



CAIC
www.colorado.gov/avalanche



Annual Report

FY2016



The mission of **the CAIC** is to provide avalanche information, education and promote research for the protection of life, property and the enhancement of the state's economy.

The Colorado Avalanche Information Center (CAIC) is a program of the Colorado Department of Natural Resources (DNR). The program is a partnership between the DNR, Department of Transportation (CDOT), and the Friends of the CAIC (FoCAIC), a 501c3 group. The mission of the CAIC is to provide avalanche information, education, and promote research for the protection of life, property and the enhancement of the state's economy. With plenty of snow and five fatal avalanche accidents, the 2016 avalanche year brought significant challenges and changes to the forecasting and education portions of the program.

There were several significant operational changes during the 2016 fiscal year. CDOT installed two arrays of Gazex remote-avalanche release systems on Berthoud and Loveland Passes. This dramatically changed highway operations in these areas. With CDOT's support we increased the number of vehicles and radio capabilities available for avalanche forecasting and emergency response. Support from the FoCAIC allowed us to create a position focused on the Steamboat and northern Front Range zones. Our combined effort with the FoCAIC on the Know Before You Go program brought avalanche education to over 9,000 school kids.

Snowfall during the 2016 avalanche year was near or above average throughout the mountain areas of Colorado. Ample early season snowfall and an extended warm and dry period in late February and early March contributed to a relatively stable snowpack. Documented avalanche involvements were below average. Although there were a few cycles that produced large avalanches, we never saw a significant deep-slab avalanche cycle and eased into the summer without a significant wet avalanche cycle. The five fatal accidents during the 2016 avalanche year were associated with large storm events over a three week period from mid January to early February. These accidents have devastating effects on the family and friends of the people caught in these tragic events. They are a constant reminder of the threat we work to address, and the people we strive to help.

The number of people that travel in the mountains of Colorado during the avalanche season continues to increase. To address their needs and the avalanche threat to public safety, we will continue to build partnerships, improve the quality and accessibility of avalanche forecasts and education programs throughout the great state of Colorado. Thank you for your help and support in the past and we look forward to serving you in the future.

Sincerely,

Ethan Greene
Director
Colorado Avalanche Information Center



The mission of **the Friends of CAIC** is to support avalanche forecasting and education throughout the State of Colorado.

Dear Friend,

It's time for us to get ramped up for the 2016/2017 season and we could not be more excited about the upcoming winter! Once again we have seen some changes over the summer and are very excited about the growth of both the Friends of CAIC and the CAIC.

The Colorado Avalanche Information Center would not exist in its current capacity without your support. Since the program began in the early 1970's, it has relied on the local community for support. Over the years, backing from our public and private partners has been essential to the CAIC's backcountry avalanche safety program. At first you helped us keep the doors open and the lights on. Now you are helping us provide cutting edge backcountry forecasting services and education programs.

Our goal is simple: raise money to keep expanding our forecasting operations and broaden our education programming here in Colorado.

Your help in the past has been amazing. Thank you! That being said, we still need your help this year and in the years to come as we strive to address the ever changing needs and growing number of winter sports enthusiasts in Colorado. We value you as a partner and with your help we will continue to provide the best service to the people that live, work, and play in the Colorado mountains.

Cheers,

Aaron Carlson
Executive Director
Friends of CAIC



CAIC Staff

Ethan Greene
Director

Brian Lazar
Deputy Director

Kevin Ellis
CAIC Admin

Rebecca Hodgetts
Lead Avalanche Forecaster

Mark Mueller
Lead Avalanche Forecaster

John Snook
Weather and Avalanche Specialist

Spencer Logan
Weather and Avalanche Forecaster

Scott Toepfer
Weather and Avalanche Forecaster

Mike Cooperstein
Weather and Avalanche Forecaster

Jason Konigsberg
Weather and Avalanche Forecaster

Jeff Davis
Avalanche Forecaster

Mark Gober
Avalanche Forecaster

Susan Hale
Avalanche Forecaster

Ian Hoyer
Avalanche Forecaster

Ann Mellick
Avalanche Forecaster

Joe Messina
Avalanche Forecaster

Lee Metzger
Avalanche Forecaster

Colin Mitchell
Avalanche Forecaster

Blase Reardon
Avalanche Forecaster

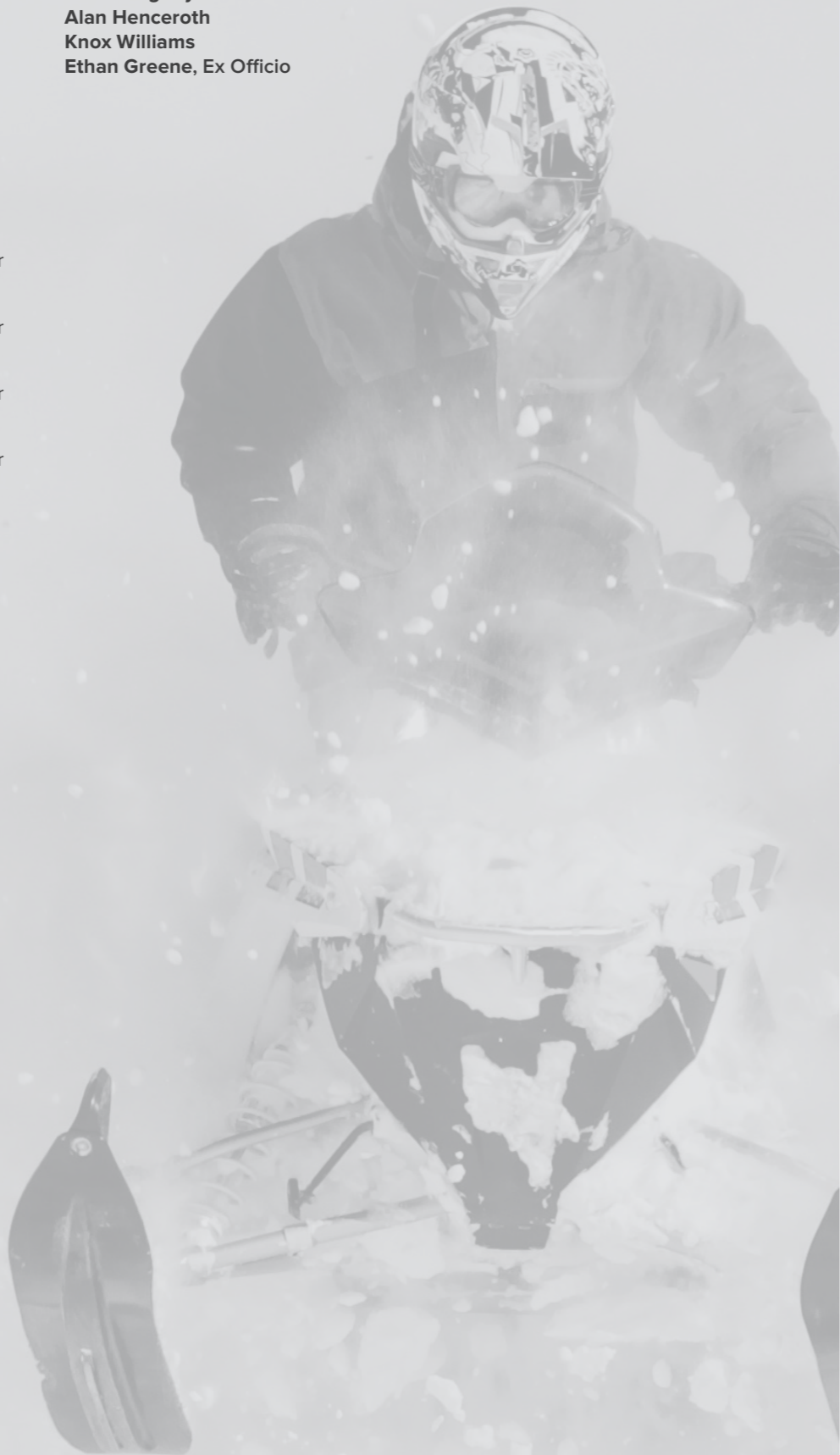
Stu Schaefer
Avalanche Forecaster

Friends of CAIC Staff

Aaron Carlson
Executive Director

Friends of CAIC Board of Directors

Bruce Edgerly
Alan Henceroth
Knox Williams
Ethan Greene, Ex Officio



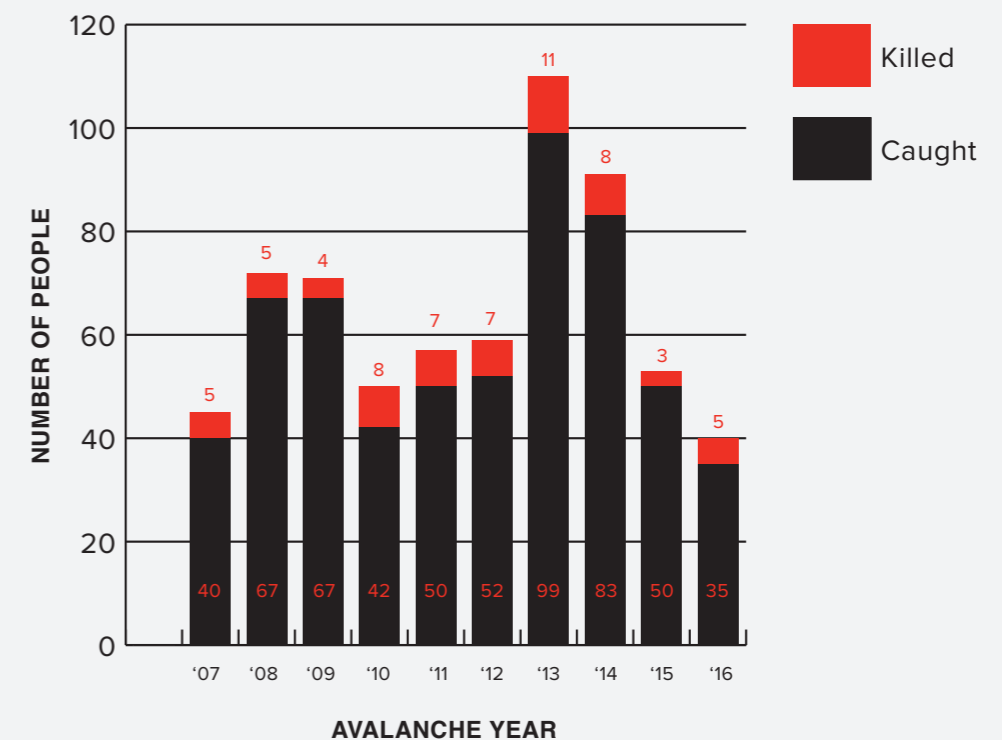
By the numbers | Avalanches and Accidents

The CAIC recorded data on almost 2,500 avalanches, including 42 people caught. Of those caught, 5 were killed. The CAIC published 18 detailed accident reports.

AVALANCHES BY FORECAST ZONE

Forecast Zone	Recorded Avalanches
Steamboat & Flat Tops	39
Front Range	449
Vail & Summit County	437
Sawatch Range	237
Aspen	336
Gunnison	201
Grand Mesa	78
Northern San Juan	617
Southern San Juan	96
Sangre de Cristo	4
TOTAL	2,496

PEOPLE CAUGHT IN AVALANCHES



By the numbers | Snowfall Patterns & Education

The much-hyped El Niño produced a snowy season for Colorado despite a short mid-winter drought. We stayed near or above historic average snowfall for most of the state throughout the season.

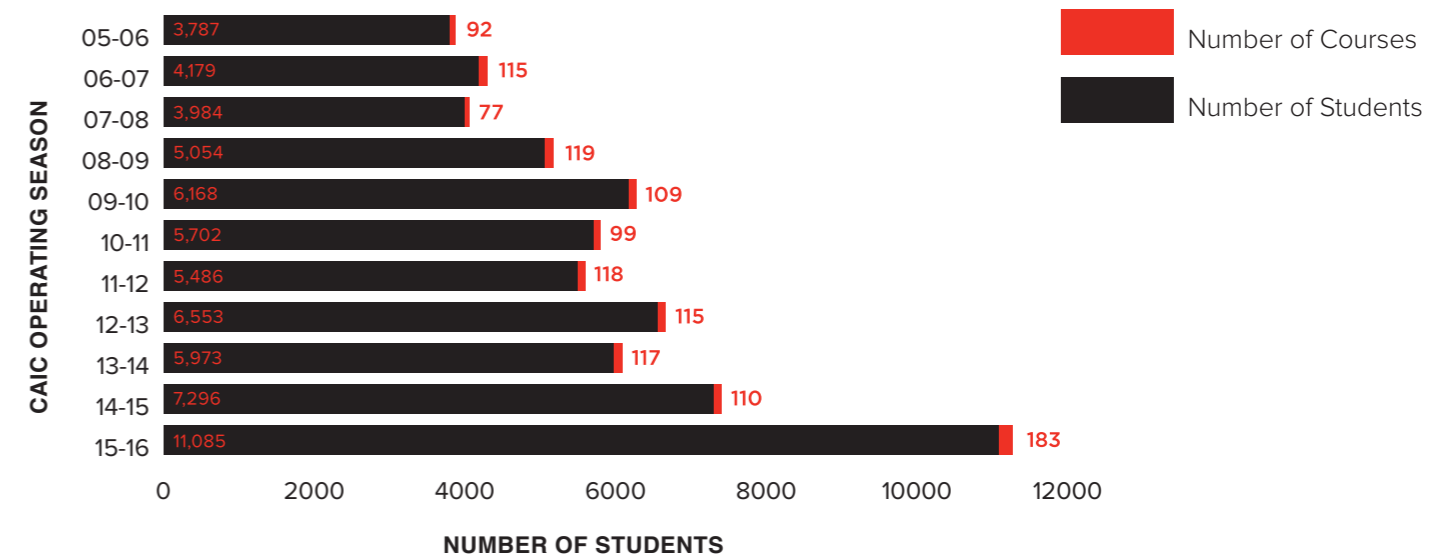
MONTHLY SNOWFALL FROM NOVEMBER 1, 2015 TO APRIL 30, 2016

	Nov	Dec	Jan	Feb	Mar	Apr	TOTAL	% of 10-yr Average
Arapahoe Basin	60	48	35	19	60	56	278	105%
Bear Lake (RMNP)	55	34	23	38	75	45	269	122%
Beaver Creek	66	46	55	29	94	43	333	110%
Berthoud Pass	76	53	38	21	85	50	322	117%
Breckenridge	67	57	60	37	93	59	373	123%
Copper Mountain	53	37	47	29	62	30	258	94%
Keystone	66	48	44	30	77	12	277	131%
Loveland Basin	73	53	48	28	79	63	343	104%
Steamboat	43	90	82	33	101	8	356	99%
Vail	58	52	71	34	76	45	335	100%
Winter Park	78	59	58	19	101	38	353	117%
Aspen Highlands	27	44	33	35	43	49	230	99%
Aspen Mountain	32	43	43	35	51	16	220	99%
Gothic	39	85	47	28	41	48	288	84%
Monarch	35	84	49	40	35	3	246	89%
Durango Mtn.	9	84	39	30	22	17	201	96%
Red Mountain Pass	59	85	71	36	52	46	348	115%
Telluride	49	86	63	32	50	0	278	109%
Wolf Creek Ski Area	72	139	43	33	44	2	333	102%

By the numbers | Education

CAIC staff, Friends of CAIC staff, and trained instructors across the state conducted around 200 education events and reached approximately 11,000 students.

Education Initiative



By the numbers | Contacts



116
Interviews Given



1,732,675
Website Visits



9,175
App Downloads

Social Followers Facebook : 9,500 Instagram : 2,966 Twitter : 6,990

The Financial Breakdown

The CAIC and FoCAIC Partnership

The relationship between the CAIC and the Friends of CAIC is an important public-private partnership that provides backcountry avalanche forecasts for everyone in Colorado—as well as; avalanche education for as many people as we can reach. The partnership allows FoCAIC staff to go to events, write grants, and build partnerships on behalf of the mission. And it keeps the CAIC staff in the snow so they can provide the best avalanche forecasts possible for you, the user.

The FoCAIC is a 501(c)3 non-profit organization that was created to financially support avalanche forecasting and education throughout Colorado. We accomplish this through fundraising that includes grant writing, events, individual fundraising, corporate partnerships, and our annual spring fundraising campaign. The FoCAIC has 1 full time staff member that works out of a home office and on the road throughout the winter. They also have a small Board of Directors that guides the mission of the organization and oversees the ED. The FoCAIC is the private side of the partnership.

The CAIC is a program within the Colorado Department of Natural Resources, a state government agency. They have 20 staff that work out of 10 offices that cover the mountainous areas of Colorado. The CAIC is the public side of the partnership. The mission of the CAIC is to provide avalanche information, education and promote research for the protection of life, property and the enhancement of the state's economy. These are the folks that produce the weather and backcountry avalanche forecasts. They teach avalanche classes to school kids, university students, and avalanche workers. The CAIC also works with CDOT to reduce the threat of avalanches to the State Transportation System.

The CAIC's highway operations are funded and conducted through an intergovernmental agreement with the Colorado Department of Transportation (CDOT) to provide training and forecasting for highway maintenance operations. The CAIC's backcountry forecasting operations are funded through several different avenues including; The Severance Tax Fund, fees for providing avalanche training to professional groups, and from the fundraising efforts of the Friends of CAIC. The FoCAIC support allows for a more robust backcountry forecasting and education program here in Colorado. The current program could not have been built with tax dollars alone. We need a strong public-private partnership to sustain it and hopefully improve it in the future.

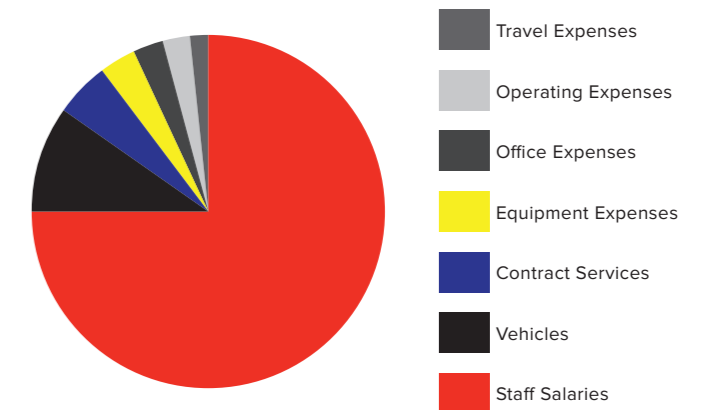
CAIC Revenue & Expenditures FY2016

In fiscal year 2016, CAIC had \$1,429,180.88 in expenditures and collected \$1,470,820.61 in revenue. Of the revenue received, \$192,326.59 was received from the ski industry, the Friends of the CAIC, and individual citizens. The remaining revenue (\$1,278,494.02) came from federal, state, and local governments. The difference between our revenue and expenditures gave us a net increase in our donation fund of \$41,639.73, which is earmarked for projects that will support our forecasting and education programs.

Expenditures

Vehicles	\$139,254.80
Staff Salaries	\$1,073,754.65
Contract Services	\$72,395.85
Travel Expenses	\$21,807.20
Equipment Expenses	\$46,448.86
Office Expenses	\$40,453.75
Operating Expenses	\$35,065.77

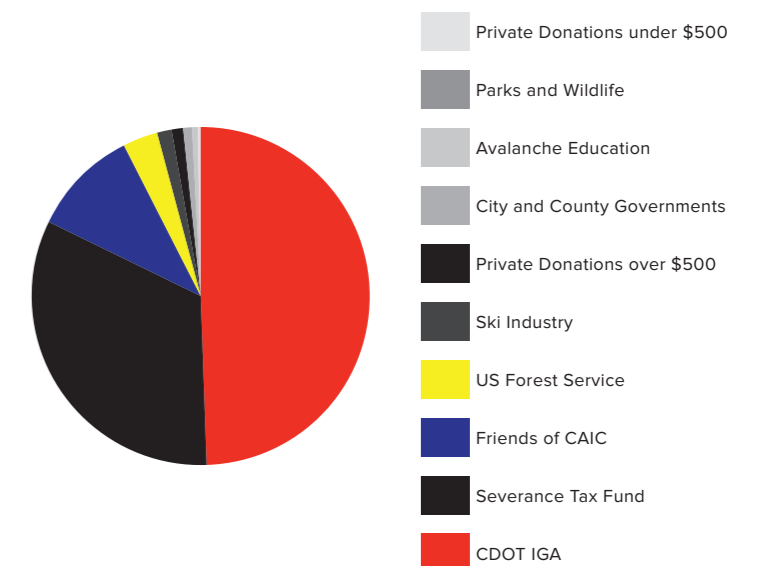
TOTAL **\$1,429,180.88**



Revenue

Severance Tax Fund	\$476,521.69
CDOT IGA.....	\$724,212
Reimbursement of Prior Year Expenses	\$5,030.03
Operating Transfer from Natural Resources	\$5,323.90
Interest.....	\$1,106.40
5th Judicial District Courts.....	\$300
Parks and Wildlife	\$2,000
US Forest Service.....	\$50,000
City and County Governments	\$14,000
Ski Industry.....	\$20,010.04
Avalanche Education	\$6,007.41
Friends of CAIC	\$150,000
Private Donations over \$500	\$14,538.14
Private Donations under \$500	\$1,771.00

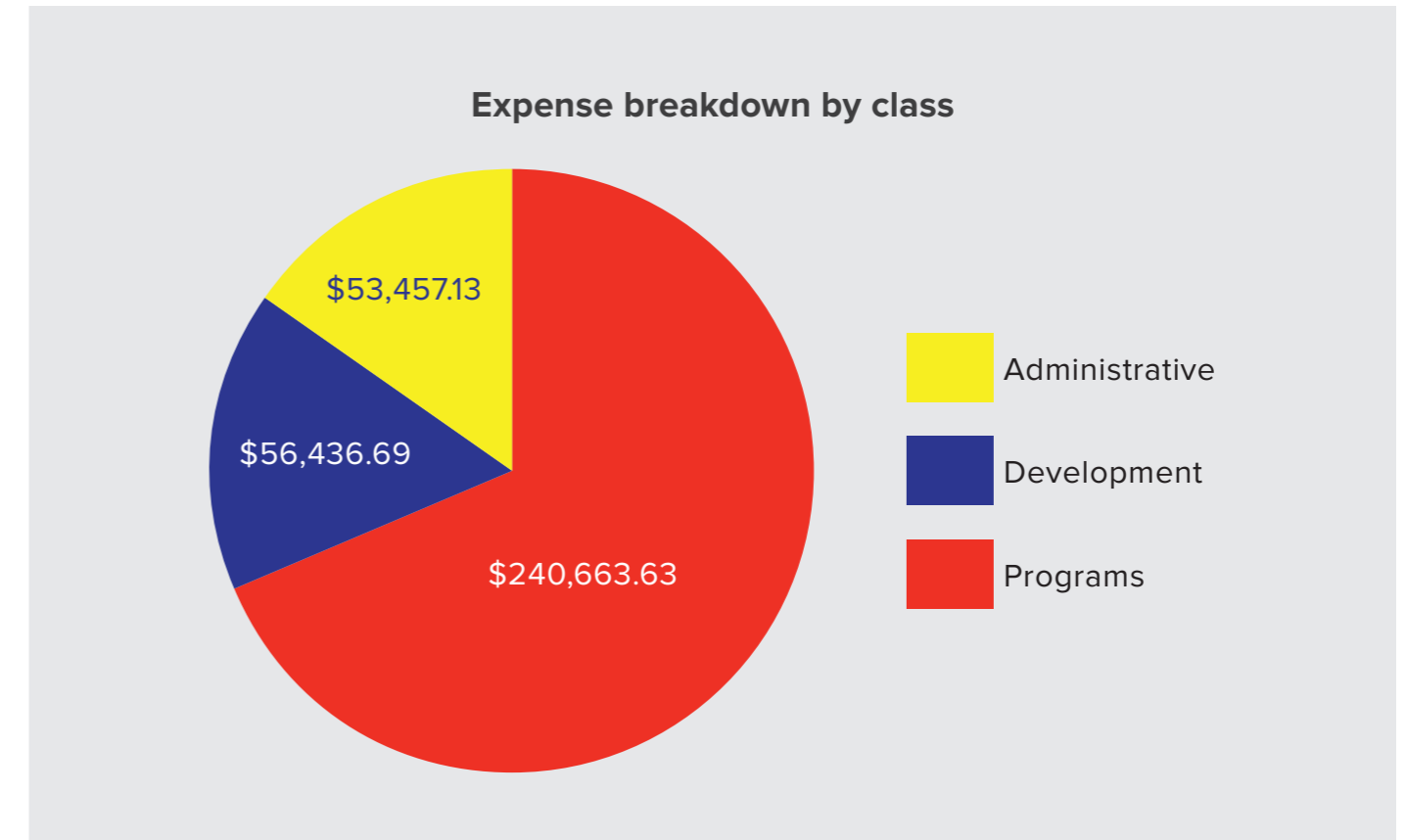
TOTAL **\$1,470,820.61**



Friends of CAIC Statement of Financial Position (As of June 30, 2016)

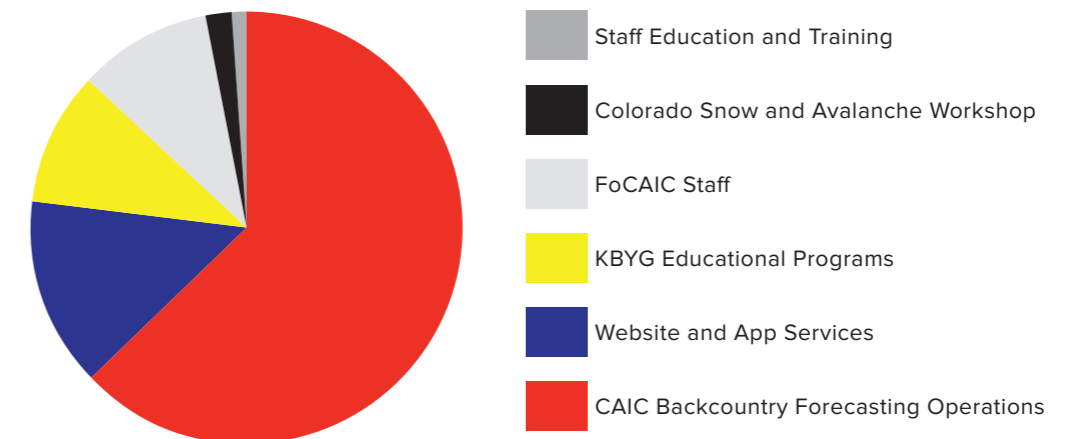
	TOTAL
ASSETS	
Current Assets	
Bank Accounts	
1st Bank of Cherry Creek	225,243.49
Alpine Bank	306,514.98
Deposit Bank for Square	0.00
PayPal	11.05
Total Bank Accounts	\$ 531,769.52
Accounts Receivable	
Pledges Receivable	30,000.00
Total Accounts Receivable	\$ 30,000.00
Other current assets	
Inventory Asset	6,683.66
Undeposited Funds	0.00
Total Other current assets	\$ 6,683.66
Total Current Assets	\$ 568,453.18
Fixed Assets	
Accum. Depreciation	-16,538.04
Computer Hardware & Software	33,022.25
Vehicles	
Depreciation	-6,955.00
Original cost	37,180.00
Total Vehicles	\$ 30,225.00
Total Fixed Assets	\$ 46,709.21
TOTAL ASSETS	\$ 615,162.39
LIABILITIES AND EQUITY	
Liabilities	
Current Liabilities	
Other Current Liabilities	
Direct Deposit Payable	-1,762.83
Exchange	0.00
ISSW 2016 Liability	109,065.00
Payroll Exchange	0.00
Payroll Liabilities	0.00
CO Income Tax	528.00
CO Unemployment Tax	0.00
Federal Taxes (941/944)	1,325.20
INACTIVE CO Unemployment Tax	0.00
INACTIVE Fed/Fica	0.00
INACTIVE FUTA	0.00
INACTIVE Simple Employee Contr	0.00
INACTIVE Simple Employer Contr	0.00
INACTIVE State WH	0.00
Pershing	520.83
Total Payroll Liabilities	\$ 2,374.03
Salaries Payable	0.00
Total Other Current Liabilities	\$ 109,676.20
Total Current Liabilities	\$ 109,676.20
Total Liabilities	\$ 109,676.20
Equity	
Opening Balance Equity	1,850.00
Unrestricted Fund Balance	473,844.14
Net Revenue	29,792.05
Total Equity	\$ 505,486.19
TOTAL LIABILITIES AND EQUITY	\$ 615,162.39

Friends of CAIC Expense Breakdown



Program expense breakdown

CAIC Backcountry Forecasting Operations.....	\$150,547
KBYG Educational Programs	\$23,785
Staff Education and Training.....	\$2,409
Website and App Services.....	\$32,617
Colorado Snow and Avalanche Workshop	\$5,962
FoCAIC Staff.....	\$25,343
TOTAL	\$240,663



Friends of CAIC Program Expense Label Definitions

CAIC Backcountry Forecasting Operations

The FoCAIC makes a donation each year directly to the CAIC. This money pays for part of the CAIC's backcountry forecasting operation. Seasonal backcountry forecaster positions cost the CAIC about \$50,000 per position, per season. This cost includes salary, office space, travel, equipment, and training.

KBYG Educational Program

Know Before You Go is our avalanche awareness program. We offer free avalanche education throughout the state of Colorado. The program is designed for 8th graders, but since November we've presented it to over 8,200 people of all ages. The cost of this program includes the initial production and development of the education materials and money to pay instructors. We are now investing money in further development of new educational materials to ensure the program stays accurate, stays relevant, and can reach any group that needs more information on avalanche safety.

FoCAIC Staff

The Friends of CAIC had one full time employee, the Executive Director, during the 2015/2016 season. The ED spends his time raising money for the FoCAIC through events, grant writing, partnerships and outreach. The ED also manages the KBYG education program and works on collaborative efforts with the staff of the CAIC.

Website and App Services

The Friends of CAIC help support the CAIC website and mobile app. This includes hosting, maintenance and further development for both platforms. The CAIC website backend and database are over 10 years old. The system needs to be updated and we'll be working on that over the summer. This sort of development is expensive but necessary to produce a quality product for you. We expect to spend more money on better technology so you can get avalanche forecasts and share snow, weather, and avalanche information in the future.

Colorado Snow and Avalanche Workshop (CSAW)

CSAW is a one-day professional development seminar for people working in avalanche safety. It provides a venue for avalanche workers – ski patrollers, avalanche forecasters, road maintenance personnel, ski guides, avalanche education instructors, undergraduate and graduate students, and applied researchers – to listen to presentations and discuss new ideas, techniques and technologies with their colleagues. The meeting is open to anyone. Last year 700 people attended the workshop!

CAIC Staff Education and Training

This category covers any expense we incur for supporting CAIC staff training. Training and education includes such things as paying for some staff to attend the International Snow Science Workshop, European Warning Service meeting, and other education or training opportunities.

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