Wildfires

Wildfires: An Overview

Wildfires are unplanned fires that burn in forests and other areas. They are caused by human activity and natural events. The smoke and byproducts of wildfires can travel long distances and affect large populations. Due to land and forest management practices, and climate-induced changes, the risk of wildfires in North America is increasing.

What can decision makers do to reduce wildfires and their negative effects?

Taking preventative measures in Michigan can reduce the increased health risk of wildfires due to climate change. Additionally, solutions that focus on cleaning hazardous air can protect against smoke from wildfires outside of the state.

1 Promote safe indoor environments and spaces (ie. clean cooling centers)

Ensure there are appropriate air filters, ventilation systems, cooling systems, and weatherization (to seal gaps and improve efficiency) in homes and buildings. This is especially important in schools, senior homes, and other buildings with vulnerable populations. Provide financial support for low income communities to create safe indoor spaces. Develop and adopt a certification system to verify safety and performance.

2 Disseminate enhanced wildfire smoke forecasts and health alerts

Provide community-specific forecasts for wildfire smoke: state where, when, how long, and how bad the health effects of smoke are expected to be. Recommend and disseminate appropriate responses to reduce exposure, coordinating with various public health and environmental entities.

3 Reduce carbon and other greenhouse gas emissions

Greenhouse gas emissions are directly linked to climate change. The continued emissions of these pollutants contribute to weather and temperature extremes, which increase wildfire severity and frequency. Take action to reduce major sources of greenhouse gas emissions.

SCHOOL OF PUBLIC HEALTH
LIFESTAGE ENVIRONMENTAL EXPOSURES AND DISEASE CENTER
UNIVERSITY OF MICHIGAN

Last revised 05/2023

The M-LEEaD Center's Community Engagement Core (CEC) increases awareness and understanding of environmental health research.

Stakeholder Advocacy Board members include:

- Community Health and Social Services
- Detroit Health Department
- Detroit Hispanic Development Corporation
- Detroiters Working for Environmental Justice
- Eastside Community Network
- Ecology Center
- Green Door Initiative
- Henry Ford Health System
- MDHHS
- Michigan Environmental Justice Coalition
- Sierra Club
- We the People of Detroit

Alison Walding
Project Manager
Community Engagement Core
walison@umich.edu

Why is it important to prevent wildfires and mitigate the effects of wildfire smoke?

1 Wildfires contribute to climate change

Wildfires emit greenhouse gasses, which directly contribute to climate change. Additionally, the reduction in forests as a result of wildfires reduce an area's ability to absorb carbon and mitigate climate change.

2 Wildfires can reduce water quality

Wildfires can increase the amount of sediments and toxins in fresh water sources, contaminating drinking water.

3 Wildfires create hazardous air

Fine particles from wildfire smoke can cause or worsen many respiratory and heat conditions. Wildfires also create volatile organic compounds, which are a precursor for ozone, another pollutant harmful to human health.

What are some health risks of wildfire smoke?

- Decreased lung function
- Coughing and wheezing
- Lung inflammation
- Bronchitis
- Worsening of asthma and other respiratory diseases
- Worsening heart disease
- Eye irritation

Who is most vulnerable to wildfire smoke?

- People with lung and heart disease
- Pregnant individuals
- Older adults
- Infants and young children

Please see http://mleead.umich.edu/Coec_Fact_Sheets.php for the citations included in this factsheet.
The University of Michigan Lifestage Environmental Exposures and Disease Center (M-LEEaD) Community Engagement Core (CEC) promotes collaboration among UM environmental health researchers and communities to advance knowledge of environmental health issues that affect community members in Detroit and Southeast Michigan.

Support for this research was provided by grant P30ES017885 from the National Institute of Environmental Health Sciences, National Institutes of Health.