

Wildland Firefighters

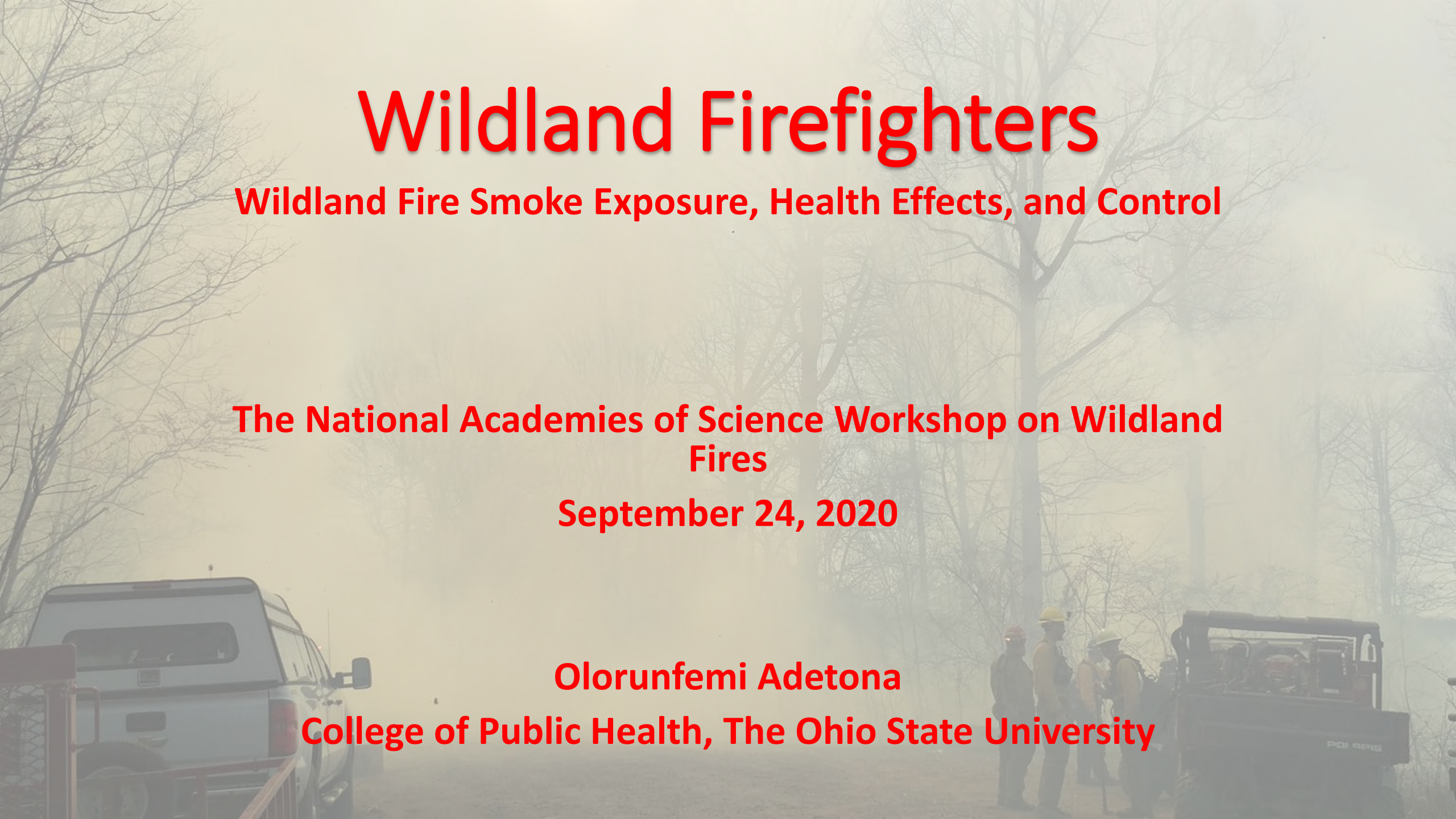
Wildland Fire Smoke Exposure, Health Effects, and Control

The National Academies of Science Workshop on Wildland
Fires

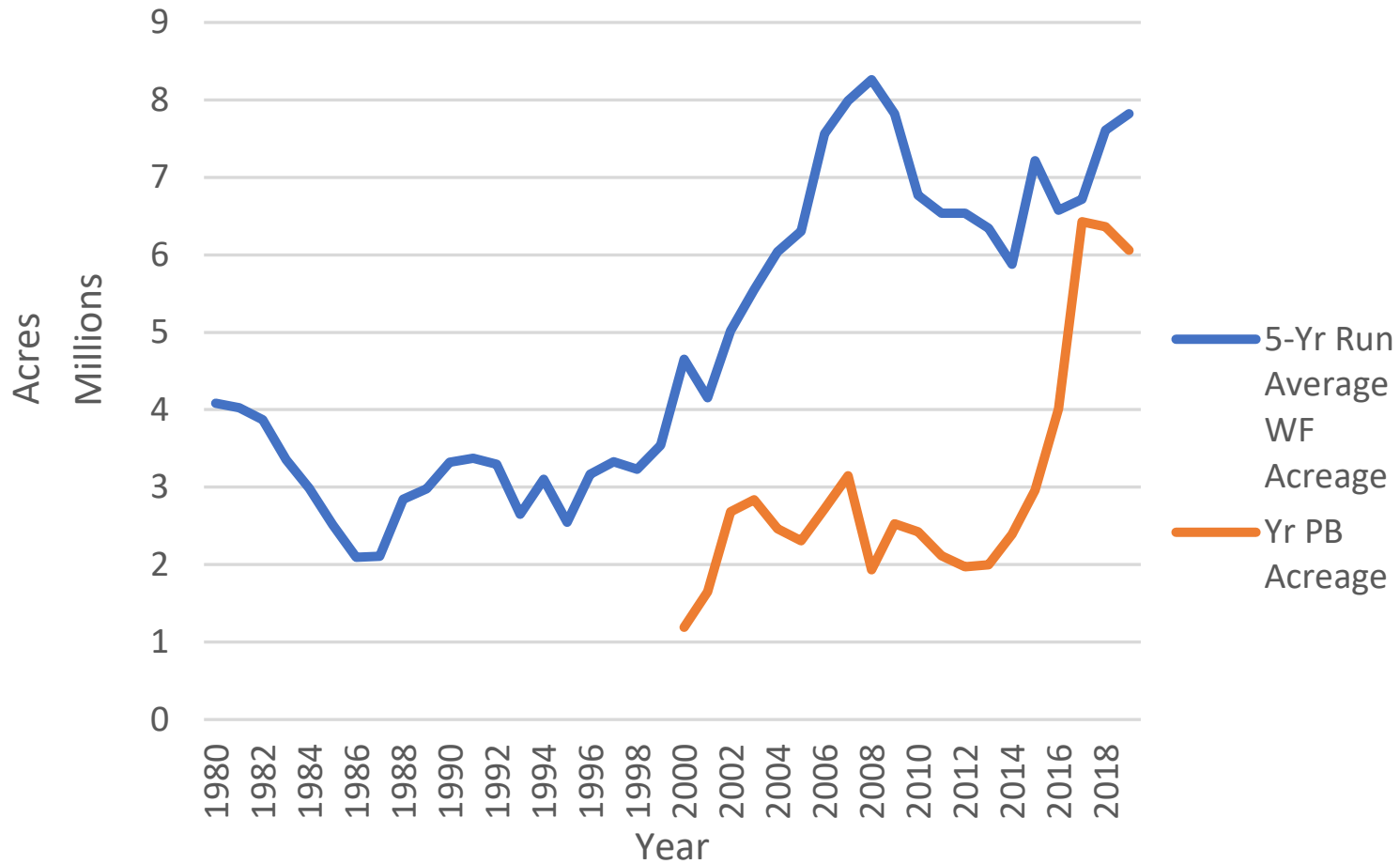
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Wildland Fire Acreage Data From National Interagency Fire Center



- WFF occupational health

- Exposure potential
- Wildfire acreage
- Prescribed burn acreage
- WUI



- Complexity of exposure
- PM – good measure but a simplification
- When PM is not available
 - CO, biomarkers of acute exposure
- Measures for chronic exposure?



- Acute physiological response + on-the-job cardiac events + on-the-job stroke
- Long-term adverse health impacts?
 - Risk assessment – increased LC and CVD mortality risk – Navarro K et al. 2019
 - Hypertension, elevated cholesterol – Semmens EO et al., 2016
 - Cross-seasonal changes in cardiometabolic measures in adverse direction – Coker RH et al., 2019
- Research challenges?



- Respiratory protection

- NFPA 1984 Standard
- Zero available
- Stop-gap measures?

- Total exposure

- Not just WF smoke
- Not just inhalation for WF smoke
- Other routes for WF smoke
- Control options for other routes



Taking It Home



- Potential for exposure increasing
- WFF exposure is complex and different from general population
- Need for respiratory protection
- Consideration of “total exposure” is essential
- Gaps to fill in exposure assessment and health research

THANK
YOU!

