



Northwest
Avalanche
Center



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West Slopes South - South of I-90 to Columbia River

Issued: 6:00 PM PST Tuesday, March 13, 2018 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.

Late Saturday we received reports of an [avalanche fatality](#) on Park Butte near Mt Baker. One snowmobiler was caught, carried, and killed in the accident.

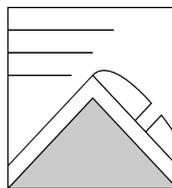
The Bottom Line: A refreezing snowpack will cause decreased danger Wednesday in most areas. A Cornice failure could trigger a large wind slab or a destructive Deep Persistent Slab avalanche. Limit your exposure to overhead hazard Wednesday, staying away from large avalanche paths. Watch for fresh but shallow new Wind Slabs near ridges at higher elevations.

Elevation	Wednesday, March 14, 2018		Outlook for Thursday
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.	Low
Below Treeline	Low	Generally safe, watch for unstable snow on isolated terrain features.	Low

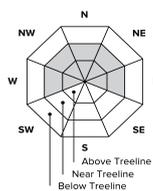
Avalanche Problems for Wednesday

Wind Slab

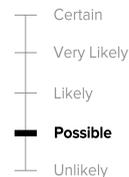
Wind slabs can take up to a week to stabilize. They are confined to lee and cross-loaded terrain features and can be avoided by sticking to sheltered or wind scoured areas.



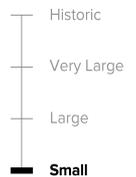
Avalanche Problem



Aspect/Elevation



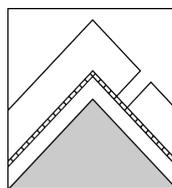
Likelihood



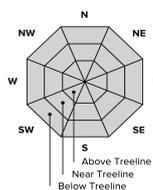
Size

Persistent Deep Slab

Deep, persistent slabs are destructive and deadly events that can take months to stabilize. You can triggered them from well down in the avalanche path, and after dozens of tracks have crossed the slope. Give yourself a wide safety buffer to handle the uncertainty, potentially for the remainder of the season.



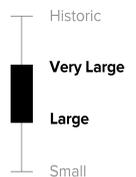
Avalanche Problem



Aspect/Elevation



Likelihood



Size

Avalanche Forecast for Wednesday

A strengthening surface crust will limit the avalanche danger Wednesday. Shallow new snow may be transported near ridges, especially near and above treeline, where small wind slabs may be possible to trigger on steep lee slopes. Avoid steep open slopes showing signs of recent wind loading.

Several older deeper persistent weak layers exist in the snowpack. This is a low likelihood-high consequence scenario. These difficult to trigger avalanches may need a large trigger or from a thinner spot on the slab. While it may be very difficult to trigger these deeper layers, any avalanche failing on them will be large and destructive. The avalanche that resulted in [a fatality Saturday on Park Butte](#) near Mt. Baker is believed to have released on the 2/8 crust - 2/13 facet interface. This is a recent example of the low likelihood-high consequence structure that remains in our snowpack.

Persistent slab problems in the upper snowpack have recently been reported in the Steven Pass area and the East Slopes of the Cascades. Without any recent avalanche activity or snowpack observations confirming their presence for the other West Slope Zones, we are removing the Persistent Slab problem moving forward.

Limit your exposure to overhead cornices as you travel. They may fail without warning due to daytime heating and the sun.

Avalanche Summary

Sunshine and temperatures in the 40's to 50's over the past few days has allowed for significant snowpack settlement and for a variety of surface conditions to develop. Several melt-freeze cycles over the past few days has allowed for a strengthening snowpack. Steep shaded north facing slopes are hanging on to some settled old snow that fell Thursday.

Clear weather over the past few nights has allowed for surface hoar or near surface faceted snow to develop on many slopes. These surfaces are easily destroyed by wind or sun and warming, so may end up being widely variable when future snowfall occurs. Precipitation falling Tuesday afternoon has begun as rain in most areas and hopefully destroyed much of these surface crystals.

Several natural slab avalanches were reported Monday around the Mt Baker area, including Shuksan. These slab avalanches released from starting zones above treeline on SW-W-N aspects. A snowmobile rider triggered a fatal deep persistent slab avalanche Saturday in the Mt. Baker backcountry.

Previous storm snow fell across the western regions of the Cascades Thursday night and Friday. Significant changes in snow totals were experienced with elevation. Wet heavy snow and rain was observed in up to 5500' at Crystal, 4400' at Snoqualmie, and 4300' farther north. Above these elevations, 12-20 inches of new storm snow accumulated. During the last few days of warm weather, the snowpack has settled back to similar depths before Thursday's storm.

Generally SW winds transported the snow in all regions forming wind slabs on lee slopes and cross-loaded mid-slope features. These wind slabs have mostly settled and stabilized over the past few days of warm weather. However, natural slab releases have been reported both Monday and again Tuesday in the Mt Baker area on previous wind loaded slopes, indicating the wind slab problem persists.

The recent snow fell on a variety of old snow surfaces including settled cold snow and new melt-freeze crusts. There is potential in some locations that surface hoar and/or near surface facets were buried.

Several older persistent weak layers exist within the snowpack. On E-S-W aspects a thin facet-crust combo has not been widely found or reactive in quite some time. An older, deeper and more widespread persistent weak layer has been observed for several weeks. Weak sugary facets (2/13) sit just above a firm crust formed and buried in early February (2/8). This crust is generally found about 3-4 feet below the snow surface.

There are no other significant layers of concern below the 2/8 crust.

Observations

Baker

On Tuesday, pro patrol at Mt Baker reported a natural slab release on Table Mountain. North aspect about 5000 ft estimated 1.5-2 ft X 150 ft. It was unclear if a cornice failure was the trigger or just the warm temperatures in the 40's.

Pro patrol at Mt Baker reported seeing several large natural slab avalanches releasing Monday above treeline on a variety of aspects ranging from SW-W-N, likely a result of the very warm temperatures. On Tuesday

On Sunday, NWAC professionals near the Park Butte accident site observed widespread wet loose avalanche activity on steep solar aspects, including a long running wet loose in the Sisters Range that became very large (D3). In this area on a NE aspect at 5200', the 2/8 crust is down 4 ft (1.2 m) with a layer of facets above the crust. Recent wind effect was noted throughout the immediate terrain.

Snoqualmie

Backcountry skiers triggered and were caught in a wind slab avalanche on a NW aspect just below the summit of Humpback Mountain Saturday. They were not buried or injured but did lose some gear. Generally small wet loose avalanches were reported by Snoqualmie DOT Saturday on steep solar slopes.

An avalanche professional at Alpental reported rain up to 4400 feet Thursday night. Two new natural wind slabs were observed in steep NE facing terrain.

South

NWAC professional observer Jeremy Allyn traveled in the Crystal Backcountry Monday, finding older wind slabs to have stabilized. Easterly winds were keeping surfaces cool and limited wet snow avalanches. No wet snow avalanches were seen Monday, despite the warm temperatures.

On Saturday, Crystal Mt Ski Patrol reported two new natural avalanches on NW slopes around 6000'. These D1.5 avalanches occurred mid-day. They also reported large natural slab avalanches on NE aspects on the Cowlitz-Chimneys across from the ski area in Mt. Rainier National Park. These avalanches likely occurred Saturday afternoon with this [photo](#) taken on Sunday by Peter Dale.

NWAC professional observer Jeremy Allyn traveled in the Crystal Backcountry Friday. He found significant wind transportation of the new snow above 6000'. A cornice failure triggered a widely propagating wind slab 2 feet deep on an E aspect of East Peak. Observations generally demonstrated the new snow was bonding well to the old snow surface.

Also Friday, Crystal Mountain ski patrol reported several new large crowns seen across the White River valley in the Sourdough Mountains. Avalanches occurred on NE aspects and were estimated to be 4-5 feet deep. Wind transported snow was observed on the upper mountain.

Mountain Weather Synopsis for Wednesday & Thursday

As a reminder, NWAC weather station data is in PST year round. A large upper level low pressure system well of the B.C. coast continues to move southward Wednesday afternoon. Showers have been rotating northward around the low affecting most areas at times, along with some sun breaks as well. A deep trough extends southward to off central California where greater energy is being directed. Some variant of this pattern will persist into the weekend, resulting in generally cool and showery weather at times, but very limited precipitation amounts. Freezing levels should remain relatively low over the next several days along with light winds. The upper low currently off the B.C. will move SSE over the next few days to be centered over the Oregon/California border by Thursday night. As the low moves south of the area, showers should decrease over most of the forecast area, with the Mt Hood area the most likely location to receive slightly greater shower activity. Only scattered showers are expected over the Olympics and WA Cascades with more widespread showers over the Mt Hood area.

Precipitation Forecast			Snow/Freezing Level (ft)						
Location	Thu	Fri					Mt. Rainier and Mt. Hood		Easterly Flow in the Cascade Passes
			Hurricane Ridge	Mt. Washington Baker	Stevens Pass	Snoqualmie Pass	Crystal Mt.	Mt. Hood	
Hurricane Ridge	lt .10	lt .10							
Mt Baker Ski Area	.25	lt .10							
Washington Pass	lt .25	lt .10							
Stevens Pass	lt .25	lt .10							
Snoqualmie Pass	lt .25	lt .10							
Mission Ridge	lt .10	lt .10							
Crystal Mt	lt .25	lt .10							
Paradise	lt .25	lt .10							
White Pass	lt .25	lt .10							
Mt Hood Meadows	lt .25	lt .25							
Timberline	.25	lt .25							
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.			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.						
			* Easterly flow in the Cascade Passes can cause locally lower Snow or Freezing levels than areas further west.						