



# Stevens Pass

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.

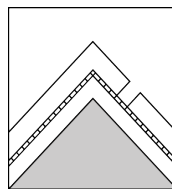
**The Bottom Line:** A refreezing snowpack will cause decreased danger Wednesday, however complex avalanche conditions still exist in the Stevens Pass area. Continue to avoid all open slopes greater than 30 degrees. A Cornice failure could trigger a large and destructive Persistent Slab avalanche. Limit 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 |   | 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                  |

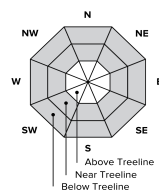
## Avalanche Problems for Wednesday

### 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.



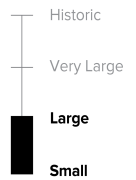
Avalanche Problem



Aspect/Elevation



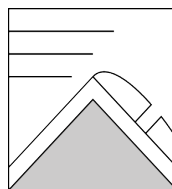
Likelihood



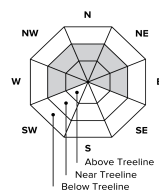
Size

### 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.



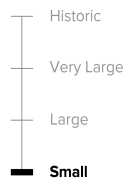
Avalanche Problem



Aspect/Elevation



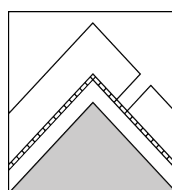
Likelihood



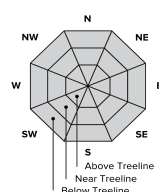
Size

### 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.



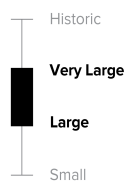
Avalanche Problem



Aspect/Elevation



Likelihood



Size

## Avalanche Forecast for Wednesday

A strengthening surface crust will help limit the avalanche danger Wednesday. Shallow new snow may be transported near ridges, especially near or 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 overlapping avalanche problems exist in the Stevens Pass area with a high degree of uncertainty. The warm weather over the past few days has likely helped round and settle older persistent layers. However, it will be best to continue to travel with a large degree of safety and avoid avalanche start zones.

New persistent slabs formed Friday (3/8) and have been observed in several recent avalanches around the Stevens Pass area. Continue to stay off of all open slopes greater than 30 degrees; this includes areas low on the slope and well away from higher start zones. This weak and potentially dangerous layer has been observed on most aspects near and below treeline. Persistent slabs are difficult to manage and have proven deadly in the Cascades over the last several weeks. The recent warm weather over the past few days should help, but continue to travel cautiously.

Several older deeper persistent weak layers exist in the snowpack. This is a low likelihood-high consequence situation. Seeing tracks on a slope does not mean it is safe. 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 down to 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.

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 settlement and a strengthening snowpack, while a variety of surface conditions have developed. 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. Precipitation falling Tuesday afternoon has begun as rain in most areas and hopefully destroyed much of these weak surface crystals.

In the Stevens Pass area, several slab avalanches were reported Saturday. Most of them are thought to have occurred on the new persistent weak layer (3/8). Avalanches have occurred on most aspects near and below treeline. Many of them occurred noticeably low on the slope. Observations have found buried surface hoar (4-6mm) and small (0.5mm) facets. These weak persistent layers were found below the 12-15 inches of recent storm snow.

On Thursday night and Friday 12-15 inches of new snow fell in the Stevens area. Moderate to strong SW winds transported the new snow including on more exposed open slopes below treeline slopes. This new snow fell on a variety of snow surfaces including [surface hoar, near surface facets](#), and melt-freeze crusts.

Several older persistent weak layers can still be found in the snowpack including a widespread layer of weak sugary facets (2/13) that can be found just above a very firm and thick crust (2/8). Snowpack tests continue to show that if a failure is initiated on this layer it can propagate and cause an avalanche. This layer is generally found 3-4 feet below the snow surface.

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

### Observation

Stevens Pass Ski Patrol found buried surface hoar (3/8) below the recent storm snow on both NE and SW aspects at 5500' Saturday.

An avalanche professional in the Stevens Pass area on Saturday reported new observed slab avalanches on both SE and N aspects. He also experienced one whumph on the 3/8 persistent layer while traveling through lower angled terrain.

NWAC professional observer Matt Primomo traveled near Tye Peak Friday. Matt reported 12-15 inch slab avalanches on Moonlight Bowl (E, 4500), Skyline Ridge (NW, 5200') and Tye Peak (SE, 4800'). He also experienced several large whumphs while traveling a ridgeline above Tye Lake. Observations in the area found surface hoar and facets (3/8) buried below the recent storm snow.

An avalanche professional near Vahalla Lake Friday also found buried surface hoar 15 inches below the snow surface. He observed a rain crust up to 4300 feet below the most recent snow.

Numerous snowpack tests from the Stevens Pass area gathered over the last several weeks by multiple avalanche professionals continue to suggest that the 2/13 facet layer can produce avalanches. The most consistent test has been the Propagation Saw Test.

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## 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.

| 24 Hour Quantitative Precipitation ending at 4 am |        |        | Snow Level/Freezing Level in feet |          |                    |                    |                  |                |                         |
|---|--------|--------|-----------------------------------|----------|--------------------|--------------------|------------------|----------------|-------------------------|
| Location  | Thu    | Fri    | Day                               | Olympics | Northwest Cascades | Northeast Cascades | Central Cascades | South Cascades | Easterly Flow in Passes |
| Hurricane Ridge                                   | lt .10 | lt .10 |                                   |          |                    |                    |                  |                |                         |
| Mt Baker Ski Area                                 | .25    | lt .10 | Wednesday Night                   | 2000'    | 2000'              | 2000'              | 2000'            | 2000'          |                         |
| Washington Pass                                   | lt .25 | lt .10 | Thursday Morning                  | 1500'    | 1500'              | 1500'              | 1500'            | 1500'          |                         |
| Stevens Pass                                      | lt .25 | lt .10 | Thursday Afternoon                | 3500'    | 3500'              | 3500'              | 3500'            | 3500'          |                         |
| Snoqualmie Pass                                   | lt .25 | lt .10 | Thursday Night                    | 2500'    | 2500'              | 2500'              | 2500'            | 2500'          |                         |
| 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 |                                   |          |                    |                    |                  |                |                         |

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.

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.

## 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.