

2017-18 Annual Report



Gallatin National Forest AVALANCHE CENTER



GRIZZLY OUTFITTERS
BRIDGER BOWL
YC COMMUNITY FOUNDATION
YELLOWSTONE ARCTIC YAMAHA

World Boards
Mystery Ranch
Spark R&D
Montana Ale Works
Community Food Co-op
Cooke City Super 8
Montana State Parks

Alpine Orthopedics
Stronghold Fabrication
Gallatin Valley Snowmobile Association
Ticket River
Highline Partners
Pinhead Classic

Gallatin County SAR
Katabatic Brewing Co.
MAP Brewing
Cooke City Motorsports
Knoff Group Real Estate



Alex Marienthal



Eric Knoff



Doug Chabot



2017-18 Annual Report Gallatin National Forest Avalanche Center

MAY 2018



On September 16th winter arrived with a foot of snow in the mountains. On the 17th a skier triggered the first avalanche of the season. On the 19th, after continued snowfall, Alex issued the first avalanche information bulletin, the earliest in 28 years of operation. This winter was the biggest snow year since 1996/97 in southwest Montana with snowpack depth averaging 120-160% of normal.

The country's first avalanche fatality occurred in the southern Madison Range on October 7th when two skiers were caught on the flanks of Imp Peak, killing one, a beloved local. A snowmobiler was killed on Sage Peak in the same mountain range on January 2nd. On April 14th an avalanche killed a solo skier on Saddle Peak, a very popular sidecountry run in the Bridger Range. Fifty-two avalanche incidents (about average) were reported in our forecast area that resulted in 18 caught, 3 injuries, 10 partial burials, 9 full burials and 3 deaths. Nationally, there were 24 fatalities compared to the 10-year average of 27.

We issued 17 avalanche information bulletins in the fall and started daily avalanche advisories on November 24th which ended 136 days later on April 8th. Because of the large snowpack we issued 9 more in April, making this our longest season by far. Steady snowfall hindered the development of lasting weak layers that can form with a shallow snowpack or during clear weather, two things that were in short supply. We issued avalanche warnings 7 days during the most dangerous times compared with 13 warnings last year.

Besides avalanche advisories, we concentrate on education. Working closely with the Friends of the Avalanche Center, in 2017-18 we taught more classes to more people than ever before (stats below). Avalanche education keeps people safe in the backcountry. As MSU enrollment swells along with a growing high school population, we are making an extra effort to reach young adults. In November we launched a 4-part video campaign titled "Get Avalanche Smart," specifically targeting this audience. The series had 58,600 views and helped increase enrollment in our ASMSU class *Introduction to Avalanches with Field Course* by 50%. Over 300 people attended 2 nights of lectures and a field session. We also filmed "Dashboard Talks," seven informal conversations about avalanches as we drove home from the field. These were viewed 33,000 times. Our goal of keeping people informed and alive is accomplished through avalanche advisories, videos from the field, photos, social media updates each morning and after every field day, and education offerings for all ages and user groups.

GNFAC INDEX

- Number and % increase of email subscribers to the avalanche advisory: 6011 and 32%
- Number and % increase of daily views to our Advisory page: 1548 and 106%
 - *106% increase in one year!!*
- Total number of avalanche classes and attendees: 134 and 5300
 - Total number of elementary and secondary school students: 857
 - Total number of snowmobilers: 960
- Number of videos posted to YouTube and total views: 121 and 238,942
 - Increase from last year in videos and views: 69% and 64%
- Number of videos posted to Instagram and total views: 66 and 168,847
- Number of field days: 115
 - Total number of snowpits we recorded on snowpilot.org: 115
- Miles driven on each snowmobile: 1200
- Highway miles driven in our two vehicles for field work: 13,500
- Number of media interviews: 72

THIS WINTER
7,559 PEOPLE A
DAY RECEIVED
OUR AVALANCHE
ADVISORY.

- Inches of snow water equivalent (SWE) at Brackett Creek in the Bridger Range from October 1 to April 13: 37.5"
 - Date that Fisher Creek SNOTEL outside Cooke City hit 37.5" of SWE: February 4th
 - *Peak SWE at Fisher Creek: 56", breaking a record set in 1971!!*
- Ratio of flip phones to smartphones at the GNFAC: 2:1
- Number of times Alex and Doug got their snowmobiles stuck in a 100 yard swath outside Cooke City: we stopped counting at 8.
 - Number of shovels broken digging out the sleds: 1
- The gas station where Doug had a split-second lapse in attention and soaked himself in fuel: Town Pump on Huffine Lane.

Avalanche Advisories

The daily avalanche advisory is a synthesis of all our snowpits, field days, observations from volunteers, weather stations, and weather models. We look, listen and investigate in order to make the advisory accurate, memorable and jargon-free so the public can make good decisions in the backcountry. We give advice on what to look for and what to do, the same advice we would give our best friend. Everyone from a 7th grader to a PhD should be able to understand our advisory and know exactly what concerns us that day. No special training is needed to read the daily advisory.

Early mornings are part of the job. Each day one of us is in the office at 4 a.m. with a



7:30 a.m. deadline for posting the advisory. Some days are easy, others are tight. The hardest are when a snowstorm begins at 6 a.m., forcing us to scramble for weather data. The morning process includes looking at yesterday's weather and today's weather models, reading all the email and social media observations, sorting and posting pictures, writing and recording an abbreviated advisory for a 6 a.m. live radio broadcast and writing the final product which gets recorded for the phone line, posted on our website, emailed, and finally posted on social media. Whew.



Last summer we redesigned parts of our website to make it mobile-friendly and easier to get information. We added "Regional Conditions" pages, a one-stop shop of weather, snowpack, pictures, videos, and snowpits for each mountain range. The upgrades worked and 7,559 people a day received the advisory, 6,011 by email and 1,548 via the advisory page, a 60% increase from last season. Contrary to popular belief, people spend 2 minutes and 50 seconds reading the advisory page (according to the all-seeing Google), about as long as it takes to record it for our phone line. We are one of few avalanche centers still recording our advisory for the phone.

WE POSTED 121
VIDEOS THAT
WERE VIEWED
407,789 TIMES.

YouTube, Instagram, Facebook, Twitter

This season we made 121 videos, the most ever, mostly field-based with one of us standing in a snowpit talking about the day's avalanche concerns. The videos tend to be 60-90 seconds long and are chock-full of relevant information. A person who consistently watched our videos without reading a word of the advisory would still have a good understanding of the snowpack. Between the three GNFAC forecasters, we had 115 field days and made a video on almost all of them. The videos are posted the same afternoon so people can think about the snow before the next day's outing.

Besides field videos we filmed 7 "Dashboard Talks," casual conversations while driving back from the field about a wide-range of avalanche topics. These were a hit on social media and we will continue them next year.

Our 121 videos were viewed a total of 407,789 times: 238,942 on YouTube, and 168,847 on Instagram.

Social media is a game-changer, unbelievably effective at allowing us to reach thousands

of people a day. We used these platforms more aggressively this season in order to inform people about our avalanche concerns. Every morning we would post to Facebook and Twitter and again every afternoon after our field day including Instagram. The number of followers is growing rapidly: 9,147 on Facebook, 7,611 on Instagram, 3,006 subscribers on YouTube and 2,004 on Twitter, a 35% increase from last winter.

Traditional Print and TV Media

Traditional print and television media remain an important part of communicating avalanche information to the public, especially during dangerous times. This season started early and ended late and we gave a record 72 interviews to print and television media.

Avalanche Articles

Every year the avalanche articles we write for publication can be found on the Resources/Articles page of our website. This year we wrote 9 articles that appeared in *The Avalanche Review*, *Explore Big Sky*, and *Carve* magazine.

Avalanche Incidents

An *avalanche incident* is defined as someone triggering an avalanche unintentionally. This season 52 incidents were reported to us, involving three deaths in our forecast area. The complete list is on page 19 and 20.

The first fatality of the year was on October 7th when a local skier was buried and killed in an avalanche on Imp Peak. This was the second earliest avalanche fatality in the U.S. in 50 years. In January a snowmobiler was killed near Sage Peak, and two other sledders were killed in separate avalanches in the Centennial Mountains, just outside our forecast area in Idaho. The season ended with an avalanche fatality on April 14th involving a solo skier on Saddle Peak, the sidecountry of Bridger Bowl. Having the season bookended with tragedies made the winter especially long and taxing.

Over the last ten years Montana is ranked third in the nation in avalanche fatalities (32) and first in snowmobiler avalanche fatalities (19). Pages 16-18 have graphs showing the last 10 years of avalanche incidents grouped by activity and state.



THIS YEAR WE
TAUGHT 134
AVALANCHE
CLASSES
REACHING 5,300
PEOPLE.



Avalanche Education

The Friends of the Avalanche Center work closely with the GNFAAC to bring high quality avalanche education to the public. Nina Hance and Dave Zinn are Education Coordinators responsible for training, scheduling, staffing and teaching. Chances are if you asked for an avalanche class you interacted with one of them. As the Gallatin Valley grows, so does our education program. This year we made a conscious effort to educate young adults in high school and college freshman. In order to reach this demographic the Friends and GNFAAC made a 4-part video series to drive this audience into avalanche classes. The videos were shown on social media and were entertaining, funny and explained the seriousness of avalanches and the need to get educated. As more and more people move into southwest Montana, it's our duty to reach out and educate them about the backcountry. The marketing campaign worked and we filled both our MSU classes to capacity (300) and added extra field days.

Nina and Dave coordinated 134 classes that reached 5,300 people, a record number. We try to accommodate all requests for classes, no matter the age or user group: motorized or human-powered. We have a roster of 30 instructors who teach, many are outdoor professionals and all are extremely competent. We could not offer as many classes as we do without their dedication.



Our avalanche education programs reach 7th –8th graders and high school students in Bozeman, Big Sky, Livingston, and Belgrade. Young adults are a prime target of our education efforts since ski area sidecountry use is exploding. This year we educated 857 kids and young adults under 18. Snowmobilers are a huge audience and we taught 50 snowmobile specific classes to 960 riders. We lecture to ski patrols, Search and Rescue groups, local snowmobile clubs, MSU, and ski and outdoor stores in Bozeman and Big Sky. We have taught in Bozeman, Big Sky, West Yellowstone, Ennis, Dillon, Livingston, Gardiner, Cooke City, Billings, Big Timber, Helena, Great Falls, and Cody, Wyoming.

WE TAUGHT 50
SNOWMOBILER
AVALANCHE
CLASSES
ATTENDED BY 960
RIDERS.

The Friends maintain beacon parks outside West Yellowstone and at Beall Park in Bozeman, allowing the public to practice with their avalanche transceivers efficiently. The Friends also have four wireless beacon parks that are used when a portable option is necessary.

Our four main education offerings are:

1. *1-hour Avalanche Awareness* lecture. This class is a starting point for people to learn about avalanches. We have specific talks for each user group that cover Terrain, Weather, Snowpack and Decision-making.

2. *Introduction to Avalanches with Field Session*. These classes consist of lectures, usually over two evenings, with an all-day field session. We offer classes for skiers/snowboarders and one tailored for snowmobilers.

3. *Companion Rescue*. This popular six-hour field-based course concentrates on avalanche rescue. We ran classes outside Bridger Bowl, in Beehive Basin near Big Sky, and outside Cooke City.

4. *Snowmobiler Avalanche Awareness and Avalanche Rescue*. This course was held in Cooke City every Friday and Saturday from Thanksgiving until mid-March. A lecture on current conditions, basic awareness and avalanche rescue was held every Friday night. On Saturday, instructors set up a wireless beacon park at the Round Lake warming hut for riders' training. This program, in its second year, was made possible by a donation from Seth McArthur at Montana State Parks.

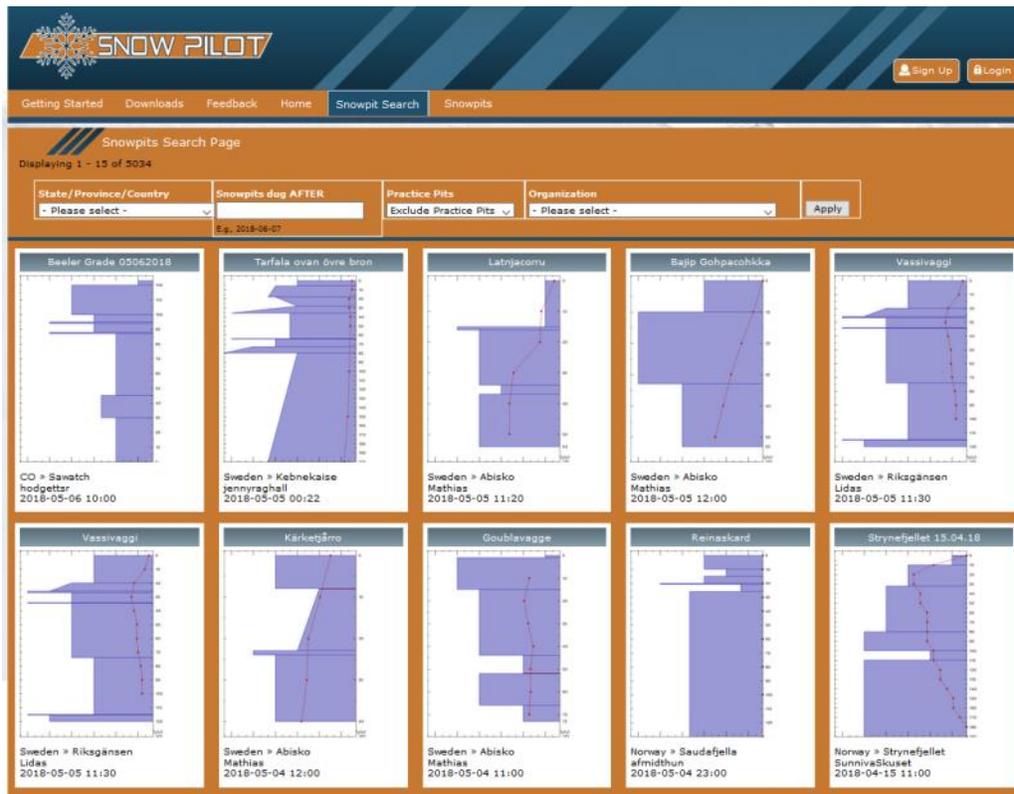
On April 4th we hosted the 9th *Professional Development Workshop for Avalanche Professionals*. The topic for the day was New Ideas, New Research and 11 speakers talked about avalanche accidents, snow stability, climatology, risk, travel behavior, ice properties and SnowPilot. Sixty professionals attended from Montana, Colorado, and Idaho. The lectures were filmed and are posted on our YouTube channel for everyone to watch.





SnowPilot

SnowPilot (www.snowpilot.org) is open-source, free software that allows users to graph, record and database snowpit information. We created it during the winter of 2004. In 2016 it was restructured to allow users worldwide to enter their data on a website. In exchange for providing a free platform to enter snowpit data, *SnowPilot* gets an expanding database that is readily shared with researchers to advance the field of snow science. Over 4,000 people use it and we now have over 15,000 snowpits in the database, the world's largest!



Finances of the GNFAC

The Custer Gallatin National Forest provided the Avalanche Center with 51% of its funding which covered salaries, benefits, travel, vehicles, computers and office space. We rely on other sources for the shortfall, namely our long-term supporters, Friends of the Avalanche Center (33%) and Montana Fish, Wildlife & Parks (16%).

Friends of the Avalanche Center

The Friends of the Avalanche Center is a nonprofit organization whose mission is to financially support the work of the Avalanche Center. The Friends cover expenses

related to the avalanche education program, as well as administrative, snowmobile, weather station and website costs.

The Friends were founded in 1992 and have donated over \$622,154 since then to the operation of the GNFA. This year their total contribution was \$83,500. This total reflects spending \$66,500 for avalanche education and \$17,000 for direct GNFA support. Almost all monies came from local businesses and individuals in southwest Montana with the following long term, recurring support:

34 VOLUNTEERS
ACCOMPANIED
US ON 70 FIELD
DAYS TOTALING
560 HOURS.

- 19th Annual Powder Blast (\$46,220)
- Yellowstone Club Community Foundation (\$7,000)
- 16th Annual King and Queen of the Ridge at Bridger Bowl (\$13,880)
- Bozeman SplitFest (\$2,340)
- Cooke City SledFest (\$4,000)

The Board of Directors is a varied slice of the winter recreating community. They are all volunteers with three paid, part-time staff: Education Coordinators (David Zinn and Nina Hance) and Treasurer (Allyson Fauver). This lean, effective, backcountry savvy group is led by Board President Jeannie Wall. They include: Emily Stifler-Wolfe (Secretary), Ben Nobel, Tyler Allen, Ben Zavora, Mark Greeno, Laura Ryan, Dawn Brown, Leah Knickerbocker, and Rob Lininger.

Donated Labor and Equipment

The Avalanche Center could not operate at its current level without the local community donating time, expertise and equipment. Added up, their donated work totals \$34,910, a dollar estimate of what it would cost to hire people and buy/rent equipment.

Avalanche Intern

This winter Gabrielle Antonioli was our intern. She came with a strong backcountry skiing background, a sharp-mind, and lots of energy to fuel us all. For the last few years she sent us regular snowpack and field observations and pictures. This season she accompanied us in the field, learned how to snowmobile and taught for the Friends. She also started a research project on snowfall distribution up Hyalite which required her to break trail for hundreds of miles over the winter. If you skied Hyalite after a fresh storm and found the trail already in, chances are it was her. Next winter she will be attending grad school at MSU to continue her research.

Field Volunteers/Observers

It's not always possible for the three forecasters to go in the field with each other, so we rely on a team of skilled volunteers to be our partners. Thirty-four volunteers accompanied us on 70 field days totaling 560 hours. They are: Conrad Anker, Gabrielle



Antonioli, Chris Bilbrey, BJ Brewer, Frank Carus, Nicole Champion, Clark Corey, Wes Dudley, Allyson Fauver, Zach Guy, Marcie Hahn-Knoff, Nina Hance, Sam Hennessey, Zac Hiedeman, Ian Hoyer, Sam Magro, Jordan Mancey, Jill McMurry, Matt Menge, Tom Oechslin, Andy Olson, Alan Oram, Bill Radecky, Chris Robinson, Andrew Schauer, Ron Simmenhois, Paul Smith, Mark Staples, Allen Steckmest, Emily Stifler-Wolfe, Jason Thompson, Karl Wetlaufer, and David Zinn.

These folks are our peers and several are professional snow workers. We also count on the public emailing their personal field observations, stability test results and snowpits. The accuracy of our forecasts is a direct reflection of their detailed and steady reports. We owe a special thanks to Big Sky and Bridger Bowl Ski patrols for their daily observations as well as Beartooth Powder Guides, Yellowstone Ski Tours and Montana Alpine Guides.

Yellowstone Arctic Yamaha and Yamaha Corporation

Jason and Bill Howell, owners of Yellowstone Arctic Yamaha in West Yellowstone, loaned the Friends two snowmobiles this year. They worked with Craig Gagne of Yamaha Corporation and had us riding a pair of 2017 SR Viper M-TX SE 153". We put over 1,200 miles on each one, mostly off trail. We could not do our jobs without Jason, Bill, and Yamaha's generosity and dedication to avalanche safety.

VOLUNTEER LABOR (billed at \$15/hour):

NRCS	\$3,600
Big Sky Ski Area (~175 hours)	\$2,625
Bridger Bowl Ski Area (~130 hours)	\$1,950
Yellowstone Club (~80 hours)	\$1,200
National Weather Service (121 hours)	\$1,815
Volunteer observers (~500 hours)	\$7,500
Field volunteers (548 hours)	\$8,220

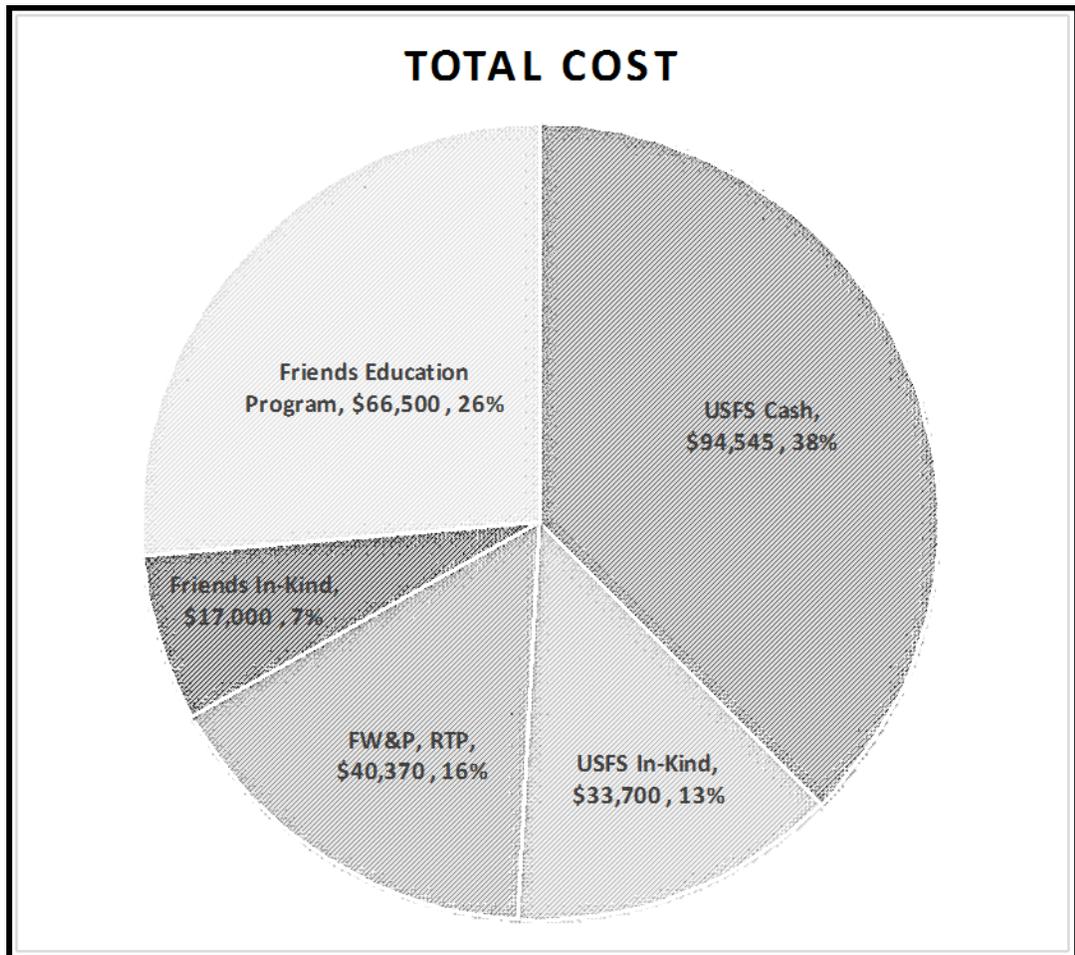
EQUIPMENT RENTAL (Contributed):

Yellowstone Arctic Yamaha (two sleds loaned):	\$8,000
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TOTAL	\$34,910
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Total Costs

Custer Gallatin National Forest (salaries/benefits)	\$94,545
◆ CGNF In-Kind (vehicles, office, etc)	\$33,700
Montana FW&P Rec Trails Program (salaries)	\$40,370
Friends of the Avalanche Center (education program)	\$66,500
◆ FOAC In-Kind	\$17,000
	—————
Total Costs	\$252,115 (100%)
<i>CGNF Contribution</i>	<i>\$128,245 (51%)</i>
<i>Outside Contributions (non federal government)</i>	<i>\$123,870 (49%)</i>





Snowpack and Weather Summary

Winter's first major snowstorm impacted the region in mid-September, coating the mountains around Bozeman with multiple feet of snow. Brackett Creek SNOTEL site in the Bridger Range received 6.1" of SWE from the 16th to 24th of September. Long time locals called it the best September skiing on record. The mountains around Big Sky, West Yellowstone and Cooke City also picked up significant early season snow. The snowpack at primary SNOTEL sites in our advisory contained the highest amount of snow water equivalent on record for each day from September 20th-26th.

Cold weather and moderate snowfall continued through early October, with close to a foot of snow falling in the first five days of the month. On October 7th, a skier died in an avalanche on Imp Peak in the southern Madison Range, the earliest avalanche fatality since the GNFA began in 1990. The slide occurred on a heavily wind loaded slope in alpine terrain. It broke 2-3' deep, 300' wide and ran approximately 300 vertical feet. The victim was a Bozeman local and long time member of the skiing community. It was a devastating beginning to the season.

The last two weeks of October and most of November were fairly average for temperature and precipitation. The end of November saw above freezing temperatures and mountain rain across the advisory area. This rapid warm up formed a thick ice crust on all aspects and elevations. Known as the Thanksgiving ice crust, it was the main layer of concern for the next 1-2 months.

Winter returned in earnest by the middle of December with increased avalanche activity. The GNFA issued its first avalanche warning on December 30th for the mountains around West Yellowstone and Cooke City. On January 2nd, the GNFA saw its second avalanche fatality. A





snowmobiler in the southern Madison Range near West Yellowstone remotely triggered a large slide on a layer of facets above the Thanksgiving ice crust and was buried three feet deep under his sled. Members of his party witnessed the slide and had him uncovered in less than 15 minutes, but unfortunately he did not survive.

Continued snow and wind during early January prompted the GNFAC to issue its second avalanche warning for the Lionhead area near West Yellowstone on January 10th. A snowmobiler was killed that day in the Centennial Range just south of West Yellowstone. Although not in the GNFAC forecast zone, the Centennial Range had a similar snowpack structure to the Lionhead area. Consistent snowfall continued through January and the early part of February.

Fisher Creek SNOTEL site near Cooke City received over 8" of SWE from January 26th to February 10th. The GNFAC put out three separate avalanche warnings for the mountains around Cooke City on February 5th, 8th and 9th. On February 10th, a snowmobiler outside of Cooke City triggered and was buried in a large slide. Fortunately, he was quickly uncovered by his partners and unharmed. Starting February 10th the mountains experienced a four-day drought, the longest in two months.

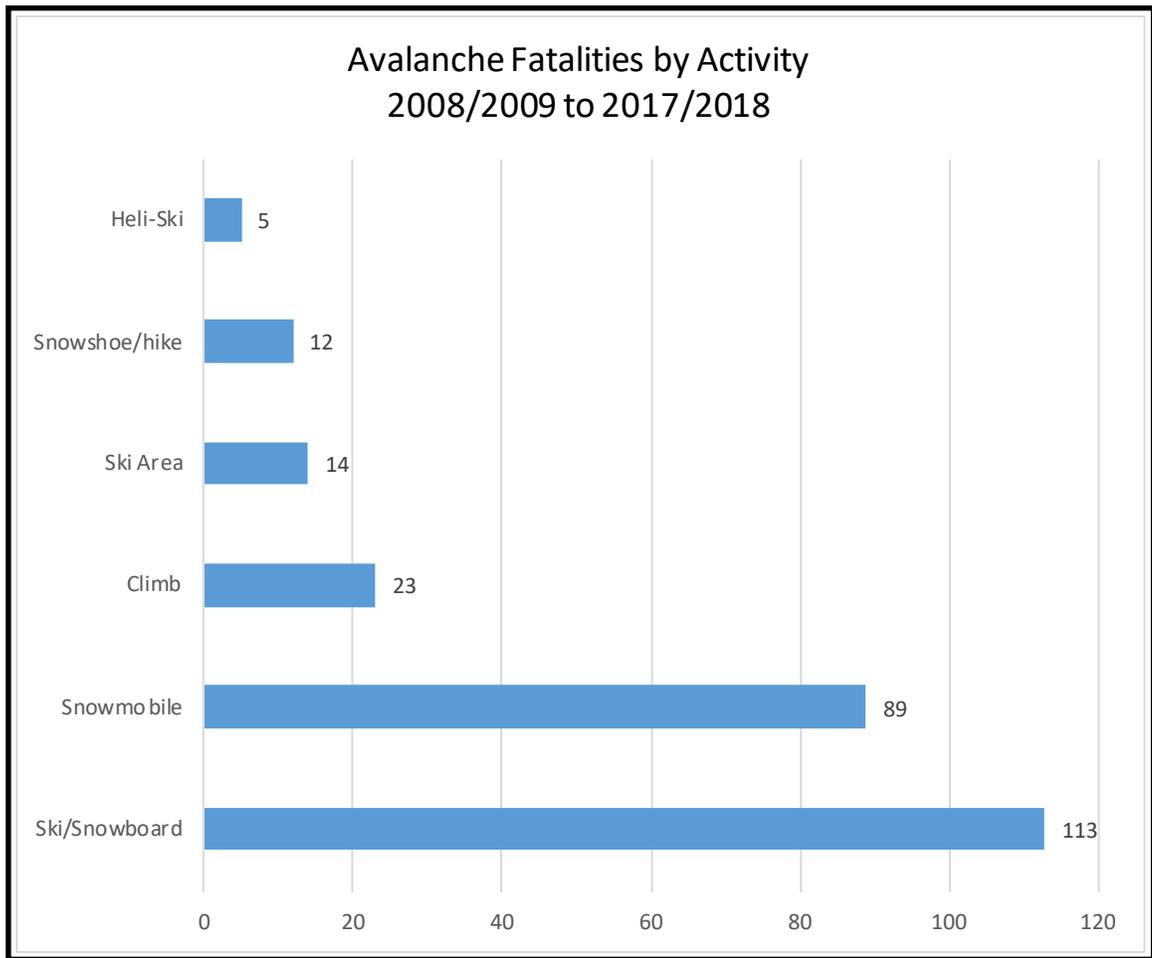
Winter returned for the last half of February and early March. By this time the snowpack had gained strength and avalanche activity was limited to storm snow and cornices. The GNFAC issued a blanket LOW danger on March 7th and 8th, which was short lived as storms continued to impact the area. In early April both Big Sky and Bridger Bowl Ski Resorts reported base depths over 100" and Fisher Creek SNOTEL site in Cooke City had a settled base depth of more than 140".

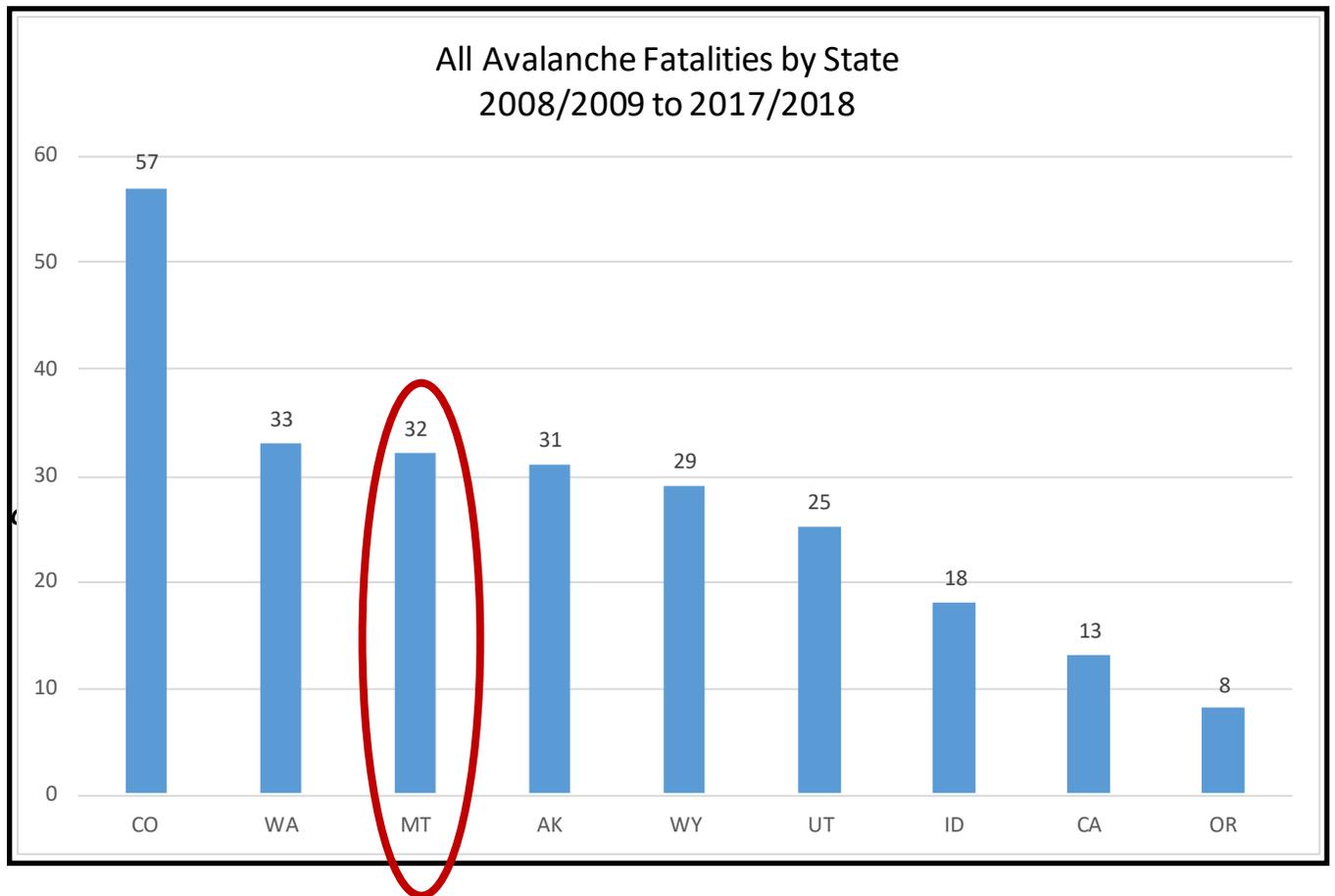
On April 8th, the GNFAC issued its last daily advisory with a considerable danger on wind loaded slopes. The end of daily advisories was not the end of winter. Although temps rose above freezing periodically during the first week of April, the snowpack remained cold and dry. Another significant storm April 11th through the 13th deposited over three feet of snow in the Bridger Range and 12-18" elsewhere. Sadly, on April 14th, a skier was killed in an avalanche on Saddle Peak outside Bridger Bowl Ski Area. The skier was traveling solo and buried for more than an hour. He was recovered by the Gallatin County Search and Rescue.

The GNFAC issued 159 daily advisories, the most ever issued during a single forecast season. Doug, Eric and Alex posted 121 videos on YouTube that received 238,000 views and 66 videos on Instagram which received 169,000 views. The GNFAC website saw a 106% increase in visits from the previous year, attributed to a better mobile platform and increased social media presence. Overall it was a safe and successful forecast season for the Gallatin National Forest Avalanche Center.

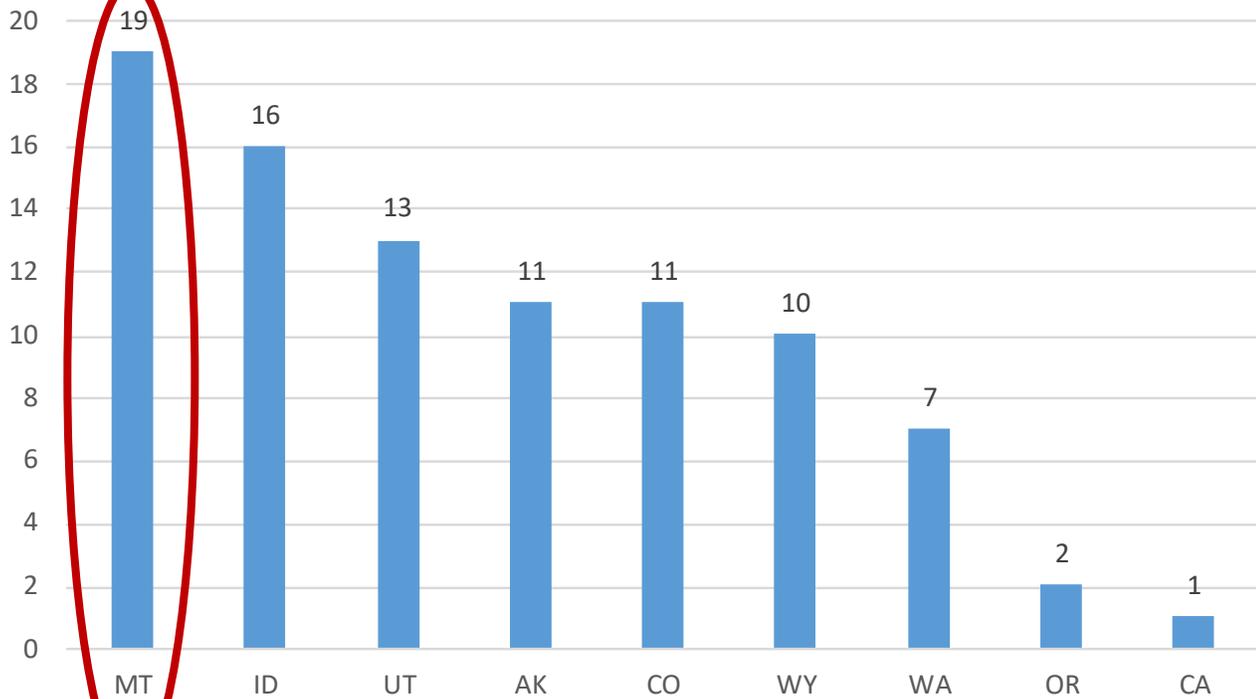
Avalanche Incident Graphs: 10 Years

Graph 1: *NATIONALLY, 10 years of Incidents by Activity*





Snowmobiler Avalanche Fatalities by State 2008/2009 to 2017/2018





Avalanche Incidents Table (next 2 pages)

52 Incidents resulting in 9 full burials and 3 deaths

*** denotes outside forecast area**

DATE	LOCATION	DETAILS
10/3/2017	Bridger Range - Fairy Lake	1 skier triggered, not caught
10/7/2017	S. Madison Range - Imp Peak	2 skiers caught, 1 buried and killed, 1 partially buried
12/14/2017	Bridger Range - Football Field	1 skier triggered, not caught
12/14/2017	N. Madison Range - Beehive	1 skier triggered, not caught
12/24/2017	Bridger Range - Wolverine Bowl	1 skier triggered, not caught (small wind slab)
12/25/2017	Cooke City - Silver Creek	1 skier triggered, not caught
12/25/2017	Cooke City - Hayden Creek	1 skier triggered, not caught
12/28/2017	Cooke City - Sheep Creek	1 skier triggered, partially buried
12/29/2017	Bridger Range - Truman Gulch	1 skier triggered, caught and injured
12/29/2017	Cooke City - Daisy Pass Road	1 snowmobile triggered, not caught (remote)
12/29/2017	Cooke City - Warm Creek	2 skiers caught, 1 partially buried and injured
12/30/2017	Cooke City - Hayden Creek	1 skier triggered, not caught (remote)
12/30/2017	*Centennial Range - Mt. Jefferson	1 snowmobiler triggered, partially buried
12/30/2017	N. Madison Range - Buck Ridge	1 snowmobiler triggered, not caught
1/2/2018	Bridger Range - Saddle Peak	2 skiers caught, partially buried
1/2/2018	S. Madison Range - Sage Peak	1 snowmobile triggered, buried and killed
1/3/2018	Cooke City - Crown Butte	1 snowmobile triggered, not caught
1/10/2018	*Centennial Range, ID - Reas Peak	1 snowmobile triggered, buried and killed
1/12/2018	N. Madison - Dudley Crk.	1 skier triggered (remote), not caught
1/13/2018	Lionhead Area - Lionhead Ridge	1 snowmobile triggered (remote), not caught
1/13/2018	N. Madison - Buck Ridge	1 snowmobile triggered, not caught
1/14/2017	Bridger Range - Throne/Ross Pk.	1 snowmobile triggered, not caught
1/14/2017	Lionhead Area	1 snowmobile triggered, not caught
1/14/2017	Lionhead Area	1 snowmobile triggered, not caught
1/14/2017	S. Madison - Sunlight Basin	1 snowmobile triggered, not caught
1/13/2018	Crazies	1 snowmobile caught, partially buried, not injured
1/19/2018	Lionhead	1 snowmobiler triggered, caught, not buried
1/20/2018	*Centennial Range, ID - Reas Peak	1 snowmobile triggered, buried and killed
1/20/2018	Bridger Range - Naya Nuki	1 skier triggered, caught, not buried
1/20/2018	Bridger Range - Fairy Lake	1 skier triggered, not caught
1/20/2018	S. Madison - Taylor Fork	1 snowmobiler triggered, not caught
1/21/2018	Bridger Range - Throne	1 skier triggered, caught, not buried
1/29/2018	Cooke City	1 skier triggered, not caught
2/3/2018	Cooke City - Pebble Creek	1 skier triggered, caught, unharmed
2/9/2018	Crazies	1 snowmobile triggered
2/9/2018	Bridger Range - Hourglass Chute	1 skier triggered cornice, not caught



Avalanche Incidents Table, continued

2/10/2018	N. Madison Range - Middle Peak	1 skier triggered, not caught
2/10/2018	Bridger Range - Frazier	1 skier triggered, caught, minor injury
2/10/2018	S. Madison Range - Skyline Ridge	1 snowmobiler triggered, not caught
2/10/2018	Cooke City - Sheep Creek	1 snowmobiler triggered, buried, not injured
2/14/2018	S. Madison Range - Cabin Creek	1 snowmobiler triggered, not caught
2/14/2018	N. Madison Range - Bear Basin	1 skier triggered, not caught
2/19/2018	N. Gallatin Range - Hyalite	1 skier triggered (cornice), not caught
2/27/2018	Bridger Range - Wolverine Bowl	1 skier triggered, not caught
3/7/2018	S. Madison Range - Kirkwood Ridge	1 snowmobile triggered, caught, not buried
3/8/2018	*Centennial Range - Mt. Jefferson	1 snowmobile triggered, not caught
3/10/2018	Cooke City- The Fin	1 skier triggered, partially buried
3/16/2018	Bridger Range - Dogleg	1 skier triggered, not caught
3/17/2018	N. Gallatin Range - Hyalite	1 skier triggered, not caught
3/20/2018	*Centennial Range- near Sawtelle Peak	1 snowmobiler triggered, caught, injured
3/26/2018	Bridger Range - Frazier	1 skier triggered, not caught
4/5/2018	Bridger Range - Throne	Skier remote triggered, not caught
4/9/2018	Cooke City - Scotch Bonnet	2 snowmobile triggered, not caught
4/14/2018	<i>Saddle Peak, Bridger Range</i>	<i>1 skier triggered, caught, partially buried, killed</i>

52 Incidents resulting in 9 full burials and 3 deaths

*** denotes outside forecast area**

Avalanche Education (next 4 pages)**TOTAL: 5,300 (857kids <18 y.o.; 960 snowmobilers)**

Date	Instructor	Group/Topic	Total
9/23/2017	Zinn	Aerie WFR Beacon Park	19
9/26/2017	Zinn	Aerie WFR Know Before You Go	19
10/5/2017	Marienthal	MSP Ski Video -- Know Before You Go	70
10/6/2017	Chabot	Colorado Snow and Avalanche Workshop, Breckenridge	575
10/11/2017	Knoff	MSU Avalanche Workshop/Right place at the right time.	450
10/19/2017	Bilbrey	Emerge School Bozeman	8
10/24/2017	Greeno	Big Sky High School	13
11/1/2017	J Olsen	REI KBYG	45
11/6/2017	Marienthal	GCSAR Posse - 16-17 season recap and current conditions	35
11/8/2017	Chabot	Avalanches and Natural Disasters/ MSU Mtn Geography	20
10/23/2017	Chabot	National Ava School/ Snowpits	118
11/7/2017	Sykes	Carroll College KBYG	25
11/7/2017	Zinn	Billings Base Camp KBYG	26
11/11/2017	Knoff	ESAW	170
11/12/2017	Hoyer	REI Staff Training	15
11/14/2017	Darham	Yellowstone Residence Hall--MSU KBYG	55
11/16/2017	Knoff	GCSAR Hasty Meeting - Season recap and Imp Peak	30
11/17/2017	Marienthal	Ski patrol refresher - GNFAC-Patrol interaction	220
11/17/2017	Olson, Razzano	Butte: KBYG for Snowmobilers	30
11/18/2017	Zukiewicz	Helena: KBYG and Beacon Park @ MT Boat Center	20
11/19/2017	Zinn	Bridger Bowl Ski Patrol - Beacon Training & Multiple Burials	40
11/20/2017	Zinn, Hance, Antonioli, Redfield	Chief Joseph MS: 5 talks-Beacons, KBYG, Avalanche Board	145
11/21/2017	Zinn, Hance, Schauer, Redfield	Chief Joseph MS: 5 talks-Beacons, KBYG, Avalanche Board	145
11/24/2017	Olson, Razzano	Cooke City Conditions Update and Rescue Lecture	30
11/25/2017	Olson, Razzano	Cooke City Rescue Practice, Field	15
11/28/2017	Greeno	Bozeman High School Backcountry Club	17
11/29/2017	Knoff/Hendrikx	ASMSU Intro to Avalanches w/ Field Day lectures	295
11/30/2017	Greeno/ Antonioli	Bozeman High School Backcountry Club	24
11/30/2017	Marienthal/Zinn	ASMSU Intro to Avalanches w/ Field Day lectures	
12/1/2017	Marienthal/Antonioli	Yellowstone Club Ski Patrol Annual pits and talk	45
12/1/2017	Olson	Cooke City Conditions Update and Rescue Lecture	4
12/2/2017	Olson	Cooke City Rescue Practice, Field	10
12/2/2017	Field Instructors	ASMSU Intro to Avalanches Field Day	
12/3/2017	Field Instructors	ASMSU Intro to Avalanches Field Day	



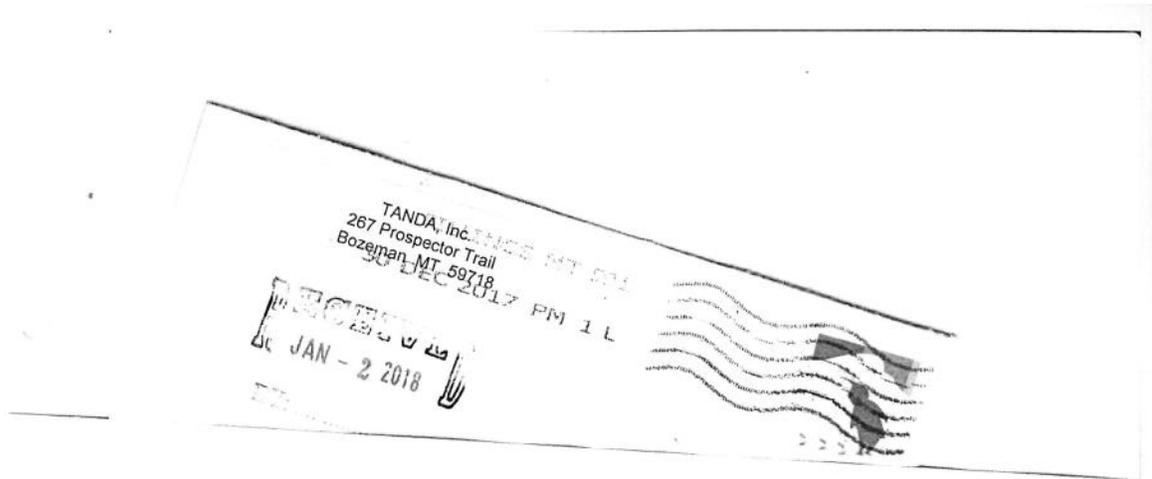
12/6/2017	Hoyer	REI Awareness	35
12/7/2017	Darham	Beall Park Avalanche Awareness and Beacon Park	14
12/7/2017	Olson	Redline Sports Butte--Snowmobile Awareness	16
12/7/2017	Dunn	Basecamp Helena--Avalanche Awareness	50
12/7/2017	Chabot	Bozeman Ice Fest Conditions Report	250
12/8/2017	Schauer/ Champion	PSIA Fall Meeting--Avalanche Awareness and Beacon Park	10
12/8/2017	Schmidty	Cooke City Conditions Update and Rescue Lecture	27
12/9/2017	Schmidty	Cooke City Rescue Practice, Field	8
12/9/2017	Field Instructors	ASMSU Intro to Avalanches Field Day	
12/12/2017	Greeno	Helena High School	64
12/12/2017	Olson	Billings Snowmobile Awareness	75
12/12/2017	Schmidt/Norlander	Intro to Avalanches for Snowmobilers Lectures	17
12/13/2017	Gullet	GVSA Avalanche Awareness	18
12/13/2017	Hance, Redfield, Greeno	Belgrade Middle School	125
12/14/2017	Greeno	Livingston High School	135
12/14/2017	Greeno	Ghost Town Coffee--Avalanche Awareness	18
12/15/2017	Greeno, Antonioli	Big Sky High School Ski and Snowboard Club	10
12/15/2017	Zukiewicz	Spark R&D Avalanche Awareness and CRC	16
12/12/2017	Schmidt, Norlander	West Yellowstone Guide Course	22
12/14/2017	Knoff, Norlander	West Yellowstone Guide Course	11
12/15/2017	Knoff, Norlander, Radicky	West Yellowstone Guide Course Field Day	32
12/15/2017	Schmidt (Hoyer, Turnage)	Cooke City Conditions Update and Rescue Lecture	6
12/16/2017	Schmidt (Hoyer, Turnage)	Cooke City Rescue Practice, Field	0
12/21/2017	Hance	Play It Again Sports	15
12/22/2017	Olson	Cooke City Conditions Update and Rescue Lecture	8
12/23/2017	Olson	Cooke City Rescue Practice, Field	6
12/29/2017	Razzano (Antonioli)	Cooke City Conditions Update and Rescue Lecture	3
12/30/2018	Razzano (Antonioli)	Cooke City Rescue Practice, Field	3
12/30/2017	Hance	Park County SAR	12
1/3/2018	Hance	Awareness @ REI	48
1/5/2018	Schmidt	Cooke City Conditions Update and Rescue Lecture	14
1/6/2018	Schmidt	Cooke City Rescue Practice, Field	19
1/6/2018	Norlander	Snowmo Awareness @ Holiday Inn West Yellowstone	10
1/8/2018	Schauer	Madison Ranger District Training -- Avalanche Awareness	15
1/9/2018	Greeno	Livingston High School -- Mill Creek Field Day	18
1/9/2018	Hance	Beall Park Avalanche Awareness--Women's Specific	6
1/11/2018	Zinn	KBYG and Avalanche Board @ Manhattan Middle School	25
1/11/2018	Antonioli	Avalanche Awareness @ Big Timber	6
1/12/2018	Zukiewicz	CRC @ REI	17
1/12/2018	Gidley	Cooke City Conditions Update and Rescue Lecture	32
1/13/2018	Gidley	Cooke City Rescue Practice, Field	8

1/13/2018	Zukiewicz	CRC Field Session	
1/13/2018	Dunn/ Zolinski	CRC Homestake Pass	13
1/15/2018	Gidley	Yellowstone Motor Sports	20
1/16/2018	Dunn	Awareness @ UM Western	12
1/17/2018	Knoff, Marienthal, Hendrikx, Zinn	ASMSU Introduction to Avalanches	200
1/18/2018	Knoff, Marienthal, Hendrikx, Zinn	ASMSU Introduction to Avalanches	
1/19/2018	Schmidty	Cooke City Conditions Update and Rescue Lecture	2
1/20/2018	Schmidty	Cooke City Rescue Practice, Field	8
1/20/2018	Hance + Friends	ASMSU Introduction to Avalanches	
1/21/2018	Hance + Friends	ASMSU Introduction to Avalanches	
1/20/2018	Norlander	Snowmo Awareness @ Holiday Inn West Yellowstone	12
1/21/2018	Schmidty	Company Time Motor Sports	24
1/22/2018	Hance/ Champion	REI Staff CRC	5
1/23/2018	Olson	Park County SAR Training	12
1/24/2018	Knoff, Birkeland, Marienthal	ASMSU Advanced Workshop	50
1/25/2018	Knoff, Birkeland, Marienthal	ASMSU Advanced Workshop	
1/26/2018	Zukiewicz	Madison Valley SAR Group	12
1/26/2018	Turnage	Cooke City Conditions Update and Rescue Lecture	12
1/27/2018	Turnage	Cooke City Rescue Practice, Field	18
1/27/2018	Hance + Friends	ASMSU Advanced Workshop Field	
1/27/2018	Zukiewicz/ Larson	Madison Valley SAR Group Field	
1/27/2018	Gullet/ Razzano	GVSA Poker Ride Beacon Park	40
1/30/2018	Greeno, Hance, Redfield	Lone Peak HS -- Ski/ Snowboard Club Field Day @ Beehive	8
1/31/2018	Fredlund/ Antonioli	YNP Avalanche Education Field Day	20
2/1/2018	Olsen	Livingston Introduction to Avalanches	34
2/2/2018	Turnage	Cooke City Conditions Update and Rescue Lecture	24
2/3/2018	Turnage	Cooke City Rescue Practice, Field	8
2/3/2018	Norlander	Snowmo Awareness @ Holiday Inn West Yellowstone	18
2/4/2018	Olsen + Friends	Livingston Introduction to Avalanches -- Field	
2/6/2018	Hance	Sidecountry Awareness Beall Park	0
2/7/2018	Darham	Women's Avalanche Awareness @ REI	18
2/7/2018	Hoyer	KBYG Awareness @ Rooskie Hall, MSU	25
2/9/2018	Zia	Avalanche Board @ STEM Expo Morningstar Elementary	50
2/9/2018	Champion	CRC @ REI	24
2/9/2018	Dunn	Beaverhead SAR Awareness	6
2/9/2018	Olson	Cooke City Conditions Update and Rescue Lecture	25
2/10/2018	Olson	Cooke City Rescue Practice, Field	3
2/10/2018	Dunn, Zukiewicz, Larson	Beaverhead SAR Awareness Field Day	3
2/10/2018	Norlander	Snowmo Awareness @ Holiday Inn West Yellowstone	34
2/12/2018	Greeno	Avalanche Awareness -- Park High School	28
2/15/2018	Dunn	Wise River School -- Avalanche Field Day	9

2/16/2018	Larson	Cooke City Conditions Update and Rescue Lecture	35
2/17/2018	MacLean	Big Sky Snow Riders Association -- Beacon Park	9
2/17/2018	Larson/ Redfield	Cooke City Rescue Practice, Field	35
2/21/2018	Marienthal	MSU Snow Science 100 class - Public Forecasting	22
2/28/2018	Birkeland, Chabot, Zinn	MSU Backcounty Club	120
3/2/2018	Hance	CRC -- She Jumps Group	15
3/2/2018	Olson	Cooke City Conditions Update and Rescue Lecture	30
3/3/2018	Olson	Cooke City Rescue Practice, Field	25
3/3/2018	Hance, Champion, Regan	CRC -- She Jumps Group Field	
3/3/2018	Zukiewicz	Bozeman Split Fest -- Avalanche awareness	25
3/7/2018	Hance	KBYG 1 Hour -- REI	29
3/8/2018	Zinn, Hance, Darham	Headwaters Academy -- Avalanche Field Day	40
3/9/2018	Larson	Park High Winter Survival Class -- Avalanche component	21
3/9/2018	Schmidt	Cooke City Conditions Update and Rescue Lecture	18
3/10/2018	Schmidt	Cooke City Rescue Practice, Field	17
3/14/2018	Marienthal/Hance	NRCS Snow School, Intro to avalanche safety	35
3/15/2018	Marienthal	NRCS Snow School, Companion rescue	35
3/28/2018	Chabot	Professional Development Seminar/ SnowPilot	55



Letters of Support



DECEMBER 29 2018

AS THIS YEAR COMES TO A CLOSE WE'D LIKE TO
SEND YOU A CHARITABLE DONATION FOR YOUR
GROUP TO USE HOWEVER YOU CHOOSE.

THANK YOU SO MUCH FOR YOUR HARD WORK
THIS PAST YEAR AND WE LOOK FORWARD TO SEE
WHAT NEXT YEAR WILL BRING.

MANY BLESSING TO YOU IN 2018,

ANNETTE

WITH TANDA INC.
267 PROSPECTOR TRAIL
BOZEMAN MT 59718



December 19, 2017

Friends of Gallatin National Forest
Avalanche Center
PO Box 6799
Bozeman MT 59771

To the Director,

Every year at the holiday season the children of the board members of the Solid Rock Foundation are given the opportunity to participate in the annual allocation of funds. Each child has an amount to give and chooses where the gift will go. This year Simon Bishop (age 13 years), would like his gift to go to the Friends of **GNFAC**.

Enclosed you will find a check in the amount of \$150.

The family of Solid Rock wishes you all very happy holidays.

A handwritten signature in cursive script, appearing to read "Rosamond L. Stanton".

Rosamond L. Stanton
President



KU
Stephen L. Griswold, MD
Kathleen A. Powell
1215 S 3rd Ave
Bozeman, MT 59715-5503

BILLINGS MT 591



09 DEC 2017 PM 1 L

DEC 13 2017

A donation to ^{12-8-17 ntw}
the Gallatin Valley
Avalanche Center.

0
1T 59771

We read your email
reports daily and
support your work
to keep back country
people safe.

Kathy + Steve



Bozeman Women's Activity Groups (B.W.A.G.s)
Bozeman, Montana
<http://www.bwags.org/>

Bozeman Women's Activity Groups (B.W.A.G.s)
c/o Patti Steinmuller
952 Knolls Drive
Bozeman, MT 59715

December 14, 2017

Friends of the Gallatin National Forest Avalanche Center (GNFAC)
PO Box 130
Bozeman, MT 59717

Dear Gallatin National Forest Avalanche Center:

Enclosed is a check for \$100.00 as a donation to the Gallatin National Forest Avalanche Center from the Bozeman Women's Activity Groups (B.W.A.G.s). Many of us receive the Avalanche Center report each morning and have attended your educational sessions. Thank you for your service to our community.

Sincerely,



Patti Steinmuller
B.W.A.G.s Treasurer

Enclosure



104 Michelle Court
Missoula, MT 59803
Feb 1, 2018

Allyson Fauver, Treasurer
Friends of the Avalanche Center
P.O. Box 6799
Bozeman, MT 59771-6799

Dear Allyson,

Enclosed is my annual donation check to the GNFAC in memory of my son, Ben, who died in an avalanche on March 3, 2007. I always appreciate the March 3rd center advisory in his memory with hopes that it will keep others safe. There have been some sad losses this year, and I am sure that there would be many more by the end of this snow laden 2017-2018 winter without all the hard, dedicated work that the GNFAC does. I am very grateful for the work that Doug, Eric, Alex, all the volunteer observers and donors, and the GNFAC staff and board do in monitoring, education, and engagement in avalanche prevention. The website continues to evolve as do the social media channels and I'm so impressed.

And congratulations to the GNFAC authors of one of the most informative, engaging and impressive annual reports I've ever read. It speaks volumes to your dedication, service, and hard work.

Sincerely,

A handwritten signature in cursive script that reads "Becky Richards".

Becky Richards



**OFFICE OF THE SHERIFF/CORONER
GALLATIN COUNTY, MONTANA**

Brian M. Gootkin
Sheriff

Dan Springer
Undersheriff

Warren Hiebert
Chaplain

Jason Jarrett
Jail Administrator

615 South 16th
Bozeman, Montana 59715

January 2, 2018

Montana Fish Wildlife and Parks
Trails Program Grant

Dear Decision Makers,

The Sheriff's Office would appreciate your positive consideration of the grant application from the Avalanche Center. Having statutory responsibility for Search and Rescue and Public Safety in general, the Sheriff relies heavily on the Avalanche Center and its employees. Like you we have supported the Center financially in the past because they are effective in educating the public and most certainly have saved lives with their programs. In addition to the education part we count on them for expertise when SAR units are active in avalanche country. They are always willing and able to be part of our rescue and search operations. It is often difficult to make decisions that promote the most good but supporting the Avalanche Center should not be one of them. In our view this program works and does make a positive difference. Should you have any questions please contact me at the number below. Thank you for your consideration.

Captain Jason Jarrett
Gallatin County Sheriff's Office
Search and Rescue Commander
(406)-582-2105
Jason.jarrett@gallatin.mt.gov



January 6, 2018

Dear Recreation Trails Program,

Bridger Bowl Ski Area fully supports GNFAC's Recreational Trail grant application.

GNFAC's advisories and avalanche education classes are of great value to the skiing and snowmobiling community. Given the tremendous local growth in winter backcountry use, their website is increasingly important as a valuable resource for all sorts of weather, avalanche and snowpack information. I believe the education and good information provided by GNFAC is the best way to help reduce the high number of avalanche accidents and fatalities that occur in Montana each year.

Sincerely,

Randy Elliott



January 2, 2018

To Whom it may concern:

The service that The Gallatin National Forest Avalanche Center provides is invaluable to myself, local backcountry ski guides and outdoor enthusiasts throughout South West Montana. As the owner and lead guide for Beartooth Powder Guides in Cooke City, Montana, the information that the GNFAC provides on a daily basis throughout the Winter/Spring season's is crucial to the decision making process for our guides, guests and myself. We use the advisory and the links to weather stations on mtavalanche.com on a daily basis. In addition to these services being beneficial to Beartooth Powder Guides employees and guests, the GNFAC provides avalanche education to over 5000 people a year. The demographics of the people being educated by the GNFAC range from children, snowmobiler's, skier's/snowboarder's. These classes are provided at an affordable price for all (or free) The daily advisories, video's, online tutorials and weather station links are important for public safety and help reduce accidents and fatalities in the backcountry for the public. Southwest Montana is fortunate to have the GNFAC as a resource and continued support from grant monies, donations and public support is crucial to keeping this program going.

Best regards

Ben Zavora

Owner/Lead Guide Beartooth Powder Guides

Cooke City, Montana



**203 EATON STREET – P.O. Box 1120 - COOKE CITY, MT 59020
(406) 838-2231 - FAX (406) 838-2225 – COOKECITYMOTORSPORTS.COM**

1-25-18

To whom it may concern;

We are writing in support of the GNFS Avalanche centers RTP grant funding.

Simply put: this is a 25 year strong organization that has done an awesome job in bringing avalanche awareness to winter sport enthusiasts. With out Doug and his team people die.

We have noticed a huge increase in avalanche awareness from a snowmobilers stand point, these guys are picking this up at a rate we have never seen before. The last two holiday seasons have proven this. No body left Cooke City in a body bag....

We will continue to support the GNFAC because of the stellar work they do and their true commitment to protecting snow enthusiasts. We encourage all businesses, individuals and government agencies to support the GNFAC in any capacity they can.

Mona & Shannon Abelseth
Cooke City Motorsports

Spark R&D Letter of Support for the Gallatin National Forest Avalanche Center

To Whom It May Concern:

I'm writing on behalf of Spark R&D, a splitboard binding manufacturer based out of Bozeman, Montana. As a backcountry company, we are proud to support the GNFAC. Spark R&D employees are active splitboarders and backcountry users. We rely heavily on the daily advisories, snowpit observations, videos, photos, articles, and accident reports provided by the avalanche center to make informed decisions.

The intermountain snowpack often provides difficult avalanche problems for backcountry users. When you couple that with the diverse ranges and microclimates found within our large geographic forecasting area, the challenges faced by the GNFAC are considerable. We can say with confidence that their forecasters and staff are up to the challenge. They do a tremendous job covering all the zones in detail. From one corner to the other, they deploy their resources appropriately and convey both their general and more nuanced findings in way that the average backcountry user can understand and then use to make decisions.

The GNFAC is also very active in the community. They organize a wide variety of clinics and educational opportunities throughout the winter that target both new users and more seasoned skiers and snowboarders. We've been particularly impressed with the video series they've work on this year. It is a perfect example of how in tune they are with the local community and the need to find new ways to educate the growing number of backcountry travelers. We believe the most reliable way to reduce avalanche accidents, as more people venture into the backcountry, is through education. In fact, we recently organized a companion rescue clinic for Spark R&D employees, which was well-taught and relevant.

Over the last ten years, Montana is second in the nation in avalanche fatalities. This is an eye-opening statistic and is a one of many clear indicators that there is a legitimate need for the services the GNFAC provides. We value our partnership with them and will continue to support them in any way possible going forward. Please strongly consider their Recreation Trails Grant Application.

Sincerely,

Dan Ventura, Spark R&D



1/2/18

Re: Fish, Wildlife and Parks Recreation Trails Program grant

Members of the grant committee:

Thank you for the FWP Recreation Trails grant program and for the opportunity to endorse the application of the Gallatin National Forest Avalanche Center (GNFAC) for your continued support.

In a community where winter recreation is an important part of community life, the GNFAC is the foundation. In any given year they educate literally thousands of people on the basics of avalanche safety and inform virtually all winter recreationists in a large geographically diverse region on current conditions and avalanche hazard. Their impact cannot be underestimated.

Montana has the unfortunate distinction of having a high rate of accidents and deaths due to avalanches. As an avalanche researcher at MSU I am convinced those numbers would be much higher if the center was not able to fulfill its mission. Avalanche education and information works to reduce those accident rates and GNFAC is an exemplar in the industry.

Doug and his team are spread far and wide as they collect real time snowpack data, produce the forecast, compile observational data, teach awareness classes, and engage the community. Their videos are viewed by others in the industry as a new standard for education. During our annual Snow and Avalanche Workshop at MSU I can always count on Doug and his crew to be integral to reaching out to our hundreds of students who recreate in Montana's winter backcountry.

Of course winter activities are also important to the regional economy. The snowmobile activity in Cooke City is but one example. Doug, Erik, and Alex have stepped up their activity in Cooke to include more awareness classes and finer scale forecasts. Again, these activities, though expensive and time consuming, have had a positive impact on the sled community – many of whom come from out of state to enjoy destination snowmobiling of the highest quality.

I could go on but will conclude that your grant support is recognized by the recreation community and is important to the continued excellence of the center. I wholeheartedly urge your continued support.

Yours truly,
Jerry Johnson
MSU

Mystery Ranch, Ltd.
1750 Evergreen Drive
Bozeman, MT 59715

Letter of Support for the Gallatin National Forest Avalanche Center

To the Board of the Recreation Trails Grant Committee,

On behalf of Mystery Ranch, LTD – a leading designer & manufacturer of outdoor products including backpacks for expedition, skiing, firefighting, hunting and military - we are writing to show our unfailing support of the Gallatin National Forest Avalanche Center [GNFAC] and their application for the Recreation Trails Grant.

We, as a locally owned and operated company, employing over 110 people in Bozeman, rely heavily on the GNFAC daily advisories for regional avalanche information as a large percentage of our employees are backcountry users. In addition to the daily advisory, the GNFAC's education opportunities offer not only our employees, but our community, gold standard education on avalanche awareness & safety and teaches us the value of good judgment in the backcountry. A mandatory skill, that unfortunately without the help of the GNFAC, many users would not have, and could potentially be putting themselves at serious risk.

The GNFAC website offers us valuable information on a daily basis including weather, accident reporting, avalanche articles for further education, snowpit data and online tutorials to further their exposure to the backcountry community. Without this priceless information, our residents would not be as safe in the backcountry as they are.

The GNFAC offers a multimedia platform including photos, videos and articles to help further understand the snowpack and widen their reach to younger demographics (important as more and more kids are entering the backcountry).

In their 25+ years of operation the GNFAC has offered the SW Montana community precious information on how to stay safe in the backcountry, reduce fatalities, and encourage good decision making. As Montana is ranked #1 in snowmobile fatalities and #2 in overall fatalities nationwide, we will continue to support the GNFAC for years to come.

Sincerely,
Ben Nobel
North American Sales Manager
Mystery Ranch Backpacks



January 14th, 2018

Letter of Support for the Gallatin National Forest Avalanche Center,

The Gallatin National Forest Avalanche Center is such an amazing resource for this recreational, snow motivated community. I am a manager of a popular restaurant here in Bozeman that employs up to 140 employees (most of them choose the restaurant profession as a way to make money while focusing on their skiing/climbing/snowmobiling etc passions).

Throughout the years I have witnessed the far reach that the Avalanche Center has had in educating the population, not only on snow pack but on group dynamics, terrain management, and equipment use and knowledge. I have attended several avalanche classes that were both very affordable and incredibly informative. My staff, friends, family and self are so fortunate to have the website, daily advisories and videos, just a click away.

The guys that operate the avalanche center really care about what they are doing. They are passionate, humble, and ingrained in the community. Because of their constant strides to reach more diverse user groups I have personally witnessed groups of people become more engaged in conversations pertaining to snow pack and decision making. Younger and younger groups are becoming educated which is awesome as a parent myself! I am grateful to live in a community that has an avalanche center with such a commitment to keeping people safe and informed regardless of age and preferred method of travel.

It has also been eye-opening to see the outreach that has been devoted to the snowmobile population. In an area where we have historically lead the nation in snowmobile avalanche fatalities it is great to see such a targeted effort to reach this user group. Being immersed in snow culture myself, I have noticed education efforts increase yearly in the Cooke City area a popular vacation destination for snowmobilers.

Living in a place that has such extreme weather scenarios, temperatures, and questionable snowpack, we are so very fortunate to have people out in the trenches assessing snow and sharing their knowledge with the rest of us. Education is the most reliable way to reduce avalanche incidents.

Sincerely,

Dawn Brown
Montana Ale Works
Human Resources Director
406-579-8379
dawn@montanaaleworks.com

**International Snowmobile Manufacturers Association**

1640 Haslett Rd., Suite 170 • Haslett • Michigan 48840 • (517)339-7788 • Fax: (517)339 - 7798

Web: www.snowmobile.org

January 4, 2018

US Fish, Wildlife and Parks Recreation Trails Program Grant

RE: *Letter of Support for Gallatin National Forest Avalanche Center's Recreation Trails Grant Application*

To Whom it may Concern,

The members of the International Snowmobile Manufacturers Association - Arctic Cat, BRP, Polaris, and Yamaha and myself support the application from the Gallatin National Forest Avalanche Center requesting support.

We have years of experience in working with the GNFA and the related forest service personnel. Our working relationship has been gratifying and we believe has dramatically helped make snowmobiling in the Gallatin National Forest safer and more enjoyable for all.

The manufacturers and our customer base rely on the advisories that are distributed by the Avalanche Center and we also use the avalanche forecast as well as any weather forecast that are supported by the Avalanche Team's work.

We value the Avalanche Education that is provided for the snowmobiling community. We understand that GNFA has provided service for over 117 classes that were attended by over 5,200 individuals.

Many people within the skiing community also participate in snowmobiling and we share the same mountains. We believe it is important to educate all mountain users in avalanche safety and support the efforts of the GNFA.

The snowmobile manufacturers have an excellent working relationship with the GNFA Team and sponsor safety training programs at local snowmobile dealerships in Montana in and around the Gallatin National Forest.

Representatives from the Gallatin National Forest have attended our annual snowmobile snow shoot for many years, held in West Yellowstone Montana. They have presented avalanche safety training programs for snowmobile magazine and newspaper editors from around the world and those editors pass on information they have learned from Doug Chabot and others in his team to snowmobiling enthusiasts through their publications worldwide.



GVSA

Gallatin Valley Snowmobile Association
PO Box 3164
Bozeman, MT 59772
406-539-6959
fastcatm7@gmail.com

January 8, 2018

My name is Daniel Kristensen, I am the president of the Gallatin Valley Snowmobile Association, representing 220 current members.

We fully support the GNFAC's Recreation Trails Grant Application. Last year the Avalanche Center put out 117 classes, 52 of which were directly targeted at snowmobilers. Their classes and daily advisories help keep our members, and all snowmobilers in the area safer. I personally listen to the daily advisory every morning to keep up with the current snowpack. I would like to see the Avalanche Center have the resources to put on even more classes, as education is the best way to reduce fatalities and Montana currently leads the nation in snowmobile related avalanche fatalities.

Sincerely yours,

Daniel Kristensen



May 24, 2017

Board of Directors

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President

Loren Bough,
Vice President

Charlie Callender,
Secretary - Treasurer

Joanie Hall

Andrew McEntire

Jim Murphy

Yucca Riesche

Steve Taylor

Maud Wellis

Friends of Gallatin National Forest Avalanche Center
Doug Chabot
PO Box 6799
Bozeman, MT 59771

Dear Doug,

On behalf of the board of directors of the Yellowstone Club Community Foundation, I am honored to inform you that your grant request has been accepted and the board has voted to provide the Friends of Gallatin National Forests Avalanche Center with a \$4,000.00 grant for the Saving lives through Avalanche Information and Education program.

Please fill out and return the enclosed Grant Acknowledgement Form to the address noted. You should receive your funding within 10 days after we receive this form. If for some reason you do not receive the check within 2 weeks please contact me. Upon receipt of your funding, please be sure to acknowledge the Foundation's support of this program in all applicable materials.

As you know, the YCCF is a modest Foundation that is fully funded by our membership and ownership with a clear focus on our mission to stay local and be realistic in our support. The mission of the Foundation is to provide resources and build partnerships with local nonprofit organizations that promote education, arts, healthcare, conservation, and community services. We believe your organization's work reflects these objectives.

Again, congratulations and thank you for all you do to make this part of Montana a special place to live and work. I look forward to following your continued success.

Kind Regards

**K. Casey Schwartz
Executive Director
Yellowstone Club Community Foundation**





Gallatin National Forest Avalanche Center

PO Box 130, Bozeman, MT 59771

mtavalanche@gmail.com/406-587-6984