

We Need More Prescribed Fire in the Western U.S. to Mitigate Wildfire Risk

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Key Findings

- Between 1998–2018, the area of prescribed burns increased yearly by an average of nearly 62,000 hectares (5% increase per year); but 70% of all prescribed fire and 98% of the increase over time was observed in the Southeast U.S. only (Figure 1).
- California, the Northwest, the Northern Rockies, the Great Basin and the Southwest all reported a decrease in prescribed fires over the period.
- 93% of the increase in prescribed fire was accomplished by non-federal agencies.
- The Bureau of Indian Affairs is the only federal agency to have accomplished more prescribed fire over the period.

Keywords. Indigenous burning, traditional ecological knowledge, risk: wildland fire, controlled burning, forest management: prescribed fire, contextual understanding

The production of this science brief was supported by the National Science Foundation through award DMS-1520873. The research described in this brief may have had other funding sources, which are acknowledged in the appropriate foundational publications.

The western United States has suffered [increasingly disastrous wildfires](#) in recent years. Massive wildfires have attracted [considerable attention](#) from the media and policy makers, and have renewed calls to better understand and mitigate wildfire hazards. One of the most widely [advocated management practices](#) for reducing the threat of wildfire, supported by a wealth of scientific research, is [prescribed fire](#): controlled burns that help to reduce flammable fuels, such as forest litter accumulating in forests. But is prescribed burning being fully utilized where it is most needed in order to reduce the risk of wildfire?



Attending to a prescribed fire, one of the most widely advocated management practices for reducing the threat of wildfire, supported by a wealth of scientific research. Photos: U.S. Forest Service, under CC BY 2.0

[A researcher at the University of Idaho](#) set out to assess whether the U.S. federal land management agencies are translating the best available science and current national fire policies into the increased use of prescribed fire. They did so by analyzing trends in the application of prescribed burns over the twenty-year period 1998–2018. They also sought to assess regional and agency differences in an effort to understand which regions and agencies are increasing their implementation of prescribed fire. Such an increase would be expected given the increased emphasis on controlled fires in both the scientific literature and policy.

Management Implications

Despite [calls from some policy makers](#) for more prescribed fire to control the threat of wildfire, the yearly extent of prescribed burning in the Western U.S. has either remained stable or decreased from 1998 to 2018. Meanwhile 70% of all prescribed fire over the period was completed primarily by non-federal entities in the Southeastern U.S. The [Bureau of Indian Affairs](#) (BIA) was the only federal agency to



substantially increase prescribed fire use, perhaps as a result of increased tribal self-governance. This suggests that the best available science is not yet being widely adopted into management practices, thereby further compounding the fire deficit in the Western U.S. Combined with climate change-driven expansion of fire activity, this fire deficit enhances the potential for more wildfire disasters.

While federal and non-federal entities have used the prescribed fire expertise of the [Southeastern region](#) as a training ground for land managers across the country, this has not translated to increased prescribed fire use outside of this region. This suggests that a cultural shift in perceptions of prescribed fire is needed if prescribed fire is to achieve its full mitigation potential in the U.S., and the threat of wildfires is to be sufficiently reduced. Fire managers in the Western U.S. face considerable social barriers to using prescribed fire, including negative public perceptions of the practice. These negative perceptions have likely become heightened due to instances of prescribed fires becoming uncontrolled, and uncertainty over the effectiveness of the practice in the absence of prescribed fire in the region.

Furthermore, it can be argued that fire managers, particularly federal fire managers, receive insufficient incentive to use prescribed fire under current agency policies. Such policies [provide incentives for fire suppression](#) (e.g., with overtime pay and promotion) but penalize risk-taking, particularly when prescribed fires escape the control of land managers. Additionally, federal funding for prescribed fire and other fuel reduction activities has been drastically [depleted over the past two decades](#) as large wildfires force federal agencies to expend allocated funds on suppression

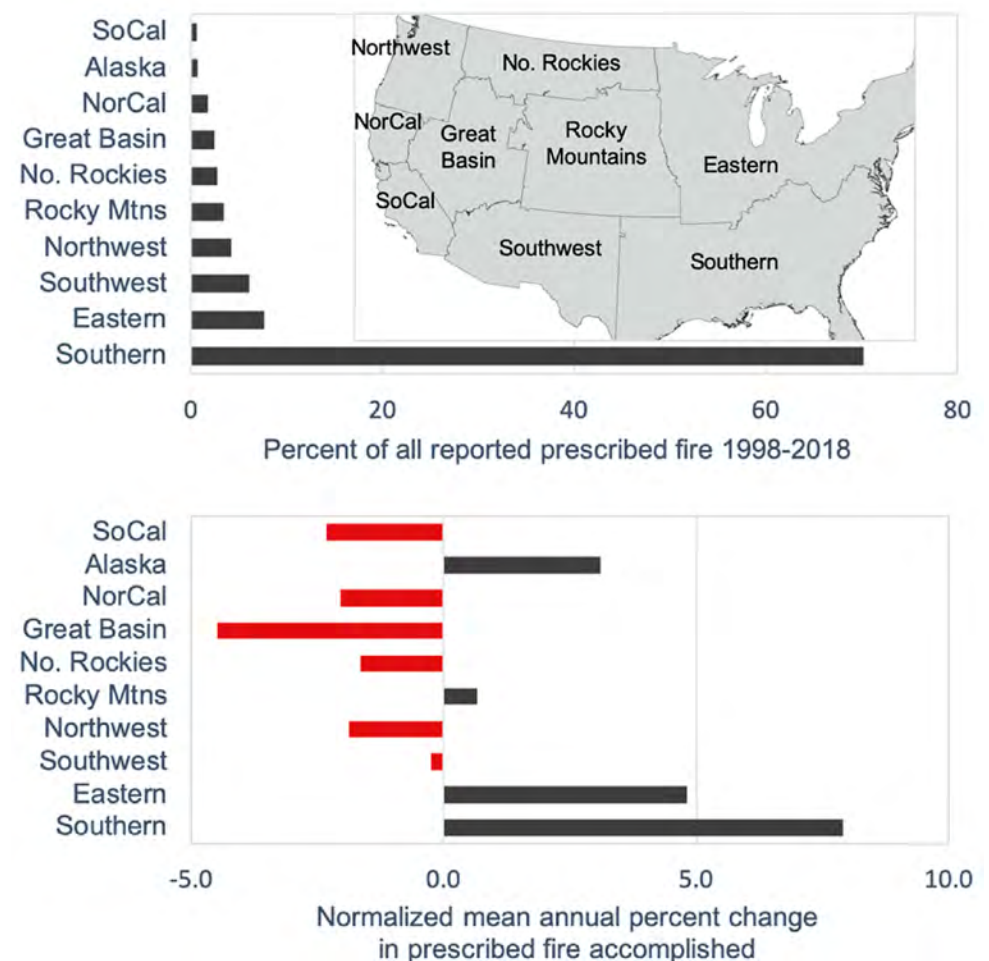


Figure 1. Between 1998-2018, the area of prescribed burns increased yearly by an average of nearly 62,000 hectares (5% increase per year); The majority (70%) of all prescribed fire between 1998 and 2018 was carried out in the Southern region (top panel). The Southern region was one of only four regions where an increase in prescribed fire occurred during this time period (bottom panel). Figure reproduced from Kolden (2019), under Creative Commons Attribution License CC BY 4.0.

rather than prevention. The fact that federal agencies have not accomplished more prescribed fire across the U.S. over the past two decades suggests that despite the best available science being incorporated

into the federal management framework, federal agencies have not made sufficient policy changes or budgetary allocations to carry out the strategy of emphasizing prescribed burns.

FOUNDATIONAL PUBLICATION

Kolden, C. A. (2019). We're not doing enough prescribed fire in the Western United States to mitigate wildfire risk. *Fire*, 2(2), 30. <https://doi.org/10.3390/fire2020030>