



Staying Behind: Limited Displacement and Inequality After Wildfires in the U.S.

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Research brief prepared by Marjorie Rugunda



"A wildfire at Florida Panther NWR" by Josh O'Conner | [flickr.com](https://www.flickr.com/photos/joshoc/10000000000/)

Key Ideas

- Most U.S. wildfires between 1999–2020 did not cause significant population mobility. People tended to migrate only when fires caused major structural damage.
- Wildfires, even destructive fires, do not cause long-term or permanent population shifts. Instead, migration due to wildfires is often short-lived, with residents returning within a year.
- Both emotional ties and limited economic options could drive individuals' decisions to stay put after wildfires. There is some information on the drivers of immobility, but they need to be studied more.

Recommendations

- Wildfire recovery planning should account for those who stay. Many residents stay in place after destructive wildfires, and financial support should focus on the needs of those who stay.
- Post-disaster response should also provide early support after destructive wildfires. The most needed assistance comes in the months immediately after a wildfire, and governments should deliver housing, financial aid, and other recovery services immediately after fires.
- Federal and state agencies should create and share migration data that includes demographic details. More data would help identify which communities are more likely to relocate after wildfires, supporting more targeted disaster and recovery planning.

Despite growing concerns about climate-related migration, the most common response to wildfires in the U.S., even when homes were damaged, is to stay in place.

As wildfire seasons in the U.S. grow longer and more intense, the impacts of these climate events on people's homes and communities are increasingly urgent. In recent decades, wildfires have burned more acres, lasted longer, and destroyed more homes than before. A small number of extreme events account for most building loss. The 2018 Camp Fire alone destroyed nearly one-fifth of all structures lost to wildfires between 1999 and 2020.

Despite this rising threat, there has been little research on how wildfires affect migration compared to other environmental hazards. The Intergovernmental Panel on Climate Change (IPCC) has specifically identified wildfire-related migration as an under-studied area. Within the field of environmental migration research, much of the conversation has focused on people forced to move, but far less attention has been paid to those who stay behind—whether by choice or because they cannot leave.

Research by Kathryn McConnell, CMS affiliate and UBC Assistant Professor of Sociology, and her colleagues helps fill this gap. By analyzing 519 of the most destructive wildfires in the United States between 1999 and 2020, the study shows that only the most severe wildfire events led people to leave. McConnell and her colleagues' research highlights the importance of understanding and supporting residents who stay in fire-prone communities after wildfires.

Key Findings

People Only Migrate after Major Wildfires

Most wildfires reviewed in this study (84%) caused no structural damage at all.¹ Even among those that were classified as “destructive,” most of these fires caused relatively small-scale damage and had no observable impact on migration. Large outward migration tended to happen only after the most destructive events, where thousands of homes were lost and local housing capacity was overwhelmed. For example, the 2018 Camp Fire destroyed nearly 19,000 structures and led to a much larger outward migration shift than any other wildfire in the dataset.

This pattern matters. It shows that large-scale migration after wildfires is rare and tied almost entirely to catastrophic destruction. For planners and policymakers, it means that focusing only on displacement after fire disasters risks missing the bigger picture—most communities, even in high-risk areas, experience very little out-migration after wildfire disasters.

Migration Spikes Were Short-Term

Even when wildfires led to increased out-migration, the effect mostly occurred in the first year after the fire, with people returning to their pre-fire communities of residence by the second year. This temporal pattern was consistent across most highly destructive wildfires, with one key exception: the 2018 Camp Fire in California. As the single most destructive wildfire in the dataset, it led to sustained migration across both the first and second post-fire years. The effects from that specific fire suggest that the scale of destruction can extend the migration timeline.

These findings show that environmental disasters do not necessarily cause long-term or permanent population shifts. Instead, migration due to wildfires is often short-lived. For policymakers, this finding points to the importance of targeting support and resources early after a wildfire, when movement is most likely to occur and recovery needs are most urgent.

Most People Did Not or Could Not Leave

Despite growing concerns about climate-related migration, the most common response to wildfires in the U.S., even when homes were damaged, was to stay in place. In fact, 89% of the wildfires examined showed no significant change in migration patterns. McConnell’s research shows that wildfires, aside from the most destructive of fires, do not push people to move away in large numbers.

The study does not identify why residents remained; it simply shows that most people did not move. Understanding these choices is further complicated by limits in the available data particularly on marginalised communities. Because the analysis relies on neighbourhood-level credit-record information, it cannot track people without credit histories or break results down by race, income, or immigration status. That said, other research has explored possible reasons people stay after wildfire hazards—such as community ties or economic barriers—though more work is needed. More detailed data with demographic information is essential to understand broader trends and design policies and recovery plans to support diverse and marginalized groups.

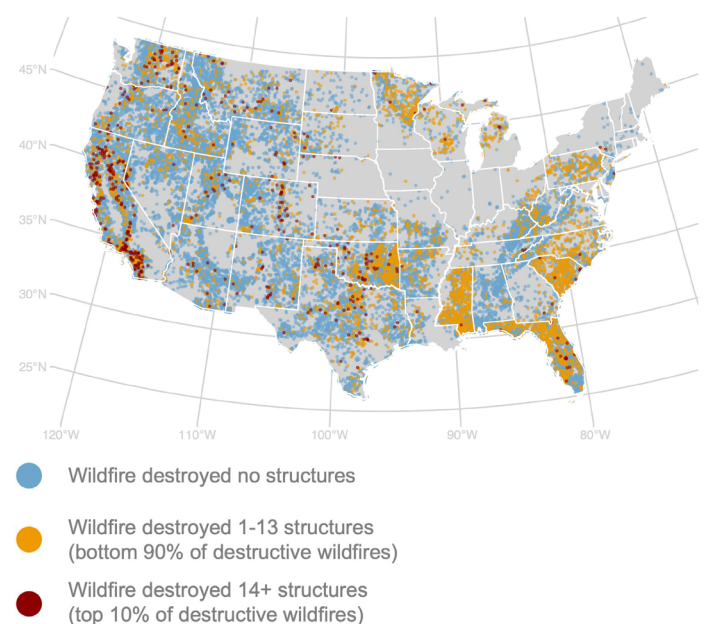


Figure 1. Geographic distribution of wildfires in the contiguous U.S. from 1999-2020. (Source: U.S. National Incident Management System/Incident Command System)

Methods

The study analysed migration trends after the most destructive wildfires in the contiguous U.S. from 1999 through 2020. Using structure loss data from the U.S. National Incident Command System and anonymized credit data from the Equifax Consumer Credit Panel, the authors tracked in- and out-migration to understand how wildfire severity affected population displacement and return over the last two decades.

Conclusion

Professor Kathryn McConnell and her colleagues find that migration after wildfires is rare and occurs mostly in response to events that destroyed many structures. When residents do migrate, they tend to do so quickly but tend to also return within a year from the fire event. This research shifts the focus from dramatic displacement to the less visible but more common reality of staying in place whether by choice, constraint, or lack of alternatives. While this is an important starting place, more research is needed as the credit data used to track outward migration likely does not capture all lower-income and undocumented populations – groups we might expect to be especially vulnerable to wildfire impacts. As wildfires intensify, understanding who moves, who stays, and why is critical to shaping comprehensive and responsive recovery efforts.

References

- 1 Intergovernmental Panel on Climate Change (IPCC). 2022. *Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge: Cambridge University Press. Accessed July 18, 2025.
- 2 McConnell, Kathryn, Elizabeth Fussell, Jack DeWaard, Stephan Whitaker, Katherine J. Curtis, Lise St. Denis, Jennifer Balch, and Kobie Price. 2024. “Rare and Highly Destructive Wildfires Drive Human Migration in the U.S.” *Nature Communications* 15 (1): 6631.

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