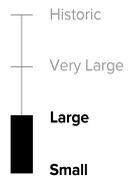
**Avalanche Problem**



**Aspect/Elevation**



**Likelihood**



**Size**

# Snowpack Analysis

## Weather and Snowpack

Strong storms around the Solstice deposited generally 3 inches of water equivalent recorded at NWAC stations on Mt Hood. Unfortunately, much of the heavy precipitation fell in liquid form with rain reaching above 7000 feet.

A strong front and strong west flow aloft was seen over the Cascades on Monday and Tuesday. NWAC stations at Mt Hood had strong west winds and the station at Mt Hood Meadows had about 2.5 feet of new snow for the 48 hours ending Wednesday morning.

A warm front draped over the north Washington Cascades Thursday left Mt. Hood in the warm sector with temperatures pushing above freezing at most stations under mostly sunny skies.

## Recent Observations

Reports from the Mt Hood Meadows pro-patrol following the Solstice indicated a significantly different snowpack following rain, avalanches and cooling. A stout surface crust was found on all elevations up to at least 7200 feet. On exposed terrain, the crust was very supportable while in treed terrain the crust ranged from breakable to supportable.

The pro-patrol at Mt Hood Meadows Tuesday reported very sensitive storm slab releases, with slabs releasing upon approach to ridges or steeper features.

The pro-patrol on Wednesday reported below treeline widespread sensitive 6-12 inch storm slab releasing by ski tests. Near tree line wind slab became reactive to 1-1.5 feet with good propagation. Above treeline explosives were used with larger hard deep wind slab releases where ski tests were considered too dangerous. One very large hard slab released with explosives was R4 - D3.5 with an average crown depth of 4-6 feet with a maximum of 8 feet down to the Solstice crust. Again this was released with explosives and not repeated during control work Wednesday but impressive! Wind slab near and above treeline was seen mainly on E-SE slopes.

## Detailed Avalanche Forecast for Friday

A strong but quick moving front will bring a period of strong winds along with light precipitation Thursday night for the Mt. Hood area. Winds and showers should quickly taper down on Friday morning with a clearing trend expected along with cool temperatures.

Shallow new wind slab should be the primary avalanche problem due to a period of moderate to strong westerly winds Thursday afternoon and/or Thursday night and may load leeward aspects mainly near and above treeline.

Storm slabs are expected to be the most reactive and likely to trigger Thursday night during peak warming and storm intensity. However, sensitive storm slabs may linger and be found in wind sheltered terrain Friday. More snow is expected from Snoqualmie Pass and north to Mt. Baker with this storm and the avalanche danger will be rated higher to account for the additional expected snowfall.

The 12/17 PWL persistent slab problem is becoming more deeply buried and less sensitive in snowpack tests but still warrants attention in the Cascades for areas without the Solstice crust layer. Recent and new loading may make this layer more sensitive to triggering where it is still present. Remember that persistent weak layers are generally involved in larger avalanches. Avoid steeper slopes in areas where you still find this layer reactive in snow pits.

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## Mountain Weather Synopsis for Friday & Saturday

A quick moving frontal system in strong westerly flow produced about 10-12 inches of snow along the north and central Cascades of Washington. Less snow was seen in the Olympics, the south Washington Cascades, Mt. Hood and below about 4000 feet for the central Cascades due to a period of rain Thursday evening. A convergence zone that formed downwind of Vancouver Island in NW flow overnight is beginning to peter out as the flow aloft turns more northerly. A longwave trough axis oriented E-W over Washington Friday morning will slide south later this morning with weak ridging building into British Columbia. The PNW should see a drying trend with a healthy dose of sunshine and steady cold temperatures expected this afternoon. A quick moving system upstream in NW flow will slide toward the area on Saturday, spreading light snowfall over the Olympics and north and central Cascades by early afternoon. A light to moderate shot of snowfall should come Saturday night as the front quickly sweeps south and a cold upper trough begins to dig off the Washington coast.

**24 Hour Quantitative Precipitation ending at 4 am**

Location	Sat	Sun
Hurricane Ridge	lt .10	.25 - .50
Mt Baker Ski Area	lt .10	.25 - .50
Washington Pass	lt .10	.25
Stevens Pass	lt .25	.50
Snoqualmie Pass	lt .25	.50 - .75
Mission Ridge	0	lt .25
Crystal Mt	lt .10	.25
Paradise	lt .10	.25 - .50
White Pass	lt .10	.25
Mt Hood Meadows	lt .10	.50
Timberline	lt .10	.50 - .75

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.

**Snow Level/Freezing Level in feet**

Day	Northwest Northeast Central South					Easterly Flow in Passes
	Olympics	Cascades	Cascades	Cascades	Cascades	
Friday - Saturday Morning	1500'	1500'	500'	1000'	2000'	
Saturday Mid-day	2500'	1000'	500'	1000'	4000'	
Saturday Afternoon	1500'	1000'	500'	1500'	1500'	
Saturday Night	0'	0'	0'	0'	1000'	

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.