

2020 / 2021 **ANNUAL REPORT**



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ABOUT US

The CBAC is a 501c3 non-profit avalanche center

OUR MISSION

The Crested Butte Avalanche Center's (CBAC) sole purpose is to prevent the loss of life, limb, and property to natural and triggered avalanches in the backcountry surrounding Crested Butte. The CBAC provides valuable and necessary information and education to residents, visitors, and recreationalists in the Gunnison Valley, disseminating content through website, email, radio, social media, newspaper, and outreach events. The CBAC issues daily avalanche advisories, including mountain weather forecasts, avalanche danger ratings, expected avalanche problems, travel advice, and forecast discussion, through the winter season, with fall and spring updates as conditions warrant. The CBAC provides additional resources, such as public and professional snowpack, weather, and avalanche observations, weather stations, and educational events and material.

OUR STAFF

THAN ACUFF
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Development Director

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OUR TEAM



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Forecaster



ERIC MURROW
Forecaster



IAN HAVLICK
Outreach Coordinator



ZACH KINLER
Outreach +
Forecaster Assistant

A MESSAGE FROM OUR EXECUTIVE DIRECTOR



I hope everyone got out into the mountains this past winter to enjoy the snow we did get. True, snow totals were less than ideal but there was still some good fun to be had out in the hills. It was not without some tragedy though as we lost local icon Jeff Schneider to an avalanche. He Spent more time in the mountains and skied more vertical than anyone has done in the past 30+ years. His presence in the mountains will be deeply missed.

We are extremely fortunate to have the professional staff of forecasters we have at the CBAC. Zach Guy, Evan Ross and Eric Murrow could easily be forecasting at any one of the larger, government-run forecasting centers in the U.S. but remain with us here at the CBAC and will all be back next year. That kind of consistency among forecasting staff is one of the many unique aspects of the CBAC that sets us apart from other centers.

In addition, we were excited to bring our Outreach Program to fruition this past winter made possible through the support of Gunnison MetRec, the town of Crested Butte and Gunnison County. Ian Havlick and Zach Kinler took the reins on the program and hopefully you stopped by one of the trailhead days or tuned in to the Fireside Chats or your children learned something from our youth programs. Our Outreach Program gained notoriety outside of the Gunnison valley and was featured in an article in the Colorado Sun as well as coverage on NPR's Weekend Edition. We look forward to continuing and expanding that program next year.

Ultimately, none of this would be possible without the support of the local business community, local municipalities and the myriad of individual and in kind donations we receive. The CBAC runs on your support, both in funding and feedback.

I don't know about you, but I can't wait for winter. See you out there!

Than Acuff, Executive Director

THE DEADLIEST WINTER: A RECAP



THIS WAS A TRAGIC WINTER FOR MANY MOUNTAIN COMMUNITIES AROUND THE WEST.

An especially challenging snowpack collided with a boom in backcountry use, spurring the most avalanche fatalities that the U.S. has seen since thorough record-keeping began in 1950. The twelve fatalities in Colorado this winter season matched the previous high water mark set in 1993, and more than doubled the recent five-year average. Our Crested Butte valley was not immune: Jeff Schneider, a former ski patroller and long-time local backcountry icon was caught and killed in December while backcountry skiing near Ohio Creek Pass. Despite the heavy toll of avalanche accidents this season, it's clear that the forecasting and outreach efforts of the CBAC had a positive impact on informing the public about dangers and preventing even more tragic accidents from occurring in our region. We can infer the value of our avalanche centers and education efforts because the trend in avalanche fatalities in recent decades has not kept up with the exponential growth in backcountry users. Given the significant spike in backcountry use stemming from the COVID pandemic, it's no surprise that this winter was so deadly, exacerbated by one of the worst snowpacks in recent memory.

SO WHY WAS THIS YEAR'S SNOWPACK SO BAD?

This winter the CBAC documented 658 D2s and 28 D3s, which is about twice the average of large avalanches compared to the past five years. The smoking gun isn't an exceptionally stormy winter. In fact, the Gunnison River Basin peaked at only 86% of average and billy barr in Gothic reported a dismal 221" this winter compared to the 411" average since 1975. Rather, the culprit was a pair of unusually prolonged droughts, one that ended in mid-December, the other that stretched through most of January. These dry spells caused the formation of exceptionally fragile weak layers, even by Colorado standards. The erratic and unusual behavior of these facet layers continued to surprise even the most veteran backcountry travelers and spurred large natural avalanches through much of the winter during snowfall, wind loading, or warming events. Here's a quick recap. For an in-depth look, check out our weekly snowpack summaries at www.cbavalanchecenter.org



A 17-day dry spell ended on December 10th, causing the existing snowpack to deteriorate into one of the worst facet layers we can recall. Avalanche activity raged through the last three weeks of December as this layer was first buried by soft and relatively shallow slabs. We saw an impressive three week streak of dangerous conditions (Considerable danger), during which time upwards of 4" of SWE accumulated. The month saw an unprecedented number of human triggered slides - over 90 in the Crested Butte area. Many of the slides were remotely triggered from flat terrain or from long distances away: a clear indicator of our troubled snowpack. December also brought the only two accidents that involved organized rescue of the winter. A skier broke his leg and required helicopter evacuation after getting swept into trees



on Snodgrass Mountain, and the fatality near Ohio Creek Pass occurred a few days later when a solo skier was overrun by an avalanche that he likely remotely triggered from below the start zone.

A few more close calls followed in early January before the snowpack transitioned into its second major dry spell which lasted over two weeks and formed yet another fragile facet layer. The drought brought a lull in avalanche action and the danger gradually decreased to Low before ramping up again with a return to active weather in late January. The danger crescendoed during a prolonged snowy period in February. Stormy weather from late January through mid-February added up to 7" SWE over the course of 23 days and resulted in more than 325 large natural avalanches. It was during these February storms that we saw all of the major alpine bowls on Axtell slide wall-to-wall, repeater paths on Schuylkill Ridge wipe out swaths of trees, Climax Chutes connect across all of their start zones and dust the Slate River Road with a powder cloud of debris, Cement Creek Road get buried, and Ruby Peak go as wide and as far as we've ever seen... just to name a few. Avalanches broke on the mid-pack facets formed by January's drought and on December's depth hoar layer. In what was the most bizarre demonstration of this stratigraphic nightmare, we observed Coon Basin release a persistent slab on the mid-pack January weak layer one morning, only to subsequently release a second slab breaking near the ground later that day and across the same start zone. Seven of our eight High danger days fell in February. Although February was by far the deadliest and most dangerous month for both Colorado (7 fatalities) and the rest of the country (26 fatalities), CBAC's strong messaging and outreach efforts appeared to be well heard. There was only one small

avalanche triggered by the public and no public involvements during this exceptionally challenging month. The handful of human triggered slides in February were either triggered by snow safety teams at Irwin or intentionally by CBAC forecast staff. The only near miss reported in February was a full burial and successful rescue that took place during professional snow safety work at Irwin.

The snowpack started to strengthen and adjust to quieter weather in March, with fewer and smaller avalanches but an uptick in human involvements. Moderate danger prevailed through all but a few days of the month. March saw several close calls as skiers and riders pushed into more aggressive terrain, perhaps letting their guard down after a disciplined winter. Most of the notable triggered slides or close calls in March occurred on repeat offender avalanche paths, where previous avalanche activity left the snowpack weaker and shallower than adjacent terrain.

Our plaguing weak layers had one more triumphant display in April. A record-setting heat wave in the first week of April produced one of the more impressive wet avalanche cycles in recent history, with an ongoing string of large wet slabs (41 by our count) and large, deeply gouging wet loose slides for several days. Following the spike in meltwater which kept the danger pegged at Considerable, the danger dropped to Low for the remainder of CBAC's operational season due to better refreezes, quiet weather, and a mature spring snowpack. There were no incidents reported in April.



THE CBAC HAS BEEN OPERATING AS A NON-PROFIT 501C3 AVALANCHE CENTER SINCE 2002.

This season, the center recruited the return of Zach Guy to lead the forecast team of Evan Ross and Eric Murrow. Together, the three forecasters have 18 cumulative years of local CBAC avalanche forecasting experience, in addition to guiding, teaching, snow safety, and forecasting experience for other organizations, both locally and from outside of the region. Ian Havlick shifted roles to the newly created Outreach Director assisted by Zach Kinler. We also staffed two interns, Jack Caprio and Jared Berman.

The CBAC produces daily avalanche forecasts and makes daily field visits during its operational season from mid-November through mid-April. New this season, the CBAC divided its forecast region into two smaller forecast areas: the Northwest Mountains and Southeast Mountains. Because we often see storms and snowpacks evolve differently across our entire forecast region, this split gives forecasters the ability to highlight spatial differences in avalanche danger or avalanche problems into a more accurate product. The CBAC also strives for a strong field presence to improve forecast accuracy and further supplement the forecast product with publicly accessible observations.



In addition, the CBAC implemented a new website platform for displaying avalanche forecast products. A significant benefit from the new platform is its mobile friendly interface, which caters to the 61% of our users who check the forecast from their phones. Furthermore, the platform offers improved media integration into the forecast. The platform was designed by the National Avalanche Center, and thus, is consistent with most centers across the country, allowing for a more universal understanding for travelers. Last, the CBAC added a new weather station platform to the website. This provides users with an interactive tool for locating and visualizing remote weather data.

Together, the forecast and outreach staff submitted **252 professional observations from the field this season, a 45% increase from last year.** Field observations frequently include photos of avalanche activity or annotated snow profiles to help the public visualize written descriptions. The CBAC also produced **28 field videos** to help demonstrate current and anticipated conditions.

5 EASY WAYS TO STAY INFORMED...



CBAVALANCHECENTER.ORG



Give us your **email** and we'll send it to you every day!



Tune into **KBUT** daily at 8:00am and listen.



Visit our **YouTube** channel for field videos.



#CBAVY on **Instagram** and **Facebook** for real time updates.

EMBRACING THE STORM

The COVID-19 pandemic catalyzed profound growth in winter outdoor recreation. The flurry of accidents in Colorado last spring, sold-out avalanche classes, and exploding backcountry gear sales all gave clear warning that this winter would be challenging. The CBAC expanded its forecasting operations and outreach programs in anticipation of a deadly season.

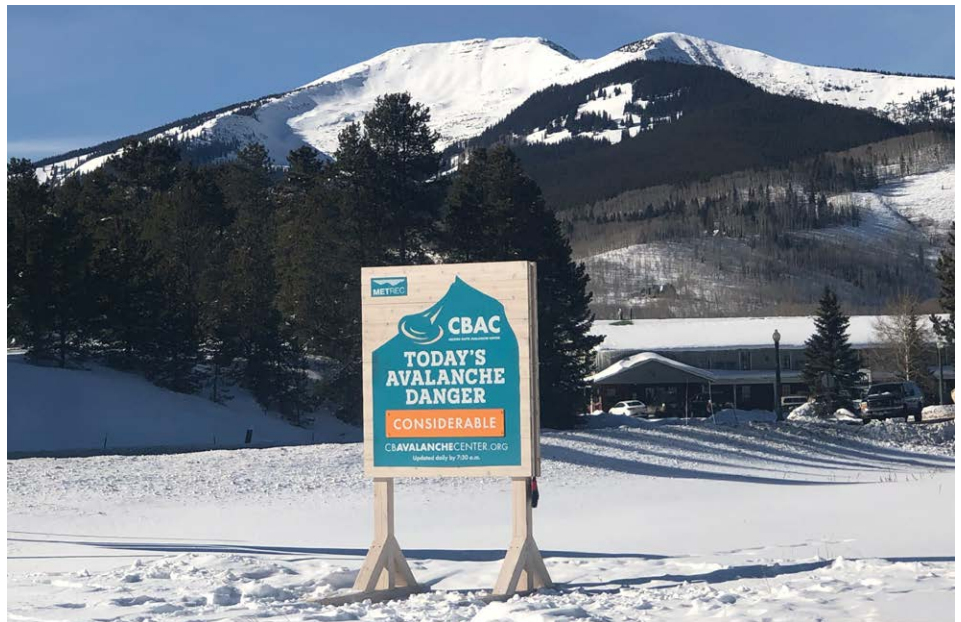


YOUTH OUTREACH

Outreach staff gave field-based snow science demonstrations to 7th and 8th graders at the Crested Butte Community School this winter. We also presented to the Crested Butte Nordic Explorers on four occasions, covering topics such as weather, avalanches, rescue, terrain selection, snow profiles and snowpack, measured slope angles, and local terrain during these 1.5 hour sessions.

OUTREACH

The CBAC ramped up efforts this season to spread awareness to the local community valley-wide, as well as get the word out to visitors of the inherent risk of avalanches in our mountainous backyard, as well as the current avalanche conditions. These efforts were largely motivated by the ongoing COVID-19 pandemic, but was also simply a more accelerated, organized, and comprehensive approach to existing efforts the center has been creating for years.



AVALANCHE DANGER SIGN

The CBAC installed a large sign that displays the current avalanche danger near the entrance to the Town of Crested Butte. Forecasters updated the sign every morning at 7 a.m. The sign helped inform and increase awareness for visitors and locals alike.



TRAILHEAD DAYS

A major addition to this year's outreach, CBAC staff set up information booths and interacted with the public at popular trailheads throughout the winter. This was a fun and effective way of engaging with all types of users and demographics, and feedback was overwhelmingly positive. We logged 10 weekend days and interacted with hundreds of nordic skiers, snowshoers, backcountry skiers and boarders, snowmobilers, fat bikers, and dog walkers.

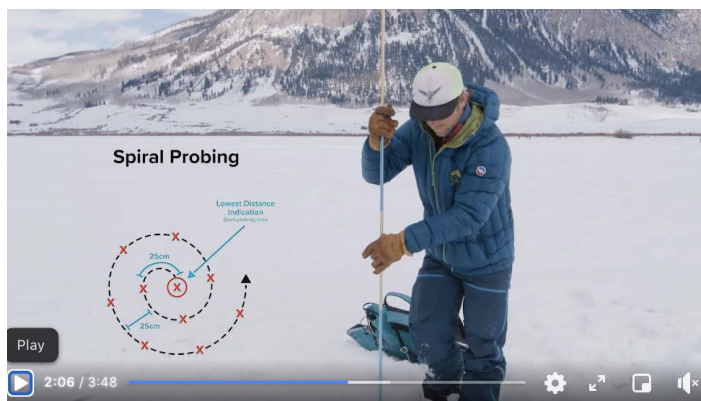


AWARENESS NIGHT

CBAC's iconic kick-off event moved to a virtual platform and drew our largest audience yet of over a thousand viewers. The live-streamed event featured awareness talks by several forecasters, gear raffles, "ask a forecaster", and as much fun as you can have from behind a computer screen.

FIRESIDE CHATS

We moved our popular fireside chat series to a virtual platform this winter. The shift to Zoom presentations allowed us to draw a wider audience that extended beyond our local community, and we were also able to recruit six top-notch speakers from around the country and Canada. Topics included mental health, forecaster fallibilities, decision making, wet avalanches in the spring, and public interpretation of avalanche bulletins. The free hour-long sessions attracted an audience of 50 to 60 people on average and were recorded online for future viewing.



BEACON BRUSH-UP

In lieu of our traditional in-person, early season rescue clinic, CBAC created a mini series of 6 short videos dissecting important or overlooked parts of avalanche rescue. We worked with nationally recognized filmmakers to film, edit, and produce these high quality educational videos. We posted the videos across our social media platforms: view counts ranged from 1000 to 2,200 per video.

RADIO OUTREACH

The Gunnison Valley's community radio station, KBUT, aired CBAC's avalanche forecasts every morning all winter. CBAC staff also participated in KBUT's Community Matters, a bi-monthly newscast in which we discussed avalanche conditions, current news and events in the avalanche world, and answered questions from the community and the show's hosts.



NEWS MEDIA

The CBAC's forecasting and outreach efforts were recognized by regional and national media during this challenging winter. CBAC was featured in a piece by NPR, an article by the Colorado Sun, in a forthcoming article in Backcountry Magazine, and in a podcast by Blister Review. Locally, CBAC authored regular "Backcountry Notes" for the Crested Butte News and published daily condition blurbs for CBTV.

2020 DIGITAL REVIEW 2021

October 15, 2020 - April 15, 2021

CBAVALANCHECENTER.ORG

TOTAL WEBSITE VISITORS  **27,972**
Up 67% from 2019/20

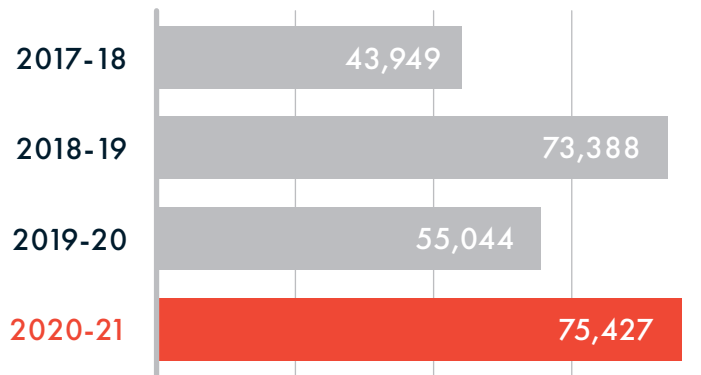
 **THE AVERAGE PERSON SPENT 2.45 MINUTES ON OUR WEBSITE**
(up from 2.37 minutes last season)

DIGITAL TRAFFIC IS CONCENTRATED IN COLORADO

56% Gunnison Valley

44% Denver, Boulder, Colorado Springs, Ft. Collins & beyond

USER SESSIONS



WAYS PEOPLE FOUND CBAC ONLINE:

44% ORGANIC SEARCH

39% DIRECT SEARCH

13% SOCIAL up from 3.7% last season

Social links increased dramatically last winter. This shows us that our presence on social media is critical to connecting with our user groups.

129,739 PAGE VIEWS



AN 8% INCREASE FROM LAST YEAR



61% OF CBAC'S USERS ARE CONNECTING ON A MOBILE DEVICE.



THIS IS UP FROM 53% LAST SEASON

CBAC saw the trend and invested in a website platform that is also mobile device friendly.

SOCIAL MEDIA



facebook



Instagram



3,852 NEW FOLLOWERS



We increased our presence this winter to help educate more users and draw a larger audience to the website.

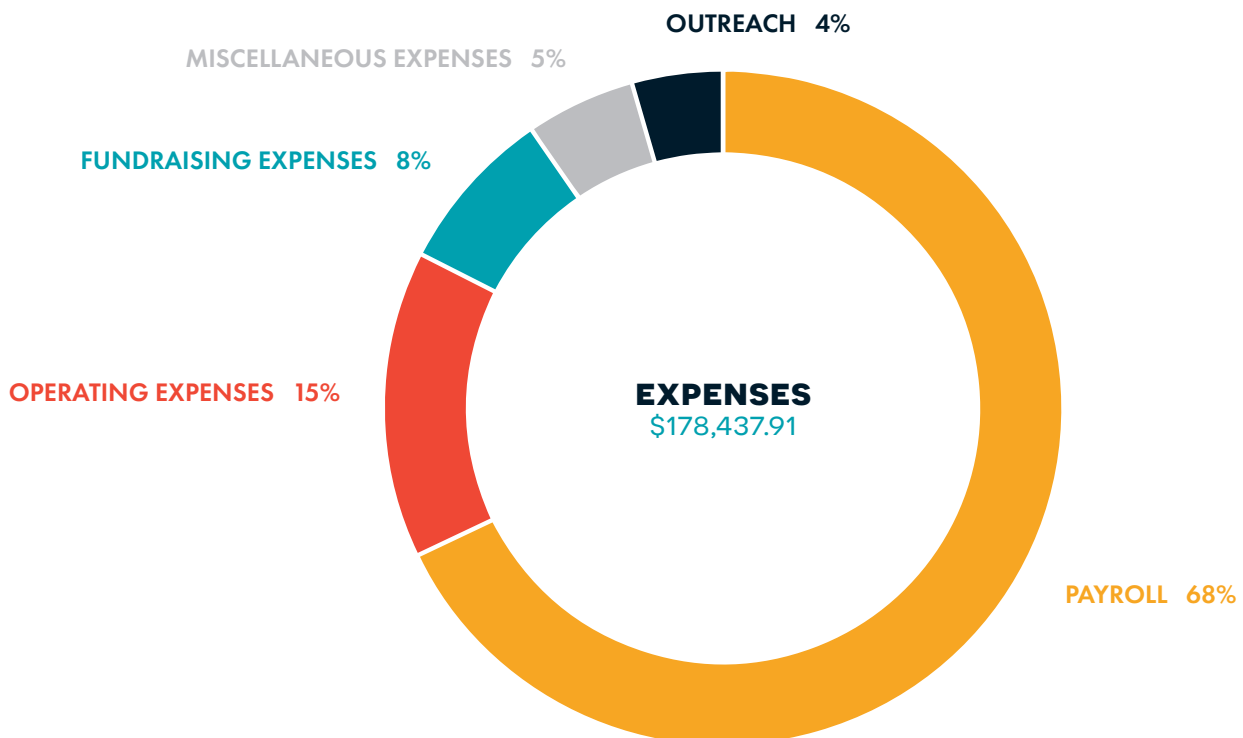
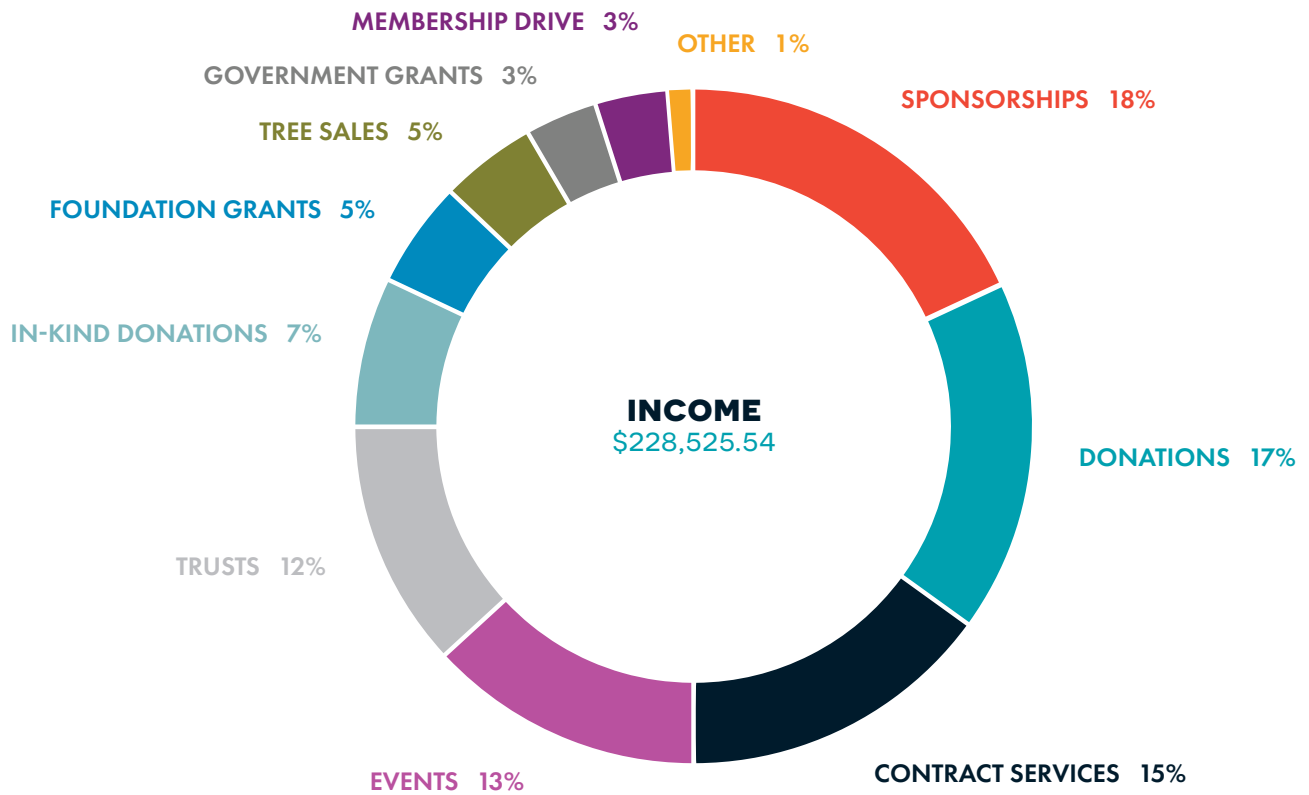
WEBSITE TRAFFIC SOURCED FROM SOCIAL MEDIA INCREASE BY

251%

This growth is partially attributed to more content: we nearly doubled the number of Facebook and Instagram posts this winter, and also began posting stories (313 in total) to each platform as a way of communicating relevant and timely avalanche activity, warnings, etc.

2020 FINANCIAL REVIEW 2021

June 1, 2020 - May 31, 2021



PARTNERSHIPS + SPONSORSHIPS

The CBAC collaborates with local, state, and national snow safety organizations to share resources, observations, and guidance. The CBAC is a member of the National Avalanche Center (NAC) which provides guidance, support, and cost-sharing opportunities for website development, warning platform development and weather station products. The CBAC works closely with the Colorado Avalanche Information Center (CAIC) through resource and observation sharing and daily forecaster consultations that guide our forecast product. The CBAC also exchanges observations and benefits from weather stations operated by Irwin Guides, Crested Butte Mountain Resort, and Billy Barr/Rocky Mountain Biological Laboratory.



The CBAC is contracted by the Town of Crested Butte to perform avalanche mitigation and forecasting for several avalanche zones within town limits. The CBAC also has an email alert system for notifying other local agencies of exceptionally dangerous conditions. We deployed this system on a number of occasions through the winter to warn organizations such as the CB Nordic Center, the Gunnison County Electric Association, property managers, and the town of Crested Butte and Mt. Crested Butte. There were no incidents, public involvements, or structural damage at any municipal avalanche zones this winter.



DONORS + SUPPORTERS

The work of the CBAC would not be possible without the many local business sponsors and donor support. Thank you to everyone who donates to make our operation successful!

SNOWPOCALYPSE \$5,000 +

Skyhigh Offroad
Yamaha Outdoor Access Initiative

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Pinnacle Orthopedics
Precise Painting
SAW Contracting, LLC
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Divvy
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Mountain Stuff
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Raven Workshop
Reel Motion Media
Yeti Cycles

Thank you

**Met Rec, Gunnison County
and the Town of Crested Butte
for supporting our outreach
program**

**Special thanks
to the Lange Family**

LOOKING AHEAD

The CBAC will always strive for effective outreach and more accurate forecast products with the ultimate goal of eliminating avalanche fatalities in our valley. With that in mind, we've outlined a handful of specific and tangible goals for next winter.



Continue to evaluate and improve upon the split of two separate forecast zones. We encountered some challenges including public confusion and a high concentration of use at the zone boundaries, among other issues.

Develop an in-house database for quality control, workflow efficiency, and better data visualization tools for both the public and the forecasters, along with a local accidents and near-miss database. The CBAC currently utilizes the CAIC database for data.

Look for solutions to a decreasing trend in public observations in recent years. Public observations have decreased by 22% in the past four years, despite increasing usage. Some avenues to explore include: developing an app, offering a text hotline, public messaging, and creating clearer options for anonymity.

Look for a funding partner to develop a local Avalanche Terrain Exposure Scale (ATES) map. The map would serve as an additional planning resource to help users recognize avalanche terrain and where to travel to avoid it.

Develop a tutorial on how to read and apply the forecast.

Develop a curriculum of avalanche education for kids between the ages of 8 and 15 in the Gunnison Watershed School District.

Expand outreach efforts to the lower Gunnison Valley with more events focused towards Gunnison residents including the motorized community.

Establish an accessible, free, community avalanche rescue (beacon) park to foster improved rescue skills and awareness.





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