

GALLATIN NATIONAL FOREST AVALANCHE CENTER

ANNUAL REPORT

2006-2007

OUR 17th YEAR OF OPERATION

by

Doug Chabot

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Cover Photo
Snowboarder triggering a slide outside Cooke City. He was OK. Photo by Chris Awe

ACKNOWLEDGMENTS

Our success is the result of many partnerships. These relationships include state and federal agencies as well as businesses in the local and national outdoor community. Those who provided significant contributions to either the Friends of the Avalanche Center or to the Gallatin National Forest are mentioned here:

**Friends of the Avalanche Center
Team Bozeman and Yamaha
Bridger Bowl
Sweet Pea's Nursery
Jerry Carisch**

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Northern Lights Trading Company
Barrel Mountaineering
Natural Resources Conservation Service
The Yellowstone Club
Big Sky Ski Patrol
Gallatin Valley Snowmobile Association
Citizens for Balanced Use
Big Sky Snowriders of Livingston
Bridger Women's Activity Group
Danhof Chevrolet
Montana Alpine Guides
Outside Bozeman
www.NEWEST.net/bozeman
Ace Powder Guides**

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Gallatin National Forest Avalanche Center 2007 Season Summary

Greetings!

On Sunday, April 8th we put out our 128th and last avalanche advisory of the season. Ron Johnson, Scott Schmidt and I want to thank you for all your support this winter. The season started out strong with amazing snow in October along with predictions that this would be an unforgettable winter of biblical proportions. Once again, Mother Nature reminded us that October snow is not a harbinger of things to come. If it weren't for 23 days of snow in February we would have put skis and sleds away months ago.

Our mission at the Avalanche Center is to give people the tools to make good, safe decisions about avalanche danger. Unfortunately, folks still get into trouble. Low snow years can be the most dangerous for avalanches, and this year was. While epic powder days were limited, the avalanches were not. This winter we had 6 avalanche fatalities in southwest Montana, 3 of them within our forecast area. With 20 fatalities nationally, Montana has the grim distinction of being the leader in avalanche deaths this year. Many of these incidents involve out of state visitors, so we're trying to widen our avalanche education net.

Every season builds upon the last and this year is no different. Our advisories are being read by more people than ever, our education programs continue to be popular and our community support through the Friends of the Avalanche Center is at an all-time high. Here are some highlights:

- ❑ Our advisories were accessed an average of 2,408 times a day totaling 308,000 hits for the season. This is a 17% increase over last year.
- ❑ We continue to expand our education efforts working in tandem with the Friends of the Avalanche Center who hired an education coordinator, Jay Pape, to help the program grow.

That he did. We provided education to 4,598 people through 73 talks, seminars and field sessions, a 59% increase over last year!

- We taught at the International Snow Science Workshop in Telluride, CO; gave a 4 hour lecture at Polaris Snowmobiles in MN; 3 two-day avalanche classes for local snowmobilers and guides; the 7th graders at Sacajewea and Chief Joseph Schools; lectures in Helena, Big Timber, Big Sky, Red Lodge, Livingston and Cody, WY; the popular MSU Basic and Advanced courses; and our newest addition, bi-weekly lectures for snowmobilers in West Yellowstone.
- The Friends Education Program is funded entirely by pledges collected for the *King and Queen of the Ridge* hosted by Bridger Bowl. This year they raised almost \$16,000 for next year's education program!
- Team Bozeman, working with the Friends of the Avalanche Center for the 7th year in a row, partnered with Yamaha to loan us two 4-stroke Apex Mountain sleds for our field and education work.
- We enhanced our advisory by adding occasional video clips accessed through www.YouTube.com which captured a scene, snowpit, avalanche or accident in a way that words or still photo could not. For reference, when we post a link to a photo in the advisory it gets about 400 views if it's popular. A video clip will get 3,000. We posted 16 clips this season that were viewed 26,419 times! Not bad for our first year.
- We organized the printing of 50,000 snowmobile safety brochures that were distributed throughout the western U.S. In southwest Montana we handed out 6,000 of the brochures. We also made yellow highway signs to alert out of state visitors that they should call the Avalanche Center. And we also created 50 avalanche awareness trailhead signs targeting snowmobilers.
- And last, but certainly not least, is the huge success of Amber Seyler's movie "A Dozen More Turns". This 30-minute movie documents the emotional and powerful story of a skiing accident in the Centennial Mountains of southwest Montana in 2005. It was just accepted into the Telluride Film Festival where it will be shown to thousands! You can order an inexpensive copy at www.backpackinglight.com.

I hope you enjoyed this winter and found our services valuable. As the seasons change, so do our activities. Ron is headed back to Grand Teton National Park where he's a Climbing Ranger, Scott is building a shop for his company, Snowdog Engineering, and I'm heading to Pakistan again on a climbing expedition.

Be safe, enjoy life and don't look back.

Doug Chabot
Director
Gallatin National Forest Avalanche Center

STAFF BIOGRAPHIES

Doug Chabot

Doug, director of the Gallatin National Forest Avalanche Center, received his B.A. in Outdoor Education from Prescott College in 1986. From 1990 to 1999 he worked as a professional ski patroller at Bridger Bowl Ski Area in Bozeman, Montana. Starting part-time in 1995 and moving to full-time in 1998, Doug has worked for the GNFAC as an avalanche specialist. He has taught several avalanche workshops, including courses for the American Avalanche Institute and National Avalanche School. He's worked as a professional mountain guide in Alaska and the western US from 1989 to the present, and is a senior guide at Exum Mountain Guides in the Tetons. Doug has been on 16 Alaskan climbing expeditions as well as climbs in Nepal, India, Afghanistan and Pakistan.



Ron Johnson

Ron received a M.S. degree from Montana State University in 1983 in Earth Science and conducted research in glaciology. He also did some independent studies related to avalanches as well as worked as a graduate teaching assistant under Dr. John Montange. He worked as a professional mountain guide from 1984 to 1988 in the North Cascades, Alaska, and South America and also taught Nordic skiing in Bozeman, Montana. From 1988 to 1992, Ron worked as a professional ski patroller at Bridger Bowl Ski Area. Since that time, he has worked as an avalanche forecaster at the Gallatin National Forest Avalanche Center. He has instructed at several avalanche workshops, including at the National Avalanche School since 1997. He is a professional member of the American Avalanche Association and has served as chairman of that organization's Education Committee. Since 1990, he has worked as a climbing ranger for the National Park Service at Denali National Park and Grand Teton National Park.



Scott Schmidt

Scott holds a B.S. degree in Physics and received his PhD in Applied Mechanics from Montana State University in 1999. His published work includes research in wind blown snow transport, avalanche flow dynamics, and snow metamorphism. Scott has worked as a consultant since 1996, contributing solutions to a number of snow-related engineering problems. He currently works as a professional ski patroller at Bridger Bowl and has been an avalanche specialist with the Gallatin National Forest Avalanche Center since 1999.

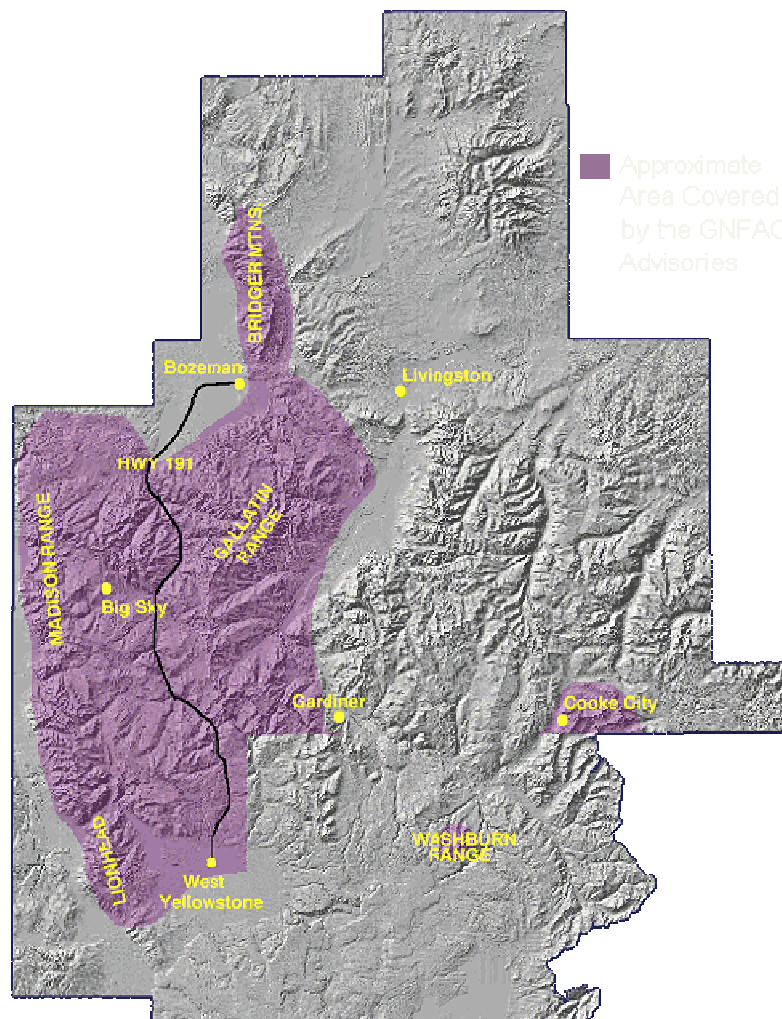


ADVISORY AREA

The Gallatin National Forest Avalanche Center covers over 10,000 sq. kilometers of National Forest land. Our area includes the:

- ❑ Bridger Mountains
- ❑ Gallatin Mountains
- ❑ Madison Range
- ❑ Washburn Range
- ❑ Mountains around Cooke City
- ❑ Henry Mountains (aka. Lionhead area near West Yellowstone).

Our advisories cover specific areas that are frequently broken into sub-groups in order to accurately describe current avalanche conditions. Some people also extrapolate from these advisories to adjacent mountain ranges. The shaded areas on the map represent the approximate area covered by our advisories.



ADVISORIES

Ron, Scott and I take turns writing the daily avalanche advisory. Awoken by a ridiculously early alarm, we drink a few cups of coffee and arrive at the office by 4 a.m. After looking at the weather, reading field reports from the public and utilizing our snowpack data from the field, we write a 1-2 page advisory outlining the current avalanche conditions. Our goal is to help backcountry users make sound travel decisions. The daily avalanche advisory is our primary tool to accomplish this.

The advisory is posted by 7:30 a.m., just in time for skiers' and riders' morning brew. It can be read on our web page, heard on our phone Hotline, listened to online and on iPod, or delivered via email every morning. Email continues to be the most popular with over 1,700 people subscribing to this service.

Abbreviated advisories were also played the on three radio stations throughout Gallatin Valley (see Media on page 24). These Public Service Announcements describe the day's avalanche danger and are heard by thousands of people.

The avalanche advisories are accessed an average of 2,408 times a day! This is a 17% increase from last season and 53% more than 5 years ago.



The biggest addition to the advisory was using You Tube to deliver video clips of us in the field. We showed stability tests, avalanches and general snowpack information with amazing ease. People could click on the link and see exactly what we're concerned about. Reading about a buried surface hoar layer vs. watching a column break on the layer is the difference between understanding and not.

We were astonished at the impact You Tube had on our advisories. The response was overwhelming. We made 16 clips that were viewed over 26,000 times! To check them out go to www.youtube.com and search for AvalancheGuys. Creating the video clip is almost as easy as putting a photo on the web, so we will continue to make more of these next season.



We began issuing intermittent avalanche bulletins on October 17th. There was enough snow to start daily advisories on December 14th, which continued through April 8th for a grand total of 128 advisories. These were accessed 304,000 times (*Figure 1*).

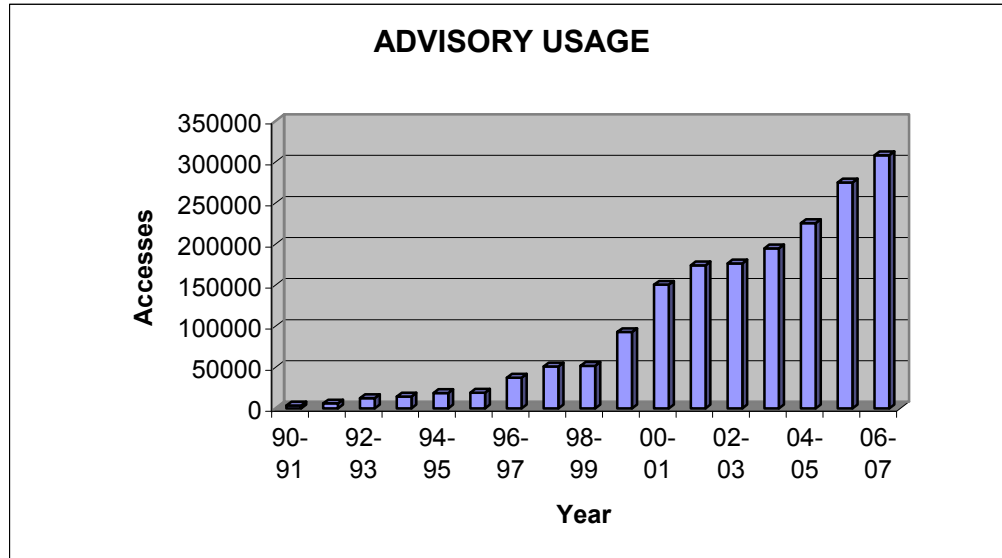


Figure 1: Advisory usage from 1990-91 to 2006-07



Jeff Watt teaching an avalanche class near West Yellowstone.

AVALANCHE EDUCATION

Our Avalanche Education Program took a gigantic step forward this winter. The Friends of the Avalanche Center hired an education coordinator, *Jay Pape*, to help us take on an expanded role in the community. Our education program had gotten so popular we could not accommodate every request, but now we can. Jay worked with a small, talented pool of instructors to increase our education by 59%, or 1,707 people! Out of 73 talks to 4,598 people, the Friends taught 24 one-hour avalanche awareness classes and helped teach 13 field sessions. Of these classes 21 were NEW additions. The primary instructors were *Dale Gullett*, *Jeff Watt*, *Mark Staples* and *Angela Patnode*. Table 1 on page 13 outlines the courses they helped us teach.

I envision this program growing by 50% every year for the next 3 years! The community has the need and we've got the instructors. And through the hard efforts of Bridger Bowl Ski Area, we've got the funding to pull this off through the annual King and Queen of the Ridge hike-a-thon (page 29).

This winter the GNFAC gave 73 talks to 4,598 people, a 59% increase from last year!

Our snowmobile education efforts bumped up again this year with 802 riders taking an avalanche class. *Dale Gullett* and *Jeff Watt* continue to be our main snowmobile instructors. This winter Jeff gave bi-weekly lectures in West Yellowstone to visiting sledders. *West Yellowstone Holiday Inn*, a long time supporter of the GNFAC, donated a room and projector for every program. Dale traveled to Helena, Livingston, Big Timber and Red Lodge to teach everything from 1-hour awareness classes to full day field sessions. Luckily, he's also a professional truck driver and likes time behind the wheel!

Besides lectures and field sessions, we try to get as much avalanche information as possible into the hands of winter recreationists. Our goal is to get everyone who recreates in avalanche terrain to call the avalanche advisory. We printed 30,000 8-panel brochures on Avalanche Safety for Snowmobilers that were distributed to other avalanche centers throughout the western US. Here at home we handed out 12,000 of these. Yellowstone National Park gave this brochure to every truck pulling a snowmobile trailer headed to Cooke City. Additionally, through funding from the Friends of the Avalanche Center and *Citizens for Balanced Use*, we created 2 signs (page 12) to raise avalanche awareness. These bright yellow highway signs were placed on the way to Cooke City on Highway 89 and also along the Highway 191 corridor between Bozeman and West Yellowstone. We also made trailhead signs with a few pointers on how to ride safely in avalanche terrain. All of these signs were well received and will go back up next fall.

Our Website (www.mtavalanche.com) is a huge source of educational information and last fall we updated it. There's new content, new pages and new ways to get our advisories. If you haven't been to our site lately, surf on by and take a quick tour. Here are some of the changes:

Avalanche Advisory Page

On the <Avalanche Advisory> page are large icons directing readers to listen to the advisory over the internet, sign up for an email subscription (free), or listen to it via Podcast. Also, certain words are linked to the new Avalanche Encyclopedia so readers of the advisory can learn more about snow and avalanches.

GNFAC Podcast

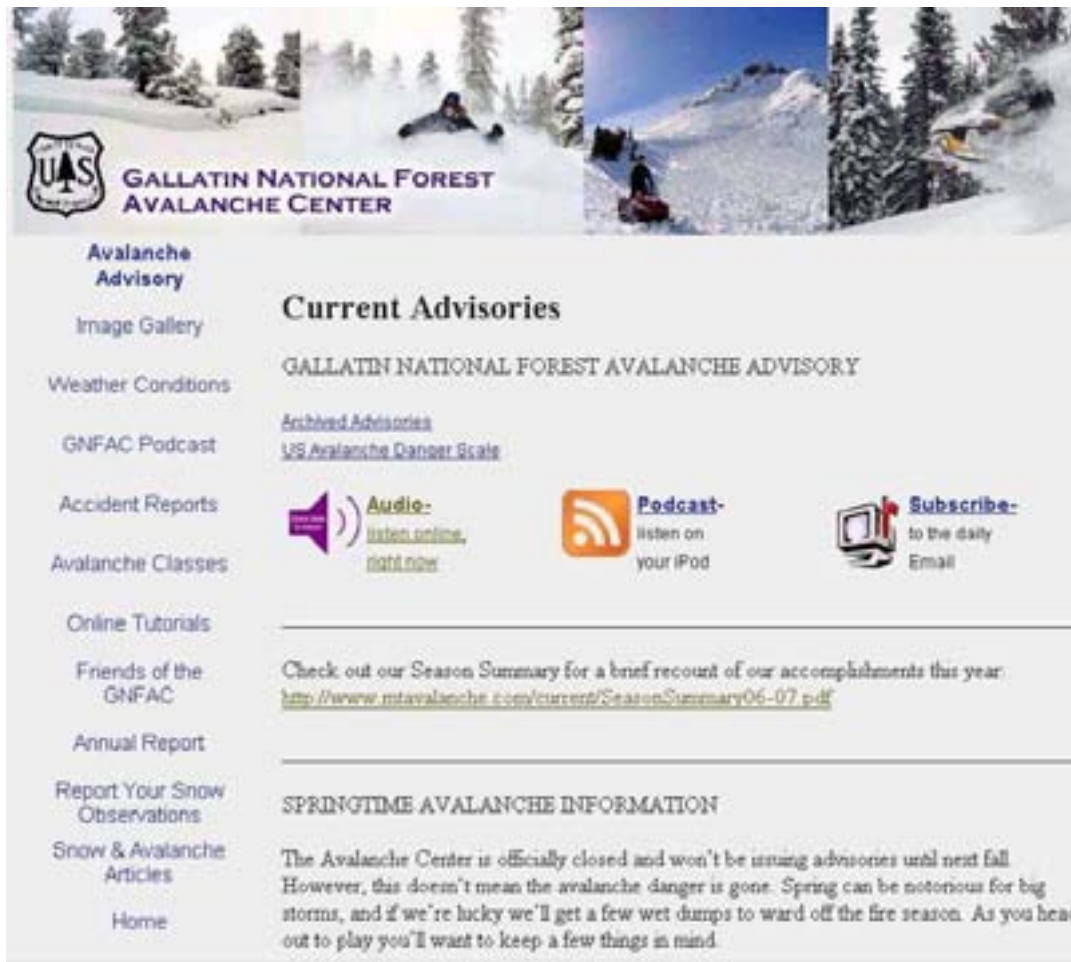
Besides reading or listening to the advisory on the web, we now offer a third option of Podcasting which allows one to listen to the advisory anytime, anywhere. Once you subscribe for free, the latest avalanche advisory is downloaded to the iPod or MP3 player every time it hooks up.

Avalanche Classes

Our <Avalanche Classes> page is more streamlined with a very useful <Calendar of Classes> button. This is an embedded Google Calendar that lists all the avalanche education opportunities in southwest Montana. It's a fast way to see what's coming up in the future.

Online Tutorials

This page is a new addition to our website, linking three great avalanche tutorials. They incorporate reading, tests, videos and interactive learning for the beginner to experienced recreationists. The tutorials contain great information that pertains to ALL user groups. They are best viewed with a high-speed connection since they utilize Flash and video streams.



Avalanche Advisory

Image Gallery

Weather Conditions

GNFAC Podcast

Accident Reports

Avalanche Classes

Online Tutorials

Friends of the GNFAC

Annual Report

Report Your Snow Observations

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Current Advisories


GALLATIN NATIONAL FOREST AVALANCHE ADVISORY

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Check out our [Season Summary](http://www.mtavalanche.com/current/SeasonSummary06-07.pdf) for a brief recount of our accomplishments this year.

SPRINGTIME AVALANCHE INFORMATION

The Avalanche Center is officially closed and won't be issuing advisories until next fall. However, this doesn't mean the avalanche danger is gone. Spring can be notorious for big storms, and if we're lucky we'll get a few wet dumps to ward off the fire season. As you head out to play you'll want to keep a few things in mind.



We made 12- 2' x 3' yellow metal highway signs. These were posted on the way to Cooke City and West Yellowstone to raise awareness about the Avalanche Center among out-of-state visitors.



We made 50 of these Corex signs for all popular snowmobiling trailheads.

Table 1: **AVALANCHE EDUCATION**

DATE	INSTRUCTOR	GROUP	COURSE	#
1-Oct	Chabot	Nat Avalanche Center Meeting	Snow Pilot	50
5-Oct	Chabot	Int Snow Science Workshop	False Stability	700
13-Oct	Chabot	MT Snowmobile Assoc	Ava. Awareness	40
2-Nov	Schmidt	Polaris	Basic Avalanche	100
7-Nov	<i>Pape</i>	<i>Sacajewea 7th Grade</i>	<i>Ava. Awareness</i>	215
9-Nov	Schmidt	Chief Joseph 7th Grade	Ava. Awareness	180
11-Nov	Chabot	Big Ski Snow Safety	Snow Pilot	5
13-Nov	Schmidt	Hebgen Ranger Dist	Ava. Awareness	8
14-Nov	Chabot	Cody Snowmobile Club	Ava. Awareness	51
14-Nov	Johnson	Nat Weather Service	Center Overview	8
14-Nov	Johnson	Bozeman Leadership	Ava. Awareness	35
15-Nov	<i>Pape</i>	<i>The Basecamp-Helena</i>	<i>Ava. Awareness</i>	30
16-Nov	Johnson	Northern Lights Trading Co.	Ava. Awareness	30
17-Nov	Chabot	Area Ski Patrols	False Stability	80
17-Nov	Birkeland	Area Ski Patrols	Fx Propagation	80
20-Nov	<i>Pape</i>	<i>Gallatin County SAR</i>	<i>Ava. Awareness</i>	30
20-Nov	<i>Patnode</i>	<i>High School Physics</i>	<i>Ava. Awareness</i>	100
27-Nov	<i>Pape</i>	<i>West Yellowstone SAR</i>	<i>Ava. Awareness</i>	45
29-Nov	Johnson, Birkeland	ASMSU	Basic Avalanche	170
30-Nov	Johnson, Birkeland	ASMSU	Basic Avalanche	170
2-Dec	Johnson, Birkeland	ASMSU	Basic Field	70
2-Dec	Schmidt	MT FW&P Groomers Workshop	Ava. Awareness	98
6-Dec	Chabot, Schmidt	Team Bozeman	Basic Avalanche	30
7-Dec	Johnson, <i>Gullett</i>	Team Bozeman	Basic Avalanche	30
8-Dec	Schmidt	Yellowstone Club Ski Patol	Wx Forecasting	30
10-Dec	Chabot, <i>Gullett</i>	Team Bozeman	Basic Field	22
12-Dec	Johnson	Cooke City SAR	Basic Field	20
16-Dec	Schmidt	West Yellowstone Basic Ava	Basic Avalanche	22
17-Dec	Schmidt, <i>Watt, Staples</i>	West Yellowstone Basic Ava	Basic Field	20
13-Dec	<i>Patnode</i>	<i>Mt Ellis Academy</i>	<i>Ava. Awareness</i>	75
19-Dec	Johnson	BNSF	Basic Avalanche	17
20-Dec	<i>Patnode</i>	<i>Team Wins</i>	<i>Ava. Awareness</i>	10
4-Jan	<i>Patnode</i>	<i>MOSS Teachers</i>	<i>Ava. Awareness</i>	12
6-Jan	Chabot	West Yellowstone Basic Ava	Basic Avalanche	36
7-Jan	Chabot, <i>Gullett, Watt</i>	West Yellowstone Basic Ava	Basic Field	19
7-Jan	<i>Pape</i>	<i>West Yellowstone Basic Ava</i>	<i>Basic Field</i>	13
11-Jan	<i>Gullett</i>	<i>Livingston Snow Riders</i>	<i>Ava. Awareness</i>	31
11-Jan	<i>Patnode</i>	<i>Timber Trails-Livingston</i>	<i>Ava. Awareness</i>	35
12-Jan	<i>Watt</i>	<i>West Yellowstone Public</i>	<i>Ava. Awareness</i>	32
12-Jan	Schmidt	Girl Scouts	Ava. Awareness	15
16-Jan	<i>Patnode</i>	<i>Headwaters School</i>	<i>Ava. Awareness</i>	25
17-Jan	Chabot	Dozen More Turns-Bozeman	Ava. Movie	500
24-Jan	Johnson, Birkeland	ASMSU	Basic Avalanche	140
25-Jan	Johnson, Birkeland	ASMSU	Basic Avalanche	130

27-Jan	Johnson, Birkeland,Schmidt	ASMSU	Basic Field	108
27-Jan	<i>Patnode, Staples</i>	<i>Boy Scouts</i>	<i>Beacon Class</i>	125
31-Jan	Johnson, Birkeland	ASMSU	Advanced Avalanche	33
1-Feb	Johnson, Birkeland	ASMSU	Advanced Avalanche	33
3-Feb	Johnson, Birkeland	ASMSU	Advanced Field	27
4-Feb	<i>Gullett, Staples</i>	<i>Livingston Snow Riders</i>	<i>Basic Field</i>	17
5-Feb	<i>Gullett</i>	<i>Big Timber Adult Ed</i>	<i>Basic Avalanche</i>	8
6-Feb	<i>Patnode</i>	<i>Big Sky Youth Empowerment</i>	<i>Ava. Awareness</i>	10
7-Feb	Johnson	Professional Ava Worker School	Ava Forecasting	15
8-Feb	Chabot	Professional Ava Worker School	False Stability	15
8-Feb	<i>Patnode</i>	<i>BWAGS</i>	<i>Ava. Awareness</i>	22
8-Feb	<i>Gullett</i>	<i>Helena Snowdrifters</i>	<i>Ava. Awareness</i>	17
9-Feb	<i>Watt</i>	<i>West Yellowstone Public</i>	<i>Ava. Awareness</i>	10
10-Feb	<i>Watt</i>	<i>West Yellowstone Public</i>	<i>Ava. Awareness</i>	16
10-Feb	<i>Pape</i>	<i>Park Service-Mammoth</i>	<i>Ava. Awareness</i>	35
13-Feb	Johnson	Northwest Groomers Conf	Ava. Awareness	18
13-Feb	<i>Patnode</i>	<i>Park High School</i>	<i>Ava. Awareness</i>	25
14-Feb	Chabot	Gallatin Christian Ministers	Ava. Awareness	25
17-Feb	<i>Gullett, Staples</i>	<i>Red Lodge Snowmobile Club</i>	<i>Basic Field</i>	27
22-Feb	Chabot	Dozen More Turns-Livingston	Ava. Movie	175
23-Feb	<i>Watt</i>	<i>West Yellowstone Public</i>	<i>Ava. Awareness</i>	21
27-Feb	Johnson	Museum of the Rockies	Ava. Awareness	63
28-Feb	<i>Patnode</i>	<i>Big Sky Rotary Club</i>	<i>Ava. Awareness</i>	18
28-Feb	Chabot	Big Sky Public - Open Gates	Ava. Awareness	35
28-Feb	Johnson	MOSS Club	Ava.Rescue	20
8-Mar	<i>Patnode</i>	<i>Sacajewea 7th Grade</i>	<i>Ava. Awareness</i>	100
9-Mar	<i>Watt</i>	<i>West Yellowstone Public</i>	<i>Ava. Awareness</i>	21
TOTAL NUMBER EDUCATED				4598
TOTAL= 73 Talks/Seminars/Field Sessions to 4,598 People				



All classes in *italics* were taught and funded through the Friends of the Avalanche Center, totaling 24 one-hour avalanche awareness classes plus 13 field sessions.

“A DOZEN MORE TURNS”

Last winter, *Amber Seyler*, a graduate film student at MSU, created a moving and educational 30-minute movie on avalanches. She documented a 2005 avalanche accident in sw Montana capturing the “Human Factor” on film through lost footage and honest interviews. The film instantly became a hit with a sell out crowd of more than 500 people at the Emerson Cultural Center. The event raised \$2,600 which was split between the Friends and the Blake Morstad Fund. The Friends pumped the proceeds back into the film and paid for the burning of 1,000 DVDs, which we are in the process of distributing. The goal of the movie is to share this gripping story with as many people as possible, so the Friends are only charging \$5.49, including mailing. Copies can be ordered at www.BackpackingLight.com where donations to the Blake Morstad Fund or Friends of the Avalanche Center can also be made.



Lucia Stewart, Bozeman Editor of the online magazine New West (www.newwest.net), wrote this piece about the movie:

When does judgement override elated powder turns? Avalanche Film Probes Choice, Consequence and Snow Science

By Lucia Stewart, 1-17-07

It was New Years Day.

A group of close friends were enjoying the best way they knew to christen the crisp winter's day: a backcountry ski tour.

Equipped with the knowledge, the gear and the insight into the current avalanche conditions, the Centennials Mountains held what seemed to be a perfect day.

Instead, it held a single event that would change their lives forever.

The film premier, *A Dozen More Turns*, showing Wednesday night at the Emerson Theater, is a story that a thousand people could tell, but it's the other people that got lucky.

The film, by Amber Seyler, plays off what all aficionados of the backcountry face: being presented with a big powder slope as the sweat cools from skinning to the top and the powerful desire to descend in big turns confronts the decision of snow stability and group safety.

“There is a lot to learn from their story,” said Seyler. “It examines what went wrong with the snow pack in the area and how important it is not to only have info and knowledge of snow science, but to use it and make good judgment and decisions applying what you know.”



*Amber Seyler and Sam Kavanagh.
Photo by Jay Thane of MSU.*

Amber learned to ski at age 33, where she just “fell in love with it because how can you not.” With an undergraduate background in molecular biology and zoology, she wanted to know more about the science behind the not-quite-understood phenomenon of snow.

As a student of the Science and Natural History Graduate Film Program at Montana State University, Seyler must have an undergraduate degree in the sciences, from which she draws much of her inspiration. In this film, it was motive behind binding the powerful facets of interviews from avalanche survivors with the dry science behind snow pack.

After getting to know Doug Chabot, who now sits on her graduate advisory committee, and the rest of the snow geeks at the Gallatin National Forest Avalanche Center, she realized her first film was going to be an educational film for their use.

A Dozen More Turns is going to become a staple element in the Gallatin County Avalanche Center’s educational programs and classes. There are also plans of sending it out to other avalanche centers for their use.

“I’m looking forward to hopefully having the film reach some people,” said Seyler. “This is a dangerous season. I hope people remember the film the next time they are

up on the slope, which might save them from being caught. And to having a drink after the show, of course.”

After the film, there will be a Q&A panel with the documentary’s interviewees, the film director Amber Seyler, Doug Chabot and other staff of the Gallatin National Forest Avalanche Center.

And there will be an amazing raffle from dozens of community sponsors who support our community being safe in the backcountry!

ACCIDENTS AND INCIDENTS

Low snow years can be the most dangerous, which was the case this winter. Weak layers formed early in the season persisted throughout. It kept us on our toes and made for challenging and cautious field days. A common question I'd ask Ron or Scott after they returned from the field was, "Did you ski it?" More often than not the answer was, "No, we tip-toed around and stayed off the slope."

This winter southwest Montana had 6 fatalities, 3 of them in our forecast area. We mention the incidents outside our area because we either investigated them or were fed all the information since we were the closest Avalanche Center.

I wrote a recap of the season's accidents in the March 16th issue of *Carve*, which is reprinted here:

AVALANCHE ACCIDENTS

Lessons learned from this season's avalanche fatalities

Doug Chabot

Director, Gallatin National Forest Avalanche Center

Accidents happen and people die. Friends and family are usually left to pick up the pieces and wonder what happened. Avalanches are deadly; yet in 92% of the cases the victim or someone in their party triggered the slide that killed them. They are not a random occurrence. Our behaviors and decisions affect the outcome of our day whenever we ski or snowmobile. Avalanches really don't care what you're riding or sliding on, because if a slab of snow is sitting on a weak layer on a steep slope all that's missing is the trigger—you.

I've been investigating avalanche accidents since the mid 90s when I started work at the Avalanche Center. They all involve well intentioned people trying to enjoy a day the mountains. People don't plan on getting caught in an avalanche any more than they plan on getting in a car wreck, but they happen anyway. And as tragic, unfortunate and sickening as these accidents can be, there's always a nugget of useful information to glean; a lesson for the living, a gift from the victims. Sometimes the accidents are similar and blend into one another—the same mistakes repeated like a broken record. Other times they're unique situations that catch its victims off guard. We can become safer backcountry travelers if we take the time to hear others' stories, look at their mistakes and learn the lessons. As George Santayana famously said, "Those who cannot learn from history are doomed to repeat it".

So far this season we've had 6 avalanche fatalities in 5 separate incidents. Every one of these has valuable lessons emerging from tragic stories. Let us all learn.

December 16, One Snowmobiler Caught Buried and Killed

In the seven days leading up to the accident over 4 feet of snow fell in the mountains outside Cooke City with strong winds. A North Dakota man and 2 others were highmarking the same slope at the same time when his sled got stuck. A person from another party rode up to help and triggered the slide. The victim was dug up in 18 minutes under 7 feet of debris. He and his partners had rescue gear.

Lesson:

1. Know the history of the snowpack. Four feet of snow with strong winds is a red flag that avalanche danger is bad.
2. Check out the avalanche advisory. In the morning's advisory we rated the danger as HIGH, which means you will likely trigger a slide.
3. Only place one person at a time on a slope. In the US over half the fatalities involve two people on the slope. One person leaves more folks outside the slide for a rescue and limits the possibility of being a trigger.

December 28, Two Snowmobilers Caught, One Partially Buried, One Fully Buried and Killed

Eight family and friends from MN were riding in the backcountry near West Yellowstone. Fourteen inches of snow with strong winds fell in the prior 48 hours. They were riding in a line at the bottom of a steep slope when they triggered the slide. Most of the party was either protected by trees or was out of the path when it slid. One person was only partially buried, but one was completely buried under 3 feet of snow. No one had rescue gear, but they were able to locate and dig out the victim in an astonishing 5 minutes. Unfortunately he died of asphyxiation.

Lessons:

1. An avalanche can be triggered from far away if the snow is unstable.
2. They failed to recognize they were in avalanche terrain. Even on a flat trail, if it's attached to a steeper slope a slide can be triggered. This party was exposed in the direct line of fire of the runout zone when they triggered the slide.
3. Even when dug out quickly people can still die. Buried people have a 90% chance of survival if recovered in 15 minutes, but that also means 10% don't live.

January 1, Two Snowmobilers Caught, One Partially Buried, One Fully Buried and Killed

Two snowmobilers were highmarking a slope on Mount Jefferson in the Centennial Range when they triggered a slide. One rider was only partially buried and was able to extricate himself while the other was 5 feet deep. Neither had rescue gear. Beaverhead Search and Rescue was dispatched and located the victim after 1 hour and 45 minutes.

Lessons:

1. Only ride or ski one at a time on a slope.
2. To play in avalanche terrain requires rescue gear and a knowledge of how to use it.

February 17, Three Snowmobilers Caught, Buried, Two Killed

Three friends from Helena and Townsend rode into the Big Belt Mountains. They were experienced riders and had discussed the likely dangerous avalanche conditions, but chose to ride a steep slope anyway. All three were on the slope when it released. One rider was able to extricate himself since his upper body was only under a few inches of snow. No one in the party had rescue gear and the survivor was unable to locate his friends.

Lessons:

1. One person a time on the slope may have only resulted in one fatality instead of two.
2. There's no substitute for carrying rescue gear. In a big avalanche, transceivers are the only way to locate a buried partner in the 15 minute window.

March 3, One Skier Caught Buried and Killed

Two friends went out to ski a steep, serious a chute on Yellow Mountain near Big Sky. They were experienced, had rescue gear, and called the avalanche advisory which was rated CONSIDERABLE because of a thin, weak snowpack. The slide released after the skier made 2

turns at the top of the run. The terrain below was unforgiving with cliffs and rock outcroppings in the path. He was buried under 4 feet of debris and dug up by his partner, but he suffered fatal trauma.

Lessons:

1. Even people with avalanche knowledge and rescue gear can get into trouble. The decision to ski was based more on the human factor of wanting the run instead of an objective assessment of the snowpack.
2. Choosing to go into serious terrain carries serious consequences. Avalanches were just one of the hazards of that run. Even if the danger was LOW, a fall in this terrain is life threatening.

Whether one skis or snowmobiles the lessons apply to us all. Even after many years of going to accident scenes, I still walk away with a feeling of humbleness because deep down I know I'm not immune. I look at the bodies, read the stories and think, "It could have been me."



Table 2 represents all of the avalanche incidents and accidents reported to us. We only hear about a handful of the avalanches actually triggered, but with incidents involving injury and death we're usually notified quickly. The table shows that many of these incidents are clustered around certain dates. Not surprisingly, these were usually preceded by significant snowfalls.

Table 3 compiles all the avalanche incident data for our advisory area over the last 17 years.

Table 4 lists all the avalanche fatalities this year in the US. As of April 15th there were 20 deaths. The tally is: MT-6; CO-5; UT-4; WY-3; WA-1; ID-1.

Table 5 records the US avalanche fatalities for the last 10 years grouped by activity.

Table 2: **SW MONTANA AVALANCHE INCIDENTS & ACCIDENTS**

DATE	LOCATION	DETAILS
22-Oct	Bridger Bowl	1 skier triggered, caught, not buried
10-Dec	Saddle Peak	1 skier triggered, skied out
16-Dec	Cooke City	1 snowmobiler triggered, caught, buried, killed
16-Dec	Big Sky	1 in-area skier triggered, caught, partially buried
25-Dec	N. Madison Range	1 skier triggered, caught, partially buried
26-Dec	S. Madison Range	1 snowmobile triggered
28-Dec	N. Gallatin Range	1 skier triggered
28-Dec	S. Madison Range	2 snowmobilers caught, 1 partially buried, 1 fully buried and killed
29-Dec	Bridger Range	1 skier triggered
30-Dec	Cooke City	1 snowmobiler triggered, caught, uninjured
1-Jan	Mt Jefferson	2 snowmobilers triggered, caught, 1 fully buried and killed
13-Jan	Cooke City	1 snowboarder triggered
14-Jan	S. Madison Range	1 snowmobiler triggered
24-Jan	Cooke City	1 snowmobiler triggered
10-Feb	Bridger Range	1 skier caught
11-Feb	Bridger Range	2 skiers triggered
<i>11-Feb</i>	<i>Crazy Mountains</i>	<i>1 snowmobiler triggered, caught, buried</i>
13-Feb	Bridger Range	2 snowboarders triggered, caught, not buried
17-Feb	N. Madison Range	2 snowmobilers triggered
17-Feb	Big Belts near Townsend	3 snowmobilers triggered, 2 caught, 2 fully buried and 2 killed
18-Feb	Bridgers	1 skier triggered, caught, not buried
19-Feb	S. Madison Range	1 snowmobiler triggered
25-Feb	Cooke City	1 snowmobiler triggered, caught, not buried
1-Mar	Bridger Range	2 skier triggered, 1 caught, not buried
3-Mar	N. Madison Range	1 skier triggered, caught, buried and killed
2-Apr	N. Gallatin Range	1 skier triggered, caught, not buried
TOTAL= 26 Incidents resulting in 2 partial burials, 7 full burials and 6 deaths		

Bold refers to all fatalities.

Italics are incidents that happened outside our advisory area.

Table 3: **Within Our Advisory Area
Avalanche Incident Data For 1990-2007**

	Total Incidents	Skiers, Boarders, Climbers, buried	Snowmobilers buried	Skier, Boarder, Climbers, fatalities	Snowmobiler fatalities
2006-2007	26	3	5	1	2
2005-2006	22	1	7	0	2
2004-2005	35	4	4	2	0
2003-2004	25	2	1	0	0
2002-2003	40	4	17	0	3
2001-2002	35	0	7	0	3
2000-2001	42	8	4	3	1
1999-2000	30	2	3	1	0
1998-1999	13	3	1	0	0
1997-1998	29	8	9	0	4
1996-1997	20	1	2	0	0
1995-1996	22	4	13	0	2
1994-1995	23	8	3	0	0
1993-1994	23	5	2	0	1
1992-1993	35	6	8	0	1
1991-1992	25	2	2	0	1
1990-1991	10	0	5	0	0
TOTALS	439	61	93	7	20

Since the fall of 1990 through April 8, 2007 in southwest Montana:

- ❑ 20 snowmobilers and 7 non-snowmobilers died in avalanches on the Gallatin National Forest.
- ❑ 93 snowmobilers were partially or completely buried. 61 non-snowmobilers were partially or completely buried.
- ❑ 65 people were buried in the mountains near Cooke City. 12 people were killed in avalanches near Cooke City. All fatalities were snowmobilers.
- ❑ 16 people were buried near West Yellowstone. 6 of the burials resulted in fatalities. All fatalities were snowmobilers.
- ❑ 13 people were buried in the Bridger Range. One skier was killed.
- ❑ 38 people were buried elsewhere on the Gallatin National Forest. Two skiers were killed, four climbers died, and 2 snowmobilers died.

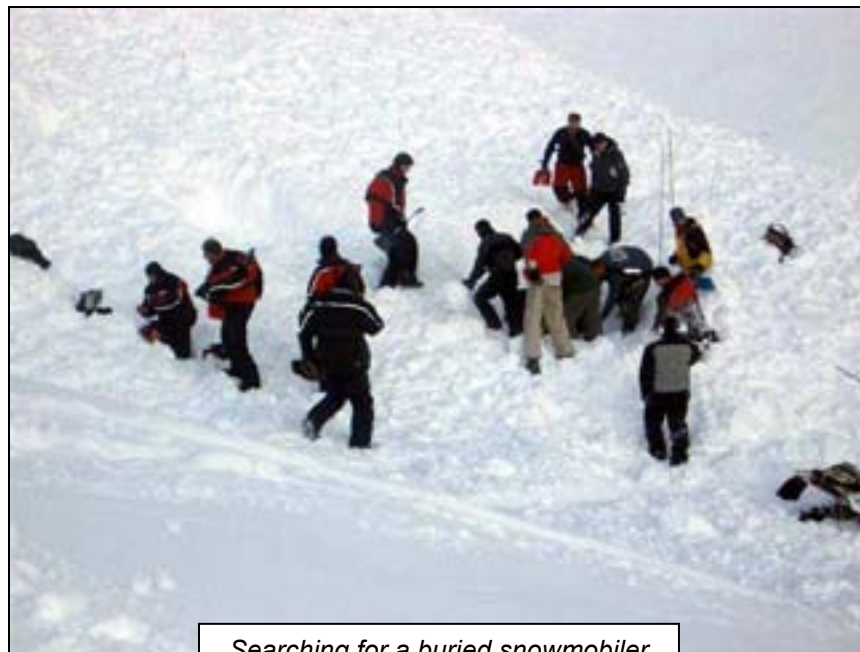
Table 4: **2006-07 US AVALANCHE FATALITIES**Avalanche Fatalities: **20**

Date	Place	Fatalities	State	Country	Activity	Summary
03-13-2007	Sunshine Peak, 5 miles southeast of Aspen	2	CO	USA	SKI	1 skier caught and carried. 2 split-boarders caught, buried, and killed.
03-10-2007	Apollo Creek in the Baker Creek Drainage	0	ID	USA	SNOWMOBILE	1 snowmobiler caught, buried and injured
03-10-2007	Darby Canyon, Fossil Mountain	1	WY	USA	SKI	1 skier caught, buried, and killed
03-03-2007	Marion Lake drainage in the Flathead Range	0	MT	USA	SKI	1 skier caught, carried, partially buried, and injured. 1 dog buried and killed.
03-03-2007	Yellow Mountain near Big Sky, MT	1	MT	USA	SKI	1 skier caught, buried, and killed
03-03-2007	South of Echo Lake	1	CO	USA	SNOWSHOE	1 snowshoer caught, partially buried, died during evacuation
03-01-2007	Jewel Basin, Flathead National Forest	0	MT	USA	SNOWMOBILE	1 snowmobiler caught, buried for 8 hours, and rescued alive
02-25-2007	Clark Canyon, near Mt Hood Meadows	0	OR	USA	SKI	2 skiers caught 1 partially buried, self rescue; 1 totally buried
02-24-2007	Mt Rainier National Park (just west of Crystal Mountain Ski Area Boundary)	1	WA	USA	SKI	1 skier caught, buried and killed
02-21-2007	Gobblers Knob Area	1	UT	USA	SKI	1 skier caught, carried, and killed
02-18-2007	Hells Canyon, backcountry near Snowbasin Resort	1	UT	USA	SKI	1 skier caught, buried, and killed
02-17-2007	Signal Peak, southeast of Richfield, UT	1	UT	USA	SNOWMOBILE	1 snowmobiler caught, buried, and killed
02-17-2007	Tower Mountain, southeast of Heber City	1	UT	USA	SNOWMOBILE	1 snowmobiler caught, buried, and killed
02-17-2007	Palisades Peak Area	1	ID	USA	SNOWMOBILE	3 snowmobilers caught, 2 partially buried, 1 buried and killed.
02-17-2007	Mount Baldy, about 20 miles from Townsend	2	MT	USA	SNOWMOBILE	3 snowmobilers caught and buried. 2 killed
02-04-2007	East San Juan Mountains, ~2 miles NW of North Peak.	1	CO	USA	SNOWMOBILE	1 snowmobiler caught, buried, and killed
01-05-2007	Rock Springs Drainage, Teton Range	1	WY	USA	SKI	Three out of area skiers caught and partially buried, one killed
01-01-2007	Mt. Jefferson, Hell Roaring Canyon drainage	1	MT	USA	SNOWMOBILE	2 snowmobilers caught, 1 buried and killed
12-28-2006	Lionhead area near West Yellowstone	1	MT	USA	SNOWMOBILE	2 snowmobilers caught, 1 buried and killed
12-21-2006	Hanging Valley Wall, Rayburn Area	1	CO	USA	SKI	1 skier caught, buried, and killed.
12-19-2006	Scotch Bonnet	1	MT	USA	SNOWMOBILE	1 snowmobiler caught, buried, and killed
12-16-2006	Stewart Peak, Salt River Range	1	WY	USA	SNOWMOBILE	2 snowmobilers caught and buried, one killed

Table courtesy of Avalanche.org

Table 5: **US AVALANCHE FATALITIES BY ACTIVITY, 96/97-06-07**

ACTIVITY	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	10-winter totals
climbers	6	3	1	0	2	3	5	4	5	0	0	29
skiers/snowboarders	1	5	12	14	12	11	11	6	15	8	9	104
in-area skiers/riders	0	0	1	0	0	0	0	0	2	0	0	3
snowmobilers	6	14	13	5	15	18	14	6	4	12	10	117
misc. recreation	7	4	4	1	4	3	0	4	2	3	1	33
patrollers	0	0	0	0	0	0	0	0	0	0	0	
motorists/highway workers	0	0	0	1	0	0	0	0	0	0	0	1
residents	0	0	0	1	0	0	0	3	0	0	0	4
others @ work	2	0	1	0	0	0	0	1	1	0	0	5
total	22	26	32	22	33	36	30	24	29	23	20	301



*Searching for a buried snowmobiler
on Mt. Jefferson.
Photo by Broadwater Co. SAR*

MEDIA

Print, television and radio media are all part of our avalanche education program. Typically, media interest follows avalanche accidents and big snowstorms, and this winter was no exception. We gave over 40 interviews to local television stations, national radio and many magazines and newspapers. Many involved local papers in Bozeman, Livingston, Billings and Missoula. Others were with papers and television stations in Minnesota and North Dakota following Cooke City and West Yellowstone fatalities.



Besides the mainstream media interest that follows significant events we've established solid partnerships over the years with other media outlets. We read an abbreviated version of our advisory Monday-Saturday on the MOOSE KMMS (95.1 FM). This was our fourth year working with KGLT (90.1 FM) radio too. We also worked with The Eagle KBZM (104.7 FM) which played a 1-minute recording of avalanche conditions every Wed through Saturday. Additionally, Danhof Chevrolet paid for a full color ad (left) with the Avalanche Hotline number in the monthly issue of *Carve*. Another plug for the Avalanche Center appeared every month in the *Montana Snowmobile Association News* which gave us free ad space with our hotline and web site information.

ARTICLES

In addition to writing the daily avalanche advisory we also wrote articles for newspapers, newsletters and trade journals. These articles are a great way to educate the public about avalanches. These are usually general avalanche topics which allow us to increase awareness to a wider, more diverse population.

These included:

- ❑ An article by Doug and Karl Birkeland on Minimizing "False-Stable" Stability Test Results in the *2006 Proceedings of the International Snow Science Workshop*.
- ❑ We all wrote articles for snowmobilers every month in the *Montana Snowmobile Association Newsletter*.
- ❑ Doug authored five articles on avalanche safety in his "Snow Advisory" column in the monthly *Carve* magazine published by the *Bozeman Daily Chronicle*.
- ❑ We took turns writing monthly avalanche articles for *Off The Grind* a local paper dedicated to outdoor sports.
- ❑ Doug wrote an article for *Outside Bozeman* covering Spring Skiing.

Copies of the newspaper and magazine articles begin on page 66.

FINANCES AND FUND RAISING

The Avalanche Center's biggest source of funding comes from the Gallatin National Forest (GNF). However, as our program grows and USFS budgets shrink, we rely on community support, as well as outside grants and donations. The GNF spent over \$100,000 this year to fund the Avalanche Center. This money pays for most of Ron's and my salaries, plus a lot of the expenses associated with the operation (vehicles, office space, computers and support, supplies, travel, etc.). Scott's salary and the snowmobiles and extra administrative expenditures are covered by the generosity of many other agencies, businesses and individuals.

Friends of the Avalanche Center

These dedicated volunteers are our safety net. This year they donated \$10,799 to cover our administrative costs and snowmobile expenses. Page 27 outlines their efforts in detail.

Montana Fish, Wildlife and Parks Recreation Trails Grant

Montana Fish, Wildlife and Parks are strong advocates for the state avalanche program. We apply for a statewide grant every spring and have been awarded monies for the last 8 years. Through a Recreation Trails Grant they awarded us \$13,760 which represents 8% of our operating budget.

Gallatin County Search and Rescue

Gallatin County Search and Rescue has been a supporter since the beginning of the Avalanche Center. They give us \$4,000 every year for general operating expenses. Our partnership with them is invaluable and the funds we receive are greatly appreciated.

Montana Fish, Wildlife and Parks Snowmobile Safety Fund

Ray Paige of FW&P is in charge of the state snowmobile safety program and generously donated \$3,000 again this year. Additionally, FW&P paid for the printing of 12,000 snowmobile avalanche brochures that were distributed throughout Montana.



Dale Gullet deep in powder near Carrot Basin

CONTRIBUTIONS OF LABOR AND EQUIPMENT

Volunteer labor and equipment to the GNFAC totaled \$38,650 this season (see page 35 for details). Without this help we would not be able to operate at our current capacity.

Observers

A host of “unofficial” volunteers called in observations on a regular basis. Since our advisory area is so large we rely on folks to feed us information about current snow conditions. Over 60 individuals fall into this category and we appreciate their timely emails and phone calls. We are also thankful for the combined efforts of Bridger Bowl Ski Area, Big Sky Ski Area, Moonlight Basin Ski Area, the Yellowstone Club, and Ace Powder Guides.

Government Agencies

Some “official” agencies and businesses that help us include the National Weather Service, the Natural Resources Conservation Service (NRCS), the Forest Service offices in West Yellowstone, Bozeman and Gardiner, and the National Park Service offices in Canyon and the Northeast Gate. We also owe thanks to Forest Service Snow Rangers *Will Shoutis*, *Dale Gullett* and *Tim Campbell* for their regular field observations and snowpit data.

Field Volunteers

On most days of the week one of us is outside gathering data for the next day’s advisory, but our small staff makes it difficult to get out with each other. For safety, we always travel with



Kristina Trygstad-Saari looks at snow crystals.

partners and we rely on a group of volunteers to accompany us in the field. This year our field partners were Ed Adams, Karl Birkeland, Matt Croutoff, Chas Day, Marty Faulkner, Scott Gill, Dale Gullett, Mike Harrelson, Greg Johnson, Jeff Johnson, Kathy Kinser, Adam Knoff, Paige Leddy, Pete and Terri Maleski, Jay Pape, Angela Patnode, Erich Peitzsch, Christine Raymond, Lance Riek, Chris Robinson, Scott Savage, RA Schmidt, David Schmidt, Eric Scranton, Mark Staples, Kristina Trygstad-Saari, Genevieve Walsh and Lisa Workman. These volunteers donated over 600 hours of time!

Jim Earl deserves special mention for all his work on our web site, www.mtavalanche.com, and also on the *SnowPilot* web pages at www.snowpilot.org.

Northern Lights Trading Company, a local outdoor store, has been supporting the Avalanche Center since the beginning. Once again, they generously loaned us skis and boots for the winter.

FRIENDS OF THE AVALANCHE CENTER

The Board of Directors include: *Jeannie Wall* (President), *Greg Caracciolo*, *Laura Ryan*, *Dale Sexton*, *Jay Pape*, *Mike Harrelson*, *Lance Riek*, *Alan Oram*, *Brian Grossenbacher* and *Cliff Gullett*.

Without the Friends of the Avalanche Center we'd be nowhere. It's that simple. The Board of Directors represents a wide swath of the community and they volunteer hundreds of hours to help make the Avalanche Center a successful and proud organization. This year was one of change. They elected a new President, *Jeannie Wall*, to help steer the organization into the future. Also, *Chas Day* stepped down from the board after 17 years of service!! The very first Board meeting was held on his kitchen table in 1990, and under his leadership as past President, vice-President, and Treasurer he was the face of the Friends in the community. He's still a strong supporter of the Friends, and will always be a member of the family of the Friends of the Avalanche Center.



Last fall, the *Saari family* and our previous president, *Drew Seessel* proposed making the Hans Saari Memorial Fund (HSMF) a separate entity so as to expand its purpose to include the original goal of supporting avalanche education but also ski exploration expeditions, which was Hans' passion and focus. The HSMF now stands on its own raising funds to support both concepts and the Friend's look forward to working in concert with them. The Friend's will also continue to garner separate support and create events to raise money for avalanche education. This year, our outreach was the broadest ever, educating outlying communities on how to prevent accidents and be safe in the backcountry.

The Friends are a non-profit 501(c)(3) organization providing a means for individuals and organizations to financially support avalanche education and information. These community partnerships are an important and valuable resource to the GNFAC.

This year the Friends gave us \$10,799 in direct support which paid for many expenses incurred outside of our normal operations. Included in this was the purchase of a new laptop computer that could play video clips and DVDs as well as have the power and memory to run all of our PowerPoint presentations. *Kelly Raymond* was instrumental on helping the Friends acquire the IBM and we all owe her huge thanks!

Through Team Bozeman, Yamaha donated two snowmobiles to the Friends for our use. These were 2007 Apex Mountain 4-strokes, a powerful and clean mountain climbing machine. The Friends paid for all of the delivery charges, general maintenance, upgrades and insurance totaling over \$4,888. Additionally, the Friends covered many administrative expenses to the tune of \$5,911. These included fees to our email provider and Internet server, office supplies, new software, subscriptions and *Dick Dorworth* for his professional editing services.

AVALANCHE EDUCATION PROGRAM

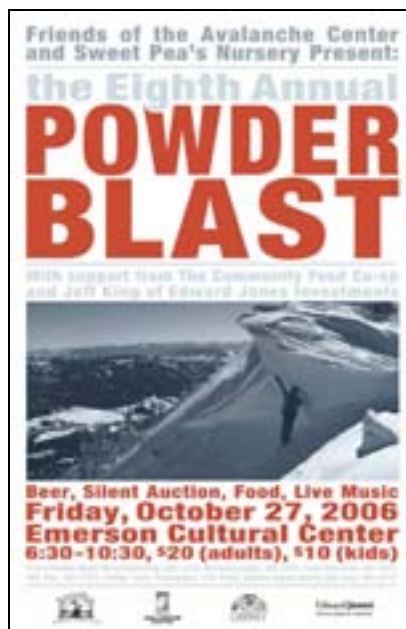
The biggest and greatest change that happened at the Avalanche Center involved the new Avalanche Education Program implemented through the Friends. They hired *Jay Pape* as education coordinator to help us schedule and staff avalanche programs. At the GNFAC we get many more requests than we can possibly accept. Over the years the Friends have helped take the strain off us by hiring instructors to fill in the gaps. Jay took everything a step further by soliciting in the community for our programs and got a great response. He, *Dale Gullet*, *Angela Patnode*, *Mark Staples* and *Jeff Watt* taught an additional 24 one hour lectures and 13 field days. Because of their efforts we increased our classes by 59% in one year!

The Friends pay Jay and the instructors for their work. This season their Avalanche Education Program cost \$10,492 (\$7,093 in instructor pay and \$3,399 for computer, projector, software, and Avalanche Center stickers and magnets). The King and Queen of the Ridge at Bridger Bowl raises money exclusively for this program. With an expected 50% growth next year, the success of the program is tied directly to this Bridger Bowl event.

POWDERBLAST

The 8th Annual Powder Blast fundraiser was held the last weekend in October at the Emerson Cultural Center. It was a huge success with 250 people showing up to enjoy great food, drink, music and an amazing silent auction of outdoor gear. After all the money was counted and bills were paid the Friends were left with \$11,982. Part of the success was due to our title sponsorship by **Sweet Pea's Nursery**. The **Community Food Co-Op** and **Jeff King of Edward Jones Investments** also kicked in cash to jump start the event.

Monies raised from this party go directly into the Friends general fund that is used to pay for administrative and snowmobile support.



KING AND QUEEN OF THE RIDGE

Bridger Bowl has been a supporter of the Avalanche Center since we started in 1990. This year they sponsored the 4th annual “King and Queen of the Ridge” competition. It was a huge success with 42 participants raising \$15,338 for the Avalanche Education Program! *John Yarrington* reigned King with a record 27 hikes with *Jeannie Wall* close on his heels with 26 hikes, shattering the female record while being crowned the Queen.



Mike Asay and Clyde Harrelson at Awards Ceremony

Photos by Jen Milton

King and Queen Competitors: *Paul Gannon, Angela Patnode, Scott Schmidt, Jim Jacobs, John Parker, Doug Chabot, Andy Garza, Andrew Barefield, Matt Freeck, Jeannie Wall, Ron Johnson, Becky Gleason, Michael Asay, Bill Hyland, Dan Diaz, Zuzana Drubnik, Bryce Johnson, Aaron James, Daniel Krza, David Schmidt, Stella Keane, Katryn Mitchell, Mark McCollum, Fred Nixon, Matthew Wheat, Genevieve Walsh, Krista Wright, Isaac Lowe, Sam Lowe, Mike Harrelson, Clyde Harrelson, John Yarrington, Jerry Carisch, Geoff Stephens, Katie Stephens, Cody Stevens, Gunner Perkins, Kimberly Fournier, Lukas Stutzer, Dick Lewan, and Erika Birkeland.*

Brian Grossenbacher, Events Coordinator at Bridger Bowl, has been instrumental over the past 4 years in making this event successful, but he will be moving on next winter. We wish him luck and appreciate everything he’s done for the Friends and Bridger Bowl.

KING AND QUEEN OF THE RIDGE CONTRIBUTIONS
--

\$2,000+

Drew Seessel

\$500+Cornelia Klatt
Keith Fleishman
Jack Hensold**\$200+**John Bailey
Cascade Beef
Jerry Carisch
Orville Fisher
Tim Foote
Tim Forbes
Dr. Robert Hathaway
Daniel Hitchcock
Carl Jones
Montana Tile and Stone
Marvin Morgenstein
Potts Drilling
R.A. Schmidt
Douglas Seylar
Geoffrey Stephens**\$100+**Alta PT and Fitness
Amer. Avalanche Institute
Patrick and Cheryl Asay
Barrel Mountaineering
Mike Barrett
Boulder Properties
Brian Cooley
Paul Ducharme
Randy Elloitt
Deborah Farris
Reynolds Fisher
Matthew Freeck
Freeheel and Wheel
Bruce Gerlach
Rebecca Gleason
Guy Graham
Jonathan Graeve
Del Johnson
Matosky Foundation
Mercury Advertising
Monkey BusinessMary Jo O'Donnell
John Parker
Charles Raches
Anthony Rich
Peter Rieke
Laura Ryan
Greg Rye
Jason Schutz
Les Stenerson
Steve Swenson
Thor Design**\$50+**Karl Birkeland
Brent Bishop
Dene Brandt
Carole Brennan
Bozeman Brewing Co.
Sarah Codd
Cronin Law Office
Dana Durhan
Elk Horn Lodge
David Gates
Nathan Gilden
Pamela Hainsworth
Peggy Harrelson
Micheal Hurd
Indulgence
Kokopellis
Christopher Kraus
Paige Leddy
Pete Macfadyen
Bruce McGregor
Velma McMeekin
G. Bruce Monroe
Robert Randolph
Heather Remitz
James Smedsrud
Scott Stewart
Regina Wall
Norman Weeden
Micheal Wheat
Thomas White
Dustin Workman
World Boards
Yellowstone Expeditions**\$25+**Rick Alexander
Greg Beardslee
Elizabeth Burden
Kate Ciari
John Connelly
Becki Cook
Kelly Cordes
Dick Dorworth
Matthew Dullum
Randy Freeck
Anne Goertzen
CJ Graves
Julie Hager
Rich Hohne
Vicki Iocco
Chris Jenkins
Georgie Josephson
Karin Kirk
Karen Krieger
Joanna Krogstad
Richard Lewan
Pete Maleski
Audra Marks
Ladean McKittrick
Katryn Mitchell
Radiant Massage
Elizabeth McGoff
Laura Niemi
David Quammen
Kimberly Rieman
D. Rosengren
Elizabeth Sandvik
Scott Schumacher
Betty Scott
Jenny Singleton
Wendy Stock
K. Wallace
Leon Wiese
Krista Wright
Benjamin Yeomans

CLIFF GULLETT, TEAM BOZEMAN and YAMAHA

Cliff Gullett, owner of Team Bozeman, has been working with the Friends to loan us snowmobiles since 1999. Eight winters! This year he worked with Yamaha to get us two 2007 Apex Mountain sleds. These powerful 4-stroke machines were a dream to ride and packed enough punch to get us into the backcountry in the most demanding conditions. Team Bozeman also donated prizes to the Powder Blast, hosted an avalanche class and gave us valuable advice about snowmobiling. Cliff also discounted parts, repairs and warranties worth well over \$3,000. Furthermore, they sponsored the radio spots of avalanche conditions every Wednesday through Friday on The Eagle (104.7 FM).



Ad placed in Chronicle 4/16/06



Riding in Carrot Basin



Avalanche at Lionhead

ADDITIONAL SUPPORTERS

Pinhead Classic

Paul Neubauer, Warren Bauder and Charlie West, put on the 26th Annual Pinhead Classic at Bridger Bowl. The theme was “Saints and Pinner’s” and the costumes were as funny as you could imagine! The race was held at Bridger Bowl and the after party event rocked the Emerson Cultural Center. When it was all said and done they handed the Friends a check for \$2500, their largest donation ever!

The 4th Annual Cold Smoke Awards

These awards, held in early April, were organized by *Jonas Grenz, Jeremy Mistretta, Anjin Herdon and Brad VanWert*. Part of the proceeds of this event went to the Friends. This local film festival on winter adventure packed the Ellen and has become THE event of the winter! Besides having the award ceremony downtown in the Ellen Theatre, they also blocked off a side street for the after party! Music, drinks, dancing and TV screens playing the films made the evening a one of a kind event. These four guys are an inspiration and we’re lucky to have them in our community. I can’t wait to see what they do next year!

Oro y Plata Foundation

This Montana based foundation has supported us four years in a row with a \$1,000 contribution.

Dale Sexton and Timber Trails

Dale Sexton, owner of Timber Trails in Livingston, organized the showing of the movie “A Dozen More Turns” at the local Elks. Over 175 people attended which raised over \$700 for the Blaske Morstad Fund.



Scotch Bonnet Avalanche 12-16-06

Mike Cooperstein and Montana Alpine Guides

Mike generously paid for the rental of the Emerson Cultural Center for the premier showing of “A Dozen More Turns” in Bozeman. Over 500 people attended this event which raised \$2600 that was split between the Friends and Blake Morstad Fund

Friends and Family of Ben Richards

Ben Richard’s life was cut short when he died in an avalanche on Yellow Mountain March 3rd. His family and friends donated \$915 so far to the Friends in his memory.

The **Big Sky Ski Patrol** generously donated \$600 from the proceeds of their Dirt Bag Ball. The **Yellowstone Club** donated \$750 this winter. The **Gallatin Valley Snowmobile Association** raised \$400 from their annual Poker Run. **Big Sky Snowriders** of Livingston donated \$500 along with the **American Bank** of Livingston giving \$250. The **Professional Avalanche Workers School** donated \$350 for a class we taught in Big Sky, and The **Friends of Cooke City SAR** sent in a check for \$100 to support our work too. The Helena Snowdrifters snowmobile club gave \$125. And the **Bridger Women’s Activity Group** (better known as the BWAGs) gave us \$300. Other unsolicited donations came from **Peter Gauer** (\$100), **Greater Yellowstone Coalition** (\$75) and **Off the Grind** (\$50).

BUDGET

INCOME

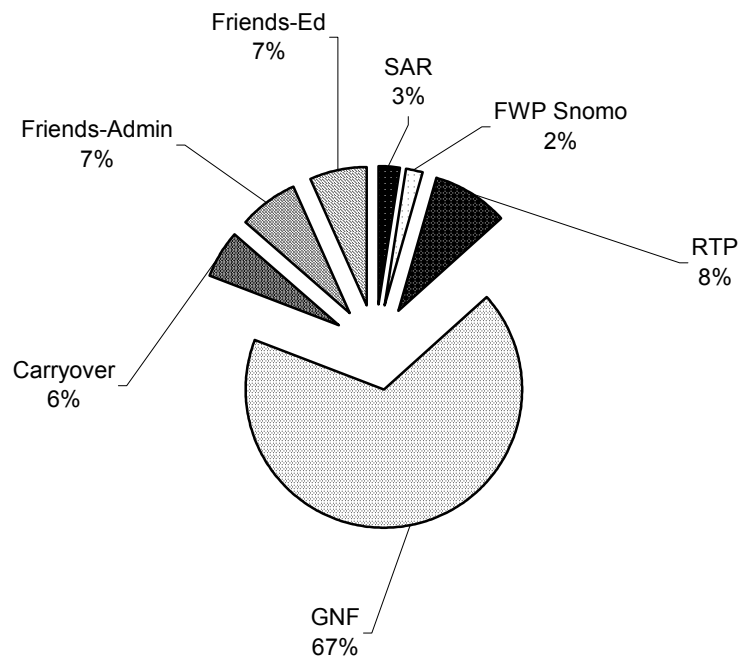
Montana FW&P Rec. Trails Program	\$13,760
Gallatin County Search and Rescue	\$4,000
Friends of the Avalanche Center	
□ Administrative Support	\$10,799
□ Avalanche Education Program	\$10,492
Montana FW&P Snowmobile Safety	\$3,000
Carry over funds from previous years	\$8,610

TOTAL CASH CONTRIBUTIONS \$50,669

TOTAL GALLATIN NATIONAL FOREST CONTRIBUTION \$105,525

TOTAL INCOME \$156,194

INCOME

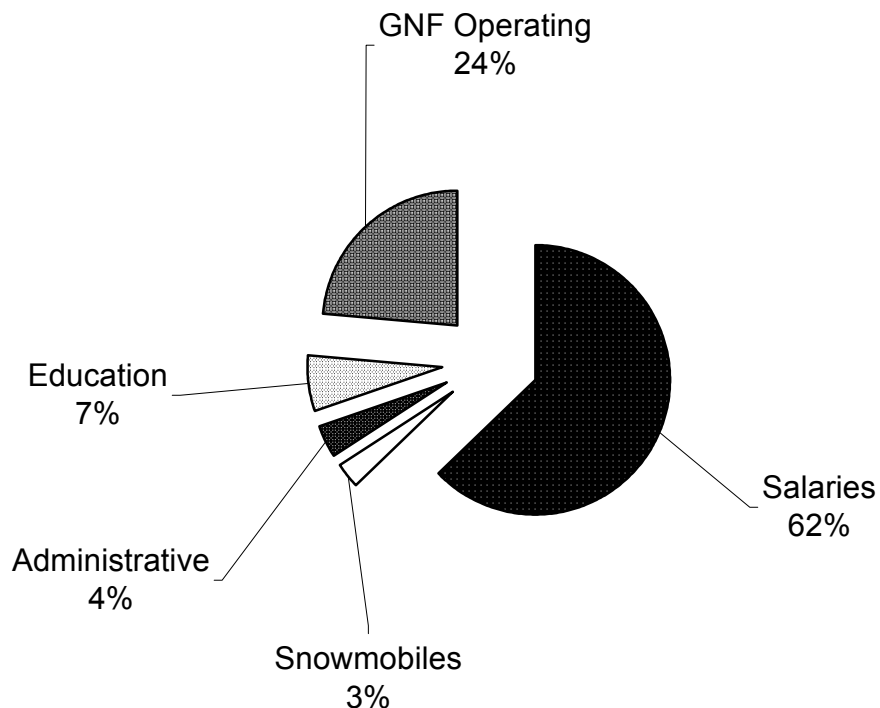


EXPENSES

Salaries	\$97,903
GNF operating costs ¹	\$37,000
Snowmobiles equip/maintenance ²	\$4,888
Education ³	\$10,492
Administrative costs ⁴	\$5,911

TOTAL EXPENSES <\$156,194>

EXPENSES



¹ The operating costs incurred by the Gallatin National Forest include travel, vehicle, office space, supplies, mailings, computers, support personnel, six phone lines, sat/cell phones.

² The Friends of the Avalanche Center paid for these expenses: Insurance, oil, delivery charges, covers, and trailer repairs.

³ The Friends of the Avalanche Center paid for salaries and supplies for extra field and classroom instructors.

⁴ The Friends of the Avalanche Center paid for these expenses: New laptop computer, software, teaching materials, wx stations maint., web maint., emailing service and editing.

DONATED LABOR AND EQUIPMENT

In addition to cash contributions the GNFAC also relies heavily on \$38,650 in donated equipment and labor. The labor donations represent a dollar estimate of what it would cost to hire people to collect the information that these business and agencies provide. It's clear that without these donations the Avalanche Center would be unable to operate at its current level.

Equipment:

Yamaha	\$8,000
Northern Lights Trading Company	\$1,500

Labor:

Big Sky Ski Area	\$3,000
Bridger Bowl Ski Area	\$2,000
Yellowstone Club	\$2,000
National Weather Service	\$1,700
National Park Service	\$1,500
Team Bozeman	\$3,000
Volunteer observers and office help	\$6,500
Field volunteers (600+ hours)	\$8,950
Merica Design	\$500

TOTAL	\$38,650
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SEASONAL SNOWFALL HISTORY

By Ron Johnson

Impressive snow storms during the last couple weeks of October produced some of the best ski conditions of the season. They also prompted the first Avalanche Information Bulletin of the season on October 17, 2006. On November 1, 2006, SWE amounts compared to the average from 1971-2000 at SNOTEL stations in southwest Montana ranged from 111% at Fisher Creek to 216% at Brackett Creek.

In the Bridger Range, dry and warm weather during November sucked away the impressive moisture gained in October. By the end of the month there was a net loss of .5 inches of SWE at the Brackett Creek SNOTEL station. SWE amounts for November at Shower Falls and Carrot Basin were about 30% of average, while the mountains around Cooke City and West Yellowstone fared better at 80-90% of average. Settled snow depths at the end of the month were: a paltry 7 inches at Brackett Creek, 28 inches at Shower Falls, 30 inches at Carrot Basin, 28 inches at Madison Plateau, and 37 inches at Fisher Creek.



Thin snow cover and cold temperatures early in December produced weak, faceted layers within the snowpack in the mountains of southwest Montana. A layer of surface hoar was deposited in the mountains around West Yellowstone and Cooke City. On December 6, rain fell in the mountains around Bozeman and Big Sky which produce an ice crust on most slopes. During the second week of December above freezing temperatures and clear skies allowed an ice crust to form on south facing slopes in the mountains around West Yellowstone and Cooke City. Middle of the month snow storms buried these layers. The first daily Avalanche Advisory of the season was issued on December 14. On December 16 a snowmobiler was killed in an avalanche on Scotch Bonnet Mountain just north of Cooke City. During the week prior to this avalanche, 4 inches of SWE was added to the SNOTEL site at Fisher Creek. Strong westerly winds occurred during this period throughout the mountains of southwest Montana. Another period of

snowy weather occurred at the end of December. On December 28 a snowmobiler died in an avalanche on Lionhead near West Yellowstone. Even with the stormy periods during the middle and end of December the SWE averages for the month were less than 100% at all SNOTEL sites.

January's SWE amounts were below 60% of average, except at the Shower Falls SNOTEL site which had 62%. Two storms on January 10 and 20 deposited most of the new snow, except in the mountains around Cooke City where most snow accumulated during the first week of the month. The only prolonged cold spell of the season occurred in mid-January when minimum temperatures were in the minus teens and -20's F for several days. A mid-winter heat wave occurred on January 25, when maximum mountain temperatures reached the upper 30's to low 50's F. Avalanches in the mountains around Bozeman and Big Sky mostly fractured on weak faceted snow near the ground. In the mountains around West Yellowstone and Cooke City,

most avalanches released on buried surface hoar or faceted snow surrounding buried ice layers.

February was a snowy month. All of the SNOTEL sites accumulated well over 100% of average SWE, except at Fisher Creek, where it was 98%. The snow burdened a weak snowpack, and on February 10 a large avalanche cycle occurred in the Bridger Range on faceted snow near the ground or on faceted snow on a buried ice layer that formed in early December. Avalanches were also prevalent in the mountains around Big Sky, West Yellowstone and Cooke City. These generally occurred on weak layers comprised of faceted snow surrounding ice layers or on buried surface hoar. February was the only month where SWE averages were near or above average. February's storms saved the winter of 2006-2007.

March roared in like a lion. Thirty inches of snow accumulated at Bridger Bowl on March 1. This was the season's only true powder day at Bridger Bowl. Except for a few storms during the last week of the month, March was fairly dry. The Shower Falls SNOTEL site recorded 51% of average SWE. All other sites measured less than 50%. It was especially dry at Madison Plateau, which only had 4% of average SWE. On March 3, a skier was killed in an avalanche



Snowmobiler triggered slide on Lionhead.

on Yellow Mountain, just north of Big Sky. A warm spell on March 10-13 followed by several days of cool temperatures created a thick ice crust. This crust became a prominent ice layer within the snowpack. Several avalanches released on this layer during the few storms that occurred late in the month.

It was a poor snow season. The season SWE compared to the average at the end of March was: 60% at Brackett Creek, 86% at Shower Falls, 73% at Carrot Basin, 65% at Madison Plateau, and 81% at Fisher Creek.

	NOV	DEC	JAN	FEB	MAR
BRACKETT CREEK					
SWE 2006-2007 (inches)	-.5	2.1	1.2	5.3	1.2
AVG. (1971-2000) SWE (inches)	3.7	4.0	4.4	3.7	4.5
% Of AVG.	Grim	53	27	143	27
Snow Depth at End of Month (inches)	7	20	23	51	34
SWE 2005-2006 (inches)	4.6	5.6	4.9	2.3	4.8
% SWE 06-07 compared to 05-06	Grim	38	24	230	25
SHOWER FALLS					
SWE 2006-2007 (inches)	2.2	2.2	2.4	4.7	2.7
AVG. (1971-2000) SWE (inches)	3.6	3.8	3.9	3.4	5.3
% Of AVG.	61	58	62	138	51
Snow Depth at End of Month (inches)	28	39	48	67	60
SWE 2005-2006 (inches)	7	4.8	3.9	2.8	3.7
% SWE 06-07 compared to 05-06	31	46	62	168	73

CARROT BASIN					
SWE 2006-2007 (inches)	3.7	4.0	2.6	4.8	2.2
AVG. (1971-2000) SWE (inches)	4.7	5.2	5.1	4.5	5.5
% Of AVG.	79	77	51	107	40
Snow Depth at End of Month (inches)	30	45	52	73	67
SWE 2005-2006 (inches)	7.7	5.8	6.8	4.6	4.5
% SWE 06-07 compared to 05-06	48	69	38	104	49
MADISON PLATEAU					
SWE 2006-2007 (inches)	3.6	3.7	2.3	5.6	.2
AVG. (1971-2000) SWE (inches)	4.4	5.1	5.0	4.7	4.6
% Of AVG.	82	73	46	119	4
Snow Depth at End of Month (inches)	28	38	37	71	49
SWE 2005-2006 (inches)	5.7	6.5	7.6	2.5	4.6
% SWE 06-07 compared to 05-06	63	57	30	224	4
	NOV	DEC	JAN	FEB	MAR
	NOV	DEC	JAN	FEB	MAR
FISHER CREEK					
SWE 2006-2007 (inches)	5.8	6.8	4.3	5.7	2.0
AVG. (1971-2000) SWE (inches)	6.3	7.2	7.5	5.8	5.8
% Of AVG.	92	94	57	98	34
Snow Depth at End of Month (inches)	37	66	70	97	90
SWE 2005-2006 (inches)	10.3	8.7	8.7	5.6	3.3
% SWE 06-07 compared to 05-06	56	78	49	102	61

Data used for this summary is from November 1, 2006 through March 31, 2007. Weather data was primarily derived from five SNOTEL sites:

Brackett Creek at an elevation of **7320 feet** in the **Bridger Range**.

Shower Falls at an elevation of **8100 feet** in the **northern Gallatin Range**.

Carrot Basin at an elevation of **9000 feet** in the **southern Madison Range**.

Madison Plateau at an elevation of **7750 feet**, **southwest of West Yellowstone**.

Fisher Creek at an elevation of **9100 feet**, **north of Cooke City**.

Precipitation data is expressed as Snow Water Equivalent (SWE) or as snow-depth. Comparisons of average precipitation amounts are for the period 1971-2000.

AVALANCHE ADVISORY**Gallatin National Forest
Avalanche Advisory**

Friday, March 2, 2007

Internet: www.mtavalanche.comRecorded Information:
Bozeman, Livingston,
West Yellowstone, Cooke City:
406-587-6984
Office: 406-587-6981

You can listen to the advisory at:

<http://www.mtavalanche.com/data/audio/Mar22007.mp3>

Good morning. This is Ron Johnson with the Gallatin National Forest Avalanche Advisory issued on Friday, March 2, at 7:30 a.m. **Yamaha and Team Bozeman**, in cooperation with the **Friends of the Avalanche Center**, sponsor today's advisory. This advisory does not apply to operating ski areas.

MOUNTAIN WEATHER

Since Wednesday night about 3 feet of snow accumulated above 8000 feet in the Bridger Range. That's right, three feet of fluffy delight. About a foot accumulated at 7000 feet. During the past couple of days 2-4 inches of snow accumulated in the mountains around Big Sky and Cooke City, while 3-6 inches fell in the mountains around West Yellowstone. This morning at 4 a.m., northwesterly ridgetop winds were 10-20 mph and mountain temperatures were a few degrees either side of 0 F.

Today moisture moving over a ridge of high pressure will produce partly to mostly cloudy skies. Snow showers are possible but snow accumulations will be less than an inch. Northwesterly ridgetop winds will blow 10-20 mph and mountain temperatures will reach the teens to low 20's.

SNOWPACK AND AVALANCHE DISCUSSION

The Bridger Range:

Yesterday ski patrollers at Bridger Bowl triggered mostly loose snow avalanches. While the wind did transport snow along ridges and gullies wind slab development wasn't widespread. Yesterday's new snow covers a snowpack rife with layers of ice and faceted snow. On Wednesday a skier triggered an avalanche on the west side of the Bridger Range and with more load being added to the snowpack avalanches remain likely. The west side of the range has the weakest snow and slopes there should be avoided. Stronger snow exists on the east side of the range but recent deposits of wind blown snow will avalanche. Therefore, today a **HIGH** avalanche danger exists on wind-loaded slopes steeper than 35 degrees, while less steep wind-loaded slopes have a **CONSIDERABLE** avalanche danger. A **CONSIDERABLE** avalanche danger also exists on non wind-loaded slopes steeper than 35 degrees, while non wind-loaded slopes less steep than 35 degrees have a **MODERATE** danger.

The northern Gallatin and northern Madison Ranges:

While only a few inches of snow accumulated during the past few days in the northern Gallatin and northern Madison Ranges, during the past week over 2 feet of snow fell in these mountains. On Wednesday an avalanche naturally released on a steep wind-loaded slope on Fan Mountain. Yesterday ski patrollers at Big Sky reported some wind slabs formed near ridge tops. Today a **CONSIDERABLE** avalanche danger exists on wind-loaded slopes steeper than 35 degrees. A **MODERATE** danger exists on all other slopes.

The southern Gallatin and southern Madison Ranges, including the Lionhead area near West Yellowstone, the mountains around Cooke City and the Washburn Range:

Yesterday I was on Lionhead, near West Yellowstone. Snowmobiling and skiing was excellent in deep powder which accumulated during the past 10 days. My partner and I didn't see evidence of recent avalanches or notice collapsing or cracking of the snow around our skis or sleds. We dug snow pits on northwest and east facing slopes and found a layer of surface hoar buried 2-4 feet deep. This layer didn't readily fracture even when a lot of force was applied to an isolated column of snow. Buried surface hoar exists in the southern Gallatin and southern Madison Ranges and recent stability tests done on these layers suggest that the surface hoar is weaker in these areas, though no one has reported any collapsing or cracking of the snowpack during the past week.

In the mountains around Cooke City faceted snow on an ice layer buried 2-3 feet deep produced natural and human triggered avalanches last weekend. The ice layer is most prevalent on south facing slopes. Avalanches remain a concern on these slopes and on slopes with recent deposits of wind blown snow.

Today for the mountains around West Yellowstone and Cooke City the avalanche danger is **CONSIDERABLE** on all slopes steeper than 35 degrees. Slopes that are less steep have a **MODERATE** danger.

AVALANCHE ACCIDENT REPORT

The accident report for the avalanche in the Big Belt Mountains on February 17th is now online. You can read it at: <http://www.mtavalanche.com/accidents/>

Scott will issue the next advisory tomorrow morning at 7:30 a.m. If you get out in the backcountry today, let us know what you find. You can leave a message at 587-6984 or email us from our web site at www.mtavalanche.com.

EMAILS AND SUPPORT LETTERS

Thanks for all the great avalanche info - I read your e-mails everyday, whether I'm heading out or not. You guys are awesome!!!

Vince Pacific

Doug, thanks for the info. I really appreciate all the hard work you guys put in all these years keeping me and my buddies safer and well informed.

Cheers!

Doug, Scott,

Just a quick note to say thank you. The training was awesome. I've had a ton of positive comments and appreciative remarks afterwards.

Thanks again,

Marty

Hi Doug,

I just wanted to say thanks again for having Ron present to Leadership Bozeman yesterday. He did a GREAT job, and the class gave him high rankings on the evaluations. You guys do such great work, so I appreciate the time you gave to us.

Thanks,

Jennifer Sipes

Operations Director

Central Asia Institute

Mr. Chabot,

That is perfect. Thank's so much for your help. I will be sure to send you a copy of the final article. And thanks also for your hard work that you put into your forecasting. I appreciate it very much, as do the rest of us who wish to enjoy the backcountry safely.

Best,

Phil Straub

Doug,

You guys have a valuable service....that us Flatlanders appreciate!

Keep up the great job your team does.

Mark Watkins

Thanks a lot. I received your CD's in the mail. I looked at the video clips. Some nice new footage. Also the video clips you include with the avalanche forecasts are great. I don't know if you have been doing that for a while but I just started looking at them recently.

Bill

Doug,

Just wanted to pass along a positive response from both our kids and the mentors who received a little educatin' from Angela Patnode last night. Thanks for helping the kids out! Hope this finds you well and that it indeed is snowing by the time I listen to Ron tomorrow am.

Pete MacFadyen

Hi Doug,

I'm the one at MOSS working with the high school in Livingston with their survival science class. Thanks for passing on your information on the Centennial avalanche in '05. The kids did a case study on this today and will watch A Dozen More Turns tomorrow in class to wrap up the unit.

We'll go out to the Trail Creek property next week to do more practical work with doing beacon

searches and digging pits...thankfully the snowpack there is fairly substantial, so we'll have something to look at!

Anyway, thanks again so much for all of your help. These kids love participating in hands-on activities, and what better topic to teach than avalanche awareness!

Becky Tolzman

Quite often we receive letters of thanks and appreciation from our customers. Sarah Carpenter, American Avalanche Association, has sent the latest of many. She is extremely impressed by your knowledge, quality presentations, and willingness to share experiences. You are all outstanding. The Forest Service and communities in Southwest Montana are extremely fortunate to have you as part of our team. Your contributions to avalanche safety awareness, search & rescue, and public involvement is invaluable and saves lives. I continue to be amazed and I (as many others do) thank you. You are the best.

Frank Preite

Gallatin National Forest

Services & Administration Staff Officer

Doug. Nice job on the T.V. news this morning. Thanks for doing your work so well and enthusiastically. Too bad about the fatality, sounds like the party did some things right and unfortunately made one fatal choice . . .

Terry

Doug,

That was a great article; sometimes I feel my best work is done at the 11th hour too. I think a lot of people we learn from these tragic mistakes and hopefully travel safer in the backcountry. Anyway, thank you for all the hard work this season and enjoy your summer.

Chris

Doug,

Just viewed "A Dozen More Turns" and I have to admit it was a very emotional event. I agree, it turned out very well and is a great tool for teaching avalanche safety. Thanks for sending a copy. No one can tell the story of mistakes and challenges better than Sam. Glad to see him bouncing back.

Mark

Doug,

Thank you for sending me a copy of the documentary. Excellent job on your part and the whole thing was well done from start to finish. It is the best documentary I have seen on the *real* danger of backcountry skiing. It reflects on that saying, "we have met the enemy, and the enemy is ourselves". Sometimes it is hard to introduce these "human factors" in an avalanche class or workshop because you can get quite personal with the dialog and it seems to be a little uncomfortable for some, me included at times. But I think it is extremely important for people to understand the "human factor watch out situations" as well as the weather, snowpack, and terrain watch out situations. My compliments to you and all who produced the film.

Take care, Kevin

Doug,

Thanks for the copies of "A Dozen More Turns." Amber did a great job.

Spencer

Thanks you for another good year. The GNFAC provides an invaluable service to winter recreationists.

John P. Allen
Deputy Forest Supervisor
Gallatin National Forest

Thanks Doug, Ron and Scott,

My season was... well... LAME. But just circumstance and nothing to worry about. I hope it wasn't too weak of a snowpack to keep you guys from being bored. I hope next year things are more active and fun for me and I'm optimistic to play and ride again. Thanks for all the hard work. You guys rule!

Cheers, Layshock

Doug,

Thanks for another season of your great reporting. I realize you are reporting for safety of those venturing into an Avalanche environment but the reports also serve as an excellent way for me to follow winter in Yellowstone Country. As well as a measure of the water available for the spring and summer and all the natural environment and people depending on it. The daily postings improve each year as you utilize more and more of the latest communication technology. All the video inclusions this year significantly increased my appreciation for the nature of avalanches.

Thanks again to you, Ron & others for a season well done.

Doug Colclasure
Oak Ridge, TN

Dear GNFACers,

Woo hoo! Thanks again in advance and for all you have done and continue to do to help keep us informed and safe. You guys rock!

Dan Krza
Bozeman

Hi!

Just attended Scott Schmidts avalanche class @ Polaris industries in Roseau MN. I never got a chance to talk to Scott afterwards but just wanted to say that I thought his lecture and slides were GREAT, very informative and yes even a bit entertaining.

Hopefully this knowledge will come in handy this winter and help to keep us safe and alive when out riding in the mountains.

Thanks again,
John Kukowski

thanks for the class in cody last nite. please do a class in cooke with field training soon!

thanks

Rob Marshall

thanks a lot for the podcasts and all the hard work and time you put in for a safer season.

cheers,

Erick

Merry Christmas yourself, Mr Chabot and all at GNFAC. Thanks for all your work at keeping people safe out there. And thanks especially for the poem, it brought a tear or two.

Jim and Molly Davis.

Doug, Scott,
I found the video an excellent addition to your informative avalanche advisories.
A picture speaks a thousand words.
Thank you, keep them coming,
Jeff Thompson

The You tube video was great. I live in Conway, NH and have no snow so reading your report keeps my mind fresh, and the video is a great idea.
Mason Irish

Doug,
I just got home from West and am still replaying the weekend in my head -- amazing -- I still have much to learn but do feel like I am better prepared than before this weekend.
Thanks again -- to all of you
Mike Barrett

Doug,
I want you to know what a great time I had refreshing my melon on the avy awareness seminar you and Dale put on - it was the best! And to see you again made me feel good - thanks for everything, you did a great job, and I learned from it, of course. Proud to know you..... :-) My best to Dale, and please would you facilitate trading his contact info with me? He was SUPER - pass it on for me for now, wouldja? Take care for now, thanks for all.
Your friend,
Dave "Janko" Jankowsky

hey guys,
Just wanted to say thanks for the video, that was really informative. It always helps to **see** actual snow conditions. I also really liked the video on the extended column test. The videos are a great tool, and if its not too much trouble, I'd like to see more of em.
Thanks for all you do
Mason

I just wanted to tell you how effective I thought your video in today's advisory was in illustrating the conditions you found in the Bridgers yesterday. Easily worth a 1000 words. Keep up the good work!
Al Pendergrass
Livingston

Love the videos you've been posting. Keep em comin!
Thanks for all of you're hard work. You guys do a great job.
Jon Edwards - Bozeman resident

Excellent job incorporating video (and You Tube!) as an educational tool!
Mary

As riders growing up in Minnesota and coming out west to ride, we can't thank you enough for your work on avalanche safety and the snow reports that you put out. Thanks for all your work!

Bryan Nermoe

I really enjoy and learn from your short videos on YouTube, please continue. It is one thing to read about your testing, it is another to see you do it. Again, thanks for the advisories and the vids. I find both valuable.
Bruce Newell, Helena

Doug et. al.

I just wanted to thank you guys for all the great info. The avy report is the first thing I read every morning. I especially like the inclusion of the youtube videos. It adds an extra element to understanding the snowpack on days when I can't be out there digging a pit myself.

Thank you,
Rob Pickels

Just wanted to say thanks for the education I received at the basic course last week. Although I new a fair amount of what was taught it was really good to hear and see this materials from you who are in the thick of it all the time. I know what I learned here will help me to make better decisions when I am out.

Thanks,
Dave Potts

thanks for the avalanche beacon training at the poker ride on saturday we rode again yesterday; more powder in some places but sugar sugar sugar it is very scary that i can go where the big boys go since it is such a hard pack snow year. thanks again for all your hard work at the center krob family

These photos and videos are SO valuable to me. Especially video clips. I'm sending a check to help support them
Craig

The videos are great. Thanks for starting to include these. Brings it to life much more than a textual description can.
Jason

Great job on the "video productions"!!! These should be very helpful in showing some of our hard-heads what they are up against—if they will take time to look. I will keep promoting them. Also—thought you'd be interested to know that visits to our web pages are up around 50% this year, and we are getting emails re/ where to get avalanche safety equipment and training. We get around 300-400 hits a day when there are storm cycles underway—so—lots more folks are getting your forecast information. Keep up the good work.....Alan

Guys,

The YouTube video posts that you have been using are INCREDIBLY effective. I don't think you could use them too often.

Thanks for the great work.

Jamie Greene
West Yellowstone

Good morning. My husband and I read the avalanche advisories daily as well as view all video clips posted on You Tube. The videos are a great addition to the daily advisories! We want to thank you for those.

Thank you,
Amy (Jared) Biscoe
Twin Cities, Minnesota

Just wanted you to know that I watch the short clips that you have been posting and they are very instructional and useful from my perspective.

Thanks for the work.
John J. McKenna Jr

Hi Guys!

I just wanted to drop you a quick note to express my gratitude for the great work you do all season long, and also get you the details on the upcoming Pinhead Classic. If you find space at the bottom of a couple of your advisories over the next 10 days, any plugs for the Pinhead would be greatly appreciated. As has been the case in previous years, we are again pledging our proceeds from the event to the Friends of the Avalanche Center.

Thanks again for all your hard work!
Warren Bauder
Montana Telemark Corporation

Dear Sirs:

Thanks for all the work you do to try and keep winter backcountry enthusiasts safe.

D. Dingman

Thanks Doug for sending me a copy of a "Dozen More Turns". It is very well done and will be an excellent tool to use in our avy ed. Carole

Carole A. Johnson
Recreation Specialist
Lolo National Forest

So I don't forget, thanks for another great year of info. Even though I live in Mesa, AZ, my sled is kept in northern CA. and two of my boys haul mine and theirs over for our annual 8 to 9 day ride around the mountains of the Yellowstone area. Your guidance is as always a life saver. So I say again THANK YOU. GDGRUMP ps. have a great summer

Many thanks for keeping us alive this season....

Hats off to you guys!

Rob Jacobs
Manchester, NH
West Yellowstone, MT

Guys, want to thank you for another informative year, appreciate your service very much. Look forward to hearing from you next winter.

Have a great summer--Jay Grimsrud

Thanks, guys for your interesting daily updates. We'll be looking forward to next winter.
Jim and Molly Davis

Thanks for your work this year, it has helped at least me and my buddies make more educated decisions in the backcountry. Have a great corn and summer season.

Graeme

Gentlemen,

As usual I read your advisory a day late. That's the price I pay for starting my days early. Anyway, I just wanted to say thank you for all the hard work this year. I hope you guys have a safe and fun summer. Thanks again for helping me have a safe and fun winter.

Bart

Thanks guys for the great job and service you provide! Although it is very infrequent that I'm able to enjoy snowmobiling in the mountains, it is interesting to keep up with conditions and details of activity-caused avalanches. Our state association here in South Dakota is working on providing an avalanche awareness seminar next fall at our state convention. Good training for us all!! Have a great summer and thanks again!

Ray Oines

Brookings, SD

Avalanche Guys,

I just wanted to say that I have been extremely impressed with the work you guys do. Although I live in south Alabama along gulf coast and only take a couple of ski trips to southwest Montana each winter, your information and weather forecasting is extremely useful and accurate compared to the typical NWS forecast or the ski reports from the local ski areas. It is absolutely amazing how often the NWS will forecast 12"+ in the mountains and you guys will predict only 3-6" and end up right on the money. Also, if you go back to the archived reports in late October, it was a little scary to read the "forshadowing" one of you mentioned about wishing to save some of this October snow "in the bank" for some of the dry days in January. Who would have guessed that January would have turned out the way it did. Thanks again from a very small user.

W. Vern Gwin

Thanks for all the great work your boys do for us all winter. Be careful out there..... rock and dirt hurt a whole lot more than powder when you fall.

Matthew Hirsch, Livingston

Just wanted to say thank you for all of you guy's hard work.

Thanks

Weston and Karley Paul

THANKS for all your hard work, guys!!

kate howe

Doug, et al: Thanks for all the info this winter, I look forward to next winter but not right away. David Klatt

Thanks much to all of you for helping us have another safe winter! Your work is very much appreciated.

Mark Lindy
Isalnd Park, ID & Bemidji, MN

Thanks for the good work this year! I know it was frustrating; I certainly didn't get up to Montana as often I had planned. But when I did, I found your reports to be accurate and helpful. Catch you next year...

Play smart!
Martin Neunzert
Ogden, Utah

Thanks so much for another great year!
Babete Anderson
Acting Public Affairs Specialist
Dakota Prairie Grasslands

