

# 7<sup>TH</sup> INTERNATIONAL FIRE ECOLOGY AND MANAGEMENT CONGRESS

2<sup>nd</sup> Applied Fire Science Workshop

*Fire Vision 20/20:  
A 20-Year Reflection and Look into the Future*



Association for  
Fire  
Ecology



28 November to 2 December 2017  
Hilton Orlando Buena Vista Palace  
Orlando, Florida, USA

# FIRE CONGRESS SCHEDULE: WEEK AT A GLANCE

(See daily schedules for details.)

Date	Time	Scheduled events			
<b>Tuesday</b> 28 November	8 AM	Welcome and Opening Plenary: A 20-Year Reflection on Fire Ecology and Management, <i>Citron North</i>			
	10:30 AM	Break			
	11:00 AM	General Sessions	Fire Circles	Special Sessions	Workshops and Trainings
	12:20 PM	Lunch: on your own SAFE lunch meeting, <i>Citron Center</i>			
	1:40 PM	General Sessions	Fire Circles	Special Sessions	Workshops and Trainings
	4 PM	Welcome Reception with Poster Session, Sabal Ballroom			
<b>Wednesday</b> 29 November	8 AM	Plenary: Fire AFEx Talks, <i>Citron North</i>			
	9:40 AM	Break			
	10:10 AM	Plenary: Fire AFEx Talks, <i>Citron North</i>			
	11:50 AM	Lunch: on your own			
	1:20 PM	General Sessions	Fire Circles	Special Sessions	Workshops and Trainings
	3 PM	Break			
	3:30 PM	General Sessions	Fire Circles	Special Sessions	Workshops and Trainings
5:30 PM	SAFE social at Disney Wilderness Preserve ( <i>depart from Convention Bus Loop, across from Registration</i> )				
<b>Thursday</b> 30 November	8 AM	General Sessions	Fire Circles	Special Sessions	Workshops and Trainings
	9:40 AM	Break			
	10:10 AM	General Sessions	Fire Circles	Special Sessions	Workshops and Trainings
	11:50 AM	Awards Luncheon: all invited			
	1:20 PM	General Sessions	Fire Circles	Special Sessions	Workshops and Trainings
	3 PM	Break			
	3:30 PM	General Sessions	Fire Circles	Special Sessions	Workshops and Trainings
	6:30 PM	AFE membership meeting, <i>Citron North</i>			
7:30 PM	Movie: <i>Less Than Masterpiece Theater</i> , featuring <i>Hollywood in Flames</i> , with Stephen Pyne, <i>Citron North</i>				
<b>Friday</b> 1 December	8 AM	Closing Plenary: A Look into the Future of Fire Ecology and Management, <i>Citron North</i>			
	10:20 AM	Break			
	10:50 AM	General Sessions	Fire Circles	Special Sessions	Workshops and Trainings
	12:30 PM	Lunch: on your own			
	1:40 PM	General Sessions	Fire Circles	Special Sessions	Workshops and Trainings
	3:20 PM	Break			
3:50 PM	General Sessions	Fire Circles	Special Sessions	Workshops and Trainings	
<b>Sat.</b> 2 Dec.	7:30 AM	Field trips (registration required, \$60 each, lunch included) <i>Depart from Convention Bus Loop, across from Registration, at 7:30 AM. Return times vary.</i>			
<b>Exhibit Hall</b> <i>Sabal Ballroom</i>		<b>Registration</b> <i>Convention Level</i>		<b>Presentation Uploading Station*</b> <i>Tangerine 9</i>	
Tuesday: 8 AM to 6:45 PM Wednesday: 8 AM to 5:10 PM Thursday: 8 AM to 5:10 PM Friday: 8 AM to 3:50 PM		Monday: 4 to 8 PM Tuesday: 7 AM to 4 PM Wednesday: 7 AM to 3:30 PM Thursday: 7:30 AM to 3:30 PM Friday: 7:30 AM to 12:30 PM		Monday: 5:30 to 7 PM Tuesday: 7 to 8:30 AM; 3:30 to 5:30 PM Wednesday: 7 to 9 AM; 4 to 7 PM Thursday: 7 to 9 AM; 4 to 6 PM Friday: 7 to 8:30 AM	
				*Must load presentations no later than the night before.	

Cover photo: Black spruce (*Picea mariana*) sapling emerging from a hole made by a white-spotted sawyer's larva on a fallen and burnt black spruce tree in the northern Quebec boreal forest, Canada. Photo by 2017 AFE Photo Contest Winner, **Charlotte Smetanka**.

*PROGRAM*  
*for the*  
**7<sup>TH</sup> INTERNATIONAL**  
**FIRE ECOLOGY AND MANAGEMENT CONGRESS**  
2<sup>nd</sup> Applied Fire Science Workshop

***Fire Vision 20/20:***  
***A 20-Year Reflection and Look into the Future***

**Hilton Orlando Buena Vista Palace**  
**Orlando, Florida, USA**  
**28 November to 2 December 2017**

Hosted by:





## 2017 AFE BOARD AND STAFF

### AFE Officers

**President:** *Dr. Leda Kobziar*,  
University of Idaho, Natural  
Resources and Society  
**Vice-President:** *Dr. Karin Riley*,  
US Forest Service  
**Treasurer:** *Dr. Adam Watts*,  
Desert Research Institute  
**Secretary:** *Dr. Jessica R. Miesel*,  
Michigan State University

### AFE Staff

**Administrative Director:** *Annie Oxarart*  
**Development Director:** *Dr. Timothy  
Ingalsbee*  
**Accounts Manager:** *Brandy Newton*  
**Webmaster:** *Brett Cole*

### 2017 SAFE Officers

**President:** *Carrie Minerich*, University of  
Idaho  
**Vice-President:** *Peter Noble*, University  
of Idaho  
**Secretary/Treasurer:** *Anjel Tomayko*,  
University of Idaho  
**Training and Education Officer:** *Kayla  
Johnston*, Oregon State University

### AFE Board Members

**AFE Officers and SAFE President listed  
above**  
*Dr. Chris Dicus*, California Polytechnic  
State University  
*Dr. Chris Dunn*, Oregon State University  
*Dr. Bob Keane*, US Forest Service  
*Dr. Eric Knapp*, US Forest Service  
*Dr. Sharon Hood*, US Forest Service  
*Sam Lindblom*, The Nature Conservancy  
*Dr. Rachel A. Loehman*, US Geological  
Survey  
*Dr. Sarah McCaffrey*, US Forest Service  
*Dr. Penelope Morgan*, University of Idaho  
*Zachary A. Prusak, M.S.*, The Nature  
Conservancy  
*Dr. Francisco Seijo*, Middlebury C.V. Starr  
School, Spain  
*Dr. Gus Smith*, US Forest Service

## FIRE CONGRESS COMMITTEE

### Steering Committee

*Geoff Babb*, Bureau of Land  
Management, Congress Co-chair  
*Alan Long*, Southern Fire Exchange,  
Congress Co-chair  
*Ed Brunson*, Joint Fire Science Program  
*Chris Dunn*, Oregon State University  
*Timothy Ingalsbee*, Association for Fire  
Ecology  
*Leda Kobziar*, University of Idaho  
*Sam Lindblom*, The Nature Conservancy  
*Steve Miller*, St. Johns River Water  
Management District  
*Annie Oxarart*, Association for Fire  
Ecology  
*Zach Prusak*, The Nature Conservancy  
*Mike Stambaugh*, University of Missouri  
*Neil Sugihara*, Northern Arizona  
University  
*Walt Thomson*, Retired  
*Robin Wills*, National Park Service

### Conference Logistics and Details

**Fire Congress Website:** *Brett Cole*,  
*Annie Oxarart*  
**Facilities and Venue:** *Timothy Ingalsbee*,  
*Annie Oxarart*  
**Moderators:** *Tom DeMeo*  
**Student Activities:** *Carrie Minerich*,  
*Chris Dunn*, *Stacey Frederick*, *Timothy  
Ingalsbee*  
**Student Volunteers:** *Chris Dunn*  
**Registration:** *Annie Oxarart*  
**Sponsorships:** *Timothy Ingalsbee*,  
*Steve Miller*, *Walt Thomson*,  
*Sam Lindblom*, *Robin Wills*, *Ed Brunson*,  
*Leda Kobziar*, *Jessica Miesel*, *Karin Riley*,  
*Geoff Babb*, *Alan Long*, *Francisco Seijo*  
**Marketing and Outreach:**  
*Timothy Ingalsbee*, *Annie Oxarart*  
**Field Trips:** *Zach Prusak*, *David Godwin*,  
*Sharon Gamble*  
**Audio Visual:** *Krisann Kosel*,  
*Will Downing*, *Stacey Frederick*  
**Local Logistics:** *Sean Gallagher*  
**Photo Contest:** *Steve Morrison*  
**Evaluations:** *Sara Brown*  
**Printed Program:** *Laurie Burk*

### Program Details

**Plenaries Coordinator:** *Alan Long*  
**Poster Session Coordinator:**  
*Morris Johnson*  
**Banquet Coordinator:** *Neil Sugihara*  
**Attached Meetings Coordinator:**  
*Geoff Babb*  
**Special Sessions Coordinator:**  
*Louisa Evers*  
**Workshops Coordinator:**  
*Nick Skowronski*, *Jennifer Bunty*  
**University/Continuing Education Credits:**  
*Ron Masters*

### Program Committee

*Alan Long*, Southern Fire Exchange, Chair  
*Ilana Abrahamson*, US Forest Service  
*John Bailey*, Oregon State University  
*Ross Bradstock*, University of  
Wollongong, Australia  
*Beth Buchanan*, US Forest Service  
*Jennifer Bunty*, Consortium of  
Appalachian Fire Managers and  
Scientists  
*Neil Burrows*, Western Australian  
Biodiversity Science Institute  
*Tom DeMeo*, US Forest Service  
*Louisa Evers*, Bureau of Land  
Management  
*Stacey Frederick*, California Fire Science  
Consortium, University of California  
*Sean Gallagher*, Florida Forest Service  
*Sharon Gamble*, University of Florida,  
Cooperative Extension  
*David Godwin*, Southern Fire Exchange,  
University of Florida  
*Xinyan Huang*, University of California  
*Timothy Ingalsbee*, Association for Fire  
Ecology  
*Morris Johnson*, US Forest Service  
*Leda Kobziar*, University of Idaho  
*Krisann Kosel*, Bureau of Land  
Management  
*Domingo Molina*, University of Lleida,  
Spain  
*Annie Oxarart*, Association for Fire  
Ecology  
*Zach Prusak*, The Nature Conservancy  
*Sandra Rideout-Hanzak*, Texas A&M  
University  
*Nick Skowronski*, US Forest Service  
*Vita Wright*, US Forest Service

## TABLE OF CONTENTS

<b>Fire Congress schedule: week at a glance</b> .....	inside front cover
<b>2017 AFE Board of Directors and staff</b> .....	2
<b>Fire Congress committee members</b> .....	2
<b>Welcome and introduction</b> .....	4
<b>General congress information</b> .....	5
<b>About AFE</b> .....	6
<b>About SFE</b> .....	7
<b>Fire Congress supporting organizations</b> .....	8
<b>Exhibitors</b> .....	14
<b>Plenary speaker bios</b> .....	15
<b>Special events: Tuesday through Friday</b> .....	21
<b>Poster presentations</b> .....	22
<b>Tuesday schedule</b>	
Tuesday schedule overview .....	24
Tuesday detailed oral presentations schedule .....	26
<b>Wednesday schedule</b>	
Wednesday schedule overview .....	30
Wednesday detailed oral presentations schedule .....	32
<b>Thursday schedule</b>	
Thursday schedule overview .....	36
Thursday detailed oral presentations schedule .....	38
<b>Friday schedule</b>	
Friday schedule overview .....	46
Friday detailed oral presentations schedule .....	48
<b>Saturday field trips</b> .....	53
<b>Upcoming conferences</b> .....	54
<b>Hilton Orlando Buena Vista Palace floorplan</b> .....	inside back cover

## WELCOME TO THE SILICON VALLEY OF FIRE!

As our favorite fire historian, **Dr. Stephen Pyne**, proclaimed, Florida (specifically, the Tallahassee area) is truly the “Silicon Valley of Fire.” The ten years I spent in the southeast region convinced me of the accuracy of this claim, and completely transformed my perspective on wildland fire. Rather than wildland fire being viewed as a problem to solve, in the South it is a process to be applied. Its absence is the critical problem—for wildfire management, for the conservation of threatened species, and for the maintenance of 16+ of Florida’s unique array of ecosystems.

Every landowner in the state of Florida has the right to conduct prescribed burns, if granted an authorization from the Florida Forest Service. The Prescribed Fire Act of 1990 institutionalized what may have been considered sacrilege in other regions of the US and beyond—the recognition that “prescribed fire is a land-management tool that benefits the safety of the public, the environment, and the economy of Florida,” (State Statute 590.125(3)). Along with its subsequent modifications, this groundbreaking Act has guaranteed Florida landowners and managers with liability protection associated with a state certification program—so that ecologists, foresters, biologists, and anyone with a match, proper training, and a responsible plan for implementation can reap the benefits of wildland fire.

Due to the Prescribed Fire Act and several other factors, Florida has since led the country in percentage of wildlands treated with prescribed fire annually, exceeding two million acres in many years over the last three decades. Beyond its role in fuels reduction, fire’s role in biodiversity conservation has been scientifically evaluated in long-term, replicated studies across the state, enabled by the opportunities protected by the Act. Florida, and the southeastern region of the US in general, have produced some of the world’s most innovative and hypothesis-driven fire ecology research, extending beyond observational case studies and chronosequences to replicated, experimental, and long-term evaluations of fire’s impact on ecosystems ranging from wetlands to savannas.

These are only some of the reasons the Association for Fire Ecology chose Orlando, Florida, as the venue for our celebration of fire ecology as a scientific discipline, a cultural artifact, and a management tool. AFE has reached a milestone this year—now 20 years old, we saw this gathering of the world’s leading fire ecologists and scientists as a perfect opportunity to reflect on how far we’ve come in the last 20 years, and to set an agenda for addressing the increasingly complex challenges to ecological fire use and management in the next 20 years. There is no substitute for the chemistry of in-person discussions of ideas, and the immediate exchange and broadening of perspectives that occurs when people are in the same room with each other. AFE is committed to supporting opportunities for the wildland fire science community to share its knowledge and engage in face-to-face exchanges at conferences, workshops, and other meetings, so that the best available science, tools, and perspectives can be applied to improving our ability to live with wildland fire today.

AFE has always provided direct funding for students, and has administered the Joint Fire Science Program’s generous student travel grants, because we recognize that our students will be the leaders of our field in the next 20 years (likely sooner!). This year, the Student Association for Fire Ecology has planned a variety of new events, including roundtable discussions, a bonfire meeting, and even a prescribed burn (special thanks to The Nature Conservancy). We encourage all Congress attendees to reach out to these students and connect with the future of our discipline.

AFE membership and Congress attendance funds are routed right back to the community that we serve through our various activities including student support; publishing our journal, *Fire Ecology*; the Certification Program; conferences and workshops; outreach and advocacy to support membership needs; and the many partnerships and collaborative endeavors in which we are involved. I hope that you will join us at our Members Meeting this week to learn about all that we do, how you can get involved, and what we can better do to serve you. Feel free to ask any AFE Board member about opportunities to get involved with AFE. Our mission is best served when our members and leaders are working closely together.

Once again, welcome to the Congress, and I sincerely hope you find your experience productive and enlightening.

Sincerely,

**Leda Kobziar,**  
Association for Fire Ecology President  
AFE Certified Wildland Fire Ecologist

## GENERAL CONGRESS INFORMATION: GOOD STUFF TO KNOW!

**Wifi.** The hotel offers wifi in your guest room with the optional resort fee of \$8.95 per day. Wifi is not available in the meeting rooms unless previously arranged.

**CFEs and CEUs.** Congress attendees can obtain Continuing Forestry Education (CFE) credits through the Society of American Foresters, and Continuing Education Units (CEU) through Society for Range Management. Visit Registration for more details.

**Mike da Luz Scholarship Fund.** In 2013, AFE lost an esteemed member of our board of directors, **Mike da Luz**. Mike was instrumental in helping to strategize the financial growth and future direction of AFE. In cooperation with his family, AFE created the Mike da Luz Memorial Student Scholarship to help fund student travel to attend AFE conferences. AFE is honored to continue to foster Mike's vision of knowledge transfer and fire ecology education through this award, and we're deeply touched by the generosity of his friends and family who have given to this fund. If you'd like to contribute, we accept donations at [www.fireecology.org](http://www.fireecology.org).

**Airport Transportation.** Mears Shared Ride Shuttle is offering Congress attendees a discounted rate for transportation between the airport and hotel. Visit [afefirecongress.org/venue-travel/](http://afefirecongress.org/venue-travel/) to get the coupon and instructions.

**Disney Springs.** Just a short walk from the hotel, you'll find numerous restaurants, shops, and activities. Go to [www.disneysprings.com](http://www.disneysprings.com) to check out food options. A few quick lunch stops include Earl of Sandwiches, Express at Wolfgang Puck, Bongos Cuban Cafe Express, and the Exposition Park food trucks.

**Research Highlights.** We will not create an official proceedings for the Fire Congress. However, we are providing an opportunity for presenters to submit short summaries of their work as a Research Highlight, which will be shared with a much larger audience than will attend the Congress. Research Highlights will be published on the AFE website as a resource for both fire managers and fire science delivery organizations, such as the Joint Fire Science Program Fire Science Exchange Network. They should also provide openings to help researchers find new connections with their audiences. Submissions are due 20 December 2017. More information on our website.

**Poster Presenter Info.** The Poster and Welcome Receptions will be held in the Sabal Ballroom and Sabal Foyer, adjacent to the Registration area, on the Convention Level of the hotel. Presenters can hang their posters on Monday from 12 to 6 PM, or from 8 AM to 3 PM on Tuesday. Posters must be removed by 6 PM on Friday.

**Exhibitor Booth Info.** Exhibitor booths will be in the Sabal Ballroom on the Convention Level. Exhibitors can set up their space from 12 to 5 PM on Monday, and must have their space cleared by 6 PM on Friday.



### Get Whova—the Mobile Conference App!

Our mobile app has tons of great information for you! You can easily search the program, find presentation abstracts, presenter bios, a map of the meeting space, connect to social media, post photos, provide feedback on specific sessions, and network with other conference attendees.

How to find and join the event:

1. Download the Whova app.
2. Log in to Whova with your name and the email that you used to register, and you'll find the conference at the top of the home screen under "My Events."
3. If you don't see the congress listed, you can search events and then request to join. An invitation code will then be sent to you.

**Presentation Upload Information (full details are on our website):** Talks should be in PowerPoint 2013 or 2016, and need to have this required file name: DayofWeek\_Rm\_24hourTime\_LastName (day of week =first 3 letters only, 24 hour time has no colon). If you haven't already uploaded your talk via the Wufoo online submission (deadline was 6 PM on Monday), then you will need to upload it from a thumb drive at the Presentation Loading Station in room Tangerine 9 on the second floor. No presentations will be accepted by email. ***Presentations must be uploaded the day before your talk before the loading station closes (see times on inside front cover).***

**A note about late presentations:** If you are unable to load your presentation the day before you're scheduled to talk, be prepared for the possibility that you will need to use your presentation time to load your talk, and in the event that the file doesn't load properly for any reason, you may need to give your talk without your prepared visuals.

**Tweet All About It!** Use our conference hashtag #afeFireCon17.



## ABOUT THE ASSOCIATION FOR FIRE ECOLOGY

The Association for Fire Ecology (AFE) is a nonprofit organization dedicated to improving the knowledge and use of fire in land management. Our members include scientists, educators, students, managers, practitioners, policymakers, and other interested citizens. Every two years, AFE organizes and hosts its International Fire Ecology and Management Congress. In addition, it annually hosts smaller fire ecology conferences on regional or topical themes. AFE publishes a peer-reviewed e-journal called *Fire Ecology*, recognizes outstanding fire ecologists with our Lifetime Achievement and Student Excellence awards, and provides formal certifications for wildland fire professionals and academic programs.

Anyone can become a member of AFE and, through active involvement in our events, programs, and projects, can help shape the emerging profession and growing field of fire ecology. For more information, visit [www.fireecology.org](http://www.fireecology.org)

### FIRE ECOLOGY

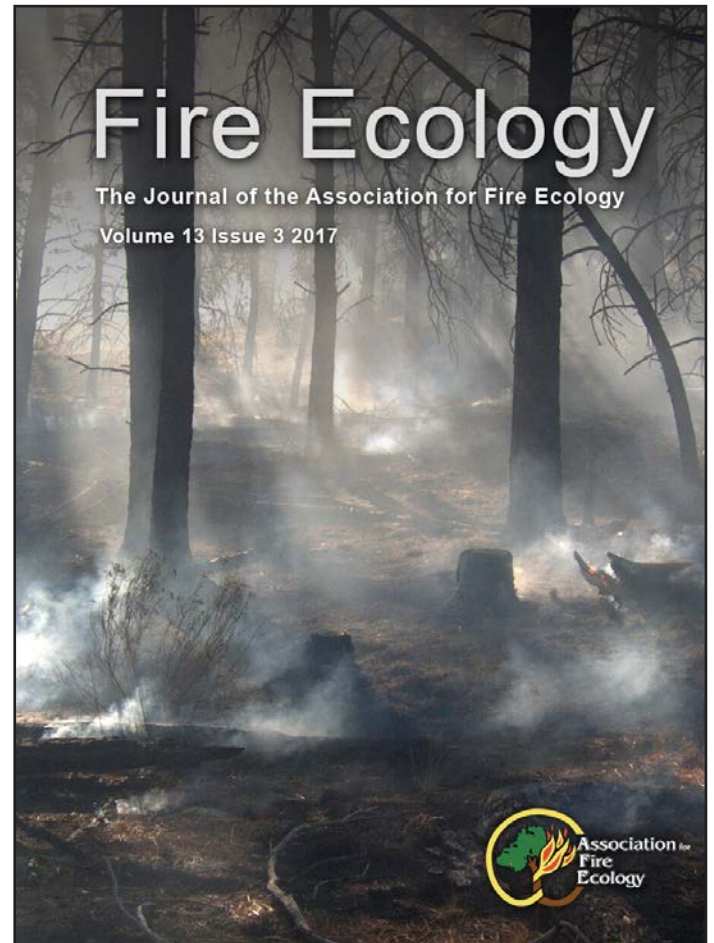
Read *Fire Ecology*, and publish your research in AFE's journal! The Journal publishes peer-reviewed articles, opinion pieces, responses, observations, and book reviews, as well as occasional reprints of "classic" fire ecology articles. The Journal is managed by an editor and a copy editor assisted by a team of 35 associate editors representing scientists on five continents. Issues are published three times per year: April, August, and December. We are now celebrating our 14<sup>th</sup> year, and have published papers from nearly 700 authors. The Journal is now indexed by all of the leading indexing institutions: Thomson Reuters, ISI Web of Science, AGRICOLA, Biosis Reviews, Current Contents, Google Scholar, Scopus, and the Science Citation Index. These indicate that *Fire Ecology* has joined the ranks of the most prestigious international journals, and will be the journal of choice for significant new research in fire ecology.

In 2018, the journal will make an important move to a commercial printer that will provide a state-of-the-art online submission system and a high-quality publication system to catalog and download all accepted papers. This move is intended to advance the Journal so that it will rank among the very best journals in wildland fire science. There are also plans to move all previously published papers over to the new system for delivery.

Submit your next paper to *Fire Ecology*!

### WILDLAND FIRE PROFESSIONAL CERTIFICATION PROGRAM

This program is designed to further ecologically based fire science and management, and to meet the increasing demands for effective analysis, decision-making, and workforce development in a changing fire landscape. The goals of the program are to formally identify fire careers as vital professions; to set standards for the preparation of future fire professionals; and to document the education, experience, and training qualifications of members of the fire ecology and management profession. There are six levels of certification: Wildland Fire Technician, Wildland Fire Practitioner, Wildland Fire Manager, Senior Wildland Fire Manager, Wildland Fire Ecologist, and Senior Wildland Fire Ecologist. Certification is for current AFE members only.







Discuss Fire Management and Science



Use Fire Research Results in Your Planning



Connect with Fire Managers and Researchers



The Source for Fire Science  
Information in the South  
[www.southernfireexchange.org](http://www.southernfireexchange.org)



## Uniting Fire Science and Natural Resource Management

The Southern Fire Exchange is a regional fire science communication program and a member of the JFSP Fire Science Exchange Network. Representing 11 southern states, we work with partners throughout the region to increase the use of relevant fire science, facilitate discussions about future research needs and connect fire managers and researchers.



We share fire science research results and information with natural resource managers, landowners, and scientists by offering a variety of resources and events:

- Newsletters, fact sheets, and research briefs
- Webinars, live and archived for viewing at anytime
- Workshops and field tours throughout the Southeast

Visit our website to sign up for our email list to receive our bimonthly newsletter, event announcements, and information about regional fire science.



[www.southernfireexchange.org](http://www.southernfireexchange.org)  
[contactus@southernfireexchange.org](mailto:contactus@southernfireexchange.org)



**FIRESCIENCE.GOV**  
Research Supporting Sound Decisions

# **FIRE CONGRESS SUPPORTING ORGANIZATIONS**

## **PLATINUM SPONSOR**

NASA: National Aeronautics and Space Administration

## **GOLD SPONSOR**

Tall Timbers, Inc.

## **SILVER SPONSOR**

Fire Learning Network and Fire Adapted Communities Learning Network

## **GARNET SPONSORS**

NFPA: National Fire Protection Association

TNC: The Nature Conservancy

University of Florida—Institute of Food and Agricultural Sciences, Extension

University of Florida—Institute of Food and Agricultural Sciences, Research

University of Florida—School of Forest Resources and Conservation

University of Idaho—Master of Natural Resources Program

## **BRONZE SPONSORS**

Bok Tower Gardens

DLR Services

Ecological Restoration Institute

Florida Fish and Wildlife Conservation Commission

Florida Forest Service

FRAMES: Fire Research and Management Exchange System, University of Idaho

FUSEE: Firefighters United for Safety, Ethics, and Ecology

Joseph W. Jones Ecological Research Center at Ichauway

Northern Arizona University—School of Forestry

Pau Costa Foundation

Southern Fire Exchange

## **EXHIBITORS**

FTS: Forest Technology Systems Ltd.

Great Basin Fire Science Exchange

IT for Nature

Northern Rockies Fire Science Network

Northwest Fire Science Consortium

Oak Woodlands and Forests Fire Consortium

Oregon State University—College of Forestry

Southern Rockies Fire Science Network

Southwest Fire Science Consortium

Technosylva, Inc.

US Fish and Wildlife Service Fire Management

## **SIGNIFICANT SUPPORTERS**

BLM—Joint Fire Science Program

USDA Forest Service Fire and Aviation Management

US Geological Survey

## **DONORS**

Dr. Brian Oswald

Battelle—National Ecological Observatory Network

International Association of Wildland Fire

The Wildlife Society

## **FIRE CONGRESS SUPPORTING ORGANIZATIONS:** JOIN US IN THANKING THESE AND OTHER SPONSORS AND EXHIBITORS

### **Bok Tower Gardens, Lake Wales, Florida**

Bok Tower Gardens is centrally located between Tampa and Orlando among rolling hills of citrus and long leaf pine preserve. Dedicated in 1929, the National Historic Landmark was a gift from Dutch immigrant Edward Bok, Pulitzer-Prize winning author and world peace advocate. Nearly 283 ha (700 acres) of historic Olmsted gardens, citrus groves, conservation lands, and endangered plants surround the pink marble art deco and neo-Gothic 205-foot Singing Tower with its 60-bell carillon. Newly built gardens include a pollinator garden, edible garden and outdoor kitchen, wild garden, and children's garden. The institution is one of 43 public gardens affiliated with the Center for Plant Conservation (CPC), dedicated to the conservation of rare plant species in North America. Sixty-four Florida rare plant species are in the Gardens CPC collection. The Gardens manage agricultural, restoration, and natural areas and have had a prescribed burn management program for the surrounding sandhill pinelands since 1987. Visit [www.boktowergardens.org](http://www.boktowergardens.org)

### **Fire Learning Network and Fire Adapted Communities Learning Network**

Social-impact networks across the world are addressing society's most difficult problems. These are networks of like-minded organizations and people creating strong alliances that yield tremendous results. In the US, the Fire Learning Network and the Fire Adapted Communities Learning Network are working to increase the wildfire resiliency of ecosystems and communities, respectively, as complementary approaches to addressing the nation's wildfire problems. Since 2002, the Fire Learning Network has engaged dozens of multi-agency, community-based projects to accelerate the restoration of landscapes that depend on fire. The Fire Adapted Communities Learning Network was launched in 2013 and currently works in 17 places. The spread of "fire-adapted community" concepts is one manifestation of a growing, global movement aimed at helping communities become more resilient to disasters.

### **Florida Fish and Wildlife Conservation Commission**

*Managing fish and wildlife resources for their long-term well being and the benefit of people.*

### **FTS: Forest Technology Systems**

Forest Technology Systems is a leading manufacturer of remote environmental monitoring solutions including systems, instrumentation, and communications technology for the hydrology, fire weather, and meteorology industries. Our equipment forms the backbone of some of the world's most sophisticated and demanding environment monitoring networks. Our mission is to make our customers successful in their efforts to monitor, record, and analyze changes in the natural environment.

### **FUSEE: Firefighters United for Safety, Ethics, and Ecology**

Firefighters United for Safety, Ethics, and Ecology (FUSEE) is a nonprofit organization promoting safe, ethical, ecological fire management. FUSEE members include current, former, and retired wildland firefighters; other fire management specialists; fire scientists and educators; forest conservationists; and other citizens who support FUSEE's vision and mission. As an independent voice in the wildland fire community, FUSEE conducts public education, media outreach, and policy advocacy in support of the new, emerging paradigm that seeks to holistically manage wildland fire for social and ecological benefits instead of simply "fighting" it across the landscape.

Inspired by Aldo Leopold's *Land Ethic*, FUSEE advocates a new *Fire Ethic* in fire management policies and practices:

*A thing is right when it contributes to the safety of firefighters and the public, ethical use of public resources, environmental protection of fire-affected landscapes, and ecological restoration of fire-adapted ecosystems. It is wrong when it tends otherwise.*

### **IT for Nature**

The SmokeD system is a software with artificial intelligence for early wildfire detection. It detects smoke or flames in pictures fed from digital cameras and is used for fire prevention monitoring of large areas. When the system detects smoke or flames, it then notifies the fire teams, forest services, and local residents. The software is integrated with free mobile application SmokeD—alerts whereby users, that is communities, receive notifications about a wildfire occurrence. The app

*Sponsors continued on page 10.*



## FIRE CONGRESS SUPPORTING ORGANIZATIONS, CONTINUED

has already thousands of users that also play a role as a support for artificial intelligence efficacy in smoke detection. The system is dedicated to forest and environmental institutions as an everyday support for decision makers and dispatchers. It is implemented in California, Nevada, and Europe. Implementations prove that SmokeD lowers the costs of wildfire prevention and detects very fast (average time is 5 minutes) from a distance up to 15 miles.

### **JFSP: Joint Fire Science Program**

*Research supporting sound decisions*

#### **JFSP's unique role in the fire science**

**community:** JFSP provides funding for scientific studies associated with managing wildland fire, fuels, and ecosystems in response to emerging needs of managers, practitioners, and policymakers.

**Active science delivery:** Fifteen regional exchanges form JFSP's Fire Science Exchange Network. It is a national collaboration that provides the most relevant, current, wildland fire science information to stakeholders. The exchanges bring together fire managers, practitioners, and scientists to address common needs and challenges.

**Partnering to leverage capacity and educate the next generation:** Over 150 colleges and universities have collaborated on JFSP-sponsored research projects. JFSP's capacity also extends through private and nonprofit organizations; federal agencies; and tribal, state, county, and local governments. In all, nearly 300 organizations have become partners. JFSP research projects also extend in-house capacity of other federal fire research programs. Through these partnerships, they can mobilize with universities and other affiliates in the fire science community.

### **NASA: National Aeronautics and Space Administration**

NASA has a vision for the future that includes advancing Earth system science to meet the challenges of global Earth system change. Fire is a powerful force that alters landscapes and the atmosphere, even altering air quality and the reflectance of snow-covered surfaces through the deposition of black and brown carbon. Fire is a natural and vital component of Earth's

ecosystems, one that interacts with weather and climate to regulate species diversity and structure, carbon and energy balances, and hydrologic cycles. Since humankind interacted with fire, it has been used as a valuable tool and has also acted as a devastating and destructive force.

NASA provides a unique view of fire and vegetation from space that includes pre-fire ecosystem health, active-fire detection, fire weather, vertical and horizontal observations of smoke plumes and their transport, post-fire burn scars, severity and landslide potential, as well as the capacity to understand feedbacks between fire regimes and larger systems.

### **Northern Arizona University School of Forestry**

The Northern Arizona University School of Forestry offers a program that is nationally regarded for its unique approach to undergraduate education and is ranked number 10 in the nation among forestry programs in scholarly output. It is accredited by the Society of American Foresters, and the fire certificate track is an Association for Fire Ecology certified academic program.

The fundamental educational mission of the School of Forestry is to foster the intellectual and personal development of our students, at both the undergraduate and graduate levels. We cross traditional boundaries by applying transdisciplinary and multi-objective approaches to ecosystem studies.

Our scholarship mission is to advance knowledge in ecosystem science and management; to bring this new knowledge back to the classroom; and to transfer it to the citizens of Arizona, the Southwest, and elsewhere. Our programs leading to the Master of Forestry, Master of Science in Forestry, and Doctor of Philosophy in Forestry play a special role in carrying out our scholarship objectives.

### **The Northern Rockies Fire Science Network**

*Enhancing science delivery and application*

Effective science communication is critical to science-informed management. With a rich history of fire research in the region, fire and fuels managers must sort through a plethora of available scientific information; find the right tools, models, and applications; and access expertise relevant to fire and fuels management.



## FIRE CONGRESS SUPPORTING ORGANIZATIONS, CONTINUED

Sponsored by the Joint Fire Science Program (JFSP), the Northern Rockies Fire Science Network (NRFSN) is part of a national knowledge exchange network that enhances fire science communication. Activities include fieldtrips, workshops, syntheses, e-newsletters, and online searchable publication and webinar databases. The NRFSN also identifies and communicates regional research priorities to scientists and the JFSP. The NRFSN is a go-to resource for reliable, relevant, and timely information to meet the needs of managers and scientists involved in fire and fuels management in the Rocky Mountains.

### **Oak Woodlands and Forests Fire Consortium**

The Oak Woodlands and Forests Fire Consortium (OWFFC) is one of 15 fire science exchanges (Fire Science Exchange Network) funded by the Joint Fire Science Program, serving much of the Central Hardwoods Forest Region in the eastern US. The Fire Science Exchange Network's efforts are guided by principles emphasizing inclusiveness, neutrality, and innovation. The OWFFC's mission is to provide fire science information to resource managers, landowners, and the public about the use, application, and effects of fire. The fire science needs of oak ecosystems in the eastern US are primarily related to management and restoration as opposed to protection. These characteristics set a unique stage for the fire topics addressed and activities offered by the OWFFC.

### **Pau Costa Foundation**

Pau Costa Foundation (PCF) was founded in 2011 with the ambition to become an international platform on forest fire management, as well as an instrument to investigate, train, and disseminate on fire ecology and wildland fire management.

The creation of PCF was motivated by the *need to establish a common platform, capitalizing the knowledge and experience gathered by specialists in fire ecology and management, and sharing it with others at national and international levels.*

**-Marc Castellnou**

Since 2011, PCF has been working with and for the forest fire community to enlarge the knowledge-exchange platform in many countries around the world.

Our present and future mission is to continue giving a voice to the fire community so that

their experience is imprinted in leading national and international projects. The community's knowledge and experience should be used as a tool to help firefighters in their duty, but also to guide researchers, develop new technology, and contribute to societal education.

### **The Southern Rockies Fire Science Network**

The Network is one of the innovative Joint Fire Science Program knowledge exchanges: source points for managers, scientists, policymakers, and citizens to gain both scientific and field knowledge supporting wildfire management solutions from Utah to the Black Hills. Regional challenges include smoke and air quality, fire-adapted communities, fire response, fuels management and effectiveness, landscape restoration and resilience, wildlife and feral animals, and sagebrush ecology. With over 1700 followers and growing, the Network is the only regional organization providing wildfire science and exchange across agency, administrative, and state boundaries. We identify critical knowledge gaps, needs, and information on the latest research, issues, and funding opportunities via online and in-person interchange—creating support and saving you time and effort.

Join us!

- Submit a mini-grant proposal for an idea: [www.southernrockiesfirescience.org](http://www.southernrockiesfirescience.org).
- Attend a field trip, workshop, webinar, or experience our website, E-News, Twitter, Facebook, and YouTube.
- Contribute to regional understanding of wildfire issues by sharing your projects, research, stories, and questions through the Network!

### **TechnoSylva**

TechnoSylva provides advanced GIS-enabled software solutions for wildfire protection planning, operational response, and firefighter and public safety. Our solutions encapsulate years of forestry and wildfire experience into efficient, timely, and responsive applications on desktop, web, and mobile platforms. TechnoSylva offers a range of subject matter expertise, consulting services, and software development capabilities unparalleled for wildfire risk analysis, fire protection planning, and fire incident operations. This expertise is encapsulated in our fiResponse™,

*Sponsors continued on page 12.*

## FIRE CONGRESS SUPPORTING ORGANIZATIONS, CONTINUED

Wildfire Analyst™, Tactical Analyst™, and Wildfire Risk Atlas products.

### **The Northwest Fire Science Consortium**

The Northwest Fire Science Consortium is a multi-disciplinary, multi-institutional network consisting of federal and state agencies, non-governmental organizations, universities, and private landowners within Washington and Oregon. The Northwest Fire Science Consortium works to accelerate the awareness, understanding, and adoption of wildland fire science. We connect managers, practitioners, scientists, and local communities and collaboratives working on fire issues on forest and range lands in Washington and Oregon.

### **University of Florida—Institute of Food and Agricultural Sciences School of Forest Resources and Conservation**

Since 1937, the UF-IFAS School of Forest Resources and Conservation (SFRC) has been developing new knowledge and educating students and citizens about the sustainable management and conservation of natural resources. We emphasize integrative, interdisciplinary approaches spanning three main programs:

1. Fisheries and Aquatic Sciences, including marine sciences, sustainable fisheries, aquaculture and aquatic ecology, and health;
2. Forest Resources and Conservation, including the biology, ecology, economics, policy, and human dimensions associated with sustainable management and conservation of forest systems; and
3. Geomatics, specializing in modern geospatial sciences such as surveying, mapping, remote sensing, satellite imagery, GIS, and GPS.

The SFRC's extension, outreach, and continuing education programs provide information about forest resources, environmental education, geospatial sciences, and fisheries and aquatic sciences to educators, youth, policy makers, land managers, landowners, and citizens to enable them to make informed decisions.

**UF | IFAS Research**  
UNIVERSITY of FLORIDA  
Developing the Science of Better Living

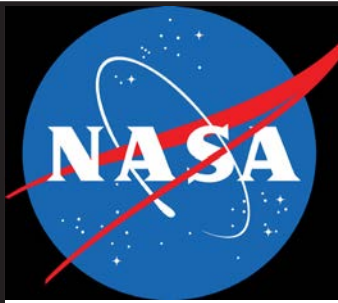
**ORDWAY-SWISHER**  
BIOLOGICAL STATION  
University of Florida IFAS

UF/IFAS Research and the Ordway-Swisher Biological Station are proud to support the 7th International Fire Ecology & Management Congress.

research.ifas.ufl.edu | ordway-swisher.ufl.edu

### **University of Idaho**

The University of Idaho's College of Natural Resources is home to the country's first-ever Bachelor of Science degree program in Fire Ecology and Management. In the last few years, the College developed 14 wildland fire courses to enable the launch of the country's first Master degree program in Fire Ecology and Management. The Master of Natural Resources-Fire Ecology and Management, includes a diversity of online or in-person course offerings including wildland fire policy, GIS in fire, fuels management, restoration ecology, fire behavior, fire ecology, and more. Students can complete the degree entirely online, making higher education practical for current working professionals. An integrated approach to wildland fire science and management is reflected in the program, which is designed to support its graduates in career advancement. The program includes numerous faculty who are certified by the Association for Fire Ecology.



**National Aeronautics and Space Administration**  
**Welcomes you to the**  
**7<sup>th</sup> International Fire Ecology and Management Congress**  
**2<sup>nd</sup> Applied Fire Science Workshop**

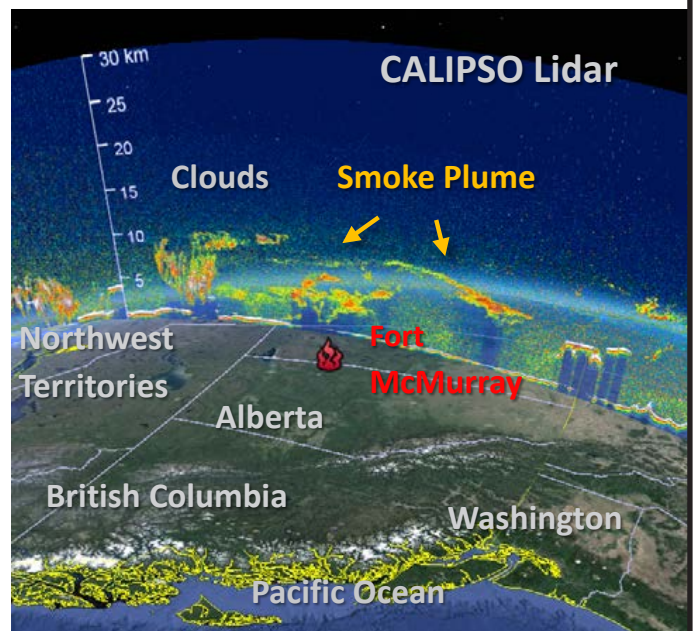


**Active-fire detection and smoke transport**



*NASA's vision is to reach for new heights and reveal the unknown for the benefit of humankind. We seek to support Earth and fire science by providing Earth Observation data, technology, models, and information to enable an improved understanding of fire and the interactive role it plays in ecosystem and atmospheric dynamics. NASA's Applied Sciences Wildland Fire and Disasters programs target the use of NASA data in 'stakeholder organizations' that support fire research, fire and resource management, fire weather, active firefighting, rules and regulatory communities, and post-fire assessment, recovery, and rehabilitation.*

**NASA is proud to be a sponsor of this congress and looks forward to seeing you in the Exhibit Hall at the NASA booth!**





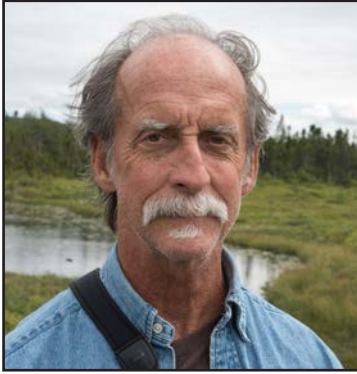
## FIRE CONGRESS EXHIBITOR IDENTIFICATION NUMBERS

Booth	Exhibitor, in Sabal Ballroom
101	FUSEE: Firefighters United for Safety, Ethics, and Ecology
103	NASA: National Aeronautics and Space Administration
105	Florida Forest Service
107	USDA Forest Service—Fire and Aviation Management
109	USGS: US Geological Survey
111	USFWS: US Fish and Wildlife Service
200	Southern Rockies Fire Science Network and Northern Rockies Fire Science Network
201	Northwest Fire Science Consortium and Great Basin Fire Science Exchange
202	Oak Woodlands and Forest Fires Consortium
203	NFPA: National Fire Protection Association, Bok Tower Gardens, University of Florida—Institute of Food and Agricultural Sciences, Research
204	Southwest Fire Science Consortium
205	University of Florida—Institute of Food and Agricultural Sciences, Extension
206	Northern Arizona University—School of Forestry
207	University of Florida—School of Forest Resources and Conservation
208	Oregon State University—College of Forestry
209	FTS: Forest Technology Systems, Ltd.
210	University of Idaho—Master of Natural Resources Program
211	DLR Services
300	Fire Learning Network / Fire Adapted Communities Network
302	FRAMES: Fire Research and Management Exchange System
304	Tall Timbers Research Station
306	Technosylva, Inc.
308	Pau Costa Foundation
310	IT for Nature



## OPENING PLENARY SESSION SPEAKERS

TUESDAY, 28 NOVEMBER, 8 TO 10:30 AM, IN CITRON NORTH



**Dr. Reed Noss**, Provost's Distinguished Research Professor, Pegasus Professor, and Davis-Shine Professor of Conservation Biology at the University of Central Florida and President of the Florida Institute for Conservation Science

***THE ANTIQUITY OF FIRE AS AN ECOLOGICAL-EVOLUTIONARY FORCE IN FLORIDA AND THE SOUTHEASTERN COASTAL PLAIN***

Reed Noss is a free-lance writer, photographer, lecturer, and consultant in ecology and conservation. He retired in spring 2017 as Provost's Distinguished Research Professor of Conservation Biology at the University of Central Florida and is currently a Visiting Scholar at the Nicholas School of the Environment, Duke University. He received a BS in Education from the University of Dayton, an MS in ecology from the University of Tennessee, and a PhD in wildlife ecology from the University of Florida. He has served as Editor-in-Chief of *Conservation Biology* and President of the Society for Conservation Biology. He is an Elected Fellow of the American Association for the Advancement of Science. His recent research includes studies of the vulnerability of species and ecosystems in Florida to sea-level rise; climate adaptation strategies; disturbance ecology; road ecology; and ecosystem conservation and restoration. He has more than 300 publications, including eight books. His most recently published book is *Forgotten Grasslands of the South: Natural History and Conservation* (Island Press, 2013). His current book, *Fire Ecology of Florida and the Southeastern Coastal Plain*, is in press with University Press of Florida, with publication expected in early 2018.



**Dr. Stephen Pyne**, Regents Professor, School of Life Sciences, Arizona State University; Fellow of American Association for the Advancement of Science

***FIRE SCIENCE'S AMERICAN CENTURY: A HUNDRED YEARS OF WILDLAND FIRE RESEARCH IN THE UNITED STATES***

Stephen Pyne is the author of over 30 books, among them fire histories of the US, Australia, Canada, Europe (including Russia), and Earth. Most recently he has published *Between Two Fires: A Fire History of Contemporary America* and *To the Last Smoke*, a series of regional fire surveys. Steve is a Fellow of the American Association for the Advancement of Science and has received numerous awards, the most recent being Recognition of Special Service for Long-Term Instruction by the National Advanced Fire and Resources Institute, in 2016.



**Dr. Jan van Wagtenonk**, Research Forester Emeritus, National Park Service, Yosemite National Park, California

***REFLECTIONS ON FIRE ECOLOGY AND THE ASSOCIATION FOR FIRE ECOLOGY OVER THE PAST 20 YEARS***

Dr. van Wagtenonk grew up in Indiana, where he began his study of forestry at Purdue University. Summer seasonal work as a smokejumper for the Forest Service and the Bureau of Land Management convinced him to finish his undergraduate work at Oregon State University, where he received his BS in Forest Management in 1963. After serving as an officer in the US Army with the 101<sup>st</sup> Airborne Division and as an advisor to the Vietnamese army, he entered graduate school at the University of California, Berkeley. There, Dr. van Wagtenonk obtained his MS in Range Management in 1968 and his PhD in Wildland Resource Science with a specialty in fire ecology in 1972. In 1972, Dr. van Wagtenonk started his career as a research scientist with the National Park Service at Yosemite National Park. After he retired in 2008, he continued as a research scientist emeritus at Yosemite. His areas of research included prescriptions for burning in wildland ecosystems, recreational impacts in wilderness, the application of geographic information systems to resources management, and the role of fire in Sierra Nevada ecosystems. He continues those pursuits today.

*Speaker bios continued on page 16.*

## OPENING PLENARY SESSION SPEAKERS, continued



**Dr. Neil Sugihara**, Program Coordinator, Wildland Fire Training and Education Collaborative, School of Forestry, Northern Arizona University

***REFLECTIONS ON FIRE ECOLOGY AND THE ASSOCIATION FOR FIRE ECOLOGY OVER THE PAST 20 YEARS***

Neil Sugihara was one of the founding members of the California Association for Fire Ecology (CAFE), the first president of AFE, and served as the chair for the first and fifth Fire Congresses. He has taught fire ecology courses for over 20 years with the US Forest Service and at the University of California-Davis, Humboldt State University, Cal Poly-San Luis Obispo, and now at Northern Arizona University. In 2016, he retired after over 20 years as a fire ecologist for the US Forest Service. He had also previously worked for the National Park Service and at UC Berkeley and Humboldt State universities. He is currently working at Northern Arizona University as the Program Coordinator for the Wildland Fire Education and Training Collaborative.



**Nate Benson**, Fire Ecologist Program Leader, National Park Service

***THE JOINT FIRE SCIENCE PROGRAM—19 YEARS OF RESEARCH SUPPORTING SOUND DECISIONS***

Nate Benson has worked for the National Park Service (NPS) for over 30 years in a variety of positions. He started his NPS fire career as a fire effects monitor at Glacier National Park, and then moved to Yellowstone and Great Smoky Mountains national parks as a Wildland Fire Module Leader. He was the Prescribed Fire Specialist at Great Smoky Mountains and Everglades national parks. Nate was the NPS National Fire Ecologist for 11 years, where he served as NPS Joint Fire Science governing board representative for 11 years, and chair of the governing board for eight of those years. Nate is currently NPS Wildland Fire Science and Ecology Program Lead. Nate has an MS in Land Resources from the University of Wisconsin-Madison's Institute for Environmental Studies.

---

## PLENARY SESSION SPEAKERS: FIRE AFEX TALKS WEDNESDAY, 29 NOVEMBER, 8 TO 11:50 AM, IN CITRON NORTH



**Claire M. Belcher**, Associate Professor of Earth System Science, wildFIRE Lab, University of Exeter, United Kingdom

***MAINTAINING THE AIR THAT WE BREATHE: WHY WE NEED TO UNDERSTAND LONG-TERM FIRE-FEEDBACKS TO THE EARTH SYSTEM IN ORDER TO MANAGE OUR FUTURE***

Claire is director and founder of the University of Exeter wildFIRE Lab (<https://wildfirelab.wordpress.com/>), an experimental fire laboratory that studies the influence of wildfire in both modern and ancient ecosystems. She uses state-of-the-art experimental approaches to understand the flammability of vegetation and the nature of the materials that wildfires create. Claire leads a 1.5 million euro European Research Council Grant and her unique approach to fire is highlighted by invitation to give a TEDx talk (2014) and in the publication of her book, *Fire Phenomena and the Earth System, an Interdisciplinary Guide to Fire Science*.



## PLENARY SESSION SPEAKERS: FIRE AFEX TALKS, continued



**Steven R. Miller**, Chief, Land Resources Bureau, St. Johns River Water Management District, Florida

***BUILDING A FIRE PROGRAM THAT SUSTAINS ECOSYSTEMS: REFLECTIONS ON TWENTY YEARS OF BUILDING A FIRE PROGRAM IN FLORIDA***

Steve “Torch” Miller earned a BS in Forest Administration from the University of Wisconsin Stevens Point and an MS in Ecological Restoration from the University of Florida. He worked previously for a private forestry consultant, the US Forest Service, Texas Forest Service, and Florida Division of Forestry. Steve is responsible for directing a multiple-use land management program on over 242,00 hectares (600,000 acres). Steve has experience in both prescribed fire and fire suppression. He is a Burn Boss Type 1 and serves as Deputy Incident

Commander on the Florida Red Overhead Team. He recently received the Excellence in Fire Management Award from the International Association of Wildland Fire. He is married and the father of two, one of whom is a second-generation forester and fire manager.



**Henri D. Grissino-Mayer**, Professor, University of Tennessee, Knoxville

***THE WILDLAND-URBAN INTERFACE IN THE SOUTHEASTERN UNITED STATES: LESSONS FROM GATLINBURG, TENNESSEE***

Dr. Grissino-Mayer is James R. Cox Professor in the Department of Geography, University of Tennessee, Knoxville, and Director of the Laboratory of Tree-Ring Science. He studies ecosystem disturbance processes and uses dendrochronology, the science of tree rings, to learn how environments have changed over time. His research concentrates on using tree-ring data to analyze the history of wildfires, the history of past climate, and the dating of historic structures and objects. He has given nearly 500 professional presentations and invited talks and published over 130 peer-reviewed papers. In recent months, Dr. Grissino-Mayer has been

sought for interviews, news stories, and documentaries about the Gatlinburg firestorm, which he had long predicted based on his and his colleagues’ research on fire history.



**Scott Stephens**, Professor of Fire Science, University of California, Berkeley

***REFORM FIRE AND FOREST POLICY TO EMPHASIZE RESILIENT FORESTS LONG TERM***

Scott has given invited testimony to the US House of Representatives on three occasions, was a senior Fulbright Fellow in Australia, has given invited testimony six times to the California Legislature, and recently presented at the National Academy of Sciences forum on a Century of Wildland Fire Research: Contributions to Long-Term Approaches For Wildland Fire Management. He is very interested in how fire science and management can be used to improve policy. He is a past president of AFE.

## PLENARY SESSION SPEAKERS: FIRE AFEX TALKS, continued



**Timothy Ingalsbee**, Executive Director, Firefighters United for Safety, Ethics, and Ecology (FUSEE)

***CONFESSIONS OF A PYROMANTIC, OR HOW I LEARNED TO STOP WARRING AND LOVE WILD FIRE***

Timothy Ingalsbee has founded and directed three nonprofit organizations devoted to public education and policy advocacy of fire ecology and fire management. He is a certified senior wildland fire ecologist who was named the Oregon Conservationist of the Year in 1993. Timothy first encountered his love of fire while burning the autumn leaves at his boyhood rural wooded home in the Midwest. He later served as a wildland firefighter for the US Forest Service and National Park Service for which, through his participation in burnout, backfire, and prescribed fire ignitions, he has started far more fire than he ever put out.



**J. Morgan Varner**, Research Scientist and Team Leader, USDA Forest Service Pacific Wildland Fire Sciences Lab

***DEVELOPING PRESCRIBED FIRE AND IMPROVING THE PRACTICE: MEETING FIRE CHALLENGES OF THE FUTURE***

Dr. Morgan Varner's research and passion are focused on understanding and overcoming the impediments to the application of prescribed fire. He received PhD, MS, and BS degrees from the University of Florida, Auburn University, and University of Idaho, respectively. Morgan held teaching and research positions at Humboldt State University, Mississippi State University, and Virginia Tech before his current position. He is past chair of the National Coalition of Prescribed Fire Councils.



**Penny Morgan**, Professor, University of Idaho, Moscow

***BURN SEVERITY: WHERE, WHY, SO WHAT?***

Penny Morgan is Professor in the Department of Forest, Rangeland, and Fire Sciences at the University of Idaho. There she teaches Fire Ecology and Management, Fire Ecology, Prescribed Burning, and Science Synthesis and Communication. Penny's research focuses on fires, especially how, why, when, and where fires burn severely and their implications. She is on the steering committee for the Northern Rockies Fire Science Network and the advisory committee for the Great Basin Fire Science Exchange, and she serves on the board of the Association for Fire Ecology. She is proud to be an AFE Certified Senior Fire Ecologist.



**Michael Stambaugh**, Associate Research Professor, University of Missouri

***WAVE OF FIRE: THE HISTORICAL SIGNAL OF NEW WORLD COLONIZATION AND SETTLEMENT***

Michael Stambaugh is Associate Research Professor in the School of Natural Resources at the University of Missouri. Michael is the Director of the Missouri Tree-Ring Laboratory, which conducts fire history research throughout the eastern US. He received his PhD, MS, and BS degrees from University of Missouri. Mike is the Principal Investigator for the Oak Woodlands and Forests Fire Consortium, a member of the Joint Fire Science Program Fire Science Exchange Network.



## PLENARY SESSION SPEAKERS: FIRE AFEX TALKS, continued

WEDNESDAY, 29 NOVEMBER, 8 TO 11:50 AM, IN CITRON NORTH



**Sarah M. McCaffrey**, Research Forester, USDA Forest Service, Rocky Mountain Research Station

### ***FIRE NARRATIVES: ARE ANY ACCURATE?***

Dr. Sarah M McCaffrey's research focuses on the social aspects of fire management. This work has included projects examining wildfire risk perception, social acceptability of fuels treatments, and factors influencing homeowner wildfire mitigation efforts. More recently she has initiated work related to fire-adapted communities and projects examining social issues that occur during and after fires, including evacuation decision-making, agency–community interaction during fires, and long-term health impacts of experiencing a fire. She received her PhD in Wildland Resource Science in 2002 from UC Berkeley.



**Johnny P. Stowe**, Heritage Preserve Manager, South Carolina Department of Natural Resources

### ***FIRE-TIES THAT BIND: THE REKINDLING OF PRESCRIBED FIRE CULTURE IN NORTH AMERICA***

Johnny Stowe is a wildlife biologist who has managed the South Carolina Department of Natural Resource's heritage preserves with prescribed fire for 21 years. His passion for fire-lighting began when he was a little boy. Through the South Carolina Prescribed Fire Council and the International Association of Wildland Fire, he works to restore the natural and multicultural heritage of firelands. His pan-disciplinary work includes getting more fire on the ground on public and private lands (including his family farm), and promotion and advocacy in local to global arenas. His *sahyindra* yoga uses fire as a way to connect people to special places.

---

## CLOSING PLENARY SPEAKERS: A LOOK INTO THE FUTURE OF FIRE ECOLOGY AND MANAGEMENT

FRIDAY, 1 DECEMBER, 8 TO 10:20 AM, IN CITRON NORTH



**Dr. David Bengston**, Research Forester, Social Scientist, The Strategic Foresight Group, US Forest Service, Northern Research Station

### ***SCANNING THE HORIZON FOR THE FUTURE OF WILDLAND FIRE***

David Bengston is a Social Scientist and Environmental Futurist with the US Forest Service, Northern Research Station, in St. Paul, Minnesota, and an Adjunct Professor in the Department of Forest Resources and the Conservation Sciences Graduate Program at the University of Minnesota. He works in the Strategic Foresight Group, a new Futures Research unit at the Northern Research Station. The current focus of Dave's research is environmental futures—a long-time interest of his dating back to his individually designed bachelor's degree in Futures Studies. He also has a Master's degree in Natural Resource Economics and a PhD in Forest Economics from the University of Minnesota. Dave has worked as a consultant to the Food and Agriculture Organization of the United Nations, the United Nations Development Programme, and the International Union of Forestry Research Organizations. He was a Visiting Research Fellow at Seoul National University in South Korea in 2004, and is currently the co-Chair of the North American Forest Commission's Futures Working Group. Dave is a member of World Future Society and the Association of Professional Futurists.

*Speaker bios continued on page 20.*

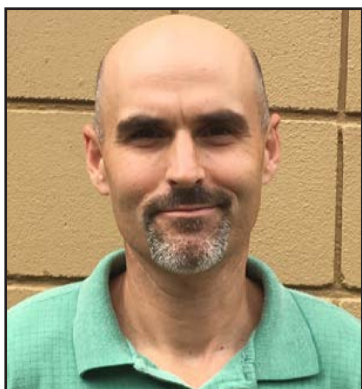
## CLOSING PLENARY SPEAKERS: A LOOK INTO THE FUTURE OF FIRE ECOLOGY AND MANAGEMENT, continued



**Marc Castellnou**, Associate Professor, Department of Crop and Forest Science University of Lleida, Spain; Strategic Fire Analyst for the Government of Catalonia's national fire services

### ***USING FIRE ECOLOGY AS A TOOL FOR FUTURE DECISION MAKING AND RESILIENCE MANAGEMENT IN EUROPEAN AND SOUTH AMERICAN LANDSCAPES***

Marc Castellnou has served as Incident Commander, Hotshot Units Chief, and Strategic Wildfire Analyst for the Government of Catalonia Fire Services since 1999, and as Director of their prescribed burning program since 2001. Marc is also Professor at the University of Lleida in Spain and is President of the Pau Costa Foundation Board of Directors. He received a Forestry degree in 1996 and an MS degree in fire behavior and fire ecology in 2002 from the University of Lleida. Marc has filled various international fire specialist positions, including: senior expert for the European Forest Institute 2014, technical expert for the European Civil Protection Mechanism, member of the European Mission on Chile wildfires in 2017, and member of the Independent Technical Commission for Portugal fires in 2017. In 2015, he received the International Association of Wildland Fire Safety Award and in 2017 the Montero de Burgos Award for fire ecology public communication from the Official College of Forestry Engineers in Madrid.



**Kevin Hiers**, Wildland Fire Scientist, Tall Timbers Research Station and Land Conservancy, Florida

### ***RESEARCH IS KEY TO THE APPLICATION OF PRESCRIBED FIRE IN AN UNCERTAIN FUTURE***

J. Kevin Hiers is a Wildland Fire Scientist at Tall Timbers Research Station, where he leads research projects in fire behavior, fire management, fuel moisture, and the fluid dynamics of fire effects. He has worked at the interface of science and management for 24 years to help enhance tools and techniques to safely apply prescribed fire for management objectives. He served as fire ecologist, prescribed fire program manager, and fire management officer at Eglin Air Force Base, and was The Nature Conservancy's Prescribed Fire Manager for Georgia and Alabama from 2004 to 2006. His research career began at the Jones Ecological Research Center, studying fire ecology and managed fire regimes. His research has focused on building interdisciplinary research teams to connect combustion science to ecological effects and smoke management. He received a BA in Environmental Studies from the University of the South, and a MS in Conservation Ecology from the University of Georgia. He has co-authored more than 50 peer-reviewed research publications.



**Dr. Leda Kobziar**, Director, Master of Natural Resources, University of Idaho, Natural Resources and Society; President, Association for Fire Ecology

### ***FIRE ECOLOGY 2.0***

Dr. Leda Kobziar has served on the AFE Board of Directors since 2009, and is currently President of the Association. She earned her PhD in 2006 at the University of California at Berkeley. After nine years at the University of Florida, she joined the faculty in the Natural Resources and Society Department of the University of Idaho's College of Natural Resources, where she serves as the Director of the Master of Natural Resources program. Dr. Kobziar's research explores how fire and fuels management affect forest conservation, soils, plant communities, and smoke transport of microbial life. She is an Associate Editor of the journal *Fire Ecology*, and has served on multiple technical advisory boards and review panels. She is a Certified Prescribed Burn Manager in Florida, and an AFE-Certified Wildland Fire Ecologist.

## SPECIAL EVENTS: TUESDAY THROUGH SATURDAY

### SAFE ANNUAL MEMBERS LUNCH MEETING

Tuesday, 12:20 to 1:40 PM

Citron Center

All students welcome! Come meet your fellow SAFE members, share updates on our chapters, elect new national officers, and help shape the future of SAFE.

### WELCOME RECEPTION AND POSTER SESSION

Tuesday, 4 to 6:45 PM

Sabal Ballroom and Foyer

Join us for appetizers and a no-host bar, meet poster presenters, explore exhibit booths, and mingle with friends.

### BOOK SIGNING

Tuesday, 4 to 5 PM

Sabal Ballroom

Come join Stephen Pyne in the FUSEE booth where he will be signing copies of his new books on fire in Florida, California, and the northern Rockies. All proceeds from book sales will be donated to the Mike da Luz Memorial Student Scholarship Fund.

### STUDENT SOCIAL AT THE DISNEY WILDERNESS PRESERVE

Wednesday, 5:30 PM

Vans depart hotel from Convention Bus Loop

Join your fellow SAFE members at The Nature Conservancy's Disney Wilderness Preserve for an evening of casual discussions, fire networking, food, and even a bonfire! Many of The Nature Conservancy's fire leaders will be present for the event, so bring your fire career questions and observations.

### AFE AWARDS BANQUET LUNCHEON

Thursday, 11:50 AM to 1:20 PM

Citron North and Citron Center

Join us as we honor our 2017 award winners. We will be giving out our three Lifetime Achievement Awards, a Student Excellence Award, and more!

### AFE ANNUAL MEMBERS MEETING

Thursday, 6:30 to 7:30 PM

Citron North

You're invited to join us for our annual AFE members meeting! AFE members are the professionals and students responsible for developing the international fire ecologist and manager certification programs, the higher education in fire ecology recognition program, position statements on critical issues, achievement awards, student travel grants, and conferences where scientists, managers, and the next generation unite. These accomplishments depend on the initiative and support of our enthusiastic members and committees. Learn how you can get involved and make a difference. New members welcome! There will be door prizes!

### MOVIE NIGHT: LESS THAN MASTERPIECE THEATER FEATURING HOLLYWOOD IN FLAMES WITH STEPHEN PYNE

Thursday, 7:30 PM

Citron North

*Less Than Masterpiece Theater* returns for a night of flaming flicks. Watch as love triangle meets fire triangle in classic fire scenes from *The Forest Ranger*, *Bambi*, *Red Skies of Montana*, *A Fire Called Jeremiah*, and *The Sundowners*, along with contemporary entries. Prepare to laugh. Bring popcorn.

### YOGA WITH JOHNNY STOWE

Join Johnny Stowe, a wildlife biologist and certified yoga instructor, for yoga sessions throughout the conference. There will be no charge for classes; however, donations to the Mike da Luz Scholarship fund would be appreciated and can be made at the Registration desk.

#### Greet the day yoga

A gentle-flow class for all levels aimed at waking one's mind and body for the day's activities. It can be done in any loose, comfortable clothing.

Tues., Thurs., and Fri., 6:30 to 7:15 AM, Pindo C

#### Work the kinks out yoga

Gentle, light-hearted stretching. Quietly come in after class starts or quietly leave before it ends to accommodate your schedule.

Tuesday, 1:10 to 1:25 PM, Pindo C

Wednesday, 12:45 to 1 PM, Pindo C

Friday, 1:20 to 1:30 PM, Pindo C

#### Sahyindra EcoJourney Fire Meditation

Johnny's specialty: a meditative journey through fire-dependent ecosystems of SE North America.

Wednesday, 6 to 7 PM, Pindo C

### FIELD TRIPS

Saturday, 7:30 AM

Buses leave from Convention Bus Loop

Get on the bus! We have several field trips planned for Saturday. Some may already be full, but there may still be seats left on other trips. Check in with Registration to see if there are any seats left.

### MEETINGS

**Wildland Fire Education and Training Collaborative**

**(WETC), Steering Committee Meeting:**

Monday, 6 to 9 PM, Tangerine 5

Tuesday, 11 AM to 3:40 PM, Tangerine 5

**National Park Service, Fire Ecologists Meeting:**

Tuesday, 3:50 to 5:30 PM, Areca

Thursday, 1:20 to 5:10 PM, Areca

**AFE Board Meeting:**

Saturday, 8 AM to 5 PM

Tangerine 5



## POSTER PRESENTATIONS

The following posters will be on exhibit beginning Tuesday, 28 November, at 4 PM in the Sabal Ballroom and Foyer, on the Convention Level of the hotel. A poster identification number (#) is provided next to the presenter's name. Abstracts for poster presentations are available on the Whova Fire Congress mobile app.

#	Presenter	Poster Title
1	<b>Parts Permillion</b>	<i>Beyond the bear: introducing "Charrtoons" to promote wildfire and climate change science and policy messages to diverse audiences</i>
2	<b>Jaron Adkins</b>	<i>Impacts of soil heating on soil carbon storage and soil carbon processing by microbes: insights from manipulative lab experiments</i>
3	<b>Brian Benschoter</b>	<i>Fire maintains ridge-slough patterning of the Everglades</i>
4	<b>Brian Benschoter</b>	<i>Effect of prescribed burning and soil disturbance on the spread of Caesar's weed (Urena lobata) in pine flatwoods</i>
5	<b>Chase Brooke</b>	<i>Soil variability comparisons across two burn units in the Moquah Pine Barrens of Wisconsin</i>
6	<b>Thomas Coates</b>	<i>Detrital chemistry is not altered by long-term, frequent prescribed fire in longleaf pine forests</i>
7	<b>Raelene Crandall</b>	<i>Fire differentially affects fitness and population growth of an invasive shrub compared to coexisting native species</i>
8	<b>Virginia McDaniel</b>	<i>Woodland restoration in the Ouachita National Forest of Arkansas</i>
9	<b>Gloria Edwards</b>	<i>Gambel oak ecology and management in the southern Rockies: an overview of current knowledge, climate models, and future research</i>
10	<b>Neil Estes</b>	<i>Non-native species distribution and abundance on a disturbed landscape in the Valles Caldera National Preserve, New Mexico, USA</i>
11	<b>Tyler Gilbert</b>	<i>Relative impacts of prescribed fire to autotrophic and heterotrophic components of soil respiration</i>
12	<b>Maria Godoy</b>	<i>Wildfires and wildland-urban interface in Andean Patagonia, Argentina: first assessment in a rapid growing community</i>
13	<b>Mark Grosvenor</b>	<i>ChaRoFlux: developing a charcoal reflectance method for assessing fire behavior and fire severity</i>
14	<b>Joshua James</b>	<i>Legacy effects of prescribed fire season and frequency on soil properties in Pinus resinosa forests of the Lake States region</i>
15	<b>Robert Klein Jr.</b>	<i>Initial severity and effects of the Chimney Tops 2 wildfire in Great Smoky Mountains National Park, Tennessee, USA</i>
16	<b>Sherry Leis</b>	<i>Fire ecology as a bridge to increasing the relevancy of monitoring data to managers</i>
17	<b>Duncan Lutes</b>	<i>The FOFEM and FuelCalc applications: tools for modeling fire effects and fuelbed modification</i>
18	<b>Peter Maholland</b>	<i>Prescribed fire effects on northeast Florida upland plant biodiversity and abundance</i>
19	<b>Emily Mangini</b>	<i>Assessing post-wildfire conifer regeneration: validation of a non-destructive seedling aging method</i>
20	<b>Tony Marks-Block</b>	<i>Restoring prescribed cultural fires in Karuk and Yurok Indian territory: effects on California hazelnut for basketweaving</i>
21	<b>Virginia McDaniel</b>	<i>Short-term stem mortality of prominent tree species following prescribed burning in upland forests of the southern US</i>
22	<b>Stephanie Mueller</b>	<i>Factors influencing the severity of subsequent reburn wildfires across the southwestern United States</i>
23	<b>Kellen Nelson</b>	<i>Effects of prescribed fire on fuel loadings in contrasting Sierra Nevada meadow and forest sites</i>
24	<b>Emily Oakman</b>	<i>15 years of fuel reduction effects on understory vegetation in the southern Appalachian Mountains, USA</i>
25	<b>Suzanne Owen</b>	<i>Spatial patterns of tree regeneration following high-severity wildfires in ponderosa pine forests</i>
26	<b>Melissa Pingree</b>	<i>Forest soil biogeochemistry and charcoal content along a wildfire chronosequence in the rain shadow forests of the east side Olympic Peninsula, Washington, USA</i>
27	<b>Megan Poling</b>	<i>Trends in spatial patterns of high severity patches in the southwestern USA from 1984–2016</i>
28	<b>Gary Curcio</b>	<i>National Wildlife Coordinating Group Smoke Committee (Smoc)</i>
29	<b>Matthew Reilly</b>	<i>Population dynamics of a Knobcone pine (Pinus attenuata) across its range in Oregon and California</i>
30	<b>Leonard Rios</b>	<i>Effects of prescribed fire season on Pinus lambertiana growth and defense in Sequoia and Kings Canyon National Park</i>
31	<b>Ethan Robers</b>	<i>Effects of various fire frequencies and thinning on understory vegetation in northern Wisconsin mixed conifer-hardwood stands</i>
32	<b>Matthew Vaughan</b>	<i>Patterns of delayed mortality resulting from severe wildfire in the southern Appalachian Mountains</i>
33	<b>Becky Wildt</b>	<i>Quantifying ash characteristics and impact on nutrient availability on a Wisconsin pine barrens restoration site</i>
34	<b>Jennifer Anderson</b>	<i>A novel application of wildfire risk assessments in land management plans (LMPs)</i>
35	<b>Guillermo Defossé</b>	<i>Biomass decomposition and upper soil nutrient dynamics as affected by different techniques of treating pruning and thinning residues of ponderosa pine afforestations located in an environmental gradient of Patagonia</i>
36	<b>Daniel Godwin</b>	<i>Department of Defense wildland fire</i>
37	<b>Sarah Harrison</b>	<i>Evaluation of salvage logging impacts on fuels and shrub regeneration: an empirical and modeling comparison, Pioneer Fire 2016, Boise National Forest</i>
38	<b>Zachary Holden</b>	<i>A modified form of the Keetch-Byram Drought Index for estimating wildfire danger</i>
39	<b>Morris Johnson</b>	<i>Effects of postfire salvage logging on stand structure and dead woody fuels</i>
40	<b>Jesse Kreye</b>	<i>Effect of radiative heating on litter flammability</i>

## POSTER PRESENTATIONS, CONTINUED

#	Presenter	Poster Title
41	Jesse Kreye	Observations of fine-scale moisture dynamics in pine and oak litter: solar heating, fuel position, and species all matter
42	Alex Masarie	Identifying suppression risk factors from firefighting demand data
43	Leonardo Martinez	Institutional singularities: the experience of five controlled burns in Mexico
44	Jolie Pollet	BLM and fuels management
45	Mike Pellant	Using targeted livestock grazing to strategically reduce fine fuels in the Great Basin
46	Alexander Singer	Wildfire field report from one of Europe's top risk areas in Brandenburg, Germany—15 years of fire detection and management with the optical sensor system FireWatch
47	Eva Strand	Make a difference: share your expertise for improving map products using the LANDFIRE Data Project Review Website
48	Anjel Tomayko	Vegetation response to mastication and burning in a mixed conifer forest
49	Nicholas Walding	A comparison of the US National Fire Danger Rating System (NFDRS) with recorded fire occurrence and final fire size
50	Adam Watts	Specializing unmanned aircraft and their payloads for fire-science missions
51	Dalton Weatherly	Arkansas prescribed burning trends in relation to air quality standards
52	Adam Atchley	Exploring spatial representations of forest fuels in mechanistic modeling of fire spread and intensity
53	Jim Cronan	An evaluation of the Consume emissions prediction program in dry coniferous forests of Washington State
54	Matthew Dickinson	Combustion characteristics of oak- and maple-dominated litter beds collected in spring and fall: basket burns under a heat release hood
55	Josh Hyde	The Interagency Fuels Treatment Decision Support System (IFTDSS)
56	Josh Hyde	Smoke management information resources on the FRAMES emissions and smoke portal
57	Brant Portner	Comparing the use of pyrometers and thermocouples for estimating prescribed burning flame temperature
58	Scott Ritter	Use of a physics-based fire model to assess the influence of group size and inter-tree distance on crown fire behavior
59	Dana Skelly	Changing climate, changing Energy Release Components (ERCs): implications for modeling and management
60	Brett Williams	Next generation fire modeling for advanced wildland fire training: using science to improve wildland fire management
61	Justin Ziegler	Mapping fine-scale spatial variability of surface fuel load: a comparison of spatial interpolation methods
62	Sarah Baker	Wildfires are not only important for land ecosystems but may provide essential regulation of ocean habitat conditions
63	Paulina Llamas-Casillas	Spatial-temporal alteration of fire regime due to ENSO and PDO fluctuations, and cumulative anthropogenic disturbances in eastern Washington: preliminary findings
64	Joseph Marschall	Spatial variation in historical fire-regime characteristics of an oak-pine landscape, Pennsylvania, USA
65	Alexis Bernal	The effectiveness of variable density thinning and prescribed fire in promoting resistance to drought-induced bark beetle mortality
66	John Hom	Pitch pine adaptation: the use of field studies and provenance trials to predict adaptation to climate change and ecological disturbance
67	Kayla Johnston	Fire history of the Metolius Basin: implications for passive management
68	Caroline Martorano	Spatial variability of surface fuels in conifer-encroached oak woodlands in Humboldt County, California
69	Carmen Tubbesing	Shrubs vs. conifer seedlings: the battle for post-fire recovery in the Sierra Nevada
70	Andrew Bailey	Comparison of post-fire LiDAR and RTK GPS elevation measurements following organic soil combustion during a wildfire
71	Michael Gallagher	Linking fire effects with fire behavior using burn severity indices
72	Darcy McDaniel	Collector 4 fuels: a technological approach to fuels management
73	Charlotte Smetanka	Multi-scale fire severity assessment and mapping in a context of salvage logging management: a case study in the boreal forest of eastern Canada
74	Shan Cammack	Busting duff: gritty lessons from the field
75	Nuria Prat-Guitart	Smoldering combustion dynamics of organic matter in Mediterranean Pinus halepensis Mill. forests
76	Nuria Prat-Guitart	MEFYTU, the fire educational program from Pau Costa Foundation
77	Randall Brooks	Wildland firefighter perceptions regarding health and safety issues on the fire line
78	Samantha Brooks	Wildland firefighters' hydration on a fire assignment: self-reported contributing factors and perceptions
79	Callie Collins	A case study of wildland firefighters: implications of body composition changes across a fire season
80	Ben Wheeler	Economic impact of prescribed fire in central Nebraska
81	Mason Danhem	Status of forest health and oak regeneration potentials 11 years after prescribed fire treatments in upland oak-hickory stands in the Ozark National Forest, Arkansas
82	Trey Wall	The effects of prescribed fire within Texas national forests on vegetation, fuel loads, and wildlife habitat: a United States Forest Service case study
83	Oliver Curtis	Building a complex surface to simulate America's dry West
84	Brett Davis	Three dimensional fire modeling using LiDAR-derived fuels data

# TUESDAY, 28 NOVEMBER 2017

## SCHEDULE OVERVIEW

### Registration

7 AM to 4 PM, Convention Level

### Presentation Loading

7 to 8:30 AM, 3:30 to 5:30 PM, Tangerine 9

### Welcome and Opening Speakers

8 to 10:30 AM, Citron North

**Leda Kobziar**, Moderator

**Jim Karels**, Florida Forest Service

*Welcome to Florida and Fire*

**Reed Noss**, University of Central Florida

*The Antiquity of Fire as an Ecological-Evolutionary Force in Florida and the Southeastern Coastal Plain*

**Stephen Pyne**, Arizona State University

*Fire Science's American Century: A Hundred Years of Wildland Fire Research in the United States*

**Jan van Wagtendonk**, National Park Service, and

**Neil Sugihara**, Northern Arizona University

*Reflections on Fire Ecology and the Association for Fire Ecology over the Past 20 Years*

**Nate Benson**, National Park Service

*The Joint Fire Science Program—19 Years of Research Supporting Sound Decisions*

### Morning Break

10:30 to 11 AM

### Concurrent Sessions

11 AM to 12:20 PM

### Lunch Break

12:20 to 1:40 PM

### Concurrent Sessions, continued

1:40 to 4 PM

### Welcome Reception and Poster Session

4 to 6:45 PM, Sabal Ballroom

## FIRE CIRCLES

### *Southern Fire Exchange—Making a Difference?*

**Organizer:** Alan Long; 11 AM to 12:20 PM; Citron Center

This Fire Circle will be led by a Southern Fire Exchange (SFE) staff member as an open discussion focused on asking participants to provide examples and descriptions of the impacts and benefits of SFE. Fire managers and scientists are invited to drop in.

### *From Outcomes to Impacts—*

#### *Fire Science Exchange Network Success Stories: A Fire Circle*

**Organizers:** Charles Goebel, Ed Brunson; 1:40 to 3:40 PM; Citron Center

A series of short examples of applied science delivery and adoption will be followed by discussion on lessons learned. Participants are invited to share additional examples of successful fire science applications, which will be included in the summary document.

### *Prescribed Fire Councils*

**Organizer:** Jennifer Fawcett; 1:40 to 3:40 PM; Citron Center

Members of all Prescribed Fire Councils (PFC) across the country are invited to this facilitated discussion focused on results from a recent survey of PFC presidents. This information will be compiled into a report or white paper, journal article, or both.

---

## WORKSHOP: drop-in

### *Fuel and Fire Tools (FFT):*

#### *An Application for Wildland Fuel and Fire Management Planning*

**Organizer:** Susan Prichard; 11 AM to 3:40 PM; Tangerine 6

The Fuel and Fire Tools application is an integrated suite of products that allows users to build and characterize fuel beds, assess potential fire hazard and surface fire behavior, and estimate the amount of fuel consumed and emissions produced if burned during a wildland fire.

---

## WORKSHOPS AND TRAININGS: pre-registration required

### *Sexual Harassment in the Workplace and Its Impact on the Fire World*

**Organizer:** Aili Johnston; 11 AM to 12:20 PM; Tangerine 5

### *Rx310: Introduction to Fire Effects*

**Organizers:** Geoff Babb, Beth Buchanan; 1:40 to 5:30 PM; Tangerine 5



## CONCURRENT ORAL PRESENTATIONS FOR TUESDAY, 28 NOVEMBER

The presentations listed in the schedule on the next four pages are broken into the following sessions. Please refer to the floorplan map at the back of your program for room locations. Presentation abstracts and speaker biographies are available on Whova, the conference mobile app.

### SPECIAL SESSIONS

#### ***Fire and Climate Change:***

##### ***Past Patterns and Future Expectations***

**Organizer:** *Jon E. Keeley*

**Start time:** 11 AM

**Room:** Sabal A

Future climate change is expected to result in global warming and variable changes in precipitation. Experts from the US, Canada, Spain, and Australia will address diverse aspects of the impact of these changes on future fire regimes.

##### ***The Southern Appalachian Wildfires of 2016***

**Organizer:** *Joseph J. O'Brien*

**Start time:** 11 AM

**Room:** Citron North

In the Fall of 2016, extreme drought conditions coincident with autumn leaf fall in the southern Appalachians led to an outbreak of wildfires not seen in recent memory, including the catastrophic Gatlinburg Fire. This session reports on conditions that led up to the fires, the dynamics of the fires, and expected economic, health, and ecological impacts.

##### ***Where's the Biodiversity in Fire Management?***

**Organizer:** *Dominick DellaSala*

**Start time:** 11 AM

**Room:** Sabal B

Seminal fire science and policy questions will be addressed in talks focusing on the biodiversity associated with large and mixed-severity fires, and in discussions about the ecological importance of large wildfires and how to manage for them in human-dominated landscapes.

##### ***Engaging the Fire before It Starts***

**Organizers:** *Christopher O'Connor, Matt Thompson*

**Start time:** 1:40 PM

**Room:** Sabal C

Incorporating risk-based science metrics into the pre-fire planning process helps reduce uncertainties, improve safety and efficiency, and align incident response actions with Land and Resource Planning objectives. This session will introduce new methods to determine and translate optimal fire response strategies into actions prior to the fire season.

### GENERAL SESSIONS

#### ***Fire Ecology and Effects***

**Start time:** 11 AM

**Room:** Pindo B and Sabal E

#### ***Fire Management and Use***

**Start time:** 11 AM

**Room:** Pindo A

#### ***Fire Modeling***

**Start time:** 11 AM

**Room:** Sabal F

#### ***Smoke Management and Modeling***

**Start time:** 11 AM

**Room:** Sabal G

#### ***Restoration and Resiliency***

**Start time:** 11 AM

**Room:** Areca

#### ***Policy Issues***

**Start time:** 1:40 PM

**Room:** Sabal G

# TUESDAY, 28 NOVEMBER

	Pindo B	Pindo A	Sabal E	Sabal F	Sabal G
<b>Session title</b>	<b>Fire Ecology and Effects</b>	<b>Fire Management and Use</b>	<b>Fire Ecology and Effects</b>	<b>Fire Modeling</b>	<b>Smoke Management and Modeling</b>
<b>11 AM</b>	<b>A. Caprio</b> <i>Did prescribed-fire treatments moderate effects of the 2015 Rough Fire on giant sequoias in Grant Grove, Kings Canyon National Park?</i>	<b>C. Noble</b> <i>The new Interagency Fuels Treatment Decision Support System: facilitating fuels planning for all</i>	<b>M. Zimmerman</b> <i>Recolonization and growth of Bishop Pine (<i>Pinus muricata</i>) following stand-replacement fires</i>	<b>R. Parsons</b> <i>Numerical investigation of aggregated fuel spatial pattern impacts on fire behavior</i>	<b>A. Soja</b> <i>Biomass burning smoke plume injection height: CALIOP-based estimates and comparisons to CMAQ</i>
<b>11:20 AM</b>	<b>G. Hamby</b> <i>Impacts of species composition on litter flammability: a potential role in the mesophication of eastern US hardwood forests</i>	<b>J. Menakis</b> <i>Fuel treatment effectiveness monitoring and lessons learned</i>	<b>A. Barton</b> <i>Patterns and mechanisms of forest type-conversion in Arizona Madrean pine-oak forests following high-severity wildfire</i>	<b>K. Riley</b> <i>Fuel treatment effects at the landscape level: burn probabilities, flame lengths, and fire suppression costs</i>	<b>R. Mickler</b> <i>Temperate peatland carbon emissions: contributions of wildfire vegetation and organic soil consumption</i>
<b>11:40 AM</b>	<b>W. Paxton for V. McDaniel</b> <i>Tree mortality following a drought-year lightning ignition in the Ouachita Mountains, Arkansas: five years post burn</i>	<b>M. Anderson</b> <i>Building a sustainable fire management program in Kafue National Park, Zambia</i>	<b>S. Malone for P. Fornwalt</b> <i>Fine-scale mixed-severity fire fosters heterogeneous spatial patterns of conifer regeneration in a dry conifer forest</i>	<b>A. Jonko</b> <i>Using local slope to determine spread rate</i>	<b>M. Pingree</b> <i>Pyroaerobiology: the transport and characterization of viable microorganisms by wildland fire smoke</i>
<b>Noon</b>	<b>D. Hoff</b> <i>Densification of the Cross Timbers forest resulting from fire exclusion and <i>Juniperus virginiana</i> encroachment</i>	<b>M. Kennedy</b> <i>Methods to expand understanding of fuel treatment effectiveness and inform treatment design</i>	<b>L. Harris</b> <i>Spatial variability in tree regeneration and fire-driven range shifts at a dry forest ecotone</i>	<b>R. Parsons</b> <i>Next-generation fuel and fire modeling with STANDFIRE, a prototype platform for stand-scale fuel treatment analysis</i>	<b>A. Makowiecki</b> - <i>Examination of wildland fire spread at small scales using frequency comb laser diagnostics and direct numerical simulations</i>
<b>12:20 PM Lunch break</b>					
<b>1:40 PM</b>	<b>M. Brooks</b> <i>New perspectives on fire ecology in the Mojave Desert</i>	<b>B. Camposano</b> <i>Planning, managing, and evaluating the burn: the basis for a successful prescribed fire program on Florida's state forests</i>	<b>J. Ziegler</b> <i>How do topography and neighboring trees influence fine-scale patterning of tree regeneration following stand-replacement fire?</i>	<b>D. Jones</b> <i>Real-time adjustment of wildfire propagation simulations to support fire operations and evacuation planning</i>	<b>Policy Issues</b> <b>C. Schultz</b> <i>Policy barriers to prescribed fire: a diversity of experiences and governance approaches across the West</i>
<b>2 PM</b>	<b>R. Dewhirst</b> <i>The volatile terpene content of pine species adapted to differing fire regimes</i>	<b>Z. Holden</b> <i>A topographically resolved wildfire danger and drought monitoring system for the conterminous United States</i>	<b>M. McCord</b> <i>Effects of repeated fire on conifer regeneration in low-elevation mixed conifer-hardwood forests of the California Klamath region</i>	<b>A. Forradellas</b> <i>Determining the probability of impact from wildland fires: a near real-time approach</i>	<b>S. McCaffrey</b> <i>Perspectives of Western stakeholders on the Cohesive Wildland Fire Management Strategy</i>

# 11 AM TO 2 PM CONCURRENT ORAL PRESENTATION SCHEDULE

	Sabal A	Sabal B	Sabal C	Areca	Citron North
Session title	<b>Fire and Climate Change: Past Patterns and Future Expectations</b> - J. Keeley <b>(NOTE: times vary)</b>	<b>Where's the Biodiversity in Fire Management?</b> - D. DellaSala	<b>Engaging the Fire before It Starts</b> - C. O'Connor and M. Thompson	<b>Restoration and Resiliency</b>	<b>Southern Appalachian Wildfires of 2016</b> - J. O'Brien
11 AM	<b>M. Kennedy</b> for <b>D. McKenzie</b> Why is predicting the future so hard? Limits to projecting fire regimes in a changing climate (11 to 11:30 AM)	<b>E. Menges</b> Fire regimes promoting common and rare species in Florida scrub	Talks for the morning part of this special session have been canceled.	<b>V. Kafka</b> Looking back, looking forward: restoration of white pine with fire in La Mauricie National Park, Québec, Canada	<b>J. O'Brien</b> The Southern Appalachian wildfire outbreak of fall 2016: background and research response
11:20 AM		<b>R. Crandall</b> Timber harvesting and fire management interact to increase plant biodiversity in a mixed-pine hardwood forest		<b>E. Knapp</b> Restoring overstory and understory structural heterogeneity in the Sierra Nevada forests: a comparison of prescribed fire and mechanical thinning treatments	<b>M. Williams</b> Numerical weather simulations during the 2016 Chimney Tops 2 Fire
11:40 AM	<b>M. Flannigan</b> Meteorological conditions associated with large fires in the Canadian boreal forest (11:30 AM to 12 PM)	<b>L. Eby</b> Decadal responses of native trout populations to fire in the US Rocky Mountain West		<b>J. Roccaforte</b> Mortality and regeneration dynamics influence resiliency and recovery immediately following the Wallow Fire, Arizona, USA	<b>C. Underwood</b> Harbingers of Chimney Tops 2: ancient fires in Great Smoky Mountains National Park
Noon	<b>L. Westerling</b> Changing western US wildfire regimes: sensitivity to a rapidly changing climate (12 to 12:30 PM)	<b>H. Poulos</b> High severity wildfire alters plant diversity, species composition, and forest structure in an Arizona Madiran evergreen forest		<b>M. Chambers</b> Post-fire conifer regeneration in ponderosa pine-dominated forests of the United States Interior West	<b>H. Grissino-Mayer</b> Immediate relevance of fire history research for understanding wildfire risk in the wildland-urban interface
<b>12:20 PM Lunch break</b>					
1:40 PM	<b>J. Keeley</b> and <b>A. Syphard</b> Climate-limited and non-climate-limited fire regimes (1:40 to 2:10 PM)	<b>D. DellaSala</b> If mixed severity fires begat biodiversity, then why aren't we managing for them?	<b>C. Dunn</b> A new decision framework for large fire management	<b>J. Jonas</b> Ecosystem responses to post-fire mulch treatments in a lodgepole pine forest	<b>K. Abt</b> Intervention and impact: the human element of the 2016 southern Appalachian wildfires
2 PM	<b>A. Taylor</b> Historical and future drivers of area burned in the Sierra Nevada, USA (2:10 to 2:40 PM)	<b>C. Hanson</b> Are very large high-severity patches a natural component of fire regimes in ponderosa pine-dominated forests of the western US?	<b>F. Romero</b> Initial response planning—exploration of current practices and potential improvements	<b>J. Cannon</b> Effects of forest restoration treatments and wildfires on tree spatial patterns in the Colorado Front Range	<b>Y. Liu</b> The environmental impacts of the 2016 Rough Ridge Fire in southern Appalachians



## TUESDAY, 28 NOVEMBER

	Pindo B	Pindo A	Sabal E	Sabal F	Sabal G
Session title	<b>Fire Ecology and Effects</b>	<b>Fire Management and Use</b>	<b>Fire Ecology and Effects</b>	<b>Fire Modeling</b>	<b>Policy Issues</b>
2:20 PM	<b>S. Bigelow</b> <i>Spatial elements of fire temperatures and hardwood response in longleaf pine silvicultural systems</i>	<b>L. Blauw</b> <i>Predicting fire behavior (in-)directly via fuel composition and airborne remote sensing</i>	<b>A. Whelan</b> <i>Season of fire, longleaf pine forest density and species composition effects on hardwood sprout demography</i>	<b>A. Beavers</b> <i>Risk assessment on dynamic landscapes</i>	<b>E.J. Davis</b> <i>Co-managing risk or “parallel play”? Examining connectivity across wildfire risk mitigation and fire response in the Intermountain West</i>
2:40 PM	<b>B. Benschoter</b> <i>Fire and water: the paradox of wetland fire and its vulnerability to regime change</i>	<b>D. Pérez-Salicrup</b> <i>Revaluing the empirical knowledge of firefighters to generate information on forest fuel beds and fire environment at a national level</i>	<b>B. McNamara</b> <i>Post-fire fuel succession patterns in Baker cypress forests</i>	<b>W. Mobley</b> <i>How changes in development affect wildfire risk</i>	<b>R. Galbraith</b> <i>The power of incentives—how insurance premiums and availability shape homeowner mitigation decisions</i>
3 PM	<b>C. Dicus</b> <i>Tragedy in Wine Country: lessons learned during the 2017 northern California wildfires</i>	<b>T. Bradley</b> <i>Shooting management in a fire prone landscape</i>	<b>C. Stockdale</b> <i>Wildfire risk to caribou conservation in northeast Alberta: fire sheds and fireplains</i>	<b>A. Masarie</b> <i>Visualizing Dysktra-based routing applied to fire suppression assignments</i>	<b>C. Schultz</b> <i>How organizational institutions may limit progress in US Forest Service fire management</i>
3:20 PM		<b>G. Steelman</b> <i>Geospatial change analysis interpretation from a land manager’s perspective</i>	<b>G. Meigs</b> <i>The composition of fire refugia in Western forests: contribution of non-forested areas to the burn mosaic</i>		<b>A. Kramer</b> <i>Tubbs home destruction in the WUI compared to the “average” wildfire</i>

### Welcome Reception and Poster Session

4 to 6:45 PM, Sabal Ballroom and Foyer

Come mingle with your colleagues and check out more than 80 poster presentations, including many by students, which will be evaluated for the student poster contest. Appetizers are provided, and there will be a no-host cash bar.

While you are exploring the exhibit hall, make sure to stop by the FUSEE booth where **Stephen Pyne** will be signing copies of his new books on fire in Florida, California, and the northern Rockies. All proceeds from book sales will be donated to the Mike da Luz Memorial Student Scholarship Fund.

## 2:20 TO 4:30 PM CONCURRENT ORAL PRESENTATION SCHEDULE

	Sabal A	Sabal B	Sabal C	Areca	Citron North
Session title	<b>Fire and Climate Change: Past Patterns and Future Expectations</b> - J. Keeley	<b>Where's the Biodiversity in Fire Management?</b> - D. DellaSala	<b>Engaging the Fire before It Starts</b> - C. O'Connor and M. Thompson	<b>Restoration and Resiliency</b>	<b>Southern Appalachian Wildfires of 2016</b> - J. O'Brien
2:20 PM		<b>A. Syphard</b> Optimizing fire risk reduction and biodiversity conservation: what works where?	<b>C. Noble</b> A common operating picture for fire planning: the new interagency fuels treatment decision support system	<b>D. Nemens</b> Consequences of recurrent wildfire for the future of California black oak woodlands in Lassen National Forest, California	<b>F. Zhao</b> Fuel and emissions properties of the 2016 Rough Ridge Fire
2:40 PM	<b>M.-A. Parisien</b> Will climate change break the ability of past burns to limit wildfire spread in boreal forest? (2:40 to 3:10 PM)	<b>S. Smith</b> Resprouting in Florida scrub: are fire temperatures and residence time good predictors of survival and regrowth for resprouters in Florida scrub?	<b>M. Hale</b> Spatial fire planning: integrating land management guidance and analysis to assist with informed decision-making using wildland fire decision support systems (WFDSS)		<b>C. Lafon</b> Temporal and spatial patterns of fire in the southern Appalachian Mountains
3 PM		<b>Panel Discussion</b>	<b>C. Dunn</b> Quantifying the spatial and temporal dynamics of snag hazard in post-fire environments		<b>M. Reilly</b> Landscape patterns of fire severity in the 2016 fires in the southern Appalachian Mountains
3:20 PM					<b>L. Loudermilk</b> Early measurements of fire effects and long-term forest recovery after the 2016 southern Appalachian wildfires
3:50 PM					<b>D. Carpenter</b> Do adaptations to frequent fire predispose trees to post-fire mortality after long periods of fire exclusion?
4:10 PM					<b>M. Callahan</b> Earthworms and the 2016 southern Appalachian fires—conceptual model of the surprising influence of an invasive species, <i>Amyntas agrestis</i>

# WEDNESDAY, 29 NOVEMBER 2017

## SCHEDULE OVERVIEW

### Registration

7 AM to 4 PM, Convention Level

### Presentation Loading

7 to 9 AM and 4 to 7 PM, Tangerine 9

### Plenary Speakers: Fire AFEx Talks

8 to 9:40 AM, Citron North

**Claire M. Belcher**, University of Exeter

*Maintaining the Air that We Breathe: Why We Need to Understand Long-Term Fire-Feedbacks to the Earth System in Order to Manage our Future*

**Steven R. Miller**, St. Johns River Water Management District, Florida

*Building a Fire Program that Sustains Ecosystems: Reflections on Twenty Years of Building a Fire Program in Florida*

**Henri D. Grissino-Mayer**, University of Tennessee

*The Wildland-Urban Interface in the Southeastern United States: Lessons from Gatlinburg, Tennessee*

**Scott Stephens**, University of California

*Reform Fire and Forest Policy to Emphasize Resilient Forests Long Term*

**Timothy Ingalsbee**, Firefighters United for Safety, Ethics, and Ecology

*Confessions of a Pyromantic, or How I Learned to Stop Warring and Love Wild Fire*

### Morning Break

9:40 to 10:10 AM

### Plenary Speakers: Fire AFEx Talks, continued

10:10 to 11:50 AM, Citron North

**J. Morgan Varner**, USDA Forest Service

*Developing Prescribed Fire and Improving the Practice: Meeting Fire Challenges of the Future*

**Penny Morgan**, University of Idaho

*Burn Severity: Where, Why, So What?*

**Michael Stambaugh**, University of Missouri

*Wave of Fire: The Historical Signal of New World Colonization and Settlement*

**Sarah M. McCaffrey**, USDA Forest Service

*Fire Narratives: Are Any Accurate?*

**Johnny P. Stowe**, South Carolina Department of Natural Resources

*Fire-Ties that Bind: The Rekindling of Prescribed Fire Culture in North America*

### Lunch Break

11:50 AM to 1:20 PM

### Concurrent Sessions

1:20 to 3 PM

### Afternoon Break

3 to 3:30 PM

### Concurrent Sessions, continued

3:30 to 5:10 PM

## FIRE CIRCLES

### ***Understanding the Role of Past, Current, and Future Drought Information in Wildland Fire Management***

**Organizers:** *Tim Brown, Tamara Wall*; 1:20 to 3 PM; Pindo B

This is one of many regional workshops in a drought–fire nexus project for the National Integrated Drought Information System. Focus so far has been on the western US; the AFE Congress is an excellent opportunity to gather perspectives from the Southeast and other regions.

### ***The Fall 2016 Southern Appalachian Wildfire Outbreak***

**Organizer:** *Joseph J. O'Brien*; 1:20 to 3 PM; Citron Center

This Fire Circle will expand the discussion initiated during Tuesday's Southern Appalachian Wildfires of 2016 Special Session.

### ***Enhancing Understanding and Implementation of the Cohesive Strategy through Learning Laboratories***

**Organizer:** *Craig Goodell*; 1:20 to 5:10 PM; Citron Center

Participants will learn how to more fully implement Cohesive Strategy at all stakeholder levels through an interactive "Learning Laboratory" exercise developed around a large 2017 wildfire event. The Fire Circle is open to any participants, especially those seeking to better understand and implement the Cohesive Strategy at all levels.

### ***A Conversation on How to Write a Successful GRIN (Graduate Research Innovation) Proposal***

**Organizers:** *Jeff Kane, Eva Stand, Leda Kobziar*; 3:30 to 5:10 PM; Citron Center

This Fire Circle is open to all students and advisors interested in submitting GRIN proposals. Past reviewers, program leaders, and student recipients will provide insights on the basic requirements and considerations for GRIN proposals, highlight best practice strategies, and field questions from participants.

---

## WORKSHOPS AND TRAININGS: drop-in

### ***Introduction to the FFI Ecological Monitoring Application***

**Organizer:** *Duncan Lutes*; 1:20 to 5:10 PM; Tangerine 6

FFI is designed to assist managers with collection, storage, and analysis of ecological information. The plot-level monitoring data stored in FFI are useful for assessing the effectiveness of land management activities (e.g., fuels treatments) and to demonstrate and document that land management objectives are being met.

### ***Introduction to STANDFIRE:***

#### ***A Spatially Explicit Fuel and Fire Modeling System***

**Organizer:** *Russ Parsons*; 3:30 to 5:10 PM; Tangerine 5

STANDFIRE is an open source software, developed in Python and Java, which links the forest growth model (FVS) through a state-of-the-art fuel modeling system (STANDFUELS) to physics-based fire models, providing, for the first time, a pathway for researchers and managers to use real-world forest inventory and fuels data in dynamic, 3D fire simulations.



## **WORKSHOP:** *pre-registration required*

### **Rx310: Introduction to Fire Effects, continued**

**Organizers:** *Geoff Babb, Beth Buchanan;* 1:20 to 5:10 PM;  
Pindo A

## **GUIDE TO CONCURRENT ORAL SESSIONS FOR WEDNESDAY, 29 NOVEMBER**

The presentations listed in the schedule on the next four pages are broken into the following sessions. Please refer to the floorplan map at the back of your program for room locations. Presentation abstracts and speaker biographies are available on Whova, the conference mobile app.

### **SPECIAL SESSIONS**

#### ***Fire and Climate Change:***

##### ***Past Patterns and Future Expectations, continued***

**Organizer:** *Jon E. Keeley*

**Start time:** 1:20 PM; **Room:** Sabal A

##### ***Bark Beetle and Fire Interactions in Western North America: The Current State of Knowledge and Implications for Forest and Fire Managers***

**Organizer:** *Christopher J. Fettig*

**Start time:** 1:20 PM; **Room:** Sabal E

Two common interactions between bark beetles and wildfire will be reviewed: (1) the effects of fuel reduction treatments and mixed-severity wildfire on bark beetles, and (2) the effects of bark beetle outbreaks and resultant tree mortality on fuels and fire risk and severity.

##### ***The Science and Implementation of the Integrated Rangeland Fire Management Strategy (IRFMS)***

**Organizer:** *Doug Havlina*

**Start time:** 1:20 PM; **Room:** Sabal B

Three tracks in this session showcase progress to date in implementing these components of the IRFMS: the central, foundational science that supports implementation of the strategy, and field-based examples of IRFMS implementation.

#### ***Restoring Fire Integrity:***

##### ***A New Paradigm Arises from the Ashes***

**Organizer:** *Cecil Frost*

**Start time:** 1:20 PM; **Room:** Sabal C

Speakers will begin setting the stage for restoring fire integrity over the next 10 to 20 years on lands committed to maintaining a full complement of natural diversity of birds, plants, and animals. We need to lay the groundwork for a new plan.

#### ***Prescribed Burn Associations:***

##### ***Landowners Effectively Applying Fire to the Land***

**Organizer:** *John Weir*

**Start time:** 1:20 PM; **Room:** Citron North

Speakers will provide information about what a prescribed burn association is; what it can do for landowners, agencies, and the community; and how to form and maintain one in your area.

#### ***Exploring Past and Future Roles of the Cooperative Extension Service in US Fire Education***

**Organizer:** *Sharon Gamble*

**Start time:** 3:30 PM; **Room:** Citron North

As communication and education expert, Cooperative Extension is well-positioned to implement a comprehensive fire education strategy at all community levels to maintain human safety and fire-safe, resilient landscapes. We will identify resources and develop opportunities across states to increase Extension's role in fire programming.

### **GENERAL SESSIONS**

#### ***Education and Communication***

**Start time:** 1:20 PM

**Room:** Sabal F

#### ***Fire Modeling***

**Start time:** 1:20 PM

**Room:** Sabal G

#### ***Case Studies and Lessons Learned***

**Start time:** 1:20 PM

**Room:** Areca

#### ***Restoration and Resiliency***

**Start time:** 3:30 PM

**Room:** Sabal F

#### ***Climate Change and Fire History***

**Start time:** 3:30 PM

**Room:** Sabal G

#### ***Fire Ecology and Effects***

**Start time:** 3:30 PM

**Room:** Pindo B

# WEDNESDAY, 29 NOVEMBER

	Sabal E	Sabal F	Sabal G	Sabal A
Session title	<p><b>Bark Beetle and Fire Interactions in Western North America: The Current State of Knowledge and Implications for Forest and Fire Managers</b> - C. Fettig <b>(NOTE: times vary)</b></p>	<p><b>Education and Communication</b></p>	<p><b>Fire Modeling</b></p>	<p><b>Fire and Climate Change: Past Patterns and Future Expectations</b> - M. Flannigan <b>(NOTE: times vary)</b></p>
1:20 PM	<p><b>C. Fettig</b> Bark beetle and fire interactions: a complex and hot topic (1:20 to 1:45 PM)</p>	<p><b>S. Pyne</b> Rhythm of the reigns. Periodizing American wildland fire history</p>	<p><b>K. Nelson</b> LANDFIRE MoD-FIS: near real-time monitoring of fuel conditions</p>	<p><b>R. Loehman</b> Smoke from a distant fire: reconstructing long-term human-fire interactions in prehistoric forests of the southwestern US (1:20 to 1:50 PM)</p>
1:40 PM	<p><b>R. Progar</b> Bark beetle utilization of fire-injured trees in the Pacific Northwest (1:45 to 2:10 PM)</p>	<p><b>J. Hall</b> Future of use-inspired science in America: fire science as a model</p>	<p><b>V. Miller</b> Modeling wildland fire suppression decisions using GIS and remote sensing data</p>	
2 PM	<p><b>S. Hood</b> Impacts of fire and fuel treatments on tree defenses and resistance to mountain pine beetle (2:10 to 2:35 PM)</p>	<p><b>A. Carl</b> Fire in the Pines Festival, prescribed fire outreach</p>	<p><b>W. Flatley</b> Modeling fire and forests in a warmer world: will management be effective?</p>	<p><b>R. Bradstock</b> Leaf flammability and high CO<sub>2</sub> (1:50 to 2:20 PM)</p>
2:20 PM		<p><b>W. Tripp</b> Fire in the Pines Festival survey results; gauging the results of community outreach</p>	<p><b>B. Schmidt</b> Bringing coupled atmosphere-wildland fire modeling into operations: the Colorado experience</p>	<p><b>H. Clarke</b> Does more matter matter more? Climate change, fuel load and the four switches of fire (2:20 to 2:50 PM)</p>
2:40 PM	<p><b>J. Runyon</b> Volatile and within-needle terpene changes following colonization by bark beetles (2:35 to 3 PM)</p>	<p><b>D. Leavell</b> A fire science core curriculum for OSU Extension</p>		
<b>3 PM Break</b>				

## 1:20 TO 3 PM CONCURRENT ORAL PRESENTATION SCHEDULE

	Sabal B	Sabal C	Areca	Citron North
Session title	<p><b><i>The Science and Implementation of the Integrated Rangeland Fire Management Strategy</i></b> - M. Crist <b>(NOTE: times vary)</b></p>	<p><b><i>Restoring Fire Integrity: A New Paradigm Rises from the Ashes</i></b> - C. Frost</p>	<p><b><i>Case Studies and Lessons Learned</i></b></p>	<p><b><i>Prescribed Burn Associations: Landowners Effectively Applying Fire to the Land</i></b> - J. Weir</p>
1:20 PM	<p><b>J. Chambers</b> <i>Conservation and restoration of sagebrush ecosystems—using resilience and resistance concepts</i> (1:20 to 1:45 PM)</p>	<p><b>C. Frost</b> <i>Restoring fire integrity</i></p>	<p><b>S. Weiss</b> <i>Aligning endangered species management with ecosystem restoration: manager perspectives on red-cockaded woodpecker conservation</i></p>	<p><b>J. Weir</b> <i>Prescribed burn associations: land owners effectively applying fire to the land</i></p>
1:40 PM		<p><b>J. Keeley</b> <i>History of fire and plant evolution</i></p>	<p><b>D. Rankin</b> <i>Buck Creek serpentine restoration: a case study in fire management</i></p>	<p><b>J. Wimberley</b> <i>Lessons learned from starting up a prescribed burn association in the southeastern US</i></p>
2 PM	<p><b>D. Pyke</b> <i>Conservation and restoration of sagebrush ecosystems—integrating species habitat requirements</i> (1:55 to 2:20 PM)</p>	<p><b>P. Juras</b> <i>Facts are not enough: spreading a passion for fire ecology through landscape painting</i></p>	<p><b>J. Shedd</b> <i>Collaborative web-based tools for NPS resource management</i></p>	<p><b>C. Bunch</b> <i>An effective PBA recipe: just add fire</i></p>
2:20 PM		<p><b>J. Smith for G. Nowacki</b> <i>Reigniting an extinguished flame in the northeastern United States</i></p>	<p><b>E. Chapman for K. Gibos</b> <i>Fire behaviour in black spruce forest fuels following mulch treatments: a case study at Red Earth Creek, Alberta</i></p>	<p><b>J. Fawcett</b> <i>Available opportunities to help form and maintain prescribed burn associations</i></p>
2:40 PM	<p><b>M. Pellant</b> <i>Conservation and restoration of sagebrush ecosystems—integrating science and management in the Great Basin</i> (2:30 to 2:55 PM)</p>	<p><b>M. Lashley</b> <i>Fire phenology indirectly mediates plant succession and nutrient cycling via herbivory</i></p>	<p><b>A. Ganteaume</b> <i>40 years of fire history in southeast France: what's the story ?</i></p>	<p><b>M. Russell</b> <i>The future of prescribed burn associations</i></p>
	<b>3 PM Break</b>			



# WEDNESDAY, 29 NOVEMBER

	Pindo B	Sabal E	Sabal F	Sabal G
Session title	<b>Fire Ecology and Effects</b>	<b>Bark Beetle and Fire Interactions in Western North America: The Current State of Knowledge and Implications for Forest and Fire Managers</b> - C. Fettig <b>(NOTE: times vary)</b>	<b>Restoration and Resiliency</b>	<b>Climate Change and Fire History</b>
3:30 PM	<b>A. Taylor</b> <i>The influence of boundary layer atmospheric conditions, terrain, and fuels on fire severity in northern California, USA</i>	<b>M. Jenkins</b> <i>Bark beetles, fuels, and fire behavior—a comprehensive overview of a decade of research in North American conifer forests</i> (3:30 to 3:55 PM)	<b>B. Camposano</b> <i>Resiliency and prescribed fire: how fire serves as the common denominator in management of red-cockaded woodpeckers (Picooides borealis) across distinctly different habitat conditions</i>	<b>R. Loehman</b> <i>Burn, grow, repeat: evaluating spatial, temporal, and ecological trends in “reburn” fires within Alaska, 1940 to 2016</i>
3:50 PM	<b>K. Willson</b> <i>Temporal effects of thinning and prescribed fire on ground flora in mixed pine–oak stands</i>	<b>C. Hoffman</b> <i>The influence of bark beetle, severity, pattern, and timing on potential fire behavior in lodgepole pine-dominated forests</i> (3:55 to 4:20 PM)	<b>L. Bosworth</b> <i>Fire resiliency modeling: using outreach and information to influence management choices in the Okefenokee-Osceola Significant Geographic Area</i>	<b>J. Barnes</b> <i>Too short of time—resilience or change? Impacts of shortened fire return intervals in Alaska</i>
4:10 PM	<b>G. Davies</b> <i>Wildfire severity drives differences in the regeneration trajectories of temperate peatlands</i>		<b>M. Short</b> <i>Experimental restoration of Kansas oak woodlands</i>	<b>S. Rothberg</b> <i>Florida's fireprints: weather phenomena as predictors of spatially explicit prescribed fire frequency</i>
4:30 PM	<b>A. Tomayko</b> <i>Vegetation response to mastication and burning in a mixed conifer forest</i>	<b>R. Linn</b> <i>Modeling tree impacts of mortality on fire spread in piñon-juniper woodlands</i> (4:20 to 4:45 PM)	<b>B. Wheeler</b> <i>Restoration of landscape-scale fire to the central Nebraska mixed-grass prairie</i>	<b>M. Rother</b> <i>Determining the seasonality of historical fires in pine savannas of the Southeastern Coastal Plain, USA</i>
4:50 PM		<b>C. Sieg</b> <i>Simulated fire severity following bark beetle outbreaks in ponderosa pine: synergy, antagonism, and neutrality</i> (4:45 to 5:10 PM)	<b>J. Hom</b> <i>Pitch pine adaptation: the use of field studies and provenance trials to predict adaptation to climate change and ecological disturbance</i>	<b>P. Brown</b> <i>Fire regimes and stand structures in forests historically dominated by red pine in Wisconsin</i>

### 3:30 TO 4:50 PM CONCURRENT ORAL PRESENTATION SCHEDULE

	Sabal A	Sabal B	Sabal C	Areca	Citron North
Session title	<b>Fire and Climate Change: Past Patterns and Future Expectations</b> - R. Bradstock (NOTE: times vary)	<b>The Science and Implementation of the Integrated Rangeland Fire Management Strategy</b> - M. Crist (NOTE: times vary)	<b>Restoring Fire Integrity: A New Paradigm Rises from the Ashes</b> - C. Frost	<b>Case Studies and Lessons Learned</b>	<b>Exploring Past and Future Roles of the Cooperative Extension Service in US Fire Education</b> - S. Gamble
3:30 PM	<b>M. Krawchuk</b> Spatial and temporal variability in start, end, and duration of the fire activity season (3:30 to 4 PM)	<b>D. Shinneman</b> Fuel breaks as a strategy to reduce the loss of sagebrush habitat: understanding potential ecological effects (3:30 to 3:55 PM)	<b>J. Thomas</b> Changes in plant species richness, species diversity and ecological integrity in response to patch burn grazing: a 15-year study	<b>V. Loewe</b> Creation and implementation of the forest plantations fire risk SAFOR certification system, to improve insurability of small and medium companies (SMEs)	<b>S. Gamble</b> The 1998 Florida Extension Fire Experience—are lessons learned lost?
3:50 PM			<b>A. Weekley</b> Earth, air, fire, and water: a crazy quilt history of the ecosystems of eastern North America	<b>F. Seijo</b> Perceptions of wildfire risk amongst the long-term “pobladores” of the Parque Nacional de los Alerces, Argentina	<b>J.H. Campbell</b> Communicating fire science to private landowners and the public: Extension's role in the southeastern US
4:10 PM	<b>E. Margolis and C. Allen</b> Tree-ring reconstructions of intra-annual climate, drought, and wildfire interactions in the southwest USA since 1600 CE (4 to 4:30 PM)	<b>P. Coates</b> Modeling wildfire and sage-grouse populations: inferences to inform fire management (4 to 4:25 PM)	<b>B. Tripp</b> Changing the paradigm: eco-cultural revitalization and our collective fire future	<b>Z. Holden</b> The physical basis for fire refugia in the US northern Rocky Mountains	<b>J. Fawcett</b> Fire-related training and educational opportunities for Cooperative Extension and other educators
4:30 PM		<b>M. Germino</b> Adaptive management and monitoring: lessons from the Soda Fire (4:30 to 4:55 PM)	<b>Panel Discussion</b> Restoring fire: brainstorming actions to push the next swing of the pendulum in funding and national purpose	<b>R. Brooks</b> Wildland firefighter perceptions regarding health and safety issues on the fire line	<b>K. Baylog</b> Citizen Fire Academy Extension programming: a multi-pronged approach at growing fire-adapted communities
4:50 PM				<b>S. Brooks</b> Wildland firefighters' hydration on a fire assignment: self-reported contributing factors and perceptions	<b>A. Long</b> Cooperative Extension's next great role in fire outreach

# THURSDAY, 30 NOVEMBER 2017

## SCHEDULE OVERVIEW

### Registration

7 AM to 4 PM; Convention Level

### Presentation Loading

7 to 9 AM and 4 to 6 PM; Tangerine 9

### Concurrent Sessions

8 to 9:40 AM

### Morning Break

9:40 to 10:10 AM

### Concurrent Sessions, continued

10:10 TO 11:50 AM

### Awards Banquet Luncheon

11:50 AM to 1:20 PM

### Concurrent Sessions, continued

1:20 to 3 PM

### Afternoon Break

3 to 3:30 PM

### Concurrent Sessions, continued

3:30 to 5:10 PM

### AFE Membership Meeting

6:30 PM; Citron North

### Movie: *Less than Masterpiece Theater*

7:30 PM; Citron North

## AWARDS BANQUET LUNCHEON

11:50 AM to 1:20 PM

Citron North and Citron Center

### *Neil Sugihara,*

Master of Ceremonies

### Special Recognition

AFE's Wildland Fire Professional  
Certification Recipients

### Student Poster Winners

### Student Awards

### Special Awards Presentations

### Lifetime Achievement Awards

Stoddard Award  
Wright Award  
Biswell Award

## FIRE CIRCLES

### *Prescribed Burn Associations*

**Organizer:** *John R. Weir*; 8 to 9:40 AM; Citron Center

This will be a moderated open discussion following the Prescribed Burn Associations: Landowners Effectively Applying Fire to the Land Special Session.

### *Building a Connected Wildfire Community—What Are We Missing?*

**Organizer:** *Claire Belcher*; 8 to 11:50 AM; Sabal A

This Fire Circle will be led by a cross-disciplinary team. The debate and routes forward will be captured in a publication that will be submitted to *International Journal of Wildland Fire*

### *Wildland Fire Education and Outreach: Collaboration and Strategy to Increase Impact*

**Organizer:** *Holly Campbell*; 10:10 to 11:50 AM; Areca

This Fire Circle intends to use an open discussion to collect information and ideas from national fire managers, fire scientists, and educators on ways extension, education, and outreach partners can most effectively promote fire science application and management to private landowners, communities, and the public. All are welcome.

### *Student Focused Career and Panel Discussion*

**Organizer:** *Carrie Minerich*; 3:30 to 5:10 PM; Citron Center

A panel will discuss career opportunities for students in fire ecology and management.

### *Promoting and Defending Scientific Integrity in Government—Discussion*

**Organizer:** *Michael Halpern*; 3:30 to 5:10 PM; Citron Center

This Fire Circle begins with the Workshop on Scientific Integrity in Government and is open to anyone. Attendees will participate in facilitated small-group discussions on protecting scientific integrity, and return to the workshop room for a final report back and identifying next steps and commitments.

### *Using Human-Centered Design to Solve Inclusion and Diversity Dilemmas in Wildland Fire*

**Organizer:** *Carrie Spradlin*; 3:30 to 5:10 PM; Sabal C

With up to 20 participants in each of two sessions (one held Thursday and one Friday), a BLM Diversity and Inclusion Team will engage and explore further challenges and solutions around creating a diverse and inclusive wildland fire management workforce and work environment. Participants need to have attended at least a portion of the Faces within the Fire: Toward an Inclusive Culture Special Session or be familiar with the challenges related to inclusion and diversity in wildland fire.

### *Management Implications of Long-Term (Decadal-Scale) Vegetation Recovery Trajectories in Five Western North American Ecosystems*

**Organizer:** *Andrew Hudak*; 4:10 to 5:10 PM; Sabal E

This Fire Circle will build on discussions from the Monitoring Vegetation Recovery a Decade Post Fire in Five Western North American Ecosystems Special Session.

## WORKSHOP: *drop-in*

### *Promoting and Defending Scientific Integrity in Government*

**Organizer:** *Michael Halpern*; 3:30 to 5:10 PM; Sabal B

Participants will gain a greater understanding of the protections that exist and the resources available to federal government scientists related to the use of science in policymaking. They will examine the different ways that science can be manipulated in the decision-making process, learn about how scientists have successfully pushed back against attacks on science, and identify what scientists and scientific societies can do to protect their members.



## WORKSHOPS AND TRAININGS: *pre-registration required*

### **Rx310: Introduction to Fire Effects, continued**

**Organizers:** Geoff Babb, Beth Buchanan; 1:20 to 5:10 PM;  
Pindo A

### **Interagency Fuels Treatment Decision Support System (IFTDSS)**

**Organizer:** Caroline Noble; 8 AM to 3 PM; Tangerine 5

### **An Introduction to Wildfire Analyst: Real-Time Wildfire Behavior Analysis and Simulations**

**Organizers:** David G. Jones, Joaquín Ramirez; 8 AM to 5:10 PM;  
Tangerine 6

## GUIDE TO SPECIAL SESSIONS, WORKSHOPS, AND TRAININGS FOR THURSDAY

The presentations listed in the schedule on the next eight pages are broken into the following sessions. Please refer to the floorplan map at the back of your program for room locations. Presentation abstracts and speaker biographies are available on Whova, the conference mobile app.

### SPECIAL SESSIONS

#### ***Bark Beetle and Fire Interactions in Western North America: The Current State of Knowledge and Implications for Forest and Fire Managers, continued***

**Start time:** 8 AM; **Room:** Sabal E

#### ***The Science and Implementation of the Integrated Rangeland Fire Management Strategy (IRFMS), continued***

**Start time:** 8 AM; **Room:** Sabal B

#### ***Faces within the Fire: Toward an Inclusive Culture***

**Organizers:** Lisa M. Ganio, Carrie Spradlin

**Start time:** 8 AM; **Room:** Sabal C

Fire management and research findings may be more widely accepted and supported when questions are addressed from multiple viewpoints, incorporating diverse perspectives and a broad suite of solutions. We will present and discuss examples of opportunities and challenges when diverse perspectives are incorporated into fire management and science.

#### ***The Fire Science Sandbox:***

##### ***Who Provides What Science Support on Wildland Fire?***

**Organizer:** Paul Steblein

**Start time:** 8 AM; **Room:** Pindo A

We will first identify who provides what science support on wildland fire and how these entities work together and complement each other, and second, the types and consequent value of funded collaborative research.

##### ***Fire's Role in Restoration of Wildlife, Ecosystem Resilience, and Services***

**Organizer:** Mark Kaib

**Start time:** 8 AM; **Room:** Pindo B

This session will provide success stories of partnerships between fire science researchers and fire managers in their efforts to restore the ecological role of fire, strategic management of wildfire and prescribed fire for ecological benefits, and efforts to enhance critical wildlife species habitats and to prevent their extinction.

##### ***GRIN: Stoking the Flames for the Next Generation of Fire Scientists***

**Organizer:** Jeff Kane

**Start time:** 8 AM; **Room:** Sabal G

We will highlight the Graduate Research Innovation (GRIN) competitive grant program run by the Joint Fire Science Program and past and on-going GRIN supported student research, and close with a panel discussion on the future

needs and direction of the program. A fire circle on Wednesday will provide students with guidance in writing GRIN proposals.

#### ***Monitoring Vegetation Recovery a Decade Post Fire in Five Western North American Ecosystems***

**Organizer:** Andrew T. Hudak

**Start time:** 10:10 AM; **Room:** Sabal E

Presentations will focus on long-term vegetation recovery, plant species diversity, tree regeneration, and fuel conditions based on measurements in 15 mixed-severity wildfires and supplemental sites distributed across eight states.

#### ***Prescribed Fire Science:***

##### ***An Interdisciplinary Focus on Fire We Use***

**Organizer:** J. Kevin Hiers

**Start time:** 10:10 AM; **Room:** Sabal F

This session presents recent advances and ideas for the future of prescribed fire science, and lays out a plan for robust research-management partnerships linking both applied and basic questions. Research focused on prescribed fire comprises a unique intersection of fire behavior, fire ecology, and the fire environment; its application will be extremely relevant for wildfire science.

#### ***Fire Management in the Southwest:***

##### ***Moving toward Resource Benefit***

**Organizer:** Barbara Satink Wolfson

**Start time:** 1:20 PM; **Room:** Sabal A

When pre-determined conditions are present, fire managers in the Southwest appear to be basing their decision to manage fire for resource benefit on fire science and the needs of the landscape. We will explore the conditions that allow for the expanded use of naturally ignited wildfire as a tool for achieving multiple resource objectives, as well as the impacts.

---

## GENERAL SESSIONS

### ***Fire Ecology and Effects***

**Start time:** 1:20 PM

**Room:** Sabal B

### ***Fire Management and Use***

**Start time:** 3:30 PM

**Room:** Sabal G

# THURSDAY, 30 NOVEMBER

	Pindo B	Pindo A	Sabal E
Session title	<b>Fire's Role in Restoration of Wildlife, Ecosystem Resilience, and Services</b> - M. Kaib	<b>The Fire Science Sandbox: Who Provides What Science Support on Wildland Fires?</b> - P. Steblein	<b>Bark Beetle and Fire Interactions in Western North America: The Current State of Knowledge and Implications for Forest and Fire Managers</b> - C. Fettig <b>(NOTE: times vary)</b>
8 AM	<b>W. Spencer</b> <i>Reconciling habitat quality and habitat resilience conflicts for dense-forest species in the Sierra Nevada, California</i>	<b>P. Steblein</b> <i>Wildland fire science at the US Geological Survey</i>	<b>S. Hart</b> <i>Interactions between bark beetle outbreaks and wildfires across complex landscapes</i> (8 to 8:25 AM)
8:20 AM	<b>C. Thompson</b> <i>Keep it in perspective: reconciling forest carnivore habitat conservation with fire restoration in the western US</i>	<b>C. Hardy</b> <i>USDA Forest Service fire and fuels research and development</i>	<b>B. Collins</b> <i>Why beetle mortality impacts on fire hazard may differ in historically frequent fire forests</i> (8:25 to 8:50 AM)
8:40 AM	<b>J. Bailey</b> <i>Conservation dilemma: when wildfires and wildlife prefer fuel-rich habitat</i>	<b>J. Hall</b> <i>The fire science sandbox: Joint Fire Science Program</i>	<b>G. Meigs</b> <i>Influence of mountain pine beetle outbreaks on subsequent wildfire likelihood and severity across Oregon and Washington, USA</i> (8:50 to 9:15 AM)
9 AM	<b>A. Webb</b> <i>Flames, floods, and the future of riparian communities in a dry land</i>	<b>K. Preston</b> <i>Strategic Environmental Research and Development Program (SERDP) fire science</i>	<b>A. Talucci</b> <i>Dead forest burning: the influence of beetle outbreaks on fire severity in lodgepole pine forests of British Columbia</i> (9:15 to 9:40 AM)
9:20 AM	<b>J. Knudsen</b> <i>Effects of wildland fire on ant communities in the Valles Caldera National Preserve</i>	<b>J. Roberts</b> <i>NOAA's research supports understanding and management of the atmospheric impacts of wildland fire</i>	
<b>9:40 AM Break</b>			

## 8 TO 9:40 AM CONCURRENT ORAL PRESENTATION SCHEDULE

	Sabal G	Sabal B	Sabal C
Session title	<p><b>GRIN:</b> <b>Stoking the Flames for the Next Generation of Fire Scientists</b> - J. Kane</p>	<p><b>The Science and Implementation of the Integrated Rangeland Fire Management Strategy</b> - M. Crist <b>(NOTE: times vary)</b></p>	<p><b>Faces within the Fire: Toward an Inclusive Culture</b> - L. Ganio and C. Spradlin <b>(NOTE: times vary)</b></p>
8 AM	<p><b>J. Kane</b> An overview of the JFSP Graduate Research INovation Grant Program</p>	<p><b>D. Davis</b> USFWS perspective on implementing IRFMS: current efforts and future opportunities <b>(8 to 8:20 AM)</b></p>	<p><b>L, Ganio</b> Toward an inclusive culture: why here, why now? <b>(8 to 8:30 AM)</b></p>
8:20 AM	<p><b>C. Dunn</b> In search of an emergent property of the moderate severity fire regime</p>	<p><b>B. Narus</b> Adjusting fire operations in sage-grouse habitat <b>(8:25 to 8:45 AM)</b></p>	
8:40 AM	<p><b>J. Stevens</b> The spatial scale of stand-replacing fire: mapping and measuring effects</p>	<p><b>G. Montblanc</b> The role of the Great Basin Fire Science Exchange in the Integrated Rangeland Fire Management Strategy <b>(8:50 to 9:10 AM)</b></p>	<p><b>K. Johnston</b> Moving fire culture forward: lessons learned and implementing improvements <b>(8:35 to 9:05 AM)</b></p>
9 AM	<p><b>C. Cansler</b> Understanding and predicting fire-induced tree mortality</p>		
9:20 AM	<p><b>K. Shive</b> High severity "re-burns" in Sierran mixed conifer: fuels, regeneration, and species diversity</p>	<p><b>D. Nance</b> Implementing the National Seed Strategy at the local level: lessons from southern Idaho <b>(9:15 to 9:35 AM)</b></p>	<p><b>D. Shulman</b> Thirty-seven years with the Forest Service: a pioneer woman in fire management shares stories, reflects on lessons learned, and the nature of resilience <b>(9:10 to 9:40 AM)</b></p>
	<b>9:40 AM Break</b>		



# THURSDAY, 30 NOVEMBER

	Pindo B	Pindo A	Sabal E
Session title	<p><b>Fire's Role in Restoration of Wildlife, Ecosystem Resilience, and Services</b> - M. Kaib</p>	<p><b>The Fire Science Sandbox: Who Provides What Science Support on Wildland Fires?</b> - P. Steblein</p>	<p><b>Monitoring Vegetation Recovery a Decade Post Fire in Five Western North American Ecosystems</b> - A. Hudak</p>
10:10 AM	<p><b>M. Boyle</b> <i>Fir-Mon-Com: a new acronym or an approach to promote plant species recovery efforts with fire?</i></p>	<p><b>V. Ambrosia</b> <i>NASA Applied Science Program: wildland fire</i></p>	<p><b>A. Martinez for A. Meddens</b> <i>Spatiotemporal patterns of unburned areas with fire perimeters in the northwestern United States from 1984 to 2014</i></p>
10:30 AM	<p><b>J. Campbell</b> <i>The effects of repeated prescribed fire and thinning on bees, wasps, and other flower visitors in the understory and midstory of a temperate forest in North Carolina</i></p>	<p><b>L. Queen</b> <i>A university role in supporting wildland fire</i></p>	<p><b>S. Prichard</b> <i>Influence of past burn mosaics to future fire behavior and implications for management</i></p>
10:50 AM	<p><b>S. King</b> <i>The role of fire in the management of whooping crane habitats</i></p>	<p><b>K. Hiers</b> <i>Fire science at non-government organizations</i></p>	<p><b>C. Stevens-Rumann</b> <i>The fate of tree regeneration following wildfires: trends of the past 30 years and future outlooks for the Rocky Mountains</i></p>
11:10 AM	<p><b>H. Starns</b> <i>Pyric herbivory reduces fuels and promotes conservation in the southern Great Plains</i></p>	<p><b>Panel Discussion</b></p>	<p><b>A. Hudak for C. Klauberg</b> <i>Predicting immediate and extended fire effects on a mixed conifer forest at high resolution from LiDAR and multispectral imagery</i></p>
11:30 AM	<p><b>E. Harrity for C. Conway</b> <i>Fire as a tool for improving habitat quality of wetland-dependent birds in the southwestern US</i></p>	<p><b>Panel Discussion</b></p>	<p><b>E. Strand</b> <i>Does burn severity affect plant community composition in northern Rockies forests ten years post fire?</i></p>
<p><b>11:50 AM Awards Banquet Luncheon in Citron North and Citron Center</b></p>			

## 10:10 TO 11:50 AM CONCURRENT ORAL PRESENTATION SCHEDULE

	Sabal F	Sabal G	Sabal B	Sabal C
Session title	<p><b>Prescribed Fire Science: An Interdisciplinary Focus on Fire We Use</b> - K. Hiers</p>	<p><b>GRIN: Stoking the Flames for the Next Generation of Fire Scientists</b> - J. Kane</p>	<p><b>The Science and Implementation of the Integrated Rangeland Fire Management Strategy</b> - M. Crist</p>	<p><b>Faces within the Fire: Toward an Inclusive Culture</b> - L. Ganio and C. Spradlin  (NOTE: times vary)</p>
10:10 AM	<p><b>M. Varner</b> On the need for a new concept: prescribed fire as a distinct discipline</p>	<p><b>K. Nelson</b> Fuel moisture dynamics in lodgepole pine forests vary depending on fire and bark beetle disturbance histories</p>	<p><b>K. Mayer</b> The value of partnerships: the role of the Western Association of Fish and Wildlife Agencies in implementing the Integrated Rangeland Fire Management Strategy (10:10 to 10:30 AM)</p>	<p><b>P. Morgan</b> Educating all fire professionals for the future (10:10 to 10:40 AM)</p>
10:30 AM	<p><b>K. Yedinak</b> Understanding boundary layers in prescribed fire science and application</p>	<p><b>C. Lauvaux</b> Whitebark pine, fire, climate and land use history</p>	<p><b>M. Boomer</b> Revising fire management plans to reflect IRFMS (10:35 to 10:55 AM)</p>	
10:50 AM	<p><b>J. O'Brien for D. Jiminez</b> Best measurement practices: understanding how to measure and interpret fire effects</p>	<p><b>J. Freeman</b> Resilience of fire-maintained savannas in a changing landscape</p>	<p><b>B. Washa</b> Habitat improvement through the Utah Watershed Restoration Initiative (11 to 11:20 AM)</p>	<p><b>R. Reimer</b> Faces within the fire: towards an inclusive culture (10:45 to 11:15 AM)</p>
11:10 AM	<p><b>K. Robertson</b> Ecological heterogeneity: the roles of patch dynamics in frequently burned longleaf pine ecosystems</p>	<p><b>G. Hart</b> The influence of fire regime and abiotic factors on the population dynamics and leaf qualities of a wild harvested understory herb, <i>Xerophyllum</i> <i>tenax</i> (Melanthiaceae)</p>		<p><b>S. Knapp</b> Bringing our own tools to the table: a perspective on encouraging and retaining women in fire (11:20 to 11:50 AM)</p>
11:30 AM	<p><b>N. Skowronski</b> A new look at backing fire behavior and fire effects</p>	<p><b>M. Merrick</b> Burn severity is an important predictor of space use, settlement, and landscape connectivity for an endangered small mammal</p>		<p><b>L. Ganio and C. Spradlin</b> Questions and remarks (11:40 to 11:50 AM)</p>

11:50 AM Awards Banquet Luncheon in Citron North and Citron Center

**THURSDAY, 30 NOVEMBER**

	<b>Pindo B</b>	<b>Sabal E</b>	<b>Sabal F</b>
<b>Session title</b>	<b>Fire's Role in Restoration of Wildlife, Ecosystem Resilience, and Services</b> - M. Kaib	<b>Monitoring Vegetation Recovery a Decade Post Fire in Five Western North American Ecosystems</b> - A. Hudak	<b>Prescribed Fire Science: An Interdisciplinary Focus on Fire We Use</b> - K. Hiers
<b>1:20 PM</b>	<b>K. Hiers</b> <i>Balancing competing fire management objectives at the landscape scale: ecosystem resilience and red-cockaded woodpecker</i>	<b>D. Hammond</b> <i>Long-term effects of burn severity on Alaska boreal forest understory following 2004 wildfires</i>	<b>M. Hurteau</b> <i>The role of managed fire for stabilizing forest carbon under projected climate</i>
<b>1:40 PM</b>	<b>G. Corace</b> <i>Evaluating and mitigating for fire suppression effects in jack pine ecosystems managed for endangered Kirtland's warbler</i>	<b>J. Dodge</b> <i>Do fuel treatments impact post-fire understory plant recovery and fuel loadings in ponderosa pine forests?</i>	<b>L. Loudermilk</b> <i>Understanding mechanisms of biodiversity: a fire effects and modeling perspective</i>
<b>2 PM</b>	<b>E. Braun de Torrez</b> <i>Bats and fire: activity of endangered Florida bonneted bats (<i>Eumops floridanus</i>) increases immediately following prescribed burns</i>	<b>B. Newingham</b> <i>Functional group responses to burn severity in three ponderosa pine ecosystems a decade after fire</i>	<b>S. Goodrick</b> <i>Using coupled fire atmosphere models on prescribed fire</i>
<b>2:20 PM</b>	<b>S. Ogden</b> <i>Influence of season of burn on butterfly diversity in tall-grass prairie</i>	<b>A. Smith</b> <i>The role of shrubs in chaparral plant community recovery along burn severity gradients a decade after fire</i>	<b>R. Linn</b> <i>Challenges with modeling fires in marginal conditions</i>
<b>2:40 PM</b>	<b>K. McCullough</b> <i>Rethinking regal fritillary conservation and management: the impact of disturbance regime and habitat characteristics on an imperiled grassland butterfly</i>	<b>A. Hudak for B. Bright</b> <i>Examining post-fire vegetation recovery with Landsat time series data in four western North American ecosystems</i>	<b>B. Hornsby</b> <i>Guidance for developing prescriptions in an increasingly complex fire environment</i>
<b>3 PM Break</b>			



## 1:20 TO 3 PM CONCURRENT ORAL PRESENTATION SCHEDULE

	Sabal G	Sabal A	Sabal B	Sabal C
Session title	<b>GRIN:</b> <i>Stoking the Flames for the Next Generation of Fire Scientists</i> - J. Kane	<b>Fire Management in the Southwest:</b> <i>Moving toward Resource Benefit</i> - B. Satink Wolfson	<b>Fire Ecology and Effects</b>	<b>Faces within the Fire:</b> <i>Toward an Inclusive Culture</i> - L. Ganio and C. Spradlin (NOTE: times vary)
1:20 PM	<b>T. Melvin</b> <i>GRIN research in action: prescribed fire effects on eastern box turtles in southwestern Michigan</i>	<b>T. Nicolet</b> <i>Trends in fire management in the Southwestern Region</i>	<b>T. Coates</b> <i>A soil's story of Southern prescribed fire</i>	<b>A. Stamper</b> <i>Women on fire: reflections on WTREX</i> (1:20 to 1:50 PM)
1:40 PM	<b>S. Frederick</b> <i>GRIN and embrace fire science communication—tips and tricks on communicating your fire science to any audience</i>	<b>C. Marks</b> <i>Building and maintaining the fire mosaic at Grand Canyon National Park</i>	<b>B. Smith</b> <i>Summer post-fire soil surface temperature in shortgrass rangeland using iButton data loggers</i>	
2 PM	<b>E. Strand</b> <i>Closing remarks: GRIN values beyond the award</i>	<b>S. Hedwall</b> <i>Working across agencies to burn in moderate-high risk wildlife habitat</i>	<b>C. Miller</b> <i>Wildland fire alters wood decomposition</i>	<b>M. Saylor</b> <i>Grassroots efforts spread like wildfire—how do we fan the flames?</i> (1:55 to 2:25 PM)
2:20 PM	<b>Panel Discussion</b>	<b>J. Truett</b> <i>Arizona state fire management: expanding the toolbox</i>	<b>S. Owen</b> <i>Long-term effect of high-severity wildfires on fungal communities</i>	<b>C. Spradlin</b> <i>Using human-centered design in inclusion and diversity</i> (2:30 to 3 PM)
2:40 PM	<b>Panel Discussion</b>	<b>D. Huffman</b> <i>Restoration benefits of re-entry with resource objective wildfire on a ponderosa pine landscape in northern Arizona, USA</i>		<b>L. Ganio and C. Spradlin</b> <i>Questions, remarks, and next steps</i> (3 to 3:10 PM)
	<b>3 PM Break</b>			

# THURSDAY, 30 NOVEMBER

	Pindo B	Sabal E	Sabal F
Session title	<b>Fire's Role in Restoration of Wildlife, Ecosystem Resilience, and Services</b> - M. Kaib	<b>Monitoring Vegetation Recovery a Decade Post Fire in Five Western North American Ecosystems</b> - A. Hudak	<b>Prescribed Fire Science: An Interdisciplinary Focus on Fire We Use</b> - K. Hiers
3:30 PM	<b>C. Frost</b> <i>Perpetuating species diversity: restoring fire integrity is critical</i>	<b>P. Robichaud for S. Lewis</b> <i>A decade of ecosystem response: post-fire indicators of burn severity and recovery in mixed conifer forests of western Montana</i>	<b>E. Rowell</b> <i>Using LiDAR and 3D simulation to develop fuel beds for next generation fire models</i>
3:50 PM	<b>C. Greenberg</b> <i>Herpetofaunal response to fire severity, repeated burning, and mechanical fuel reduction in hardwood forest</i>	<b>P. Morgan</b> <i>Multidecadal trends in area burned with high severity in the Selway-Bitterroot Wilderness Area 1880 to 2012</i>	<b>V. Hoff</b> <i>Using unmanned aerial systems for monitoring prescribed fire</i>
4:10 PM	<b>C. Greenberg</b> <i>Breeding bird response to fire severity, repeated burning, and mechanical fuel reduction in hardwood forest</i>		<b>K. Hiers</b> <i>The Prescribed Fire Science Consortium: research solutions for fire we use</i>
4:30 PM	<b>R. Perry</b> <i>Bats and fire on the Ozark National Forest</i>		<b>D. Godwin</b> <i>Bridging natural resource management and fire science in the southeastern US</i>
4:50 PM	<b>J. Miller</b> <i>Effects of fire severity on biodiversity across a gradient of historical fire regimes</i>		<b>B. Williams</b> <i>Case studies of managers and scientists working together on fire science—the need for strong cooperation</i>
<b>Evening activities</b>			

### 3:30 TO 5:10 PM CONCURRENT ORAL PRESENTATION SCHEDULE

	Sabal G	Sabal A
Session title	<b>Fire Management and Use</b>	<b>Fire Management in the Southwest: Moving toward Resource Benefit</b> - B. Satink Wolfson
3:30 PM	<b>R. Keane</b> <i>Evaluating ecological tipping points across levels of wildfire suppression on US northern Rocky Mountain landscapes using spatial simulation and novel statistical analysis</i>	<b>A. Thode for B. Kelley</b> <i>Wildland fire managed for multiple objectives in Southwestern forests: internal and external objectives</i>
3:50 PM	<b>D. Cress</b> <i>Making the decision to manage wildfire</i>	<b>D. Cram</b> <i>Building capacity for burning private lands</i>
4:10 PM	<b>T. Ingalsbee</b> <i>Whither the paradigm shift? Large wildland fires and the wildfire paradox offer opportunities for a new paradigm of ecological fire management</i>	<b>L. Allen for P. Warren</b> <i>Community-led fire planning— an example from the Malpai Borderlands Group</i>
4:30 PM	<b>J. Menakis</b> <i>Living with fire— lessons learned from a grassland savanna in central Africa and how it relates to fire management in the United States</i>	<b>S. Berry for M. Piccarello</b> <i>Building fire-adapted communities in New Mexico with collaborative burning</i>
4:50 PM	<b>M. Melvin</b> <i>Southeast Prescribed Fire and Air Quality Workgroup: addressing tomorrow's challenges today</i>	<b>Panel Discussion</b>
	<b>Evening activities</b>	

# FRIDAY, 1 DECEMBER 2017

## SCHEDULE OVERVIEW

### Registration

7:30 AM to 12:30 PM; Convention Level

### Presentation Loading

7 to 8:30 AM; Tangerine 9

### Closing Plenary Speakers:

8 to 10:20 AM, Citron North

**Chris Dicus**, Moderator

**Dr. David Bengston**, US Forest Service

*Scanning the Horizon for the Future of Wildland Fire*

**Marc Castellnou**, University of Lleida, Spain

*Using Fire Ecology as a Tool for Future Decision Making and Resilience Management in European and South American Landscapes*

**Kevin Hiers**, Tall Timbers Research Station and Land Conservancy, Florida

*Research is Key to the Application of Prescribed Fire in an Uncertain Future*

**Dr. Leda Kobziar**, University of Idaho; President, Association for Fire Ecology

*Fire Ecology 2.0*

### Morning Break

10:20 to 10:50 AM

### Concurrent Sessions

10:50 AM to 12:30 PM

### Lunch

12:30 to 1:40 PM

### Concurrent Sessions, continued

1:40 TO 3:20 PM

### Afternoon Break

3:20 to 3:50 PM

### Concurrent Sessions, continued

3:50 to 5:30 PM

## FIRE CIRCLES

### ***Using Human-Centered Design to Solve Inclusion and Diversity Dilemmas in Wildland Fire***, continued from Thursday

**Organizer:** *Carrie Spradlin*; 10:50 AM to 12:30 PM; Citron Center

### ***Fire and the Future of Species Diversity: Brainstorming a Response to the Accelerating Crisis in Extinction of Fire-Dependent Species***

**Organizers:** *Cecil Frost, Mark Kaib*; 10:50 AM to 12:30 PM; Citron Center

Participants will discuss two previous Special Sessions led by Frost and Kaib, with the goal of outlining and drafting a position paper on the crisis in perpetuating species diversity and restoring fire integrity to protected lands in the US, to be presented at the Fire Continuum Conference in Missoula in May 2018.

### ***Southern Fire Exchange—Making a Difference?*** continued from Tuesday

**Organizer:** *Alan Long*; 1:40 to 3:20 PM, Citron Center

### ***The ChaRoFlux Metric: A Novel Metric for Wildfire Analysis and Management?***

**Organizer:** *Claire Belcher*; 3:50 TO 5:30 PM; Sabal F

This Fire Circle will discuss two presentations and a poster on ChaRoFlux, authored by Belcher, New, and Grosvenor. The objective is to share ideas with others on the potential value of this new fire severity metric and examine opportunities for new collaborations to expand relevant research.



## WORKSHOPS AND TRAININGS: *drop-in*

### ***Hands-on Educational Activities with the FireWorks Educational Program***

**Organizer:** *Ilana Abrahamson*; 10:50 AM to 3:20 PM; Citron North

This workshop consists of entertaining, hands-on activities for teaching students and the general public about the science of wildland fire. The FireWorks curriculum—first published in 2000—is being revised to include new materials that reflect recent advances in fire research and educational standards.

### ***Leadership and Gender in Wildland Fire Culture: Firefighter Perspectives on Leadership Excellence***

**Organizer:** *Rachel Reimer*; 10:50 AM to 12:30 PM; Sabal F

This workshop will include a summary overview of recent research completed on gender and leadership in wildland fire within the BC Wildfire Service (2017). It will facilitate conversation about wildland fire culture, leadership, and gender using interactive small group activities.



## WORKSHOPS AND TRAININGS:

*drop-in, continued*

### ***Managing At-Risk Species on Southeastern Public Lands: A Case Study on Embedded and Ephemeral Wetlands in Florida Species***

**Organizer:** *Dennis David*; 10:50 AM to 12:30 PM; Pindo B  
Participants will become familiar with specific at-risk species occurring on Florida public lands, the characteristics of degraded and restored wetland and ecotone areas relative to at-risk species habitat needs, and learn specific management practices that should be applied to manage for conservation of at-risk species.

## WORKSHOPS AND TRAININGS:

*pre-registration required*

### ***Learning the Photoload Sampling Technique: Visually Estimating Surface Fuel Loadings from Photographs for Research and Management Applications***

**Organizer:** *Bob Keane*; 10:50 AM to 3:20 PM; Tangerine 5

### ***Interagency Fuels Treatment Decision Support System (IFTDSS)***

**Organizer:** *Caroline Noble*; 10:50 AM to 5:30 PM; Tangerine 6

### ***Rx310: Introduction to Fire Effects, continued***

**Organizers:** *Geoff Babb, Beth Buchanan*; 1:40 to 5:30 PM; Pindo A

## GUIDE TO SPECIAL AND GENERAL SESSIONS FOR FRIDAY, 1 DECEMBER

The presentations listed in the schedule on the next six pages are broken into the following sessions. Please refer to the floorplan map at the back of your program for room locations. Presentation abstracts and speaker biographies are available on Whova, the conference mobile app.

### SPECIAL SESSIONS

#### ***Connecting Direct and Indirect Measures of Soil Heating to First- and Second-Order Fire Effects Using Wildfire, Prescribed Fire, and Laboratory Investigations***

**Organizer:** *Jessica Miesel*

**Start time:** 10:50 AM; **Room:** Sabal B

This session will address research and monitoring studies investigating first- and second-order effects of fire on ecosystems based on direct measurements or indirect estimates of the soil heating process.

#### ***America's Longleaf Restoration Initiative (ALRI)—A Collaborative Success Story to Restore the Great Southern Forest***

**Organizer:** *Randy Tate*

**Start time:** 10:50 AM; **Room:** Sabal C

We will highlight the collaborative successes to date and challenges to come in ALRI's ambitious goal of restoring 8 million acres of longleaf habitat across the Southeast by 2025.

#### ***Fire Trek: The Next Generation***

**Organizer:** *Timothy Ingalsbee*

**Start time:** 1:40 PM; **Room:** Sabal C

This specially selected panel of speakers will showcase some of the research works-in-progress of fire ecology and management students from across the country. Indeed, student researchers aim to boldly go where no fire ecologists have gone before!

### GENERAL SESSIONS

#### ***Fire Ecology and Effects***

**Start time:** 10:50 AM; **Room:** Pindo A

**Start time:** 10:50 AM; **Room:** Sabal E

**Start time:** 1:40 PM; **Room:** Sabal F

#### ***Fire Management and Use***

**Start time:** 10:50 AM

**Room:** Sabal G

#### ***GIS and Remote Sensing***

**Start time:** 10:50 AM

**Room:** Areca

#### ***Living with Fire***

**Start time:** 1:40 PM

**Room:** Pindo B

# FRIDAY, 1 DECEMBER

	Pindo A	Sabal E	Sabal G
Session title	<b>Fire Ecology and Effects</b>	<b>Fire Ecology and Effects</b>	<b>Fire Management and Use</b>
10:50 AM	<p><b>A. Larson</b> Effects of single and repeat fires on forest structure and fuel loads in mixed-conifer forest</p>	<p><b>S. Koontz</b> Demographic patterns of a foundation species in a threatened Florida ecosystem across a time-since-fire gradient</p>	<p><b>D. Skelly</b> Monitoring is not a strategy and other patterns in long-term fire management</p>
11:10 AM	<p><b>R. Loehman</b> Developing a method for assessing climate–fire vulnerability in Southwestern forests</p>	<p><b>B. Blonder</b> Assessing fire effects and regime in a coastal strand ecosystem</p>	<p><b>R. Parsons</b> Integrating mobile observations in active fire incidents: view from the field</p>
11:30 AM	<p><b>K. Robertson</b> Effects of ecological processes on fire behavior in longleaf pine–grassland communities</p>	<p><b>A. Barnes</b> Altering fire season to manage an invasive legume, <i>Sericea lespedeza</i></p>	<p><b>A. Singer</b> Wildfire field report from one of Europe’s top risk areas in Brandenburg, Germany—15 years of fire detection and management with the optical sensor system FireWatch</p>
11:50 AM	<p><b>L. Yocom</b> Previous fires influence subsequent fire growth and severity in Arizona and New Mexico</p>	<p><b>G. Edwards</b> Gambel oak ecology and management in the southern Rockies: an overview of current knowledge, climate models, and future research</p>	<p><b>R. Anderson</b> Community-based fire effects monitoring: a case study from Paynes Creek National Park, southern Belize</p>
12:10 PM	<p><b>T. Shearman</b> The cost of defense: tradeoffs between protection and growth in juvenile tree species after multiple frequent disturbances</p>		<p><b>E. Chapman</b> Wildfire risk: assessing the probability and impact of wildfires in the province of Alberta</p>
<b>12:30 PM Lunch break</b>			

## 10:50 AM TO 12:30 PM CONCURRENT ORAL PRESENTATION SCHEDULE

	Sabal B	Sabal C	Areca
Session title	<b>Connecting Direct and Indirect Measures of Soil Heating to First- and Second-Order Fire Effects Using Wildfire, Prescribed Fire, and Laboratory Investigations</b> - J. Miesel	<b>America's Longleaf Restoration Initiative— A Collaborative Success Story to Restore the Great Southern Forest</b> - R. Tate	<b>GIS and Remote Sensing</b>
10:50 AM	<b>P. Robichaud</b> <i>Measuring soil temperatures during prescribed fires and wildfires</i>	<b>J. Scott</b> <i>Building partnerships and accelerating prescribed fire delivery through the Longleaf Stewardship Fund</i>	<b>J. Picotte</b> <i>Dickens's ghosts: the Monitoring Trends in Burn Severity project's past, present, and future</i>
11:10 AM	<b>X. Huang</b> <i>The spread of smoldering fires on the ground</i>	<b>B. Pelc</b> <i>The ARSA-Local Implementation Team: using professionalism and partnership to multiply restoration and management in Florida's eastern Panhandle longleaf pine forests</i>	<b>A. Soja</b> <i>NASA Fire Science and Applications: technology, satellites, airborne data and models</i>
11:30 AM	<b>W. Massman</b> <i>Modeling soil temperatures during fires requires modeling unresolved aspects of soil moisture and water vapor dynamics</i>	<b>G. Sorrells</b> <i>Fire management and education in the Chattahoochee Fall Line</i>	<b>C. Davis</b> <i>A fire weather intelligence portal for the southeast US</i>
11:50 AM	<b>J. Kreye</b> <i>Patterns of soil heating during prescribed burns across contrasting fire regimes in widespread southeastern USA pine forests</i>	<b>T. Dooley</b> <i>The role of Southeastern prescribed fire councils in longleaf pine restoration</i>	<b>B. Camposano</b> <i>The Florida Longleaf Pine Ecosystem Geodatabase Project: overview, revisions, and major updates</i>
12:10 PM	<b>M. Dickinson</b> <i>Fire behavior and soil heating during dormant-season fires in barrens ecosystem under restoration: duff, the great insulator</i>	<b>R. Tate</b> <i>Burning together is better! Prescribed fire partnerships in Georgia</i>	
<b>12:30 PM Lunch break</b>			

**FRIDAY, 1 DECEMBER**

	<b>Pindo B</b>	<b>Sabal E</b>	<b>Sabal F</b>
<b>Session title</b>	<b>Living with Fire</b>	<b>Fire Ecology and Effects</b>	<b>Fire Ecology and Effects</b>
<b>1:40 PM</b>	<b>A. Weill</b> <i>From plants to people: Californians at work and play in post-fire landscapes</i>	<b>R. Crandall</b> <i>Fire differentially affects fitness and population growth of an invasive shrub compared to coexisting native species</i>	<b>C. Belcher</b> <i>ChaRoFlux: charcoals record the energy flux from wildfires, a novel metric for wildfire analysis and management?</i>
<b>2 PM</b>	<b>A. Kramer</b> <i>Rebuilding and new construction trends after California wildfires</i>	<b>J. Stevens for P. Fornwalt</b> <i>Understorey thermophilization following the 2002 Hayman Fire</i>	<b>S. New</b> <i>Developing a novel quantitative ground-based fire severity metric: evidence from experimental fires in the New Jersey Pinelands National Reserve</i>
<b>2:20 PM</b>	<b>C. Goodell</b> <i>The Cohesive Strategy—looking forward to living with fire</i>	<b>N. Pawlikowski</b> <i>Forest development following wildfire in old growth Pinus ponderosa forest, southern Cascades, California</i>	<b>M. Poling</b> <i>Addressing Monitoring Trends in Burn Severity product limitations in the Southwest to assess increasing trends in high severity fire</i>
<b>2:40 PM</b>	<b>E. Steffey</b> <i>Examining Theory of Planned Behavior in understanding homeowner wildfire mitigation actions</i>	<b>C. Dencker</b> <i>Natural recruitment events of Wyoming big sagebrush (<i>Artemisia tridentata</i> ssp. <i>wyomingensis</i>) along the fire's edge</i>	<b>N. Prat-Guitart</b> <i>An overview of the Pau Costa Foundation, a platform for fire ecology and management community</i>
<b>3 PM</b>	<b>B. Williams</b> <i>Using and living with fire in the Pinelands National Reserve in southern New Jersey</i>	<b>R. Innes</b> <i>Sagebrush ecosystems in the Fire Effects Information System</i>	
<b>3:20 PM Break</b>			



## 1:40 TO 3:20 PM CONCURRENT ORAL PRESENTATION SCHEDULE

	Sabal G	Sabal B	Sabal C	Areca
Session title	<b>Fire Management and Use</b>	<b>Connecting Direct and Indirect Measures of Soil Heating To First- and Second-Order Fire Effects Using Wildfire, Prescribed Fire, and Laboratory Investigations</b> - J. Miesel	<b>Fire Trek: The Next Generation</b> - T. Ingalsbee	<b>GIS and Remote Sensing</b>
1:40 PM	<b>M. Bucher</b> <i>The Southern Blue Ridge Fire Learning Network— a collaborative approach to restoring pine–oak forests in the Appalachians</i>	<b>P. Robichaud</b> <i>Improving consistency in mapping post-fire burn severity</i>	<b>J. Young</b> <i>Modeling containment of resource benefit wildfires using a survival analysis</i>	<b>L. van Wagtendonk</b> <i>Tree mortality in the Southern Sierra Ecoregion: a landscape scale analysis of mortality, resultant vegetation burn severity, fire return interval departure, and basal area</i>
2 PM	<b>M. Hale</b> <i>Risk management assistance teams—applying best available science to wildfire decision-making</i>	<b>B. Sturtevant</b> <i>Quantifying substrate fire severity: issues of timing, scale, and data aggregation</i>	<b>W. Downing</b> <i>Living legacies: fire refugia, seedling response, and forest resilience in Oregon’s Blue Mountains</i>	<b>M. Gallagher</b> <i>Characterization of fire seasonality, type, and first-order tree mortality in pitch pine barrens with remotely sensed burn severity data</i>
2:20 PM	<b>M. Johnson</b> <i>Effects of postfire salvage logging on stand structure and dead woody fuels following the 2015 Stickpin wildfire (Colville National Forest)</i>	<b>K. Quigley</b> <i>Burn severity estimates in relation to post-fire soil and ash chemistry</i>	<b>C. Tubbesing</b> <i>Mapping dead tree biomass from the recent California mortality event</i>	<b>J. Reynolds</b> <i>Using Google Earth Engine to automate post-fire vegetation condition assessments</i>
2:40 PM	<b>J. Roise</b> <i>Wildland fire shelter improvement research</i>	<b>J. Miesel</b> <i>How well do rapid-response soil burn severity metrics explain delayed observations of post-fire soil carbon and nitrogen mineralization rates?</i>	<b>J. Adkins</b> <i>Fire has persistent effects on soil C and N pools important for ecosystem recovery</i>	<b>B. Peterson</b> <i>Leveraging LiDAR for fuel-related vegetation structure mapping</i>
3 PM	<b>J. Kline</b> <i>Anticipating interactions between forest management and wildfire as private forestland owners adapt to climate change</i>	<b>L. Kobziar</b> <i>Soil heating effects on autotrophic vs. heterotrophic soil respiration rates across fire regimes</i>	<b>T. Marks-Block</b> <i>Yurok and Karuk Indian prescribed fire management in northwest California: enhancing the availability of forest resources for community use</i>	<b>M. Campbell</b> <i>Mapping travel rates along firefighter escape routes using LiDAR data</i>
<b>3:20 PM Break</b>				

	Sabal B	Sabal C	Areca
Session title	<p><b>Connecting Direct and Indirect Measures of Soil Heating To First- and Second-Order Fire Effects Using Wildfire, Prescribed Fire, and Laboratory Investigations</b> - J. Miesel</p>	<p><b>Fire Trek: The Next Generation</b> - T. Ingalsbee</p>	<p><b>GIS and Remote Sensing</b></p>
3:50 PM	<p><b>C. Kern</b> Response of seed bank composition to soil burn severity across a range of pine barren restoration phases</p>	<p><b>N. Walding</b> Do outputs from the US National Fire Danger Rating System (NFDRS) influence fire size?</p>	<p><b>I. San-Miguel</b> Big data processing of boreal fire pattern characteristics using the Landsat data satellite archive</p>
4:10 PM	<p><b>J. O'Brien</b> How spatial variation in fuels and subsequent fire energy release drives below-ground mortality in longleaf pine understory plants</p>	<p><b>H. Martinez-Torres</b> Towards integrated fire management in a Natural Protected Area: what do local key actors say?</p>	<p><b>C. Dicus</b> Does an expanding wildland–urban interface REALLY increase risk of fire loss?</p>
4:30 PM	<p><b>M. Varner</b> The consequences of long-duration soil heating for tree stress and mortality</p>	<p><b>P. Llamas-Casillas</b> Presentation of a testing methodology to evaluate relationship between humans, climate, and fire regimes</p>	<p><b>B. Tolk</b> LANDFIRE remap</p>
4:50 PM	<p><b>B. Sturtevant</b> Synthesis</p>	<p><b>M. Vernon</b> In the face of drought: do fuel treatments promote resistance to multi-year drought in a mixed-conifer forest of northern California?</p>	
5:10 PM	<p><b>Panel Discussion</b></p>		

## SATURDAY, 2 DECEMBER 2017: FIELD TRIPS

Conference participants can choose from several field trips, which offer a chance to see first-hand how a wide variety of fire managers accomplish fires that benefit both the ecosystems and public that live in and around them. All field trips are \$60; lunch is provided. Field trips will depart from the bus loading area, outside across from Registration, at 7:30 AM on Saturday, 2 December (the overnight Big Cypress trip leaves Friday at 2 PM).

### 1. ST. JOHNS RIVER WATER MANAGEMENT HAL SCOTT PROPERTY

*Estimated return: 12:45 PM*

Join staff from the St. Johns River Water Management District on a field trip to the Hal Scott Regional Park and Preserve. Hal Scott is managed with a short fire return interval to maintain habitat for the endangered red-cockaded woodpecker and is adjacent to Wedgefield, a community of 7400 residents. Wedgefield became the first Firewise Community in Florida, which has resulted in this community becoming safer from wildfire and has made the District's job of managing the ecology of Hal Scott easier.

### 2. ARCHBOLD BIOLOGICAL STATION

*Estimated return: 3:30 PM*

Join us for a walking tour at the Archbold Biological Station, where we will be focusing on restoration activities on Lake Wales Ridge scrub and sandhill vegetation. You will learn about the "Red Hill" region, which went through decades of fire suppression and is now being restored to a more natural condition through a combination of mechanical treatments and prescribed fire. Extensive research on species such as the gopher tortoise and the Florida scrub-jay is ongoing and will be discussed.

### 3. THE NATURE CONSERVANCY TIGER CREEK PRESERVE

*Estimated return: 1:30 PM*

Join Steve "Sticky" Morrison on a buggy tour through this amazing land, as he discusses his past 30 years working at The Nature Conservancy's Tiger Creek Preserve restoring the landscape, principally through prescribed fire, and the recent dendrochronology studies of longleaf pine. Along the way, we will also discuss the strategy of utilizing the "fire assist team" model, expanded by the Florida Chapter in the late 2000s, as a method to increase the amount of controlled burns on the landscape.

### 4. KISSIMMEE PRAIRIE PRESERVE STATE PARK

*Estimated return: 2 PM*

Join us on a Florida Park Service buggy ride as we travel through beautiful Kissimmee Prairie, a landscape reminiscent of the best-selling novel, *A Land Remembered*, by Patrick Smith. Along the way, we will have lively discussions on Florida grasshopper sparrow biology, large-scale fire implementation, how various agency partners cooperate to save a very rare species, and how to blend recreation and habitat management within the Florida State Parks.

### 5. MERRITT ISLAND NATIONAL WILDLIFE REFUGE/ NASA

*Estimated return: 2:30 PM*

The Merritt Island National Wildlife Refuge and National Seashore provide habitat for more than 1500 species of plants and wildlife. With an excellent long-term working relationship among NASA, the Fish and Wildlife Service, and the National Park Service, this unique area is a shining example of how nature and technology can peacefully co-exist. Join scrub biologists and fire managers for a walking tour on the Refuge's Flatwoods Trail, with lively discussions on scrub vegetation, fire ecology, migratory bird management, and scrub-jay biology.

### 6. BIG CYPRESS NATIONAL PRESERVE OVERNIGHT TRIP AND SWAMP BUGGY TOUR

*Depart 2 PM Friday; estimated return, 6 PM Saturday*

Big Cypress National Preserve is a place of wonder and this forested wetland is rich with a variety of ecological processes. Fire, flooding, hurricanes, and occasional freezing temperatures shape the South Florida landscape. With over 25 years of fire monitoring and research, National Park Service fire managers work together to apply fire in ever-changing conditions. Join us for an exciting swamp buggy excursion into the wild to explore how fire managers and biologists work together to apply fire in this sub-tropical wilderness.



SAVE  
*the*  
DATE



THE  
**FIRE**  
**CONTINUUM**  
**CONFERENCE**

PREPARING FOR THE FUTURE OF WILDLAND FIRE  
MAY 21-24, 2018 • MISSOULA, MONTANA

Once again, the Association for Fire Ecology and International Association of Wildland Fire will join forces to bring you an enlightening and innovative event!

This not-to-be-missed event will be held on the beautiful University campus in Missoula, Montana the week of May 21 - 24, 2018.

Wildland fire science and management are defined by continuums. The Fire Continuum Conference will take you on a journey through science and management activities during three stages of wildfire: before a wildfire occurs, during active wildfire, and the post-fire landscape.



[firecontinuumconference.org](http://firecontinuumconference.org)



International Association  
of Wildland Fire

## TIMELINES *and* KEY DATES

**Call for Special Sessions:** Sept. 1 – Nov. 7

**Call for Workshops:** Sept. 1 – Nov. 7

**Call for Attached Meetings:**

Sept. 1 – until we are out of space.

**Call for Presentations:** Nov. 7 – Feb. 6

**Presenters Notified:** Feb. 28, 2018

**Conference:** May 21-24, 2018

*What a perfect opportunity to bring your family to BIG SKY COUNTRY for an extended holiday weekend!*



# *Save the Date!*

**8th International Fire Ecology and Management Congress**

**November 18-22, 2019**

**Loews Ventana Canyon Resort**

**Tucson, Arizona**



Plan on joining us in Tucson, Arizona for a great program, including workshops, special sessions, roundtables, and field trips!

Conference information will be posted in 2018 at [afefirecongress.org](http://afefirecongress.org)







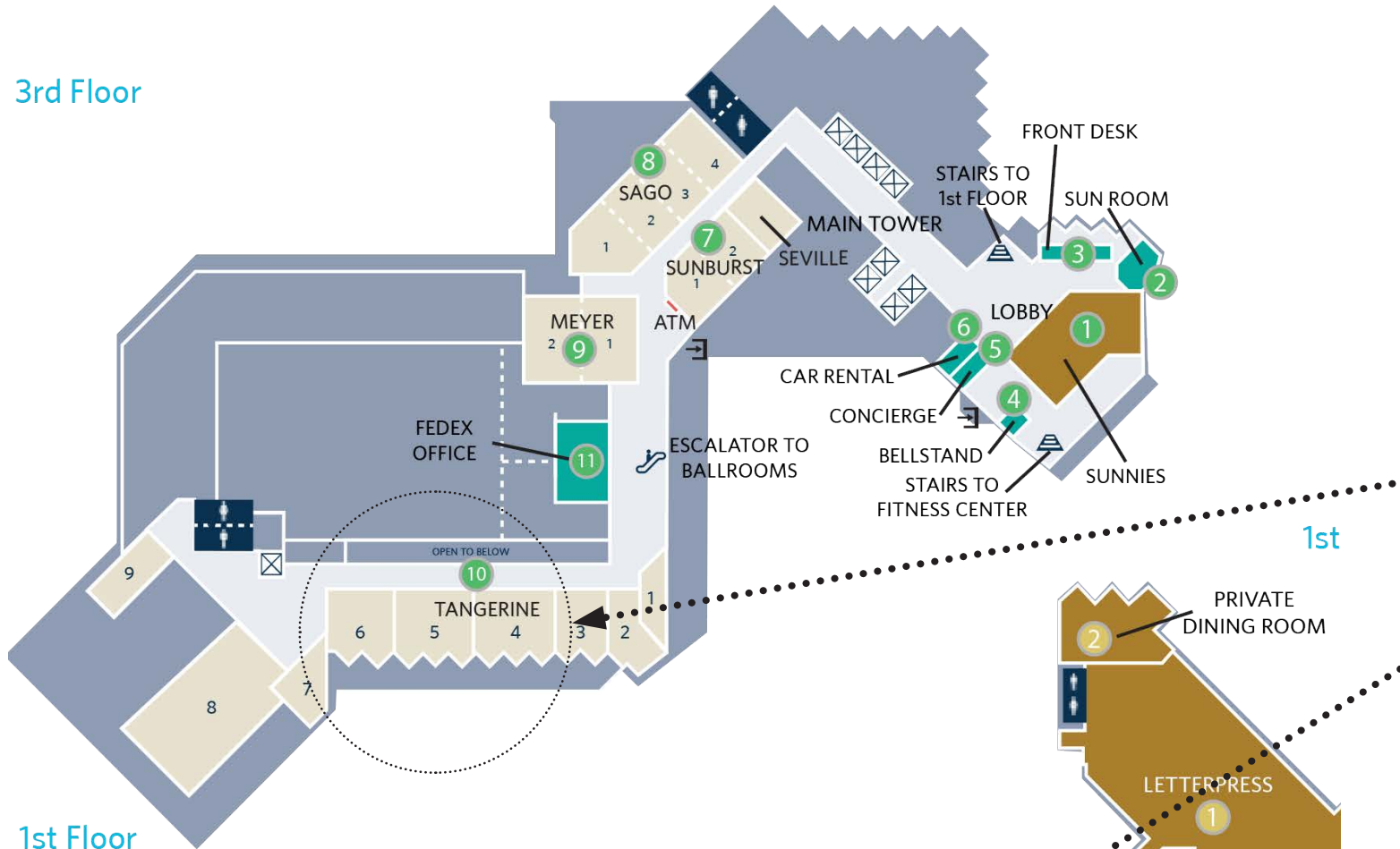




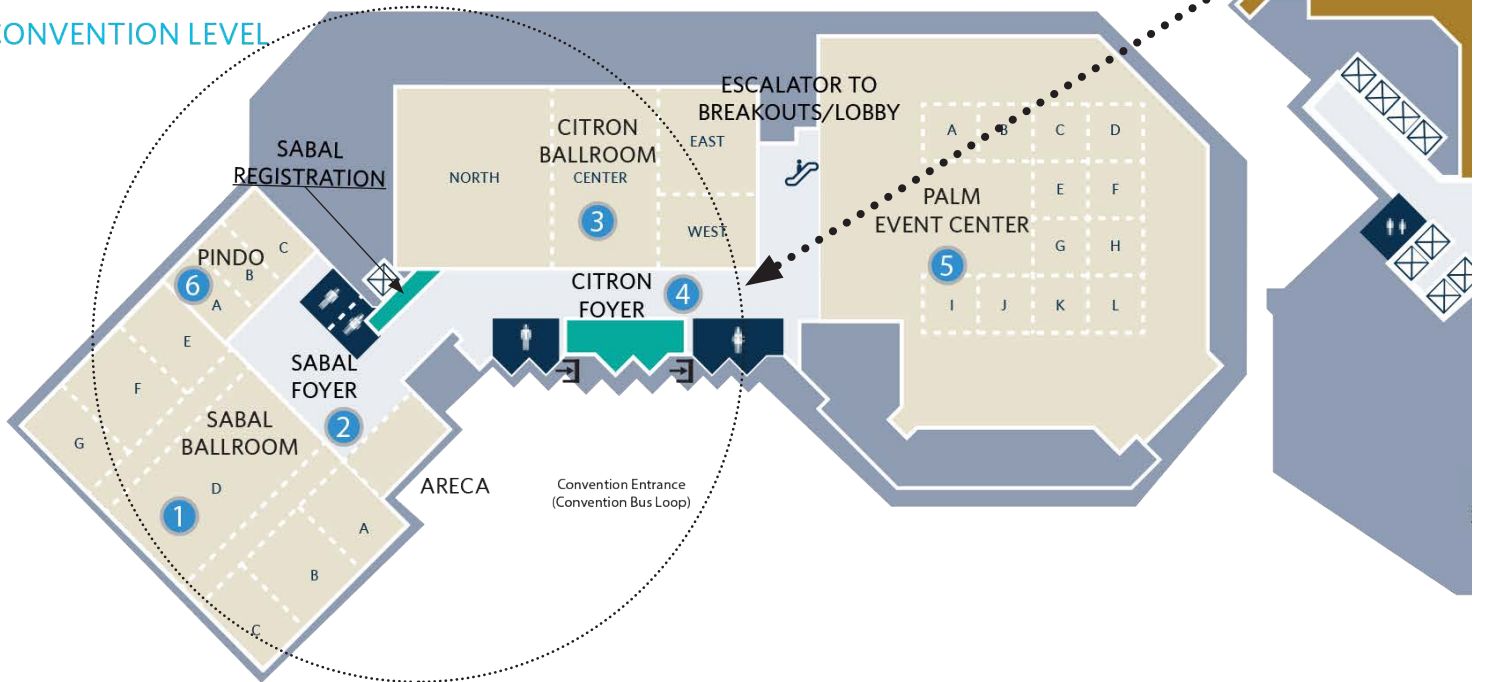


# FLOORPLANS FOR THE HILTON ORLANDO BUENA VISTA PALACE

## 3rd Floor



## 1st Floor CONVENTION LEVEL



# FLOORPLANS FOR THE HILTON ORLANDO BUENA VISTA PALACE

Rooms utilized by the 2017 Fire Congress will be found in these two areas.

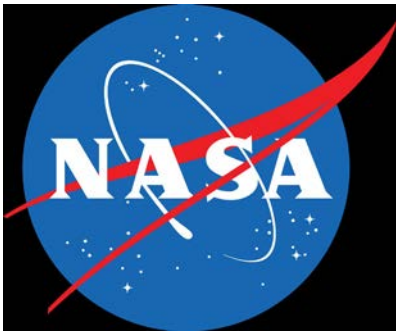
Floor



## Symbols:

- Entrance
- Stairs
- Escalator
- Elevator





College of Engineering, Forestry & Natural Sciences

School of Forestry



Fire Research And Management Exchange System



NORTHERN ROCKIES FIRE SCIENCE NETWORK

SOUTHERN Fire Exchange



BOK TOWER GARDENS NATIONAL HISTORIC LANDMARK



Smoked by IT for Nature



The JOSEPH W. JONES ECOLOGICAL RESEARCH CENTER

at Schawway



Ecological Restoration Institute



technosylva