

# Human Causes and Human Consequences of Wildfires in the Western United States

## Webinar Series

January 28, 29, 30, 2025, 10-11am PST

DAY  
1  
Tuesday  
Jan. 28th

### Interdisciplinary understanding and prediction of wildfires

*Presenters: Mojtaba Sadegh, Boise State University; Karen Short, USDA Forest Service*

Understanding of the conditions that contribute to wildfire ignitions and impacts increases capacity to mitigate wildfire risks. The Fire Program Analysis Fire-Occurrence Database (FPA FOD) contains information on the location, jurisdiction, discovery time, cause, and final size of more than 2 million wildfires from 1992 through 2020. To each of those wildfire records, we added information on 267 physical, biological, social, and administrative attributes. As we will demonstrate, these publicly available data can be used to answer numerous questions about the circumstances associated with human- and lightning-caused wildfires. We will share examples of how the enhanced FPA FOD data can support descriptive, diagnostic, predictive, and prescriptive wildfire analytics, including the development of machine learning models.

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DAY  
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Wednesday  
Jan. 29th

### Disproportionate exposure of socially vulnerable populations to wildfires

*Presenters: Erica Fleishman, Oregon State University; Eric Main & Carol Trenga, Oregon Health Authority*

From 2000 through 2021, nearly half a million people in Oregon, Washington, and California lived within the perimeter of a wildfire. And from 2011 through 2021, the number of people experiencing high social vulnerability to hazardous events who were exposed to wildfire in those states more than tripled compared to the previous decade. As we will detail, the cause of that inequity varied among the three states. For example, in California, the majority of the people exposed to wildfire were living in urban areas, whereas those exposed in Oregon and Washington largely were rural residents. These data suggest that wildfire preparation and response may be most effective when it is tailored to the needs of individual communities with different risk factors.

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DAY  
3  
Thursday  
Jan. 30th

### Spatial and temporal trends in causes of human-ignited wildfires

*Presenter: John Abatzoglou, University of California, Merced*

Red flag warnings (RFWs) are issued to alert management and emergency response agencies of weather conditions that are conducive to extreme wildfire behavior. Issuance of RFWs also can encourage the public to exercise extreme caution with activities that could ignite a wildfire. Among the ignition causes associated with human activity, some generally reflect short-term behavioral decisions, whereas others are linked to infrastructure and habitual behaviors. From 2006-2020, approximately 8% of wildfires across the western United States were discovered on days with RFWs. We discuss our discovery that although the number of human-caused fires was higher on RFW days than on similar days without RFWs, the warnings appeared to disproportionately reduce the number of ignitions associated with short-term behavioral choices.

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This event organized by the 6 western exchanges of the Joint Fire Science Program's Fire Science Exchange Network: Northwest Fire Science Consortium, Great Basin Fire Science Exchange, California Fire Science Consortium, Northern Rockies Fire Science Network, Southern Rockies Fire Science Network, and Southwest Fire Science Consortium

