ANNUAL REPORT

2013

Public Safety in Avalanche Terrain

The Utah Avalanche Center is a partnership between the Uinta-Wasatch-Cache National Forest and the nonprofit group Friends of the Utah Avalanche Center. Additional major funding comes from:

Utah Division of State Parks and Recreation, Utah Division of Emergency Management, Salt Lake County and Salt Lake Unified Fire Authority

AVALANCHE OVERVIEW

Our goal is to keep people on top of the greatest snow on earth instead of buried beneath it

Where do avalanche accidents occur?

Ninety nine percent of all avalanche fatalities occur in the backcountry—areas outside of ski area boundaries where no avalanche control is done. Ski areas and highway avalanche control crews routinely knock down avalanches with explosives before the public arrive each morning. They have done their jobs so well that since 1980, less than one percent of avalanche fatalities have involved general public on open runs at ski areas or on open highways.

What kind of people get caught in avalanches?

Ninety two percent of people killed in avalanches since 1985 have been recreationists, and they are almost always very skilled in their sport. In almost all cases their skill in their sport significantly outpaces their avalanche skills. Looking at the most recent 10 years of national data, snowmobilers lead the list followed by backcountry skiers, snowboarders, climbers and miscellaneous recreationists such as hikers and snowshoers

How do people get caught?

In 93 percent of avalanche fatalities, the avalanche was triggered by the victim or someone in the victim's party. Which is actually good, because most of the time, we can avoid avalanche accidents through our route finding and snow stability decisions.

In summary, avalanche fatalities occur almost exclusively in the backcountry, almost always involve recreationists, and almost all avalanche incidents can be avoided if we choose. We give backcountry travelers the weapon of knowledge.

How to access up to date avalanche information

Our avalanche advisories give the public critical avalanche information they need to make their life-and-death decisions in avalanche terrain and we forecast snow stability and weather trends into the future. Our information helps the public to decide what kind of terrain is safe, what kind is dangerous and we give them useful clues to look for when they venture into avalanche terrain

The public can access these advisories in the following ways:

- The Internet
- Recorded telephone message updated each day
- Regular live interviews on radio stations
- E-Mail
- Podcasts
- In times of extreme or unusual avalanche conditions, we issue an avalanche warning that reaches all the broadcast and print media as well as NOAA weather radio.

Finally, we "preach the avalanche gospel" as much as possible to the local, national and international media. The Forest Service Utah Avalanche Center staff has been featured on dozens of national and international documentaries about avalanches and they regularly appear on the national television news.

Avalanche education

The UAC staff teaches about 15 free, basic avalanche awareness classes each season and the Know Before You Go program teaches 125 free classes and reach over 15,000 people per year. These not only give the public an overview of the avalanche problem, but also some basic avalanche skills. These classes encourage the public to take a more involved avalanche class offered by the private sector.

Our Communication Philosophy

Just because people read or hear the information doesn't mean they pay attention. Therefore, we try to make the advisories entertaining so that people will remember what they read and hear and enjoy the experience enough to use the advisories regularly. We try and use all the standard tools of effective writing and speaking such as using active voice, first person, personal examples and stories to illustrate points, humor where appropriate and reading the bulletins in a natural voice, like talking to a friend. The recorded bulletins are informal, chatty and funny, yet informative. The Internet-based products are graphically-based and easy to understand. The advisories are extremely popular with over 2 million page views on our web site.

A LOOK UNDER THE HOOD

The UAC is operationally separated into five regions:

- Logan area Mountains (Wellsville and Bear River Ranges).
- Wasatch Mountains (Ogden, Salt Lake, Park City and Provo area mountains
- Western Uinta Mountains (Mirror Lake Highway, Weber Canyon, Evanston WY, Daniel's Summit)
- Manti Skyline (Fairview Canyon – Wasatch Plateau)
- La Sal Mountains (near Moab)

All of our forecasters are Forest Serve employees. Toby Weed staffs the Logan operation. A generous contribution from the Utah State Parks funds this position.

Based in Moab, Max Forgensi forecast for the nearby La Sal Mountains. The Moab office is located in the Moab Ranger District on the Manti-La Sal National Forest.

Craig Gordon issues forecasts for the western Uinta Mountains as well as the Manti Skyline, does the lion's share of avalanche education for snowmobilers in northern Utah and developed the Know Before You Go awareness program. This position is supported by a generous contribution from Utah State Parks and the Friends of the Utah Avalanche Center.

Last, but not least, the vast majority of the backcountry use occurs in the Wasatch Range of northern Utah. A staff of four full time workers covers the Ogden, Salt Lake City, Park City and Provo area mountains—arguably the most heavily used mountain range in the U.S. Bruce Tremper, in his 26th season, is the Director. The rest of the very experienced Salt Lake staff include: Evelyn Lees, Drew Hardesty and Brett Kobernik. All are Forest Service employees under the Uinta-Wasatch-Cache National Forest. The Salt Lake office is co-located with the National Weather Service at the Salt Lake International Airport.

Finally, a private, nonprofit group, the Friends of the Utah Avalanche Center, contracts a number of "volunteer" observers, who receive $10 per day for taking the extra time to call or e-mail their observations after they return home at the end of an outing.

The Utah Avalanche Center is a collaborative effort between the Forest Service under the Uinta Wasatch-Cache National Forest and the Manti-La Sal National Forest, in partnership with Utah State Parks and Recreation, Utah State University, the State of Utah Department of Public Safety, Division of Emergency Management, Salt Lake County, the National Weather Service and private contributions through the Friends of the Utah Avalanche Forecast Center.

Utah Avalanche Center Forecasters

From left, Brett Kobernik, Bruce Tremper, Toby Weed, Evelyn Lees, Drew Hardesty, Craig Gordon,
not pictured, Max Forgensi

CONTACT

Ways you can find the critical avalanche information and contact our office

Co-located with the National Weather Service

A big thanks to Larry Dunn and his staff!!

The public can access bulletins in the following ways

Telephone

- All Areas (courtesy of Backcountry.com). (888) 999-4019
- Manti Skyline (courtesy of Utah State Parks). (800) 648-7433
- Snowmobile hotline (courtesy of Utah State Parks). (800) 648-7433

Radio Stations

- KPCW 92 FM (Live interview, 8:06 am weekdays)
- All other radio stations via both long and short podcasts.

Internet

- www.utahavalanchecenter.org (Friends of Utah Avalanche Center)
- www.wrh.noaa.gov/Saltlake (National Weather Service)

E-mail

We offer daily automated e-mail of the advisories free of charge. About 3,600 e-mails are sent each day.

To contact our office

- PHONE: (801) 524-5304
- FAX: (801) 524-4030
- EMAIL: uac@utahavalanchecenter.org

To contact the Friends of the Utah Avalanche Center

- PHONE: (801) 365-5522
- EMAIL: friends@utahavalanchecenter.org

The Utah Avalanche Center welcomes any questions or feedback from the general public. We would love to explain our organization to anyone who is interested in the different functions that the Utah Avalanche Center has.

2012-2013 POINTS OF INTEREST

FUAC and Forest Service sign a Memorandum of Understanding

After years of developing an unofficial relationship, the FUAC and Forest Service signed an MoU defining the respective partnership roles. The relationship has frequently been a source of confusion in the past and the Utah Avalanche Center is now officially a collaborative effort between the Forest Service Utah Avalanche Center and the non-profit Friends of the Utah Avalanche Center

Permanent Forecaster Position Added

After years of having one forecaster employed on a seasonal basis, a permanent position was created. Brett Kobernik, long- time seasonal forecaster, was hired for that position, adding to the long-term stability of the UAC.

Mobile Device Application

The UAC teamed with Backcountry.com and Garafa, LLC to develop a mobile application to download essential trip planning information from the UAC, NWS, and UDOT in a convenient application for iPhones. Included in that app is a tool for determining GPS position and slope aspect and steepness and the capability of sharing that information in rescue situations .

Warm, Stylish Forecasters

Outdoor Research continued their clothing sponsorship for the 2nd year, providing clothing for Forecasters and for fund-raising resale. Klim joined this program this year, providing snowmobile clothing and footwear. Being outfitted with the latest in clothing technology is important, both to keep forecasters safe and comfortable and to add to their credibility within their respective riding communities.

Website Upgrade

Over the summer of 2012, UAC Director, Bruce Tremper chaired a committee of other avalanche centers in our region to create a unified look-and-feel for avalanche advisories, which translates into not only an appealing, intuitive design but less confusion to the public as they travel between regions. This design also matches many of the other websites in other countries, especially Canada and New Zealand. We implemented the new design during the 2012-13 season and Colorado will implement the design in 2013-14. On the “back end”, Brett Kobernik and Jason Hill worked together to upgrade the no longer supported Drupal 5 version of the website content management system to the Drupal 7 version. These improvements allowed us to keep the website stylish, effective and working smoothly.

SNOW AND AVALANCHES

The Avalanche involvements reported to us included 51 caught and 34 carried, 10 partial and 6 full burials, and four out of 24 nationwide fatalities. Colorado alone has suffered nearly half of the national fatalities with 11. The Alta Guard Station in upper Little Cottonwood Canyon, with annual snow measurement going back to the 1944/45 season, recorded a well-below-average 381.5"/33.13" (snow/water as measured November 1 – April 30) for the year, 76% of average.

If you look at the pure numbers, we suffered our "average" number of fatalities across the state – 4 – but this year was different in that the Utah avalanche community lost one of its own. On April 11th, Craig Patterson, a Utah Department of Transportation Avalanche Technician, was tragically killed by an avalanche as he performed routine fieldwork in Big Cottonwood Canyon.

A couple weather events that caught our eye included

- Four rain events in the last day of November through the first week of December (a portent of things to come?)
- The "upside down" storm of January 10-12 that put a foot of snow in the mountains and up to 20-44" in the valleys and mid-elevations… followed by…
- as Professor Jim Steenburgh of the University of Utah Meteorology Dept. put it "The Mother of All Inversions" – A bullet-proof ridge of high pressure parked itself over Utah, sending temps down to -46F (near Logan) and -21F (Solitude). Not coincidentally, declining air quality in the valley made national news, comparing our choking smog with areas of China.

Overall, the season was characterized with a more stable snowpack than the previous 2011-12 winter season despite only receiving about 60 more inches of snow. This was due to a more consistent storm pattern which helps reduce persistent weak layer formation.

SEASON SUMMARY

Top - Large fresh wind slab take out skier tracks in Big Cottonwood

Middle - A close call on the Manti Skyline with a snowmobile and rider partially buried

Bottom - Large avalanche in Cardiff Fork, April 2013

Left - Wind loaded slope released from snowmobile

AVALANCHE INCIDENTS AND ACCIDENTS

Left: A close call in Dutch Draw near Canyons Ski Resort.

Lower Left: Site of full snowmobiler burial and successful beacon recovery - Monte Cristo.

Below: Partial and full burial with successful beacon recovery - Porter Fork.

Fatal Accidents:

There were 4 avalanche fatalities during the 2012-13 winter season which is average. There were a number of close calls where the victims were completely buried and dug out by partners using avalanche transceivers.

Thin snow cover and extended periods of dry conditions in the early part of the season formed faceted snow that was then buried and remained weak under the slab. These 'sugary' faceted snow grains that collapse under the slabs are the biggest contributor to avalanche fatalities in Utah as well as most of the intermountain and continental climates of the western U.S.

Compiling accident reports is a very difficult duty of an avalanche forecaster and our hearts always go out to the people that the accident has effected. Go to utahavalanchecenter.org for the full reports.

UNINTENTIONAL HUMAN TRIGGERED AVALANCHES	TRIGGERED	CAUGHT	INJURED	KILLED
	95	52	6	4

WESTERN UINTA MOUNTAINS - MILL HOLLOW, JANUARY 18, 2013

A family was out for a day of snowmobiling on the West Fork of the Duchesne. During lunch, four young family members walked to the edge of what appears to be a packed trail, but instead, it was the edge of a cornice, which collapsed under their weight. It also triggered an avalanche on the small slope below and two boys ages 7 and 14 were caught, carried, and subsequently buried at the bottom of the short slope, which terminated in a creek bottom.

While the father looked for the two boys, the mother jumped on her snowmobile and headed towards the trailhead to find help. She ran into State Parks grooming personnel who activated 911. Wasatch and Summit County S&R along with two medical helicopters were dispatched. The small avalanche path is difficult to locate, but when the medical helicopters landed, they discovered the father performing CPR on both of his sons.

Unfortunately, the two boys passed away later in the evening at the hospital.

MANTI-SKYLINE - LONG CANYON EAST OF 12 MILE CANYON, MARCH 1, 2013

A group of snowmobilers were playing in a broad flat bottom valley with small steep slopes on the west side. The group was separated somewhat as everyone was having fun on different terrain features. At about 4 o'clock, the group noticed that one member was missing. They backtracked a bit to find a fresh avalanche on a steep, east-facing slope and figured he must be buried in it. There was no sign of him or his snowmobile and he was not wearing an avalanche beacon. The group was not able to locate him and were forced to call search and rescue. The search and rescue team arrived and was able to finally locate part of the buried snowmobile. The victim ended up being buried beneath the snowmobile and the rescue team extricated him but it was too late.

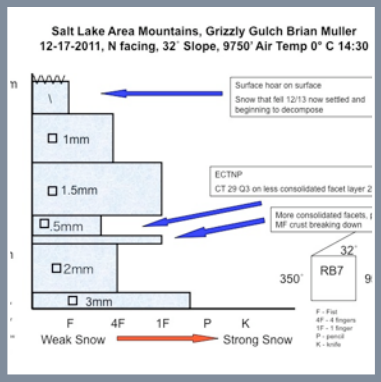
The Manti-Skyline region had a distinct difference in snow structure and stability than northern half of Utah because it had a much shallower snowpack, which harbored quite weak faceted snow that formed in December and January. The avalanche occurred after a period of snow and wind, which overloaded the weak layers.

MT KESSLER - BIG COTTONWOOD CANYON, APRIL 11, 2013

A Utah Department of Transportation avalanche forecaster was killed while on duty as he performed routine field work alone on Mt Kessler, which has several avalanche paths that threaten the highway in Big Cottonwood Canyon. He had ascended a usually-safe, heavily forested, north-facing ridge. As he neared the top, his climbing track terminated at a 6-inch-deep avalanche flank fracture on a small ridge, which separated the gentler, wind-eroded terrain he had ascended from the much steeper, wind loaded, northeast facing slope where he apparently triggered the avalanche. The avalanche carried him down about 1100 vertical feet through very steep, rocky terrain with many trees. He deployed his avalanche airbag and was found on top of the debris. He was most likely killed by trauma from hitting rocks and trees during the avalanche. Even though it was only a relatively small wind slab, the terrain was very unforgiving.

It's still unclear exactly how the accident occurred. He was found in "uphill mode" with climbing skins on this skis, heel lifts up, lightly dressed and without the waist belt buckled on his avalanche airbag pack. Thus, we would like to believe that he did not intend to travel onto the slope where the avalanche occurred. Perhaps something unforeseen occurred as he stood on the ridge separating the two slopes. But unfortunately, we will never know.

PROGRAMS AND PARTNERSHIPS



Know Before You Go

The Friends of the Utah Avalanche Center offers a free Avalanche Awareness program for less experienced users, which are presented in schools, youth groups and local snowmobile and ski shops across Utah. The KBYG program helps make the backcountry more safe and accessible for a new generation of backcountry users. During the 2012-2013 season we gave 152 presentations reaching 8,450 people. The program is an hour long and consists of a very entertaining video, a power-point and a Q&A session. Local Utah athletes have helped in creating the 'KBYG' video and spreading the avalanche message.

Are You Beeping?

The UAC has provided 15 "Are You Beeping"signs and beacon checkers implemented at ski resort backcountry gates and 14 major snowmobile trailheads statewide. The signs have been a huge step in our ongoing efforts to reach a critical user groups. A Regional Forest Service grant allowed for a graphic design and marketing consulting group to develop new signs with a fresh, attention-grabbing, easy to understand message. Ten signs were printed and the artwork was provided to other region 4 avalanche centers to implement this program regionally. We purchased 5 new BCA beacon checkers this season to replace aging units and add checkers to more popular trailheads.

Lift Ticket Partnership

Many thanks to Backcountry.com, Ski Utah, and all our great ski resort partners for their very generous support with this year's discount lift ticket program. The ski resorts donate lift tickets which are in turn sold at a discount by Utah Avalanche Center through Backcountry.com. All of the proceeds ($43,000) went to the Utah Avalanche Center to help fund operations. We continue to enjoy a great relationship with the Utah resorts, communicating regularly on snow conditions and cooperating on avalanche education for pros and the public.

Observer Program

The Utah Avalanche Center has nurtured a group of dedicated backcountry users who submit their observations which help to produce daily avalanche forecasts. This group is paid a nominal amount to call in or submit an online form describing what they see in the backcountry. The group ranges from hard core recreationalists to snow safety professionals. They are extremely valued contributors and are the envy of many other avalanche centers within the U.S.

Utah Snow and Avalanche Workshop

The fifth annual Utah Snow and Avalanche Workshop (USAW) brought 650 avalanche professionals and high-end backcountry users together for a day of informative, well rounded, and easily digestible avalanche presentations. The morning is an invite only, professional development session. We focused on weak snow issues that plagued nearly all western regions last winter. The afternoon is open to the public and presentations included information overload, decision making, close calls, and sadly, avalanche fatalities.

WEB AND CALL STATISTICS

Due to a glitch, we were not able to count our web statistics this season. But last season we had **two million** web page views! That averages about 11,000 page views per day from late October through early April.

As usual, when we look at page view numbers for the different regions, Salt Lake is the most viewed advisory. The Salt Lake emailed advisory is also included. The Salt Lake region is the only region that emails the advisory. About 40% of the emails are opened which adds up to about 210,000 views.

The number of people who get their avalanche information over the telephone recordings continues to drop as more and more people access critical avalanche information using the internet, both through their computer and mobile devices. In other words, 15 times more people access the advisory over the web than through the telephone recordings.

Still, the telephone information is important because many people tell us that they like to check the recordings while they are driving to the trailhead.

MEDIA CONTACTS

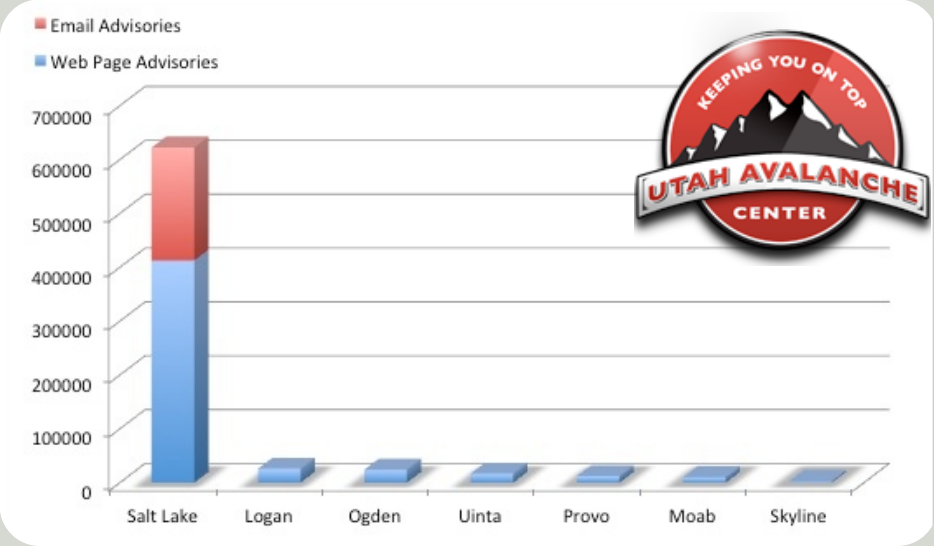
The UAC forecasters documented over 70 media contacts this season, and the real number is likely well over 100 because we handle so many requests during avalanche warnings that some go unrecorded. In addition we do daily, live radio interviews each morning on local Public Radio station KRCL and KPCW, a Saturday morning interview on KSL and a Friday night live call on Park City TV. Our daily short pod cast is also picked up by some radio stations, and the Salt Lake Tribune posts the daily danger ratings for all the regions on their weather page. Finally, we often post avalanche warnings as a heads up on popular ski and snowmobile website forums.

Many of our local media contacts are with the four Salt Lake city local TV stations. Sometimes this involves a taped or live interview with one of our forecasters, but more and more, they provide avalanche information from our web site on their own initiative, especially during storm cycles. We believe the local TV news is an excellent way for critical avalanche information to reach a broad group of people.

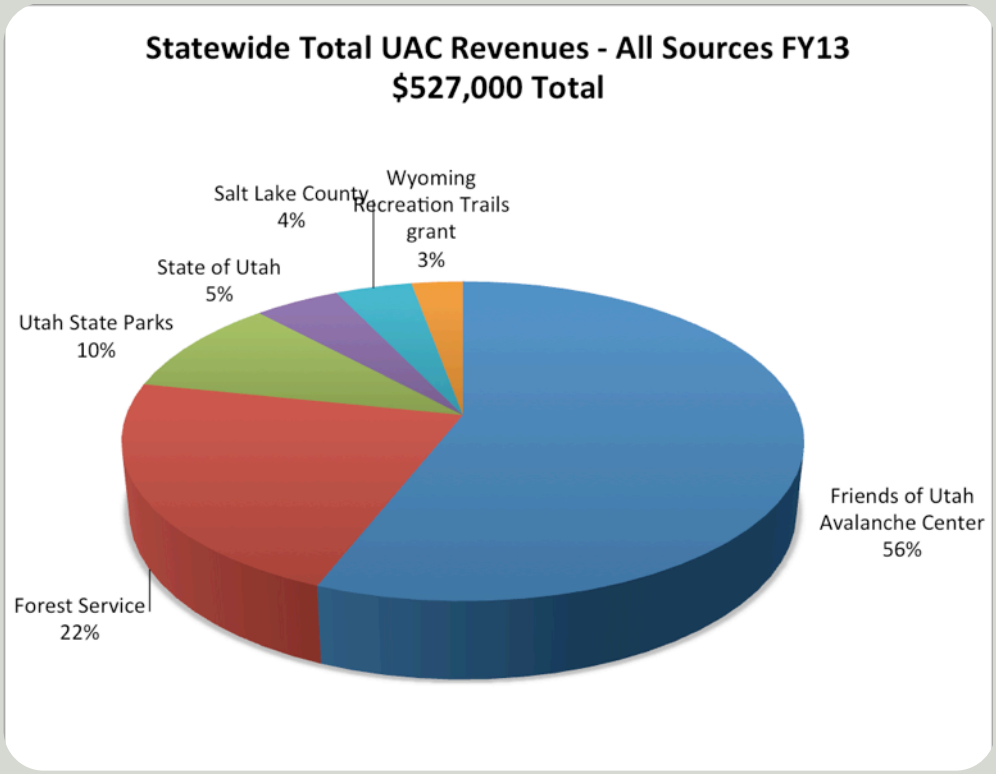
These media contacts have become an increasingly essential part of our program. Many avalanche victims are relatively avalanche-unaware and most victims do not read the avalanche advisory before heading out. Therefore, the only way to reach many potential avalanche victims is through the media sources they already use. We feel that media contacts really pay off, especially during times of heightened avalanche danger.

SOCIAL MEDIA

Social media continues as a critical way to communicate avalanche information. The UAC Facebook page grew to 5,700 followers, and 2,943 users follow UACWasatch, and 912 users follow UtahAvalanche on Twitter. GoPro video cameras were donated to each of our forecasters this season and we posted 40 videos to YouTube of tutorials and fieldwork with 31,000 views and 79,000 minutes watched. We posted eight Vimeo videos, with 249,000 views.. Bruce Tremper was invited to present on social media use at the spring Canadian meeting and moderate a social media session at ISSW that included a presentation by Paul Diegel.



BUDGET



Total statewide funding by all funding sources is $527,000

The Utah Avalanche Center is a partnership between the U.S. Forest Service and the nonprofit Friends of Utah Avalanche Center. The program is administered by the Uinta-Wasatch-Cache National Forest and the Forest Service Intermountain Region Office provides an earmark for base funding of $83,853 with an additional $5,000 from the Mirror Lake and American Fork Recreation Fee funds. Thanks to Liz Close in the Regional Office and our boss Larry Lucas.

Most of the funding for the UAC comes from the non-profit Friends of Utah Avalanche Center, which raises nearly $380,000 per year and contributes $100,000 to Forest Service salaries and spend the remaining funds outside the Forest Service for avalanche-related safety. Thanks to the Amazing work by Paul Diegel, the Executive Director of the FUAC and its hard-working Board of Directors.

Utah Division of State Parks and Recreation has been a longtime funding partner with the shared interest in providing avalanche forecasting and education especially to snowmobilers throughout Utah. Their contribution of $53,000 partially funds avalanche forecasting for Logan and the western Uinta Mountains and without their support, avalanche forecasting would not exist in either of these areas. Thanks so much to Director, Fred Hayes and OHV Coordinator Chris Haller for their valued support and friendship through the years.

Utah Department of Public Safety, Division of Homeland Security has been a longtime supporter of the UAC with an annual contribution of $25,000, which is used throughout Utah to help fund avalanche forecasting and education. Salt Lake County has helped fund the UAC for many years with an annual contribution of $22.500, which helps fund the Salt Lake-based avalanche forecasters. Finally, the Wyoming Recreation Trails grant provides $15,000 for snowmobile forecasting and education for the north slope of the Uinta Mountains and the Evanston Ranger District provides additional support for Ted Scroggin's valuable fieldwork for the north slope. Many thanks to Rick Schuler the District Ranger for his longtime support.

SPONSORS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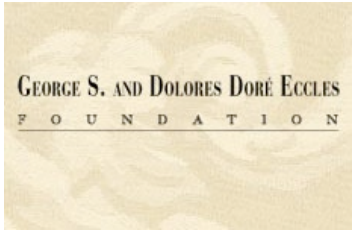
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