



Atmospheric Chemistry
Observations & Modeling

ACOM Seminar

Physical Health Symptoms and Perceived Air Quality among Residents of Smoke-Damaged Homes from a Wildland Urban Interface Fire

Colleen Reid

University of Colorado Boulder

Date: Thursday, February 6th, 2025, 11:00 am – 12:00 pm (MT)

Link: <https://sundog.ucar.edu/public/page/ACOM>

ABSTRACT

The Marshall Fire was a wildland urban interface (WUI) fire that destroyed more than 1000 structures in two communities in Colorado. High winds carried smoke and ash into an unknown number of buildings that, while not incinerated, were significantly damaged. We aimed to understand whether smoke or ash damage to one's home was associated with physical health impacts of the fire event for people living in and around the fire zone whose homes were not completely destroyed. We analyzed data collected from participants who responded to Wave 1 (six months postfire; $N = 642$) or Wave 2 (one-year postfire; $N = 413$) of the Marshall Fire Unified Research Survey. We used self-reported exposure to smells and ash in their homes as measures of exposure and also created spatial exposure measures based on proximity to destroyed structures. Reporting a headache was statistically significantly associated with all exposure metrics (self-reported and spatial proximity) and reporting a strange taste in one's mouth was also significantly associated with having more destroyed buildings within 250 m of the home. Study findings can inform response planning for future WUI fires to protect the health of residents of smoke-damaged homes.

For more information, please contact Qing Ye (qingye@ucar.edu) or Kyle Zarzana (kzarzana@ucar.edu).

The NSF National Center for Atmospheric Research is operated by the University Corporation for Atmospheric Research under the sponsorship of the National Science Foundation