Olympics

Issued: 6:00 PM PST Tuesday, December 27, 2016

by Kenny Kramer

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.

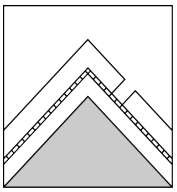
The Bottom Line: Very dangerous avalanche conditions persist in much of the terrain. Storm, wind or persistent slabs will be sensitive Wednesday in the Olympics. The safest plan is to avoid avalanche terrain of consequence until storm and persistent slabs stabilize.

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

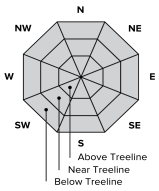
Avalanche Problems for Wednesday

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.

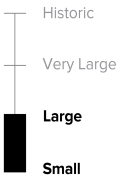


Avalanche Problem



Aspect/Elevation

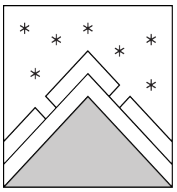
Likelihood



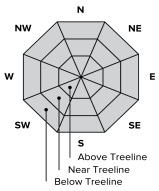
Size

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



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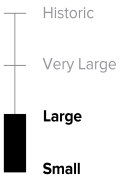

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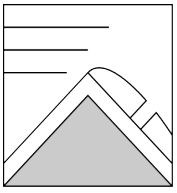
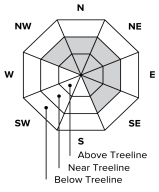
Wind Slab

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.

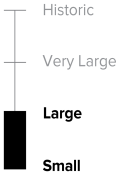


Avalanche Problem



Aspect/Elevation

Likelihood



Size

Snowpack Analysis

Weather and Snowpack

A front crossed the Northwest on Thursday, followed by an upper trough on Friday. This produced about 8-10 inches of snow at Hurricane Ridge.

Scattered snow showers, a mix of sun and clouds, and generally light winds summed up the weather on Saturday with fair and cold weather on Christmas Day.

A quiet Monday morning became a storm as the snow arrived with winds increasing to 25-40 mph at Hurricane Ridge by Monday afternoon.

A strong front cross the Olympics early Tuesday morning, followed by moderate snow showers through the day Tuesday. About 15 inches of new storm snow had accumulated at Hurricane from Monday morning through Tuesday afternoon.

Recent Observations

NWAC pro-observer, Matt Schonwald was at Hurricane Ridge on Friday, 12/23, and gave an important report. He was triggering collapsing (whumpfing) in every open area that he visited on Friday. In two test snowpits on slopes less than 30 degrees, Matt found the December 17th persistent weak layer (PWL) consisting of well preserved, buried surface hoar and faceted snow at about 45-50 cm below the surface, propagating in extended column tests. While the ski conditions were excellent, the persistent slab problem prohibited safe access to steeper and more open terrain, limiting further investigation as to the distribution and sensitivity of the persistent slab layer.

Matt also reported that cornices were growing on the lee northeast sides of ridges on Friday.

On Saturday NPS rangers indicated several 30-40 cm slabs had been skier triggered on S-SE aspects above the Hurricane Ridge Road, with one larger slide hitting the road. In the more north facing terrain, backcountry skiers reported no whumpfing, shooting cracks or general signs of instability to NPS rangers on Saturday. The road to Hurricane was closed on Christmas Day.

By Monday afternoon, NPS rangers described stormy conditions with drifting snow and very strong winds as the front began to impact the Ridge.

An NPS ranger reported evidence of a natural avalanche seen Tuesday 12/27 with an estimated crown of 2 feet or more releasing in a wind loaded area.

Detailed Avalanche Forecast for Wednesday

Stormy conditions Tuesday night should gradually ease by Wednesday as a brief break in storms occurs through the day Wednesday. Light winds and a lack of significant additional snowfall should allow for a gradual decrease in danger. However, cold temperatures will limit the stabilization Wednesday.

Storm slabs will continue to be sensitive to trigger and widespread Wednesday. The current storm slabs have formed over a variety of weak surface conditions, including near surface faceted snow and possible surface hoar. Natural or triggered storm slabs may break down to deeper persistent layers, making larger and more dangerous avalanches possible Wednesday.

The persistent slab problem should remain sensitive to natural or triggered avalanches with the new snow load.

Fresh wind slabs should persist near and above treeline on a variety of lee slopes near ridges and exposed cross loaded features.

The persistent slab problem warrants your attention in the Olympics, especially with significant recent loading. Remember that persistent weak layers are generally involved in larger avalanches and cautious route-finding and conservative decision making will be essential for safe travel Tuesday. Continue to exercise caution Wednesday and avoid avalanche terrain of consequence.

Mountain Weather Synopsis for Wednesday & Thursday

West flow and moisture will decrease on Wednesday as a upper short wave begins to move across the Northwest. This will cause alpine winds and showers that are mainly along the west slopes to decrease and end on Wednesday morning. A warm front will move over the the flattened ridge over the Northwest on Wednesday night and Thursday morning. This will cause moderately increasing alpine winds and some light snow in the Olympics and north Cascades. A weakening cold front will move over the further flattened ridge over the Northwest Thursday afternoon and night. It is possible this cold front is weaker than earlier indicated. This will cause further moderately increasing alpine winds and snow mainly in the Olympics and Washington Cascades. Snow levels over the west slopes of the central west and southwest Cascades are a bit of tough call by Thursday afternoon with temperature inversions possible. Any temperature inversions should mix out by Thursday night.

24 Hour Quantitative Precipitation ending at 4 am

Location	Thu	Fri
Hurricane Ridge	lt .25	.25 - .50
Mt Baker Ski Area	.25	1.00
Washington Pass	lt .25	.50
Stevens Pass	lt .25	.50 - .75
Snoqualmie Pass	lt .25	.50
Mission Ridge	lt .10	lt .25
Crystal Mt	lt .25	lt .25
Paradise	.25	.25 - .50
White Pass	lt .10	lt .25
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	Olympics	Northwest Cascades	Northeast Cascades	Central Cascades	South Cascades	Easterly Flow in Passes
Wednesday Morning	1500'	500'	0'	1000'	1500'	
Wednesday Afternoon	2000'	1000'	0'	1500'	2000'	
Wednesday Night	3000'	1000'	0'	1500'	4000'	*
Thursday Morning	4000'	2000'	1000'	2500'	5000'	*
Thursday Afternoon	5000'	3000'	2000'	4000'	6000'	
Thursday Night	2000'	1000'	1000'	2000'	4000'	

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.