Snow Lake Divide Avalanche Fatality
February 25th, 2018

Report by Jeremy Allyn and Dennis D'Amico, Northwest Avalanche Center

Incident snapshot:

Occurrence Time and Date: February 25, 2018 (estimated time: 5-6 pm)
Recovery/Rescue Time: 8:20 am - 1 pm, February 26, 2018
Lat/Lon: 47.458232°N, -121.446326°W (upper burial location)
Location: Snow Lake Divide, Alpental Valley, King Co., Mt. Baker-Snoqualmie NF, WA

Number in Party: 2 (1 skier, 1 snowshoer)
Number Caught and Killed: 2
Number Completely Buried: 2

Avalanche type: Soft Slab (SS)
Trigger: Unknown
Size: R3 / D2.5
Start Zone Aspect: South
Start Zone Angle: 40 deg (average)
Elevation: 4250 ft (highest crown)

Height of Crown Face: 36 in (1m) (maximum, estimated)
Width of Fracture: 350 ft (107 m)
Vertical Fall: 500 ft (152 m)

Slab Characteristics: 4F-1F Hardness, Decomposing Fragments/Precipitation Particles (1.0 mm)
Weak Layer Characteristics: Rounding Facets (1.0 mm)
Bed Surface Characteristics: P Hardness, Melt Freeze Crust, 1 cm thickness

Terrain Traps: Cliffs in start zone and large trees in track and runout
Avalanche occurred during: Ascent
Location of group in relation to start zone during avalanche: Unknown
Avalanche safety gear carried by party: Both carried transceivers, shovels, probes. Subject 1 had an ice axe. Subject 2 had an ABS airbag backpack that was not deployed.
Avalanche Training and Experience: Subject 1 had taken an AIARE Avalanche Level 1 course the previous year. Subject 2 had taken two avalanche awareness classes.

Cause of Deaths: Accidental Asphyxia (final Medical Examiner's Report pending)

Avalanche Classification: SS-U-R3-D2.5-I
NWAC Forecast Zone: Snoqualmie Pass

Avalanche Danger Rating (Below Treeline): High (Avalanche Warning for High Danger was in effect for all elevations in the Snoqualmie Pass Zone)

Avalanche and Terrain

The avalanche on Snow Lake Divide occurred on a South aspect at 4250 ft. The avalanche was observed to be wide relative to slope and to have fractured across complex terrain features. This was due to the combination of a hard bed surface and a persistent grain type capable of propagating a fracture wide distances. Rapid snowfall accumulation during the day likely overloaded the crust/PWL combination and the slope angle was sufficiently steep to produce a large avalanche. Debris measured in excess of 2 meters with snow flagging noted on the uphill sides of old growth trees 2 meters above the snow surface.

The overall terrain can be characterized as a hanging valley headwall above a tight valley floor, with numerous small cliffs, steep convexities and gullies. The alpha angle from the highest crown to Subject 2's burial location was 32 degrees. NWAC staff and the SAR teams were not able to determine if this was a natural or human-triggered avalanche due to lack of definitive surface clues. The avalanche was classified as SS-U-R3-D2.5-I.

NWAC Professional Observer, Jeremy Allyn, and NWAC Education and Operations Manager, Forest McBrian arrived at the Alpental Ski Area upper parking lot at 1:30 pm on Monday, February 26 and were debriefed by the SAR Incident Commander and members of the SAR teams. They then traveled by skis to the incident site and conducted an avalanche investigation.

After inspecting the burial locations, a snow profile site was chosen 100 feet adjacent to a lower section of crown on the avalanche's western flank at 4025 feet. Other overhead hazards, as well as residual hang fire from the main slab avalanche were identified and it was determined there was no safe way to ascend to the uppermost crown to conduct a crown profile. The slope for the snow profile was on a convex roll, 42 degrees, South aspect (see snow profile below). Notable snowpack test results were observed down 48 cm from the surface on a sun crust (1 cm thick) that had been buried by storm snow on February 23. The weak layer was observed to be 1 mm Facets (starting to round and sinter) with the sun crust acting as a bed surface. Some portions of the crown face were measured to be 85 cm, however, due to overhead hazard, most of the crown could not be directly measured.

Snowpack and Weather

Along the West Slopes of the Cascades including the Snoqualmie Pass area, a period of cold weather and intermittent light snowfall occurred in the week leading up to the avalanche incident with a stronger storm cycle beginning the weekend of Feb 24th-25th. Preceding the storm cycle, colder than normal temperatures allowed weak layers to develop in the upper snowpack.

This included a persistent weak layer (near surface facets) that developed on top of a sun crust (melt-freeze), found on steep southerly aspects. This interface was buried by light snowfall on 2/23.

While new snow and wind received on the 24th and especially on the 25th were more than enough to produce new storm snow avalanche hazards, the buried crust/PWL combination identified above was involved in both the Snow Lake Divide and the nearby Cottonwood Lake avalanche fatalities on Feb 25th. It's worth noting that numerous human triggered avalanches and seven fatalities were reported throughout the Cascades from late February through early March, releasing on some combination of a melt-freeze crust and facets.

Accident Summary

This was an unwitnessed incident. Through interviews with both sets of parents with a knowledge of text messages, NWAC believes Subjects 1 and 2 left the Alpental upper parking lot around 4 pm on February 25th. Their plan remains uncertain and appears to have been affected by competing and uncertain plans, directions from both sets of parents to avoid avalanche terrain, and the late hour of the day. Subject 2 brought alpine skis in addition to snowshoes. Those skis were left in their vehicle. Subject 1 had ski touring gear. Individually they both were aware of the day's avalanche forecast. Subject 1 was told of the avalanche danger verbally and via text. Subject 2 was shown the forecast on a computer prior to leaving home. Notably, Subject 2 had been on a snowshoe trip along the Snow Lake summer trail the day prior, February 24th. That trip was aborted due to difficult travel conditions and avalanche hazard concerns. Despite recent storm snow, the snowshoe track would have remained intact (albeit partially buried) on the 25th, as it was still visually evident as observed by NWAC and SAR teams the following day. Due to the location of the avalanche crown and the locations of the burials, it is NWAC's conclusion that the pair were caught and carried in an avalanche while in or below the final switchbacks of the Snow Lake trail.

Rescue Summary

At approximately 9:40 pm on February 25, Seattle Mountain Rescue (SMR) was alerted to 2 overdue backcountry travelers in the Source Lake area. They were reported to have been triangulated by cell phone GPS at a last known location of: 47.45765°N, -121.44576°W. Due to high avalanche danger and another avalanche involvement near Cottonwood Lake, the mission was put on standby for the following day.

On February 26, 4 rescue teams comprised of SMR, King County Explorer Search and Rescue, and the Ski Patrol Avalanche Rescue Team (SPART) departed the Alpental base between 8:20-8:30 am. At approximately 9:30 am, SMR Team 1 reached the suspected avalanche location and immediately received 2 avalanche transceiver signal hits. A combination of transceiver searching, probing, and shoveling resulted in a confirmed probe strike and Subject 1 was located at: 47.458232°N, -121.446326°W, at 3,860 ft on a 28 deg slope uphill of a large tree. Burial depth was 1.5 meters. He was found with one ski attached to his backpack as well as an ice axe. SAR personnel found Subject 1's ski with a climbing skin affixed. He was not wearing a helmet.

SPART Team 3 located Subject 2 at 9:37 am at: 47.457933°N, -121.446321°W, at 3820 ft on a 18 deg. slope near a stand of large trees. Burial depth was 2.2 meters. He was found wearing one

snowshoe as well as an ABS avalanche airbag pack that was not deployed. He was wearing a helmet.

At 10:11 am, snow surface instabilities were observed on scene, initiating as the result of solar effect and warming temperatures. One size D2 Wet Loose avalanche released naturally and ran within 100 feet to the west of the incident site. This activity forced all teams to pull back from Subject 1 to Subject 2 (lower in the terrain). After an on-scene safety briefing, more visual avalanche guards were assigned and the the numbers of SAR personnel were reduced to limited exposure to the overhead hazard.

Subject 1 was evacuated from the scene at 10:36 am. SPART Team 3 (along with additional resources) completed the final extrication of Subject 2 at 12:16 pm after which all SAR personnel departed the scene arriving at Alpental base area at 1 pm.

NOTE: All members of this SAR mission deserve special recognition. This was a dangerous scene to work in with very real elements of exposure and vulnerability due to ongoing avalanche activity. The SAR teams did an exemplary job in anticipating, recognizing, and managing the avalanche risk.

Comments: Jeremy Allyn, NWAC Professional Observer

Unwitnessed fatal avalanches are among the most difficult to comment upon. They pit our desire to know the facts and to educate directly against our frequent inability to understand the motivations and decision-making of the individuals directly involved. Without witnesses or other party members to interview, knowledge and understanding can remain elusive and tragedies even more difficult to comprehend.

The fact that this particular slope has a history of producing large avalanches that have also killed people is significant. The slopes on, above, and adjacent to the summer trail leading to Snow Lake Divide are prime avalanche terrain. The same can be said for the other popular route to the Snow Lake Divide via terrain NW of Source Lake. Both routes involve significant overhead hazard and high levels of exposure and commitment. There is no avalanche “safe” route to the Snow Lake Divide.

Avalanche slope history is important and repeat offenders like the slope that produced the fatal avalanche in this report should be taken very seriously relative to their history. Equally important is the history of recreational use in the Alpental Valley where this avalanche occurred. While awareness and use patterns have improved in recent years, the continued, almost daily use of the Snow Lake summer trail during the winter months (especially during periods of elevated avalanche danger) continues to be alarming.

It is clear that both individuals in this incident had more than a passing understanding of the dangers of the route that ended up killing them. They also had knowledge of the most current avalanche forecast and were explicitly and specifically told by parents to avoid all avalanche terrain that afternoon. By all accounts these two young individuals were smart, cautious, and avalanche aware given their ages and experience. And yet, for reasons we will never know, they chose to attempt to

climb to Snow Lake Divide on the afternoon of February 25. Perhaps a question that we as a community should be asking is not “what were they thinking?” but more along the lines of: “Why do recreationists of all ages, walks of life, experiences, and modes of travel continue to follow the same route, through the same terrain, during periods of elevated avalanche danger?”

All Photographs were taken by Jeremy Allyn on February 26th, 2018

Avalanche crown from a distance

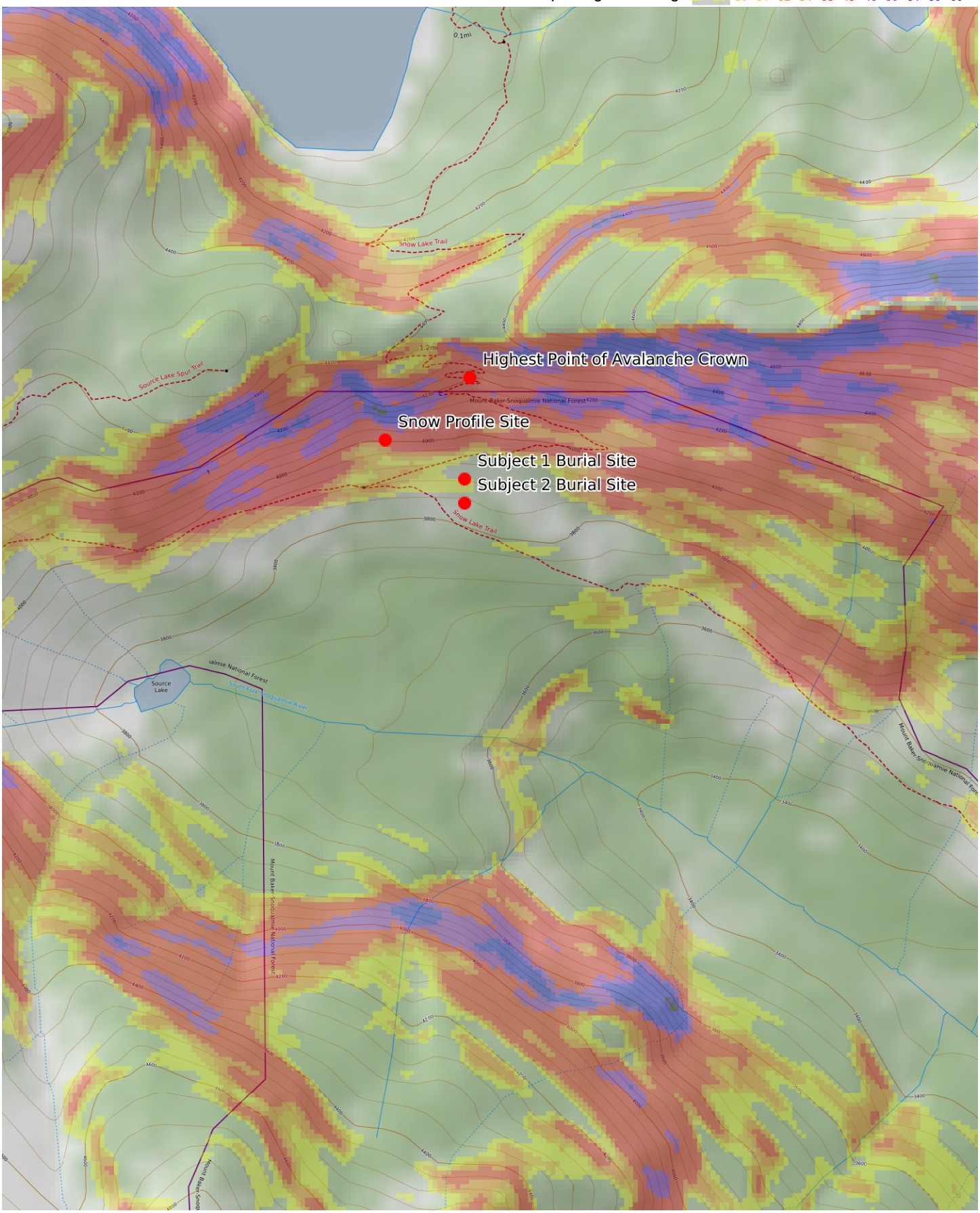
Western crown and debris

Western crown

Looking uphill to the final set of switchbacks on Snow Lake Divide Summer Trail

Trees in the runout

Burial site with rescuer gear for depth reference



Mercator Projection
WGS84
USNG Zone 10TFT

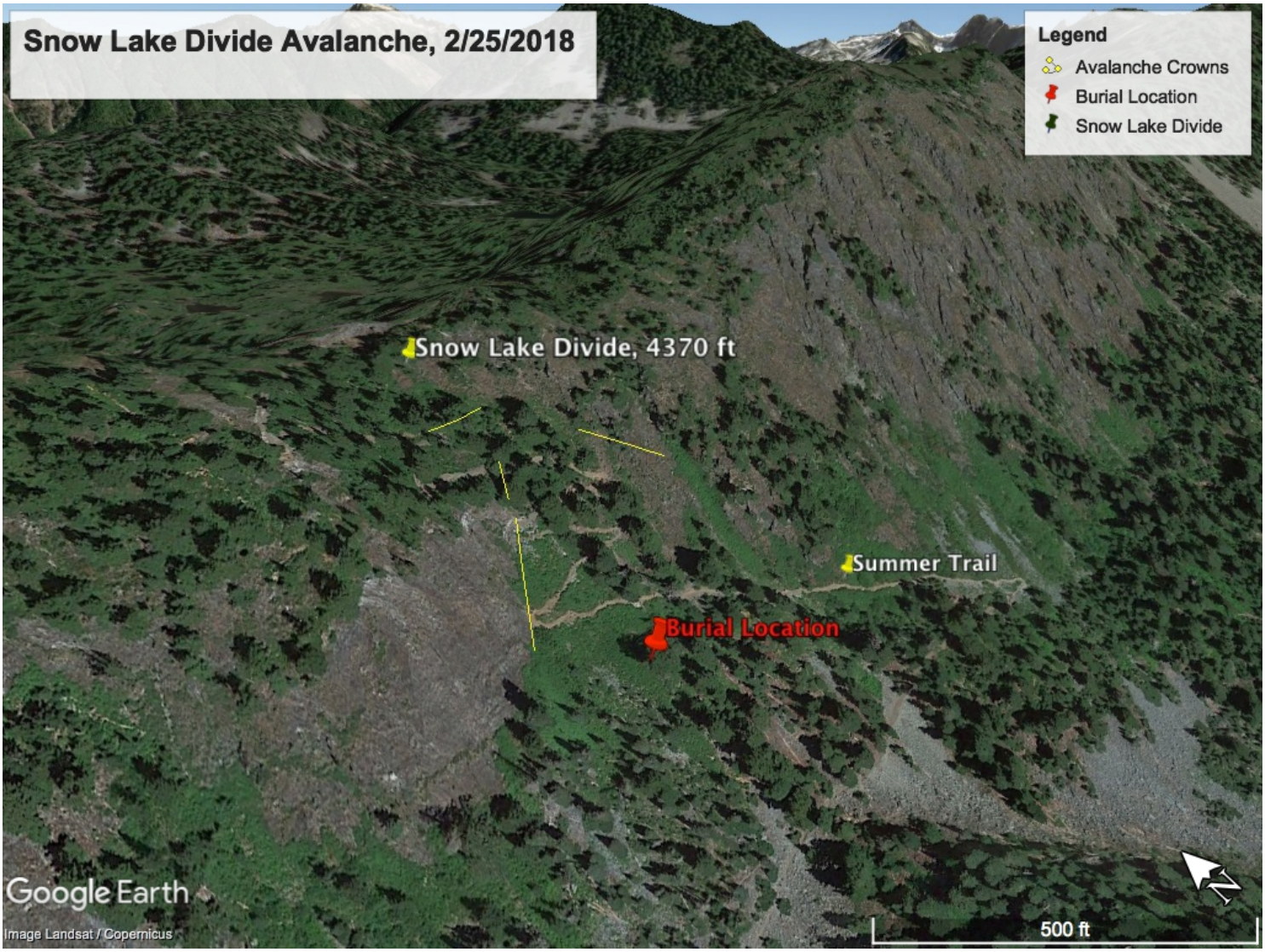
CalTopo.com

0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 km

0.1 0.2 0.3 0.4 mi

Scale **1:7268** 1 inch = 606 feet

N MN 15°


Snow Lake Divide Avalanche, 2/25/2018
Legend
Avalanche Crowns
Burial Location
Snow Lake Divide
Snow Lake Divide, 4370 ft
Summer Trail
Burial Location
Google Earth
Image Landsat / Copernicus
500 ft

Snow Lake Divide
Snoqualmie Pass
WA
Elevation: **4025 ft**
Aspect: **S**

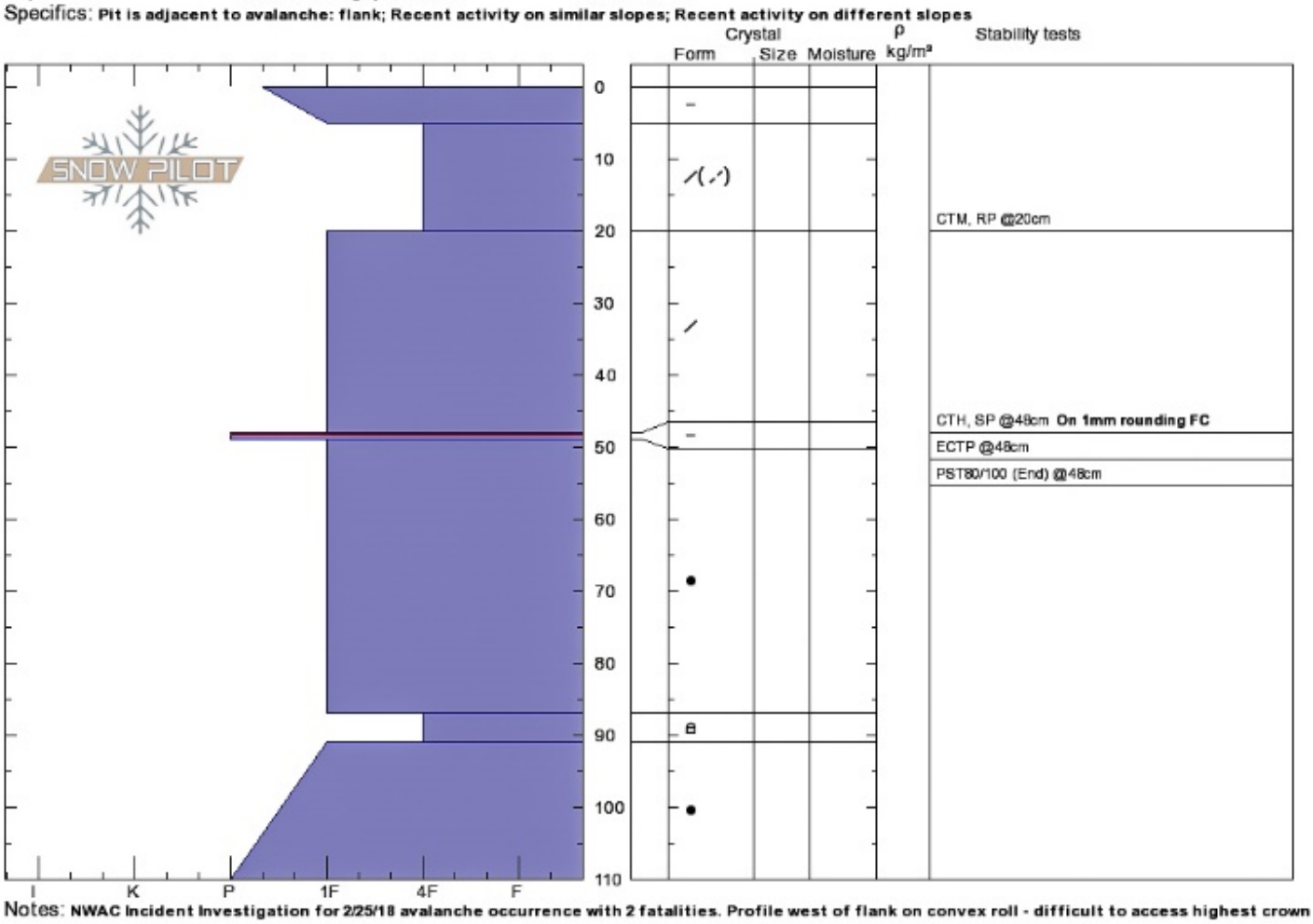
Jeremy Allyn
Mon Feb 26 15:20 2018
Co-ord: **47.27313N, -121.26500W**
Slope Angle: **42°**
Wind Loading: **previous**

Stability: **Poor**
Air Temperature: **-2°C**
Sky Cover: **SCT**
Precipitation: **NO**
Wind: **Calm**

SP30
Stability Test Notes
48: On 1mm rounding FC

Layer Notes
5-0: Formed in last 4 hrs
49-48: Sun Crust buried 2/23
49-48: Problematic layer

Specifics: **Pit is adjacent to avalanche: flank; Recent activity on similar slopes; Recent activity on different slopes**



Notes: **NWAC Incident Investigation for 2/25/18 avalanche occurrence with 2 fatalities. Profile west of flank on convex roll - difficult to access highest crown Avalanche initiated in steep cliffy terrain along summer trail route to Snow Lake Divide at approx. 4235ft, 350ft wide, 500vertical, crown depth to 85cm. (SS-U-R3-D2.5-I)**

Weather Station List — Alpental

Legacy Graphs (select station)

Click here to bookmark your custom graph

Snoqualmie Pass Precipitation and Wind Dir/Speed weather station data were used in lieu of Alpental stations that was unreliable during this event.

Save Graph Preset

Northwest Avalanche Center

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Snoqualmie Pass

Issued: 6:55 PM PST Saturday, February 24, 2018

by Josh Hirshberg

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.

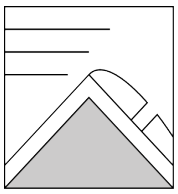
The Bottom Line: Travel in avalanche terrain is not recommended as very dangerous avalanche conditions exist. Expect widespread avalanches big enough to bury or kill you. Only travel in the backcountry today if you are certain that you can avoid avalanche terrain.

Elevation	Sunday		Outlook for Monday
Above Treeline	High	Very dangerous avalanche conditions. Travel in avalanche terrain not recommended.	Considerable
Near Treeline	High	Very dangerous avalanche conditions. Travel in avalanche terrain not recommended.	Considerable
Below Treeline	High	Very dangerous avalanche conditions. Travel in avalanche terrain not recommended.	Considerable

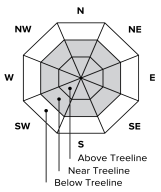
Avalanche Problems for Sunday

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.

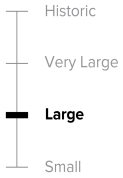


Avalanche Problem



Aspect/Elevation

Likelihood

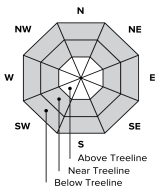


Size

Storm Slabs

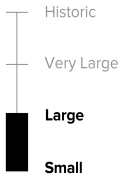
Storm slabs usually stabilize within a few days, and release at or below the trigger point. They exist throughout the terrain, and can be avoided by waiting for the storm snow to stabilize.

Avalanche Problem



Aspect/Elevation

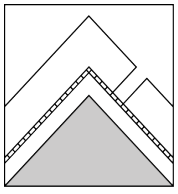
Likelihood



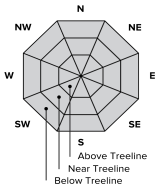
Size

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.

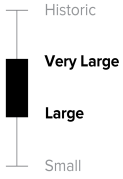


Avalanche Problem



Aspect/Elevation

Likelihood



Size

Avalanche Forecast for Sunday

Expect widespread avalanches in the new snow including many natural avalanches. Many of these could be big enough to kill you. The most dangerous areas will be steep slopes where new snow and wind have deposited 2 feet or more of cohesive snow since Friday. Select appropriate terrain to stay safe. Stay out of open slopes steeper than 35 degrees. Be aware of areas where avalanches commonly run. Avoid traveling below avalanche terrain and stay out of large avalanche paths. Only go into the backcountry today if you are sure of your ability to avoid avalanche terrain.

With several overlapping avalanche problems this will be a challenging time to travel in the mountains. While Storm and Wind Slabs exist in the upper snowpack, very dangerous Deep Slabs lurk below. It's possible that avalanches in the upper snowpack could step down to deeper layers, triggering a very large and destructive avalanche. Deep Slab avalanches are very difficult to predict and give little warning sign. While they may be difficult to trigger your chances of surviving one are slim. If you dig 2-3 feet below the snow surface, you will find a thin layer of sugar-like facets adjacent to a hard crust. You can dig snowpits and use snowpack tests to confirm the strong over weak snow layers of the Deep Slab avalanche problem. Your best way to stay safe from these avalanches is to avoid triggering avalanches in the upper snowpack. Excellent travel conditions can still be found on slopes less than 30 degrees that are not connected to steep overhead slopes.

Avalanche Summary

Heavy snowfall and strong winds have elevated avalanche danger, once again. Up to 1.5 feet of snow accumulated across the West Slopes by Saturday evening. Another 1-2 feet of snow will fall with strong winds by late Sunday. Snowfall starting at the end of the work week fell on a variety of surfaces including old snowflakes, surface hoar, and possibly some small facets.

Widespread natural avalanches were reported from the Mt Baker and Snoqualmie pass areas on Saturday. These were soft slab avalanches and some loose avalanches in the recent snow 1-1.5 feet deep with a few reported as big enough to bury a person. Some of these avalanches ran within the new snow while other slid on the interfce of new and old snow. Observers have not consistently found problematic weak layers at the February 23rd interface.

Last weekend, observers reported a widespread cycle of large to very large avalanches occurring with a potent storm. Avalanches ran in the storm snow as well as on facets, buried on the 13th of February. In many locations these weak sugar-like facets sit 3 feet below the surface on or adjacent to a hard crust layer. Avalanches, collapses, and whumphs have been triggered on this persistent weak layer well after last weekend's initial avalanche cycle. Snowpack test and observations from around the region continue to demonstrate that this layer can fail and produce avalanches. Tests and profiles show the most consistent results from the Stevens and Snoqualmie pass areas. In the Mount Baker area the weak layer is more intermittent and can often show up as facets around a series of crusts.

A thin rain crust formed and was buried on 2/17 near and below 4000' in the Snoqualmie area. Limited information about this snowpack layer has been reported other than it is ski-supportable.

Below the 2/8 crust there are no significant layers of concern.

Observations

Stevens and Snoqualmie Pass

On Saturday, Alpental Patrol reported that slab avalanches were easily triggered in the recent snow with ski cuts during control work. An NWAC observer reported many similar natural avalanches in the adjacent backountry at Snoqualmie Pass.

Also on Saturday, NWAC staff reported two different locations near Snoqualmie pass. While the 2/13 facet layer is showing rounding, test results indicated that the potential for triggering an avalanche still exists. This supports numerous similar snowpack tests results Stevens and Snoqualmie passes, the Crystal and Mt Rainier backcountry and to some extent the Mt Baker backcountry all conducted over the last week.

On Tuesday NWAC staff traveled through popular backcountry terrain near the Skyline area of Stevens Pass, finding the 2/13 facets on most slopes.

The most recent Persistent Slab avalanche was triggered on Monday at Stevens Pass backcountry (Stevens Pass-Hollywood Bowl-2-19). It failed on facets just above the 2/5 crust.

South

On Friday NPS rangers in the Paradise area reported 3-4 feet of snow over weak facets. No wind transported snow was observed.

NWAC Forecaster Dallas Glass observed a large audible whumph caused by a collapsing weak layer Tuesday near Paradise. Snowpack tests in the area indicated the persistent weak layer could fail and produce avalanches up to 4 feet deep.

No recent observations have been received from the Crystal backcountry. A higher level of uncertainty exists in this area.

Mountain Weather Synopsis for Sunday & Monday

A 100+ kt westerly jet stream core centered on the WA coast early Sunday morning added a solid punch to a trough moving across the region and the associated frontal moisture Sunday. The strong westerly flow aloft translated down to crest level and combined with heavy precipitation rates to create stormy conditions throughout the forecast region Sunday. This pattern has caused several post frontal or convergence bands of heavier showers to form Sunday afternoon. Most of the heavier shower activity has been targeted to the Stevens Pass area, but certainly not limited to. The flow and subsequent showers should diminish rapidly overnight with convergence bands dissipating. Freezing levels have been lowering since an early morning shallow warm up. The trough will

continue to dig southward as high pressure rebuilds over the eastern North Pacific Sunday night. This should allow for further diminishing flow becoming more northwesterly and gradually drying causing diminishing showers overnight Sunday. By Monday the trough along the west coast digs southward to central California while the offshore high pressure ridge gains strength. This should cause a weakening NW flow, maintaining cool temperatures and a few scattered light snow showers Monday, mainly along the west slope areas, along with partial clearing at times.

24 Hour Quantitative Precipitation ending at 4 am

Location	Mon	Tue
Hurricane Ridge	1.00	lt .10
Mt Baker Ski Area	.50 - .75	lt .10
Washington Pass	.50	lt .10
Stevens Pass	1.50	lt .10
Snoqualmie Pass	1.00 - 1.50	lt .10
Mission Ridge	.25 - .50	0
Crystal Mt	.75	lt .10
Paradise	1.00 - 1.50	lt .10
White Pass	1.00 - 1.50	lt .10
Mt Hood Meadows	2.00	lt .10
Timberline	2.00	lt .10

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
Sunday Morning	2000'	1000'	1000'	2000'	2500'	
Sunday Evening	1000'	500'	500'	1000'	2000'	
Sunday Night	500'	0'	0'	500'	1000'	
Monday Morning	500'	0'	0'	500'	500'	
Monday Afternoon	1500'	1000'	1000'	1500'	2000'	
Monday Night	1000'	500'	500'	1000'	1000'	

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.

American Avalanche Association
Forest Service National Avalanche Center
Avalanche Incident Report: Short Form

Occurrence Date (YYYYMMDD): 20180225 Time (HHMM):est 500-600 pm Comments:

Reporting Party Name and Address: Northwest Avalanche Center, 7600 Sandpoint Way NE, Seattle, WA 98115

Avalanche Characteristics:

Type: SS Aspect: S
Trigger: U Slope Angle: 40 (avg, est)
Size: R3 \ D 2.5 Elevation: 4250 ☐m / X ft
Sliding surface (check one):
☐In new X New/old ☐ In old ☐G round

Location:

State: WA County: King Forest: Mt. Baker-Snoqualmie NF
Peak, Mtn Pass, or Drainage: S Fork Snoqualmie R., Alpental Valley
Site Name: Snow Lake Divide Trail
Lat/Lon or UTM: 47.458232°N, -121.446326°W (upper burial location)

Group	Number of People	Time recovered	Duration of burial	Depth to Face X m / ☐ft
Caught	2			
Partially Buried—Not critical				
Partially Buried--Critical				
Completely Buried	2		N/AV	1.5 m (#1) 2.2 m (#2)
Number of people injured:		Number of people killed: 2		

Dimensions X m / ☐ft	Average	Maximum
Height of Crown Face		1 m (est)
Width of Fracture	107 m (est)	
Vertical Fall	152 m (est)	

Snow	Hardness	Grain Type	Grain Size (mm)
Slab	4F-1F	PP	1mm
Weak Layer	F	FCxr	1mm
Bed Surface	P	MFcr	1cm thick
Thickness of weak layer: 0.3mm ☐mm /☐cm /☐in			

Burial involved a terrain trap? ☐ no X yes → type: Trees
Number of people that crossed start zone before the avalanche: 2
Location of group in relation to start zone during avalanche: ☐ high ☐m iddle ☐ low ☐below ☐allX unknown
Avalanche occurred during X ascent ☐ descent

Subject	Name	Age	Gender	Address	Phone	Activity
1	SUBJECT 1	18	M			Ski
2	SUBJECT 2	17	M			Snowshoe
3						
4						
5						

Equipment Carried

1	2	3	4	5	
X	X	☐	☐	☐	Transceiver
X	X	☐	☐	☐	Shovel
X	X	☐	☐	☐	Probe
☐	☐	☐	☐	☐	

Experience at Activity

1	2	3	4	5	
X	X	☐	☐	☐	Unknown
☐	☐	☐	☐	☐	Novice
☐	☐	☐	☐	☐	Intermediate
☐	☐	☐	☐	☐	Advanced

Avalanche Training

1	2	3	4	5	
☐	☐	☐	☐	☐	Unknown
☐	☐	☐	☐	☐	None
X	X	☐	☐	☐	Some
☐	☐	☐	☐	☐	Advanced

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Expert ☐ ☐ ☐ ☐ ☐ Expert

Signs of Instability Noted by Group
X Unknown
☐ None
☐ Recent avalanches
☐ Shooting cracks
☐ Collapse or whumphing
☐ Low test scores

Injuries Sustained						Extent of Injuries or Cause of Death					
1	2	3	4	5		1	2	3	4	5	
☐	☐	☐	☐	☐	None	X	X	☐	☐	☐	Asphyxiation
☐	☐	☐	☐	☐	First Aid	X	☐	☐	☐	☐	Head Trauma
☐	☐	☐	☐	☐	Doctor's care	☐	☐	☐	☐	☐	Spinal Injury
☐	☐	☐	☐	☐	Hospital Stay	☐	☐	☐	☐	☐	Chest Trauma
X	X	☐	☐	☐	Fatal	☐	☐	☐	☐	☐	Skeletal Fractures
						☐	☐	☐	☐	☐	Other:

Damage Number of Vehicles Caught: Number Structures Destroyed: Estimated Loss: $

Accident Summary Include: events leading to accident, group's familiarity with location, objectives, route, hazard evaluation, etc.

This was an unwitnessed incident. Through interviews with both sets of parents with a knowledge of text messages, NWAC believes Subjects 1 and 2 left the Alpental upper parking lot around 4 pm on February 25th. Their plan remains uncertain and appears to have been affected by competing and uncertain plans, directions from both sets of parents to avoid avalanche terrain, and the late hour of the day. Subject 2 brought alpine skis in addition to snowshoes. Those skis were left in their vehicle. Subject 1 had ski touring gear. Individually they both were aware of the day's avalanche forecast. Subject 1 was told of the avalanche danger verbally and via text. Subject 2 was shown the forecast on a computer prior to leaving home. Notably, Subject 2 had been on a snowshoe trip along the Snow Lake summer trail the day prior, February 24th. That trip was aborted due to difficult travel conditions and avalanche hazard concerns. Despite recent storm snow, the snowshoe track would have remained intact (albeit partially buried) on the 25th, as it was still visually evident as observed by NWAC and SAR teams the following day. Due to the location of the avalanche crown and the locations of the burials, it is NWAC's conclusion that the pair were caught and carried in an avalanche while in or below the final switchbacks of the Snow Lake trail.

Rescue Summary Include: description of initial search, report of accident, organized rescue, etc.

Rescue Method

1	2	3	4	5	
☐	☐	☐	☐	☐	Self rescue
X	X	☐	☐	☐	Transceiver
☐	☐	☐	☐	☐	Spot probe
☐	☐	☐	☐	☐	Probe line
☐	☐	☐	☐	☐	Rescue dog
☐	☐	☐	☐	☐	Voice
☐	☐	☐	☐	☐	Object
X	X	☐	☐	☐	Digging
☐	☐	☐	☐	☐	Other:

At approximately 9:40 pm on February 25, Seattle Mountain Rescue (SMR) was alerted to 2 overdue backcountry travelers in the Source Lake area. They were reported to have been triangulated by cell phone GPS at a last known location of: 47.45765°N, -121.44576°W. Due to high avalanche danger and another avalanche involvement near Cottonwood Lake, the mission was put on standby for the following day.

On February 26, 4 rescue teams comprised of SMR, King County Explorer Search and Rescue, and the Ski Patrol Avalanche Rescue Team (SPART) departed the Alpental base between 8:20-8:30 am. At approximately 9:30 am, SMR Team 1 reached the suspected avalanche location and immediately received 2 avalanche transceiver signal hits. A combination of transceiver searching, probing, and shoveling resulted in a confirmed probe strike and Subject 1 was located at: 47.458232°N, -121.446326°W, at 3,860 ft on a 28 deg slope uphill of a large tree. Burial depth was 1.5 meters. He was found with one ski attached to his backpack as well as an ice axe. SAR personnel found Subject 1's ski with a climbing skin affixed. He was not wearing a helmet.

SPART Team 3 located Subject 2 at 9:37 am at: 47.457933°N, -121.446321°W, at 3820 ft on a 18 deg. slope near a stand of large trees. Burial depth was 2.2 meters. He was found wearing one snowshoe as well as an ABS avalanche airbag pack that was not deployed. He was wearing a helmet.

At 10:11 am, snow surface instabilities were observed on scene, initiating as the result of solar effect and warming temperatures. One size D2 Wet Loose avalanche released naturally and ran within 100 feet to the west of the incident site. This activity forced all teams to pull back from Subject 1 to Subject 2 (lower in the terrain). After an on-scene safety briefing, more visual avalanche guards were assigned and the the numbers of SAR personnel were reduced to limited exposure to the overhead hazard.

Subject 1 was evacuated from the scene at 10:36 am. SPART Team 3 (along with additional resources) completed the final extrication of Subject 2 at 12:16 pm after which all SAR personnel departed the scene arriving at Alpental base area at 1 pm.

Attach additional pages as needed. Include weather history, snow profiles, reports from other agencies, diagram of site, photographs, and any other supporting information

https://www.nwac.us/accidents/accident-reports/

Please send to: CAIC; 325 Broadway WS1; Boulder CO 80305; caic@state.co.us and to the nearest Avalanche Center.