

# WILDFIRE: THE BURNING SUMMER OF 2023



**JUNE 7: WORST AIR QUALITY DAY IN NYS**

**82%**

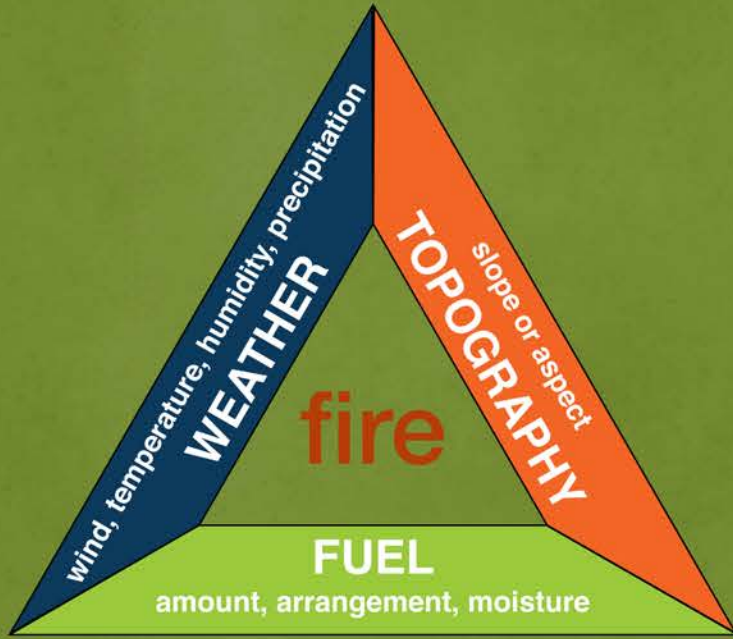
increase in asthma-associated ER visits statewide

Source: CDC

Anthony Quintano

# FOREST FIRE: A PRIMER

## TOOLS FOR FIRE MANAGEMENT



MECHANICAL THINNING

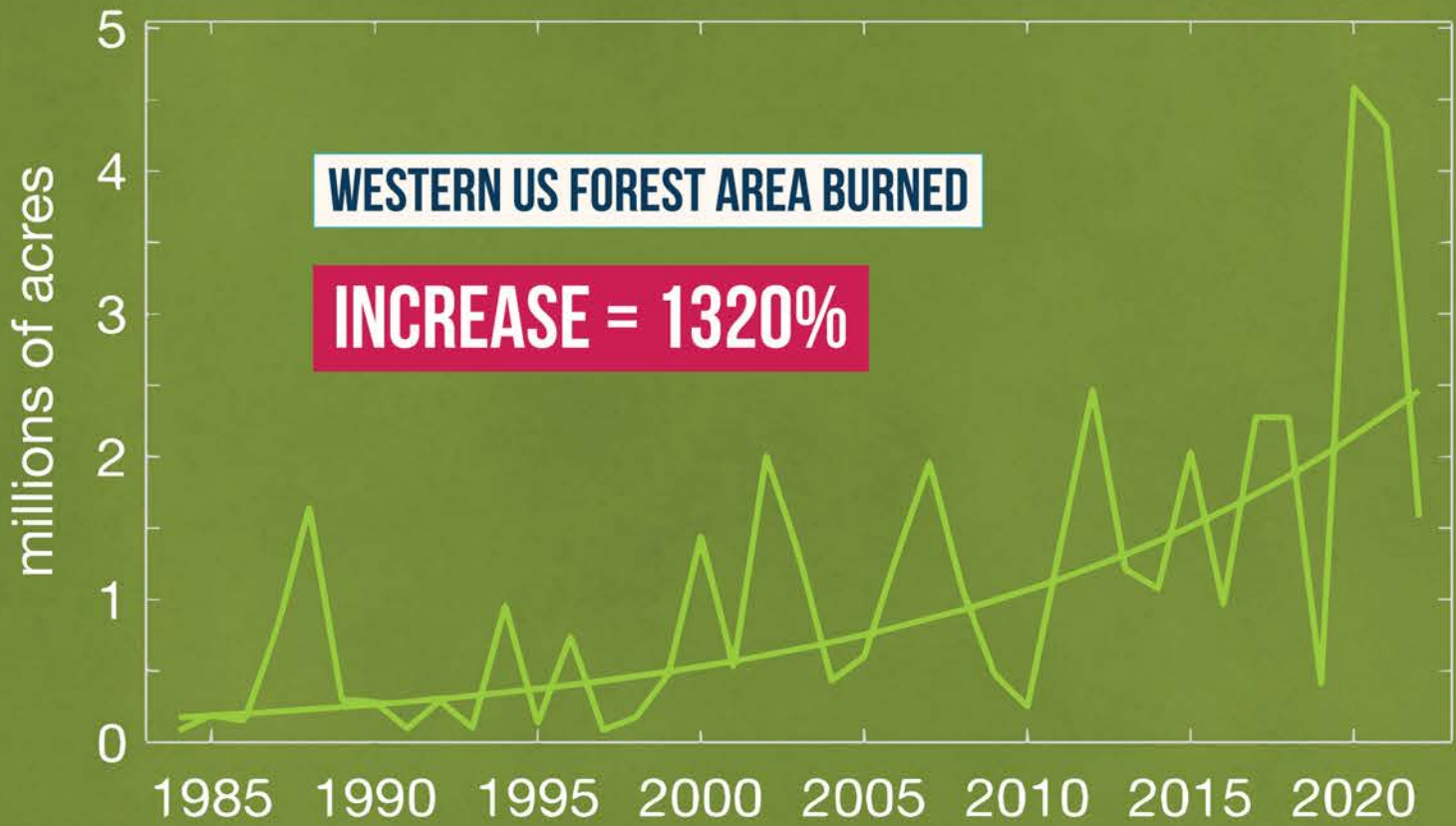
PRESCRIBED BURNING

WILDLAND FIRE USE

SUPPRESSION



# INCREASING BURN AREA & RISK



Source: Juang et al. 2022 Geophysical Research Letters



**Wildland-urban interface**  
Areas where houses are near wildland vegetation

## HOUSING UNITS IN WUI OF WESTERN US

Year	Housing Units
1990	9.9 M
2020	16.1 M

Source: Radeloff et al. 2018 PNAS

# FIRE ADAPTED ECOSYSTEMS

## CASE: YELLOWSTONE RECOVERY AFTER 1988 WILDFIRE

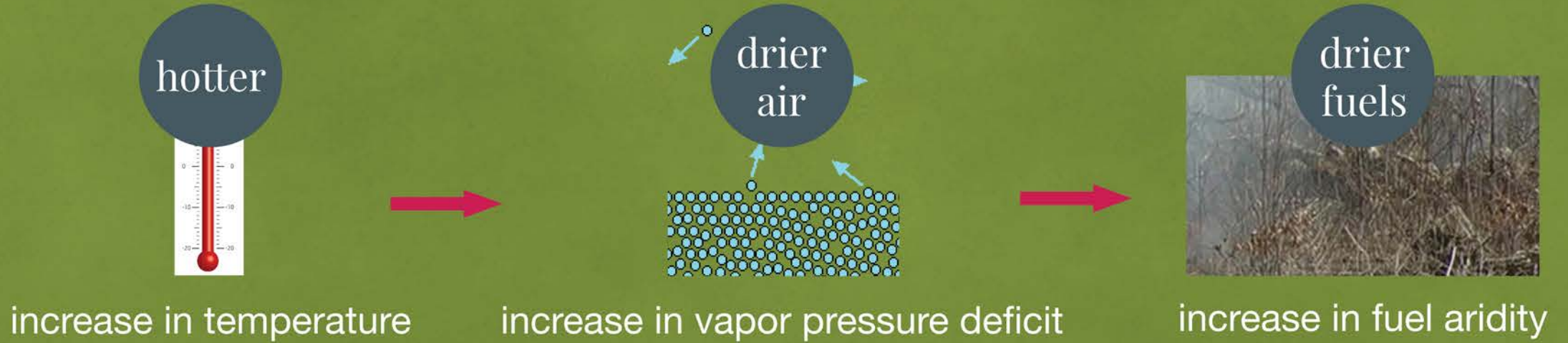
1989



2013



# WILDFIRE & CLIMATE CHANGE



Source: Williams et al. 2022 Nature Climate Change



# A LEGACY OF FIRE SUPPRESSION

1935

10 am policy decrees that every fire should be suppressed by 10 am the day following its initial report

1944



CASE: CALIFORNIA

PRE EURO-AMERICAN SETTLEMENT

1.5 million acres of forest burned each year

LATE 20<sup>TH</sup> CENTURY

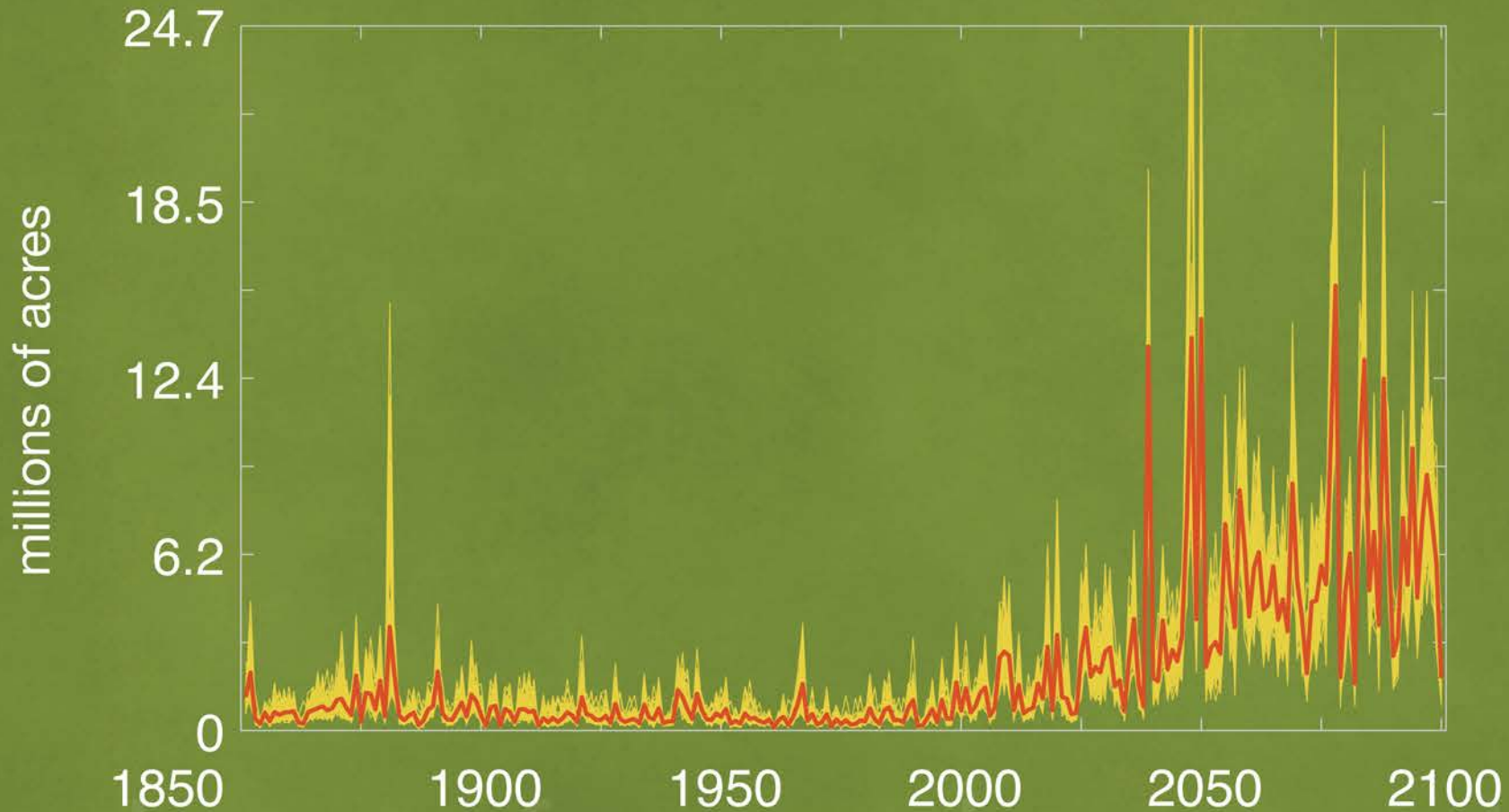
average of 57,000 acres of forest burned each year



YOSEMITE VALLEY, CA

# FOREST FIRES: FUTURE PROJECTIONS

## FOREST ACRES BURNED UNDER MODERATE CLIMATE CHANGE SCENARIO



Source: Williams et al. In Prep

1991-2020 vs 2021-2050

2X

increase in forest  
fire area burned

Source: Abatzoglou et al. 2021  
Nature Communications Earth and  
Environment



# LIVING WITH WILDFIRE: WHAT CAN BE DONE?



PRESCRIBED FIRES

+

SELECTIVE REMOVAL OF  
SMALLER TREES

=

LESS FUEL FOR FIRES



**Western Fire &  
Forest Resilience**  
C o l l a b o r a t i v e

**Co-create a research program that rapidly advances  
predictive fire ecology and forest resilience**

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*funded in part by*



# PREDICTIVE SCIENCE OF FIRE ECOLOGY





## Western Fire & Forest Resilience Collaborative

Science for coordinated efforts that scale to a national strategy



**Winslow Hansen, Cary Institute  
Director**



**Miriam Marlier, UCLA  
Consequences for Ecosystem Services**



**Kristina Bartowitz, American Forests  
Management and Policy Liaison**



**Volker Radeloff, University of Wisconsin - Madison  
Consequences for Ecosystem Services**



**Brian Harvey, University of Washington  
Tracking Forests and Fire**



**Anna Trugman, UC - Santa Barbara  
Mechanisms of Forest Resilience**



**Lara Kueppers, UC - Berkeley  
Mechanisms of Forest Resilience**



**Park Williams, UCLA  
Projecting Forests and Fire**

# WHAT CAN YOU DO?

Support Prescribed Fire



Encourage restoration of ecologically appropriate fire.

Advocate for Science



Addressing the wildfire crisis requires the best available science to inform management. Support funding for fire-science research.

Push for Policy & Investment



Urge your elected officials to pass climate mitigation and adaptation policies.



**Cary Institute**  
of Ecosystem Studies

## Questions for Winslow Hansen?

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**Western Fire &  
Forest Resilience**  
Collaborative

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