



RESEARCH BRIEF SERIES

MITIGATION MATTERS

AWARD RECIPIENT

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AWARD AMOUNT:
\$2,500

FEMA defines mitigation as the effort to reduce loss of life and property by lessening the impact of disasters. Effective mitigation requires that we all understand local risks and invest in long-term planning to reduce risks and enhance community well-being.

BURNING DOWN THE HOUSE: FLAME IMAGERY, RISK COMMUNICATION, AND HOUSEHOLD BEHAVIOR

SUMMARY

Wildfires are increasingly present in populated landscapes, raising the risks to homeowners. Encouraging homeowners to mitigate wildfire risks is a cost-effective strategy for addressing these threats. As wildfire organizations and government agencies focus resources on homeowner behavior, it might be unclear how to capture homeowner attention and engage them in programs to reduce fire risk. Photos of flames and charred landscapes are commonly used in by media sources to depict wildfire. A large body of evidence supports the power of such imagery in influencing emotions, judgement and behavior. This research looks at whether such imagery could be an effective tool for wildfire programs—do photos of flames affect homeowner response to wildfire risk information and their actions to learn more? In a lab and a field experiment, we tested how homeowners in wildfire-prone areas responded to a National Geographic image of a burning house compared to a landscape photo commonly used in wildfire communication. The study found that, while the flame imagery increased negative emotions, it had no overall effect on homeowner intentions or observed behavior to learn more about personal wildfire risk.



A photo of a burning house in Estes Park, Colorado, that appeared in multiple news outlets. Photo credit: ©Darrell Spangler, 2012.

- Homeowners who received a postcard showing a photo of flames were, on average, no more or less likely to seek information about their wildfire risk than homeowners who received a postcard showing the landscape photo.
- This overall response does not capture the full story of how high-risk homeowners respond to the flame imagery, which is different than low-risk homeowners. Check out the full study results, published in *Communication Earth and Environment* here: <https://www.nature.com/articles/s43247-022-00505-7>

KEY FINDINGS

- Wildfire flame imagery induced more negative and less positive emotions among homeowners than a photo of a wildfire-prone landscape.

POLICY IMPLICATIONS

- Evidence on how to communicate risk, and whether people respond to different photos about such risk, is important to guide practitioners in designing outreach to homeowners in areas at risk from wildfire.

- Focused attention to flame imagery showing the worst-case scenario of wildfire can affect homeowner emotions but does not seem to affect the behavior of the average homeowner in a wildfire-prone city.

STAKEHOLDERS

Stakeholders who may find this work interesting include federal, state, and local agencies and organizations working to increase wildfire risk mitigation on private property. Results may also be relevant to those communicating information to homeowners at risk from other natural hazards (e.g., flooding, earthquakes) and climate change.



A photo of a wildfire-prone landscape that has been used in communications with homeowners about wildfire risk. Photo credit: ©Darren Campbell, 2017.

Full report: Byerly, H. (2021). Burning Down the House: Flame Imagery, Risk Communication and Household Behavior. Natural Hazards Center Mitigation Matters Grant Report Series, 4. Boulder, CO: Natural Hazards Center, University of Colorado Boulder. Available at: <https://hazards.colorado.edu/mitigation-matters-report/burning-down-the-house>



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