



East Slopes North - Canadian Border to Lake Chelan

Issued: 7:48 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.

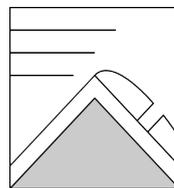
The Bottom Line: Recent or new wind slab is expected to still be the main avalanche problem along the east slopes on Saturday. There is still uncertainty regarding the December 17th PWL and skiing or riding on lower angle slopes is the safest bet until there is more certainty that this layer is no longer a problem.

Elevation	Saturday		Outlook for Sunday
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	Moderate	Heightened avalanche conditions on specific terrain features. Evaluate snow and terrain carefully; identify problem features.	Moderate

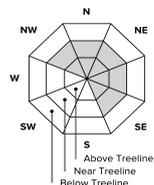
Avalanche Problems for Saturday

Wind Slab

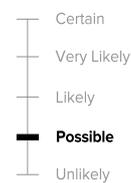
Wind slabs can take up to a week to stabilize. They are confined to lee and cross-loaded terrain features and can be avoided by sticking to sheltered or wind scoured areas.



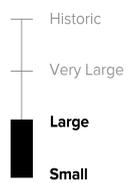
Avalanche Problem



Aspect/Elevation



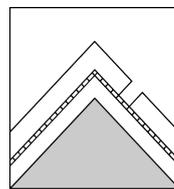
Likelihood



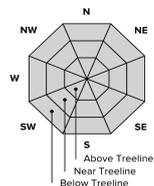
Size

Persistent Slab

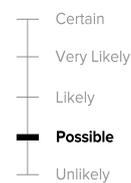
Persistent slabs can be triggered by light loads and weeks after the last storm. You can trigger them remotely and they often propagate across and beyond terrain features that would otherwise confine wind and storm slabs. Give yourself a wide safety buffer to handle the uncertainty.



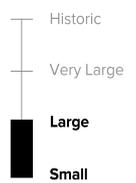
Avalanche Problem



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 half to 1 inch of water accumulating along the east slopes through early Tuesday morning. Storm totals generally ranged from 6 - 12 inches along the east slopes during this cycle. A brief warming trend peaked mid-morning for many east slope stations before a sharp cooling trend ensued by mid-day.

Westerly winds were especially strong with the 2nd system late Monday night and into Tuesday with gusty winds mixing down into usually more wind sheltered terrain. West winds at Mission Ridge gusted over 100 mph for several consecutive hours Tuesday afternoon!

A fair day was seen on Wednesday.

Another front crossed the Northwest on Thursday followed by an upper trough on Friday. This has caused light amounts of new snow along the east slopes. South to west winds along the crest Thursday and Friday should become light by Friday night with a cooling trend Friday.

Recent Observations

NWAC pro-observer Jeff Ward was in the Icicle Creek area up to about 6300 feet on Wednesday and saw evidence of a widespread natural wind slab avalanche cycle during the last storm, with one very large crown seen on a north aspect. The December 17th PWL was found at 15-30 cm below the surface on W to N to E slopes. The layer was unreactive both in large column snowpack tests, ski tests and cornice drops.

The NCMG were on Delancy Ridge Wednesday and Thursday. By Thursday they were finding moderate to hard shears at the interface of the recent storm snow and the previous or faceted surface. While wind slab was not showing signs of propagation it remains the main concern in the ATL.

A somewhat different story was reported Wednesday and Thursday by the Mission Ridge pro-patrol. On Wednesday avalanche control produced 1.5-3 foot hard slab avalanches in 3 paths. These avalanches were releasing on basal facets about 15 cm from the ground. On Thursday on W-N-E slopes at 6500 feet in snow pits they continue to find hard slab layers giving hard compression tests with moderate quality shears in facets about 15 cm from the ground with about 120 cm total snow. Some stabilizing may have occurred by Friday.

A report via the NCMG for the north side of Delancy Ridge on Thursday indicated previous strong wind transport but no current instability and generally strong right side up snowpack.

The NCMG on Friday at Washington Pass had some planar hard shears in wind affected snow but the only instability was small loose dry avalanches in steep rocky terrain.

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.

Little change is likely along the east slopes on Saturday.

Wind slab should be possible in areas exposed to recent south to west winds. 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.

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.