# East Slopes South - South of I-90 to Columbia River

## Issued: 6:05 PM PST Thursday, March 8, 2018

by Robert Hahn

*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.*

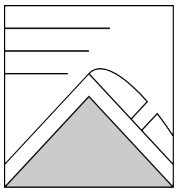
**The Bottom Line:** Watch for Wind Slabs forming in the new snow as the Avalanche Danger increases throughout the day. Persistent Slab avalanches claimed lives along the east slopes of the Cascades in the past 2 weeks. Avoid steep, complex terrain and sit out this low likelihood - high consequence problem; ensure a wide buffer between where you travel and open slopes over 35 degrees as well as large avalanche paths.

| Elevation | Thursday | | Outlook for Friday |
|---|---|---|---|
| Above Treeline | Considerable | Dangerous avalanche conditions. Careful snowpack evaluation, cautious route-finding and conservative decision-making essential. | Considerable |
| Near Treeline | Considerable | Dangerous avalanche conditions. Careful snowpack evaluation, cautious route-finding and conservative decision-making essential. | Considerable |
| Below Treeline | Moderate | Heightened avalanche conditions on specific terrain features. Evaluate snow and terrain carefully; identify problem features. | Moderate |

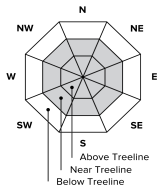
## Avalanche Problems for Thursday

### 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.

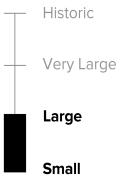


**Avalanche Problem**




**Aspect/Elevation**

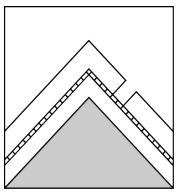

**Likelihood**



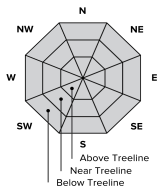

**Size**

### 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.

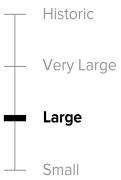


**Avalanche Problem**




**Aspect/Elevation**


**Likelihood**




**Size**

## Avalanche Forecast for Thursday

Expect the avalanche danger to increase throughout the day, peaking around dark. Today, you can easily trigger avalanches in the upper layers of the snow due to new snow, wind, and light rain at low elevations. New snow may fall on a variety of surfaces and some may be slick. Watch for cracking, wind stiffened snow, and freshly formed drifts. Steer around fresh wind features, convex rolls, and slopes holding a foot or more of new, cohesive snow that are 35 degrees and steeper. Rain will fall later today bringing a chance for wet avalanches up to 4000ft. Avoid high consequence terrain such as cliffs, rocks, and gullies where even a small avalanche could be dangerous.

Avalanches in the upper snowpack and heavy snowfall are making it easier to trigger deeper and dangerously wide avalanches. Persistent weak layers lurk deeper in the snowpack. The signs of Persistent Slab avalanches may not be obvious. These low likelihood, high consequence avalanches are very difficult to manage. The best way to stay safe is to avoid the slopes where you can trigger them. Take a day or two to choose more cautious terrain before returning to the kinds of slopes you traveled on prior to this storm. Avoid large avalanche paths, start zones, and unsupported slopes steeper than 35 degrees. Tracks on a slope don't mean that the slope is safe. In one recent fatality in the Cascades, the slope had numerous tracks on it before the avalanche was triggered. While these avalanches may give little warning, the consequences could be un-survivable.

## Avalanche Summary

After prolonged calm and sunny conditions, A storm is delivering our next snowfall. The past two weeks brought three fatal avalanche accidents across the East Slopes of the Cascades. All of these were triggered on persistent grain types. Several potential persistent weak layers exist. Two common layers that have been reported are a facet/crust combination buried on 2/23 and a facet/crust layer buried on 2/13. The Setting Sun avalanche released on faceted grains above a thin crust.

The upper (shallower 2/23) layer can be found 1-2 feet below the snow surface on steeper slopes that have received direct sun. Small weak facets have been found in other regions surrounding a thin sun crust.

The 2/13 facet/crust combination is typically found 2-4 feet below the snow surface and above the 2/5 firm crust. This layer has two confirmed skier triggered avalanches and more recent collapsing and whumphing.

The exact depth of these layers depend on aspect, elevation, and proximity to the Cascade crest. A high level of uncertainty remains surrounding these layers.

**Observations**

**North**

On Tuesday, observers reported sun crusts forming on the surface of even shaded slopes.

Monday NWAC and NCMG professionals visited the Setting Sun Mt accident site. They found the large avalanche had released on a WNW aspect at 6900 ft. The hard slab avalanche had released on 1.5 mm rounding facets.

On Sunday, North Cascades Heli observed a recent avalanche (likely from Friday) which released mid-slope and featured a deep crown. They suspected the avalanche to involve the 2/13 layer.

On Sunday, NCMG was in the Washington Pass area near and below treeline where they observed no new avalanches and no results with ski tests.

On Saturday, NCMG traveled in the Cuthroat area and observed small wind slab avalanches in steep terrain that had run naturally on Friday. The 2/23 crust was not observed on north facing terrain above 5600'. The 2/13 layer down 3' (85 cm) at 6100' on a NNW aspect showed mixed results in tests. Widespread collapses and a stubborn small persistent slab release was reported on Vasiliki ridge from a third party.

**Central**

On Sunday, NWAC forecasters Dallas Glass and Josh Hirshberg were in the Long's Pass area of the North Fork of the Teanaway drainage where they traveled up to 5700' on S-W-NW aspects. They found the 2/13 persistent layer down 3' everywhere they dug. A new breakable surface crust formed from direct sunshine Saturday on S and SW aspects, but due west aspects had settled powder without the crust. Winds continue to transport snow with NW winds loading SE slopes in that location.

On Friday, NWAC observers traveled in the Bean Creek area north of Cle Elum. On both south and northeast slopes, they reported large and small column tests indicating potential for human triggering on the 2/13 facets. This weak layer was 3-4 feet below the surface. They also found the 2/23 facets about 2 feet below the surface on a south aspect at 5450 ft and several reactive layers of preserved snow crystals within the upper 1.5' of the snowpack.

On Wednesday 2/28, an avalanche professional in the Chiwakum Mountains reported collapses and whumps on the 2/13 buried facet layer. Depth to the layer was highly variable (1-3 feet). Another traveler triggered an avalanche almost 3 feet deep on a small steep slope near McCue Ridge.

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## Mountain Weather Synopsis for Thursday & Friday

An open trough and weakening surface low sit just W-SW of Cape Flattery on Thursday afternoon. The low will dissipate as it crosses the Olympics, but the associated upper trough will continue to bring moderate rain and snow to the mountains. Moderate free air winds (and stronger gusts) will be out of the south today, switching to SW after 4PM when the occluded front associated with the dying low crosses the Cascades, then westerly as a secondary upper trough and stronger surface cold front swings through from the NW around 1 AM. Temperatures will drop sharply behind the cold front and most locations will change back to snow as precipitation intensities are decreasing. Easterly flow is keeping the passes cool so far on Thursday afternoon. However, Snoqualmie should see a

changeover to rain around 4PM with the passage of the occluded front with a changeover back to Snow between 1 and 4 AM on Friday. Stevens Pass may see a changeover to rain during the evening hours before changing back to snow after midnight. Mt. Baker base is now back to snow and should remain wet snow until the cold front cools things the atmosphere further. On Thursday night, precipitation should decrease behind the cold front. In the early morning hours, a convergence zone is likely to develop in the Stevens Pass vicinity and could push as far south as Snoqualmie. Snow shower activity will be light Friday and will taper off. Temperatures will be cool. On Friday night, skies will becoming mostly clear as high pressure builds over the region.

**24 Hour Quantitative Precipitation ending at 4 am**

| Location | Fri | Sat |
|---|---|---|
| Hurricane Ridge | .50 - .75 | lt .10 |
| Mt Baker Ski Area | 1.50 - 2.00 | lt .10 |
| Washington Pass | 1.00 | lt .10 |
| Stevens Pass | 1.00 | .25 |
| Snoqualmie Pass | 1.50 | lt .25 |
| Mission Ridge | .25 | lt .10 |
| Crystal Mt | .75 - 1.00 | lt .10 |
| Paradise | 1.00 - 1.50 | lt .10 |
| White Pass | .75 - 1.00 | lt .10 |
| Mt Hood Meadows | .75 - 1.00 | lt .10 |
| Timberline | .75 | 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.

**Snow Level/Freezing Level in feet**

| Day | Olympics | Northwest Cascades | Northeast Cascades | Central Cascades | South Cascades | Easterly Flow in Passes |
|---|---|---|---|---|---|---|
| Thursday Afternoon | 4500' | 3500' | 3000' | 3500' | 4500' | * |
| Thursday Night | 2000' | 2000' | 2500' | 3000' | 3500' | |
| Friday Morning | 2000' | 1500' | 1500' | 1500' | 1500' | |
| Friday Afternoon | 2500' | 2000' | 2000' | 3000' | 3500' | |
| Friday Night | 2000' | 2000' | 1500' | 2000' | 3000' | |

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.

## USE AT YOUR OWN RISK

This Backcountry Avalanche Forecast is provided in conjunction with the US Forest Service, and is intended for personal and recreational purposes only. Safe backcountry travel requires preparation and planning, and this information may be used for planning purposes but does not provide all the information necessary for backcountry travel. Advanced avalanche education is strongly encouraged.

The user acknowledges that it is impossible to accurately predict natural events such as avalanches in every instance, and the accuracy or reliability of the data provided here is not guaranteed in any way. This forecast describes general avalanche conditions and local variations will always occur. This forecast expires 24 hours after the posted time unless noted otherwise.