



Northwest
Avalanche
Center



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West Slopes North - Canadian Border to Skagit River

Issued: 8:23 PM PST Friday, December 23, 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.

Sorry for the delay in issuing this forecast. There was a lot of information to process and many significant changes from previous forecasts.

Minor change to the Olympics zone 830 pm Friday.

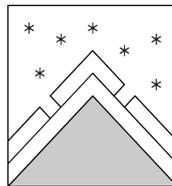
The Bottom Line: Avalanche problems are expected to be somewhat varied along the west slopes on Saturday. You will need to pay attention to the observations and forecasts to best assess the avalanche danger in your area.

Elevation	Saturday		Outlook for Sunday
Above Treeline	Considerable	Dangerous avalanche conditions. Careful snowpack evaluation, cautious route-finding and conservative decision-making essential.	Moderate
Near Treeline	Considerable	Dangerous avalanche conditions. Careful snowpack evaluation, cautious route-finding and conservative decision-making essential.	Moderate
Below Treeline	Considerable	Dangerous avalanche conditions. Careful snowpack evaluation, cautious route-finding and conservative decision-making essential.	Moderate

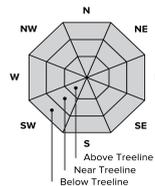
Avalanche Problems for Saturday

Storm Slabs

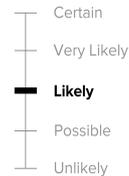
Storm slabs usually stabilize within a few days, and release at or below the trigger point. They exist throughout the terrain, and can be avoided by waiting for the storm snow to stabilize.



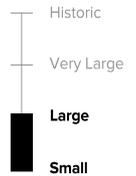
Avalanche Problem



Aspect/Elevation



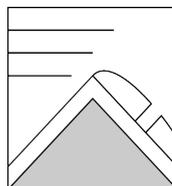
Likelihood



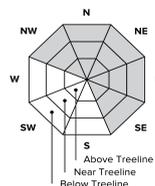
Size

Wind Slab

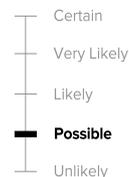
Wind slabs can take up to a week to stabilize. They are confined to lee and cross-loaded terrain features and can be avoided by sticking to sheltered or wind scoured areas.



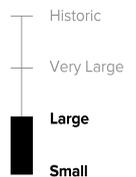
Avalanche Problem



Aspect/Elevation



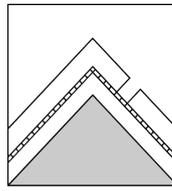
Likelihood



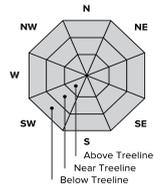
Size

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.



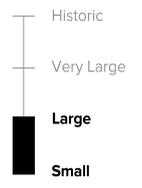
**Avalanche
Problem**



Aspect/Elevation



Likelihood



Size

Snowpack Analysis

Weather and Snowpack

Strong westerly flow directed two Pacific frontal systems across the Northwest Sunday night and again Monday night with generally 1 to 2 inches of water accumulating along the west slopes through early Tuesday morning. This caused crust layers to form in the passes and up to about 5000 feet at Baker and up to about 6000 feet at Paradise.

A sharp cooling trend Tuesday morning was followed by 2-5 inches of snow in post-frontal showers Tuesday.

A fair day was seen on Wednesday.

Another front crossed the Northwest on Thursday followed by an upper trough on Friday. This has caused about 20 inches of snow at Baker with only about 2-8 inches elsewhere along the west slopes and in the passes. South to west winds Thursday and Friday should become light by Friday night with a cooling trend Friday.

Recent Observations

Several worthwhile observations are available for the west slopes for Thursday via the NWAC Observations tab. In summary no avalanches and no signs of instability were reported. A couple of the observers at Baker and Stevens found the December 17th PWL at about 40-50 cm below the surface to be unreactive.

NWAC pro-observer Lee Lazzara was out in heavy snowfall on south slopes on Mt Herman near Mt Baker on Friday in the 4-5000 foot range and reported widespread reactive 15-30 cm storm slab releasing on a recent storm interface. He expected this to be present in all the terrain bands and on all aspects and we will have to see how soon it stabilizes. He did not find the December 17th PWL in a pit on a north slope and it was found but unreactive at about 70 cm on a south slope.

The Alpentel pro-patrol on Friday reported sensitive 3-4 inch wind slab in wind loaded areas which was not bonded to the crust from early in the week. Elsewhere new snow was not cohesive and was sluffing on the crust.

A report via email for Silver Basin near Crystal Mountain on Friday indicated cracking and reactive wind slab forming on N-NE slopes.

Wind slab cracking in Silver Basin. Photo by Seth Waterfall.

A ranger at Paradise on Friday reported shallow storm slab development and cracks beginning to initiate from skis.

Detailed Avalanche Forecast for Saturday

An upper trough will exit the Northwest on Saturday and high pressure will begin to build offshore. Light snow showers mainly along the west slopes Saturday morning should give way to partial clearing Saturday afternoon with light west to northwest winds and cool temperatures.

Storm slab will be emphasized in the Northwest zone on Saturday. Watch for storm slab in any area where there has been more than a few inches of rapidly accumulating snowfall.

Wind slab should be possible in any areas that had wind Thursday and Friday. Watch for firmer wind transported snow mainly on northwest to southeast slopes.

The latest tests of the December 17th PWL in the Cascades don't seem to indicate a regionally reactive layer. There is still some uncertainty regarding this layer. Snow pits valid for slopes you intend to ski or ride may give some indication of the presence and reactivity of this layer. But skiing or riding on lower angle slopes is the safest bet until there is more certainty that this layer is no longer a problem. While triggering this layer seems unlikely remember that PWL's generally cause larger avalanches.

The surface crust formed following the storms early this week is strong and hard enough in some areas of the west slopes to present an out of control fall danger. Avoid steep hard slopes where there will be fall consequences if you are not confident you can manage this problem by walking or using ski or boot crampons.

Mountain Weather Synopsis for Saturday & Sunday

A longwave trough axis is centered over the West Coast this morning. Light snow that had rotated up from the south Friday out ahead of the trough, generally produced 2-4 inches of new snow throughout the Olympics and Cascades, except locally up to 9 inches for Mt. Baker. As the trough slowly passes through today, scattered snow showers should mostly be confined to the west slopes. Most areas will see a partial clearing trend this afternoon, except with clouds staying banked up mainly against the west slopes of the central and south Washington Cascades. Christmas Day looks mostly sunny and cold. An upper ridge will move over the PNW on Monday providing us with a dry day with fairly light winds. An incoming Pacific frontal system will spread high clouds over the area Sunday night but precipitation should hold off until Monday.

24 Hour Quantitative Precipitation ending at 4 am

Location	Sun	Mon
Hurricane Ridge	lt .10	0
Mt Baker Ski Area	lt .10	0
Washington Pass	0	0
Stevens Pass	lt .10	0
Snoqualmie Pass	lt .10	0
Mission Ridge	0	0
Crystal Mt	lt .10	0
Paradise	lt .10	0
White Pass	lt .10	0
Mt Hood Meadows	lt .10	0
Timberline	lt .10	0

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	Snow Level/Freezing Level in feet					Easterly Flow in Passes
	Olympics	Northwest Cascades	Northeast Cascades	Central Cascades	South Cascades	
Saturday	1000'	500'	0'	500'	1000'	
Saturday Night - Sunday Night	1000'	0'	0'	0'	500'	

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.