

Wildland Fire Science at the U.S. Geological Survey

Supporting Wildland Fire and Land Management Across the United States

◀ Get the facts about USGS Wildland Fire Science at
<https://doi.org/10.3133/fs20193025>



USGS
science for a changing world

**Wildland Fire Science—
Supporting Wildland Fire and Land Management**

The U.S. Geological Survey's Wildland Fire Science Program produces fundamental information to identify the causes of wildfires, understand the impacts and benefits of both wildfires and prescribed fires, and help prevent and manage larger, catastrophic events. Our fire scientists provide information and develop tools that are widely used by stakeholders to make decisions before, during, and after wildfires in forest, grassland, tundra, wetland, and forest ecosystems across the United States.

Why is Fire Science Needed?

Wildfires are ubiquitous and have massive impacts on people—ranging from the loss of homes, livelihoods, and lives—yet fire in wildlands is essential to reduce future wildfire risk, improve wildlife habitat, and manage forested lands in many ecosystems across the country. Fire and land managers are faced with increasing natural resource challenges. These challenges offer opportunities for management of USGS fire scientists to provide current, credible, and essential information and tools. Emerging issues for fire science include:

- **Changing climate and more extreme weather**—Warming temperatures, drought, and more precipitation increase the intensity and size of fires, lengthen fire seasons, and hinder the recovery of vegetation.
- **Development in wildlands**—Increased development in wildlands makes it more expensive and difficult to manage fires and reduce risk.
- **Effects of invasive plant species**—Invasive plant species change fire frequency, size, and risk, which may alter disease vulnerability, increase fire risk, threaten biodiversity, and challenge habitat recovery.
- **Accountability of fire**—Over 100 years of fire suppression has resulted in fuel accumulation, which raises fire severity and increases responsibility for forests and fire.
- **High costs of fighting fires**—Increased costs are incurred because multiple challenges require complex management solutions.

A joint effort by 16 institutions, USGS, others have, together released by the National Academy of Sciences.



Characterizing 12 Years of Wildland Fire Science at the U.S. Geological Survey: Wildland Fire Science Publications, 2006–17



Open-File Report 2019-1002

U.S. Department of the Interior
U.S. Geological Survey

◀ An overview of 12 years of USGS fire science publications is available at <https://doi.org/10.3133/ofr20191002>

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- ▶ Wildland fire behavior and risk management
- ▶ Fire ecology, fire effects, and post-fire restoration of ecosystems
- ▶ Risk assessments for human health, public safety, and the Nation's infrastructure
- ▶ Remote sensing and geospatial tools and data.

More information about the U.S. Geological Survey's Wildland Fire Science Program can be found at <https://www.usgs.gov/fire>

