

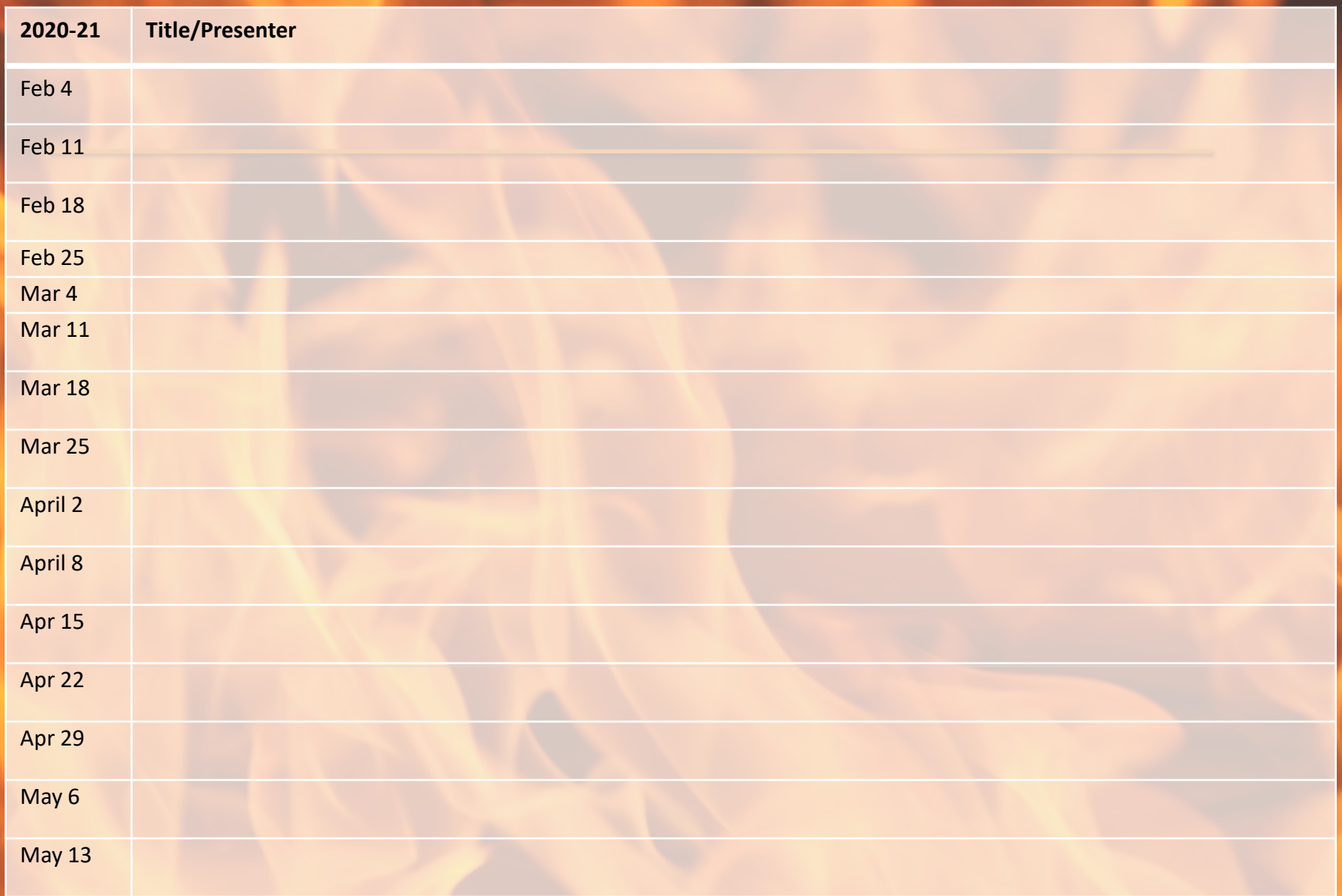


Rocky Mountain Research Station
Missoula Fire Sciences Lab
2019-2020 Seminar Series

2020-21	Title/Presenter Click on the Title to view abstract	
Oct 15	UW weather forecasting and fire weather / Cliff Mass, Professor of Meteorology,, University of Washington	View Recording
Oct 22	Wildfire Smoke Products and real-time forecast system / Bret Anderson, Physical Sciences Technician, USFS, WO, Air Resource Management Program	View Recording
Oct 29	Douglas-fir: The West's Most Remarkable Tree / Steve Arno, Fire Ecologist, USFS Missoula Fire Sciences Lab (Retired)	View Recording
Nov 5	IFTDSS -- new wildfire risk functionality / Nicole Vaillant, Fire Application Specialist, USFS, Wildland Fire RD&A	View Recording
Nov 12	NZ Update / Mark Finney , Research Forester, USFS Missoula Fire Sciences Lab	
Nov 19	Fires of Unusual Size and the Weather / Brian Potter, USDA Research Meteorologist, PNW Research Station	
Dec 3	Fire assignments and research -- how they enhance each other / Jason Forthofer, Penny Bertram, LaWen Hollingsworth, Mark Vosburgh, et al., USDA Forest Service	
Dec 10	Sensitive Fire Behavior: Changing variability in a turbulent world Kara Yedinak, Materials Research Engineer, USFS, Forest Products Lab	
Jan 7		
Jan 14		
Jan 21		
Jan 29		

11:00 AM-12:00 PM

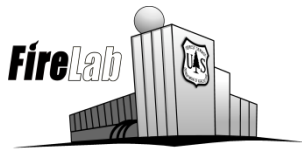
The Fire Science Lab , 5775 West U.S. HWY 10, Missoula, MT 59808.



2020-21	Title/Presenter
Feb 4	
Feb 11	
Feb 18	
Feb 25	
Mar 4	
Mar 11	
Mar 18	
Mar 25	
April 2	
April 8	
Apr 15	
Apr 22	
Apr 29	
May 6	
May 13	

The Fire Science Lab , 5775 West U.S. HWY 10, Missoula, MT 59808.

For more information, please contact missoula_firelab@fs.fed.us or visit www.firelab.org



Seminar Series

Nicole Vaillant,

Fire Application Specialist,
USFS, RMRS, Wildland Fire Management
Research Development & Application

Date: November 5, 2020

Time: 11:00 AM-12:00 PM

Where: Microsoft Teams web
platform

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missoula_firelab_seminars@fs.fed.us or
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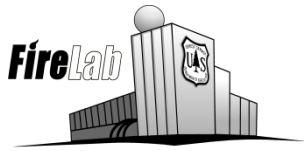
Sensitive Fire Behavior: Changing variability in a turbulent world

Interagency Fuel Treatment Decision Support System (IFTDSS):
Facilitating Fuels Planning for All

The Interagency Fuels Treatment Decision Support System (IFTDSS) is a web-based application designed to make fuels treatment planning and analysis more efficient and effective. IFTDSS provides access to data and models, all in one place, through one user interface. It is available to all interested users, regardless of agency or organizational affiliation. IFTDSS is available at: <https://iftdss.firenet.gov>

IFTDSS is designed to address the planning needs of users with a variety of skills, backgrounds, and needs. A simple and intuitive interface provides the ability to model fire behavior across an area of interest under a variety of weather conditions and easily generate downloadable maps, graphs, and tables of model results.

IFTDSS is continually undergoing development to add more functionality to meet users' needs and requests. In the past year we have focused on and released Exposure Analysis and Quantitative Wildfire Risk Assessment. In December 2020 a new model, MTT Fire Spread (Short-Term), will be released. The next focus will be on comparison tools to compare up to five outputs to aid in Burn Plan writing and NEPA planning. Starting with comparing weather.



Seminar Series

Prian Potter,

USDA Research Meteorologist, PNW
Research Station

Date: November 19, 2020

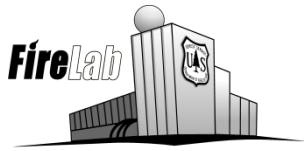
Time: 11:00 AM-12:00 PM

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Fires of Unusual Size and the Weather

Some fires are big, but others are reach totally stunningly sizes, really “wow, that’s big.” What drives those fires to become so large, while other fires in seemingly similar conditions do not? I will present results of a project looking at how weather factors and some basic weather indices relate to daily fire growth on a set of Fires of Unusual Size, comparing them to merely Large Fires.



Seminar Series

Kara Yedinak,

Materials Research Engineer,
USFS, Forest Products Lab

Date: December 10, 2020

Time: 11:00 AM-12:00 PM

Where: Microsoft Teams web
platform

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missoula_firelab_seminars@fs.fed.us or
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Sensitive Fire Behavior: Changing variability in a turbulent world

Wildland fires occupy the biosphere as both an ecological process essential for maintaining species diversity and a hazard to human lives, infrastructure and activities. Fire managers' ability to anticipate fire behavior is key to maximizing ecological value of fire while simultaneously minimizing negative impacts. Predictive models are often called upon as tools to support decision making by fire managers. However, prediction of fire behavior is complicated by the fact that small changes in environmental conditions can have large impacts on wildfire outcomes. This is most evident in marginal burning conditions where fine-scale details have been observed to drastically influence resulting fire behavior. Kara will present a series of collaborative studies probing the sensitivities of wildfire behavior to small changes in atmospheric conditions using FIRETEC, a process-based, computational fluid dynamics model of fire-atmosphere interactions. Ensemble simulations are utilized to sample perturbations in the turbulent wind field over homogeneous grass. In order to characterize the sensitivity of fire behavior to these perturbations in wind, several fire behavior metrics are examined, including rate of growth, total area burned and fuel consumption, which approximates fire intensity. Likewise, the characteristics of the turbulent atmosphere are probed to better understand mechanisms that may influence fire behavior. Overall spread is quantified using a variety of metrics and look for clustering and diverging behaviors. The results indicate a sensitivity to perturbations that show less predictability as the burning conditions grow more marginal.