



SUN VALLEY
AVALANCHE
C E N T E R



ANNUAL REPORT
1998-99

prepared by

Janet Kellam
Anne Marie Deveraux
Doug Abromeit

Forest Service Sun Valley Avalanche Center
Ketchum Ranger District
PO Box 2356
Ketchum, ID 83340
(208) 622-5371
svavctr@sunvalley.net

TABLE OF CONTENTS

Introduction

Acknowledgments

Page

Sun Valley Avalanche Center Operations.....1-9

Weather and Snow Season Summary10-13

Budget.....14-15

Future Plans.....16

Appendix 1: Sample Advisories.....i

**Appendix 2: Avalanche Awareness Committee Brochure &
Snowball Fundraiser Mailingii**

Appendix 3: Newspaper & Magazine Articlesiii
(a selection from 1998-99)

Appendix 4: Useful internet sites.....iv

INTRODUCTION

The Sun Valley Avalanche Center (SVAC) is a unique affiliation of federal agencies, local organizations and businesses, members of the outdoor industry, and individuals. Through the cooperative efforts of all these groups and individuals the Avalanche Center is a successful community project. Our goal is two fold: One, to provide avalanche and mountain weather advisories to the public and two, to provide and promote avalanche awareness and education. The SVAC is proud to be a part of a community partnership that benefits winter recreationists, Idaho travelers, local youth and winter visitors.

ACKNOWLEDGEMENTS

The **Forest Service Sun Valley Avalanche Center (SVAC)** is deeply indebted to the many who have helped support us this season. We'd like to thank all of the agencies, businesses and individuals that provided logistical support, financial support and observations to the avalanche center this past winter. Without your help, we wouldn't be able to provide this service.

The **Forest Service National Avalanche Center (NAC)** provided funds, leadership, and organizational direction. The NAC annually sponsors a pre-season discussion between Western Forecast Centers. This provides a helpful exchange of ideas which allows for greater collaboration and communication between the individual centers.

The **National Weather Service** issued a daily "Sawtooth Avalanche Guidance Forecast" for 6,000 and 10,000 ft. elevations in the Sun Valley/Sawtooth Valley area and provided accurate target information for our forecast area.

The **National Resource Conservation Service** contributed by allowing us access to their data from remote Snotel sites, and compiling monthly totals. This data has been an important component for formulating our backcountry forecasts.

Sun Valley Heli-Ski purchased and helps to maintain a weather station on Galena Summit in partnership with the Forest Service. They also provide extensive daily observations and snow study data, backcountry access when possible, and serve as a backup for computer operations at the SVAC. This year, they generously donated a portion of the proceeds from a heli-ski raffle that was a benefit for the Community School and the Avalanche Center.

Sun Valley Company provides daily support by maintaining a weather station at the top of Bald Mountain Ski Area and allowing data access.

The **Avalanche Awareness Committee** provides invaluable enthusiasm and fundraising to promote the SVAC. **Martha Apshaga Deffe** again donated her time and talent to update the SVAC brochure and to design the Snowball flyer. **Mary Schneider** assisted with the mail campaign.

THE SUN VALLEY AVALANCHE CENTER

HISTORY

The Ketchum Ranger District of the Sawtooth National Forest has provided a recorded phone message since 1983, that gives callers daily avalanche and weather conditions. Butch Harper, district snow ranger from 1963 to 1994, implemented and directed this small program with help from Rick Barker, Sun Valley Heli-Ski, the National Weather Service and the Soil Conservation Service. Butch also taught basic avalanche awareness classes in the Sun Valley area. His programs were among the first in the country to reach out to the winter recreational user on national forest lands.

Butch retired in 1994 after completing an untold number of Forest Service projects that enhanced our community and surrounding forests. Doug Abromeit stepped up to bat as the Ketchum Ranger District Winter Recreation Specialist. Doug directs the National Avalanche Center (NAC) including managing the military artillery avalanche control program and the Forest Service avalanche control explosives program. He provides program direction for the avalanche forecast centers in Utah, Idaho and Wyoming, and assists in unifying all of the regional avalanche forecast centers. Doug serves on the National Avalanche Foundation, the National Avalanche School Steering Committee and the Avalanche Artillery Users Committee. Prior to directing the NAC, he worked 10 years as the Little Cottonwood Canyon snow ranger and many years as a ski patroller and as a smoke jumper.

Beginning in 1995-96, the forecast program expanded to provide a more thorough avalanche and mountain weather forecast based on improved weather instrumentation in remote sites and increased field observations. We became known as the Sun Valley Avalanche Center. As more and more recreationists take to the backcountry, the SVAC has increased the number of basic avalanche awareness classes, including on-snow sessions. SVAC provides daily avalanche hotline advisories based on data collected by forecasters, SVHS and volunteers. Sponsors support the hotline and observer call-in line. Sun Valley Heli-Ski (SVHS) continues to provide an invaluable community partnership by sharing the expense and maintenance of our remote weather site and providing professional field observations. Sun Valley Company maintains a weather station on Bald Mtn. and allow us to access their data.

Winter user numbers continue to increase in the backcountry. In addition to skiers and snowboarders, we have broadened our educational programs and advisories to include snowmobilers, snowshoers, and school children. Our advisories are now posted daily on 2 sites on the Internet and through the local phone hotline. It is with great thanks to the community and all of our partnership affiliates, that we are able to continue to operate on a level that matches or exceeds the quality of the leading avalanche centers in the country.

Continuing development of **The Youth Education Program** was made possible by some generous donations.

The **Environmental Resource Center** provides the non-profit umbrella for the Avalanche Awareness Committee and the Friends of the Sun Valley Avalanche Center, which is a project of the ERC. The ERC provides assistance in the way of tax exempt status, bulk mailing privileges and office support.

The National Avalanche Center's **Westwide Avalanche Network** (avalanche.org) provides a constant connection with the rest of the avalanche forecast community, provides internet posting of our daily advisory and will host our new website for the 1999-2000 season. **Cyberspace Snow and Avalanche Center** (csac.org) provides a daily e-mail service and internet posting of our avalanche advisory.

Dan Judd assisted us through out the season with computer programming and data organization. **Jay Gress** designed and installed our new website in the early summer of 1999. **Leland Bruns**, the PC Wizard, assisted us in computer reorganization and continues to provide invaluable services.

Volunteer Observers, from a variety of backgrounds and interests, contributed data that assisted us in our daily advisories. Training and expertise varied considerably, and all of the information reinforced our premise that every observation helps to formulate the daily advisory.

The **Galena Backcountry Ski Patrol** contributed funds raised by a telemark and snowboard race series. This amounted to \$1,000! Members were also active in reporting observations and snow study data.

Backwoods Mtn Sports, Sturtevant's and The Elephants Perch sponsored the Wood River Journal Link phone system for our daily hotline.

Smith Sport Optics provided equipment for forecasters and regular observers.

MISSION

The Sun Valley Avalanche Center (SVAC) has three primary goals:

1. Issue daily avalanche advisories and warnings to the public via the avalanche hotline and the internet.
2. Issue daily mountain weather forecasts to the public via the hotline and the internet.
3. Provide avalanche education and information to the public, through avalanche awareness multimedia lectures and field sessions, and to provide media interviews and contacts.

OPERATIONS 1998-99

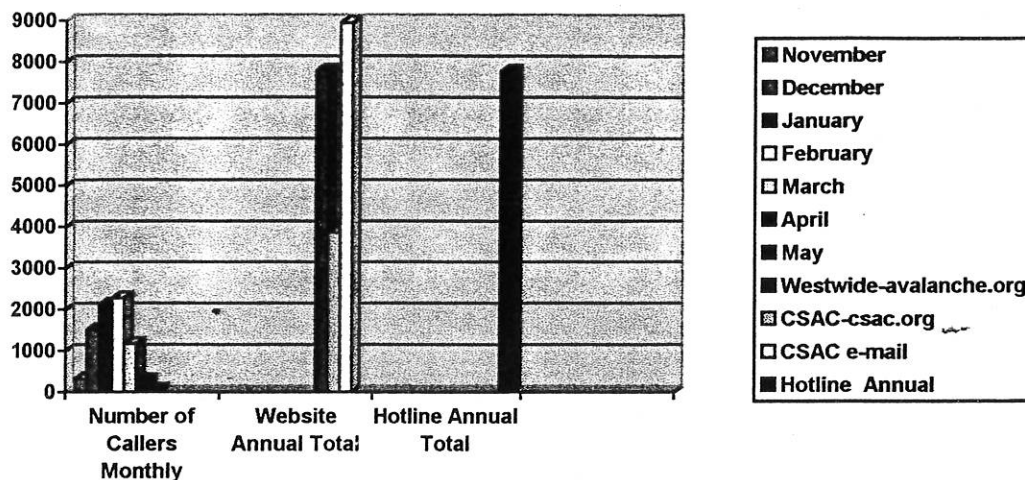
Hotline:

The Sun Valley Avalanche Center provided daily services from mid November through mid April, and Friday afternoon updates for Spring weekends into early May. After that time, we posted a summer page with some helpful tips for snow and mountain safety during spring/summer backcountry trips. We also posted a season round up from all the avalanche centers in the United States on the Westwide Avalanche Network, (avalanche.org)

Calls to the avalanche hotline increased slightly and internet use increased dramatically. Hotline calls totaled over 7,700 for the season, but Internet hits and daily e-mails nearly doubled from 10,700 to 20,430! Many people commented to us how much they liked obtaining the forecast via the Internet, as well as how much they learned from having a printed up synopsis and tip section. According to the number of hits for all avalanche bulletins on Westwide, we had impressively high totals for a center our size and the population base that we serve. We received a number of comments from the Boise area and from Southern Idaho Internet users that said they benefited from our advisories.

During the summer and fall of 1999, the SVAC hopes to purchase their own multiple-line, hotline phone system which will be installed at the Avalanche Center office at Ketchum Ranger District. This will provide forecasters with the ability to correct system problems immediately, and any sponsorship monies will go directly to the Friends of the SVAC for the phone system expenses.

New for the 1999-2000 season will be our own series of web pages. Designed and donated by Jay Gress, posted through the Westwide Avalanche Network, and linked directly through Westwide and CSAC. The direct address is www.avalanche.org/~svavctr/



NUMBER OF CALLS BY MONTH

	Hot Line	Observer Line	Internet Sites (monthly data not available)
NOVEMBER:	324	28	
DECEMBER:	1515	205	
JANUARY:	2130	238	
FEBRUARY:	2283	197	
MARCH:	1168	96	
APRIL:	300	21	
MAY:	60	6	

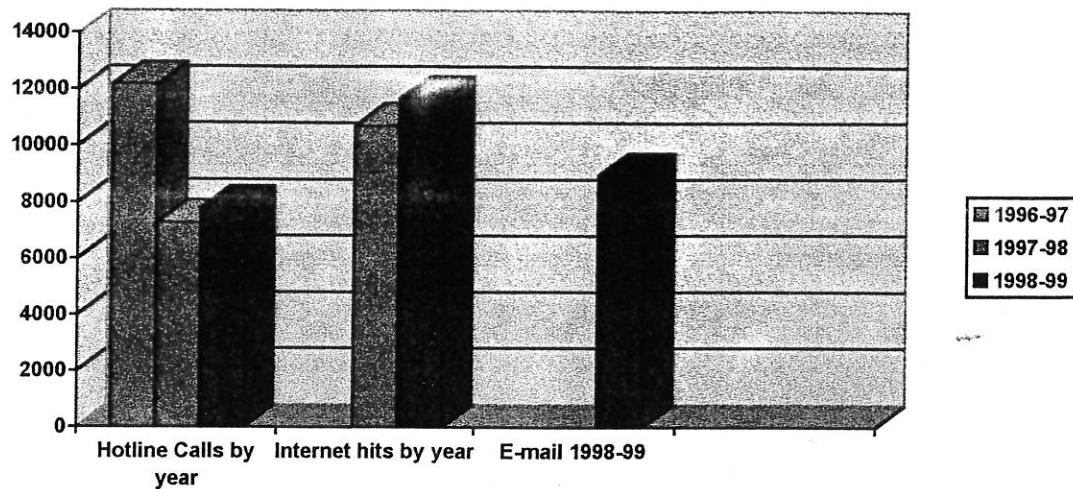
TOTAL NUMBER	Hotline	Observer Line	Westwide	CSAC	CSAC e-mail
1998-99	7,780	791	7,800	3,864	8,955

Annual Number of Bulletin Accesses (EXCLUDING OBSERVER LINE)

1998-99: 28,399
1997-98: 17,971

Sun Valley Avalanche Center Avalanche Advisory User Numbers 1998-1999

This past season, we have continued to observe a real shift in how users access our advisories. We did see a slight increase in the number of phone calls to our hotline. The dramatic increase was the number of internet hits to our daily bulletin. Overall, we nearly doubled our total number of internet accesses from last year. The CSAC e-mail subscription program was extremely popular and we heard many positive comments from folks about this. All of the data and comments that we receive support the fact that the word is spreading about the SVAC and the services that it provides.



AVALANCHE ADVISORY USE PATTERNS

YEAR	Hotline	Observer Line	Westwide	CSAC	CSAC e-mail
1996-97	12,167	unavailable.....			
1997-98	7,271	857	8,700	2,000	unavailable
1998-99	7,780	791	7,800	3,864	8,955

Annual Number of Bulletin Accesses (EXCLUDING OBSERVER LINE)

1998-99	28,399
1997-98	17,971
1996-97	12,167 <small>(only hotline due to website numbers unknown)</small>



The SVAC forecast area includes the Wood River Valley drainages from the town of Bellevue at the south end of the valley to the headwaters of the Salmon River at the north end of the valley. The geographic changes from Bellevue at 5,000 ft elevation to Galena Summit at 8,700 ft and the surrounding 10 to 12,000ft peaks, create a varied snowpack as one travels up the Wood River Valley. The forecast area is broken down into three major zones in order to identify these geographic/snowpack differences and communicate them to the public.

- 1) **North Valley**, ranging from Galena Summit and the headwaters of the Salmon River to North Fork of the Big Wood River,
- 2) **Central Valley** from North Fork to the East Fork of the Big Wood River and Green Horn Gulch, and
- 3) **South Valley** from Green Horn and East Fork South to Bellevue. At times, the hazard evaluation may be similar for all zones, and at times the hazard may be distinctly different for each zone. We also offer information for the Stanley/Sawtooth area and the Soldier Mtn/Fairfield area whenever possible, but not on a regular basis.

Again, the distribution of phone stickers and business cards with the avalanche hotline number, the observers' hotline number, and the avalanche.org website was very successful. These were distributed at the SNRA and KRD Forest Service visitor information desks, and also at local ski, snowboard and snowmobile shops. Forecasters distributed cards and phone stickers to any interested parties at parking turnouts and trailheads. The Sawtooth Snowmobile Club again, graciously printed and distributed cards with the hotline phone number.

Accidents:

Once again, North America experienced a record number of avalanche fatalities. The large, destructive avalanche events in Europe and Alaska caught the attention of the National Media.

In our area, we had no fatalities. Some close calls were reported second hand. The out of bounds skiers and boarders on Baldy are becoming a real concern. Many folks duck the ropes totally unprepared to deal with snow stability evaluation or rescue. A sobering event occurred when a skier triggered a very large slide in Basset Gulch the day that we posted a special warning on the advisory for any out of bounds skiers or boarders. Fortunately, no one was hurt. And, an ongoing concern is the snowmobilers that are highmarking in avalanche terrain without being prepared to evaluate the snow stability or perform their own rescue. The potential was there for serious accidents this winter when we had several avalanche cycles and some lingering hazard. (See season summary). One East Fork house was hit by a slide from Mindbender ridgeline and suffered extensive damage, but no people were home at the time. Neighboring houses suffered minor damages and a few windows blown out. A herd of deer crossing the face of Della triggered a slide that claimed approximately 25 of 50 animals.

A growing awareness, local education and media efforts have all helped to promote "avalanche sense" in the Wood River and Sawtooth region.

Education:

The SVAC compiled and circulated a schedule of all area avalanche classes. This schedule was posted throughout Ketchum and Hailey, and on the Internet on our daily advisory page. Some of these classes were sponsored by Galena Backcountry Ski Patrol, SVAC, and local outfitters and guides. The Galena Backcountry Class again had a very large number of students. We feel that this is due to the fact that it was the first class available in December. The Galena class is NSP format and they found that it is more than most people want to sit through. Next season, the first December class will be the SVAC's basic avalanche awareness class, with the Galena class being offered later in the year. Backwoods Mtn. Sports again graciously offered students "snow bucks" for discounted, avalanche related merchandise.

During the 1998-99 season, SVAC instructors were busy. Three adult avalanche awareness classroom sessions and three field sessions were held, including a very well attended women's evening class and field session, an intermediate level field session and a Boise USGS class. A classroom and field session in Stanley was scheduled with the Snowmobile Safety Institute, and over 20 participants came from Idaho Fish and Game, State Parks and Recreation and Idaho State Police. Community School parents whose children participate in winter outdoor trips were offered a brief avalanche awareness presentation. The Silver Creek Alternative School had 50 youth participate in an outdoor field session about avalanche awareness and snow study. Two other scheduled classes had to be cancelled at the last minute. One with the Girl Scouts was cancelled due to a storm that closed area schools and one in the community of Stanley had to be cancelled due to a lack of sign ups. We'll try both of these again next year. An evening beacon and rescue clinic for snowmobilers was sponsored by Woodside RV and was very well attended.

Local classes were attended by over 220 folks. We have received many comments from people that tell us that they have learned so much from the daily advisories with our comments and explanations of snow and weather conditions, that they consider it a "winter long" avalanche class.

Teaching opportunities reach beyond the Wood River Valley. This not only spreads greater recognition of the Sun Valley Avalanche Center, but provides a continuing education for SVAC forecasters and enhances the exchange of ideas and teaching techniques within the avalanche community. In December, Janet Kellam was able to participate and assist with the Gallatin National Forest Avalanche Center's Instructors Workshop. This has become a very successful program to help teach and provide ongoing education for basic avalanche instructors throughout Montana. The SVAC hopes to model a program similar to the GNFAC with area forest districts in Idaho.

During January, Janet traveled to Alaska to assist in an avalanche course sponsored by the Alaska Mountain Safety Center. The AMSC offers some of the best avalanche classes in the country. And in Fall of 1999, Both Janet and Doug will be instructors for the National Avalanche School.

Continuing Education is an important component for anyone involved in avalanche work or studies. All of the SVAC forecasters attended the October '98 International Snow Science Workshop that was held in Bend, Oregon. This event occurs every 2 years and is attended by avalanche professionals from all over the world.

The Youth education program did not get into the local classrooms this season, as grades 2 through 6 had a presentation last year and the school curriculum leaves teachers pressed for time. We are continuing to work on different options with the Parents, teachers and activity groups for youth avalanche awareness and education. Efforts have been directed towards avalanche boxes (modeled after the Wilderness Box and the Wolf Box). These boxes will be available, in the future, for teachers of elementary and middle school students. The boxes will include lesson plans, classroom and outdoor projects and appropriate information for avalanche awareness and snow study for the different age levels. Once completed and implemented, the avalanche box will have the potential to reach a large number of children throughout the United States.

Staff:

Doug Abromeit, director of the National Avalanche Center and Winter Recreation Specialist for Ketchum Ranger District, continued to direct the Sun Valley Avalanche Center as well as forecasting throughout the season. Rick Barker, active with the Sun Valley Avalanche Center since 1983, chose to step back this past season to allow more time to be spent with his family. We would like to thank Rick for his years of dedication and service to help spread avalanche information throughout the Wood River Valley. He left behind some big shoes to fill, but we were extremely fortunate to have Anne Marie Deveraux step into Rick's position. Anne Marie brings with her years of experience as a ski patroller and heli-ski guide. She is a top notch instructor and her enthusiasm and can-do attitude is infectious. David Gordon, Ketchum Ranger District Snow Ranger was able to fill in forecasting one day a week, although he did suffer a knee injury that side lined him mid-way through the season. Janet Kellam filled out the roster in her third season with the SVAC. Janet Kellam has worked as a backcountry ski guide since 1981, spent 5 years as a winter specialist and sound recordist for documentary films, and directed Galena Lodge and Nordic Center. She has been an avalanche forecaster with the USFS since 1996 and is an instructor with the National Avalanche School.

Observer Network:

Early season, SVAC hosted an observer classroom session and field outing for any interested observers. The turnout was excellent with over 24 people attending. What we found was that during times of storms, changing conditions or lingering hazard, we receive valuable observer information. Times of low or moderate hazard or unchanging conditions, we often do not receive any observer info even though it greatly helps us during these times.

We can't say enough thank yous to the following volunteers who provided timely and accurate observations. Fairly regular volunteer observations were received from Victor Thomas, Scott Miller, Tim Michael and David Gordon. Other welcome observations were phoned in from Brian Dirksmeier, Scott Smith, Charlie Briggs, Kelly O'Neil, Rob King, Mike Schley, Dave Bingham, Michael Kraynick, Jay Dorr, and Carol Brown. We also received some welcome e-mail observations from folks that recreate closer to Boise or in the Lost River Valley. Smith Optics provided some of their products for observers involved in our program.

Fundraising:

The Avalanche Awareness Committee (AAC) is a group of local citizens who have the dedication and enthusiasm to help support the center. Their mission statement is "The Avalanche Awareness Committee supports avalanche education and awareness in the Sun Valley area. In particular we encourage the community support for the independent operations of the Sun Valley Avalanche Center." They are an awesome group and professional in every aspect. We are extremely grateful for their work and support. Friends of the Sun Valley Avalanche Center was created as a project of the non-profit Environmental Resource Center to enable fundraising programs and to encourage community participation in avalanche awareness.

Committee members are: Sara Berquist, Tom Campion, Dennis Davis, Mark Deffe, Butch Harper, Rob King, Michael Kraynick, Michael Malko, Nancy Monk, Nils Ribí, and Steve Wolper. James Kennedy assists as a legal advisor. Thank you all!

The Friends of SVAC sent out an annual mailing that Martha Apshaga Deffe once again generously donated her time and skills to design. Included in the mailing was a flyer for the January fundraising event: The Avalanche Center Snowball. What a success it was!

Our fundraising events were extremely successful and well attended this season. The events included:

The Avalanche Center Snowball- a dance with sensational music donated by the legendary, and not often seen, Toastpoints. A silent auction and raffle, with a wide variety of items offered by local businesses and individuals, helped to raise additional funds.

Film- **"The Saltmen of Tibet"** a documentary brought here by Jane Watkins and Tina Cole, and hosted by Rick Kessler and the Magic Lantern Theater. Proceeds benefited the SVAC and a Tibetan Senior Center.

Fundraiser Mailing- artwork for the Snowball and the mailing envelopes was donated by Martha Apshaga Deffe. An envelope stuffing evening was performed by the Awareness Committee and Mary Schneider volunteered her time to handle the donation returns.

Sun Valley Heli-Ski- organized a raffle and donated 12,000 vertical feet of Heli-skiing with proceeds benefiting the SVAC and the local Community School.

Telemark Races- organized by the **Galena Backcountry Patrol** also donated a portion of the proceeds to the SVAC.

The total raised through the efforts of all the people involved in these events was nearly \$13,000.00. Again, we are extremely grateful for all of the support.

This past season, The National Avalanche Center and SVAC completed and distributed "Riding Safely in Avalanche Country". Funding was contributed by Idaho State Parks and Rec and the Bruder Foundation. This avalanche awareness video is specifically for snowmobilers. The Friends of the SVAC handles the sales of the video and all proceeds go towards avalanche education. Benj Tromberg graciously offered video rentals of Riding Safely for only 1\$ a rental at his Ketchum and Hailey Video Depot stores, and donated the proceeds to the Friends of SVAC. The video has been well received and copies have been sent all over the United States.

Media:**(TV/Radio/Newspaper/Magazines/Avalanche Review)**

The Media was very helpful this season with spreading awareness not only in our valley, but throughout the State. We had one High hazard period that produced a very active slide cycle. One of the slides damaged a home in the East Fork drainage, and in the Hailey area a herd of deer was killed after triggering a dramatic slide that ran down into a park in a residential area. Both of these events were carried in local and state newspapers as well as on the radio. Gary Stivers, our local radio newsman, was very helpful in broadcasting essential portions of our daily forecast along with the local news when the conditions called for it. Due to the serious avalanche accidents in Europe and Alaska, as well as some in the lower 48, a number of national publications had articles about avalanches and avalanche safety. Among those were articles in Newsweek, an Associated Press release that hit most of the municipal newspapers across the country, a special article in Powder Magazine, and Time Magazine did a report on avalanches that included a quote from forecaster Janet Kellam. The SVAC office also produces a yearly season summary for the National Avalanche Center. This encompasses all the avalanche centers in the US and is published in the Avalanche Review and on the Westwide Avalanche Network.

Although we did not have any longterm deep slab instability or persistent faceted layers, we did have a very stormy and windy winter. We feel fortunate that with the number of skiers, snowmobilers, snowshoers, and winter recreationists steadily increasing every year, that we did not have any tragic accidents. We know that the enhanced awareness that is brought about by the media is part of why people have kept themselves in the right place at the right time. We will continue to pursue and use the media in any way we can.

1998-99 Season Summary

FOREST SERVICE SUN VALLEY AVALANCHE CENTER

Similar to Utah and the Gallatin Centers, Sun Valley had a slow start to the winter season. In spite of very little snow, it is amazing how some people still manage to be in the wrong place at the wrong time. In late November, a truck attempting to negotiate a closed mountain pass was caught in two slides. The first avalanche trapped the truck but allowed the driver to climb out, the second avalanche shoved the empty vehicle off the dirt road and down a steep mountain slope, burying it until spring.

Towards mid December, Mother Nature became pretty generous and all of the monthly snow totals were close to or above average until March. February was a whopping 223% of average, The snow came in the way of continual storms and fairly light winds. March was an about face with precipitation totals being 39% of March averages. This brought a very good corn cycle and stable snow.

The Sun Valley-Sawtooth area had two distinct snowpacks. Lower elevations had a persistent weak base. Mid to upper elevations had a deeper, stronger pack as these areas had accumulated greater snow depths from early in the season. Around Ketchum and Hailey, the snowpack went through intense warming and a heavy precipitation event in early February. This ultimately created a denser snowpack, but in the process there was an impressive slide cycle. A large home was struck and partially destroyed by a slide running over 2000 vertical feet. In Hailey, a large herd of deer triggered an avalanche and they were swept over cliffs and into the river while attempting to reach exposed grass from an earlier avalanche. Springtime months brought a return of winter weather with a few problems due to buried surface hoar and near surface faceted grains. However, no serious incidents occurred.

No major accidents or incidents were reported involving humans, but the Center did receive some second hand reports. Early in the season, a snowmobiler was completely buried in the Baker Creek area, but his buddies located him when they heard him yelling beneath the snow. He was uninjured. There was a near miss when an out of bounds skier on Bald Mountain triggered a large slide in an area that gets regular out of bounds traffic. This has become one of the serious concerns of the forecast center. It has become an accepted practice to duck out of bounds right after any powder storms. Many of these skiers and boarders have little or no avalanche awareness and are merely following other tracks without being prepared to be in the backcountry.

1998-99 MONTHLY SUMMARIES

November: Storms #1-4

In November, early season snows were followed by unseasonably warm temperatures and sunny skies. This wiped out all of the snow except for upper elevation north facing pockets by the first week in November. Continued warm conditions and steady precipitation produced a relatively stable snowpack by the end of November, compared to the average early season Intermountain snowpack. As of Dec. 1st, pockets of faceted snow persisted at upper elevations as well as some stiff wind slabs on exposed ridgelines. Below approximately 9000ft snow profiles presented a densifying snowpack with lighter surface layers. At lower elevations and further south from the Galena Summit area, the snowpack was shallow, moist and crusty due to warm temperatures.

Water totals for November

Galena Summit = 5.7" water (1961-90 avg. = 4.7"), Total Snow Depth = 31"

Baldy Total Snow Depth = 34"

Salmon River Basin = 149% November average, 115% annual average

Wood River Basin = 139% November average, 107% annual average

There were several skier triggered releases reported along Titus Ridge throughout the month. November 21st, a truck was hit by an avalanche on the west side of Trail Creek Summit, (The road was closed from the western Ketchum side and the driver had come from the east). The man was able to extricate himself and make his way to town. A tow truck returning later found that an additional slide had pushed the truck off the side of the road and carried it partway down the slope and out of reach. It may not be retrievable until summer.

December: Storms #5-7

December began with excellent powder conditions. Storms # 5 & 6 brought 15" of snow, light winds and Moderate avalanche instability. Then the snow sat, and it sat, and it got warm, then it became very cold. Minus 20°F and colder for a period of a week. Near surface faceted crystals, surface hoar and sun crusts were extensive. Storm #7 began on Christmas and initially we had light, dry surface conditions. The storm warmed up and the load increased with a rapid precip rate and strong W, NW winds, to form an inverted, unstable snowpack on top of all the old, faceted snow. Mid storm and post storm avalanches ran in the Central Valley and Northward on slopes >34 degrees. (NW, NE to E to SE aspects). Many slopes tried to run and showed glide cracks and movement. They were not quite steep enough or loaded enough. The instability ratings went up to High during the most rapid precip. rate and hovered at Considerable until early January.

Water totals for December:

Galena Summit = 3.80" water (Dec. average = 4.40") Total Snow depth = 44"

Baldy total snow depth = 43"

Salmon River Basin = 114% December average, 115% annual average

Wood River Basin = 85% December average, 98% annual average

January: Storms #8-12

January began with an inch of snow on the third, and no snow again until the 14th. This produced a lot of near surface faceted snow, surface hoar and dense wind slabs. The faceted snow on the ground was improving in the North valley and areas of deeper snowpack. In the Central and South Valley, the snowpack was not deep enough to reverse the faceting processes and we continued to see a weakening snowpack. From 14th to the 26th, we experienced a rapid series of storms that brought several feet of snow and a high avalanche hazard due to the increased load on weak faceted layers.

January 22nd, a skier triggered an adjacent large slab along Titus ridge. East facing, buried facets. 35 to 40 degree slope angle where a rock outcropping had weaker, faceted snow. January 24th a very lucky skier triggered a large avalanche out of bounds on Baldy, went for a ride but was able to get out of it before it ran over a thousand vertical feet and deposited very deep debris. SSAS3O/G on faceted snow. At the same time several large natural releases were reported on northerly aspects in the South Valley near Hailey.

We coasted to the end of the month with stability improving and powder conditions becoming excellent. Water totals for January:

Galena Summit: 3.9" water (4.3" = January average). Total Snow depth = 57"

Baldy Total Snow depth = 58"

Salmon River Basin = 95% January average, 109% annual average

Wood River Basin = 95% January average, 105% annual average

February: Storms #13-#20

February began with good snow conditions, some wind and sun effect. Low hazard existed in the North Valley, with Moderate Hazard in the Central and South sections due to buried facets and shallower pack.

Feb 6th -9th was a storm cycle that pounded Central Idaho and triggered two large avalanche cycles. Sunday the 7th, after extremely rapid loading (25") and SW winds reaching 80mph on Titus ridge, mid and upper elevation windloaded areas ran. Tuesday, the 9th, we received 18" that began cool and ended in rain at lower elevations, also with strong Southerly winds. A large slide cycle initiated that caused many Central and South Valley slopes to avalanche, many class 3's or larger. All aspects ran, but NW, N and NE ran the most. The inverted top 18 inches gave way. In many cases took out the several day old snow, in some cases at lower elevations it dug into the faceted snow on the ground.

Mindbender slide paths out the East Fork canyon ran as large class 3's, filling up the end room of one house, blowing out some windows and doors of adjacent houses and some reaching the canyon road. Della's East face ran fairly large. Part of the slope had previously been triggered by an errant snowshoer, a new resident in the area. This time a herd of 50 deer, moving across the face to reach the exposed grasses and bushes, triggered a large slide that took more than 20 of them over the cliffs and into the river.

A weak layer from the cooler beginning of storm #15 persisted for many days on cooler aspects in spite of near record warm temps. A series of small storms brought small accumulations in town and greater depths on Galena Summit. Very strong winds produced a smattering of wind slabs with one skier release on Konrad that was up to 3 feet of wind deposited snow on a sun crust. Galena Summit slid on the Titus side and closed one lane of Hwy 75. This was east of and adjacent to the earlier slide that blocked the road.

February finished up with a generally stable snowpack with concerns being primarily any new storms, wind slabs, and new snow on sun crusts. Some upper elevation wind eroded areas show shallower weaker snow but not much sensitivity.

Water totals for February:

Galena Summit: 7.6" water (Feb. average = 3") Total snow depth = 84"

Baldy total snow depth: 86"

Salmon River Basin: 205% February average, 126% annual average

Wood River Basin: 223% February average, 120% annual average.

March: Storms #21 - 24

March began with a series of small blustery storms. Generally stable conditions but plenty of wind effected snow. Supportive crusts formed during the first week. Generally Low hazard and great access to the higher peaks persisted until the 11th when a ten day spell of warm temperatures induced an isothermal snowpack at middle elevations, barely frozen crusts at low elevations and moderate freezes at upper elevations. Large point releases were observed mid elevations, low elevation they ran to the dirt. This was followed by a lengthy freeze that permeated throughout the pack into April. Although March ended with cold, showery weather, the corn snow conditions at mid to lower elevations continued to be very good.

Water totals for March:

Galena Summit: 1.8" water (Mar. average = 2.5") Total Snow depth = 68"
Baldy total snow depth: 74"
Salmon River Basin: 58 % March average, 116 % annual average
Wood River Basin: 39 % March average, 109 % annual average

April: Storms #25, 26 and more

April began with wintry conditions, which predominated throughout most of the month. Snow accumulations were light at lower elevations, but added up enough to create some slabs (6-18" deep) on facets on northerly aspects at mid to upper elevations. South aspects experienced sun warmed snow sliding on old crusts on steeper slopes. The bottom layers of the snowpack were solid and stable, concerns being new snow only. One big concern was the deceptive changes from low elevation stable spring snow to winter- like buried facets and surface hoar on mid to upper elevation shady aspects. In spite of some excellent snow, local interest in winter recreation dropped sharply.

Water totals for April:

Galena Summit: 2.1" water (April. Avg = 2.1") Total Snow depth= 58"
(24.8" for water year to April 30)
Baldy total snow depth: unavailable
Salmon River Basin: 88% April average, 114 % annual average
Wood River Basin: 93% April average, 108% annual average

BUDGET: 1999-2000

The Sun Valley Avalanche Center operates on a very modest budget. Operations would not be possible at such a professional level, if not for Friends of SVAC fundraising, for numerous hours of volunteer time donated by forecasters and observers, for the sharing of services provided by the Boise National Weather Service and the Natural Resource Conservation Agency, and untold hours of data collection and analysis from Sun Valley Heli-Ski Guides. Sun Valley Heli-Ski also shares a remote weather station and computer data link to this site with the Sun Valley Avalanche Center. The local Community School has generously opened their classrooms for us to teach evening Avalanche Awareness Classes throughout the winter. Backwoods Mtn Sports, Sturtevant's and the Elephants Perch generously sponsored the Wood River Journal Link Hotlines. Again, the citizen's Avalanche Awareness Committee did a phenomenal job in reaching out to the community with a fundraising campaign that brought in over 10,000 dollars. The Forest Service Sun Valley Avalanche Center does not receive any funding from the user fee/trailhead parking pass-demo program. Any budget surpluses will go towards the purchase of new equipment for the hotline phone system, weather instrumentation or computer needs.

CONTRIBUTIONS AND FUNDING from 1998-99:

Friends of the Sun Valley Avalanche Center Donations	
mail campaign (2,974.00)	
events (Snowball-9,000.00, Salt Men Film-1,000.00)	14,834.00
classes (1,860.00)	
Region 4 USFS	5,000.00
USFS Winter Recreation Specialists, office and equipment use	
incl. Weather station, computer maintenance, travel	
	<u>8,000.00</u>
TOTAL	\$27,834.00

Note*

Anticipated Fundraising 1999-2000 (slide shows, snowball, contributions and ongoing campaign)
14,000.00

EXPENDITURES: 1998-99

Forecaster Salaries	18,000.00
Vehicle Fixed Cost GSA Program	3,000.00
USFS Winter Recreation Specialists, office and equipment use	
incl. Weather Station, Computer Maintenance and Travel	8,000.00
ERC Administration Fee (5% of funds raised- 1999)	1,156.00
TOTAL	\$30,156.00

BALANCE: <-2,322.00>

Expenditures: 1999-2000

Will be comparable, plus the purchase, installation and operation of our own multiple line phone system.

Apprx. Purchase & Installation: \$3,500.00

Monthly phone rates \$250.00-295.00/month x 6months= minimum \$1,500.0

IN-KIND CONTRIBUTIONS OF EQUIPMENT AND LABOR:

The Sun Valley Avalanche Center relies not only on cash contributions, but the more than \$11,850 in donated equipment, services and labor from community members, businesses and agencies. It is unmistakable that the SVAC would not be able to operate at it's current level if not for these donations.

Boise National Weather Service: Services and equipment incl.

Specialized daily forecast for Sun Valley area at 6,000 and 9,000ft

Natural Resources Conservation Service (formerly SCS): Services and equipment
incl. access to Snow Course sites and data for our area

Sun Valley Heli-Ski: Services and equipment including shared data, refuel flight air lifts
and information from forecasters

\$3,500.00

Sun Valley Company: Services and equipment incl. Access to Bald Mtn. weather
station, shared data and lift services.

\$5,000.00

Observer Network: Volunteers participating in data collection

\$2,000.00

Backwoods Mtn Sports, Sturtevant's, The Elephants Perch

Hotline sponsors \$225 x 6 months (note WR Journal Link price increase)

\$1,350.00

THE FUTURE

The SVAC was able to achieve many of the goals that were set last season. We were also able to continue with several long-term projects that are leading towards providing better services and a more cohesive network with the other avalanche forecast centers throughout the western US.

The Forest Service Sun Valley Avalanche Center has become much more established and recognized throughout the Wood River and Sawtooth Valleys, as well as becoming known in the Boise area and southern Idaho. Once again, the biggest giant that we face is how to obtain enough funding to meet the needs of operating an avalanche forecast center. The public requests for and use of avalanche information is growing yearly, yet a majority of our funding still comes from donations raised by the non-profit Friends of the SVAC. Another yearly challenge is to obtain volunteer observations of any avalanche activity or snow conditions in the backcountry. Most folks tell us that we are doing such a good job that they don't think we need them!

Goals for the future include:

Implementation and refinement of SVAC's web page and useful links

Purchase, installation and sponsorship sales of our own Hotline phone system.

Reach out to neighboring forests with basic avalanche education in localities such as Challis, Salmon, Stanley and Twin Falls

Plan a mountain weather seminar for our forecasters with the Pocatello NOAA group.

Have a test "Avalanche Box" offered for 4th grade classes in the Wood River Valley, Bozeman and Salt Lake City.

Continue to interface with snowmobile groups and expand snowmobiler knowledge and use of avalanche information.

Continue to work with Sun Valley Company to encourage better knowledge and use of avalanche information by out of bounds skiers/boarders on Bald Mountain.

Continue to refine and include more rescue scenarios in basic education, as this knowledge does help to save lives.

Friends of SVAC T-shirt sales to promote awareness and provide additional fundraising.

Offer continuing education for forecasters via courses offered by the National Avalanche School, AAAP (American Association of Avalanche Professionals) and the CAA (Canadian Avalanche Association.)



APPENDIX

Annual Report 1998-99

- 1. Sample Advisories**
- 2. Friends of the Sun Valley Avalanche Center brochure & Snowball fundraiser mailing**
- 3. Selected Newspaper and Magazine Articles**
- 4. Useful Internet Sites**

SVAC Avalanche Advisory Form

START

Good Morning, this is Anne Marie Devereaux with the Forest Service Sun Valley Avalanche Center with the Backcountry Avalanche Advisory and Weather Forecast for Tuesday January 26, (1999) at 7a.m. We'd like to thank our friends at Smith Sport optics for this forecast.

Today the avalanche danger is estimated to be: Considerable

Considerable Hazard: means natural avalanches possible, human triggered avalanches are probable, and unstable slabs are probable on steep terrain.

Synopsis: We have some widely varying conditions right now so I am going to sum a few things up. Prior to last night's precip and winds we had a fairly stable snowpack in the northern part of our valley and that is North from the North Fork of the Big Wood. But last night the wind blew steadily from the SE 20-30 mph in the Galena Summit area and transported a lot of snow, so this will create some new hazard for today.

In the Central and Southern valley the shallower snowpack has remained weak and poorly bonded to the new snow, we've had several reports of experienced skiers backing off skiing because of the amount of cracking and collapsing they've had on their approach, and as Janet mentioned yesterday an out of bounds skier on Baldy triggered a large slide in Basset gulch.

But we also have reports of, and have observed ourselves, areas with good stability, the trick is being able to identify whether the area you are choosing to ski or ride is one with good stability or one of the areas that is weak and potentially dangerous. And these areas are widespread throughout the valley. The wind, temperatures and weather have affected aspects differently in all drainages, so it is up to you to look carefully at the area where you are going and to make your decision based on how the snow looks right where you are, regardless of the tracks on the next slope over or across the valley. After all, the best way to stay out of avalanches is to avoid them.

Weather Discussion: The upper level trough and associated light snow will clear this afternoon and be followed by drier and colder Northwest flow tonight and Wednesday. A North Pacific warm front will arrive Thursday with snow and milder temperatures.

Local Forecast:

ridgetop winds NW 10

10,000': max temp:18 min:2 snow:2"

valley floor: max temp 25 Min 9 snow:1"

Local Weather Station Observations:

Titus Ridge at 10,000' reports:

Onite low:9 max temp:21 presently:18

winds:6 SW 24hr avg:19 SE max gust:37 SW

Wind Notes:steady from SE 20-30, shift to SW 6 am

snow:new:3" water equivalent:.2 storm#12 storm total:3"

on the ground:61.5" (adjusted to agree with snow sensor)

Bald Mt, at 9,000' reports:

Onite low:15 Max temp:25 present:22
winds:5 SE 24hr avg:13 SE max gust:32 SE
New Snow:3" storm total: 3" on the ground:61"

Valley Floor, at 5800' reports:
Onite low:-6 (yesterday am) max temp:26
snow:new:3" storm total:3" on the ground:37"

Best Snow Conditions: I feel sorry for Jack Nicholson and Helen Hunt because our skiing right now is really as "good as it gets". So go get some.

Everyone, Thanks so much for your calls! Our voice mail is fixed now and every bit of info helps, even if you don't dig a pit but observe something about how an area skis or where the wind blew or whatever, we want to hear it so please call 788-1200, ext. 8028 with any type of snow or weather information if you get out.

Avalanche Classes:

January 30th Sat, Intermediate Field Session. 10-4 Must have prior experience. Call 622-5371 for sign ups

Snowmobile Beacon Clinic:

January 26th, Tue, 6PM at Woodside RV no sign up necessary

Sawtooth Mtn Guides will have a Level II Avalanche Class for snowboarders and skiers February 7-11. Call (208) 774-3324 for further information

Be careful not to stress wintering wildlife. Stay at least one half mile away from elk and mountain goats.

If you are one of the gnarly dawn patrol hikers on Baldy, please wear a headlamp, hot dots and/or reflective clothing so Sun Valley workers on snowmobiles can see you in the darkness. Hot dots can be purchased at local bike and mountaineering shops.

This forecast is available daily on the internet at 1) www.avalanche.org
2) www.csac.org To receive daily e-mail of this forecast, you can subscribe at the bottom of our csac.org forecast page.

This forecast only applies to the backcountry and it is based on a limited number of observations in specific locations.

END

Phone obs:

Jonet → cold temps & brittleness, instability

Suzanne → E faces, Colorado Gulch, Natural

Glen → Big Mama RB.#7 25-26° slope
 avalanche failure 3' down on old crust
 S-SE - good S-SW some crust

Rick - very windy Summit - highway closed
 to one lane in places

SVAC Avalanche Advisory Form

START

This is a brief afternoon and early evening update for the Forest Service Sun Valley Avalanche Center Avalanche Advisory and Weather Forecast for Sunday evening February 7..... (1999) at 5pm.

We are putting this on because temperatures have risen much higher and winds are currently blowing much stronger than anticipated and this is increasing the avalanche instability to the point that we are seeing more natural releases than expected.

The avalanche danger is HIGH on steeper slopes at all elevations where any windloading has been taking place. This includes cross loaded slopes and rigelines that are exposed to South, West and North westerly winds. The avalanche danger is also HIGH on steeper slopes at low elevations due to very warm temperatures.

High Hazard: means natural and human triggered avalanches are likely, and unstable slabs are likely on a variety of slope aspects and angles. In this case, apprx 35 degree slope angle and steeper.

Galena Pass is currently closed due to drifting snow and high winds and will remain closed until the plows and blower have some visibility in the morning.

Winds averaging a steady 40+ mph have been recorded on Titus Ridge for the late afternoon hours and have reached 80mph gusts. That is extremely strong for our area and there is lots of snow to blow around and load up on already loaded slopes.

A high of 49 degrees was recorded in Hailey, a full 10 degrees higher than the anticipated maximum for the day. Wet point releases and sloughs on slopes steeper than 35 degree slope angle have been observed and with cloudy conditions and temperatures forecast to be only slightly below freezing tonight we may continue to see some of this activity at lower elevations well into the evening, and it will resume tomorrow morning.

Down low, combinations of wind slab releases have triggered wet snow releases.

The weather forecast is for a break in the winds sometime tonight cloudy conditions Monday with chance of snow and rain likely by afternoon.

We will update this advisory Monday morning.

SVAC Avalanche Advisory Form

START

Good Morning, this is Janet Kellam with the Forest Service Sun Valley Avalanche Center with the Backcountry Avalanche Advisory and Weather Forecast for Monday, February 8th (1999) at 7a.m. We'd like to thank our friends at Sun Valley Heli Ski for sharing our Titus weather station that didn't blow away yesterday.

Today we are continuing to keep our evaluation of the avalanche danger: HIGH on steeper slopes in any areas of windloading. This applies to all elevations. And as temperatures warm again today, HIGH on steep slopes at lower elevations.

High Hazard: means natural and human triggered avalanches are likely, and unstable slabs are likely on a variety of slope aspects and angles.

Avalanche Danger Synopsis:

I would like to make a special note here that from Ketchum south and across the southern portion of all of the mountains of Central Idaho we have had a shallower, weaker snowpack. Sunday's storm brought well over 2 feet of snow to the southern end of the mountains and extremely high winds. The avalanche danger will be very high in all of these areas from East of Arco to West of Fairfield.

We experienced an intense winter storm yesterday with winds being much higher than predicted and temperatures much warmer. As the sun comes up this morning and before things cloud over we will see a variety of natural avalanches. We updated our advisory in the afternoon yesterday, due to the changing conditions. As you travel in the backcountry, you must be prepared to do the same: pay close attention to changing conditions and upgrade your own personal hazard and instability evaluations.

Wind slabs will continue to be sensitive today and may be triggered if you are above, below or beside them. You may find these slabs and pillows at all elevations and you will find a lot of cross loaded slopes along ascending ridgelines at all elevations. You may see or trigger avalanches in areas that you normally do not see them. We had reports of releases on Mushroom Ridge and Durrance that ran where skiers normally hike up--lookout.

Cornice drops yesterday afternoon that fell onto wind loaded pillows triggered a number of small to mid size avalanches. One of these ran down to Penny Lakes and deposited 1 to 2 feet of debris in the road.

Extremely warm temperatures in the South Valley yesterday around Hailey promoted natural point releases and some slab activity. Although temperatures did cool down last night, it is predicted to get well above freezing again today in the South Valley and I would continue to watch for avalanche activity. The newer snow coming in will continue to stress slopes that have received a big load in a short period of time.

Weather Discussion: Looks like our cold front finally did arrive last night to begin cooling down the snowpack at lower elevations. But, a

look at! rain in new snow

Pacific storm system is predicted to bring snow and warming temperatures to our area this afternoon, with rain at lower elevations. Things should cool down again tonight as a cold front moves in around midnight and snow will become showery. There are conflicting reports as to the freezing levels so I would stay heads up and watch for signs of rising temperatures and unstable snow at lower elevations.

Thanks Brandon, Carol, Charlie and everyone else for your phone calls. Everyone, please call 788-1200, ext. 8028 with any type of snow, avalanche or weather information if you get out today.

Local Forecast:

ridgetop winds from the West 20-30mph
10,000': max temp: mid teens min: 5-10 snow: we may or may not get this amount, we will see as the next front comes in :2-4" this afternoon, 3-5" tonight and 1-3" Tuesday
valley floor: Ketchum a high forecast of 31, Hailey a high of 39

Local Weather Station Observations:

Titus Ridge at 10,000' reports:

Onite low: 3 max temp: 14 presently: 3
The cooler temperatures up high throughout the storm mean that snow accumulations have been much greater up there, probably well over 2 feet. and the very strong winds during and after the storm mean that wind loading has been dynamic and impressive.
winds: averaged in the 30's and 40's from the West to North West
max gust: peaked at 80mph yesterday about 5pm and continued to gust in the 70's
snow: new: close to 12" in 24 hours water equivalent: 1"
storm# 14 totals: 1.8" H2O, approx 20" snow
on the ground: 70" has been several inches of settlement

Bald Mt, at 9,000' reports:

Onite low: 8 Max temp: 24 present: 10
winds: 16NW 24hr avg: 21SW max gust: 54W
New Snow: 5" storm total: 1.7" H2O, approx 18"
on the ground: 69"

Valley Floor, at 5800' reports:

Onite low: 9 max temp: 38
snow: new: 4" storm total: 17" on the ground: 43"

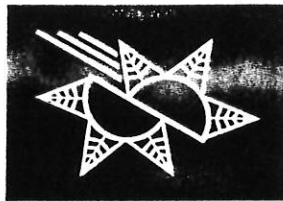
Best Snow conditions:

Very sheltered aspects at mid to upper elevations, or groomed trails. Until you can sort out where the windloaded slopes and pockets are, I would avoid getting near anything very steep today.

Tip for the day: I am sorry to have yet another fatality to report. A snowshoer was deeply buried in a gully outside of Salt Lake near Lone Peak. The avalanche was triggered by his partners travelling well above him. No one had avalanche beacons, probes or shovels. If you choose to travel in avalanche terrain, it is imperative that you carry proper rescue equipment, practice with & know how to use it and above all, know how to travel safely in order to avoid avalanches.

There is a winter Game Closure to all human activity on the Warm Springs South Slopes and Forest Land north of the road, from the West Fork of

Come join us at the



SUN VALLEY
AVALANCHE
CENTER

SNOW BALL

Saturday January 9th at the Next Stage Theater, 7-12pm

Dancing

Music by: The Joast Points

Beer & Wine

Great Raffle Prizes & Silent Auction:

The North Face, Voilé, Marmot, Lifelink, MSR, Crazy Creek, Local restaurants & Others

Grand Prize: "The" Skis from Bobby Burns

Raffle tickets will be sold at local shops, by roving friends
& at the dance. Cover charge is \$10 at the door.

Look for "The Salt Men Of Tibet," showing Jan. 10 & 11
at the Magic Lantern Theater

**This Benefit Weekend Is The 1999 Fundraising Drive
By The Friends Of The Sun Valley Avalanche Center**

ENCLOSED IS OUR 1999 DONORS ENVELOPE

Thank You!

**Please Send Your
Tax-Deductible Contribution To:**

Friends Of The Sun Valley Avalanche Center/ERC
P.O. Box 819
Ketchum, ID 83340

Please make checks payable to:
Friends Of The Sun Valley Avalanche Center

Thank You!

Avalanche Awareness Committee Members

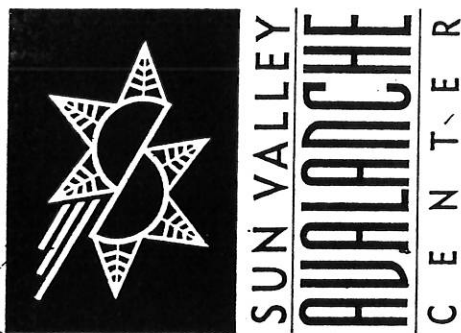
Sara Berquist
Tom Campion
Dennis Davis
Mark Deffé
Butch Harper
Rob King
Michael Kraynick
Michael Malko
Nancy Monk
Johnna Pletcher
Nils Ribi
Steve Wolper



The Sun Valley Avalanche Center
operates under the direction of the National Avalanche Center.

Brochure and logo design donated by: Martha Aphaga 788-9029

Printed on recycled paper



**Please
Don't Let
Our
Funding
Slide.**

**MAKE A TAX-DEDUCTIBLE
CONTRIBUTION TO THE SUN VALLEY
AVALANCHE CENTER TODAY**

☐ **Yes, I want to help the Sun Valley Avalanche Center**

Enclosed is my tax-deductible contribution: ☐ \$25 ☐ \$50

☐ \$100 ☐ \$250 ☐ \$500 Other _____

Contributions of any amount greatly appreciated.

Please make check payable to: **Friends Of The Sun Valley Avalanche Center**

User Group: (check all that apply) ☐ Skier ☐ Snowboarder

☐ Snowmobiler ☐ Snowshoer Other _____

Stress On The Snowpack

Each winter more and more skiers, snowmobilers, snowboarders, and snowshoers venture out into Central Idaho's backcountry. Some search for unspoiled beauty, some for challenge, and some for solitude. None come looking for an avalanche.

Ironically, the same improvements in equipment that have made the backcountry mountains so much more accessible and enjoyable, have also made them more dangerous by opening up steeper, more avalanche prone terrain. Four of the past five years have set new records for avalanche fatalities in the U.S., a trend that hit close to home when three local men in two separate incidents died in avalanches.

The Sun Valley Avalanche Center is working to reverse this trend and we need your help.

Know Before You Donate

What is the Avalanche Hotline?

The Avalanche Hotline is a phone-accessed report of current snow and weather conditions, avalanche hazard evaluations, educational tips, and related current events, updated each morning. Call daily at 788-1200, ext. 8027.

We also post a daily advisory in two locations on the internet: www.avalanche.org and www.csac.org

Who is putting this fund drive together?

A group of private citizens formed in 1996 called the Avalanche Awareness Committee is responsible for the fund drive. They also promote avalanche education and awareness in the Sun Valley area, and in particular encourage community support for the independent operation of the Sun Valley Avalanche Center.

Is my contribution to the Sun Valley Avalanche Center tax-deductible?

Yes. The Environmental Resource Center (ERC) is the 501(c)3 non-profit organization collecting tax-deductible donations for the Avalanche Center.

What is the relationship between the Sun Valley Avalanche Center and the ERC?

The Sun Valley Avalanche Center operates as a "project" of the ERC.

Doesn't the U.S. Forest Service provide funding for the Avalanche Center?

The U.S.F.S. is only able to provide about half of the funding necessary to operate the Avalanche Center. The rest of the funding must come from the community.

A Generous Period Of Cold Hard Cash Is Needed For Stabilization To Occur

Demands for services continue to grow each year, but the Forest Service is only able to provide about half the funding needed for the Avalanche Center to operate. Meanwhile, calls to the Avalanche Hotline are steadily increasing, as well as visits to our daily advisory on the internet, which we began posting in two different locations in 1997. In addition, the forecast area is extensive, and requests for avalanche education have tripled. The Avalanche Center needs partners to share in the cost. We need you to provide the balance and help satisfy these demands.

Help keep a valuable community resource from slipping away. Make a tax-deductible contribution of any size to the Friends Of The Sun Valley Avalanche Center today.

We hope to raise \$15,000 annually in order to meet the following goals:

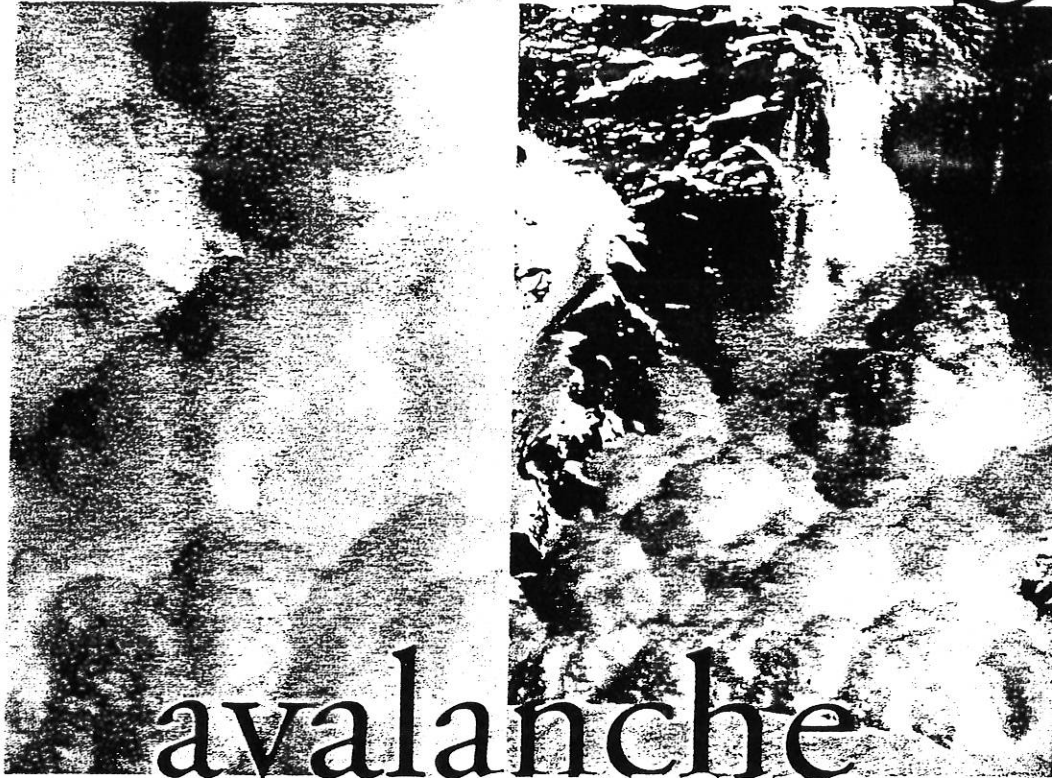
- Continue hiring avalanche professionals to monitor snow and weather conditions
- Expand the program of quality avalanche education in Idaho to all user groups, including youth groups.
- Install and maintain remote weather stations to better predict changes in mountain weather and snow-pack conditions
- Improve the accuracy of the avalanche and mountain weather advisories to provide the most useful information to backcountry travellers in avalanche terrain
- Cover the costs of adequate telephone lines to facilitate the increased demand, and upgrade computer equipment
- Provide a bulletin board for related community events and programs

With your help we can meet these goals and make the backcountry a safer, more enjoyable place for everyone.



SUN VALLEY
AVALANCHE
CENTER

buzz



avalanche

ESS

by Juli Miller

dialing 208-788-1200, ext. 8027, first thing in the morning is a non-negotiable ritual for many local boarders and skiers—before coffee, before stock reports, before saying “good morning” to anyone. Someone’s life could depend on it. Avalanche Hazard Advisory and Mountain Weather Forecast callers hear details on snow depth and accumulations, winds, temperatures and changes in weather for the core area between Bald Mountain and Galena Summit. Hazardous areas are identified as well as places for the best snow conditions.

Doug Abromeit, director of the Forest Service’s National American Avalanche Center, supervises the Center’s Ketchum operations. (See related article on page 72.) The reports are compiled by Abromeit, Rick Barker, David Gordon and Janet Kellam, who make on-site snow tests and observations, check with the National Weather Service and other reporting stations, and review observations sent in by a network of trained observers.

They also welcome information from anyone who has been in the backcountry and has noted any weather or

snow developments. You can call in this data to 208-788-1200, ext. 8027.

The Center has developed a youth education program for grades one to six. Classroom sessions introduce students to basic snow awareness, mountain weather, appropriate dress and behavior, and the ABCs of hypothermia. A field trip follows, during which students are shown how to observe and interpret snow layers and general conditions. With additional funding, programs for middle and high school students could be added.

Classes open to the public are presented in the early months of winter. Snowmobilers who travel far into the backcountry, where conditions are sometimes unknown, form the growing group of participants and supporters.

Funding for the Center comes from a partnership of federal, state and community commitments. Recreational outdoor retailers and local organizations also contribute. Checks for donations to support program expansion can be made out to the Friends of the Sun Valley Avalanche Center, and mailed to the Environmental Resource Center, Box 819, Ketchum, ID 83340.

Center reports are also available on the Internet at www.avalanche.org and www.csac.org.



Know before you go

hotline keeps trekkers informed

In the White Clouds. Photo by Doug Abromeit, Sun Valley Avalanche Center

By Tina Cole

For many local skiers and snowboarders it has become a ritual on a winter's morning to wake up, roll over, reach for the phone and dial the Sun Valley Avalanche Center's Avalanche Hotline before getting out of bed.

The hotline at 788-1200, ext. 8027, is updated daily by one of the avalanche center's experienced snow forecasters. It consistently provides accurate snow and weather conditions, avalanche hazard evaluation, educational tips, related events and, occasionally, a really good joke.

A winter of listening to the report on a regular basis gives an individual a good idea of what is going on within the ever-changing snowpack and how to plan one's backcountry excursion accordingly.

The concept of the avalanche center originated in 1973 through the efforts of then-Ketchum snow ranger Butch Harper and the assistance of the U.S. Forest Service, Sun Valley Ski Patrol and Sun Valley Heli-Ski guides.

The Wood River Valley is lucky to have Doug Abromeit as overseer of the center. Abromeit also heads the U.S.

Forest Service's National Avalanche Center, located at the Ketchum Ranger Station. He has years of snow forecasting experience from working in the volatile Wasatch Range of Utah.

The team that provides the daily forecasts and avalanche center programs consists of David Gordon, Ketchum Ranger District snow ranger, and avalanche forecasting professionals Rick Barker and Janet Kellam.

One of the center's greatest challenges is to inform and educate the many skiers, boarders, snowshoers and snowmobilers active in the backcountry.

With improvements in ski equipment and recent media emphasis on wilderness recreation, backcountry skiing is becoming increasingly popular. Those trends have prompted people to ski steeper, more dangerous terrain, and avalanche fatalities have consequently reached new records in the past few years.

According to Abromeit, 46 people were killed in avalanches in North America last winter season. During the previous season, he said, 35 people were killed.

"By far the group getting caught and killed the most is snowmobilers," he

said. "Prior to that it was backcountry skiers and prior to that it was climbers."

Avalanche fatalities among local backcountry skiers appear to be increasing as well, Abromeit said. One skier was killed last winter and three were killed three years ago. Abromeit said it had been at least 10 years since the previous death had occurred.

In an effort to reverse those trends the center gives avalanche courses with classroom and field experience throughout the winter.

Last winter, through a grant from an anonymous donor, the center presented a program to the students of the Wood River Valley. Kellam and Johnna Pletcher covered snow safety basics and winter common sense for students ranging from kindergarten through middle school. The response was unanimously favorable and this year the avalanche center is establishing a modified curriculum on avalanche awareness and education that can be presented in schools nationally.

The U.S. Forest Service can only provide a quarter of the \$20,000 annually needed to operate the avalanche center; the remaining funding comes from the community. In 1996, a group of private citizens calling themselves the Avalanche Awareness Committee formed to raise the additional \$15,000 required each year.

This year the center is hosting two fund-raising events. On an as-yet unscheduled date in January, the Toast Points will perform at a big Snow Dance at the nexStage Theater. On Jan. 10 and 11, there will be showings of the highly acclaimed documentary film "Saltmen of Tibet" by Ulrike Koch at the Movie House in Ketchum.

To find out more about the Sun Valley Avalanche Center and its upcoming winter schedule, call Doug Abromeit at the Ketchum Ranger Station at 622-5371. For those eager to make donations, look for brochures with "Don't Let Our Funding Slide" at local sports shops and the Forest Service.

Most importantly, "know before you go," be it skiing, boarding or snowmobiling and call 788-1200, ext. 8027. **SV**

Avalanche claims truck

Man escapes Trail Creek Summit slide

By CHRISTOPHER J. EHLERS
Wood River Journal

Some people are simply lucky. Some people are simply fortunate. Eric Sauer is lucky and fortunate to simply be alive.

Early Saturday afternoon, Nov. 21, Sauer, 27, a north valley resident, was returning from Mackay after a late morning hike out Copper Basin with Bonnie and Pele, his "baby" pit bull puppies.

The drive along Trail Creek wasn't too bad until the last stretch to the summit, when the dry road turned snow-covered.

Although a sign indicated that the summit was open, traffic was understandably light with a small car ahead of Sauer in his 1994 F250 pickup truck. Headlights in his rear view mirror indicated a string of four to six vehicles following, but not that close.

JournalLink

For the latest in back-country snow conditions call JournalLink's Avalanche Hot Line. Dial 788-1200 and enter selection No. 8027.

On the downhill side of the summit and just into the first curve, an eerie feeling descended upon Sauer as he glanced up the rock face that climbed a couple thousand feet on his left, practically straight up.

"I looked up and thought 'this is not good'," recalled Sauer this past Sunday night, although at the time he was not exactly sure why

things were not good. "I got this total premonition... I had the full-willies and the hair on my neck stood up."

He drove another 30 feet or so, losing sight of the car's tail lights ahead, when the rock wall just outside his driver-side window alternated colors: black-white, black-white, black-white.

Then the thought hit him — "avalanche!" Soon a wall of snow cascaded into the side of the truck, now stationary, braced for the onslaught.

But the 3/4-ton pickup was no match for the river of snow. Within seconds, the snow had pushed the truck some three feet and continued to do so, inching Sauer and his puppies ever closer to the edge.

Please see page 18

Avalanche

Continued from page 1

As he lost ground, Sauer changed tactics. At this point, he turned the vehicle into the oncoming snow in an attempt to avoid the fate that awaited once he reached the road's edge.

"I popped the clutch and gave it everything that truck had," Sauer said excitedly as if reliving the situation.

Then, as quickly as it hit, the snow stopped, but not before engulfing much of the truck up to the cab. Once he was able to extricate himself, Sauer found that the truck had stopped 12 inches from the edge. The next stop was 500 feet down at the bottom of the ravine.

Another willy and an inkling later, Sauer felt the ground rumble and shake. Thankfully,

though, no snowslide accompanied this unexplainable event.

"It felt like a 4.0 earthquake," said Sauer, now realizing the truck's rescue would have to wait. "I said, 'O.K., puppies, it's time to abandon ship.'"

As Sauer worked to lure the dogs from the relative safety of the truck, the vehicles following him over the summit witnessed the avalanche ahead and Sauer's tenuous predicament. They approached on foot, across the freshly fallen snow that had already set as solid as cement.

The group walked back to their vehicles, with Sauer and his puppies grateful for a ride that took them back in the direction they had all started from earlier.

Sauer and his companions escaped uninjured. A delay in getting a tow truck up Trail

Creek, though, ended less than hoped for the following morning.

The driver maneuvered a Humvee up to the area only to find a subsequent slide had knocked Sauer's pickup over the edge and down into the ravine, where it will remain until springtime.

Sauer doesn't seem too concerned about his truck's fate. But Sauer spent the next few nights with little sleep and a bit jumpy at the slightest bump in the dark.

"For Mother Nature, it's no big deal," Sauer said, giving a philosophical spin on a snowslide that could have happened at any time and to anyone. "But, I feel extremely lucky that I, or anybody else who might have been on that road, didn't get hurt."

Avalanche awareness class set

By CHRISTOPHER J. EHLERS
Wood River Journal

The calendar might read December, but three weeks still remain

Doug Abromeit, director with the Sun Valley Avalanche Center, said that the hazard was especially high last week in the Trail Creek area, but has since abated.

wouldn't think about driving across it."

In an effort to prevent winter tragedies, the Blaine County

MARCH 5, 1999

By VALERIE MARCHANT

FOR SKIERS, A HEAVY SNOWFALL IS a happy occasion, a piece of good meteorological fortune falling from the sky in soft crystals. Certainly, resort operators across the Alps must have felt lucky when as much as 20 ft. of snow piled up during the past six weeks in winter playgrounds like Chamonix, Klosters and Kitzbühel. And European travel agents were busily feeding thousands of tourists into the mountains.

But the mountains have become voracious. Last week avalanches in the Austrian resort towns of Galtür and Valzur killed 38 people. Slides have also struck Chamonix in France and the Valais region in Switzerland. This season more than 70 people have died in Europe, which has seen some of the heaviest snowstorms of the past 40 years. Heavy new snow falling on older snow, strong winds and changing temperatures are conditions favorable to avalanches. In Austria, the snowslides roared through the center of the two towns, crushing houses, cars and people. The avalanches have been so frequent and the weather so horrendous that at various times during the past two weeks, as many as 100,000 vacationers have been stranded in Alpine resorts because roads and railroads became impassable. In Galtür, in the Tyrolean Alps, an international fleet of helicopters, including some U.S. Army Blackhawks, had to airlift thousands of trapped tourists.

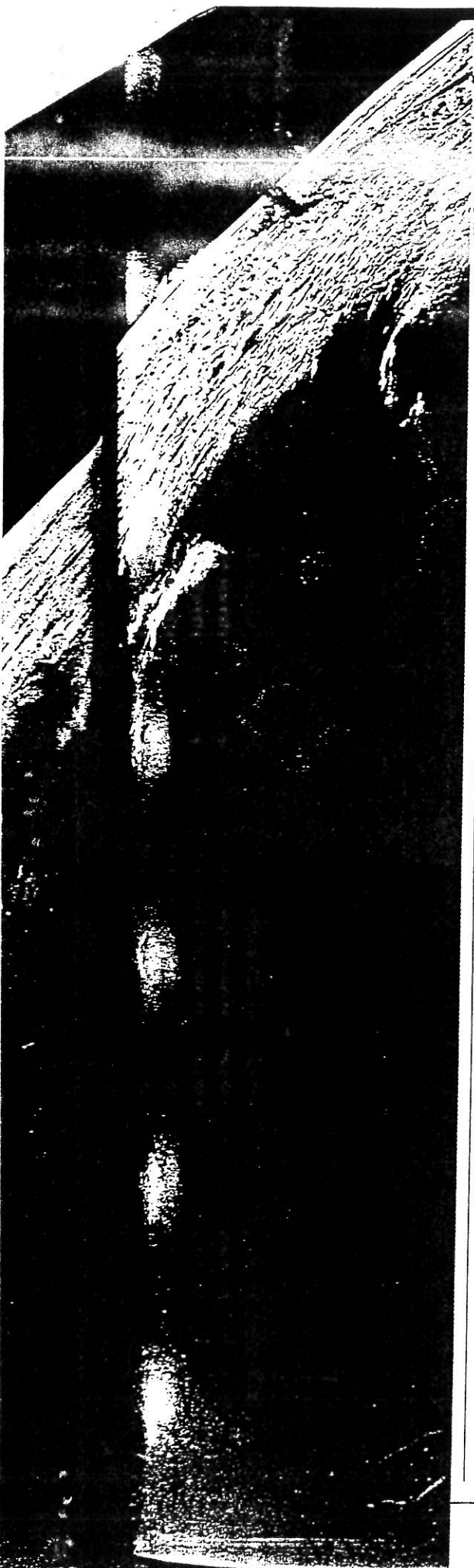
Nowhere was the tragic news from Europe watched with more concern than in the Rocky Mountains and the Cascades of the western U.S. Each year thousands of avalanches occur there without causing any damage. But with the rising popularity of backcountry skiing, more and more people are deliberately putting themselves in the way of the white death.

Why? For one thing, the fastidiously groomed slopes of ski areas are no longer sufficiently challenging to a growing number of the nation's 13.8 million skiers and snowboarders. They are heading for the unpatrolled peaks of pristine powder to experience the splendor of the outdoors as early explorers and natives saw it. In doing so, they're creating new business for ski areas and for equipment makers, whose products can help them reach the unreachable—and even prevent disaster.

But not always. This season 32 people have been killed by avalanches in North America and the season still has two months to go. Recently, at Washington's Mount Baker, a skier (who was outside the area's boundary) and a snowboarder were killed by a thunderous 15-ft. wall of snow

STEEP, DEEP AND DEADLY

Avalanches roared through Europe last week, killing dozens. Yet more skiers, seeking both thrills and serenity, are going out of their way to get into harm's way



moving at 200 m.p.h. In Canada the body of the former Prime Minister, lies at the bottom of a lake in British Columbia, carried there by an early-season slide. "The more I know about avalanches, the more scared I am," says Wendy Fisher, two-time Extreme Skiing champion and a notoriously fearless backcountry skier who has survived several near misses.

Skiers who crave risks and ignore boundaries have always been trouble for resort operators, but now they're a revenue source as well. People are "living a lot closer to the edge of the envelope than we ever were and are looking for something to test them in a different way," says Ralph Walton Jr., chairman of Crested Butte Mountain Resort, which has added a wilderness experience to its mix. Crested Butte has built a new lift to provide access to 550 acres of steep, ungroomed runs called Extreme Limits. It also offers guided snowshoe tours and telemark classes. Says Walton: "We made the decision that this was a niche that we were going to win over as fast as we could."

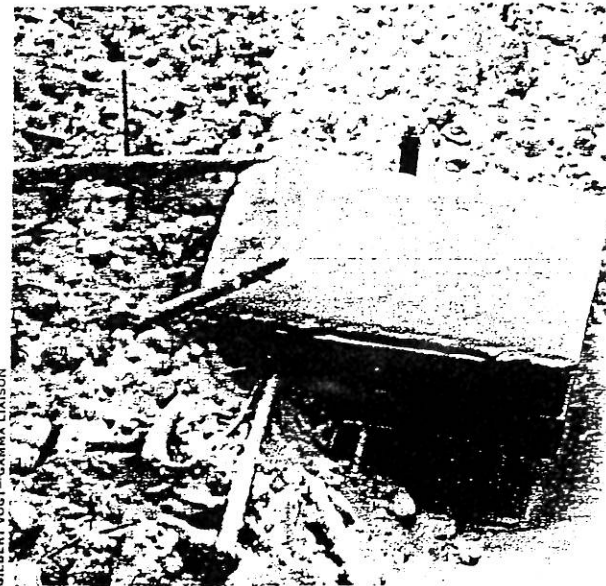
Across the country, ski areas are getting wilder. New York's Whiteface Mountain recently opened the Slides, hundreds of feet of treeless, sheer rock face atop the East Coast's highest vertical drop. The Mount Hood Meadows resort in Oregon runs a Sno-Cat tractor so that skiers and boarders can move 1,000 ft. higher to reach an in-bounds canyon that offers 55°-angle chutes (90° is vertical).

Many backcountry purists, though, want places more isolated than the resorts' wilderness areas, and they'll spend thousands to reach even more remote wilderness zones. Some are traveling to Irwin Lodge, near Crested Butte, which is the largest Sno-Cat resort in the U.S. Co-owner Molly Eldridge says the lodge, which charges \$225 a day for skiing, is almost fully booked this year.

Others, who insist that you must "earn your turns"—that is, ascend mountains on a pair of skis that have synthetic skins attached to the base for traction—find their own backcountry or hire guides. Jean Pavillard, a Swiss-born mountain guide whose Colorado tour service, Adventures to the Edge, leads such folks as trial lawyers and surgeons into avalanche country (up to \$2,800 for a five-day group trek), says his clients are "addicted to risk management." He leads them into the back, where they are supposed to apply the three rules they

follow in their own work: Recognize the risk, analyze it, then manage it. "A lot of people don't understand the snow," says Pavillard. "It looks beautiful, but it is very insidious, and it never stops changing." Janet Kellam of the Forest Service's Snake Valley Avalanche Center teaches classes in which students are given all the information they need to make a sensible decision—the right route, say—in order to avoid catastrophe. "One-half of them will choose to kill themselves," she says.

Snowboarders are exploring the backcountry in record numbers, taking advantage of both old and new technology to make their way uphill. Some are using Voilé's Split Decision (\$665), a board that divides into skis to skin up mountains. Others are strapping on snowshoes, such as K2's Verts (\$159), to ascend steep moun-



TRADE-OFF: A skier at Canada's Blackcomb sets off a slide. The danger is part of the allure. In Switzerland, the aftermath of an avalanche that buried 10 people

tains. Buggy-whip companies such as Tubbs, around since 1906, have a spring in their step. Last season more than \$13.2 million worth of snowshoes were sold, an increase of 236% over the previous year. Sales in skis like the Salomon Super Mountain, Volkl Cross Ranger and K2 X-15 (\$675-\$729), which suit all terrains and conditions, are up too. So are sales of avalanche probes, shovels and beacons—signaling devices that help rescuers locate a buried skier. Time is crucial—an avalanche victim has an 86% chance of survival if found within 15 minutes.

Why take the risk at all? Because the backcountry offers too much to resist: beauty, solitude and, yes, danger. So while the wilderness is still vast, it is going to get more crowded—and more lethal. ■



Left, with a shovel on his back, Hailey resident Ben Tromberg heads into the central Idaho backcountry. After taking a basic avalanche class, Tromberg conceded he's been making potentially fatal mistakes for years.

Avalanche!

Don't let it happen to you

Knowing the dangers
may save your life

Margot Higgins
Times-News correspondent

The snow in Idaho's backcountry just keeps on coming.
While recent conditions have created a skier's paradise, it may be unwise to travel fancy-free through untracked powder. As the snow continues to pile up, avalanche danger is still in the moderate range.

But conditions change fast, particularly when new snow is falling and the wind is blowing.

Simply put, avalanches are nature's way of stabilizing itself. Like ripe fruit falling from a tree, precariously perched snowpacks go loose and slide until something stops them.

Every winter, dozens of people are caught, buried and killed in avalanches in North America. So far this season, 25 people have died, said Doug Abromait, Sun Valley-based head of the National Avalanche Center.

Last season, North America, the death toll was 40.

It even happens here.

A pair of young snowboarders was killed by an avalanche on Galena Summit in January, 1996. One month later, a backcountry skier perished in an avalanche on Paradise Peak, four miles west of the Blaine-Camas county line.

Currently, the biggest danger is in areas south of Ketchum where the snow isn't very deep, said Janet Kellam, who works with Abromait at the avalanche center.

The snowpack is weaker in these areas, particularly in shady spots, Kellam said. North of Ketchum, the snow is deeper, more stable and cohesive.

Avalanches are caused by gravity working against weak layers in mountain snow.

Beautiful, powerful and sometimes fatal, avalanches are a fact of life in the mountains during winter. Here, a deliberately triggered avalanche roars down the Hellgate slide path at Alta, Utah.

packs. Imagine a layer of wet sand on a sloping rooftop. The sand stays put until something - a vibration, steepening roof angle or more wet sand falling from above - causes a fracture and a subsequent slide.

"In general, what has happened is that we are getting lots of heavier snow, following a fairly prolonged period of no snow," Abromait said. "The old snowpack was weak and now that it is buried, it is still weak."

When they aren't very thick, snowpacks can be robbed of strength by cold tempera-

tures that suck out moisture and leave fragile layers of ice crystals - commonly known as hoar frost - beneath the surface. Though unseen, the fragile layers lurk as sliding planes that can break free to start an avalanche.

Recent high winds also have boosted the avalanche danger by loading some slopes with additional snow.

The best way to approach travel in avalanche country is to play detective and

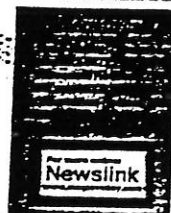
Please see AVALANCHE, Page 02

'If you can read terrain, you will be able to go out (in the backcountry) without a problem.'

- Janet Kellam, avalanche forecaster



Janet Kellam, an avalanche forecaster with the Sawtooth National Forest, explains how to operate the avalanche transceiver she's holding to an avalanche class north of Ketchum.



Avalanche center opens today

By GREG STAHL

Express Staff Writer

North American avalanche deaths are on the rise, and the Forest Service Sun Valley Avalanche Center opens today to aid local backcountry enthusiasts pursue adventure more safely.

Four avalanche-related deaths have already occurred across the continent this winter, and officials fear that if the trend continues, this will be the deadliest season ever. Last year witnessed 46 deaths; avalanches killed 35 during the winter of 1996-97, and 29 were killed the season before, according to one of the Ketchum center's avalanche forecasters Janet Kellam.

Kellam also said that due to the fairly weak layers of early snow topped by the more solid, thick snows of late, higher elevations around Ketchum currently pose a high avalanche hazard. An advisory was issued, in fact, on Monday morning based on this condition, which Kellam referred to as "bricks on potato chips."

In addition to daily avalanche condition postings on the Internet and via telephone, the avalanche center also offers classes in avalanche awareness and identification training.

"Avalanche victims' avalanche skills are generally not as good as their activity skills," said Kellam. "Ninety percent of all avalanche victims or someone in their party triggers the deadly slide."

On slopes below 25 degrees, said Kellam, avalanches don't happen. But this does not mean that steep slopes loaded above a moderate pitch can not place the lesser slope in danger.

The majority of avalanches occur on 30 to 45 degree slopes she said. And wind-loaded slopes and cornices pose a very great threat.

Predicting when and where an avalanche will occur is a more complex matter than evaluating slope degree, however. The avalanche center, one in a chain of centers around the West, has weather stations and evaluation sites on Titus Peak, Bald Mountain and at various National Resource Conservation Service sites in the area.

become such a big attraction for visitors that they've replaced grizzly bears as the park's marquee mammal.

Unlike its elusive grizzlies, Yellowstone's wolves are unusually visible. John Rhoads, a ranger-naturalist, says he has seen a steady increase of inquiries from people hoping to "make their vacations" by seeing a wolf.

"Yellowstone Park is far and away the best place in the world to see wolves," said Doug Smith, project leader for Yellowstone's wolf recovery.

Unlike a bear jam, in which a horde of people may approach and close in on the animal, wolf

ten two books about wolves and educates visitors about them. "I've talked to a researcher who has worked 30 years in the field and he's never seen a kill."

Veteran wolf watchers are quick to correct newcomers who violate roadside etiquette. Some carloads even stay out all night hoping to hear wolves howl. But they have to wait, because imitating the howling of wolves in the park is illegal. Wolves are territorial. A howl in the neighborhood tells them another pack could be intruding on their territory. They'll stop what they're doing to check out the howler.

Avalanche

Continued from D1

interpret the clues. Always be wary, but be especially vigilant after abrupt temperature swings, high winds or heavy snowfalls.

More profoundly, be humble and don't hesitate to turn back if the terrain appears unstable. Never allow group dynamics to lure you onto a slope that you suspect.

"Skiers in the backcountry need to look out for Mother Nature's billboards for unstable snow," Abromeit said. "If it is snowing more than a couple inches per hour, avalanches are likely."

Always keep your eyes peeled for evidence of minor slides, which indicate that conditions are ripe for more - possibly larger - avalanches. Listen for the distinctive "whoomph" sound of snow collapsing beneath your feet, skis or snowmobile. Head for safe ground if you feel the snowpack settling beneath you.

Pay attention to the angle of the slope you're on - and the angle of slopes above you. Most avalanches occur on slopes of 30-45 degrees, with 38 degrees considered the worst possible angle. Slopes of less than 30 degrees generally aren't steep enough to slide, while slopes in excess of 45 degrees are constantly raked by little slides that preclude much snow from accumulating.

Avoid "terrain traps," such as tight gullies where an avalanche can thunder in from above, leaving no route for escape.

If someone in your party is buried in an avalanche, it's up to you to save the victim. If you go for help, you are conceding defeat and the "rescuers" will almost certainly dig out a corpse.

Statistically speaking, an avalanche victim rescued within

15 minutes has an 85 percent chance of survival. After half an hour, the odds decline to 50 percent. After that, the victim is more likely to die than live.

Though it may begin with light, fluffy snow, an avalanche ends in a densely packed pile that's a close cousin to concrete. Few victims can dig themselves out if their arms are buried.

To help dig out survivors, not corpses, everyone in your party should carry a sturdy shovel, probe poles and an avalanche transceiver that sends and receives radio signals at a frequency of 457 kHz. Other useful items include compasses and slope meters, which determine the angle of hillsides.

In addition to carrying these items, everyone should know how to use them. Toward that end, practice finding transceivers - also known as "beepers" - that others have hidden in the snow.

Many winter backcountry enthusiasts start their day with a phone call to the Sun Valley Avalanche Center hotline, or by visiting the center's website. The hotline and website are updated daily with current snow and weather conditions.

To fully appreciate the changing nature of avalanche danger, it's a good idea to call or visit the center's website on a regular basis.

"Calling regularly helps people to recognize patterns," Kellam said.

In the end, getting caught in an avalanche is a human decision - because the victim chose to be there.

"A majority of victims triggered the avalanches themselves," Kellam said. "Usually all of the warning signs are there."

Know before you duck Baldy's ropes *Ski at your own risk*

By GREG STAHL
Express Staff Writer

Ducking ski-area boundaries to enter the backside or out-of-bounds terrain off Bald Mountain is potentially dangerous and should be attempted only by those who are knowledgeable and prepared for high risk of avalanches.

"When you duck under a ski area boundary rope, you are entering a different world with respect to snow stability and rescue possibilities," the Ketchum Ranger District and Sun Valley Company stated in a recent press release.

"Lift-serviced, out-of-bounds skiing can give skiers a false sense of security, with many folks equating these slopes to slopes within the ski area, which are controlled for avalanche safety through a variety of means," said Sun Valley's Ski Patrol director Bruce Malone.

Officials are reminding skiers that skiing out of bounds on Bald Mountain is no different than embarking on a backcountry ski tour from Galeana Summit.

Skiers ducking under the ropes should be prepared to assess their chosen slope's snow stability, as well as have the skills to enact their own rescue and evacuation if necessary, Malone said.

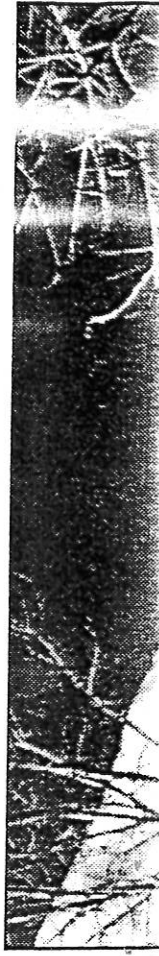
"The out-of-bounds skiing on Bald Mountain can be as deadly as back-



HOOVES STICKING OUT OF THE SNOW were a grisly reminder of the force of an avalanche that swept a herd of deer to their deaths Wednesday on Della Mountain in Hailey.

Avalanches wreak havoc in Hailey

*Heagle Park damaged,
deer herd killed*



UNITED STATES SNOW RANGER DAVID GORDON SAID.

At a minimum, anyone skiing out of bounds should be wearing an avalanche transceiver and be carrying a probe pole and shovel, the press release states. Knowledge of how to use those items is essential if any members of the party are caught in an avalanche.

The Sun Valley Ski Patrol, though almost always called on when an out-of-bounds rescue is needed, is not required to respond.

Malone also noted that Sun Valley Company will bill the rescued individual for the patrol's efforts in an out-of-bounds rescue.

"That charge is based on manpower and equipment used in the rescue, as well as costs associated with any avalanche control work that might be necessary to ensure the safety of the evacuation site," Malone said.

"Skiing behind closure ropes within the ski area is against the law in Blaine County," Malone said. "In the interest of public safety, it cannot be tolerated."

QUOTE OF THE WEEK

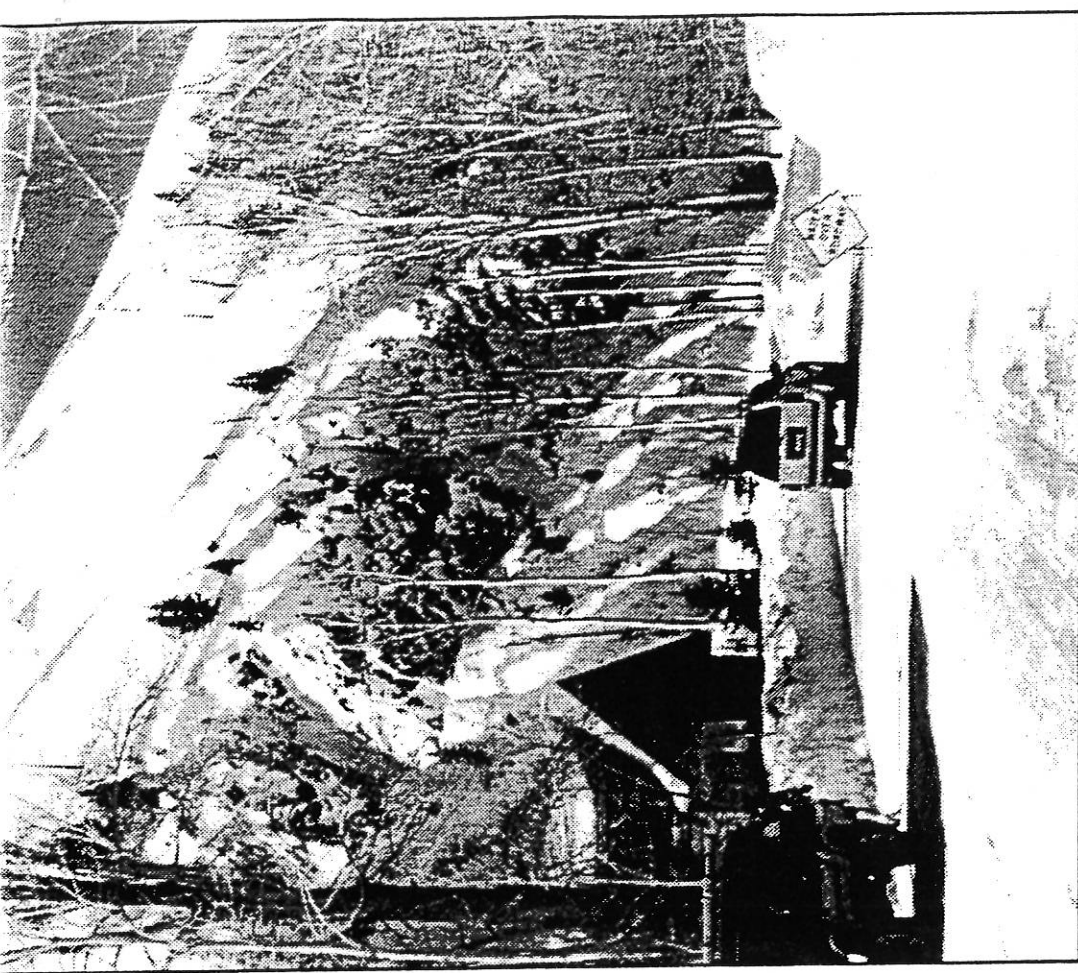
"I want to ranch until I die; This is what I love."

KATIE BRECKENRIDGE
on transfers of development rights

Page A7

The Weather

The huge Pacific storm moving inland will bring snow and more snow through the end of the week and, most likely, the weekend. Temperatures will range between 20 and 40.



Express photo by Charmaine McCann
THE FLOW OF THE BIG WOOD RIVER was channelled down War Eagle Drive after a series of avalanches blocked the river's path.

slopes of Della Mountain in Hailey last Wednesday, spilling snow and debris across the Big Wood River.

The slides buried part of Heagle Park in snow, blocked the river briefly and left a ghastly reminder of just how powerful falling snow, even close to home, can be.

No less than 20 deer were part of the avalanche's jetsam. On Thursday, their hooves protruded like gravestones in the snow.

It is likely that the herd of deer, traipsing through unstable snow on Della Mountain, triggered the slide that swept them over a 200-foot cliff to their deaths.

Hailey city administrator Daryle James is urging people to stay away from the avalanche area along the river in Heagle Park.

"At this point the snowpack is fairly stable," James said. "The chutes have cleared themselves."

But, he said, snow is blowing and drifting at the top of Della Mountain and could slide again.

One witness, Ken Crosson, who saw the slide that killed the deer said the herd, which numbered about 50 animals, caught his attention.

"It's a steep face and there was a slide the night before, so I was curious," he said.

Crosson said about 20 of the deer attempted to cross the bowl, but began bumping into each other and acting nervous in the shoulder-deep snow.

"When they got about two thirds of the way across the bowl, the snow slid," Crosson said. "They all just went down. It was a free-fall to the river about 200 yards below."

Falling snow and debris reached toward neighborhoods around War Eagle Drive and Della Vista Drive. There were no reported human injuries or homes damaged.

One of the avalanches dumped about 20 feet of snow in Hailey's Heagle Park.

So far, the city of Hailey has deter-

mined that the avalanche destroyed a picnic shelter, two tables and at least one tree in the park. With all the snow, it is hard to tell the extent of the damages, James said.

One of the slides dropped enough snow in the Big Wood River south of Croy Creek to dam it. City water and sewer rerouted the river down War Eagle Drive and back into an alternate channel to the river to prevent flooding in surrounding neighborhoods.

The force of the snow took its toll on fish also.

"I saw one 12-inch rainbow sticking up out of the snow that had an expression

PLACES TO GO & THINGS TO DO OUTDOORS

THE IDAHO STATESMAN

GET OUT

Avalanche!

The U.S. Forest Service Sun Valley Avalanche Center is offering a free avalanche and snow safety clinic at 7 p.m. Jan. 5 at the Community School Middle School in Ketchum. An all-day field session is planned Jan. 12 or Jan. 16. Call 208-622-5371 for information. Let them know if you're coming.

YOU CAN NEVER KNOW TOO MUCH ABOUT AVALANCHES

Snowmobilers, listen up. Avalanches killed 27 people last winter, including 13 snowmobilers.

"The past five years more snowmobilers have been killed in avalanches than any other recreation group," said Doug Abromeit, director of the Forest Service's National Avalanche Center in Ketchum.

As a result, the Forest Service and Idaho Department of Parks and Recreation have produced a 30-minute video on avalanche awareness designed for snowmobilers.

"Riding Safely in Avalanche Country," teaches riders how to identify hazardous terrain and snowpack instability, perform snow-stability tests, make good decisions and carry out a fast and effective avalanche rescue.



"I encourage everyone who goes snowmobiling in the mountains to see this video. It's a 30-minute investment that could save your life,"

said Trish Murphy, the video project coordinator.

Abromeit attributes the increase in snowmobiler fatalities to dramatic

advances in the power, weight and traction of snowmobiles. "This allows snowmobilers to easily access dangerous avalanche terrain, especially following snowstorms," he said. "We are seeing snow-machine tracks in country we have never seen them in before. In addition, snowmobiles can cover 100 times the amount of terrain that a skier can in a day, which dramatically increases the odds of getting into trouble."

All proceeds from the sale of the video will go to fund avalanche education for snowmobilers.

Cost is \$15.95 per copy. The video is available through: Friends of the Sun Valley Avalanche Forecast Center, c/o Environmental Resource Center, P.O. Box 819, Ketchum, ID 83340.

It also is being distributed to snowmobile shops.

TO: Ken Abromeit
FROM: Public Affairs Staff
Sawtooth National Forest SO

Idaho Statesman
Boise, ID

DATE 12-31-98

RESORT

Avalanche danger is considerable

Check hotline and Web site before you go

By **DICK BORWORTH**

Express Staff Writer

"Considerable hazard" is the official designation for the current avalanche danger in the backcountry.

"This is a time when a sneaky snowpack exists in many places," Janet Kellam, avalanche specialist with the U.S. Forest Service Sun Valley Avalanche Center, says. "The backcountry will have a lingering avalanche hazard for this week at least, and possibly longer."

While backcountry conditions are hazardous, avalanche conditions on Bald Mountain are well in control, according to Kellam.

"Those guys on the ski patrol," she says, "do an outstanding job of making sure the mountain is safe."

Despite the recent heavy snowfall, the avalanche control work by the patrol on Monday morning enabled them to open nearly the entire mountain for a memorable day of skiing.

Bruce Malone, head of the Sun Valley Ski Patrol, warned that early morning skiers, hikers and snowshoers who climb up Bald Mountain after a heavy snowfall like Monday's are putting themselves and ski patrol members at risk.

"When we are doing avalanche control, the mountain is closed," Malone said.

He pointed out that people climbing Bald Mountain after a snow storm before it has been opened are in danger of both avalanches and the bombs the patrol uses to trigger them.

"Anyone who goes outside the

ski area boundaries is on their own," Malone emphasized. "It isn't controlled or patrolled out there, and you'd better be sure that whoever you're with knows what they're doing."

Even within the ski area there are areas that can and do slide, no matter what control work is done.

Kellam says that there are buried weak layers in the snowpack even beneath the heavy layer of new snow.

"Anyone venturing into the backcountry should stay on more low-angle slopes," she said.

The most dangerous slopes, according to Kellam, are those between 30 and 45 degrees in steepness in the mid to upper elevations of the Wood River Valley and environs. She also warned that the area beneath such slopes and anywhere in the run-out area of potential avalanches are dangerous.

"Many things can trigger a slide—the weight of a skier or

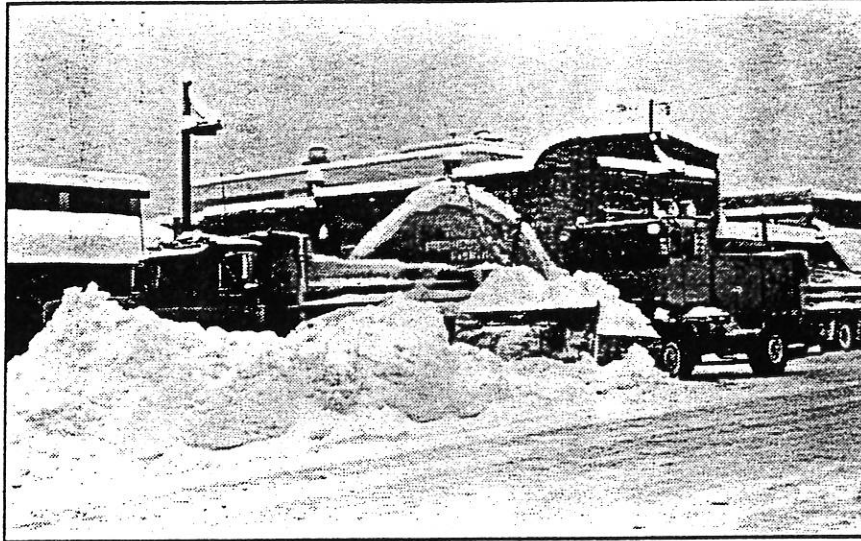
snowshoer or snowmobiler, or, in some cases, the weight of the 10th skier on the same slope," Kellam says. "The temperature can trigger an avalanche, particularly when it warms up as it is doing. Snow on a slope settles and creeps downward just like snow on a roof of a house or a car. It follows gravity, and you don't want to be in its way."

Avalanche fatalities in the U.S. are increasing.

In the 1995-96 season, 29 people died in avalanches in the U.S.; in the 1996-97 season 35 people died; in the 1997-98 season 46 died.

Kellam and the other members of the Sun Valley Avalanche Center are working to reverse this trend.

Daily local avalanche conditions are available from the center's telephone hotline at 788-1200 extension 8027 and on the web at www.avalanche.org and at csac.org.



Express photo by Willy Cook

PILES OF SNOW GREETED DRIVERS MONDAY MORNING after 15 to 18 inches of new snow fell overnight. The snowfall brought glee to skiers on Bald Mountain but warnings of avalanche danger for backcountry enthusiasts.

Snow slides strike East Fork home

*Three houses damaged,
road closed*

By GREG STAHL
Express Staff Writer

Three empty homes along Meadowbrook Road in East Fork Canyon sustained moderate to severe damage when between six and eight avalanches released and swept down the south side of the East Fork drainage yesterday afternoon.

According to Blaine County Chief Deputy Sheriff Gene Ramsey, no people were in the way of any of the slides when the avalanches released to the best of rescuers' knowledge as of 4:30 p.m. yesterday.

However, one home, owned by part-time residents who are currently in California, experienced an onslaught of avalanche snow that crashed through a wall and filled parts of the kitchen, living room and den, Ramsey said.

Ramsey said it is difficult to tell if the house received structural damage because of the 20 or more feet of snow that are blocking the south-side view of the home. However, he said that there is probably structural damage.

Both other houses affected were hit by the same avalanche and sustained moderate damage, one to its windows and the other to its garage doors, Ramsey said.

Several of the other slides crossed Meadowbrook Road, closing it indefinitely on Tuesday afternoon, Ramsey said.

"Meadowbrook Road has four feet of snow with debris, trees and limbs," he

**Snowpack
120 percent
of average**

More snow expected

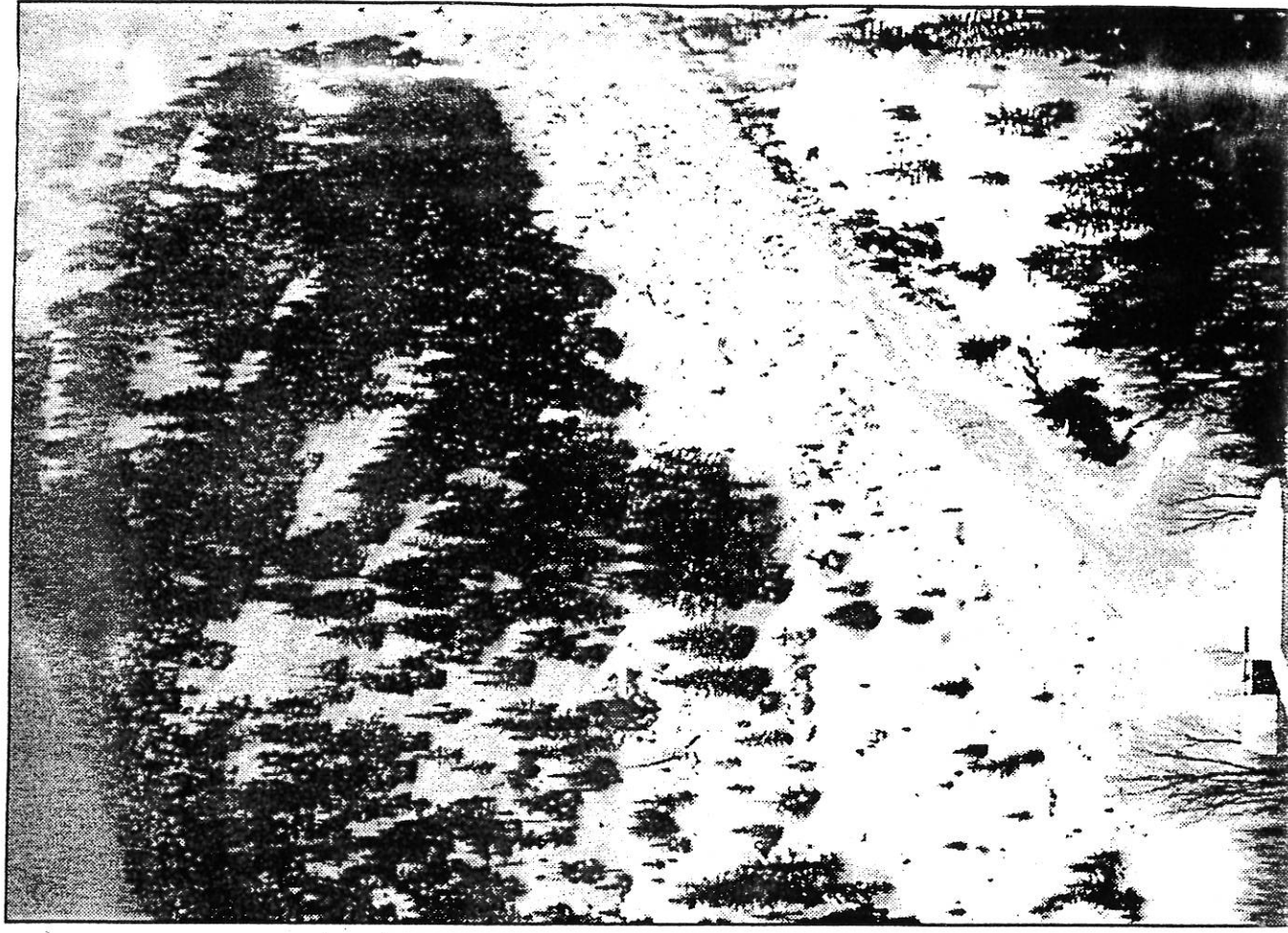
By KEVIN WISER
Express Staff Writer

Storm after storm the snow falls, burying the mountains in white.

Winter's accumulations are met with mixed emotions. Skiers delight in repeated powder days and the prospect of a lengthy ski season. Farmers and ranchers are optimistic about irrigation capacities adequate to see them through the summer. Property owners along rivers and streams in the Wood River Valley contemplate the possibility of flooding. And the county's out-manned armada of snow plows, dump trucks, and front-end loaders struggle to keep up with the forces of nature and winter's fury.

According to the U.S. Department of Agriculture's Natural Resources Conservation Service, the Big and Little Wood River watersheds currently hover at more than 120 percent of the 90-year average. And with a chain of storms backed-up to Japan poised to make the march across the Pacific Ocean, those percentages are almost sure to increase before winter is over.

As for the possibility of flooding this spring, Gale Roberts, district conservationist, said any time the area gets more than 100



tential for flooding. It all depends on what happens in the next two months and how fast it warms up this spring, he said.

For more than 60 years, the Blaine Soil Conservation District has measured snow depth and water content in the watersheds within the county and then used that information to calculate subsequent stream flows and spring run-off potential.

This year the district is introducing the computerized High Tech Snow Reporting program. According to Roberts, the Big Wood River and adjacent watersheds now contain 11 automated SNOTEL sites. Those sites radio current snow, water and weather conditions to a master computer on a daily basis. That information is available to anyone with Inter-

See SNOWPACK on page 5

QUOTE OF THE WEEK

"I've lived here a long time, and I like the smell of alfalfa."

KNOX BARCLAY

Bellevue resident said about preserving open spaces

Page A7

The Weather

More snow on the way. Up to 10 new inches by this morning, followed by a break Thursday before the next series makes its way in from the coast. Temperatures will rise to between 20 and 40.

Department was working to clear the road yesterday afternoon.

"All the snow is very unstable and from talking to avalanche experts," Ramsey said, "this is the worst they've ever seen it. And the rain is going to add to the danger."

Avalanche conditions extremely dangerous

Galena Summit closed by slides

Skiers celebrated and road crews struggled as the Wood River Valley received 27 inches of snow over three days early this week.

According to the Ketchum Ranger District, 13 inches of snow fell Saturday night and Sunday, four inches Sunday night and Monday, and 10 inches Monday night and Tuesday morning. Similar snowfalls were reported on Bald Mountain.

The Sun Valley Ski Patrol closed the Mayday and Christmas lifts on Sunday, due to high winds. After Monday night's dump, the bowls were still closed by noon yesterday.

"There have been releases and slides everywhere (in the bowls)," said ski patrol supervisor Rich Bingham. "The wind has been building the hazards as fast as we can clear them."

According to the Forest Service/Sun Valley Avalanche Center hotline, the backcountry avalanche hazard yesterday was "very serious." The high hazard was reported extending to south of Ketchum.

ONE HOME SUSTAINED HEAVY DAMAGE AFTER IT, along with two others on Meadowbrook Road in East Fork, were struck by a series of avalanches. Meadowbrook remained partially closed at press time Tuesday.

Express photo by Charmaine McCann

Don't forget to shovel those roofs

By **KEVIN WISER**
Express Staff Writer

In considering the capacity-ability for structures and roofs to hold up under the weight of recent heavy snow accumulations—the water content of snow is a critical factor.

The SNOTEL site located at Chocolate Gulch indicates the water content of snow to be 70 pounds per square foot.

Blaine County building official Bill Dyer said that despite recent snow accumulations new homes built to code still have the capacity to carry the load.

However, Dyer expressed concern for older structures and homes built before current building codes.

Dyer also expressed concern about the five-day forecast, which calls for warming temperatures and wet snow or rain that could significantly increase the water content of snow and the risk of collapsing roofs.

Dyer advised people to think ahead and consider shoveling roofs before it's too late—don't wait until last minute.

"Natural and human-triggered avalanches are likely," the hotline said.

The hotline added that out-of-bounds areas on Baldy were also very dangerous yesterday.

"With this much new snow, it does not matter how many tracks have been put on the old snowpack," it stated.

State Highway 75 was closed for 13 miles over Galena Summit at 9:15 yesterday due to snow slides over the highway. The Idaho Transportation Department had no estimate as to when the road would be reopened.

"It all depends on the weather," said a spokesperson.

Surprisingly, given the poor road conditions, no serious car accidents were reported by local police departments.

Blaine County schools were closed Tuesday, the first snow closure of the school year. Cathy Zaccardi, clerk of the school district's board of trustees, said district superintendent Phil Homer made the decision after conferring with county road crews.

Statistics show snowmobilers at greatest risk from avalanches

Twenty-seven people, including 13 snowmobilers, were killed by avalanches in the United States this past winter.

According to the Forest Service's National Avalanche Center Director Doug Abromeit, "In the past five years more snowmobilers have been killed in avalanches than any other recreation group."

The Forest Service and the state of Idaho are very concerned about this developing trend. In response, the Forest Service National Avalanche Center, located in Ketchum, and the Idaho Department of Parks and Recreation produced a 30-minute avalanche awareness videotape designed for the snowmobile community.

The video, "Riding Safely in Avalanche Country," was produced with grants from the Idaho Department of Parks and Recreation and the Bruder Foundation

of Canada, plus many volunteer hours from Idaho snowmobilers.

The video teaches riders how to identify hazardous terrain and snowpack instability, perform snow stability tests, make good decisions and carry out a fast and effective avalanche rescue. The educational sections are integrated with exhilarating footage of avalanches and snowmachines in action.

"I encourage everyone who goes snowmobiling in the mountains to see this video. It's a 30-minute investment that could save a life," said Trish Murphy, the video project coordinator.

Abromeit attributes the increase in snowmobiler fatalities to dramatic advances in the power, weight and traction of snowmobiles. "This allows snowmobilers to easily access dangerous avalanche terrain, especially following snowstorms," Abromeit

said. "We are seeing snowmachine tracks in country we have never seen them before. In addition, snowmobiles can cover 100 times the amount of terrain that a skier can in a day, which dramatically increases the odds of getting in trouble."

All proceeds from sale of the video will go to fund avalanche education for the snowmobile community. Cost of the video is \$15.95 per copy and is available through the Friends of the Sun Valley Avalanche Forecast Center, c/o Environmental Resource Center, P.O. Box 819, Ketchum, Idaho 83340, or the Department of Natural Resources Bookstore, 1594 W. North Temple, Salt Lake City, Utah 84138, as well as many local retail snowmobile shops in the United States and Canada.

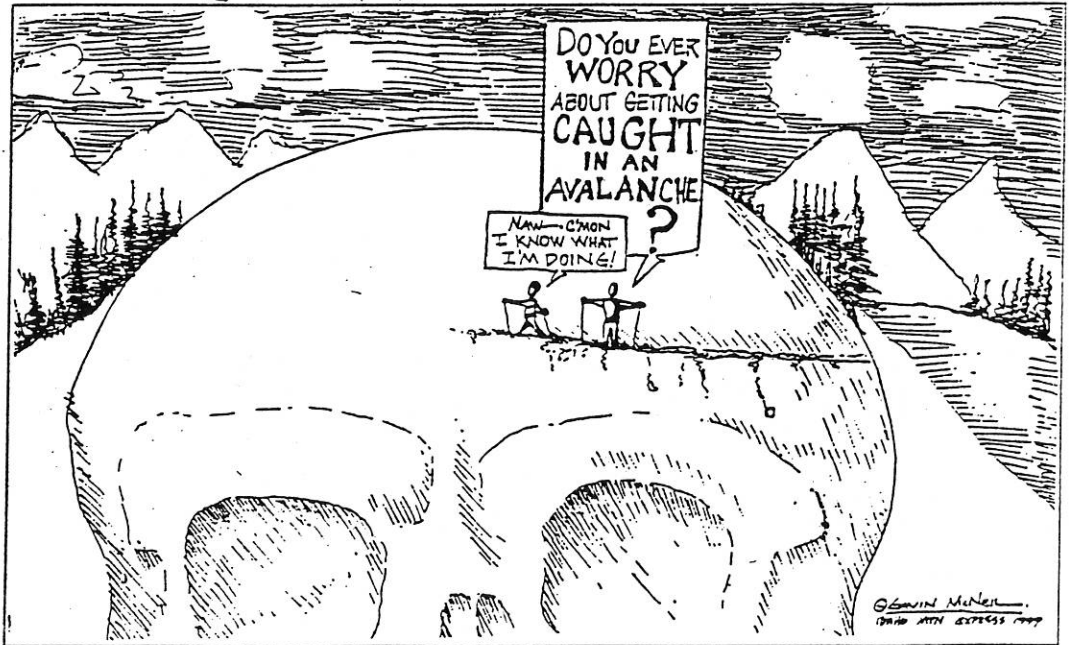
Information is also available on the Internet, nac@sunvalley.org.

Woods River Journal TUESDAY, Dec 22, 1998

AVALANCHE
ADVISORY
8027
 Sponsored By:

Journalink 788 1200

JAN. 27 1999



All three courses utilize a correspondence study model, whereby printed materials and videos are mailed or otherwise made available to the student. Students can work on the course at their own pace and in their own home. Each course is expected to take approximately 100 hours of time to complete. Letter grades will be assigned and a Colorado State University grade sheet forwarded upon course completion. Each course is worth three academic credits.

The correspondence study program in the CSU Department of Natural Resource Recreation and Tourism, under the leadership of Dr. Glenn Haas, has developed 20 correspondence study courses related to recreation, wilderness, and public land management. Since 1983, there have been some 10,000 enrollments by student and professionals from across the United States and several foreign nations. Correspondence study is a proven approach to help the outdoor recreation students and professionals keep pace with the changing demands of our outdoor recreating public.

To learn more about the Colorado State University program, or to register, contact: Sharon Johnson—phone (970) 491-3871 or e-mail [sharonj@cnr.colostate.edu]. For general information about the program, contact: Dr. Glenn Haas—phone (970) 491-5126 or e-mail [glenn@cnr.colostate.edu].

Reprinted from *The OHV Planner*, published quarterly by the American Motorcyclist Association, September, 1998. Requests for subscriptions should be addressed to the OHV Planner, AMA, 33 Collegeview Road, Westerville, OH 43081-1484. Phone: (614) 891-2425, FAX: (614) 891-5012. AMA Contact: Eric Lundquist.

A course is entitled for Quality Off-highway Recreation. This course, entitled Off-Highway Vehicle focuses on the critical planning for qualification, visitor conflicts, and the concerns of various local, state, and federal agencies supply creation opportunities. It emphasizes the important groups and partnerships in developing plans and objectives for an

A course is entitled for Quality Off-highway Recreation. This

March 1999. The specials add to the full hour of recreational snowmobile programming provided by The Outdoor Channel each week. Beginning in December, snowmobile enthusiasts can tune in every Saturday evening from 8:00 to 9:00 PM (EST) for Snowmobile TV, a production of Digital Video in Toronto, followed by

Twenty-seven people, including thirteen snowmobilers, were killed by avalanches in the United States this past winter. According to the Forest Service's National Avalanche Center Director Doug Abromeit (ABRO-MITE), "The past five years, more snowmobilers have been killed in avalanches than any other recreation group."

The Forest Service and the State of Idaho are very concerned about this developing trend. In response, the Forest Service National Avalanche Center, located in Ketchum, Idaho, and Idaho Department of Parks and Recreation produced a 30-minute avalanche awareness video tape designed for the snowmobile community.

The video, "Riding Safely in Avalanche Country," was produced with grants from the Idaho Department of Parks and Recreation and the Bruder Foundation of Canada and many volunteer hours from Idaho snowmobilers.

The video teaches riders how to identify hazardous terrain and snowpack instability, perform snow stability tests, make good decisions, and carry out a fast and effective avalanche rescue. The educational sections are

Channel. He added, "We have a slogan, 'Real Outdoors for Real People' and we take pride in delivering that to our viewers."

The Outdoor Channel has also formed an affiliation with the BlueRibbon Coalition (BRC) to air off-road/land access issues on the upcoming programs, Saturday Night Special and In The Crosshairs. "The off-road and

integrated with exhilarating footage of avalanches and snow machines at play. "I encourage everyone who goes snowmobiling in the mountains to see this video; it's a 30-minute investment that could save a life," said Trish Murphy, the video project coordinator.

Abromeit attributes the increase in snowmobiler fatalities to dramatic advances in the power, weight, and traction of snowmobiles. "This allows snowmobilers to easily access dangerous avalanche terrain, especially following snowstorms," said Abromeit. "We are seeing snowmachine tracks in country we have never seen them in before. In addition, snowmobiles can cover 100 times the amount of terrain that a skier can in a day, which dramatically increases the odds of getting in trouble."

All proceeds from this video go to fund avalanche education for the snowmobile community. The video is available to the public for \$15.95 from the Department of Natural Resources Bookstore, 1594 W. North Temple, Salt Lake City, Utah; Friends of the Sun Valley Avalanche Forecast Center, c/o ERC, PO Box 819, Ketchum, ID 83340, (208) 726.4333; or your

opportunity to support your organization. Now's the time to get a dish and get hooked up!

For more information about The Outdoor Channel, or to get a free campaign package, contact Jake Hartwick, Executive Vice President, 43445 Business Park Drive, Ste. 103, Temecula, CA 92590. Phone (800) 770-5750. Internet website: <http://www.outdoorchannel.com>.

Forest Service Produces Snowmobiler Safety Video



local snowmobile dealer in the USA. In Canada, contact Survival on Snow, Inc. (403) 973.5412, or email: info@sosfind.com or on the worldwide web: www.sos-find.com. Dealers contact, Western Power Sports, phone 800.799.3388 or 208.376.8400, mailing - 5272 Irving Street, Boise, Idaho 83706.

Questions or comments can be directed to Trish Murphy, 801.524.4562 or through the internet- nac@sunvalley.net. For more avalanche information visit the worldwide web at: www.avalanche.org.

Don't be the human trigger

*Forecaster warns backcountry
skiers of dangerous
avalanche conditions*

By **DICK DORWORTH**
Express Staff Writer

Hailley's Anne Marie Devereaux is one of a local network of professionals whose work is to help people in the Wood River Valley elude death by avalanche.

An avalanche forecaster for the U.S. Forest Service Sun Valley Avalanche Center, her duties include posting a daily avalanche danger report on the center's Web site at www.avalanche.org.

"Today the avalanche danger is estimated to be : considerable. Considerable hazard means natural avalanches possible, human-triggered avalanches are probable, and unstable slabs are probable on steep terrain...so here is what to be concerned about. It is kind of like a house of cards out there. We keep thinking that each storm we've had would tip the balance and get some natural avalanches to run, but very few have, so humans will be the trigger that will get the snow to move," a recent sample (Jan. 24) of her report reads.

Those words are informative as well as informed. They are words to heed.

So long as people live and play and work in the snow and mountains, some of them will get caught in avalanches; but by paying attention to the work of people like Devereaux one can significantly change the odds in one's favor. Ignoring or being ignorant of it has some correlation to Russian Roulette.

Twenty-one people have died in avalanches this season in North America. More will die before the season ends.

One of the most recent deaths was at Aspen Highlands in Colorado, involving a man who skied into a



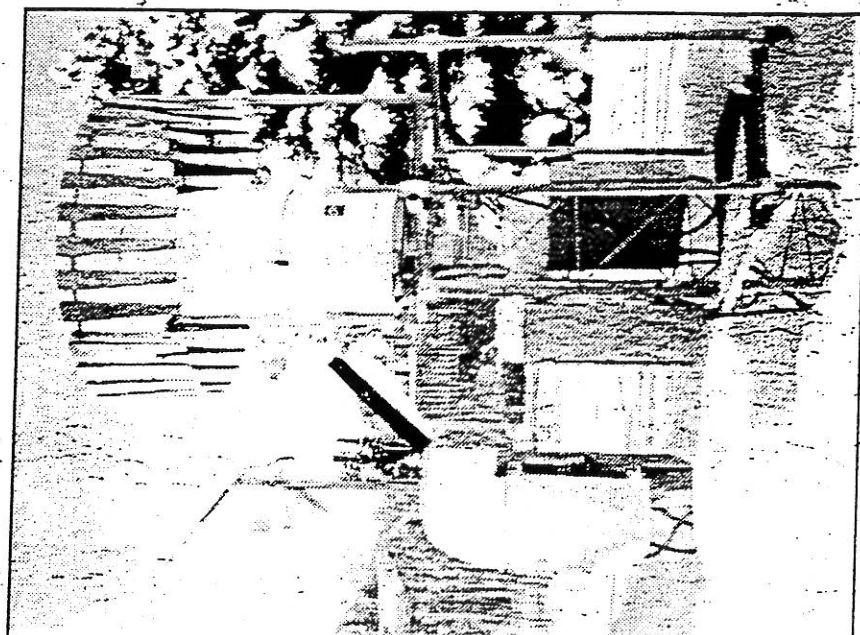
avalanche.

Since avalanches don't happen by accident, and since the majority of human involvement in avalanches is a matter of choice, not chance, most deaths by avalanche could have been avoided.

Avalanche education is the best tool skiers, boarders, snowshoers, walkers and snowmobilers can take into the backcountry. This includes skiing out of ski area boundaries.

"Education. Educate yourself. Don't just follow tracks. Whoever made them may know less than you, and, besides, just because a slope has been tracked doesn't mean it is always stable," Devereaux said when asked what is the most important thing she would like to advise people going into the backcountry.

Devereaux, one of three forecasters at the center, typ-



WEATHER STATIONS such as this one are situated on Titus Ridge, Bald Mountain, and the National Avalanche headquarters in Ketchum.

ically forecasts three days a week. One or two other days she "goes into the field" to study the stability of the snowpack in different areas of the valley.

Such field trips mean that she goes backcountry skiing with a shovel and a saw to dig pits and determine the stability of the snowpack in any given location.

Unlike the recreation backcountry skier, Devereaux's focus is as much below the surface of the snow as upon it. She also works as a guide for Sun Valley Heli-Ski guides, and at night she works as a waitress at the Ketchum Grill.

On a typical forecasting day after a snowfall, she rises at 4 a.m. and goes to the Forest Service headquarters in Ketchum where all the avalanche data for the area is collected. This data includes information on precipitation, wind and temperature, both current and past, from permanent weather stations at the Ketchum headquarters, on Titus Ridge near Galena Summit, and on top of Bald Mountain.

Personal observations from other forecasters, the Sun Valley Heli-Ski guides, the Sun Valley Ski Patrol, backcountry skiers, who are encouraged to phone in reports, and the historic avalanche patterns of the area also are part of the data.

After studying and digesting all this information, Devereaux makes a determination about conditions and writes the daily Backcountry Avalanche Advisory and Weather Forecast and puts it on the Internet site by 7 a.m. for anyone who is interested to read. The Avalanche Hotline at 788-1200 ext. 8027 is also updated daily.

Avalanche forecasting is part science, part art, part intuition, part luck and largely a matter of experience. Anne Marie Devereaux, who has a BS degree in environmental science from Western Washington College, is solidly grounded in every facet of avalanche forecasting. She has been working in the field for 15 years;

Express photos by Dick Dowdall

ANNE MARIE DEVEREAUX collects information from weather stations, backcountry skiers, heli-ski guides, ski patrollers and staff to create the daily avalanche forecast for the area. One or two days per week, Anne Marie Devereaux heads into the backcountry to test snowpack conditions.

including time in Stevens Pass, Wash., which, she says, has the biggest avalanche problems in any ski area in America because of steep slopes and the "heavy maritime snowpack" of the Northwest. She also worked on the ski patrol in Telluride, Colo., where the "intermountain snowpack situation" is completely different in what causes most avalanches.

Devereaux, 35, came to the Wood River Valley in 1995 from Telluride. She lives with her husband, photo editor Chris Gardner, in Hailey.

"I am fortunate to be able to work with the true masters of snow and avalanches and the mountains who live in this valley. I am gaining experience and knowledge all the time, and am continually reminded of how much there is to learn," she said, referring to her fellow forecasters, ski guides and ski patrollers she works with.

Her humble, informed attitude in the face of mountain snow conditions might well serve as the first lesson.

Merry Christmas from the Sensational Toastpoints

By DICK DORWORTH

Express Staff Writer

The Sensational Toastpoints, aka the Toastpoints, will deliver their Christmas present to the community of the Wood River Valley a little late this year.

Saturday night, Jan. 9, at the nexStage Theater in Ketchum, to be exact, after the influx of Christmas holiday tourist madness has subsided and local people are able to indulge in a local and festive evening.

The Toastpoints, the Wood River Valley's beloved band of local musicians who play "danceable eclectic pop/rock music that is 94 percent original," according to one band member, is giving the community a benefit concert to raise money for the Sun Valley Avalanche Center.

In a community where a significant number of its members spend a significant

death by avalanche, the work of the Sun Valley Avalanche Center is and has been and will continue to be the difference between a skier, showshoer or snow-mobiler dying of ignorance or living through awareness. It is not too much to say that supporting the Sun Valley Avalanche Center is the gift of life to someone, someday, somewhere in the back country.

That's a pretty nice Christmas gift to give your community.

In addition to music by the Toastpoints, dancing, fun fun fun, and beer and wine, there will be prizes and a silent auction. Prizes include copperwork by Chris Klick and outdoor products from LifeLink, Marmot, The North Face, Sun Valley Trekking, Yurt Rental, Voile, Rainey Bindings, Thermarest, Nikwax, MSR, snow-

shoes, Crazy Creek Chairs, Pieps and other items.

The Sensational Toastpoints is composed of five well-known, sensational local men of eclectic talents and interests:

Erasmio Paulo, 53, plays saxophone. Paulo runs The River Company, a rafting company out of Stanley, with his wife Olivia.

Josh Kelly, the youngster at 32, is a professional drummer, "a jazz/country session guy," who plays with everybody in town, from Bruce Willis to the Bobos.

Ridley Pearson, 45, an ex-touring rock and roll musician turned best-selling mystery/thriller novelist, plays bass.

Fletcher Brock, 43, is an accomplished luthier and woodworker who grew up in an artistic/musical environment, including the presence of Arlo Guthrie and friends. Fletcher

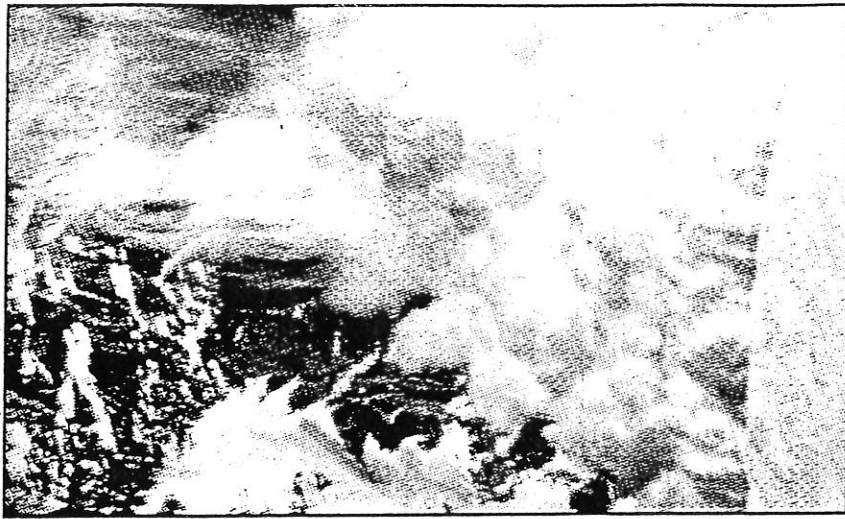


PHOTO BY BOB DORWORTH

'Snowball' gets rolling this Saturday

If you didn't get enough revelry during the holidays, be sure to keep your calendar open for Saturday, Jan. 9.

That's when the Friends of the Sun Valley Avalanche Center and the Sensational Toast Points throw a benefit "Snowball" at the nexStage Theatre in Ketchum; festivities start at 7 p.m. and continue until midnight.

The \$10 cover charge from this benefit concert will raise funds for the Sun Valley Avalanche Center and its many services.

Music, dancing, beer, wine and snacks are all on the agenda, along with a raffle and silent auction prizes throughout the evening. Raffle tickets will be available for \$2 each or 6/\$10 at the Snowball and beforehand at local shops like Backwoods Mountain Sports, Sun Summit Ski & Cycle, The Elephant's Perch and from roving "Friends."

Winners need not be present at the Snowball to win. Prizes include lots of outdoor gear and clothing from companies like

North Face, Voile, Marmot, Life Link, MSR, Smith Sport Optics, Crazy Creek and Nik Wax; gift certificates from local restaurants; \$150 worth of handmade copperwork by Chris Klick; and, for the grand prize, a pair of The Skis donated by Bobbie Burns. For additional information, call Michael at Backwoods Mountain Sports, 726-8818.

For those unfamiliar with the Sun Valley Avalanche Center, it is part of the national network of Forest Service avalanche centers and receives half its funding from the

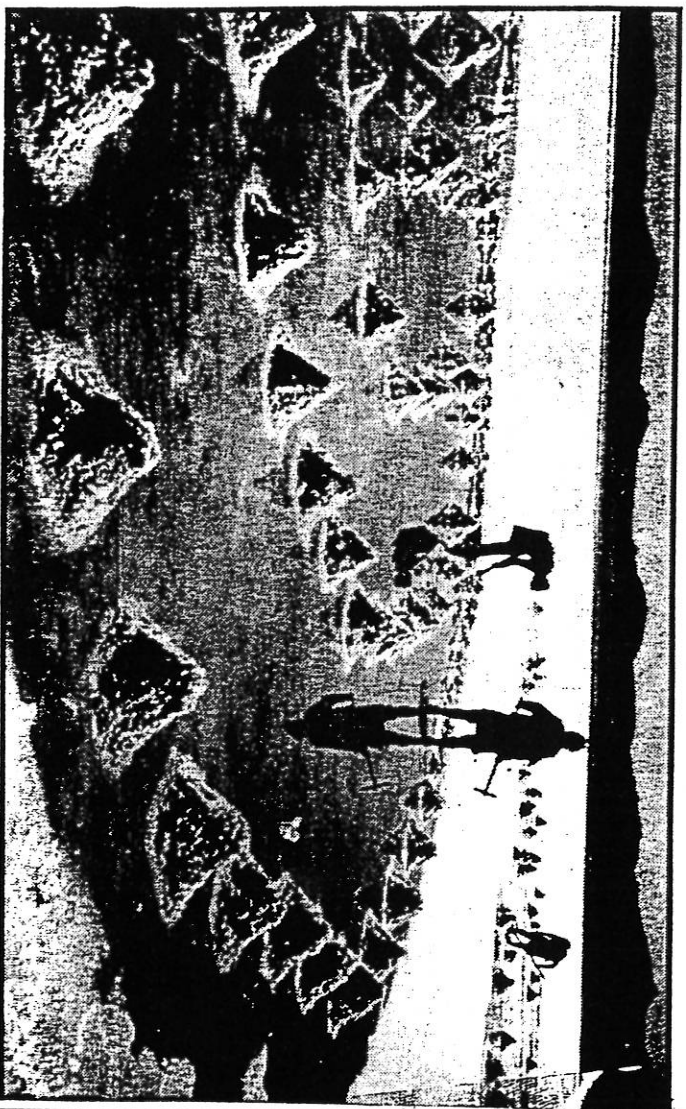
U.S. Forest Service and the other half from community fundraisers and donations. The Center provides a daily Avalanche Hotline on JournalLink at 788-1200, selection number 8027, that consistently provides the most accurate snow and mountain weather conditions, avalanche hazard evaluation, educational tips and related events.

The Center also provides avalanche education programs for a broad spectrum of ages, recreational activities and abilities.

Please see page 2

B2

Wood River Journal ARTS & LEISURE Wel



A scene from 'The Saltmen of Tibet.'

Snowball.

"DAZZLING, JAW-DROPPINGLY BEAUTIFUL CINEMATOGRAPHY!"

"A spiritual palate cleanser!"
-NEW YORK TIMES

The Saltmen of Tibet

a film by ULRICH KOCH

FOUR SHOWINGS ONLY

at The Magic Lantern Theater in Ketchum

SUNDAY, JANUARY 10th

MONDAY, JANUARY 11th

at 2:00 & 4:30 p.m.

Proceeds to Benefit

THE SUN VALLEY AVALANCHE CENTER
& "THE OLD PEOPLE'S HOME"

run by the
TIBETAN WOMEN'S WELFARE GROUP
in Kathmandu, Nepal

Tickets: \$10 Adults · \$5 Children

COMMUNITY

Snow Ball raises over \$10,000 for Avalanche Center

Saturday Night

Fever at

nexStage Theatre

BY HANS IBOLD

Express Staff Writer

The dance floor was packed and the kegs were emptied at the Avalanche Center's Snow Ball fundraiser on Saturday, Jan. 9 in Ketchum.

Over 400 guests paid \$10 at the door and purchased raffle tickets for prizes. A silent auction for recreational gear and gift certificates was also held through the night.

The benefit, which raised close to \$10,000 for the center, was organized by the Friends of the Sun Valley Avalanche Center.

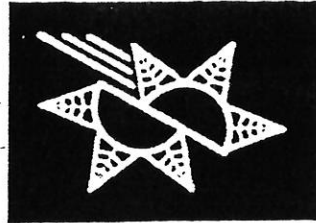
Local sponsors included Ketchum Grill, Sun Valley Helix-Ski, Sun Valley Trekking, The Elephant's Perch, Backwoods Mountain Sports, Woodside RV, Bigwood Autobody, Vests of the West, Briko of Idaho and Blaine County Sports Medicine.



Express photo by Willy Cook

THE SENSATIONAL TOAST POINTS

pleased a packed Snow Ball house at Ketchum's nexStage Theatre during the Avalanche Center benefit Jan. 9. They are, from left, Fletcher Brock, Josh Kelly, Ridley Pearson, Erasmo Paolo and Amos Calipari.



**SUN VALLEY
AVALANCHE
CENTER**

***Our 1999 Fundraiser was a great success!
Many thanks to everyone who made this happen!***

Nancy Monk
Michael Malko
Steve Wolper
Jon Plummer
Kathy Rivers
Gordon Gammel
Mike Kraynick
Britt Butler
Steve Butler
Rob King
Shirley Studebaker
Chris Gardner
Phil Morich
Nancy Post
Taul Paul
Andy Munter
The Toastpoints
Big Wood Bakery
Hayden Beverage
Sun Valley Brewery
Tom Nickel -
Sawtooth Club
NextStage Theater
Galena Backcountry
Patrol

Gary Stivers-KECH
Backwoods
The Elephant's Perch
Sturtevant's
The Mountain Express
Wood River Journal
Big Wood
Body & Paint
Brico
Elk Ridge Mountain Inn
Gary's Freeway RV
Sawtooth Auto
Sutton & Sons
Williams Motor Sports
F-Stop
Hailey Chiropractic
Pro Line Sports
Idaho Lumber
Guffy's
Woodside RV
Topnotch Furniture
River Run Auto Parts
Crazy Creek
The North Face
Black Diamond

Ketchum Grill
Sonja Summer
Tubbs Snowshoes
Galena Lodge
Blaine County
Sports & Fitness
Vests of the West
Voile
Sara Bergquist
Life Link
Smith
Ski Tek
Sun Summit
Garth Callaghan
Moishe
Sun Valley
Sports Medicine
Johnny G's Sub Shack
Sun Valley Trekking
Marmot
Yukon Trading
Sun Valley Heli-Ski
Patagonia -
Mark Harbaugh
KRIS KLINK

Additional Special Thanks To:

Tina Cole
Jane Watkins

Rick Kessler
Magic Lantern Theater



WORDS OF WISDOM FROM ON HIGH - Janet Kellam with the Sun Valley Avalanche Center gives a group of skiers tips on gauging avalanche dangers in the Galena backcountry. Participants took a break on a sun drenched saddle just below the area known as Avalanche Peak. (Photo by Christopher Ehlers)

Learning to return

Avalanche survival class teaches vital skills

By **CHRISTOPHER J. EHLERS**
Wood River Journal

On a bright, clear, dry Saturday afternoon, a large group of backcountry skiers venturing up Galena stumbled upon Janet Kellam, hysterical at the notion that three of her friends had just been swept away by a sudden avalanche.

The group of 10, all outfitted with avalanche survival gear, quickly fanned out, switched their beacons to receive the high pitched beep for help and began a harried search for signs of life.

Two of the three victims, Fred and Sally, were wearing beacons, whose electronic signal can be picked up at a distance up to 30 meters away. The third victim, Betty, was not wearing a beacon.

Ironically, Betty was found first. A stray glove and ski pole led searchers to her location.

Given the cacophony of beeps overlapping one another, the searchers knew that Fred and Betty were nearby. But the resounding, and often confusing, beeps, combined with the slipping away of time, made each probe, each shovelful of snow, each moment that passed, the more critical.

Eventually, the entire group was located... fortunately, this group of missing skiers was nothing more than duffel bags.

And the concerned friend, Janet Kellam, with the Sun Valley Avalanche Center, was in fact leading a group of 10 outdoor enthusiasts on a field session to explore a number of avalanche prevention related activities.

"Not only do we go out and look at the snow and snow layers, but we also practice with beacons and rescue techniques," Kellam said this past Saturday morning at the Ketchum Ranger District office, before leading the group to

Galena, then on an uphill hike about a mile to an area called Avalanche Peak.

After the mock rescue, the group critiqued their efforts, with Kellam offering insights on managing a more effective recovery.

"Communication is the biggest thing," she said, focusing on the need to designate a team leader to direct rescuers. "Nobody wants to be the jerk, calling out orders, but often times it's extremely necessary."

The leader, physically removed from the emotional stress of the often frantic hands-on search, can better assess the situation and offer other avenues or tactics maybe overlooked by rescuers in the battle against the clock.

"Often, your best asset is your brain," smiled Kellam.

Before traversing to Avalanche Peak to dig snow pits on the 30 degree slopes for an analysis of layers and overall stability of the snowpack, Kellam discussed the importance of being aware, at all times, of the surrounding elements that might affect conditions.

"It is importance to have your antennae out at all times, all day long," Kellam implored.

Telltale signs of a possible unstable snowpack could be collapsing or cracking snow; a great deal of wind, piling snow along ridgelines; a woomphing sound when walking, indicating a solid layer compacting onto a much weaker layer; sudden weather changes such a heavy snowfall or drastic temperature change; and, the most prominent sign of danger, evidence of recent slide activity in a given area.

Once at the peak, three groups fanned out to dig pits, measure the depth of the snowpack, analyze the layers as well as the

composition of individual layers and conduct shear ratings, compression tests, moisture definitions and hardness scale.

Utilizing a two-ski-length parameter to map out a square within the pit and up the slope, a Rutschblock test (Swiss for glide block) was conducted to gauge the snowpack's stability.

At the site of one pit, Wendy Sullivan maneuvered up and around to the top of the block, nestled against the 34-degree slope and, with skis firmly attached, aligned herself parallel to the block's edge.

Then, with varying degrees of pressure, Sullivan, who spends most her days enmeshed in subdivision applications as a planner with the county P&Z department, proceeded to apply varying degrees of pressure, from gently stepping onto the block to jumping up and down.

The purpose of the Rutschblock test is to observe at what point the segmented block of snow collapses and gives way down the slope. The more pressure needed, the more stable the snowpack.

On this day, even in spite of Sullivan's best efforts to dislodge the block, it didn't budge. A good indication of safe conditions, but, as with all things subject to the whims and forces of nature, not 100 percent foolproof.

Nevertheless, Kellam would never venture into territory, especially unfamiliar territory, for a day of backcountry skiing without first getting a feel for conditions of the snowpack.

"If you want to know what the dragon's doing, you've got to get into the den," she said, citing a well-used quote by people who make their living analyzing avalanche hazards.

Wood River Journal

For the week of Wednesday, February 10, 1999

2 Secti

EXPRESS



Heavyweigh snowstorms pound area

By CHRISTOPHER J. EHLERS
Wood River Journal

When it rains... er snows, it pours.

And boy, oh-boy, did the Wood River Valley get a dousing white stuff over the past few days.

The 25-year average for the month of February is a tad over 10 inches of snow hitting the ground, as tracked at the Ketchum R Station on Sun Valley Road. As of noon yesterday, 33 inches of snow has fallen since Saturday, a period of not even four days.

Add the single inch recorded on Feb. 1, and the total far exceeds the average, with 18 days left in the month to try and reach the record 76 inches that fell in February 1996.

The deluge of flakes has wreaked havoc on traffic, closed roads, interrupted power service, disrupted wildlife, increased avalanche hazard and stretched street crews' efforts at razing the mounds of the seemingly never ending snow.

A veritable army of bulldozers, dump trucks, plows and any other vehicle capable of displacing snow has been working practically non-stop up and down the valley since Saturday evening.

In Hailey, street superintendent Allan Stowell's 16-person crew combusted a copious amount of fuel in an attempt to maintain a semblance of order.

By Monday afternoon their efforts had resulted in 130 dump loads of heavy, wet snow deposited at Lions Park, where a couple smaller Cat tractors busily rearrange the stuff around the parking lot.

"This was the biggest one we've had in a while," said Stowell.

Please see page 18

Avalanche hits home

By SUSAN BAILEY
Wood River Journal

Two homes in East Fork canyon were hit by avalanches yesterday afternoon, with neighbors reporting snow debris at least 30 feet deep.

Damaged in the Feb. 9 avalanche were the residences of Patrick Collins, 105 Thunder Road, and Kim Robert Shaw, 109 Meadowbrook Road. Both homes are in the Thunder Meadows subdivision, about five miles from East Fork canyon.

Blaine County Sheriff Deputy V. Fruehling said the Collins house sustained greater damage than the Shaw residence. He said the avalanche crossed the East Fork of the Big Wood River.

Please see page 18

February 10, 1999
Vol. 27, No. 12

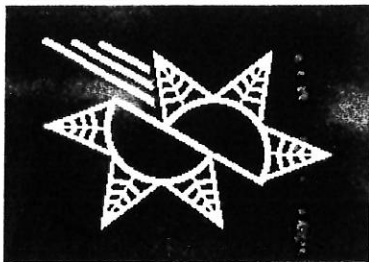
Avalanches

Strike East Fork

Three homes damaged

Page A3





SUN VALLEY AVALANCHE CENTER

USEFUL INTERNET SITES FOR SNOW & WEATHER

Utah Mesonet

<http://www.met.utah.edu/jhorel/html/mesonet/data.html>

http://www.met.utah.edu/cgi-bin/devel/meso_station.cgi?area=1

<http://www.met.utah.edu/cgi-bin/devel/time.cgi?stn=SVT>

SNOTEL

<http://idsnow.id.nrcs.usda.gov/snow/snotel.htm>

<http://idsnow.id.nrcs.usda.gov/snow/>

Missoula Regional Map for RAWS, SNOTEL, airports etc.

<http://nimbo.wrh.noaa.gov/Missoula/nwsomso.sfcrgl.html>

Weather

<http://www.boi.noaa.gov/>

<http://www.boi.noaa.gov/Fast/fastID31.html>

Baldy/Titus unavailable in off-season

<http://www.sunvalley.com/weather/titus.txt>

<http://www.sunvalley.com/weather/sv2.txt>

<http://www.sunvalley.com/weather/sv.txt>

Avalanche sites

*{ avalanche.org
csac.org*

SVAC homepage = avalanche.org/~svavctr