



THE FIRE CONTINUUM

MAY 21-24, 2018 • MISSOULA, MT

PREPARING FOR THE FUTURE OF WILDLAND FIRE CONFERENCE



Program Schedule						
Sunday, May 20						
7:00 PM	Afterhours Networking - Brooks and Brown, Holiday Inn, 200 South Pattee Street					
Monday, May 21						
7:00 to 5:30	Registration Desk Open - University Center, Level 3 Foyer					
Training and Educational Workshops						
8:00-10:00	#6. Teaching the Oregon State University Fire Science Core Curriculum			#9. Operations and Application of Unmanned Aircraft Systems for Forest and Burn Area Mapping and Monitoring		
8:00-12:00	#1. Learning the Photoload Sampling Technique: Visually estimating surface fuel loadings from photographs for research and management application	#2. Clear talk about wild fire: Meeting the communications challenges of the wide wildfire audience	#3. Reaching Deep into Our Collective FireToolboxes to Get More of the Right Fire on the Landscape	#4. Introduction to the Interagency Fuels Treatment Decision Support System (IFTDSS)	#5. Linking wildfire burn mosaic and lynx habitat modeling	#8. Fuel and Fire Tools (FFT)—Application for Wildland Fuel and Fire Management Planning
	#11. Unmanned aircraft in fire research and management	#14. Geospatial Fire Modeling Using FlamMap6		#15. NASA Wildfire Applications Toolbox: Training in Availability, Access, and Use of Earth Observation Data, Models, and Information		#16. Empowering Strategic Decision Making for Wildfire Management: Avoiding the Fear Trap and Creating a Resilient Landscape
10:00 to 12:00	#13. Publishing in International Journal of Wildland Fire		#7. Wildfire hazard and risk assessment: concepts, terminology, and applications		#10. Applying Advanced Technology to Enhance the Situation Unit	
12:00 to 12:30	Lunch - on your own					
CONFERENCE BEGINS - Monday Afternoon May 21st						
Dennison Theater, UM Campus						
WELCOME AND OPENING REMARKS						
Presentation of the Colors						
Chris Dicus, President, Association for Fire Ecology President and Alen Slijepcevic, President, International Association of Wildland Fire						
Tribal Elder Welcome - Tony Incashola, Sr., Confederated Salish and Kootenai Tribes						
CONFERENCE OPENING KEYNOTE						
Vicki Christiansen, Interim Chief, US Department of Agriculture, Forest Service						
CONFERENCE KEYNOTE						
The Fire Season Next Time: The Need for a Modern Analytical Strategy for Wildfire Management						
Dave Calkin, PhD, Supervisory Research Forester, Human Dimensions Program, USDA Forest Service, Rocky Mountain Research Station						
Break						
LONG TERM FIRE PLANNING PANEL SESSION						
Matthew Thompson, Research Forester, USDA Forest Service, Rocky Mountain Research Station						
Tim Sexton, Program Manager, Wildland Fire Research Development & Applications Program, USDA Forest Service, Rocky Mountain Research Station						
Riva Duncan, Interagency Fire Staff Officer, Umpqua National Forest						
INCLUSIVITY IN FIRE MANAGEMENT AND SCIENCE						
Sara Brown, Acting Director, USDA Forest Service, RMRS, RD&A and Human Performance & Innovations and Organizational Learning and Diego R. Pérez-Salicrup, Universidad Nacional Autonoma De Mexico						
Break and transition to concurrent sessions, University Center						

	Concurrent sessions							
	Room 225	Room 326/327	Room 330	Room 331	Room 332	Room 333	UC Theater	UC Commons
	Special Session	Concurrent Session	Special Session	Concurrent Session	Concurrent Session	Concurrent Session	Special Session	Special Session
	Advancements in fuel mapping with emphasis on updating strategies	Pre-Fire Risk & Modelling	Assessing landscape change under changing climates with the spatial process model FireBGCv2	Prescribed Burning	Fire Plans	Fuel Treatment	Operationalizing Responder Exposure Metrics to Support Response Decisions, Learning, and Accountability	S4.1 Social opportunities to increase adaptation and reduce shared wildfire risk
	Moderator: Matt Reeves	Moderator: Meg Krawchuk	Moderator: Robert Keane	Moderator: Jeffrey Kane	Moderator: Robert Gray	Moderator: Susan Prichard	Moderator: Matthew Thompson	Moderator: Sara McAllister
3:40-4:00	S1.1. Annually Updated Rangeland Plant Functional Type Percent Cover Maps at 30m Resolution for Improved Fuel Mapping Matthew O. Jones	1. Regional Differences in Wildfire Risk in the United States from Systematic Operational Risk Assessments-How Risk is Conceived by Land Managers Erin Noonan-Wright	S2.1. Using landscape modeling to quantify ecological variability as a means to assess resilience Robert E Keane	7. Prescribed Burn Decision Support Tool (PB DST): An Essential Process to Support Your Decision Making Brian Levine	13. A planning strategy to obtain net gain to the public benefit; alleviating time scarcity in fire management decisions Philip William Bowden	19. Adaptive silviculture for climate change: Preparing dry mixed conifer forests for a more frequent fire regime Mike Battaglia	S3.1. Modernizing wildland fire performance measurement: A brief history and future directions David Calkin	S4.1. What We Already Know About the Social Components of Wildfire Risk Sarah McCaffrey
4:00-4:20	S1.2. A geospatial approach to account for interannual variability in rangeland fuels Matt Reeves	2. Simulated vegetation and fire hazard at Eglin Air Force Base for 50 year time periods under multiple prescribed fire management scenarios using Fuel Classification and Characteristics System (FCCS) and a landscape-fire-succession model Jim Cronan	S2.2. Can fire and fuel management maintain or restore ecological resilience under a changing climate? Rachel Loehman	8. Modelling an econometric function to predict prescribed burning costs Francisco Rodríguez y Silva	14. The European Wildfire Risk Node: towards uniting formal and informal networks on wildfire risk Nuria Prat-Guitart	20. Advancing fuel modeling and fuel treatment analysis capabilities with STANDFIRE Russell A Parsons	S3.2. Leveraging evidence-based management and key performance indicators to improve responder safety Matthew Thompson	S4.2. Co-producing research and responses to address wildfire risk Carina Wyborn
4:20-4:40	S1.3. Updating of LANDFIRE Vegetation and Fuel Data using Transition Modeling Donald Long	3. The association between emerging fire occurrence hotspots and historical area burned in the boreal zone of Alberta, Canada Jen Beverly	S2.3. Evaluating ecological shifts across levels of wildfire suppression on US northern Rocky Mountain landscapes Kathy Gray	9. Can we have it all? Optimal burning regimes for management of fuel, carbon, water and vegetation Tina Bell	15. Developing a Fire Danger Operating Plan for North Carolina from a State Fire Agency Perspective Meyer "Cabe" Speary	21. Interagency Fuels Treatment Decision Support System: Facilitating Fuels Planning For All Caroline Noble	S3.3. Aviation analytics to inform strategic planning and risk management in large fire support Crystal Stonesifer	S4.3. Cross-Boundary and Adaptive Governance to Facilitate Adaptation to Wildfire Risk Maureen (Mo) Essen
4:40-5:00	S1.4. Improving national shrub and grass fuel maps using remotely sensed data to support fire fuel assessments Jim Vogelmann	4. Forest Fire Prediction Modeling in Terai Arc Landscape of Lesser Himalayas using Maximum Entropy Method Amit Kumar Verma	S2.4. Can herbivore management be used to reinforce fuel reduction programs? Robert Riggs	10. Fire and Ecological Forest Management and Prescribed Fire- Perfect Together Bob Williams	16. Will You Miss Me When I'm Gone? A future Without JFSP... John Cissel and Tom Zimmerman	22. A retrospective analysis of fuel treatment effectiveness following the 2014 Carlton Complex Fire in semi-arid forests of north-central Washington State Susan Prichard	S3.4. The Wildfire responder triangle: integrating safety, probability of success, and values at risk for operational response Jessica R Haas	S4.4. Wildfire Collaboration Networks: An Empirical Study of Network Governance of Wildfire Risk in North Central Washington Cody Evers
5:00-5:20	S1.5. Operational periodic updating of LANDFIRE fuels data Kurtis Nelson	5. California Burning: Developing Sustainable Solutions To Emerging Climate Challenges - Electric Utilities As A Case Study Martin Kurtovich	S2.5. Evaluating future success of whitebark pine ecosystem restoration under climate change using simulation modeling Lisa Holsinger	11. The Ultimate Test of the Effectiveness of Fuel Management in the Wildland/Urban Interface Stephen Cornelsen	Discussion	23. Radial Thinning to Retain Legacy Trees: Effects on Tree Growth and Fire Behavior Sharon Hood	S3.5. The spatial and temporal dynamics of responder exposure to snag hazards following mixed-severity fires Christopher Dunn	S4.5. Network analysis of wildfire transmission and implications for risk governance Alan Ager
5:20-5:40	S1.6. Discussion	6. GridFire: Open Source Fire Behavior Modeling in the Cloud Gary Johnson	S2.6. Assessing alternative management strategies for whitebark pine under future climate change Kathryn Ireland	12. Discussion	Discussion	24. Stand-level dynamics of pinyon-juniper woodlands following hazardous fuels reduction treatments in Arizona David Huffman	S3.6. Previous burn scars- a blessing or a curse? Responder mobility as a hazard in the post-fire environment Christopher O'Connor	S4.6. Demographic analysis of transboundary wildfire exposure in the western US Palaiologos Palaiologou

5:45 to 7:30	No host social - Grand Ballroom, University Center, 3rd level							
7:00-9:00	University of Idaho Alumni, Partners and Friends Mixer - UC Art Gallery, University Center, 2nd level Hosted by: University of Idaho, Wildland Fire Program, Department of Forest, Rangeland, and Fire Sciences							
7:30-8:20	Sahyinidra EcoJourney Fire Meditation - Wellness Lounge, University Center Commons, 2nd level							
7:30:00 PM	Running Group - TBD							
7:30+	Afterhours Networking - TBD							
7:30 - 9:00	Student Activity - Social in the Rec Room, University Center (2nd level)							
	Student Activity - Movie and Popcorn "Red Skies over Montana", University Center Theater (3rd level) (All Students of Fire Invited)							
Tuesday, May 22								
6:00 am	Running Group - TBD							
7:00 to 7:30	Greet the day yoga- Wellness Lounge UC Commons 2nd Level							
7:00 to 5:30	Registration Desk Open - University Center, Level 3 Foyer							
Dennison Theater, UM Campus								
WELCOME BACK AND LOGISTICS								
Alen Slijepcevic, IAWF President								
CONFERENCE KEYNOTE								
What Will it Take to Advance Wildland Fire Behavior Science?								
Mark Finney, Research Forester, USDA Forest Service, Missoula Fire Sciences Laboratory								
FIRE BEHAVIOR PANEL SESSION								
Laura Ward, Lolo National Forest Fire Management Officer, USDA Forest Service Lolo National Forest								
Rodman Linn, Senior Scientist, Earth and Atmospheric Sciences Division, Los Alamos National Laboratory								
Erin Noonan-Wright, Fire Application Specialist, USDA Forest Service, Wildland Fire Management Research Development and Application Group (WFMRD&A)								
8:50 to 9:30	Networking Break with Exhibitors - Grand Ballroom, University Center, 3rd level							
9:30 to 10:00	Networking Break with Exhibitors - Grand Ballroom, University Center, 3rd level							
10:00 to 12:00	Concurrent sessions							
	Room 225	Room 326/327	Room 330	Room 331	Room 332	Room 333	Room UC Theater	UC Commons
	Special Session	Special Session	Special Session	Special Session	Special Session	Special Session	Special Session	Special Session
	Climate change and altered fire regimes: what should we expect?	NASA Applied Science Efforts: Collaborations in Earth Observation Data, Information, Models and Tools Supporting Wildland Fire Management	EPA Wildland Fire Research: The Intersection of Emissions, Ambient Characterization and Public Health Outcomes <u>Public Health Implications of Smoke Exposure</u>	Coupling the social and biophysical assessment of wildfire risk	Fire refugia: identification, formation, function, and management	Assessing resilience to wildfires across the social-ecological spectrum	Wildfire hazard and risk: assessment and management	Toward a physical understanding of wildfire behavior: modeling and experimental approaches
	Moderator: Sean Parks	Moderators: Vince Ambrosia and Amber Soja	Moderator: TBD	Moderator: Matthew Hamilton	Moderators: Carol Miller and Sandra Haire	Moderator: Philip Higuera, Marc Parisien and Cameron Naficy	Moderators: Joe Scott and Karin Riley	Moderator: Dominique Morvan
10:00-10:20	S5.1. Fire regime shifts under climate change depend on the timeframe and ecological context Sean Parks	S6.1. NASA Applied Science Efforts: Collaborations in Earth Observation Data, Information, Models and Tools Supporting Wildland Fire Management Vincent G. Ambrosia	S7.1. Long-term trends in fire behavior and changes in population at risk Ana G. Rappold	S8.1. Risk Interdependence and Alignment of Social and Ecological Networks in Fire-prone Forests Matthew Hamilton	S9.1. What Are These Things We Call Fire Refugia? Meg Krawchuk	S10.1. Linked and compound disturbance interactions between multiple fires in conifer forests of the western US Brian J. Harvey	S11.1. Improved Simulation of Probabilistic Wildfire Risk Components for the Conterminous United States: 2018 FSim Product Updates Karen Short	S12.1. The promise and challenges of CFD physics-based wildland fire behavior modeling William Mell
10:20-10:40	S5.2. Fire During High-velocity Climate Change Can Trigger Ecological Transformation Shelley Crausbay	S6.2. A topographically resolved wildfire danger and drought monitoring system for the conterminous United States Zachary Holden	S7.2. Communicating Risk: Air Quality Index, Wildfire Guide, and Online PM Medical Course Susan Stone	S8.2. Wildfire Exposure and Community Capacity to Manage Wildfire Risk: A Coupled Biophysical and Social Analysis of Wildfire Risk in Communities across the Western United States Max Nielsen-Pincus	S9.2. Abundance and pattern of forested refugia within burn perimeters Ryan Walker	S10.2. Fire-fire interactions and multi-scale controls on fire severity in historical mixed-severity fire regimes of the northern U.S./southern Canadian Rockies Cameron Naficy	S11.2. Deterministic generation of flame-length probabilities for use in risk assessments Joe H. Scott	S12.2. Using process-based coupled fire/atmosphere models to gain better understanding of wildfire dynamics Rod Linn

10:40-11:00	S5.3. Climate-induced variations in global severe fire weather conditions W. Matt Jolly	S6.3 WRFX - Numerical framework for operational coupled fire-atmosphere-fuel moisture forecasting Adam K. Kochanski	S7.3. Cardiovascular and cerebrovascular emergency department visits associated with wildfire smoke exposure in California in 2015 Ana G. Rappold	S8.3. Assessing and Managing Wildfire Risk Across Diverse Forest Ownerships in a Fire-Prone Landscape Susan Charnley	S9.3. Mapping and modelling patterns in wildfire refuge using satellite imagery Luke Collins	S10.3. Compromised resilience of northern boreal forests following large wildfires Marc Parisien	S11.3. Calculating Fire Season Length with Weather and Fire Activity Metrics Karin L. Riley	S12.3. Improvement of sub-modeling in physical fire spread models Albert Simeoni
11:00-11:20	S5.4. Effect of reduced warm-season cloud cover on aridity and fire danger in coastal California Park Williams	S6.4. Monitoring Great Basin Shrub and Grasslands using Landsat and MODIS data for Fire Applications Jim Vogelmann	S7.4. Comparison of Aspiration and Inhalation Exposure Methods for Predicting Pulmonary Toxicity of Biomass Smoke Yong Ho Kim	S8.4. A Typology of Community Wildfire Exposure from US National Forests Cody Evers	S9.4. Fire Refugia in Forests of Mexico: What do we Know? Larissa Yocom	S10.4. Change in vegetation patterns over a large forested landscape based on historical and contemporary aerial photography Jamie Lydersen	S11.4. Modeling Synchronous Large-Fire Activity Across the Conterminous United States Karen Short	S12.4. How 10 years of physical assumptions led to the development of the Balbi model, from laboratory scale to field scale Balbi Jacques-Henri
11:20-11:40	S5.5. Reexamining the drivers of recent wildfire activity in the Pacific Northwest U.S. Zachary A. Holden	S6.5. Enhanced Wildland Fire Management Decision Support Using Lidar-Infused LANDFIRE Data Birgit Peterson	S7.5. Discussion	S8.5. Network Governance of the Chernobyl Exclusion Zone: When Fire and Radiation Mix (Phase 1) Derric Jacobs	S9.5. Influence of Topography and Fire Weather on Late-successional Forest Fire Refugia in the US Pacific Northwest Garrett Meigs	S10.5. Persistent fire-induced vegetation state switches in southwestern ponderosa pine forests Chris Guiterman	S11.5. Modeling Long-Term Effects of Fuel Reduction on Fire Severity on the Deschutes National Forest Rachel Houtman	S12.5. Direct measurements of energy transport in naturally burning fires Bret Butler
11:40-12:00	S5.6. Extensive Burning Reduces Future Landscape Flammability in North American Boreal Forests: Implications for Anticipating 21st-Century Fire-Regime Shifts Adam Young	S6.6. Conservation Impacts of a Near Real-time Monitoring and Alert System for the Tropics Karyn Tabor		S8.6. Anticipating interactions between forest management and wildfire as private forestland owners adapt to climate change Jeffrey Kline	S9.6. Drivers and outcomes of burn severity in the northwestern Canadian boreal forest Ellen Whitman	S10.6. Climatic controls of post-fire conifer regeneration in low-elevation forests of the western U.S. Kimberley Davis	S11.6. Results and application of the National Risk Assessment Greg Dillon	S12.6. Laboratory experiments in fires spreading with wind and slope Mark Finney
12:00 to 1:00	Boxed Lunch - provided (University Center, Commons, 2nd level) Student/Mentor Lunch - Grand Ballroom, University Center, 3rd level 12:30-12:45 Work the kinks out yoga - Wellness Lounge UC Commons 2nd Level							
Concurrent sessions - University Center								
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	Special Session	Special Session	Special Session	Special Session	Special Session	Special Session	Special Session	Special Session
	Climate change and altered fire regimes: what should we expect?	NASA Applied Science Efforts: Collaborations in Earth Observation Data, Information, Models and Tools Supporting Wildland Fire Management	EPA Wildland Fire Research: The Intersection of Emissions, Ambient Characterization and Public Health Outcomes Emission Characterization	Coupling the social and biophysical assessment of wildfire risk	Fire refugia: identification, formation, function, and management	Assessing resilience to wildfires across the social-ecological spectrum	Wildfire hazard and risk: assessment and management	Toward a physical understanding of wildfire behavior: modeling and experimental approaches
	Moderator: Sean Parks	Moderators: Vince Ambrosia and Amber Soja	Moderator: Brian Gullett	Moderator: Matthew Hamilton	Moderators: Carol Miller and Sandra Haire	Moderator: Kelsey Copes-Gerbitz	Moderators: Joe Scott and Karin Riley	Moderator: Mark Finney
1:00-1:20	S5.7. Analyzing Risk of Regeneration Failure in the Managed Boreal Forest of North Western Quebec Tadeusz Splawinski	S6.7. Development and Application of Spatially Refined Remote Sensing Active Fire Data Sets in Support of Fire Monitoring, Management and Planning Janice L. Coen	S7.6. The chemical composition of aerosols from wildland fires: Current state of the science and possible new directions Michael Hays	S8.7. Building Community Capacity for Cross-Boundary Fire Risk Management Daniel R. Williams	S9.7. Distribution of Persistent Forest Fire Refugia Patches in the Alberta Rocky Mountains Marie-Pierre Rogeau	S10.7. Historical Fire Disturbance Regimes and Implications for Forest Restoration James Johnston	S11.7. Assessing Wildfire Risk in Real Time on the 2017 Frye Fire LaWen Hollingsworth	S12.7. Observing kinematic structures of large wildfire plumes from ground and airborne platforms Craig Clements
1:20-1:40	S5.8. Simulation of extreme wildfire events and impacts across spatial and temporal scales with statistical and dynamical models LeRoy Westerling	S6.8. Completion of a new open-source tool to map burned area and burn severity Joshua Picotte	S7.7. Influence of Combustion Factors on Biomass Emissions Brian Gullett	S8.8. Assessing influences on social vulnerability to wildfire using surveys, spatial data and wildfire simulations Catrin Edgeley	S9.8. Life-History Traits Mediate The Impact Of Climate Change And Enhanced Fire Regimes On Fire Refugia Of Endemic Tasmanian Conifers Andres Holz	S10.8 Long-Term Understory Vegetation Response to Prescribed Burning in Pinyon-Juniper Woodlands Alexandra Urza	S11.8. Use of FSPro and a Quantitative Wildfire Risk Assessment (QWRA) to create Exceedance Probability Curves to Aid Incident Prioritization Rick Stratton	S12.8. Wind effects upon the behavior of wildfires: unsteady and 3D effects Dominique Morvan

1:40-2:00	S5.9. Climate- and vegetation-driven changes in area burned in the Sierra Nevada Matthew Hurteau	S6.9. Linking Remote Sensing and Process-Based Hydrological Models to Increase Understanding of Wildfire Effects on Watersheds and Improve Post-Fire Remediation Efforts Mary Miller	S7.8. Status of EPA's National Emissions Inventory for Wildland Fire Amara Holder	S8.9. Obstacles to improving wildfire risk governance in Greece Palaiologos Palaiologou	S9.9. Flammability as an ecological driver Dylan Schwilk	S10.9. Fire across North America, a continuum process across three contrasting countries Diego Pérez-Salicrup	S11.9. Wildfire hazard assessment for community land use planning: a case study in Chelan County, WA Eva Karau	S12.9. Modeling of stationary wind-driven flames to understand wildland fire behavior Michael Gollner and Arnaud Trouve
2:00-2:20	S5.10. The Climate Change altered wildland fire regime for Canada in the 21st Century: Possible Implications Mike Flannigan	S6.10. Post-Wildfire Decision Support with NASA RECOVER Keith Weber	S7.9. Implications of Burned Area Approaches in Emission Inventories for Modeling Wildland Fire Pollution in the Contiguous U.S. Shannon Koplitz	S8.10. Prioritising WUI fuel treatments using statistical models of past fire ignition and spread Owen Price	S9.10. Fire refugia plant community composition and structure in Oregon's Blue Mountains Will Downing	S10.10. 2017 Wildfires in British Columbia: Urgent Need to Adapt Management to Improve Forest Resilience Lori Daniels	S11.10. Wildfire Risk to Homes in Western Montana April Brough	S12.10. Extreme Fire Behaviour in Complex Topography Domingos Viegas
2:20-2:40	S5.11. Mid-21st-century climate changes increase predicted fire occurrence and fire season length, Northern Rocky Mountains, United States Karin L. Riley	S6.11. Socioeconomic Impacts of Geospatial Data in Wildfire Emergency Response Planning: A Case Study using the NASA RECOVER Decision Support System William Toombs	S7.10. Improving EPA's Fire Emissions Inventory: A Dive into MODIS Fire Detections Joseph Wilkins	S8.11. Participatory modeling of stakeholder-developed landscape strategies for fire and fuels management Andrew Merschel	S9.11. The importance of fire refugia in the persistence and recolonization of a fire-sensitive conifer in northwest Patagonia Jennifer B. Landesmann	S10.11. Reintroduction of Fire as a Natural Process in Banff National Park - Implications for Wildlife Habitat Management and Forest Resilience Jane Park	S11.11. Wildfire threat to surface drinking water in western Montana Julie Gilbertson-Day	S12.11. Contrasting Internal and External Vulnerabilities of Buildings to Fire Jose L. Torero
2:40-3:00	S5.12. Assessing fuel treatment effectiveness during wildfires under future climate conditions Carrie A. Minerich	S6.12. Leveraging spatio-temporal data to improve wildland fire management decision support systems: a NASA Wildfires partner perspective W. Matt Jolly	S7.11. Discussion	S8.12. Sharing the road: managers and scientists transforming fire management Craig Bienz	S9.12. Wildfire impacts on neotropical bird communities and habitat in the sky islands of Southern Arizona Jose Iniguez	S10.12. Toward a resilient wildfire management organization: current efforts and future needs David Calkin	S11.12. Success rate of alternative criteria for the prioritization of fuel management in the Deschutes National Forest Ana Margarida Gracio de Barros	S12.12. Discussion
3:00 to 3:30	Networking Break with Exhibitors - Grand Ballroom, University Center, 3rd level							
	Concurrent sessions - UC							
	Room 225	Room 326/327	Room 330	Room 331	Room 332	Room 333	Room UC Theater	UC Commons
	Concurrent Session	Concurrent Session	Special Session Organizers Brown and Landis	Concurrent Session	Special Session	Special Session	Special Session	Special Session
	Firefighter Safety	Smoldering Fires and Fuel Detection	EPA Wildland Fire Research: The Intersection of Emissions, Ambient Characterization and Public Health Outcomes Smoke Measurement and Modeling	Smoke Issues	Fire refugia: identification, formation, function, and management	Assessing resilience to wildfires across the social-ecological spectrum	Wildfire hazard and risk: assessment and management	Toward a physical understanding of wildfire behavior: modeling and experimental approaches
	Moderator: Michele Steinberg	Moderator: Stacy Drury	Moderator: Matt Landis	Moderator: David Peterson	Moderators: Carol Miller and Sandra Haire	Moderator: Kim Taylor-Davis	Moderators: Joe Scott and Karin Riley	Moderator: Albert Simeoni
3:30-3:50	25. Chemical Evaluation of Wildland Firefighting Gear Crystal Forester	31. Peatland Fires: Field Reference Conditions – Challenges and Research Needs Kevin C. Ryan	S7.12. Modeled Smoke Impacts on Ozone and Particulate Matter Evaluated with Field Study and Routine Air Quality Measurements Shannon Koplitz	37. The roles of prescribed fire in reducing duff loads and subsequent wildfire emissions and air pollution Yongqiang Liu	S9.13. Fire refugia promote forest resilience Jonathan Coop	S10.13. Risk-based spatial fire planning from concept to execution: a case study of the Tonto National Forest Christopher O'Connor	S11.13. Optimizing large-fire response based on risk and responder exposure Yu Wei	S12.13. How reduced plume entrainment in large fires effects the burning rate Sara McAllister
3:50-4:10	26. Team Awareness Kit, enhancing firefighter safety through better situational awareness David Zader	32. Mapping the impact of Canadian boreal forest canopy interception on satellite detection of smoldering wildfires Joshua Johnston	S7.13. Characterization of Aerosol Polar Organic Compounds of Smoldering and Flaming Combustion of Red Oak, Irish Peat, and Eucalyptus Mohammed Jaoui	38. Quantifying avoided wildfire emissions from significant wildfires Thomas Buchholz	S9.14. Developing a ranking system for unburned areas within fire perimeters in the Pacific Northwest for the conservation of fire refugia Arjan Meddens or Anthony Martinez	S10.14. The value in resilience: integrating normative and objective dimensions of resilience in fire-prone landscapes Philip Higuera	S11.14. Concepts and tools to simplify complicated risk management problems) Matthew Thompson	S12.14. Flow Dynamics of Plume Attachment in Fires on Slopes Torben P. Grumstrup

4:10-4:30	27. Pocket Wildfire Analyst Santiago Monedero	33. Role of the ornamental vegetation in the propagation of the Rognac fire 2016 Anne Ganteaume	S7.14. Improving the vertical distribution of wildland fire emissions in the CMAQ modeling system Joseph Wilkins	39. Simulating Plume Rise, Dispersion and Radiative Smoke Impacts In a Coupled Fire-Atmosphere Framework Adam Kochanski	S9.15. Are Essential Fire Refugia Black or Green? The Real Megafire Story Rick Hutto	S10.15. Social resilience to wildfire: Perspectives from fire-affected communities Elizabeth Covelli Metcalf	S11.15. Fire Risk at California Utilities Mason Withers	S12.15. Modeling the role of fuel moisture on ignition in thin fuels Shankar Mahalingam
4:30-4:50	28. Fireline medical: Solutions for the future Ray Storm	34. Fuel variability impacts fire behavior: small-scale studies utilizing drone technology Chris Moran	S7.15. Comparison of Ozone Measurement Methods in Biomass Burning Plumes Russell Long	40. Plume Evolution from Wildfires and Aged Regionally Distributed Smoke Sampled during BBOP Lawrence Kleinman	S9.16. The fate of fire refugia in future, warmer climates: Modeling spatial patterns and thresholds of disturbance-resistant areas in the Jemez Mountains, New Mexico USA Rachel Loehman	S10.16. Planning for resilience in federal forest management: Analysis of the current state of practice Jesse Abrams	S11.16. An assessment of wildfire risk from utility-related ignitions in California David Sapsis	S12.16. A review of current knowledge of woodland firefighter safety zones Jean Louis Rossi
4:50-5:10	Discussion	35. Homes as Fuel: Do We Need a New Fire Behavior Paradigm? Daniel Leavell	S7.16. EPA Wildland Fire Sensor Challenge: Preliminary Results from the Stage I Evaluation Matthew Landis	41. The Summer of Smoke: 2017 Peter Lahm	S9.17. Recap and response by session organizers Carol Miller and Sandra Haire	S10.17. Recognizing Resilience of Indigenous communities in Canada to Wildland Fire Amy Christianson	S11.17. Wildfire Risk Mitigation at San Diego Gas and Electric Brian D'Agostino	S12.17. Experimental investigation of ignition and thermal degradation of natural fuels and structural materials under static and dynamic conditions Alexander Filkov
5:10-5:30	Discussion	Discussion	Discussion	42. Wildland Fire Smoke from Long-Range Transport Enhances Ozone in the Southeastern United States Nathan R. Pavlovic	S9.18. Discussion	S10.18. Cross-Boundary Wildfire Governance Laurie Yung	S11.18. Discussion	S12.18. Discussion
5:30 to 8:00	Poster session - Grand Ballroom, University Center, 3rd level							
6:30-7:30	UJWF/Fire Ecology Journal Associate Editors Meeting and Social - University Center, Room 330							
8:00-8:50	Sahyinidra EcoJourney Fire Meditation - Wellness Lounge, University Center Commons, 2nd level							
8:00+	Afterhours Networking Press Box. 835 E. Broadway or Hike to the M on Mount Sentinel							
8:00:00 PM	Student Activity - Guided Hike to the M on Mount Sentinel							
Wednesday, May 23								
6:00 am	Running Group - TBD							
7:00 to 7:30	Greet the day yoga - Wellness Lounge UC Commons 2nd Level							
7:30 to 1:00	Registration Desk Open - University Center, Level 3 Foyer							
8:00 to 10:00	Concurrent sessions - University Center							
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	Special Session	Special Session	Concurrent Session	Concurrent Session	Concurrent Session	Concurrent Session	Special Session	Special Session
	Lessons learned from long-term fuel treatment and fire monitoring studies	Characterizing Firebrand Exposure at the Wildland-Urban Interface (WUI)	Firefighter Safety	Wildland Fuel Science	Fire Weather and Detection	Smoke and Plume Modeling	Managing Wildfire Risk: Socio-Organizational Perspectives from Current Research: Part 1 - Co-Management and Collaboration	Western Wildfire Field Experiments Information Session
	Organizers Hood and Sala	Moderators: Michael Gollner and Erica Kuligowski	Moderator: Albert Simeoni	Moderator: Robert Keane	Moderator: Joseph Wilkins	Moderator:	Moderator: Sarah McCaffrey	Moderator: Edward Hyer
8:00-8:20	S13.1. The Importance of Time and Space when Monitoring Effectiveness of Forest Restoration Treatments David W Peterson	S14.1. Wildfire Exposure to Buildings: Vulnerabilities and Mitigation Strategies Stephen Quarles	43. Human Performance Optimization: A holistic approach to Improve Wildland Firefighter Performance, Well-Being, and Safety David Schary	49. Dead woody debris fuel load for Canadian forests Chelene Hanes	55. A site suitability index for remote automated weather stations (RAWS) in Washington State using a weighted linear combination scheme Josh Clark	61. Direct Numerical Simulation of a Turbulent Helium Plume and Methane Pool Fire Nicholas T. Wimer	S15.1. Factors facilitating and frustrating collaborative adaptive management in forest landscape restoration Tony Cheng	S16.1. The Fire and Smoke Model Evaluation Experiment Western Wildfire Campaign Roger Ottmar

8:20-8:40	S13.2. Succession in Columbia Basin sagebrush steppe following wildfire: insights from long-term vegetation monitoring Claire Wainwright	S14.2. Characterization of Firebrands from Common Structural and Wildland Vegetative Fuels Aixi Zhou	44. Implementation of Network-Enabled GPS Tracking Units During Operations: Challenges and Opportunities Joaquin Ramirez	50. Fuel Dynamics along a Climatic Continuum: Insights from Australia's most Dangerous Fuel Type James Furlaud	56. The Diablo Wind and Extreme Fire Behavior during the 2017 Wine Country Fires Carrie Bowers	62. Real-Time Smoke Management Support using Paired Fuel/Atmosphere Risk Assessment with a Web-based Decision Support System Erin Law	S15.2. Co-Managing Risk or Parallel Play? Examining Connectivity Across Wildfire Risk Mitigation and Fire Response in the Intermountain West Emily Jane Davis	S16.2 Overview of the upcoming Western Wildfire Experiment for Cloud Chemistry, Aerosol Absorption and Nitrogen (WE-CAN) study Emily Fischer
8:40-9:00	S13.3. Lessons from long-term stand dynamics of old-growth longleaf pine communities in the mountains of north Alabama, USA J. Morgan Varner	S14.3. Physical and Chemical Processes Controlling Ember Production in Wildland Fires David Blunck	45. An Analysis of Wildland Firefighter Entrapment Fatalities on Prescribed Fires and Wildfires, in the US, 1990 to 2017 Richard McCrea	51. Estimating Litterfall Rates Following Stand-replacement Disturbance in Northern Rocky Mountain Ecosystems Chris Stalling	57. The use of remote sensing and coupled weather-fire modeling for hazard identification and testing mitigation impacts in the northern Sierra Nevada Mountains Janice Coen	63. Calculation of smoke dimensions and estimation of affected area using calibrated optical sensors Andreas Jock	S15.3. Risk Co-Management on Interjurisdictional Lands Branda Nowell	S16.3. Fire Influence on Regional Environments and Air Quality (FIREX-AQ) James Crawford
9:00-9:20	S13.4. Impacts of six different complex fire regimes in a longleaf pine ecosystem: Results over twenty-five years Sharon Hermann	S14.4. Breakage and Transport of Firebrands from Wildland Fuels Ali Tohidi	46. It's the thought that counts Michael Williams-Bell	52. Modelling bushfire fuels using biophysical parameters Meaghan Jenkins	58. Using Fire Weather Data in Tactical Decision-Making: the Dream and the Reality Christine Shaw Olsen	64. U.S. Fine Particulate Matter Air Quality Improves Except in Wildfire Prone Areas Crystal McClure	S15.4. Panel Discussion: Common themes, challenges, and opportunities in co-managing wildfire risk Panelists: Tony Cheng, Emily Jane Davis, Toddi Steelman	S16.4. Coordinated Activities of Fire Influence on Regional and Global Environments and Air Quality (FIREX-AQ) Carsten Warneke
9:20-9:40	S13.5. Fuel loads and simulated fire behavior in 24-year old, post-fire lodgepole pine forests Kellen Nelson	S14.5. Influence of Thermal Degradation in Dispersion and Deposition of Firebrands in a Turbulent Boundary Layer Chandana Anand	47. An Operational Fire Weather Alert System Tanner Finney	53. Simulating the effectiveness of prescribed burning at altering wildfire behaviour in Tasmania, Australia James Furlaud	59. Innovation in Early Detection – Real-Time Surveillance for Private and Commercial Use Artur Matuszczak	Discussion		S16.5. FIREX-AQ: Fueled from below: Linking Fire, Fuels and Weather to Atmospheric Chemistry Amber Soja
9:40-10:00	S13.6. Initial prescribed fire treatment reduces mixed-conifer forest resilience Malcolm North	Discussion	Discussion	54. Revisioning fuels measurements using a novel 3D fuels sampling technique and remotely sensed data Eric Rowell	Discussion	Discussion		Discussion
10:00-10:40	Networking Break with Exhibitors - Grand Ballroom, University Center, 3rd level							
	Concurrent sessions - UC							
	Room 225	Room 326/327	Room 330	Room 331	Room 332	Room 333	Room UC Theater	UC Commons
	Special Session	Special Session	Concurrent Session	Special Session	Special Session	Special Session	Special Session	Special Session
	Lessons learned from long-term fuel treatment and fire monitoring studies	Characterizing Firebrand Exposure at the Wildland-Urban Interface (WUI)	Smoke Emissions	Protection of the Wildland Fire Workforce: evidence-based human factor physiology and health	Advances in the empirical assessment of the effectiveness of wildfire management activities	Forests to flames to faucets: the influence of wildfire on watershed processes	Managing Wildfire Risk: Socio-Organizational Perspectives from Current Research. Part 2 Resilience and Adaptation in Wildfire Risk Management	Smoke Science from Recent Field Campaigns
	Organizers Hood and Sala	Moderators: Michael Gollner and Erica Kuligowski	Moderator: Nathan Pavlovic	Moderator: Brent Ruby	Moderator: Michael Hand	Moderators: Chuck Rhoades, Stefan Doerr, and Uldis Silins	Moderator: Tony Cheng	Moderators: Edward Hyer
10:40-11:00	S13.7. Retaining Fire Resilience: Twenty Years of Forest Development Following Wildfire in Old Growth Ponderosa Pine Forest Alan Taylor	S14.7. Structure Vulnerability to Firebrands from Fences and Mulch Kathryn Butler	67. An examination of fuel moisture, energy release, and emissions during laboratory burning of live wildland fuels Evan Ellicott	S17.1. Identifying the energy demands of the job and developing effective tactical nutrition for performance and recovery Brent C. Ruby	S18.1. A Real Barn Burner: The Effectiveness of Home Protection During Wildfire Jude Bayham	S19.1. Assessing water contamination risk following vegetation fire: challenges, opportunities and a framework for progress Stefan Doerr	S15.5. Policy Barriers to Increasing Prescribed Fire Accomplishments on Federal Lands: A Diversity of Challenges and Approaches Across the West Courtney Schultz	S20.1. Biomass Burning Observation Project (BBOP): Near Field Evolution of BB Emissions Arthur J. Sedlacek

11:00-11:20	S13.8. Combined Effects of Fuel Treatments and Beetle Outbreak on Forest Fuel and Fire Hazard Development in Ponderosa Pine Justin Crotteau	S14.8. Short-range firebrand hazard assessment – firebrand flux, travel distance and heat flux from accumulations Rory Hadden	68. Emissions from heated extracts-rich fuels and impacts on smoke dynamics Fengjun Zhao	S17.2. Energy Costs of Load Carriage and the Assessment of Seasonal Readiness Matthew Bundle	S18.2. Initial Attack Effectiveness of Large Air Tankers: An Econometric Approach Hari Katuwal	S19.2. Prioritizing fuel treatments to reduce wildfire risk to municipal watersheds Benjamin Gannon	S15.6. The National Cohesive Wildland Fire Strategy and Fire Adapted Communities Sarah McCaffrey	S20.2. Identifying PM and O ₃ impacts in urban areas due to wildfires Cyrstal McClure
11:20-11:40	S13.9. Stand-Density Reduction Treatments Alter Tree-Level Climate–Growth Relationships and Vulnerability to Drought in Low-Elevation Ponderosa Pine Forests of the Northern Rockies Alan Tepley	S14.9. Experimental investigation of the ignition potential of single firebrands and their accumulation Alexander Filkov	69. Laboratory Analysis of Gas Emissions from Southeastern Forest Fuels Adam Coates	S17.3. Hydration is not your only option in the avoidance of heat related injuries Charles Dumke	S18.3. Fire on the frontier: Understanding Alaskan homeowner preferences for wildfire risk mitigation Joseph Little and Allen Molina	S19.3. Forests to Faucets in National Forest risk assessments: a national perspective Greg Dillon	S15.7. The Future of Fire Management in Alaska: Adapting Approaches in Light of Current and Predicted Effects due to Climate Change Tait Rutherford	S20.3. Space-Based Constraints on Smoke Aerosol Plume Injection Height, Source Strength, and Particle Type Ralph Kahn
11:40-12:00	S13.10. Ecological Responses to Prescribed Fire Regimes in Ponderosa Pine Forests: Lessons Learned From a Long-Term Study Becky Kerns	S14.10. Firebrand Ignition of Attic Insulation and an Ornamental Grass Savannah Wessies	70. Gas-Phase Products from the Pyrolysis of Southeastern Fuels using Open-Path Infrared Spectroscopy Nicole Scharko	S17.4. The Safety Zone: Injury Prevention Strategies for the WLFF Valerie Moody	S18.4. Efficient wildfire suppression in Mediterranean ecosystems: A stochastic frontier analysis Michael Hand	S19.4. Stream channel stability at Fishtrap Creek after the 2003 McLure Fire, British Columbia, Canada Tim Giles	S15.8. Panel Discussion Panelist: Courtney Schultz, Sarah McCaffrey, Tait Rutherford	S20.4. An Examination of Extreme Fire Behavior and its Impact on Smoke Plume Characteristics using Remote Sensing and Meteorological Data David Peterson
12:00-12:20	S13.11. Twenty-five years of ecological restoration research at the G. A. Pearson Natural Area, Fort Valley Experimental Forest, Arizona Andrew Sánchez Meador	S14.11. Temperature Measurement and Ignition Potential of Firebrands James Urban	71. Characterization of Pyrolysis Products from Fast Pyrolysis of Live and Dead Vegetation Thomas H. Fletcher	S17.5. Challenges of Developing a Physical Training Program for WLFFs: Lesson Learned Annie Sondag	S18.5. The role of previous fires in the management and expenditures of subsequent wildfires Erin Belval	S19.5. Muted streamflow response to increased net precipitation in wildfire-affected headwater catchments Chris Williams		S20.5. Improving Nocturnal Fire Detection with the VIIRS Day-Night Band Edward Hyer
12:20-12:40	S13.12. Discussion	S14.12. Heating and Ignition from Firebrand Piles Michael Gollner	72. Tar and gas composition from slow pyrolysis of 15 live and dead plant species from the Southeastern United States Elham Amini	S17.6. Podcasts, social media, websites and their role in knowledge dissemination Charles Palmer	S18.6. Examining the Spatial Alignment of Large Airtanker Use and Potential Fire Control Locations Crystal Stonesifer	S19.6. Hydrologic Recovery After High Severity Wildfire Joe Wagenbrenner		S20.6. Hyperspectral and polarimetric fire emission characterization from the NASA ER-2 aircraft Olga Kalashnikova
1:00 to 5:30	Field Trips (includes transportation and lunch)							

6:00 to 10:00	Evening Event Street Eats and Beats (Awards, Food Trucks, Music) Caras Park in Downtown Missoula							
Thursday, May 24								
6:00 am	Running Group - TBD							
7:00 to 7:30	Greet the day yoga- Wellness Lounge UC Commons 2nd Level							
7:30 to 5:30	Registration Desk Open - University Center, Level 3 Foyer							
Dennison Theater								
WELCOME BACK AND LOGISTICS								
8:00 to 8:10	Chris Dicus, AFE President							
CONFERENCE KEYNOTE								
Postfire Ecology in the Face of Rapid Global Change								
8:10 to 8:50	Jon E. Keeley, Senior ST Research Scientist, U.S. Geological Society							
FIRE EVENT PANEL SESSION - POST FIRE ACTIVITIES AND FIRE ECOLOGY								
Paul Hessburg, Research Landscape Ecologist, USDA Forest Service								
Michael Norton, Director General, Northern Forestry Centre, Natural Resources Canada								
8:50 to 9:30	Bill Avey, Forest Supervisor, Helena-Lewis and Clark NF							
9:30 to 10:00	Networking Break - UC Ballroom with Exhibitors							
Concurrent sessions - University Center								
	Room 225	Room 326/327	Room 330	Room 331	Room 332	Room 333	Room UC Theater	UC Commons
	Concurrent Session	Concurrent Session	Concurrent Session	Concurrent Session	Concurrent Session	Special Session	Special Session	Concurrent Session
	Micro-Talks	Fire History/Fire Regime Reconstruction	Fire Suppression	Fire Effects Mapping Tools	Post Fire Recovery & Severity	Forests to flames to faucets: the influence of wildfire on watershed processes	Fire-induced tree mortality: Empirical modeling, physiology, and integrative approaches	Fire Modeling I
	Moderator: Josh Olsen	Moderator: Colin Hardy	Moderator: Hugh Scanlon	Moderator: Thomas Buchholz	Moderator: Camille Stevens-Rumann	Moderators: Chuck Rhoades, Stefan Doerr, and Uldis Silins	Moderator: Phillip van Mantgem	Moderator: Alexander Filkov
10:00-10:20	M01. Homeowner Wildfire Preparedness: How Efficacy Affects the Relationship Between Risk Perception and Mitigation Claire Rapp	73. Stand dynamics of lodgepole pine forest types, and their influence on historical fire regimes in surrounding ponderosa pine and mixed-conifer forests of the Klamath Basin Andrew Merschel	79. Measuring Suppression: Quantifying Reductions in Burn Probability from Initial Attack Jonathan Reimer	85. BURNOUT: a Rapid Mapping burnt area extraction tool Mathilde Caspard	91. Effects of fire severity on understory diversity in the Sierra Nevada, California Clark Richter	S19.7. Alternate Trajectories for Post-fire Watershed Recovery: Crystal Balling Nitrogen Production a Decade after Wildfire and Beyond Uldis Silins	S21.1. Post-fire Tree Mortality: Plant Hydraulic Responses to Heat Plume Exposure Alexandra (Sascha) Lodge	97. Effects of different prescribed fire ignition techniques on fire behavior Alex Jonko
	M02. FireWorks Educational Program: Hand-on Activities to Engage Students and the Public about Wildland Fire Science Ilana Abrahamson							
10:20-10:40	M03. Preparing Youth Camps for Wildland Fire 2018 Mike Jensen	74. Fire reconstruction in ponderosa and mixed conifer forests of the Mescalero Apache Tribal Lands (NM) Alicia Azpeleta Tarancon	80. Modeling Suppression Difficulty: Current and Future Applications Francisco Rodriguez y Silva	86. Mapping Canadian Interface Areas Lynn Johnston	92. Heterogeneity in fire severity benefits post-fire plant diversity Jesse Miller	S19.8. Impacts of the Fort McMurray Wildfire on the River Water Quality of Burned Catchments Craig Emmerton	S21.2. The impact of season of burn on physiology, mortality and growth of sweetgum (Liquidambar styraciflua) Joseph O'Brien	98. Adjusting wildland fire simulations remotely through satellite active fire data: A near real-time approach Adrián Cardil
	M04. Prescribed Fire Outreach: Develop Your Resources to Meet the Needs Jennifer Fawcett							
10:40-11:00	M05. Using automated fuel sticks to estimate surface fine fuel moisture Jane Cawson	75. Stand-Replacing Fire in Historically Frequent-Fire Forests in South-Central Oregon Keala Hagmann	81. The development of the algorithm for the attraction of the adapted technical equipment may be taken as a basis for the creation of the concepts and recommendations for the use of the engineering equipment to douse forest fires in Ukraine Andrii Vorokhta	87. Hyperspatial Mapping of Post-fire Effects Using Artificial Intelligence Dale Hamilton	93. Restoration Treatment Effects on Fire Severity and Post-fire Vegetation Recovery David W Peterson	S19.9. The alteration of hydrological and biogeochemical behavior after wildfire, and relevance to water quality Sheila F. Murphy	S21.3. "Pyrohydraulic" Traits That Influence Post-Fire Tree Mortality Or Survival Adam West	99. Simulating megafires in Europe as a tool to define management strategies Marc Castellnou
	M06. The NIDIS Drought and Wildfire Nexus Timothy Brown							

11:00-11:20	M07. An improved National Fire Danger Rating System for the United States: NFDRS2016 W. Matt Jolly	76. Early successional conditions in the eastern Washington Cascade Mountains: Contrasting the pre-management and modern-eras Paul F Hessburg	82. Assessing aerial firefighting use and the continuum of effectiveness with probabilities of success at nested incident management scales to improve future fire response Keith Stockmann	88. sUAS Based Post-fire Remote Sensing Lessons Learned: Southwestern Idaho Fire Season 2017 Nicholas Hamilton	94. Initial Response of Plant Community Composition to Fire Severity in Andean Araucaria-Nothofagus Forests, Chile Andres Fuentes-Ramirez	S19.10. Wildfires cause long-term shifts in stream nutrient dynamics Allison Rhea	S21.4. Validating mortality predictions from the First Order Fire Effects Model (FOFEM) model with external data C. Alina Cansler	100. Faster Rate of Fire Spread Algorithm Does Not Fundamentally Change the Relative Unimportance of Fuel Treatment for Limiting Simulated Wildfire Area in South-eastern Australia Geoffrey Cary	
	M08. Do Outputs from the US National Fire Danger Rating System (NFDRS) Influence Fire Size? Nicholas Walding								
11:20-11:40	M09. An Evaluation of the Forest Service Hazardous Fuels Treatment Program Nicole Vaillant	77. Assessing the Work of Wildfires with Post-Fire Landscape Evaluations Miles LeFevre	83. Deconstructing Suppression Efforts on Large Wildfires to Quantify Effectiveness Heather Simpson	89. LiveTexture: Realtime photogrammetry and Earth texture mapping from crowd-sourced mobile phones and social media Stephen Guerin	95. Population Dynamics within Relict Stands of a Fire-dependent Cypress Following a Large Scale Wildfire Event Teresa Brennan-Kane	S19.11. Using Watershed Scale Models to Predict Water Quality in Streams After Forest Fire Ashley Rust	S21.5. Evaluating and refining the First Order Fire Effects Model for use in hardwood forests of the eastern US Mary Wachuta and Bridget Blood	101. Overview of FlamMap6 Geospatial Modelling Capabilities Charles W. McHugh	
	M10. Characterizing fire behavior across the globe Paulo Fernandes								
11:40-12:00	Discussion	78. The biogeography of fire regimes: a trait-based approach Jens Stevens	84. Metolius Research “Not-So-Natural” Area: The Effects of Fire Exclusion for an “Intact” Forest Kayla Johnston	90. Discussion	96. A New Process for Quantifying Post Fire Recovery of Rangeland Production Matt Reeves	S19.12. Eight Years Later: Long-term Effects of Severe Wildfire on Aquatic Ecology in Rocky Mountain Streams Amanda Martens	S21.6. Another look at analyzing post-fire tree mortality data J. Morgan Varner	102. Automatic assessment of fire propagation nodes for optimizing fuel treatments and improving suppression strategies and tactics Joaquin Ramirez	
12:00 to 1:00	Boxed Lunch - provided (University Center, Commons, 2nd level 12:30-12:45 Work the kinks out yoga - Wellness Lounge UC Commons 2nd Level Concurrent sessions - University Center								
	Room 225	Room 326	Room 327	Room 330	Room 331	Room 332	Room 333	Room UC Theater	UC Commons
	Concurrent Session	Concurrent Session	Concurrent Session	Concurrent Session	Concurrent Session	Concurrent Session	Special Session	Special Session	Concurrent Session
	Micro-Talks	Collaborative Process	Salvage and Hydrology	Fire Effects and Ecology	Knowledge Building	Post Fire Recovery & Severity	Forests to flames to faucets: the influence of wildfire on watershed processes	Fire-induced tree mortality: Empirical modeling, physiology, and integrative approaches	Fire Modeling II
	Moderator: Geoff Cary	Moderator: Toddi Steelman	Moderator:	Moderator: Carol Miller	Moderator: Rebekah Fox	Moderator: Paul Hessburg	Moderators: Chuck Rhoades, Stefan Doerr, and Uldis Silins	Moderator: Morgan Varner	Moderator: Russell Parsons
1:00-1:20	M13. Fuels and fuel loading in the Fire Continuum Nancy French	103. Wildfire evacuations of First Nations across Canada Tara McGee	109. Influence of wildfire severity and post-fire timber salvage on forest regeneration in mixed-conifer forests Nicholas Povak	115. Effects of Prescribed Burning on Whitebark Pine Cara R. Nelson	121. Webinars as Tools to Bridge the Fire Science – Management Divide David Godwin	127. Effects of Prescribed Fire on Aspen and Grassland Restoration in an Elk, Wolf, Bison, Aspen, and Grassland System in Waterton Lakes National Park, Alberta Cristina Eisenberg	S19.13. Wildfire effects on soil hydraulic properties and organic matter in a southern Appalachian hardwood forest Kevin Bladon	S21.7. Short-term Stem Mortality of 10 Deciduous Broadleaved Species following Prescribed Burning in Upland Forests of the Southern US Tara Keyser	133. Nonlocal Influences: Influence of Domain Size on Wildfire Simulation Marlin Holmes
	M14. Quantifying wildfire behaviour using observations from weather radar Thomas Duff								

1:20-1:40	M15. Are fires faster in real life than in the lab? Bret Butler	104. Global Perspectives on Wildfire Community Risk Reduction Lucian Deaton	110. Effects of post-fire salvage logging on early-seral ecosystems in western Oregon Christopher Dunn	116. Embracing Complexity and Discovering Clarity: Bark Beetles and Fire in Subalpine Forests of the Western US Brian J. Harvey	122. Education in fire management and fire management in education Heather Heward	128. Post-fire Recovery of Wildlife Populations Karen Hodges	S19.14. Forest Fire Alters Dissolved Organic Matter Exports from Forested Watersheds: Impacts on Water Quality & Treatability Alex Chow	S21.8. Burning down the plot: Evaluating FVS-FFE predictions of tree mortality with post-fire assessment of inventory plots using local fire weather Jason Barker	134. Application of Background Oriented Schlieren on Visualization and Measurements of Convective Mass Flux Around Fire Amirhessam Aminfar
	M16. Experience, Commands, Training--drivers of firefighter's responses to fire behavior Tamara Wall								
1:40-2:00	M17. CAWFE coupled weather-wildland fire model simulations of the October 2017 Northern California Diablo wind event and fires Janice Coen	105. Enhancing the Co-Management of Wildfire Risk: Lessons from the Colorado Wildfire Risk Reduction Grant Program Tony Cheng	111. Forest Management Improves the Water Quality by Altering Detrital Chemical Composition Hamed Majidzadeh	117. Relating Burn Severity and Short-Term Ecological Effects of Wildfires in High-Elevation Lodgepole Pine (Pinus contorta) and Subalpine Fir (Abies lasiocarpa) Mixed Forests Bryn Marah	123. Ground Safety Crew Lessons Learned Rebekah Fox	129. Relationships Among Fire, Fuels, and Prehistoric Ceramic Materials in the Jemez Mountains Connie Constan	S19.15. Linking Post-fire Watershed Responses to Drinking Water Quality Effects Amanda Hohner	S21.9. Pre-fire drought and competition mediate post-fire conifer mortality in western U.S. National Parks Phillip van Mantgem	135. Modeling Containment of Wildfires Managed for Resource Objectives Jesse Young
	M18. Forest disturbance, fuels and flammability in wet eucalypt forests Jane Cawson								
2:00-2:20	M19. The effects of an invasive grass, Bothriochloa ischaemum, on fuel loads and fire temperatures Carolyn Whiting	106. Promoting Resilient Landscapes through the use of Prescribed Fire in South Florida Justin Shedd	112. Using Prescribed Burn Fire Severity Assessments to Estimate Post-burn Hydrologic Risk in Australian Forests and Woodlands Adam Leavesley	118. Vegetation changes, tree physiology, and bark-beetle mortality in relation to open and enclosed irrigation channels: A case study within a wildland-urban interface forest in western Montana Eric Keeling	124. A Centre of Excellence for Prescribed Burning Deb Sparkes	130. Biotic and Abiotic Drivers of Fire Severity in the Klamath Mountains Stacy Drury	S19.16. Physicochemical Changes of Wildfire-Derived DOM & Precipitation Effects during First Year Recovery Alex Revchuk	S21.10. Mortality of the European beech (Fagus sylvatica L.) after forest fires of varying severity Janet Maringer	136. Numerical Investigation of Aggregated Fuel Spatial Pattern Impacts on Fire Behavior Russell Parsons
	M20. After The Smokes Clears: The Thomas Fire Debris Flow in Montecito California Pete Robichaud								
2:20-2:40	M21. Fire Moss: An Under Explored Community and Potential Tool for Restoring the Post Fire Environment Henry Grover	107. Creating a Smoke Resilient Community in a Wildfire-Prone Land Sarah CoeField	113. Coconino County, AZ - Pre-Fire Assessment of Post-Wildfire Flooding and Debris Flow Risk Joe Loverich	119. Managing post-fire landscapes: lessons from natural regeneration and planting guidelines Camille Stevens-Rumann	125. Opportunities and Disruptions Across the Continuum of Radio Training Elena Gabor	131. High severity fire: evaluating its key drivers and mapping its probability across western US forests Sean Parks	S19.17. Quantifying ash loads across burned watersheds using the Normalized Wildfire Ash Index- a remote sensing approach Cristina Santin	S21.11. Disease-wildfire interactions impact aboveground and belowground mechanisms of tree mortality Allison Simler	137. Improvements in Australia's Bushfire Rate of Spread Models Over Time Martin Alexander
	M22. Integrated Fire Management, Developments in Indonesia Brett Shields								
2:40-3:00	Discussion	108. Ten Years of FireWise Communities in Indigenous Communities, South Africa Valerie Charlton	114. Discussion	120. Climate Variability Impacts Growth and Post-Fire Tree Regeneration Differently among Juveniles and Adults of Ponderosa Pine and Douglas-fir Lacey Hankin	126. Washington's 20 Year Forest Health Strategic Plan: Preparing Landscapes for the Future Derek Churchill	132. Ecology as Technology- Investigations into myco-restoration techniques for forestry Jeff Ravage	S19.18. The 2016 Fort McMurray wildfire: Drinking water treatability challenges in an already-challenged watershed Monica Emelko	S21.12. Fires following bark beetles: factors controlling severity and disturbance interactions in ponderosa pine Carolyn Sieg	138. Tar and gas composition from slow pyrolysis of 15 live and dead plant species from the Southeastern United States Elham Amini
3:00 to 3:30	Networking Break with Exhibitors - Grand Ballroom, University Center, 3rd level								

Concurrent sessions - University Center								
	Room 225 Concurrent Session	Room 326/327 Concurrent Session	Room 330 Concurrent Session	Room 331 Concurrent Session	Room 332 Concurrent Session	Room 333 Special Session	Room UC Theater Special Session	UC Commons Concurrent Session
	Climate Drivers of Fire Effects	NASA Satellites in predicting hazard & assessing severity	Knowledge Building	Fire Behavior Science	Reburns Effects of Changing Climate	Forests to flames to faucets: the influence of wildfire on watershed processes	Fire-induced tree mortality: Empirical modeling, physiology, and integrative approaches	Fire Modelling III
	Moderator: Philip Higuera	Moderator: Greg Dillon	Moderator: Colin Hardy	Moderator: Marty Alexander	Moderator:	Moderators: Chuck Rhoades, Stefan Doerr, and Uldis Silins	Moderator: C. Alina Cansler	Moderator: Shawn Urbanski
3:30-3:50	139. Environmental conditions, not the type of ignition, control the interannual variability of wildfire burned area in the west and southeast US Steven Brey	145. Using NASA's Remote Sensing Datasets and Land Information System to Characterize Lightning Initiated Wildfires Kris White	151. Incorporating Traditional Knowledge (TK) into Fire and Fuels Management Monique Wynecoop	157. Observations of fine-scale moisture dynamics and flammability in pine and oak litter: Solar heating, fuel position, and species all matter Jesse Kreye	163. Wilderness Fire Management: Harder Then or Now? Vita Wright	S19.19. Modelling ash contamination risk after wildfires: a new tool aimed at end-users Jonay Neris	S21.13. New approaches to fire mortality modeling incorporating spatially explicit multi-scale structure Sean Jeronimo, Tucker Furniss, et. Al.	169. ChaRoFlux: a novel metric that links fire-intensity to its effects on ecosystems Claire Belcher
3:50-4:10	140. Factors driving wildfire activity: What do we know? Jon Keeley	146. The Fire Danger Assessment System: Using NASA Satellite Observations to Map Fire Danger in the United States for Allocation of Fire Management Resources E. Natasha Stavros	152. A Quarter Century of Change in Wildland Fire Science Susan G. Conard	158. Upslope fire and eruptive fire Francois Joseph Chatelon	164. Tree Clump and Opening Patterns Following Wildfire: Comparing Managed and Wilderness Areas Haley L. Wiggins	S19.20. Predicting Post-fire Hillslope Erosion and Small Watershed Response with an Online GIS Interface Using WEPP Technology Peter Robichaud	S21.14. After the fire: cascading landscape changes caused by interactions between initial fire severity, forest cover type, bark beetles and climate Cameron E. Naficy	170. Mountain Pine Beetle Effects on Wildfire Rate of Spread – the British Columbia Fire Season of 2017 Chris Stockdale
4:10-4:30	141. What Do We Know about the Emerging Role of Rx Fire in Preventing Mass Extinction? Cecil Frost	147. Local biophysical patterns interacting with fire weather best explain burn severity patterns in the central Sierra Nevada, California Van Kane	153. Periodic changes in wildland fire research Pil Sun Park	159. Examining the Terminal-Velocity Assumption in Simulations of Long-Range Firebrand Transport Christopher Thomas	165. Forest structure, fuel loads, and successional pathways following single and repeat fires in mixed-conifer forest Andrew J. Larson	S19.21. Are Northern Latitudes Less Subject to Erosion, Landslides and High Sediment Yields after Wildfire? Peter Jordan	S21.15. Capturing Tropical Forests and Savannas with the Size-Structured Vegetation Model FATES-SPITFIRE Jacquelyn Shuman	171. Determining Burnability: Predicting the Achievement and Coverage of Burns Intended for Fuel Management Thomas Duff
4:30-4:50	142. Global fire induced tree loss and its biophysical effects on surface climate Zhihua Liu	148. Modeling Fire Severity in Eastern Washington Using Mapped Surfaces of Climate, Weather, and Topography Jonathan Kane	154. Research, Data, and Tools to Support Wildland Fire Challenges Paul Steblein	160. Understanding Ignition: How One Spark Can Burn an Entire Forest Erik Christiansen	166. Severity of Short-Interval Reburn Mediates Compositional Shifts in Fire-Adapted Montane Shrublands Deborah Nemens	S19.22. Long-term Suspended Sediment Yields in Wildfire Affected Mountain Streams in Southwestern Alberta, Canada Kalli Herlein	S21.16. Fire Circle: Outstanding Questions about Fire-induced Tree Mortality Sharon Hood	172. Determining the Probability of Impact from Wildland Fires: Santa Rosa fire case study Joaquin Ramirez
4:50-5:10	143. Causes of Indonesian Peat Fires: Implications for Research and Policy Kevin C. Ryan	149. Burn severity effects on multiple ecosystem recovery trajectories Beth A. Newingham	155. Building shared solutions to global climate-fire issues, from Africa to home Ron Steffens	161. Dynamic changes of forest fire in China and fire drivers in different forest ecosystems Futao Guo	167. Ecoregional differences in reburn patterns of California wildfires Jeffrey Kane	S19.23. Comparative effects of different post-fire forest management strategies on hillslope sediment yield Ryan Cole		173. An Information-Based Method for Calculating Values-at-Risk and Modeling the Consequences Van V. Miller
5:10-5:30	144. A synthesis and meta-analysis of ponderosa pine fire regimes from five U.S. regions Shawn T. McKinney	150. Discussion	156. Preparing Tomorrow's Fire Professionals: Opportunities for Mentoring, Field Trips and Training Steven R. Miller and Johnny Stowe	162. Flammability Characteristics of Common Garden Litter under FPL Instrumented Hoods Mark Dietenberger	168. Discussion	S19.24. Scaling Post-fire Effects from Hillslopes to Watersheds: Processes, Problems, and Implications Lee MacDonald		174. Multidisciplinary Fire Science Research at the Sycan Marsh, Oregon Russell A Parsons
5:30 PM	Event Concludes							
7:00 PM	After Conference Party - Marshall Mountain, transportation provided							