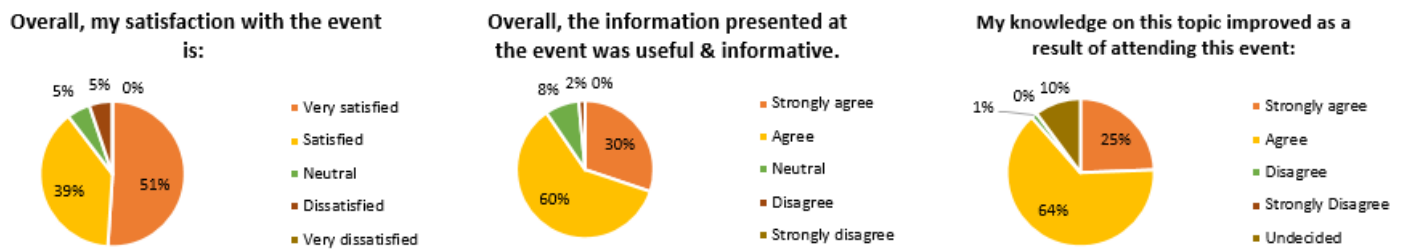


ANNUAL REPORT, OCTOBER 30, 2020

Priorities and Initiatives

A summary of SRFSN evaluations illustrate that the majority of participants respond as “agree” to “strongly agree” in usefulness and overall satisfaction with both in-person and online SRFSN activities:

Figure 1: Combined Feedback Evaluations



Priorities for SRFSN this last fiscal year included:

- **Governance:** SRFSN implemented changes to the Leadership Team composition, expertise, and interests to allow us to be adaptive to changes in wildland fire scientific knowledge, management opportunities and challenges in the SRFSN service area. These changes included adding Daniel Godwin of the Forest Stewards Guild, Camille Stevens-Rumann of CSU Dept. of Forest and Rangeland Stewardship, and Sara Synowiec, USFS Region 2 Hazardous Fuels Management Specialist/Ecologist to our Leadership Team.
- **Fire Management & Application:** Bring together researchers, managers, and interested and affected stakeholders to increase awareness and knowledge of, and foster commitment to, methodologies to “reintroduce the right kind of fire at the right times in the right places”
- **Post-Fire Ecology and Risk:** Beyond pre-fire planning and workforce development, a prevalent, and now critical, concern in the SRFSN service area is post-fire ecological recovery and risks.
- **Science and Policy:** By leveraging with partners active in science and policy, we are providing science-based wildland fire knowledge to people and institutions in the policy arena by including policy-makers and policy advisors and staff in workshops, webinars, and field trips.
- **Strong working relationships with state extension programs** to promote online and in-person exchange activities regarding fuels processing and management, forest practices, emergency response, and wildfire preparedness.
- Continue to develop more user-friendly and effective content on [SRFSN website and social media](#).

Highlights & Achievements

In spite of challenges to our scheduled face to face meetings and proposed Program of Work, SRFSN had a productive and innovative fiscal year. We successfully pivoted from a variety of in-person events to well-attended and referenced virtual events, webinars, research briefs, and social media development. Event attendance number reflect moderate declines, likely attributable to a flooded online event market, complicated by regional megafires later in the fiscal year. However, we experienced increased interest from researchers and practitioners seeking knowledge exchange through our network.

Table 1: SRFSN Activity Highlights:

Activity	Number of Participants
In-Person Events:	
Association for Fire Ecology Conference: Fire Learning Circle	25
Conference Exhibit	200
Society for Range Management: Prescribed Fire Training and Straw Bale Burn	40
Conference Display booth	90

Colorado Wildland Fire Conference (Virtual)	75
Restoring the West Conference 2019: Managing water by managing the land	125
USU Biochar Conferences, workshops, and demonstrations	324
Mountain Studies Institute: Forest and Fire Learning Series & Beetle Tour	133
Regional Prescribed Fire Council meetings, events, & tours (UT, WY, CO, NE)	340
Forest and Fire Learning Series/ Forest Trail Mountain Studies Institute	133
Webinar: Boundary-Spanning for Collective Action: Managing Wildfire Risk in the West	942
Webinar: Policy Barriers to Prescribed Fire	230
Webinar: Strategies for increasing Rx fire application on federal lands from case studies in the US West	225
Media & Online Resources:	
Webpage: COVID-19 information/mitigation for wildland firefighting	559
TNC Burned Area Learning Network Storymap	75
24 Newsletters/announcements (total opens = number of participants)	14,102

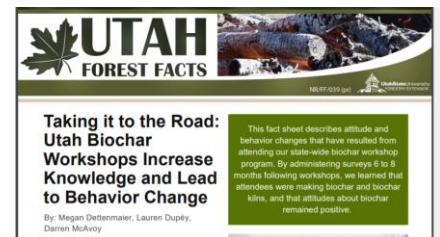
Success Stories:

Utah State University Forestry Extension and Utah Biomass Resources Group:

- **Big Box Kiln Demos:** With support from SRFSN, the Utah Biomass Resources Group (UBRG) and USU Forestry Extension collaborated with other agencies to demonstrate a new approach to reducing hazardous fuels with box kilns. These large-scale kilns were specially fabricated with double-wall design to help maintain and distribute heat for more effective processing. SRFSN and USU Extension sponsored numerous biochar kiln events throughout the state, which now also practiced at the Utah state level.

One workshop was held as an open-house style event, with small groups of people coming and going throughout the day. This may be a model for field demonstrations in managing exposure to COVID-19.

- **Prescribed Fire and Forestry Practices Tours:** USU FE conducts annual tours to prescribed fire projects highlighted the management objectives and effects. A Forest Products Tour is also conducted annual with SRFSN support to highlight forest products, utilization, and fuels treatments.
- **Research briefs and video** were also completed regarding big box kilns as well as prescribed fire and forestry practices



University of Wyoming, SRFSN, and GPFSE:

- **Continued to facilitate growth** of the WY PFC through travel sponsorships for PFC members and students, supporting development and dissemination of the WY PFC legal and case law review of prescribed fire in Wyoming, organizational meetings and science exhibits and materials.
- **Supported social science surveys** on the development of PFC's, and landowner/rancher perceptions of the use of prescribed fire. These studies will be completed and disseminated next year

Webinar Partnerships: The Utah State University Learn at Lunch webinar Series has been cancelled due to funding and staff changes, However, SRFSN continues to leverage partnerships with Fire Adapted Colorado, Forest Stewards Guild, and neighboring FSEN's addressing critical knowledge needs of mapping tools, fire behavior, See attached activity table for complete webinar listings.

Prescribed Fire Councils and Partnerships: We continued to move forward with Prescribed Fire Council activities across the region. All PFC's experienced membership and meeting growth. Wyoming PFC produced a Wyoming Prescribed Fire legal review, and co-sponsored an information table with SRFSN at the annual Wyoming Rural Firefighters Meeting in December 2019. SRFSN and GPFSE sponsored at WY PFC member to attend the Nebraska PFC annual meeting to train more on Rx fire and connect across regions. The SRFSN and the GPFSE also co-



sponsored a Fire Learning Circle at the Association for Fire Ecology conference November, 2019. The FLC was attended by 20 representatives at least 10 states, and resulted in a list of action items that can be implemented for regional collaboration.

Society for Range Management Conference and Prescribed Fire Training: SRFSN and GPFSE successfully co-sponsored and designed a Prescribed Fire Workshop and Straw Bale Burn at the National Western Center in Denver. Both exchanges lined up presenters, materials, and equipment for a local and international audience on the conference Practicum Day. Both exchanges also presented informational booths.



Successful Transition to Virtual Colorado Wildland Fire Conference:

More stuff here about attendance, participation, innovative presenters and wildfire planning, response, mitigation, and mapping tools. Although we experienced a decline in attendance compared to in-person events (likely due to numerous megafires in progress), participation was high and the conference was well-received. SRFSN experienced our first virtual exhibit.

SRFSN will work with several presenters on future webinars and briefs.

Forest and Fire Learning Series and Trail: SRFSN partnered with the Mountain Studies Institute to further establish the Forest and Fire Learning Trail at Reservoir Hill in Pagosa Springs, CO. This was attended by Colorado Senator Michael Bennett, who learned more on effective forest restoration and fuels management. MSI and SRFSN also worked to conduct a Forest and Fire Learning Series for Southwest Colorado, teaching forest and fire ecology, social science, watershed effects, and citizen science to the public and policymakers of SW Colorado. These activities informed both state and federal legislators.



Selected Research Briefs/Summaries:

SRFSN experienced a strong shift to research briefs and guidebooks. Among the accomplishments

- [Conversations about Conversions: Perspectives of Disturbance-Driven Change](#)
- [Mulching: A Knowledge Summary and Guidelines for Best Practices on Colorado's Front Range](#)
- [Hazardous fuels reduction using flame cap biochar kilns](#)
- [Large-diameter trees dominate snag and surface biomass following reintroduced fire](#)
- [Hosting flame cap biochar kiln workshops to teach hazardous fuel reduction](#)
- [Burned Area Learning Network: AZ/NM/CO- Storymap](#)
- [Long-term Cheatgrass Reduction with Indaziflam in Sagebrush-Grassland Plant Communities in Sublette County, Wyoming](#)
- [New Operational National Satellite Burned Area Product](#)
- [Collaboratively Engaging Stakeholders to Develop Potential Operational Delineations \(PODs\)](#)

Comparison with Planned Work

Please refer to the attached SRFSN Activities 2019-2021 document, showing planned activities listed in our renewal proposal for the current funding cycle. Table 2 lists the number of activities completed, in progress, or cancelled/postponed by color code used in the attached document. SRFSN activities total 39 current activities and or products for FY 2020, 30 of which are (or nearly) complete. Twenty-six activities are currently in progress; however, this number is highly changeable as SRFSN is approached to fill a variety of Network needs. Only 10 activities were cancelled or indefinitely postponed due to the onset of COVID-19 restrictions or other circumstances; we are confident that we will be able to meet our mission proposed for 2019-2021.

Figure 3: Primary Occupations

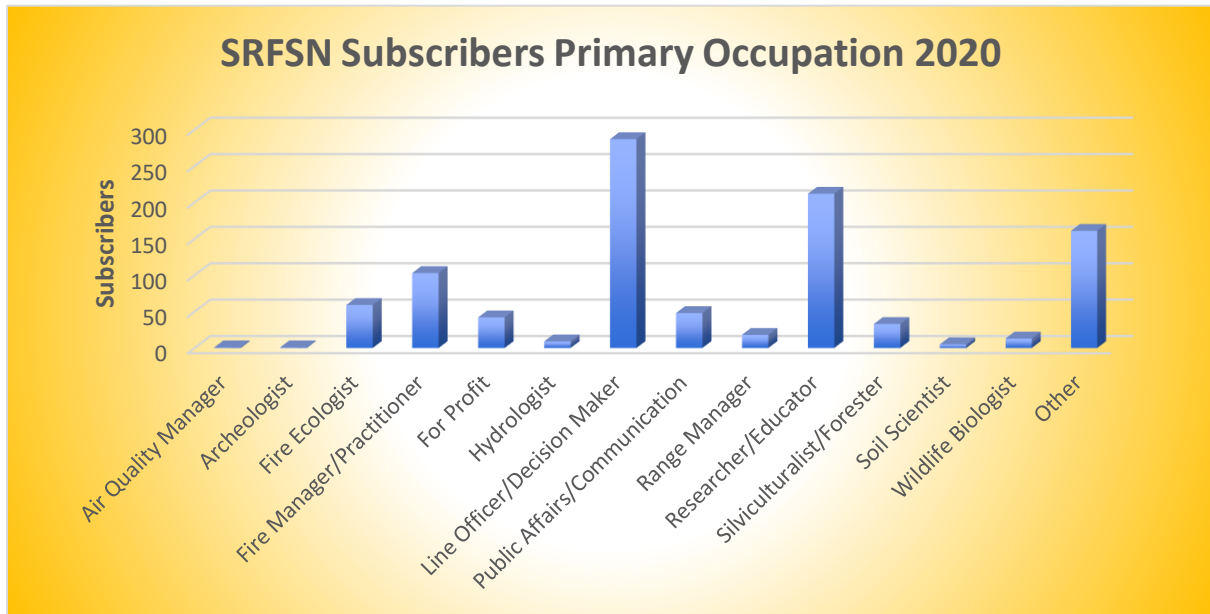
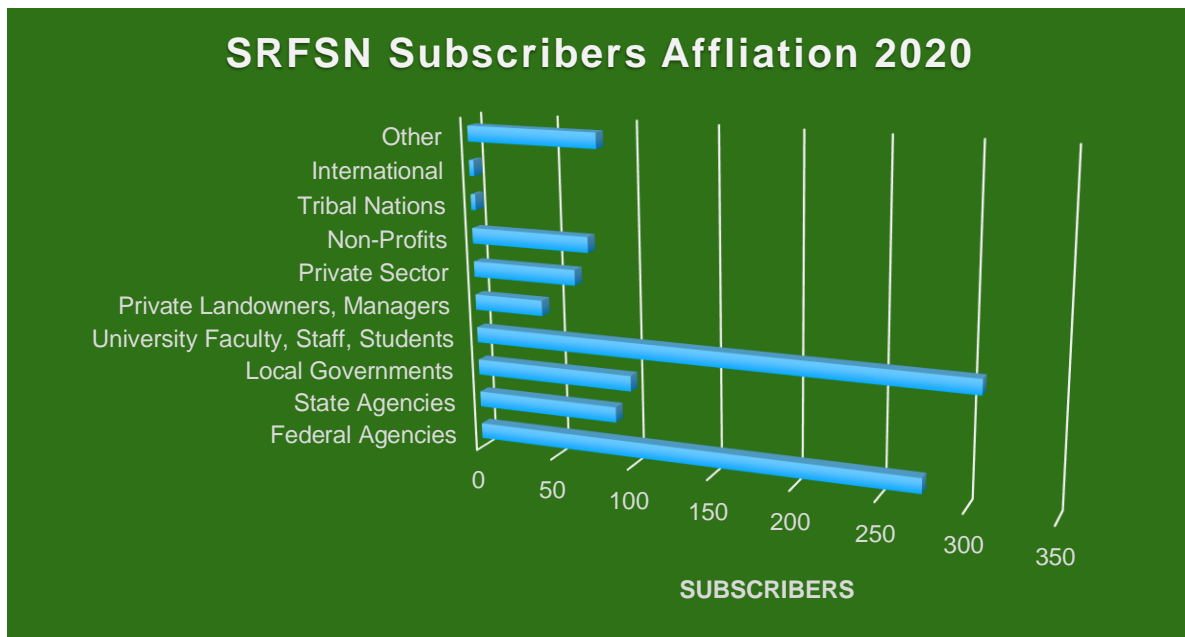


Figure 4: Subscriber affiliation



Figures 3 and 4 show that the majority of users continue to be in managers and researchers, showing that SRFSN is meeting the mission of knowledge exchange between these two groups. Data on Primary Occupations indicates increases in subscribership by Line officers and decision makers. A significant portion of subscribers represent landowners, the private sector, state agencies and municipalities. This indicates science is being used by followers outside of federal land agencies.

Regional Trends

Regional trends identified in our 2019 report (wildfire behavior/home ignition, fuels management, sagebrush and fire, invasives, grazing effects) continue to dominate knowledge needs in the region. Specific research and management needs have emerged from within these general topics:

- Recent regional fires show that knowledge of wildfire behavior and effects of beetle mortality in spruce-fir forests that have experienced extensive mortality. Little is known about this fuel model, which may have no regional historical analog. SRFSN will be incorporating programming on new megafires in Colorado and the extended wildfire season throughout the region and the west and how it applies to the high-elevation forests.

- Woody by-products and forest utilization, and biomass continues to be a growing issue, as well as home hardening for wildfire.
- Pollinators and relationship with both wildfire and prescribed fire is emerging as a regional issue. Research has been accomplished on this topic that we will be distributing and seeking more on this.
- More information is needed on prescribed fire smoke vs wildfire smoke. Although strides have been made on this topic, but we need to pull together current status and how this affects our region. We are considering workshops or regional calls to address this issue. Our prescribed fire councils are examining innovative ways to share science and success stories, including podcasts, field broadcasts, and possible TV spots funded in partnership with the US Forest Service Region 2.
-

Challenges

- Funding delays due to indemnification contract language between BLM Contracting office and Sponsored Programs of Colorado State University. This took several months to navigate, re-budget, and track progress. Fortunately, the Colorado Forest Restoration Institute covered SRFSN expenses until contract issues were resolved in December 2019.
- COVID-19: Similar to all other in-person services, SRFSN pivoted away from face-to-face events, and successfully re-focused efforts on creating and supporting virtual events, videos, conferences, and online resources with partners. Although these program changes took time, we successfully applied funds, worked with partners, and produced activities, videos, virtual conferences, and research briefs after the COVID-19 shutdown.
- Capacity: SRFSN continues to work with students in partnership with the Colorado Forest Restoration Institute. Additionally, SRFSN is working with the Forest Stewards Guild (FSG) for a job-sharing position and projects with the support social media, tech transfer, community outreach projects, and a burn-ban effectiveness needs assessment. FSG had to pivot again this last summer, as The Nature Conservancy's Fire and Forest Initiative program in the state of Colorado shut down and transferred all fire inventory and contracts to the FSG. This had impacts in SRFSN/FSG programs and plans, but we will be able to get back to schedule this winter. Growing our resources to add a .75 FTE position is ideal, and we continue to work towards that goal.

Online Learning

Website: In consultation with our current web design and coding company, we have made a decision to move our website from Squarespace into a new design in WordPress. WordPress currently offers better navigation and easier editing platforms. We have established a new WordPress template, and SRFSN employed a new copywriting service in addition to our current web designer. The new design helps the visitor through the thought process in understanding what wildfire science is, what the visitor's role can be, and clear calls to action on every main page. This includes a special page describing the Joint Fire Science Program and our relationship to the Program Office. Migration of all assets is currently underway, and we anticipate launch by December 2020.

SRFSN rapidly created a [COVID-19 webpage](#) devoted to topics specifically on wildland firefighting in response to planning needs regarding rapidly evolving COVID-19 research and mitigation techniques (Figure 5). The page now includes over hundreds of assets and has been visited 559 times since creation in June 2020.

Figure 5: COVID-19 page content navigation subheadings:

- [IN THE NEWS](#)
- [RESEARCH AND PUBLICATIONS](#)
- [OPERATIONS](#)
- [COMMUNITY OPERATIONS/WILDFIRE PREPAREDNESS](#)
- [MEDICAL](#)
- [GOVERNMENT PAGES](#)
- [WILDLAND FIRE LESSONS LEARNED CENTER RAPID LESSON SHARING](#)
- [INTERACTIVE WEBSITES](#)

Webinars: SRFSN continued to have increased success with webinars. We hosted 8 number of webinars totaling 2,382 attendees. After the Learn at Lunch webinar series with Utah State University Forestry Extension was cancelled, SRFSN continued producing webinars in cooperation with Fire Adapted Colorado and the Forest Stewards Guild. We will be expanding on these options during the next funding cycle.

E-mail List, Newsletters & Announcements: SRFSN currently has 1,516 subscribers on our e-mail listserve. A total of 24 newsletters and announcements were sent in FY 2020. Content shared through this network has ultimately been shared 14,202 times (Figure 6). This data indicates that engagement was fairly steady until the last quarter of the fiscal year – where sharp decline may be the result of many subscribers being away on fire duty at this time.

Figure 6: E-news open rates (light blue), industry average (red) & click rates (darker blue)

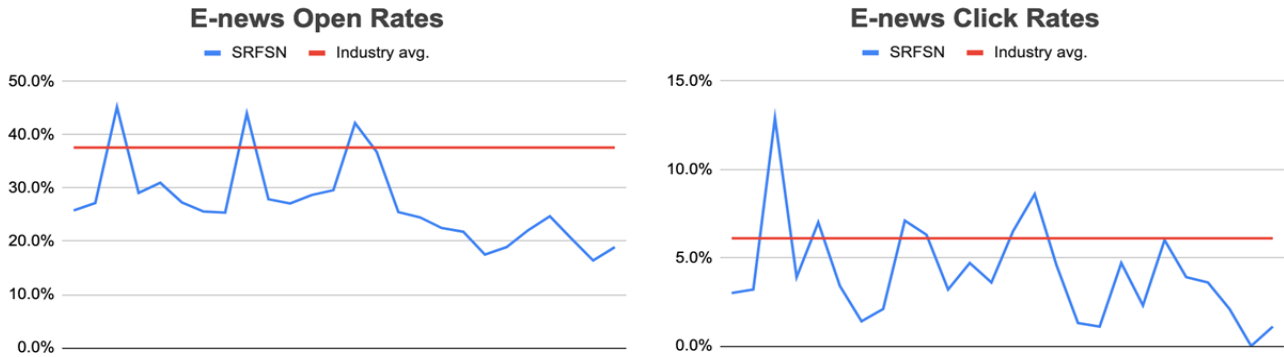
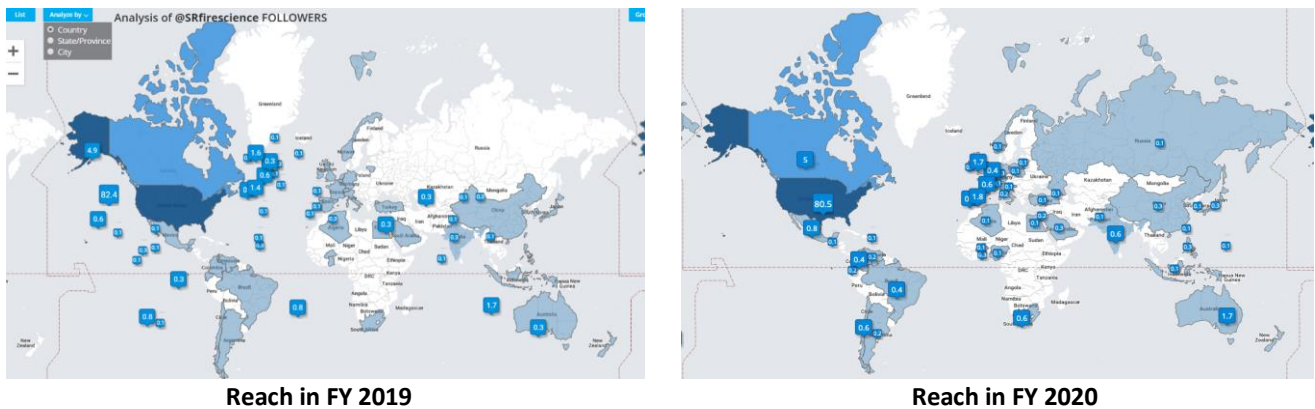


Figure 7: TweepMap of SRFSN Twitter reach:



Twitter: We continue to expand out Twitter audience and diversify intent and postings. SRFSN currently has 1,606 followers and is following 520 accounts. SRFSN has posted 778 tweets this last fiscal year, for a total of 4,408 tweets as of this writing. We may invest in a paid analytics account through Hootsuite that can compare metrics across social media accounts to give more specifics on who our audiences are and what they are using. Twitter has been highly useful during the recent megafires in 2020. SRFSN used both Twitter and Facebook to provide scientific information regarding causes and variables involved in megafires. Figure 7 shows an increase in SRFSN Twitter engagement worldwide, with increased engagement occurring in Europe and Russia.

Facebook: Our Network “Like” trend is continuing to increase to 249 in September 2020. Although FB may be going in a direction away from non-profits and groups, there is a significant number of followers, particularly non-profits, that engage in this platform and we will likely continue this service.

Figure 8. Trends in SRFSN Facebook “likes” since November 2020:



SRFSN YouTube Channel:

- **Total minutes watched:** 1440
- **Total views** 6,183 views, 2020 views: 390
- **Total subscribers** now 28
- **Two videos** were posted in the last fiscal year, and 13 videos were produced in partnership with Utah State University and the Colorado Wildland Fire Conference

Figure 10: SRFSN YouTube Total Views & Watch Time:

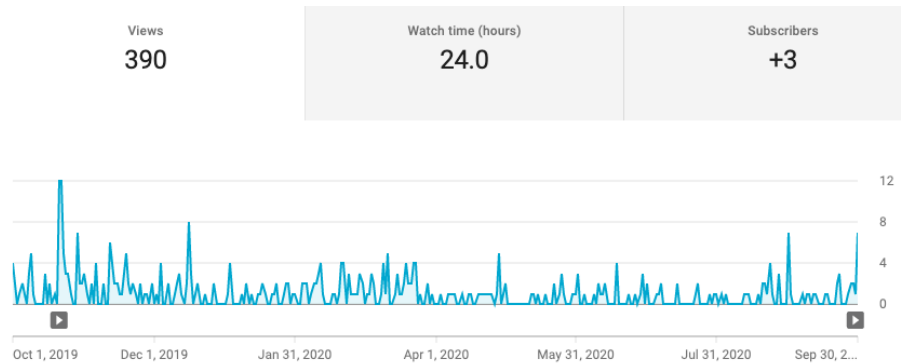
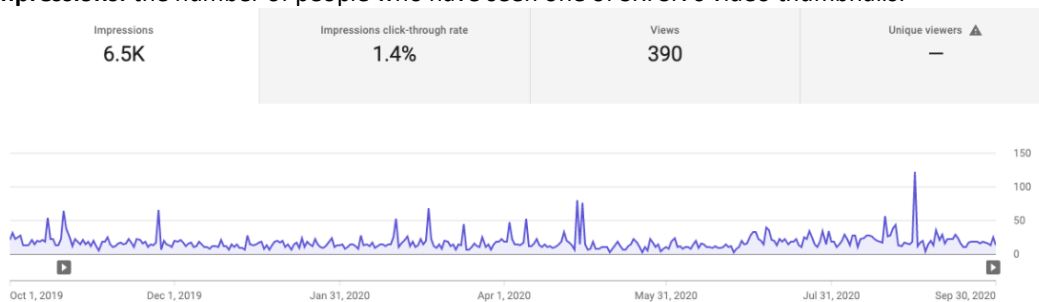


Figure 11: Total Impressions: the number of people who have seen one of SRFSN’s video thumbnails:



FY 2020 analytics indicate that SRFSN continues to grow on all social media platforms. Plans continue to improve outreach through current methods, as well as incorporating newer outreach methods of podcasts, storymaps, and possibly TV spots in the coming funding cycle. We look forward to launching our new website, which will improve organization, accessibility and resourcefulness.

Testimonials

“Your organization is such a strong and important partner in the region, I am so glad I reached out and grateful for your support.”

*Ashley Rust, PhD
Research Associate
Hydrologic Sciences and Engineering
Civil and Environmental Engineering
Colorado School of Mines*

“Please accept our heartfelt thanks for being willing to participate in 2020 SRM Range Practicum and for providing a wonderful learning experience for our participants. It’s never an easy task to start something new and your participation helped create a very successful beginning for the Range Practicum, an event, we believe, will be added to forthcoming SRM Annual Training Conferences. So, a Hearty Well Done! to your staff and you from all of us on the annual conference leadership team.”

*Best Regards,
Thad Barrett, Matt Barnes and Randy Reichert,
The SRM 2020 Range Practicum Committee*

“In case you don't hear it often enough, I am super grateful to the SW Fire Science Consortium and the whole network of fire science consortia. I get email newsletters from three or four consortia and the newsletters, links and webinars are an essential part of how I keep up (or try to) with fire science. Less frequent things like conferences and support like travel grants really helps me keep in touch and learn a lot in a short time. Keep up the good work. It is making a difference.”

-2020 Testimonial shared by SWFSC

Great job on putting together a virtual conference. In some ways - there are advantages to this format!

Great job organizing a virtual conference! I did not feel "zoomed out" by the end.

Great stuff! Thank you all for putting this on. Well worth the time, and I gained a lot.

Great work, all around!! This is very tough to pull off, and I know what the experience is like -- but the end game is well worth it! Thank you so very much!!

Colorado Wildland Fire Conference virtual conference feedback

"Our most pressing need is that we're not seeing the traction regarding home hardening. Seeing the percentage of the USFS budget allocated to wildfire suppression increase from 16% in 1995 to an estimated 67% in 2021 is unsustainable. Reactive-dominated approaches (i.e., wildfire suppression) are not sufficient. Proactive is needed. Engaging with the private sector in partnerships through presentations on home hardening techniques would give occupants more time to evacuate and first responders more time to try to save structures. To her credit, Gloria really gets it! The trouble is we need more Glorias."

Anonymous comment from Dr. Kerry Grimm's survey



Travis Miller @TjMiller024 · Oct 22

⋮

Super cool. Everyone should check out this stuff. An informed society is a better one.



SoRock Fire Science @SRfirescience · Oct 22

RT @CaFireScience WEBINAR: Wildfire mitigation, preparedness, & recovery - offered through AZ Extension. [twitter.com/CaFireScience/...](https://twitter.com/CaFireScience/)

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