

# Annual Report FY 2020



**SOUTHERN**  
**Fire Exchange**



**UF | IFAS**  
UNIVERSITY of FLORIDA



**TALL TIMBERS**

**NC STATE**  
UNIVERSITY



# FY 2020 SOUTHERN FIRE EXCHANGE ANNUAL REPORT

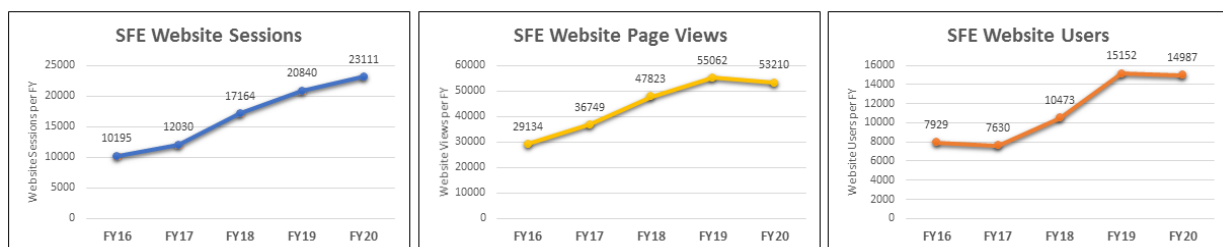
In FY20, the Southern Fire Exchange (SFE) team demonstrated our ability to rapidly respond to changing fire science information and delivery needs. This report provides highlights of SFE activities and events from these efforts. In the first two quarters of FY20, SFE staff led activities and programs across the region, from the Fire in Organic Soils workshop in Holly Ridge, North Carolina, to presentations at the Cohesive Strategy Workshop in Plymouth, Massachusetts, to a special session at the 8<sup>th</sup> International Fire Ecology and Management Conference in Tucson, Arizona. In March, SFE programs quickly pivoted to developing online events and electronic resources. The SFE team ended FY20 with a record number of SFE webinars, a suite of new publications in development, and a continued commitment to developing innovative and engaging resources that connect the fire science and natural resource management communities.



*Figure 1 – Fire and land managers learn the latest fire science information at the SFE fire in organic soils workshop held in October 2019 in Holly Ridge, North Carolina.*

## People

Over the past year we increased our SFE program staffing by supporting two new partial FTE positions through the Tall Timbers Research Station (TTRS) SFE project funds. Joining the SFE team in January 2020, Ms. Breanne Ward is a fire ecology assistant at TTRS working with Dr. Kevin Robertson. In FY20, she led the development of a wide range of SFE publications with projects continuing into FY21. In addition, SFE supported her efforts to archive important fire science documents that would have been lost during the dismantling of the TTRS library and the E.V. Komarek Fire Ecology database. Austin Dixon, Ph.D. also joined the SFE team in FY20 as a science writer through SFE TTRS project funds. He led the development of the new SFE Research Publication Database as well as several new research syntheses that will be published in FY21. Hope Miller joined the SFE University of Florida (UF) project in the summer of FY20 as our summer intern. Hope led the development of a project to create a needs assessment and subsequent fire science training workshop for Florida Cooperative Extension agents. Funding has allowed her to continue with the SFE project into FY21. Finally, Mary Nell Armstrong joined the SFE team in late FY19 and her dedication and creativity have already strengthened our programing across the region. She leads the SFE social media programs, directs the bi-monthly *Fire Lines* newsletter, and has developed our new podcast that will be launched in early FY21.



*Figure 2 - SFE website metrics recorded on Google Analytics from FY16 through FY20.*

### New Website Launched

In March of FY20, we launched our redesigned [SFE website](#). The release represented over a year of work involving input from the entire SFE team and a contract web developer. The new website is based on the WordPress content management system (CMS) which has introduced a suite of benefits over our previous website. The SFE website is now truly mobile-friendly with automatic formatting for various screens and platforms. The WordPress CMS allows the website to be updated by multiple users with no coding required. This alone has revolutionized how we update our SFE website and new content is added almost daily by a team of editors. The new SFE website also includes accessibility features that enhance text size, contrast, and readability to improve access for those who are visually impaired. Our Google Analytics website metrics indicate that SFE website sessions have increased in FY20 while page views and users have dipped slightly from the FY19 numbers. Qualitative feedback from end-users regarding the website has been positive and internally the efficiencies have significantly increased productivity among our SFE team.

With the transition in March to a new webhost and server, we learned that the Simple Smoke Screen Tool (SSST) was no longer functional on our new WordPress server. SFE had been hosting the Simple Smoke Screen Tool for several years after the previous Southern High-Resolution Modeling Consortium (SHRUMC) host website went dormant. As soon as the SSST went down in March 2020, we began receiving emails from users from across the country asking about the status of the tool. We quickly began searching for a new host and within a month we had a commitment from the Florida Forest Service leadership that they would host it publicly. By July of 2020 the Florida Forest Service had the SSST hosted [live on their](#) website and available for the public to use again.

In late FY20, we launched a new feature on our website designed to increase awareness of and access to new, peer-reviewed fire science publications relevant to the South. The SFE [Regional Fire Science Publications Database](#) is a free Zotero-driven reference database that can be accessed and searched through our website or through the [Zotero community](#). With the sunseting of updates to the electronic version of the E.V Komarek TTRS Fire Ecology Database, the new SFE database allows for multiple members of the SFE Team to quickly add, sort, and tag new fire science publications from their web browser. New publications are now added monthly, and we have a video on our YouTube channel with instructions on how to use and access the new database.

### Fire Lines Newsletter and Email Subscriber List

Our bimonthly *Fire Lines* newsletter was recognized by the Association for Natural Resource Extension Professionals (ANREP) with a 2020 “Gold Award” in the newsletter category. This marks the second year in a row that SFE programs have been recognized by ANREP. In FY20 we published 6 issues of our bimonthly *Fire Lines* newsletter that goes to all subscribers as well our social media channels and website. Over the past year, SFE email subscribers increased 29% with the total number of subscribers nearing 5,000. Our social media channels also continued to grow in FY20 with over 2,500 Facebook page followers, 2,753 Twitter followers and 565 YouTube subscribers.

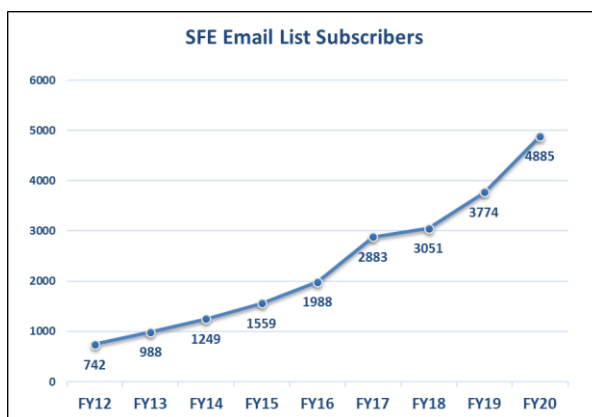


Figure 3 - SFE email list and newsletter subscribers from FY12 through FY20.

## Workshops, Conferences, and Events

In October, SFE connected with a national audience by hosting a booth and giving a presentation at the 3<sup>rd</sup> National Cohesive Wildland Fire Management Strategy Workshop in Plymouth, Massachusetts. Hosting our first booth at the 2019 Land Trust Alliance Rally in Raleigh, North Carolina in October, increased our connections with a new group of natural resource and prescribed fire

managers. In December, SFE staff led fire science presentations, hosted a booth, coordinated a meeting of national prescribed fire councils and organized a Fire Science Exchange Network special session at the 8<sup>th</sup> International Fire Ecology and Management Congress in Tucson, Arizona. SFE also hosted public fire science activity booths at fire festivals in Wilmington, North Carolina and Tallahassee, Gainesville and St. Lucie, Florida.



Figure 4 - SFE activity booths at regional fire festivals in FY20 introduced attendees to concepts related to fuel arrangement and prescribed fire.



Figure 5 - The FY20 SFE Fire in Organic Soils workshop was coordinated in partnership with the SE Cohesive Strategy and the North Carolina Forest Service.

At the 2020 North Carolina Prescribed Fire Council virtual meeting, SFE coordinated the [virtual fire science field trip](#) that took attendees on a four dimensional tour of a prescribed burn in a North Carolina pine forest. The 3D YouTube video allows viewers to virtually visit a site before, during, and after a prescribed fire while hearing from local expert speakers.

In October, the SFE Fire in Organic Soils Workshop in Holly Ridge, North Carolina continued our efforts to deliver relevant duff fire science information to the region. Hosted in partnership with the SE National Cohesive Wildland Fire Management Strategy Working Group and the North Carolina Forest Service, the event attracted 42 regional fire managers to learn the latest fire science related to organic soils. Additional duff fire science workshops in South Carolina and Florida were scheduled for FY20, but they have been postponed indefinitely due to the global pandemic.



Figure 6 -The virtual tour developed for the North Carolina Prescribed Fire Council meeting took participants on a 3-D tour of a fire managed pine forest.

## Webinars

SFE had an ambitious webinar season scheduled for FY20 prior to the start of the global pandemic. In March however, we quickly moved to arrange more webinars in response to the global virtual learning transition. FY20 ended with a record 18 SFE webinars that achieved a new program record 5,201 registrations and 3,103 live-event participants. All of the SFE webinars are recorded, edited, and archived on the [SFE YouTube Channel](#) as continuing education resources for classes, RT-130 refreshers and self-directed learning. At the time of writing this report, the FY20 SFE webinar recordings already had 3498 views. SFE FY20 webinars covered a wide range of topics ranging from the QUIC-Fire advanced fire behavior model to smoke science and fire ecology of northern bobwhite quail.



Figure 7 - Total SFE webinars delivered per fiscal year beginning in FY11.

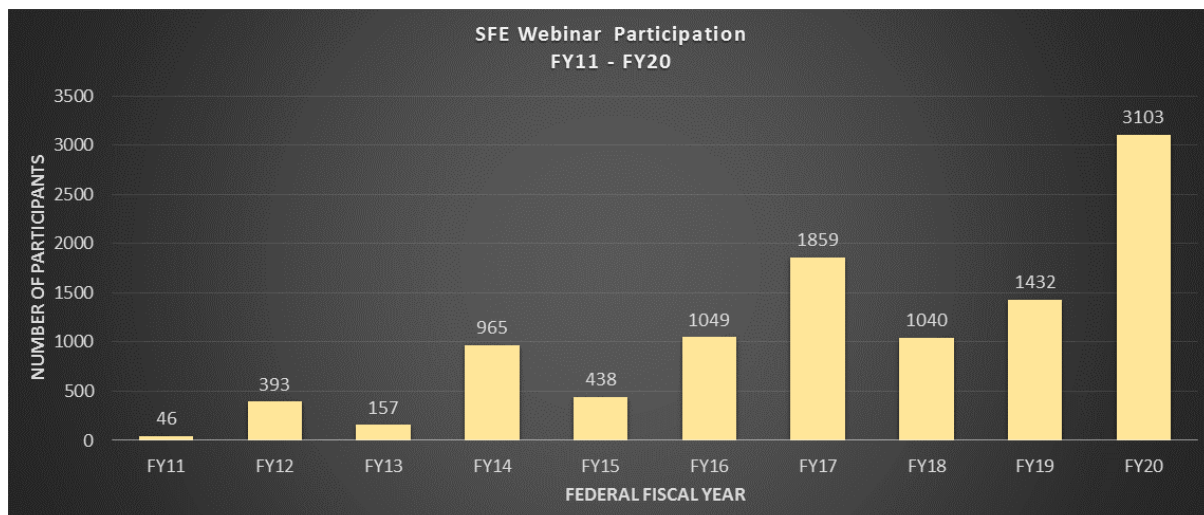


Figure 8 - Total SFE webinar attendance per fiscal year beginning in FY11.

In response to the regional need for virtual events that offer continuing education credits, most SFE webinars in FY20 offered Society of American Foresters (SAF) Continuing Forestry Education (CFE) credit. The FY20 demand for these credits was unprecedented, and we were able to offer 494 hours of SAF CFE

credit this year. The FY20 webinar year provided the opportunity to increase our collaboration with partners around the region. The *Prescribed Fire 101* and *Air Quality 101* webinars were the result of plans formulated with regional partners at the 4<sup>th</sup> Southeastern Smoke / Air Quality and Prescribed Fire Summit in early 2019. The *Prescribed Burning in Piedmont Hardwoods* webinar was initially planned as a field workshop to be held in North Carolina in partnership with the North Carolina Prescribed Fire Council. Due to the global pandemic, the workshop was reorganized into a 1.5-hour webinar that covered most of the topics planned for the workshop. In another example, the *Growing Season Burn and Ground Nesting Birds* and *Northern Bobwhites and Fire* webinars were developed in collaboration with the National Bobwhite Quail Conservation Initiative and other partners.

Date	Presenter	Title	Live Participants	Archived Views
10/17/2019	Holly Campbell (Univ. Georgia)	<i>Firewise Training for Master Gardeners</i>	40	189
1/30/2020	Scott Davis (EPA), Heidi LeSane (EPA), Rick Gillam (EPA), Dr. Jim Boylan (Georgia EPD), Randy Strait (North Carolina AQ), Jenn Fawcett (NC State Univ.)	<i>Air Quality 101 – Essential Concepts and Tools for Prescribed Burners</i>	235	305
2/20/2020	Dr. Jun Zhuang (SUNY Buffalo)	<i>Modeling and Optimizing Prescribed Fire for Managing Wildfire Risk</i>	148	194
3/12/2020	Dr. Carissa Wonkka (Univ. Nebraska)	<i>Statutory, Regulatory and Legal Constraints on Prescribed Fire in the US</i>	165	296
3/18/2020	Laurel Kays (NC State Univ.)	<i>Fire History of North Carolina</i>	37	-
4/29/2020	Dr. Morgan Varner (Tall Timbers)	<i>The Case for Prescribed Fire Science</i>	205	266
5/14/2020	Dr. Kevin Robertson (Tall Timbers)	<i>Longleaf Pine Forest Dynamics</i>	124	350

5/21/2020	Dr. Rod Linn (Los Alamos NL) and Kevin Hiers (Tall Timbers)	<i>QUIC-Fire – A Fast-Running Simulation Tool for Prescribed Fire Planning</i>	167	338
5/27/2020	Rebecca Ward (NC State Univ.)	<i>North Carolina Climate Science Report – Implications for Wildland Fire</i>	111	100
5/28/2020	Andrew Beavers (CEMML) and Carl Nordman (NatureServe)	<i>SE FireMap Scoping Webinar #1</i>	17	-
6/10/2020	Sharon Bischoff (NC State Parks), Dr. Chris Moorman (NC State Univ.) and Dan Dey, Ph.D. (USFS Northern Research Station)	<i>Prescribed Burning in Piedmont Hardwoods</i>	230	382
6/17/2020	Dr. Jim Smith (TNC LANDFIRE)	<i>LANDFIRE Remap in the Southeast</i>	133	129
6/24/2020	Dr. Kevin Robertson (Tall Timbers)	<i>Prescribed Fire 101 – A Foundation in Ecology and Practice</i>	310	343
6/30/2020	Josh Picotte (USGS), Todd Hawbaker (USGS), and Beth Stys (Florida Forest Service)	<i>SE FireMap Scoping Webinar #2</i>	17	-
7/24/2020	Dr. Neal Flanagan (Duke Univ.)	<i>Low Severity Fire Protects Carbon Stores in Global Peatlands</i>	126	49
8/20/2020	Dr. James Martin (Univ.of Georgia)	<i>Northern Bobwhites and</i>	370	168

		<i>Fire – A Perfect Match</i>		
9/15/2020	Jim Cox (Tall Timbers)	<i>Growing Season Prescribed Burns and Ground Nesting Birds – Answers for Longleaf Restoration</i>	405	253
9/22/2020	Johnny Stowe (South Carolina DNR)	<i>The Natural and Cultural Heritage of Controlled Burning in the Southland</i>	263	136
		<b>TOTAL</b>	<b>3,103</b>	<b>3,498</b>

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*“I was hesitant to watch this because I thought I would hear a bunch of stuff I already knew. Boy was I wrong, thank you so much for this webinar, I loved the broad perspective.” - 2020 SFE Webinar Survey*

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### **Publications and Factsheets**

SFE staff focused significant effort towards developing a suite of new factsheets in FY20. We published a new factsheet on the updated PB-Piedmont web nighttime smoke model, and we have made significant progress towards publishing factsheets and research syntheses on a range of topics. The following SFE factsheets are currently in progress:

- Eastern wild turkeys and fire
- Prescribed fire and Southeastern water quality
- Prescribed fire management and ticks
- Southeastern mechanical treatments and fireline production
- Hurricane and tropical storm impacts on wildland fire
- Southeastern climate change and wildland fire
- Prescribed Fire Management for Northern Bobwhite Quail
- Prescribed fire management for amphibians in ephemeral wetlands
- The effects of fire regime on understory broadleaf woody plants in southern pine communities
- Prescribed fire liability and insurance

While most of these documents are currently in review or formatting, we anticipate that they will be published in FY21. SFE factsheet development involves not only a review of the relevant literature but also literature synthesis, and peer-review, making them costly to produce. In FY20, SFE staff also published a wildfire infographic, an article in the Longleaf Leader quarterly magazine, and a newspaper article on wildfire preparedness. Significant efforts were also put towards co-authoring a smoke management guide for prescribed burners which will be published in FY21 in partnership with the University of Georgia and the Southeastern Partnership for Prescribed Fire and Sustainability (SERPPAS).

### **Southeast FireMap Project Partnership**

Working with TTRS, the Longleaf Alliance and the USDA-NRCS, in FY20 we supported the Southeast FireMap (SE FireMap) project scoping phase. Over the course of the year, SFE provided leadership and technical guidance in coordinating three virtual meetings with members of the SE FireMap Technical Oversight Team (TOT). These virtual meetings included technical presentations on existing fire mapping and tracking projects across the US. With funding provided by the USDA-NRCS through the US National Endowment, the SE FireMap will be a seamless digital fire mapping and tracking tool that will quantify the extent, frequency, and location of fires (wildfires and prescribed fires) across the Southeast.

### **JFSP Success Stories Project**

In FY20, we continued our efforts towards completing the JFSP Success Stories project. In early FY20, we published an article about duff fire science in the [Longleaf Leader magazine](#) and [gave a presentation](#) about the SFE duff fire science workshops at the 8<sup>th</sup> International Fire Ecology and Management Conference. In March, we were excited to launch our new [Duff Fire Science Success Story Video](#) produced through UF. The video tells the story of how JFSP investments in duff fire science research and communication have reached regional land managers and improved longleaf restoration project outcomes. The development of the duff fire science success story publication also continued in FY20 as we worked with a forest economist at UF to ascertain the economic impacts of JFSP duff fire science investments in the Southeast. We anticipate completing the delivery of the remaining JFSP Success Stories Project in early FY21.

### **Looking Ahead**

Using our experience in coordinating and hosting webinars and virtual events, we have found new opportunities to connect with prescribed fire councils and other regional partners as they move their meetings and activities online. For example, in FY20 we worked with the Georgia Prescribed Fire Council and the North Georgia Prescribed Fire Council to archive the science presentations from their virtual meetings on our YouTube Channel. In addition, we have been working over the past couple of months to co-host the All Florida Prescribed Fire Council Virtual Meeting and to support the 4<sup>th</sup> National Cohesive Wildland Fire Management Strategy Virtual Workshop in early FY21. We anticipate that these events will be well-attended with national and international audiences. In FY21, we will be working towards developing a virtual format for our duff fire science workshop series in partnership with UF and TTRS. By moving the duff workshops online, we expect that we'll be able to broaden our geographic reach and support even more fire managers with much-needed duff fire science. In early FY21, we intend to launch our new SFE audio podcast with the initial episode focused on duff fire science. We see this science delivery endeavor as an opportunity to increase the diversity of our end-users through a new medium and technology.

While the global pandemic has been disruptive and forced us to modify our science delivery programs, we have seen opportunities to use technology and new formats to increase our audiences, expand our reach, and continue to connect the fire science and natural resource management communities of the South.