

2021

Annual Report





Our Mission

The mission of the WiRē Center is to support evidence-based community wildfire education efforts so that communities can live with wildfire. Specifically, the WiRē Center provides personalized expertise and support to collect, interpret, and use paired parcel-level wildfire risk and social data. The WiRē Approach enables partners to effectively allocate resources and engage with residents. Leveraging lessons learned across projects, the WiRē Center pursues scientific approaches to inform conversations and decisions about wildfire adaptation.

Our Vision

Communities can live with wildfire.



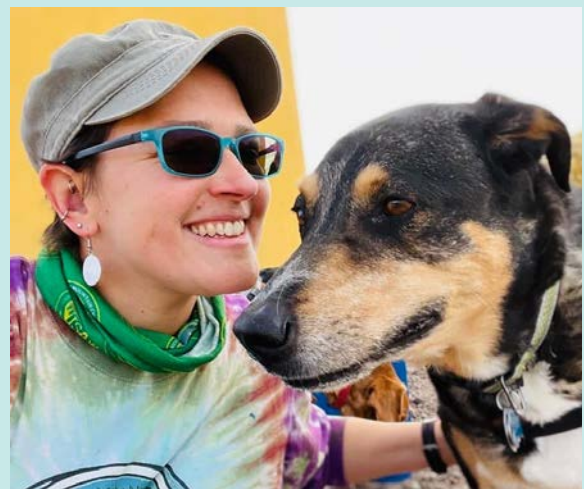
Board Expansion

The WiRē Center is excited to introduce two new board members, Hollis Hope and Dana Coelho, who joined the board in 2021.



Hollis Hope

Hollis Hope is an expert in nonprofit governance and has recently served on the Board of Directors for the American Institute for Avalanche Research and Education. She brings her expertise in management of nonprofit organizations to support WiRē Center administrative policy development including the transition to employees in 2022.



Dana Coelho

Dana Coelho is currently the Urban & Community Forestry Program Manager for the Colorado State Forest Service and has the unique lens of having worked for a nonprofit (Metro Denver Nature Alliance), the federal government (USDA Forest Service) and the state (Colorado State Forest Service). Dana provides the WiRē Center with strategic direction related to new collaborations and funding opportunities.

The WiRē Approach

Our approach (the WiRē approach) is a systematic process that links professionally assessed wildfire risk information with social data to help find opportunities to increase interest and enthusiasm for mitigation in WUI communities. **To our knowledge, the WiRē Center is the only organization working with wildfire practitioner partners to pair wildfire risk *and* social data.**

Two key elements of the WiRē approach distinguish it from other community wildfire adaptation efforts:

1

Our work is based on a long-term, research-practitioner collaboration where researchers and practitioners contribute equally to the research agenda, methods, and questions. Through this iterative process the approach continues to evolve and adapt while maintaining a central focus on creating tools and information for effective science-based wildfire education programs.



Long-term



Collaborative



Actionable

2

The systematic WiRē approach focuses on all private land parcels with a primary residential structure within a community. The holistic community approach is a notable departure from opportunistic wildfire education programs that focus substantial effort on a few community residents.



Holistic

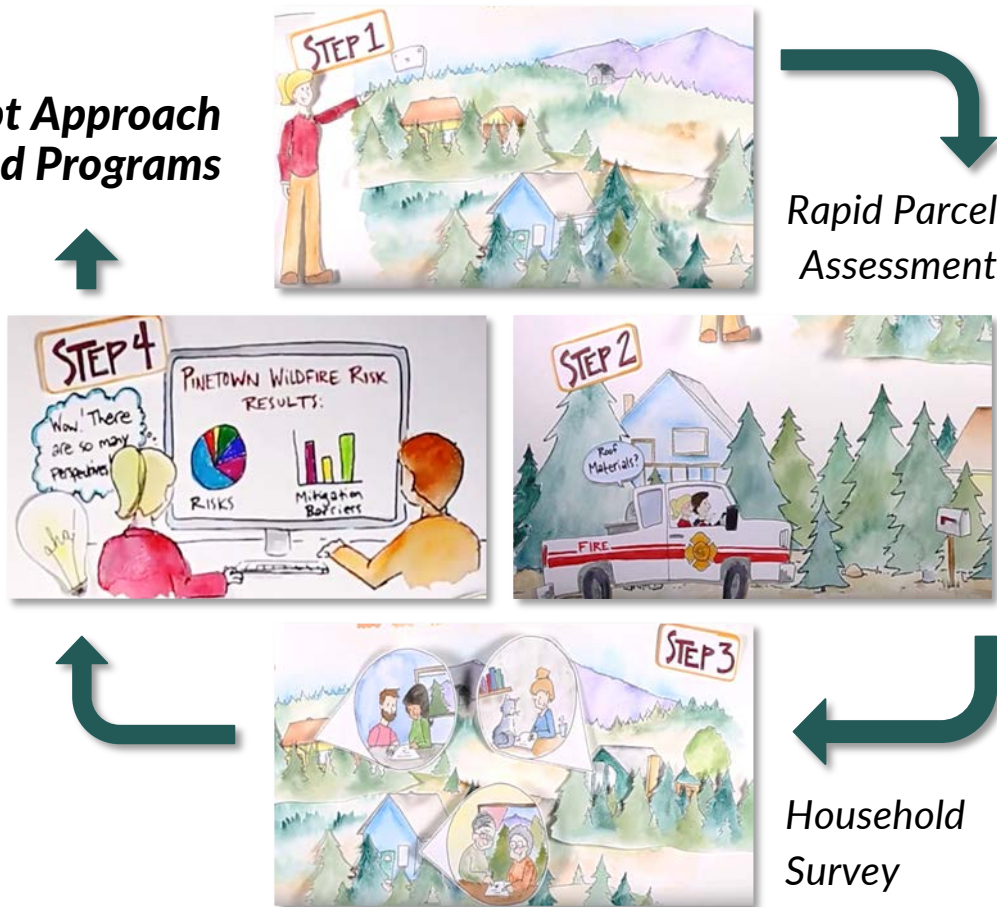


Individuals &
Communities

The WiRē Approach

The WiRē approach is premised on the underlying philosophy that wildfire practitioners can develop better programs if they participate in the data collection process and share the results with their partners and communities. Local practitioners collect the data, map results, and tailor their wildfire risk education programs. WiRē provides support and tools to streamline and assure the data collection efforts conform to best scientific practices, as well as expertise to summarize and analyze the social data.

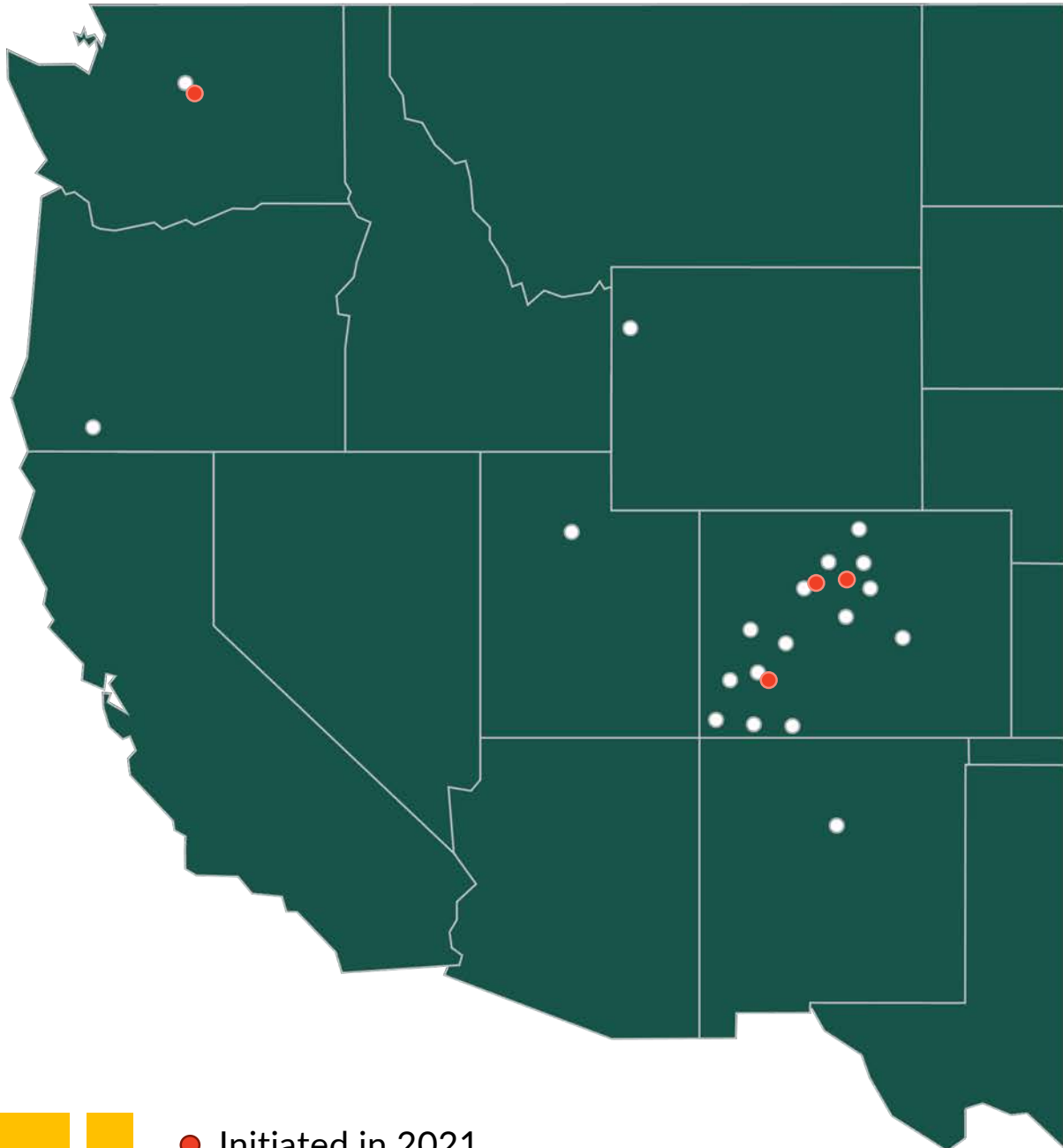
**Adapt Approach
and Programs**



Images from video by Karina Branson (www.ConverSketch.com)
View the full series at <https://wildfireresearchcenter.org/approach/>



WiRē Project Locations



- Initiated in 2021
- Initiated before 2021

WiRē Partners & Projects

Year Started	Location	Main Partner(s)	Affiliated Partners
2004*	Colorado Springs, El Paso County, CO	Colorado Springs Fire Department	
2007/ 2010*	Boulder County, CO	Boulder County	Colorado State Forest Service, National Center for Atmospheric Research
2007/ 2010*	Larimer County, CO	Larimer County	Colorado State Forest Service, National Center for Atmospheric Research
2011	Log Hill Mesa, Ouray County, CO	West Region Wildfire Council	Log Hill Mesa Fire Protection District
2013	Delta County, CO	West Region Wildfire Council	Cedaredge, Crawford, Hotchkiss, and Paonia Fire Protection Districts
2013	Rainbow Estates, Gunnison County, CO	West Region Wildfire Council	
2015	Telluride, San Miguel County, CO	West Region Wildfire Council	Telluride Fire Protection District
2015	Archuleta County, CO	Wildfire Adapted Partnership**	Pagosa FPD; Los Pinos Fire Protection Districts
2015	La Plata County, CO	Wildfire Adapted Partnership**	Durango, Upper Pine, and Fort Lewis Mesa Fire Protection Districts
2015	Montezuma County, CO	Wildfire Adapted Partnership**	Cortez, Dolores, Lewis-Arriola, and Mancos Fire Protection Districts
2015*	Norwood, San Miguel County, CO	West Region Wildfire Council	

* These projects did not have the full WiRē paired data collection approach

** FireWise of Southwest Colorado

WiRē Partners & Projects

Year Started	Location	Main Partner(s)	Affiliated Partners
2017	Log Hill Mesa, Ouray County, CO	West Region Wildfire Council	Log Hill Mesa Fire Protection District
2018	Squilchuck Drainage, Chelan County	Chelan County Fire District #1	
2019	Ashland, Jackson County	Ashland Fire & Rescue	
2019	Park County	Platte Canyon Fire Protection District	Fire Adapted Bailey; Burland Ranchettes HOA
2019	Chalk Creek Canyon, Chaffee County	Colorado State Forest Service, Salida Field Office	Chaffee County Fire Protection District
2019	Grand County	Grand County Wildfire Council	Hot Sulphur Springs, Grand Lake, Grand, Kremmling, and East Grand Fire Protection Districts
2020	Teton County	Teton Area Wildfire Protection Coalition	
2020	Emigration Canyon Metro Township, Salt Lake County	Utah's Forestry, Fire and State Lands	Emigration Canyon Metro Township; Unified Fire Authority
2020	Santa Fe County	City of Santa Fe Fire Department	
2021	Chelan County	Chelan County Fire District #1	Cascadia Conservation District
2021	Chelan County	Chelan County Fire District #3	Cascadia Conservation District
2021	Chelan County	Lake Wenatchee Fire & Rescue	Cascadia Conservation District
2021	Genesee Fire Protection District, Jefferson County	Genesee Fire Rescue	

WiRē Partners & Projects

Year Started	Location	Main Partner(s)	Affiliated Partners
2021	Town of Vail, Eagle County, CO	Vail Fire & Emergency Services	
2021	Ouray and Montrose Counties, CO	West Region Wildfire Council	Ridgeway and Montrose Fire Protection Districts



Practitioner of the Year

WiRē Center launched a “Practitioner of the Year” program to recognize the outstanding efforts of our practitioner partners. This year, WiRē Center selected Schelly Olson as the inaugural Practitioner of the Year.

Schelly Olson

Schelly recently retired as Assistant Chief with Grand Fire Protection District. She also served as the fire district’s Community Risk Reduction Coordinator and Public Information Officer. Schelly founded the Grand County Wildfire Council (bewildfireready.org) in 2013, and currently serves as the council’s Executive Director. Schelly has been working for over a decade with Grand County residents to help them live with the threat of wildfire. Her commitment to service isn’t limited to Grand County. Schelly has served on the Colorado State Fire Chiefs’ Association - Wildland Section, Fire Adapted Colorado, and NFPA’s Wildland and Rural Fire Protection Committee. As if that wasn’t enough, she also travels the West supporting complex incident management teams as a Public Information Officer.

In 2020, Schelly’s home was among the 366 homes destroyed by the East Troublesome Fire. Despite this tragedy, Schelly exemplified resilience and maintains her resolve to advocate for safer, more fire adapted communities – possibly with even more tenacity than before the fire. When asked about fire mitigation efforts in the home ignition zone during a recent interview, Schelly said “You can’t control where the embers from the wildfire will land, but you can



control what will happen when they do land.” Schelly’s resilience and commitment as a practitioner demonstrate that although we can’t prevent all negative outcomes, we can continue to inform conversations and decisions about wildfire adaptation.

WiRē Center extends its deepest gratitude for all that Schelly has done and continues to do.

2021 Partnerships

We connected WiRē project partners by initiating a Community of Practice (CoP) in the summer of 2021.

Save the Date!

***Wildfire Research (WiRē)
Partner Community of Practice***

***June 16, 2021
10:00-11:00am (MDT)***

We would like to invite you to the first WiRē Partner Community of Practice. This learning opportunity will offer space to meet other partners and learn about the uniqueness of each WiRē project.

The hour-long workshop will feature presentations from WiRē partners, peer-to-peer discussion, and research updates from the WiRē team.

We held 3 CoP meetings in 2021 and have 4 CoP meetings planned for 2022.

The CoP is a co-learning and sharing opportunity that brings together past, current, and future WiRē partners to share challenges, successes, and lessons learned.

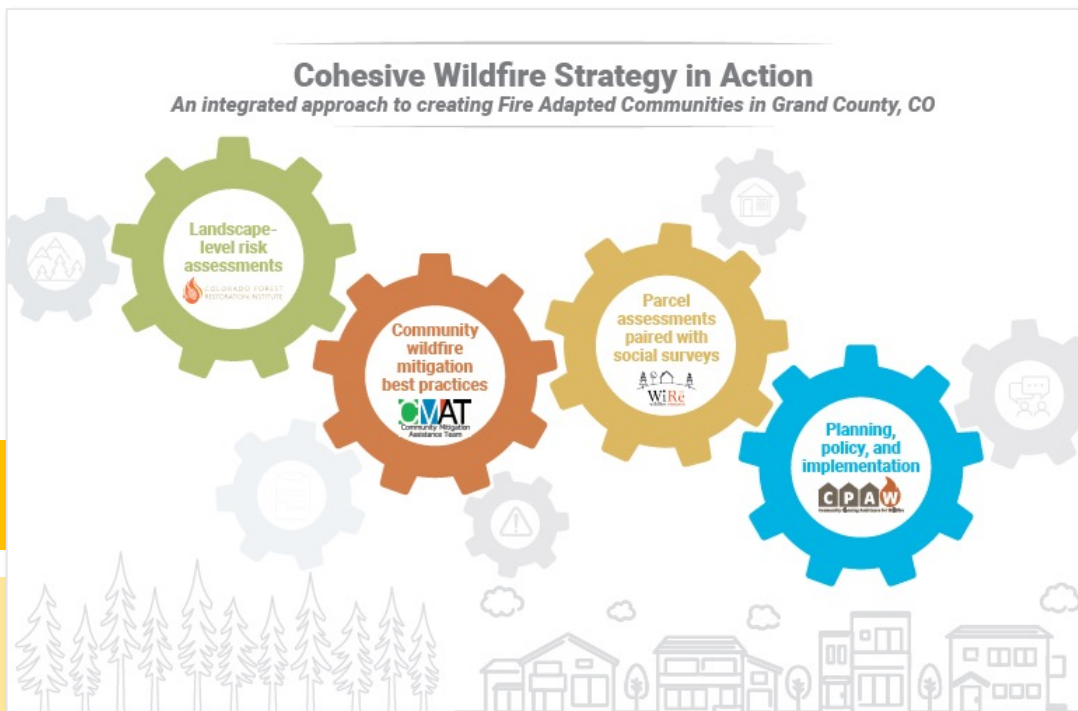
A community of practice (CoP) is a group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly. This definition reflects the fundamentally social nature of human learning.

2021 CoP attendees



2021 Partnerships

We built bridges across USDA Forest Service-funded efforts in Grand County, CO.



In the aftermath of the East Troublesome Fire (2020), WiRē participated in the Community Mitigation Assistance Team (CMAT) post-fire planning, focused on bolstering and expanding Grand County mitigation efforts. The WiRē Center was able to provide pre-fire, baseline data for several of the communities directly affected by the fire. WiRē Team members Patty Champ and Hannah Brenkert-Smith participated in several forums, including the in-person presentation of the CMAT report (see the story map [here](https://storymaps.arcgis.com/stories/fa4f0e2c359646c1b14fbdc30e73bf16?fbclid=IwAR0raPPwgYXFAnSyb8JS_AF9CQ8Za8rdoizBH49sfuT7W7Zf6p6eCQq0ILw)*).

As a result of this process, WiRē is now working with Headwaters Economics, the Community Assistance Planning for Wildfire (CPAW), and the Colorado Forest Restoration Institute (CFRI) to support each other's efforts in Grand County.

* https://storymaps.arcgis.com/stories/fa4f0e2c359646c1b14fbdc30e73bf16?fbclid=IwAR0raPPwgYXFAnSyb8JS_AF9CQ8Za8rdoizBH49sfuT7W7Zf6p6eCQq0ILw

2021 Partnerships

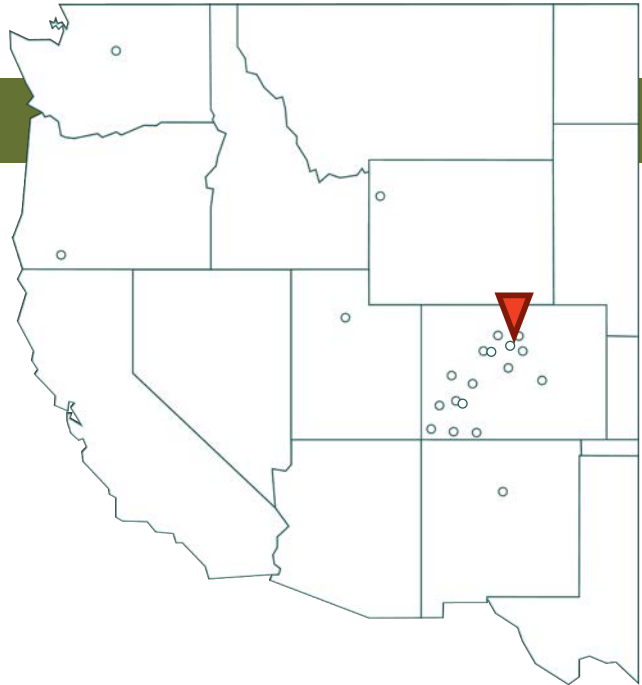
We formed new partnerships.

Genesee Fire Rescue

Genesee Fire Rescue is responsible for fire protection services in the Genesee Fire Protection District, which includes about 1,500 homes, 28 commercial buildings, and 3,600 residents in the foothills west of Denver, CO. Genesee Fire Rescue reached out to WiRē as they were finalizing their Community Wildfire Protection Plan update (published in 2021) to help identify how to better engage residents.

WiRē practitioner, Chris Barth from the Bureau of Land Management, conducted an in-depth virtual training on the rapid wildfire risk assessment. We accompanied the virtual training with an in-person training on the data collection process.

Genesee Fire Rescue conducted the rapid wildfire risk assessments in June and July and administered the household survey in August through October.



WiRē rapid assessment training
with Genesee Fire Rescue in May 2021

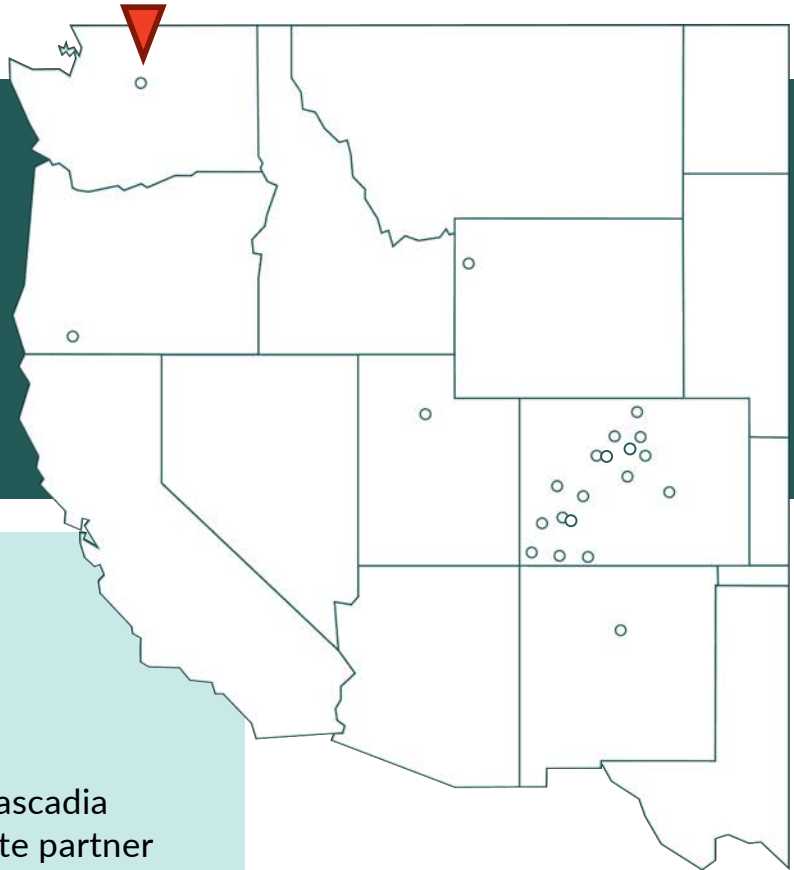
2021 Partnerships

We formed new partnerships, based on a partnership first launched in 2017.

**Chelan County
Fire District #3
Lake Wenatchee
Fire & Rescue
Cascadia Conservation
District**

We expanded on our current partnership with Chelan County Fire District #1 in Chelan County, Washington to include Lake Wenatchee Fire & Rescue and Chelan County Fire District #3. Cascadia Conservation District is the affiliate partner who is the liaison between all three of the Chelan County fire districts.

Working with several Chelan County communities will provide important insights into the diversity of WUI residents across the county. This project is partially funded by the USDA Forest Service's Co-Management of Fire Risk Transmission (CoMFRT) project.



2021 Partnerships

We tried out new methods.

We built on existing projects.



Vail Fire & Emergency Services

WiRē partnered with Vail Fire & Emergency Services to help develop and implement an **online survey** that will collect important information to develop more effective wildfire risk mitigation and evacuation outreach for both homeowners and renters.

Our Vail partner, Paul Cada, worked closely with the WiRē Center to develop an innovative approach to the online survey that will provide systematic data paired with professional risk assessments. Cody Evers from Portland State University provided the technical expertise to develop an online survey approach that will be of interest to many future WiRē partners.

Vail Fire & Emergency services will deliver door hangers or postcards with information about the data collection effort, including a QR code for the household survey.

This project is experimental, but we hope it will allow WiRē to help our partners who have large renter populations.

West Region Wildfire Council

Building on a researcher-practitioner relationship with the West Region Wildfire Council (WRWC) that has been fostered since 2012, WiRē kicked off a new project in Ouray and Montrose, Colorado counties. WRWC will be the liaison between the Ridgway and Montrose Fire Protection Districts (FPDs) to implement the WiRē Approach. This project builds on WRWC staff efforts to improve engagement with residents in these areas.

Within these specific areas, this will be WRWC's first comprehensive, coordinated, and census style effort to assess parcel scale wildfire risk, and the interwoven social dynamics at play.

WiRē's Hannah Brenkert-Smith secured a grant from the University of Colorado to cover material costs associated with household survey administration.

2021 Partnerships

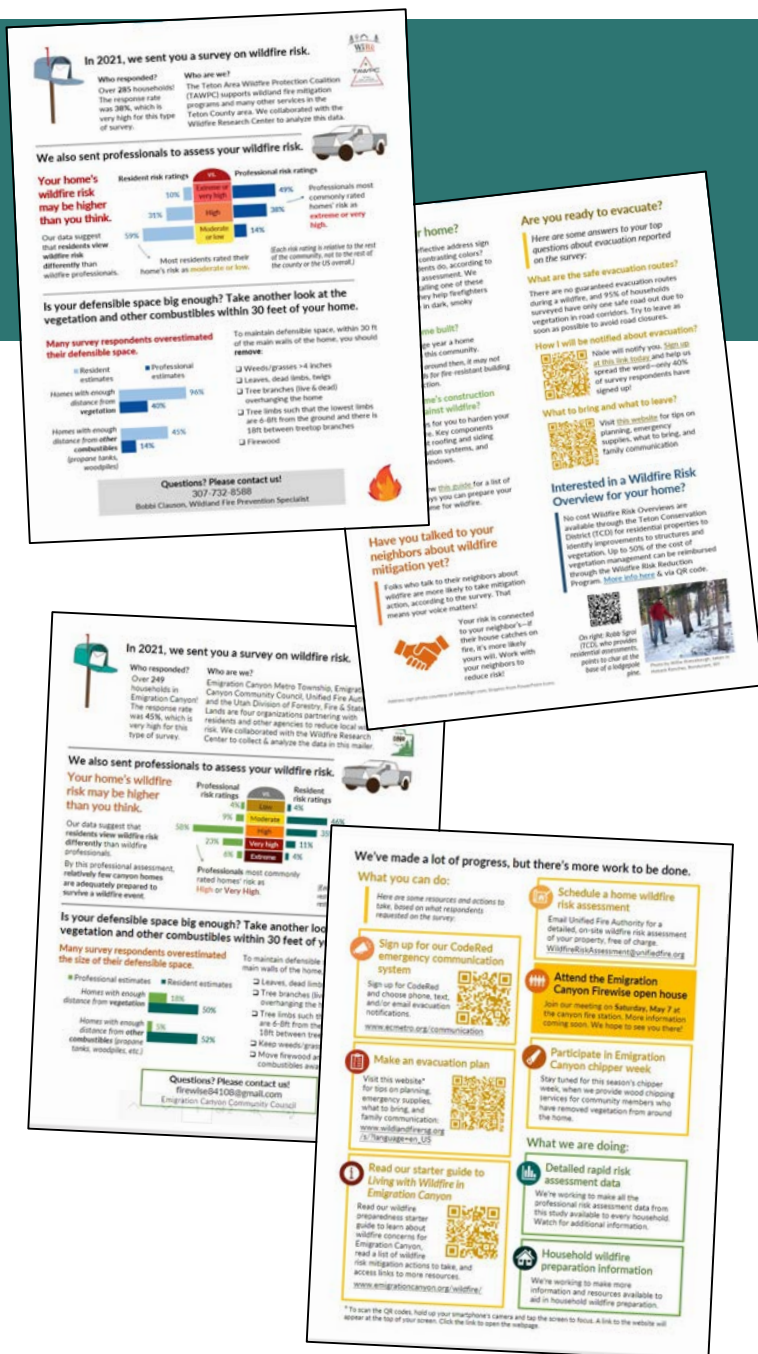
We wrapped up projects with two Co-Management of Fire Risk Transmission (CoMFRT) partners

Teton Area Wildfire Protection Coalition Utah's Forestry, Fire and State Lands

We are wrapping up successful projects with the Teton Area Wildfire Protection Coalition in Jackson, WY area and with Forestry, Fire and State Lands in the Wasatch Front, Utah.

After reviewing the results of the rapid risk assessments and household surveys, we began working on outreach materials for diverse audiences such as residents, community ambassadors, and local leadership.

2-page mailers
for both study
areas



2021 Awards

New partners, new geographies



The WiRē Team was thrilled to be awarded National Science Foundation funding for the implementation of the WiRē Approach in Alaska. This project brings us into new partnerships with researchers at University of Alaska Anchorage and Northern Arizona University, and with leaders and practitioners from the Tanana Chiefs Conference and in four Kenai Peninsula communities. The WiRē Center will provide critical support for the success of this project.

For more details see the CU Boulder press release <https://ibs.colorado.edu/ibs-researcher-brenkert-smith-to-collaborate-on-2-3-million-nsf-grant-aimed-at-wildfire-risk-reduction/> and University of Alaska Anchorage press release <https://iseralaska.org/2021/08/iser-researcher-schmidt-to-lead-2-3-million-nsf-grant-aimed-at-wildfire-risk-reduction/>

2021 Outcomes

We helped partners incorporate social science into their decision making, through our publications.

Data Reports

Champ, P.A., Goolsby, J.B., Shaver, J.T., Kuehn, J.; Meldrum, J.R., Brenkert-Smith, H., Barth, C.M., Donovan, C., Wagner, C. 2021. Living with wildfire in Chalk Creek, Chaffee County, Colorado: 2019 data report. Res. Note RMRS-RN-90. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 81 p.
<https://doi.org/10.2737/RMRS-RN-90>

Brenkert-Smith, H., Chambers, C., Gible, K., Barth, C.M., Donovan, C., Wagner, C., Lerch, A., Meldrum, J.R., and Champ, P.A. 2021. Living with wildfire in the Ashland, Oregon: 2020 data report. Res. Note RMRS-RN-88. Fort Collins, CO: U.S. Department of Agriculture, Rocky Mountain Research Station. 54 p.
<https://www.fs.usda.gov/treesearch/pubs/61748>

Publications

Peer-reviewed publications

Meldrum, J.R., Brenkert-Smith, H., Champ, P., Gomez, J., Byerly, H., Falk, L., Barth, C. 2021. Would you like to know more? The effect of personalized wildfire risk information and social comparisons on information-seeking behavior in the wildland-urban interface. *Natural Hazards*.
<https://doi.org/10.1007/s11069-021-04534-x>

Public-facing publications

Champ, P., Barth, C., Brenkert-Smith, H., Falk, L., Gomez, J., Meldrum, J.R. 2021 Putting people first: Using social science to reduce risk. *Wildfire Magazine: International Association of Wildland Fire*. 30.2:30-34.
<https://www.iawfonline.org/article/putting-people-first-using-social-science-to-reduce-risk/>

2021 Outcomes

We expanded the existing dataset that compiles the paired rapid risk and social data across all partner projects.

15
partner
projects

18,850
risk assessments

5,402
paired social
surveys

We drew upon the master dataset for various trainings and presentations

- 1 After our Fall CoP, which focused on the master dataset, our new collaborator from Fire Adapted Colorado (FACO) reached out to WiRē to pull together a summary graphic using the master dataset. The specific request was to update a graphic FACO uses as part of their Community Wildfire Mitigation Best Practices course, to demonstrate barriers and incentives to mitigation across WiRē study areas.
- 2 Meldrum, J.R. (2021) **Leveraging multi-site data and Bayesian analysis to understand a case study.** Department of the Interior (DOI) Economics Training Workshop.
- 3 Meldrum, J.R. (2021) **Scaling up by scaling out: long-running social science to support wildfire risk mitigation.** USGS Fort Collins Science Center Seminar Series.

2021 Outcomes

We raised wildfire risk awareness through various press and media opportunities.

Podcasts & radio



Hannah Brenkert-Smith discussed risk mitigation on *Colorado Public Radio*, **"When The Wilderness Meets The Urban, Homeowners And Neighbors Are On Their Own Against Wildfires"**

<https://www.cpr.org/2021/01/27/when-the-wilderness-meets-the-urban-homeowners-and-neighbors-are-on-their-own-against-wildfires/>



Hannah Brenkert-Smith discussed the risk estimation gap on *Colorado Public Radio*, **"Wildfires Are Ravaging The West. Research Shows The People In Their Paths Vastly Underestimate The Risk"**

<https://www.cpr.org/2021/07/14/wildfire-risk-safety-bailey-park-county/>

Online Publications



WiRē project in Platte Canyon highlighted in blogpost for *CU Boulder Today*, **"Mountain residents underestimate wildfire risk, overestimate preparedness"**

<https://www.colorado.edu/today/2021/06/11/mountain-residents-underestimate-wildfire-risk-overestimate-preparedness>



WiRē research highlighted in article for *Sky-Hi News* (serving Grand County, CO), **"Study measures fire risk, reality"**

<https://www.skyhinews.com/news/research-studies-2019-fire-risk-vs-troublesomes-destruction/>



WiRē research highlighted in article for the *Daily Camera* (serving Boulder, CO), **"CU Boulder researchers study wildfire risk, preparedness"**

<https://www.dailycamera.com/2021/07/22/cu-boulder-researchers-study-wildfire-risk-preparedness/>

2021 Outcomes

We raised wildfire risk awareness through webinars and presentations for diverse audiences.

Practitioners & Public

Meldrum, J.R. (Jan 2021) **"Rapid Wildfire Risk Assessments and Outcomes in Columbine Lake after the East Troublesome Fire."** Grand County Wildfire Council Meeting.

Brenkert-Smith, H. (Nov 2021) **"Can humans live with wildfire? Pathways to wildfire adaptation through evidence-based approaches."** CU on the Weekend. <https://www.colorado.edu/outreach/ooe/cu-weekend/can-humans-live-wildfire>.

Practitioners, Land Managers, Decision-Makers, & Researchers

Champ, P.A. (Mar 2021) **"Moving from parcel risk assessments to building fire adapted communities."** Cross Boundary Fire Risk Mitigation Webinar Series. <https://vimeo.com/536854982>.

Meldrum, J.R. (May 2021) **"Leveraging multi-site data and Bayesian analysis to understand a case study."** Department of the Interior (DOI) Economics Training Workshop.

Meldrum, J.R. & Barth, C.M. (May 2021) **"What good is a rapid wildfire risk assessment? Just a few uses include post fire assessment, targeting programs, and tailoring outreach."** Wildland Fire Safety Summit and the Human Dimensions of Wildland Fire Conference.

Champ, P.A. (Jun 2021) **"The Wildfire Research (WiRē) Team and Center."** U.S. Forest Service Wildfire Summit (with attendance from federal, state, tribal, and nonprofit sectors).

Meldrum, J.R., Olson, S. & White, B. (Sept 2021) **"Can rapid wildfire risk assessment data predict structure loss during a wildfire event? A case study of the East Troublesome Fire."** Colorado Wildland Fire Conference.

Government Researchers

Champ, P.A. (July 2021) **"Working outside the traditional Forest Service Research Model."** USDA Forest Service, Pacific Northwest Research Station, Oregon.

Meldrum, J.R. (Dec 2021) **"Scaling up by scaling out: long-running social science to support wildfire risk mitigation."** USGS Fort Collins Science Center Seminar Series.

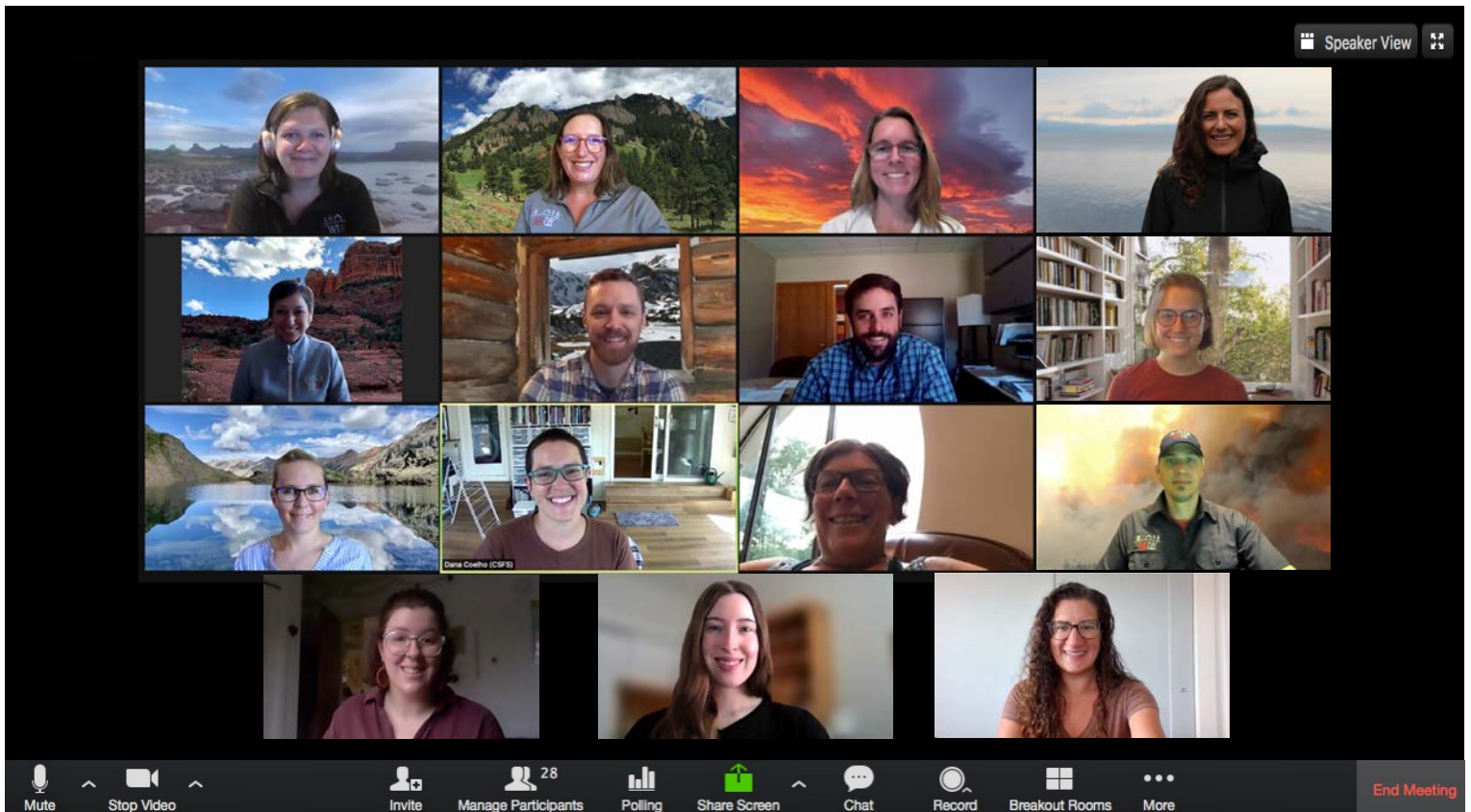


2021

Financials

Net income
\$152,287

Net expenses
\$155,112



People

WiRē Center

Colleen Donovan, Project Manager
 Carolyn Wagner, Data Manager
 Alison Lerch, Wildfire Mitigation Specialist

WiRē Center Board of Directors

Hannah Brenkert-Smith, University of Colorado Boulder
 Jamie Gomez, West Region Wildfire Council
 Lilia Falk, West Region Wildfire Council
 Hollis Hope, Leadership and organizational mentor and coach
 Dana Coelho, Urban & Community Forestry Program Manager, Colorado State Forest Service

Advisory Committee

Patricia Champ, USDA Forest Service
 James Meldrum, U.S. Geological Survey
 Christopher Barth, U.S. Bureau of Land Management

Affiliate Contributors

Julia Goolsby, U.S. Geological Survey
 Abby McConnell, U.S. Geological Survey
 Cody Evers, Portland State University
 Zoe Boiarsky, University of Colorado Boulder
 Katlyn Blacksten, University of Colorado Boulder

Postdoc

Hilary Byerly, University of Colorado Boulder

Affiliate Organizations



University of Colorado



USDA Forest Service



U.S. Geological Survey



U.S. Bureau of Land Management

Funding Sources

None of our projects would be possible without the engagement and support of our partners. These organizations that range from Fire Protection Districts, to wildfire councils, to state agencies bring their earnest passion and commitment to wildfire risk reduction to the table for each project. They also bring critical support by covering personnel for field data collection and costs of survey administration.

Individual WiRē Team members maintain a connection with the WiRē Center by participating on the Center's Advisory Committee or as a member of the Board of Directors. In this capacity, the WiRē Team provides technical and strategic guidance to the WiRē Center, ensuring the WiRē approach is implemented with exceptional quality and scientific integrity. The WiRē Center relies on the continued technical and research support from individual Team members, as well as in-kind support (salary and travel) from their respective employers – USDA Forest Service (FS), U.S. Geological Survey (USGS), Bureau of Land Management (BLM), West Region Wildfire Council, and the University of Colorado at Boulder.

FY 2021 Funding Sources



USDA Forest Service
State and Private Forestry Fire and Aviation Management

Leveraged Funding



National Science Foundation
Grant SES-1823509



University of Colorado
Outreach Grant Program

Additional support from the University of Colorado *Natural Hazards Center* Mitigation Matters Research Program Grant and *Institute of Behavioral Science* Small Grants Program, which funded the Jackson and Ashland interviews and the online study to support the Ashland field experiment.

