

Chugach National Forest Avalanche Information Center 2017 - 2018 Annual Report



Photo: Mike Ausman captures a large D3 deep slab avalanche triggered remotely from below by two skiers shortly after release. Skiers narrowly missed being caught in the runoff.



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Investigating a recent avalanche on Sunburst, Turnagain Pass. Photo: Heather Thamm



Photo: Heather Thamm

Message from the Director

The Chugach National Forest Avalanche Information Center (CNFAIC) has just completed its 17th season of providing public avalanche information and education for the Turnagain Pass region of Southcentral Alaska. The Center has gone through many evolutions and advancements. We strive to keep pushing forward, growing in the effort to reach more users more effectively and to help minimize avalanche accidents in the future.

In January of 2018, Alaska's Division of Parks and Outdoor Recreation signed a Memorandum of Understanding with the CNFAIC. This agreement allows us to work with State Parks in extending public outreach and information sharing to certain State lands susceptible to avalanche accidents. This season we also worked closely with the National Avalanche Center to improve our daily avalanche advisory product to include avalanche likelihood and size scales along with updated 'avalanche problem' icons. One of our goals is to help the user understand how likely they are to trigger an avalanche and if they do; how big is it expected to be.

During the early season, the Friends of the CNFAIC Executive Director facilitated 'editor briefings' with local news outlets to build relations and provide resources to help with media product accuracy. Looking ahead to August 2018, the Friends of the CNFAIC are planning to install a ridgetop weather station in the data-sparse region of Lost Lake, on the Seward Ranger District. This will provide weather information (including webcam images) to an area where avalanche terrain and significant snowmachine use overlap.

I'm also happy to announce the Friends of the CNFAIC increased funding to the Forest Service so all three staff members are now able to work a full six month season (See Friends and Finances section). This allows our staff to issue avalanche forecasts November through April, provide free public outreach and tackle projects to further our knowledge and improve the Center as a public resource. The staff includes: Heather Thamm (4 years with the Center) who led a workplace safety project recently implemented (more on page 21). Heather also fills a vital role with her photography throughout the season. Aleph Johnston-Bloom (3 years) brings a critical tie with the greater U.S. avalanche community with her seat as Secretary for the American Avalanche Association and draws upon her years as an avalanche educator to coordinate our outreach efforts and manage the intern program. Myself (8 years) and Graham Predeger (7 years). Graham is the Forest Service Winter Recreation Program Manager and assists part-time with snowmachine outreach, operations and various other CNFAIC projects.

On a final note, we continue to be humbled, inspired and motivated by the growing support of the community. This brings immeasurable meaning to our jobs and excitement to serve the public as best we possibly can.

-Wendy Wagner, CNFAIC Director

Acknowledgements

Staying safe in avalanche terrain is a community effort. From the public user to the avalanche professional, then further to industry and corporations, and on. To all of you that have become members, submitted observations, attended fundraisers, donated, or simply read our daily advisories, **THANK YOU** immensely!! This is the foundation we continue to build upon. We could not do this without our non-profit arm, the **Friends of the CNFAIC**. Their tireless work is a conduit to the community. Please see the “Finances and Fundraising” section at the end of the report for specifics on the Friends group!

When we get down to business at the Avalanche Center assessing snow stability and avalanche conditions, the entities listed below are absolutely integral for producing accurate avalanche forecasts. We would like to extend a special thank you to the following organizations and individuals for sharing valuable information and insight:

- Alaska DOT&PF
- Alyeska Ski Patrol and Snow Safety
- Chugach Powder Guides
- Alaska Railroad
- Alaska Avalanche School
- Alaska Guide Collective
- Alaska Pacific University
- Chugach Electric
- The over 200 public users who submitted snow/avalanche observations through our website!!



The CNFAIC weekly “Forecaster Meeting” has become a staple for avalanche professionals in the Girdwood Valley. Regulars to these Friday morning meetings are Alaska DOT Avalanche Program, Chugach Powder Guides, Alaska Guide Collective and Alaska Avalanche School.

Advisories and Statistics

This season started with intermittent updates during November along with education topics until our first advisory was issued on November 27th. This marked the start of *daily* advisories, which lasted through April 15th. For the last two weeks of the season, we posted advisories 4 days/week with a final advisory on April 26th. The Summit Lake Weekly Snowpack Summary continued this season. It was posted on Saturday mornings starting in early December and posted weekly through early April.

Advisories

Turnagain: **146** (with danger ratings, does not include early season updates)

Summit Weekly Summaries: **20**

Official Warnings

Avalanche Warnings: **1**

Special Avalanche Bulletins: **3**

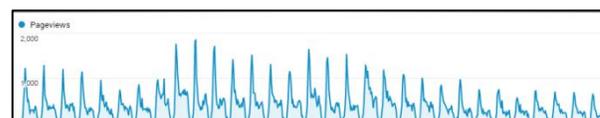
Website

May 2017 through April 2018

Total Visits: **530,795**

Unique visitors: **220,275**

March 2018. Can you see Spring Break?



Observations

Total: **577**

Chugach NF: 394

Hatcher Pass: 151

Chugach State Park: **29**

Other: **3**

Public: **342**

Pro: **40** (not including CNFAIC staff)

CNFAIC Pro Staff: **114**

CNFAIC Interns: **81**

Instagram

Total posts per season: **94** Followers: **4,310**

Facebook

Likes: **4,868**

Followers: **4,927**

YouTube

Videos: **48** Views: **8,149**

Traditional Media Appearances

Including TV/ Print/Online news/Radio: **20**

Two notable radio interviews:

Wendy Wagner: December 7th, 2017

Alaska News Nightly:

<https://www.alaskapublic.org/2017/12/07/despote-decades-of-backcountry-experience-beloved-coach-died-in-avalanche/>

Aleph Johnston-Bloom: January 12th, 2018

Outdoor Explorer:

<https://www.alaskapublic.org/2018/01/12/national-champion-skiers-avalanche-prediction/>

Outreach

Total people reached: **591**

Rescue Workshop/Beacon Clinics: **151**

(3 events)

Youth reached: **85**



Public Outreach

In our ongoing goal to fulfill a core component of the avalanche centers mission, *“To increase avalanche awareness in the Turnagain area through advisories and public education.”*, the CNFAIC had another very successful season of free avalanche outreach to the motorized and non-motorized communities. For the topic based avalanche presentations for the public we tried a slightly different theme this year, focusing on Lessons Learned from last season in our *“Fireside Chat”* format. These *“Chats”* were again hosted at various locations including Alaska Mining and Diving Supply (AMDS), Ski AK, Blue & Gold Boardshop, Powder Hound Ski Shop and the Seward Library. We used these talks as a way to review the CNFAIC website and go over the snowpack and event details for a few of the accidents and close calls that occurred last winter. These were a great way to review formation of weak layers, highlight how winters can be dramatically different depending on weather patterns and look at the mistakes we can all make in avalanche terrain. CNFAIC staff again collaborated for the 4th annual free hands-on Rescue Workshop with the Hatcher Pass Avalanche Center, the Hatcher Pass SnowRiders Club and the Alaska Avalanche School in January at Hatcher Pass. In addition, CNFAIC staff offered two free transceiver clinics at Turnagain Pass this season with Black Diamond generously donating demo rescue gear for participants to try out.



Aleph Johnston-Bloom talking to the participants at the Hatcher Pass Rescue Workshop about “Getting Out of Harm’s Way!”



Wendy Wagner presenting to an engaged audience at Blue and Gold Boardshop

Public Outreach (Continued)

Intern Jessie Haffener with the Girdwood Girl Scouts. Graham Predeger teaching Snowmachine Level 1



Outreach table showing the variety of teaching opportunities that the staff participated in.

Date	Location	Outreach Type	Presenter	Ppl	Audience
11/3/2017	APU	South Central Alaska Avalanche Workshop	All	150	Professionals and Public
10/14/2017	Ski AK	Lessons Learned	Wendy	25	Mixed
11/18/2017	Homer	Homer Snowmachine Club Awareness	Alex, Sully from AAS	75	Snowmachine
11/28/2017	Alyeska	Alyeska Ski Patrol Training	Heather	10	Professionals
12/5/2017	AMDS	Lessons Learned	Graham, Heather	120	Snowmachine
12/6/2017	Anchorage	Alaska Nordic Ski Patrol	Wendy	35	Skiers
12/9/2017	Seward Library	Know Before You Go	Alex, Aleph	30	Mixed
12/19/2017	Blue/Gold	Lessons Learned	Heather	30	Mixed
12/21/2017	Powder Hound	Lessons Learned	Aleph	30	Mixed
1/3/2018	Blue/Gold	Understanding the Forecast Awareness, Kenai US Fish and Wildlife Service	Wendy	60	Mixed
1/6/2018	Soldotna		Alex McLain	18	Mixed
1/12/2018	GRD	AAS Pro 1	All	8	Skiers
1/13//2018	Hatcher Pass	Rescue Workshop	Aleph/Graham/ Interns	130	Mixed
1/27/2018	Turnagain	Beacon Clinic	All	16	Mixed
1/28/2018	Alyeska	Beacon and Eggs	Heather	30	Skiers
2/17/2018	Summit Lake	Awareness, Kenai Math Club	Alex McLain	18	Youth
2/17/2018	Turnagain	Beacon Clinic	Wendy, Graham, Interns	15	Mixed
2/20/2018	Girdwood School	CNFAIC History	Wendy	20	Youth
2/21/2018	Girdwood	Girl Scout Night	Jessie	18	Youth
3/9-3/11/18	GRD/Turnagain	AAS L1 Snowmachine	Graham	8	Snowmachine
3/20/2018	Seward Middle School	Know Before You Go 6 th Grade	Alex McLain	35	Youth
4/19/2018	D.W. Petroleum	Awareness	Wendy	18	Mixed

Southcentral Alaska Avalanche Workshop (SAAW)

November 4th, 2017

The 2017 Southcentral Alaska Avalanche Workshop was hosted at Alaska Pacific University with 120 attendees. The day was divided into two parts with the morning topics geared towards professionals with subjects that included: changes to pro-avalanche certifications, terrain decision-making biases, lessons learned from 16/17 season on the Chugach National Forest, and an intro to the professional near miss database. The afternoon was open to recreational users and included a talk about weather resources for Alaska by the National Weather Service, and two talks on the most neglected rescue skills: strategic shoveling and medical response for an avalanche victim. The financial support from the American Avalanche Association Professional Development Grant has allowed this event to be sustainable while making it possible to invite a guest presenter from outside our community each year. This year we had Ethan Greene, Colorado Avalanche Information Center Director, give several presentations including a discussion on deep slab problems and a case study of the 2013 Sheep Creek accident in Colorado. Here's some highlights from a handful of the participants.

Peter Wadsworth, local observer/backcountry skier

"The theme that ran through many of the talks, and resonated for me, was how insidious a deep persistent slab is; especially in terms of the lack of positive feedback from the snow pack. DPS problems provide even less feedback than normal. It made me rethink several decisions I made last season where "nothing happened".

Sarah Carter, Valdez Avalanche Center

"I relate to Henry Munter's musings on terrain bias. He makes two points that stand out to me. First, the lowers (elevation bands) can be what get us in the Chugach. We often focus our analysis on the steeps above the glaciers, but rollovers into rugged ravines and lateral moraines can prove more complex, especially with groups of varying ski ability. Second, the smaller slopes that run less frequently lure us onto them during poor vis or when we're time constrained.

While our guard is down, they can vomit up a size two that injures or kills. Henry reminds me to ask: where will it go if I trigger it? How big will it be? Is terrain bias at play here? Do I have another option?"



SAAW Speakers, upper left to right: Ethan Greene (CAIC Director) Melis Coady (Alaska Avalanche School Director)
Bottom left to right: Henry Munter (Chugach Powder Guides General Manager) Jaime Andersen (Anchorage Fire Dept Paramedic and Alaska Avalanche School Instructor)

Internship Program

The avalanche center had an opportunity this winter to take on two interns. Husband and wife team Jessie Haffener and Sam Galoob both eagerly jumped at the opportunity to gain operational experience in a backcountry avalanche forecasting program. Originally from Oklahoma, working in Alaska two years ago they both chose to leave their jobs in the oil industry to pursue their outdoor passions and career aspirations. They came to the internship program with a keen interest in learning everything they could about snow science and avalanche forecasting. Jessie and Sam started in early December and enthusiastically helped out until mid-April. During that time they were helpful field partners for the forecasters and often went out as a team of their own. They posted over 80 observations, took turns writing the Summit Summary for most of the winter and worked on mock forecasting for the Turnagain Advisory towards end of their internship. Each forecaster worked with them in the field and office sharing their personal methods for targeting information, developing focused questions about stability and thinking about personal risk management. Jessie and Sam both gained a valuable experience and improved on many skills including snowpack assessment, terrain management, clear observation communication through writing and photography, avalanche rescue and snowmachine riding. They attended and contributed to the CNFAIC weekly stability meetings and made invaluable contacts in the Southcentral Alaska avalanche community as potential options for career paths come into focus with DOT, Alyeska Pro Patrollers or Chugach Powder Guides. Their internship project was a thoughtful and well-crafted presentation on, *“Considerations for Optimal Management of Periphery Zones in Southcentral Alaska”*. They compiled statistics, anecdotal evidence and communicated with avalanche centers across the Western US about this topic. It was a pleasure to see their skills improve over the season and how much they both appreciated the experience. In addition to the internship, they both taught Level 1 avalanche classes for the Alaska Avalanche School and are members of the Hatcher Pass Avalanche Center Advisory Board. We are glad to have these two as part of the avalanche community as they gain more experience and look forward to seeing their progression as advocates for snow safety in the Alaskan backcountry and beyond!



Photo: Heather Thamm

Partnerships

The CNFAIC relies heavily on its many partners, both within the professional avalanche community and outside. Local avalanche partners include: Alaska DOT Avalanche Program, Alaska Railroad Avalanche Program, Alyeska Snow Safety, Chugach Powder Guides, Alaska Avalanche School, Hatcher Pass Avalanche Center and Alaska Pacific University snow science program, Alaska Guide Collective and Chugach Electric.

Other invaluable partners include: the National Weather Service, BeadedStream/KCI and Alaska Mining and Diving Supply.



A meeting of the weather minds. The National Weather Service hosts an annual fall meeting with avalanche specialists around the state to discuss their snow safety weather products and any new items. Participants include NWS weather forecasters, CNFAIC, Alaska DOT, Alaska Railroad, Hatcher Pass Avalanche Center, Valdez Avalanche Center, Alyeska Snow Safety and Chugach Powder Guides.



Alaska Mining and Diving Supply (AMDS) and CNFAIC partner to provide a free avalanche rescue clinic at Turnagain Pass. AMDS also fills a critical role for the Center by facilitating a relationship with BRP/Ski-Doo, which has resulted in the CNFAIC being the recipient of a new 'loaner' snowmachine for 6 years running now!

Near Misses and Fatalities

Sadly in May, a snowmachiner lost his life riding on the Blackstone Glacier south of Whittier on the Chugach National Forest. This occurred outside of the advisory area and after the avalanche center had stopped issuing avalanche forecasts for the season. A synopsis of the accident report is detailed below. Alaska averages three avalanche deaths per season. The 2017/ 18 winter tragically saw three. The others were a skier at Hatcher Pass in November and a snowboarder in the mountains outside of Ketchikan in February.

Blackstone Glacier Avalanche Fatality

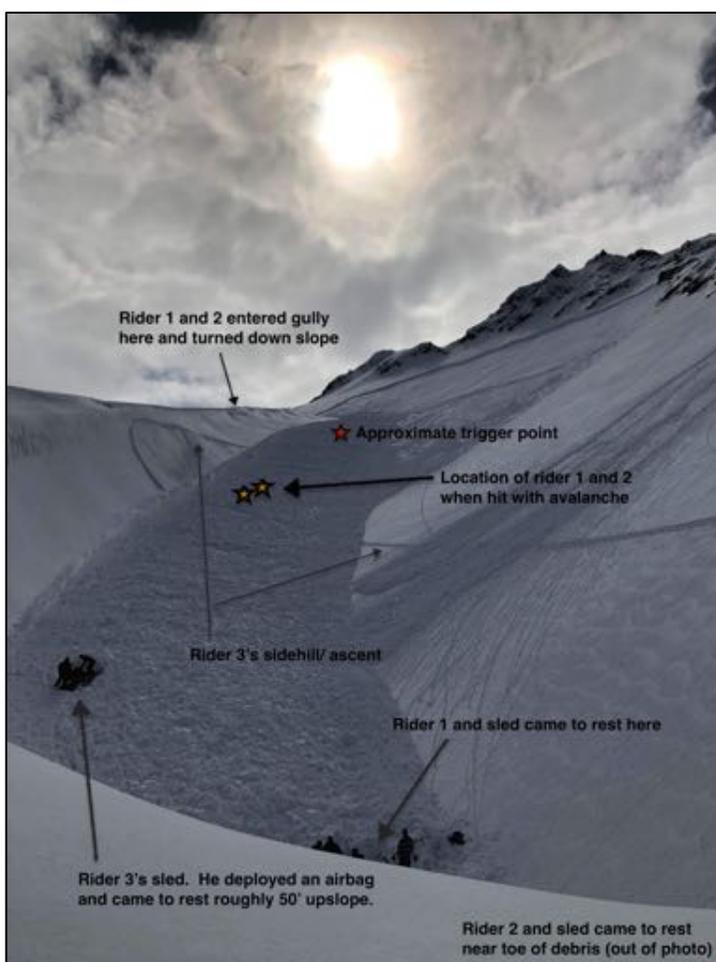
Location: Upper Blackstone Glacier, south of Whittier, Kenai Mountains

Date: May 2, 2018

Classification: SS-AMu-R3D2-U

Synopsis: Two riders crested over a sub-ridge and descended into a gully (see image) en route back to the trailhead in Whittier. Simultaneously a third rider was side-hilling/ascending the same gully and crested above the other two. With three people on the slope at the same time and in fairly close proximity, it is unclear from where exactly on the slope the avalanche was triggered. A fourth rider was out of the way in a safe zone, and witnessed the avalanche initiate and propagate about 200' above where the highest rider was on the slope. None of the three riders on the slope saw or heard the avalanche until it hit them. All three snowmachiners were caught, one deployed an airbag and came to rest near the surface, one was partially buried and one was fully buried (with hand breaking the surface) and killed. See the detailed avalanche accident report:

<http://www.cnfaic.org/site/wp-content/uploads/2013/10/Blackstone-avalanche-accident.pdf>



Pastoral Near Miss

Location: Pastoral Peak, Turnagain Pass, Kenai Mountains

Date: December 20, 2017

Classification: HS-ASr-R3-D3-G

Synopsis: Two skiers remotely triggered a large avalanche while skinning below the NW face of Pastoral Peak. The skiers were in the direct path of the avalanche. Both skiers reversed their travel and ran/skied behind a small knoll to avoid being caught. At the same time this avalanche released, another avalanche was sympathetically triggered approximately 1500 ft. away to the NE, 900 ft. lower in elevation. This is considered a near miss due to the size, proximity to people and potential consequences of the avalanche triggered.

Full report: <http://www.cnfaic.org/accidents/Pastoral-%20Near%20Miss%20Report%202017.pdf>



Twin Peaks Near Miss

Location: Twin Peaks, Turnagain Pass, Kenai Mountains

Date: February 3, 2018

Classification: HS-ASu-R3-D2.5-O

Synopsis: Two skiers triggered a large avalanche while skinning up the East Face of Twin Peaks. This was their second lap ascending the route and they were the 9th and 10th people on the skin track. The avalanche was triggered in a very thin area of the snowpack (20" deep) just below the person in the lead. The second person was able to arrest onto the bed surface just below the crown. The debris funneled through two separate gullies on either side of the bench below them and ran a total of 2400 vertical feet to the valley bottom. This is considered a near miss due to the size and potential consequences of the avalanche triggered.

Full report:

<http://www.cnfaic.org/site/wp-content/uploads/2013/10/Twin-Peaks-Near-Miss-Report.pdf>



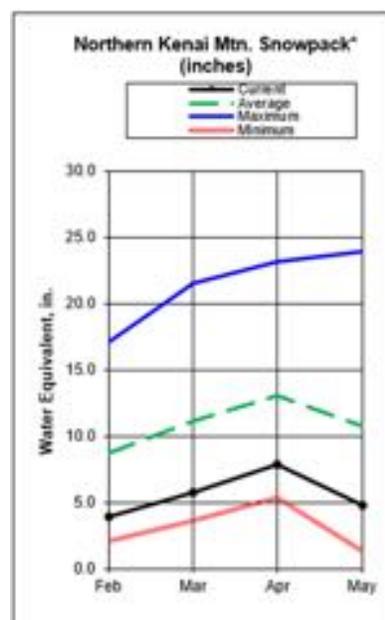
Snowpack and Weather Summary

Seasonal Snowfall = 237" Seasonal H2O = 27.2"

*Data from the Turnagain Pass SNOTEL (1880') from Oct 1 – May 1

2017/18 – WINTER SNAPSHOT

Overall the seasonal snowfall was below average. The NRCS summary for the Kenai Peninsula reported the snowpack at the end of March to be **57% of normal**. Southcentral Alaska experienced a variety of high pressure systems, some lasting a few days and others a few weeks. These cold clear periods were the perfect conditions for creating persistent weak layers. Facets formed on the ground in November followed by the biggest precipitation month, December, when a Southern Jet stream pumped in copious amounts of rain and snow. The extreme difference between a dry November and a wet December caused a widespread wet avalanche cycle in the mid elevations and a Deep Persistent Slab problem above 3000' for December and beyond. Just before Christmas two skiers remotely triggered a very large deep slab avalanche without incident. This scary close call set the tone of *Uncertainty* for a season that continued to be full of widespread persistent layers. In addition, there were two stubborn layers of buried surface hoar and a mid-pack facet/crust combo that persisted for long periods of time. Another notable event occurred in mid-January when the entire Southwest face of Sunburst released naturally (mid-storm) on buried surface hoar. This layer later flaired up in early February on Twin Peaks when a party of two had a very scary near-miss. February was the driest month of the winter with only 26" of low density snow. Several strong Northwest outflow wind events in February and March caused unusual loading patterns throughout our region and contributed to an already spatially variable snowpack. In mid March a storm cycle lasting a week and a half over spring break loaded facets on a mid-pack crust in the mid elevations. For two weeks there were dozens



of reports of remotely triggered avalanches and a few folks caught and carried without incident. High pressure set up over our area once again with unseasonably cool weather and by early April these layers had become dormant. Spring avalanche conditions finally began in April when a rain event initiated a wet avalanche cycle below 2500'. A melt/freeze cycle followed before a series of low pressure systems initiated another round of rain, snow and avalanches extending from April 24th through May.

November

Monthly snow = 20", Monthly H2O = 2.0"

The snowpack in November started the season off with a weak foundation. A melt-freeze crust overlying the ground was present above 2000' due to rain and wet snow from October and bare ground below 2,000'. Most of November was cold and clear with only a few inches of snow within the first 25 days. This caused near surface facet growth on the ground and on top of the melt-freeze crust in the upper elevations. Facets were also forming under the upper elevation crust. Our first storm cycle arrived Thanksgiving weekend with 15" of snow burying these widespread facets. This storm marked enough snow to start issuing daily advisories and initiated the first avalanche cycle of the season. Numerous small (D1) and large (D2) skier triggered and natural avalanches ensued.

Cold clear weather in November faceted out a very thin snowpack leaving an unstable foundation for the month to follow.



December

Monthly snow = 56" Monthly H2O = 9.4"

December was our most precipitous month with 9.4" of Snow Water Equivalent (SWE) recorded at the Center Ridge Snotel at 1800'. In early December, an "Atmospheric River" was positioned over Southern Alaska with a South to North jet flow lasting several weeks. Heavy rain fell in the lower elevations and rain reached as high as 3000' at times. All this precipitation landed on the Thanksgiving facets keeping everyone's hair raised with each additional storm. A widespread natural avalanche cycle occurred over a five-day period from December 9th through the 12th with wet slabs releasing below 3000'. The avalanche danger remained High or Considerable through December 17 when finally temperatures cooled and precipitation stopped. Deep Persistent Slab became the primary concern above 3000', below this a strong crust had formed. On December 20th two skiers remotely triggered a very large avalanche (D3) from below the Northwest face of Pastoral Peak and literally (and luckily) ran out of the way of the avalanche. An avalanche investigation confirmed the 'Thanksgiving facets' as the weak layer and noted a spatially variable slab with lots of thin spots in the area it was triggered from. Click [HERE](#) to read the incident summary. A strong wind event occurred on December 22-23, just prior to a fresh inch of snow that covered the hard wind affected surfaces. Cold and clear weather continued for the next week creating near surface facets and a widespread layer of very large surface hoar regionwide. On December 30th, a New Year's storm began burying the weak surface snow, giving this layer the name, "NY buried surface hoar."

"It sounded like a distant explosion when it went, then we heard and felt the snowpack below us drop several inches." –
Party members involved in the Pastoral Avalanche



Two skiers narrowly escaped out of harm's way when they remotely triggered this avalanche from below; also triggering a sympathetic avalanche on an adjacent slope. Photo by Mike Ausman.

January

Monthly snow = 68", Monthly H2O = 7.3"

The New Year's storm brought 30" of snow (2.5" SWE) and strong Easterly winds to Turnagain Pass. The NY surface hoar was buried before the winds hit, leaving the surface hoar and near surface facets sandwiched intact between two harder layers of snow. Another layer of surface hoar formed during the clear weather after the storm ended. This was buried on Jan 11th, as the next storm brought snow and rain to the advisory area. Rain was observed falling to 3000'. The heavy snow and rain initiated an avalanche cycle on the Jan 11th buried surface hoar and in some areas avalanches were stepping down to the NY buried surface hoar. We suspect this included several large (D2) to very large (D3) avalanches in the Summit Lake area and a notable (D3) natural avalanche on Sunburst, January 16th. The start zones for this cycle ranged between 3000' and 4000'. After the storm ended, freezing temperatures created a strong crust on the surface to 2000' and several thinner crusts between 2000' and 3000'. Near surface facets formed above 2000' along with another round of widespread surface hoar 1-2 centimeters in size. Several inches of snow fell without wind on Jan 21 preserving both weak layers and on Jan 25 a storm dropped 20" of very low density snow. Calm clear weather ensued over the next week and this low density snow quickly settled into a 12"-14" soft slab. Numerous skier and snowmachiners triggered small pockets, releasing without incident over the next week. All avalanches had in common the Jan 21 buried surface hoar as the guilty weak layer.

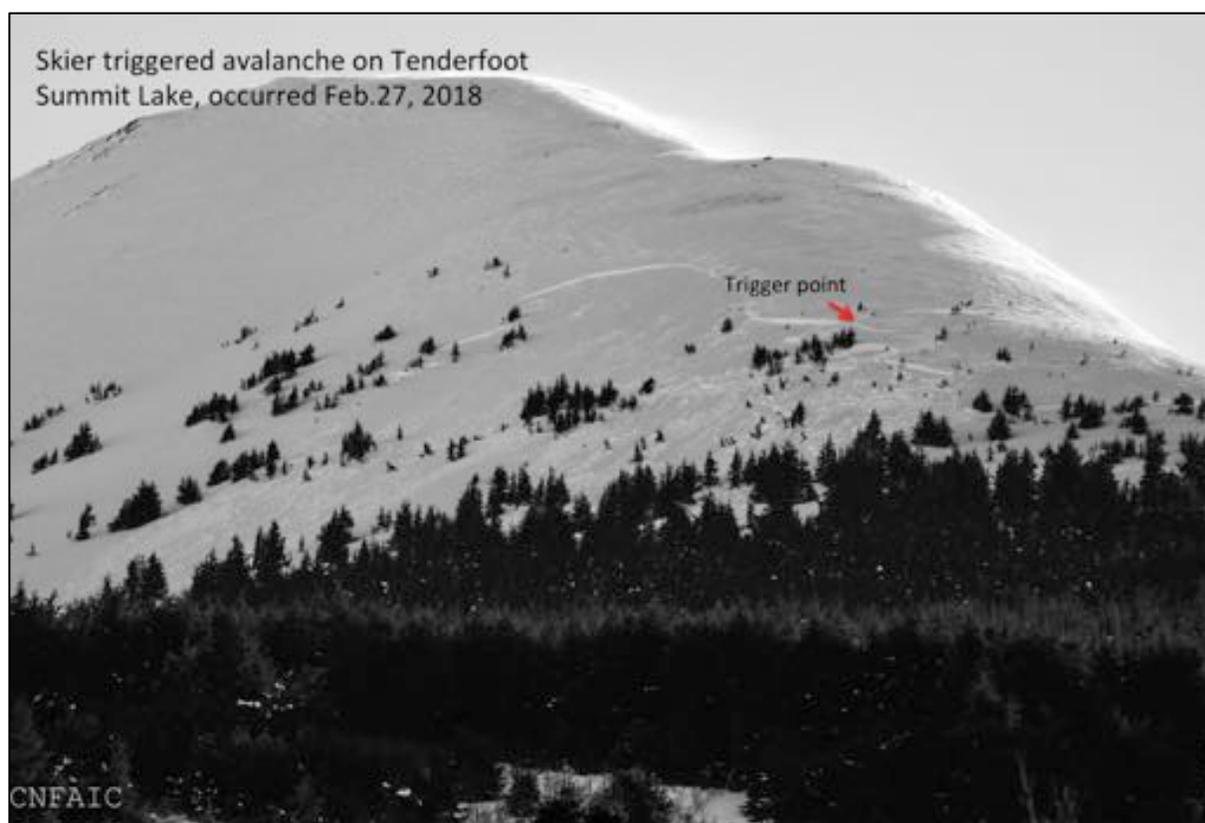


A very large avalanche on Sunburst released naturally during a large storm event in mid-January. The weak layer was the NY buried surface hoar.

February

Monthly snow = 26", Monthly H₂O = 1.5"

The beginning of February continued to have cold, clear and calm weather. On February 3rd, 8 days after the last snowfall, a group of two skiers triggered a large avalanche on Twin Peaks, on the far Southern periphery of the advisory zone near Summit Lake. Luck was on their side and again no one was caught. This avalanche was triggered on the NY buried surface hoar/facets in a thinner area of the snowpack, 18 days since the last avalanche activity on this layer. February was the driest month with 26" of low density snow falling incrementally between three different storms. Each storm was followed by strong outflow winds from the Northwest. This wind direction is opposite our normal storm tracks and added stress to predominantly thinner snowpack zones. Only a few small human triggered avalanches occurred in Turnagain Pass the remainder of the month, but Summit Lake with its thinner snowpack experienced an avalanche cycle attributed to these Northerly winds. On Feb. 27th a group on Tenderfoot triggered a large avalanche on a North aspect. This avalanche released on facets formed around the mid January melt/freeze crust. The following day as Westerly winds increased a natural avalanche cycle was observed on North and East aspects on Summit Mountain, Colorado, and Fresno.



March

Monthly snow = 50", Monthly H2O = 3.0"

March started out cold and clear with only a few inches of snow over the first week. A series of storms during the second week of March (Spring Break), dumped 45" of snow over a 5-day period. This sudden loading event kicked off a two-week stretch of large human triggered avalanches. Coastal areas received deeper snow totals and most of the avalanche activity was releasing on facets that developed on a mid-pack crust formed in January. This was a layer we were tracking, but until the Summit Lake avalanche on Tenderfoot we hadn't confirmed any activity on this layer. Most of these avalanches occurred below 3000', but there were a few avalanches at higher elevations. It is suspect these released on the Jan.21 buried surface hoar or the new/old snow interface from early March. Over spring break two separate parties had people caught and carried. Two different skiers deployed their airbags without any injuries. Numerous remotely triggered avalanches occurred including a large slab triggered by snowmachiners in Grandview, and a helicopter triggered a Deep Slab from an adjacent slope in Girdwood Valley. Radiation from the sun also played a role in some of these avalanches, but not all; some occurred on shaded aspects without direct solar heating. Another stretch of high pressure entered our region for the following two weeks and by the end of March stability was improving. Although we were seeing sunny weather, temperatures remained unseasonably cool and only a thin and breakable melt/freeze crust was present on solar aspects.



In many ways the 2017/18 season was season full of near misses. These avalanches were triggered by a snowmachine near Lost Lake during Spring Break. Photo courtesy of Leif Hagen.

April

Monthly snow = 17" Monthly H2O = 4"

High pressure continued through the beginning of April and the avalanche danger went to Low. A storm on April 4th brought warmer temperatures and 18" of new snowfall. A few storm slabs were noted to have released naturally as well as few human triggered. Daily warming due to sun and overnight freezing created a melt/freeze crust on solar aspects. On April 8th temperatures increased into the 30's F in the upper elevations for the first time of the season as a low pressure moved over the region bringing rain showers and strong winds for several days. A natural wet avalanche cycle occurred on April 10th and 11th with some wet slabs releasing below 2500' and wet loose avalanches below 3000'. Clear weather followed the cycle and we finally moved into a pattern of daily warming and freezing overnight. Cold snow could still be found above 3000' on Northern aspects, but all other aspects and mid elevations experienced a much anticipated corn cycle for the next week. A series of Low-pressure systems moved through the region during our final week of operation bringing another round of rain and snow. Portage Valley received around 7.4" of rain over 4 days compared to Turnagain that had 1.6". This fell as snow above 2500'. By the time the avalanche center closed their doors for the season, the snow was rapidly melting along the road at Turnagain Pass, but a winter snowpack continued in the upper elevations.

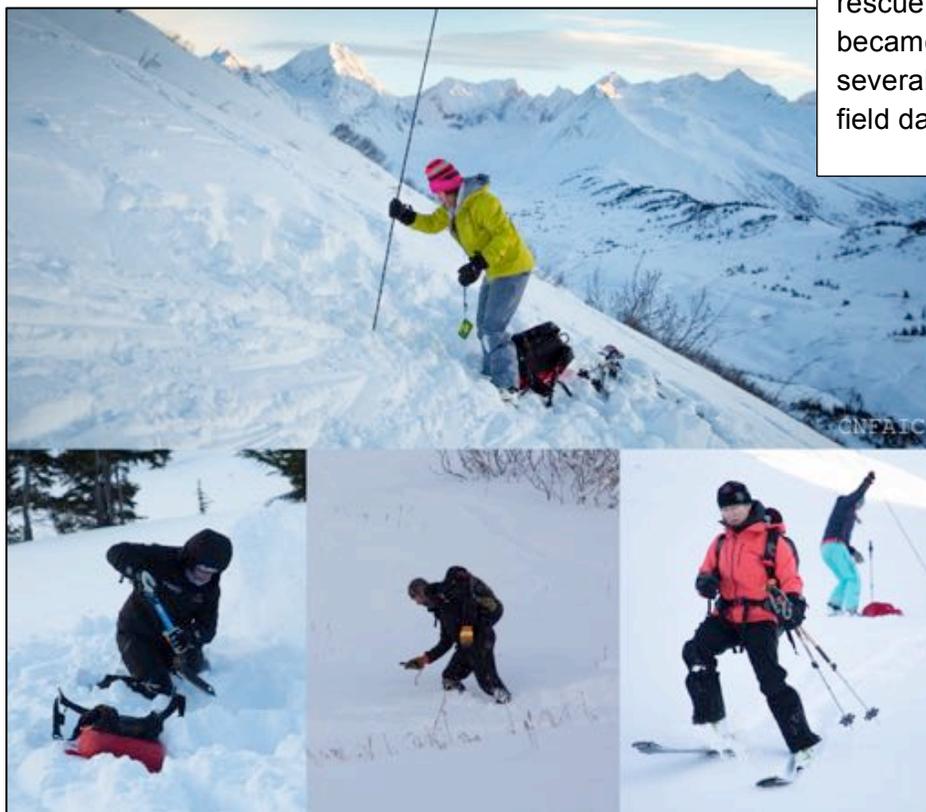


Byron Glacier Trail has become a popular hiking destination in Portage. Unfortunately this area has a lot of avalanche terrain looming above. On Saturday, April 17, near the beginning of a big storm, several hikers had a close call when an avalanche from above sent them running to safety.

Workplace Safety

This year our staff introduced new worker safety protocols to our normal operating procedures. We committed to doing avalanche companion rescue drills with a field partners several times over the winter. This was a great way to keep our rescue skills dialed and provided an opportunity for our volunteers to get more practice under pressure. We also adopted a formal morning briefing and debriefing process with our field partners (spearheaded by Heather Thamm). We created a morning Pre-Trip form that is filled out by the field team and prompts the team to go over the avalanche forecast, weather, pertinent observations, their route, and the objectives for the day. The form includes a post trip section with a series of questions to examine how we exposed ourselves in avalanche terrain and discuss any lesson learned. Overall this process has helped our communication with our field partners, ensured everyone understands the avalanche hazards and the plan for managing those hazards. The debrief also gave us the space to reflect on our day and identify any errors we made or unnecessary exposure.

Companion rescue practice became a part of several CNFAIC field days.



Finances and Fundraising - The Friends of the CNFAIC

The Friends of the Chugach National Forest Avalanche Information Center (F-CNFAIC) is a nonprofit 501(c)(3) corporation, organized to support and contribute to avalanche awareness and educational activities. Formed in 2003, F-CNFAIC works to help bridge the gap between available US Forest Service (FS) funding and the actual expenses of operating the CNFAIC.



A SOLD OUT crowd kicks up their heels at the 4th Annual Snowball, hosted by 49th State Brewery!



Mark and Janelle Smiley present Alaska ski mountaineering stories to a packed house at the 2018 BearTooth Fall Fundraiser!

The F-CNFAIC is instrumental to our operation **as they provide over half of our total annual budget!**

Fundraising continues to grow and events continue to sell out. This year annual memberships and corporate and private donations continued to climb.

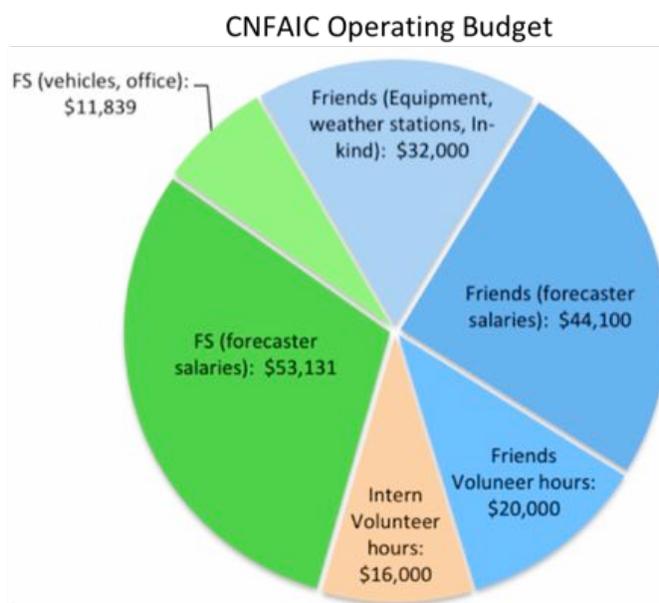
Operating Costs:

F-CNFAIC spends a significant portion of its budget on expenses directly related to the CNFAIC. The following graph reflects expenses and time required for CNFAIC operations.

F-CNFAIC also supports:

- Weather stations on State lands (own & maintain)
- Hatcher Pass Avalanche Center
- See more at cnfaic.org/friends

*If you see value in providing avalanche information, forecasting and education to Southcentral Alaska, please consider donating to this public service today! (donation link on cnfaic.org)



The Friends of the CNFAIC (Continued)

Industry and Individual sponsorships are instrumental in providing CNFAIC products and programs. The following are the F-CNFAIC Platinum and Gold Level Sponsors!!

Platinum Level Sponsors (over \$5,000)



THE
JOHN
BYRNE
FAMILY



Gold Level Sponsors (\$1,000 - \$4,999)



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CHUGACH
POWERING ALASKA'S FUTURE

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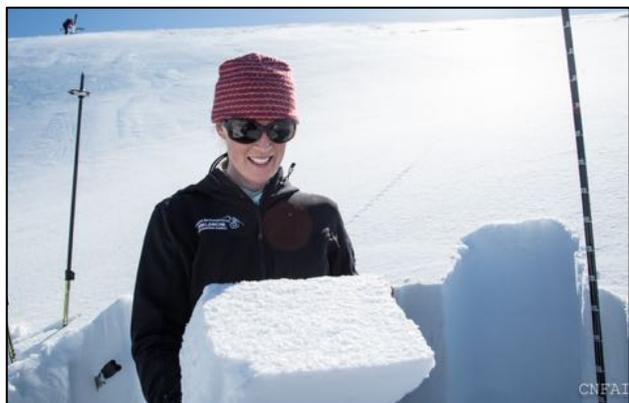
OAKLEY

ORTOVOX



THANK YOU from the CNFAIC Team!!

The forecasters would like to thank everyone who has extended such incredible support to the Avalanche Center. This service would not be possible without such a strong community desire to make it happen. Have a great summer everyone and we look forward to seeing you next fall!!



Heather Thamm



Aleph Johnston-Bloom



Wendy Wagner



Graham Predeger