

Olympics

Issued: 11:16 AM 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.

Storm slab added to Northwest Cascades zone 1120 am Friday.

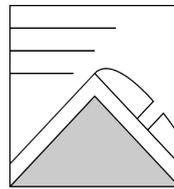
The Bottom Line: Recent or new wind slab is expected to be the main avalanche problem on Friday. But there is a lot of uncertainty regarding the December 17th PWL and skiing or riding on lower angle slopes is the safest bet until there is more certainty that this layer is no longer a problem.

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

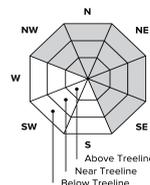
Avalanche Problems for Saturday

Wind Slab

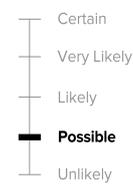
Wind slabs can take up to a week to stabilize. They are confined to lee and cross-loaded terrain features and can be avoided by sticking to sheltered or wind scoured areas.



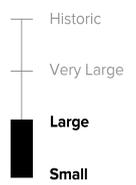
Avalanche Problem



Aspect/Elevation



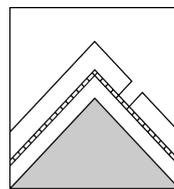
Likelihood



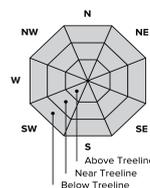
Size

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.



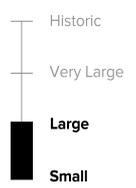
Avalanche Problem



Aspect/Elevation



Likelihood



Size

Snowpack Analysis

Weather and Snowpack

Clear and cold weather from Wednesday, December 14th to Friday, December 17th allowed widespread surface hoar and near surface faceted snow to develop in the Olympics and Cascades. Thin sun crusts formed on steeper solar slopes during sunny periods. In many areas, these persistent grain types were buried intact by December 18th during a period of light snow and light winds.

Strong westerly flow directed two Pacific frontal systems across the Northwest Sunday night and again Monday night with generally up to an inch of water accumulating at the Hurricane Ridge station through early Tuesday morning. Storm snow totals varied quite a bit due to a mix of precipitation types during the storm cycle. Many areas in the Cascades experienced a natural avalanche cycle involving either shallow, loose wet or storm slabs Monday night or early Tuesday morning. A strengthening rain crust was noted in many areas by later in the day Tuesday with the arrival of colder air.

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.

Cool, dry weather with sunshine Wednesday helped settle recent storm snow and possibly create a thin sun crust on steep directly south facing slopes.

Recent Observations

The road to Hurricane Ridge is closed midweek and no observations have been received since last weekend.

Detailed Avalanche Forecast for Saturday

A weak front will move across the Northwest Cascades late Thursday. This should cause southwest winds and a cooling trend. Snowfall should be pretty light except with 5-10 inches looking likely in the Mt Baker area. By Friday a large digging trough offshore should cause much lighter winds and but with renewed snow mainly over the south Cascades with low snow levels.

Wind slab should be the primary problem Friday. Southwest winds in the last storm cycle and for the late Thursday system make this most likely on north to southeast slopes. Watch for firmer wind transported snow mainly north 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 a lot of uncertainty regarding this layer and there still may be a lot of variability from area to area and location to location. Snow pits valid for slopes you intent 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.

Mostly light new snow amounts and the cooling trends in the Olympics and Washington Cascades make a significant new storm slab problem seem unlikely on Friday.

The surface crust formed in some areas following the storms early this week is reported to be 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.