



# Post-fire Landscapes: What can they tell us?

## Oregon Post-fire Research and Monitoring Symposium

### EVENT DETAILS



February 7 – 9<sup>th</sup>, 2023



CH2M Hill Alumni Center,  
Oregon State University,  
Corvallis Oregon

725 SW 26<sup>th</sup> St., Corvallis, OR

**Parking:** \$4.00/day; obtain parking pass ahead of time [HERE](#)

**SAF Credits:** This has been approved for 17.5 Category 1 CFEs.

To access the Symposium Materials, use this QR code or click [HERE](#).



Materials include Symposium Agenda, Abstract Packet, and Attendee List and are available in the folder title “Post-fire Research and Monitoring Symposium”

### To Attend Virtually

Use the following links:

- Day 1: February 7<sup>th</sup> Link [HERE](#)
- Day 2: February 8<sup>th</sup> Link [HERE](#)
- Day 3: February 9<sup>th</sup> Link [HERE](#)

*Recordings of the presentations will be made available online after March 1<sup>st</sup>, 2023.*

*Supported by the Governor’s Post-fire Research and Monitoring Team*



# Post-Fire Research and Monitoring Symposium – Agenda

## Day 1: February 7<sup>th</sup>, 2023

Time	Topic	Speaker
8:30 – 8:40	Welcome!	<b>Cheryl Friesen, Science Liaison, USFS</b>
8:40 – 9:00	Oregon Governor’s Post-Fire Research and Monitoring Team	<b>Jessica Halofsky, Director, U.S. Forest Service Northwest Climate Hub and Western Wildland Environmental Threat Assessment Center, and James Markwiese, Chief, Ecology Effects Branch, U.S. Environmental Protection Agency</b>
9:00 – 9:20	Cultural Perspectives on Fire	<b><i>Briecce Edwards, Deputy THPO; Manager of the Historic Preservation Office, Confederated Tribes of Grand Ronde</i></b>
<b>Investigating How Present-Day and Future Climate will Influence Wildfire</b>		
9:20 – 9:45	Climate change modifies future burn probability, size, and frequency of wildfires in Oregon’s West Cascades	<b><i>Alex Dye, OSU</i></b>
9:45 – 10:10	Forest fires in Western Cascadia: evaluating climatic drivers to inform climate-adaptive management responses	<b><i>Crystal Raymond, Univ. of Washington</i></b>
10:10 – 10:30	<b>Break</b>	
10:30 – 10:55	FIA remeasurement within 2020 Labor Day Fires reveals supremacy of fire weather over forest structure, error associated with mapped burn severity products, and statistical	<b>Jeremy S. Fried, Sebastian Busby and Angel Klock, USFS PNW Research Station</b>

# Post-Fire Research and Monitoring Symposium – Agenda

	estimates of live to dead carbon pool conversions	
<b>10:55 – 11:20</b>	Spatial patterns of burn severity in Western Cascadia: characteristics, drivers, and implications for post-fire landscapes	<b><i>Brian J. Harvey, Univ. of Washington</i></b>
<b>11:20 – 11:45</b>	Large influence of soil moisture on wildfires, biological disturbance agents, and tree growth in Pacific Northwest coniferous forests	<b><i>E. Henry Lee, EPA</i></b>
<b>11:45 – 12:00</b>	Flash-Talk: 800 years of post-fire forest recovery data in west side Douglas-fir forests	<b><i>Andrew Merschel, PNW Research Station and OSU</i></b>
<b>12:00 – 1:30</b>	<b>LUNCH ON YOUR OWN and DEMONSTRATION/POSTERS</b>  <b>We encourage you use this opportunity to network and learn!</b>  <b><i>Posters and demonstrations in the lobby</i></b>	
<b>1:30 – 1:55</b>	A 3600-year history of vegetation and fire dynamics from the Bull Run Watershed Management Area, Mt. Hood National Forest	<b><i>William "Buzz" Nanavati, Portland State Univ.</i></b>
<b>1:55 – 2:20</b>	Fire refugia, old forests, and northern spotted owls: a synthesis of key concepts, trends, and toolsets for local to regional conservation planning	<b><i>Cameron Naficy, OSU</i></b>
<b>2:20 – 2:45</b>	Exploring how microclimates and biotic factors influence post-fire forest plant communities	<b><i>Cole Doolittle, Marquette Univ./ HJA Experimental Forest</i></b>
<b>2:45 – 3:05</b>	<b>Break</b>	

# Post-Fire Research and Monitoring Symposium – Agenda

## Delayed Mortality Flash Talks

*Facilitated by Andres Holz, Portland State Univ.*

<b>3:05 – 3:20</b>	Sizing up the elephant in the room: Remote sensing of post-fire delayed tree mortality in westside forests of the Pacific Northwest	<b>Matthew Reilly, USFS PNW Research Station</b>
<b>3:20 – 3:35</b>	Spatio-Temporal Patterns and Drivers of Fire Refugia in the Western Oregon Cascades	<b>Alec Dyer, Portland State Univ.</b>
<b>3:35 – 3:50</b>	Post-wildfire delayed mortality in Douglas-fir and western hemlock	<b>Andrés Holz, Portland State Univ.</b>
<b>3:50 – 4:05</b>	Understanding drivers of post-fire delayed mortality in temperate rainforests	<b>Andrés Holz, Portland State Univ.</b>
<b>4:05 – 4:15</b>	<b>Group Q&amp;A</b>	

## Early-Seral Forest Flash Talks

*Facilitated by Alex Rozin, Post-Fire Program Lead, USFS R6*

<b>4:15 – 4:25</b>	Patterns and drivers of conifer regeneration following stand-replacing wildfire in western Cascadia	<b>Madison Laughlin, Univ. of Washington</b>
<b>4:25 – 4:35</b>	Composition and diversity of early-seral forest communities vary with burn severity and pre-fire stand age following fire in western Cascadia	<b>Liliana Rangel-Parra, Univ. of Washington</b>
<b>4:35 – 4:45</b>	Twenty-year post-fire recovery in western Oregon: Tracing early seral trajectories with a spatially balanced forest inventory sample	<b>Oriana Chafe and Jeremy Fried, USFS PNW Research Station</b>
<b>4:45 – 4:55</b>	<b>Group Q&amp;A</b>	
<b>4:55 – 5:00</b>	<b>WRAP UP</b>	<b>Cheryl Friesen, Science Liaison USFS</b>

## **POSTER SESSION AND SOCIAL**

<b>5:00 – 7:00</b>	<b>Posters will be staffed with the authors/co-authors</b> <b>Cash bar and finger food in the Lobby</b>	
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# Post-Fire Research and Monitoring Symposium – Agenda

## Day 2: February 8<sup>th</sup>, 2023

Time	Topic	Speaker
8:00 – 8:05	Welcome!	<b>Cheryl Friesen, Science Liaison, USFS</b>
8:05 – 8:30	All lands, All Hands: Caring for our natural and human environments	<b>Doug Grafe, Wildfire Programs Director, Governor’s Office</b>
<b>The Fire Continuum</b>		
8:30 – 9:25	PANEL DISCUSSION: <b>The future of air quality during wildfires in Western Oregon</b>	<b>Facilitated by James Markwiese, EPA, with: Rick Graw, USFS; Steve Dietrich, LRAPA; Hollie Smith and Heidi Huber-Stearns, UofO; Tom Roick, DEQ; Dr. Carol Trenga, OHA; Kyle Chapman, OIT; and Cassandra Mosely UofO</b>
9:25 – 9:50	Examining wildfires from other regions and fire regimes yields insights into future patterns of burn severity in western Cascadia	<b>Michele Buonanduci, Univ. of Washington</b>
9:50 – 10:15	Impacts of forest structure and fire severity on reburn potential in western Cascadia	<b>Jenna Morris, Univ. of Washington</b>
10:15 – 10:35	<b>Break</b>	
10:35-11:00	Rock Creek post-fire restoration monitoring	<b>Jeff McEnroe, BLM</b>
11:00 – 12:00	PANEL DISCUSSION: <b>The next pre-fire landscape: how does a new landscape management paradigm emerge?</b>	<b>Facilitators: James Dickinson, BLM and Alex Rozin, USFS</b> <b>Panel: Andrew Puerini and Dustin Hawks, Confederated Tribes of Grand Ronde; Barbara Garcia and Rebecca Lloyd, USFS</b>

# Post-Fire Research and Monitoring Symposium – Agenda

12:00 – 1:30

## LUNCH ON YOUR OWN and DEMONSTRATION/POSTERS

We encourage you use this opportunity to network and learn!

*Posters and demonstrations in the lobby*

### Water and Riparian Habitat in the Post-Fire Environment

1:30 – 1:55

Riparian vegetation dynamics two years after mixed severity fire in the western Cascades, Oregon

*Laura J. Six, Ashley Coble, Jake Verschuyf, NCASI*

1:55 – 2:20

Quantifying the effects of wildfire on water quantity, water quality, aquatic ecology, and fish: the Hinkle Creek Watershed Study revisited

*David Roon, OSU*

2:20 – 2:45

Post-fire hyperspectral surveys for periphyton to protect drinking water quality in three Cascade Range rivers following the September 2020 wildfires

*Kurt Carpenter, USGS*

2:45 – 3:05

**Break**

3:05 – 3:45

Forested streams, fire, and large wood across a gradient of fire severity and forest stand age

*Ashley A. Coble, NCASI*

What happens to fish when their forest is on fire? Answers from 24 Oregon streams

*Brooke Penaluna, USFS PNW Research Station*

3:50 – 4:20

Holiday Farm Fire: Impacts on shade/stream temperature on private timberland

*Mark River, Weyerhaeuser Co.*

Holiday Farm Fire: Impacts to the upstream extent of fish distribution in headwater streams on private timberlands

*Jason Walter, Weyerhaeuser Co.*

# Post-Fire Research and Monitoring Symposium – Agenda

4:20 – 5:00

PANEL DISCUSSION:

**Fire in riparian areas – implications to future water quality management**

*Facilitated by Aaron Borisenko, DEQ*

*Lorrayne Miralha, OSU; David Donahue, EWEB; Julie Harvey, DEQ; and Kurt Carpenter, USGS*

7:00 – 8:00

EVENING SPECIAL EVENT

***In CH2M Hill Alumni Center Ballroom***

**FOLLOWING FIRE: A Resilient Forest / An Uncertain Future**

**A Photographic Essay**

[www.followingfire.com](http://www.followingfire.com)

Over two years and dozens of site visits to the Holiday Farm Fire area along the McKenzie River, we have explored the art-science interface in burned forest. The photographic work has developed along four paths: Chronosequence, Typology, Documentary and Fine Art. Each photo technique and resulting body of works open distinctive opportunity for conversation.

The post-fire landscape is both devastating and starkly beautiful. The skeletal forest quickly gives way to a succession of biota (fire fungi, fire moss, fireweed), and successions of forms, colors, and processes, revealing the amazing resilience of forests. But, quickly, we sense the uncertain future posed by climate change, invasive species, and intensive forest management.

***David Paul Bayles<sup>1</sup>, Photographer, and Fred Swanson<sup>2</sup>, Retired USFS Geologist***

<sup>1</sup> David Bayles: *David currently lives and photographs in western Oregon, where highly efficient industrialized tree farms supplanted the massive old growth forests many decades ago. He is currently working on a long term project with disturbance ecologist Frederick J Swanson, documenting the forest recovery after the massive 2020 Holiday Farm Fire in the McKenzie River watershed.*

*His photographs have been published in numerous magazines including Orion, Nature, Terrain, Audubon, Outside, The L.A. Times Sunday Magazine and others. Public collections include The Portland Art Museum, Santa Barbara Art Museum, Jordan Schnitzer Museum of Art, The Baldwin Collection MTSU, The Harry Ransom Center, Wildling Museum and others. His book Urban Forest, Images of Trees in the Human Landscape was chosen by The Christian Science Monitor as one of their seven favorite books of 2003. The Bancroft Library at UC Berkeley created the David Paul Bayles Photographic Archive in 2016 as a permanent home for his entire life's work.*

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**Sierra Club Urban Forest**, by David Bayles. 2 dozen books given away free at the event

<sup>2</sup>*Fred Swanson: Fred Swanson is a retired US Forest Service, Pacific Northwest Research Station, Research Geologist with a focus on the geology-ecology interface, including disturbance ecology in the face of fire, floods, volcanic eruption, and other processes. Since 2000 he has facilitated engagement of creative writers and artists in the H.J. Andrews Experimental Forest and Mount St. Helens landscapes through the Spring Creek Project for Ideas, Nature, and the Written Word, based in Oregon State University. More than one hundred writers and artists have taken part in residencies and much of their work is documented in The Forest Log on the Spring Creek webpage and in several books.*

The Forest Log: <https://liberalarts.oregonstate.edu/centers-and-initiatives/spring-creek-project/programs-and-residencies/long-term-ecological-reflections/forest-log>

## **Day 3: February 9<sup>th</sup>, 2023**

<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
8:00 – 8:05	Welcome!	<b>Facilitated by Bill Burns, DOGAMI</b>
<b>Post-fire Soils and Debris Flow Hazards</b>		
<b>8:05-8:25</b>	Quantifying impacts of forest fire on soil carbon in a young, intensively managed tree farm in the western Oregon Cascades	<b>Katherine McCool, OSU</b>
<b>8:25-8:45</b>	Soil carbon persistence and pyrogenic carbon signature in Oregon’s Western Cascades one year post fire	<b>Hayley Peter-Contesse, OSU</b>
<b>8:45 – 9:05</b>	Evaluating the occurrence and spatial patterns of soil water repellency in the Deschutes National Forest, Oregon	<b>Brittany Johnson, UW</b>
<b>9:05 – 9:30</b>	Evaluating the controls on post-fire debris flows in the Pacific Northwest	<b>Ben Leshchinsky, OSU</b>
<b>9:30 – 9:55</b>	National Weather Service services for post-fire debris flow hazards in Northwest Oregon	<b>Andy Bryant, NOAA</b>
<b>9:55 – 10:15</b>	<b>Break</b>	



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<b>10:15 – 10:40</b>	Recent observations of post-fire debris flows in five megafires in the western cascades, Oregon	<b><i>William Burns, DOGAMI</i></b>
<b>10:40 – 11:05</b>	Pairing on-the-ground observations with real-time telemetered rainfall data to develop a post-fire debris flow inventory in Oregon	<b><i>Francis Rengers, USGS</i></b>
<b>11:05 – 11:30</b>	Dealing with post-fire soil movement in a complex human environment: the Gorge!	<b><i>Michael J. Zimmerman, Senior Engineering Geologist, ODOT Region 1</i></b>
<b>11:30 – 11:55</b>	Navigating the world of building back communities, and the importance of good science to inform hazard mitigation and post fire reconstruction	<b><i>Stan Thomas, Deputy Director, Oregon Department of Emergency Management. Mitigation and Recovery Division</i></b>
<b>11:55- 12:00</b>	<b>Wrap-up, End</b>	<b><i>Cheryl Friesen, Science Liaison, R6</i></b>