

# MYTHS ABOUT WILDFIRE IN HAWAII





# Hawaii Wildfire Management Organization

501(c)3 nonprofit organization since 2002, formed 2000

Vision: For the people and places of Hawaii and the Pacific to be wildfire-ready and wildfire-resilient



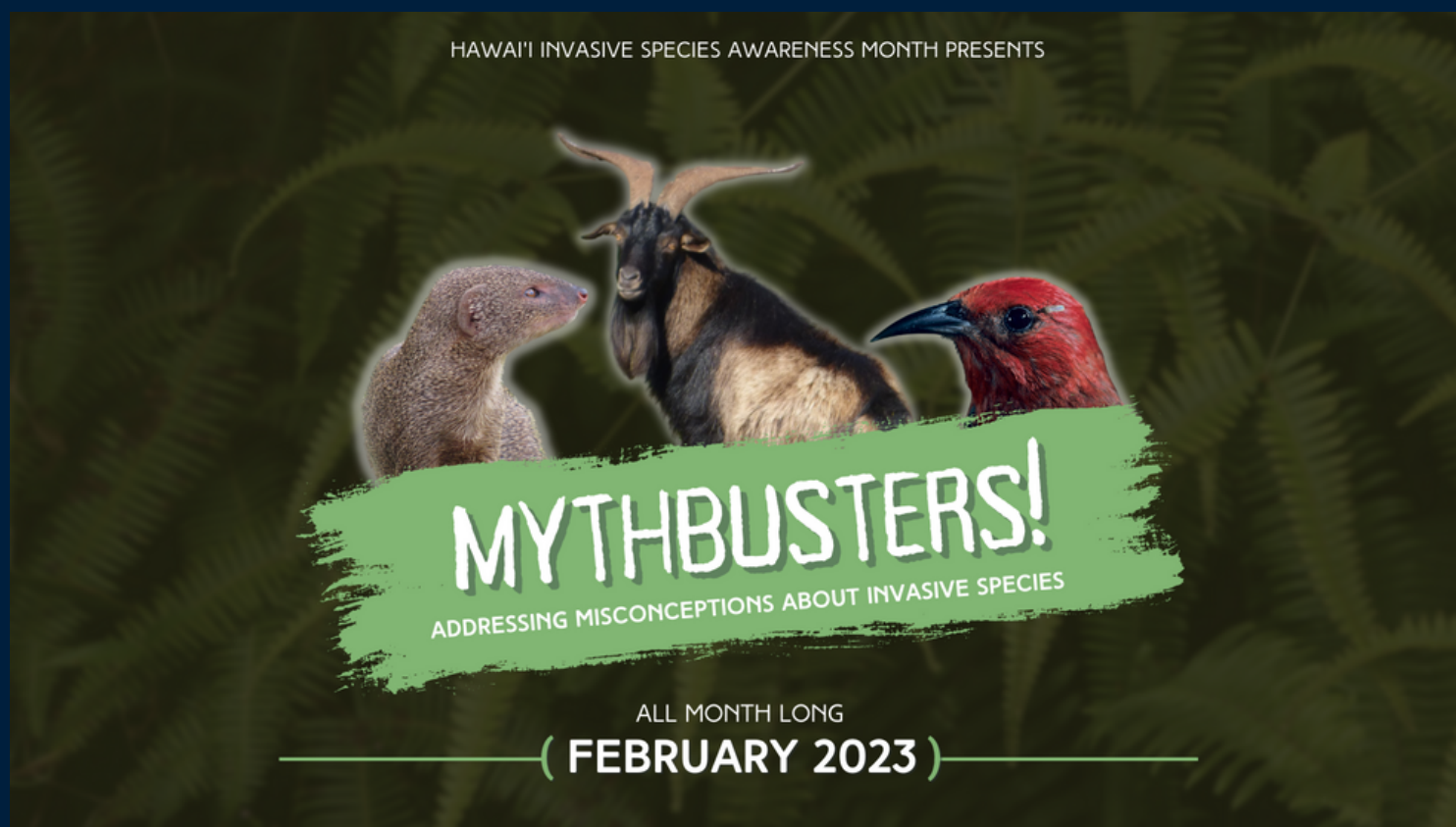
- Hub for wildfire prevention, mitigation, and planning activities
- Proactive, Collaborative, Multi-Partner, Forward-Thinking

[hawaiiwildfire.org](http://hawaiiwildfire.org)





# MAHALO TO OUR HOSTS!



# MAHALO TO OUR FUNDERS!



USFS Fire & Aviation Management, Cooperative Fire: directly & via Wildland-Urban Interface Competitive Grant Program & via USFS Institute for Pacific Islands Forestry



Joint Fire Science Program



HI State Legislature: Grant In Aid Program



HI Division of Forestry & Wildlife



County of Hawaii Grant in Aid Program



*And fundraisers... thanks for your support!*



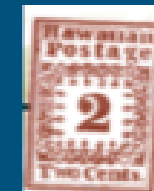
National Fish & Wildlife Foundation- Coral Reef Conservation Fund



Coalitions & Collaboratives, Inc



Fire Adapted Communities Network



Atherton Family Foundation



Hawaii Community Foundation & Richard Smart Fund



Hawaiian Electric

# **MYTHS ABOUT WILDFIRE CAUSES**

# Myth # 1

**WILDFIRES ARE AN  
INEVITABLE FACT  
OF NATURE**



# Myth # 1

WILDFIRES  
INEVITABLE  
OF NATURE

**FALSE**





**99% OF WILDFIRES  
IN HAWAII ARE  
CAUSED BY  
HUMANS**



# Myth #2

**HUMAN-  
CAUSED  
WILDFIRES IN  
HAWAII ARE  
MOSTLY  
ARSON**





# Myth #2

**HUMAN  
CAUSED  
WILDFIRES IN  
HAWAII ARE  
MOSTLY  
ARSON**





**ACCIDENTAL  
IGNITIONS  
MAKE UP  
APPROX 75%  
OF WILDFIRE  
IGNITIONS IN  
HAWAII**

# Myth #3



**CIGARETTES  
ARE A MAIN  
CAUSE OF  
ACCIDENTAL  
IGNITIONS**

# Myth #3



**CIGARETTES  
ARE A MAJOR  
CAUSE OF  
ACCIDENTAL  
IGNITIONS**

# **MOST COMMON ACCIDENTAL IGNITIONS:**



**VEHICLES**



**CAMPFIRES**



**EQUIPMENT**



**FIREWORKS**

# **BUSTING MYTHS ABOUT FIRE ON THE LANDSCAPE**

# Myth #4

**WE NEED FIRE FOR  
ECOSYSTEM  
HEALTH &  
FUNCTION**





# Myth #4

**WE NEED FIRE FOR  
ECOSYSTEM  
HEALTH &  
FUNCTION**



In Hawaii, damage spreads quickly from summit to sea, and impacts **air, land, and water** causing **catastrophic impacts** to Hawai'i's irreplaceable natural resources and to human health and safety.





Smoke & Dust



Post-fire erosion



Post-fire  
erosion  
smothers reefs





Smoke & Dust



Post-fire erosion



A healthy reef



Post-fire  
erosion  
smothers reefs



# Myth #5

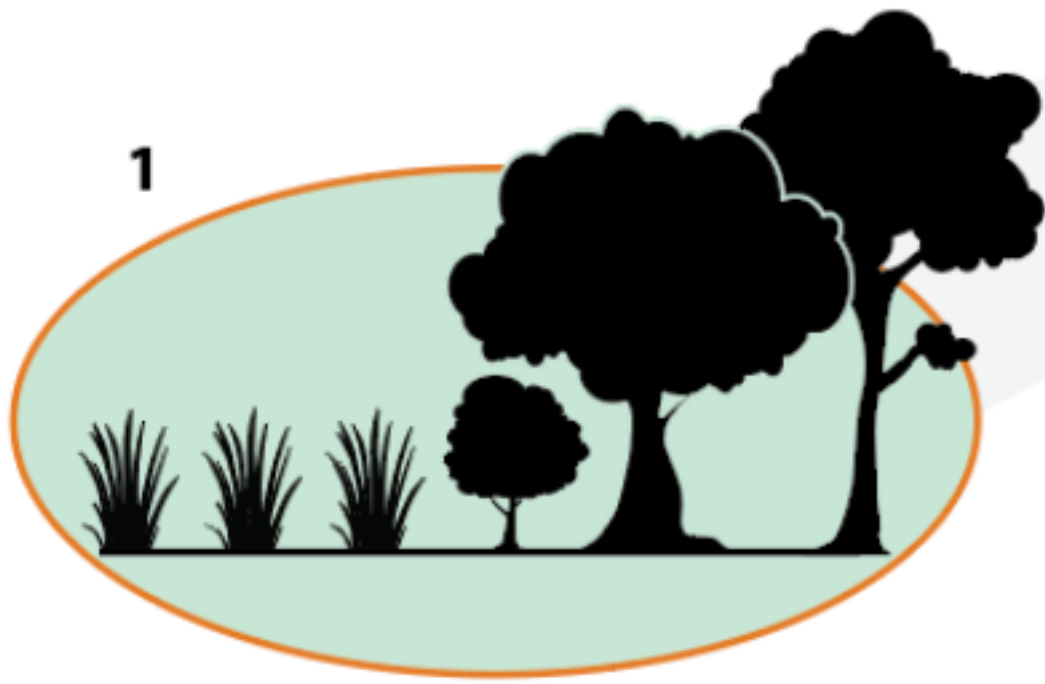
**GRASS BURNS  
AND GROWS  
RIGHT BACK,  
NO BIG DEAL**

# Myth #5

Not so true... let's take a deeper look



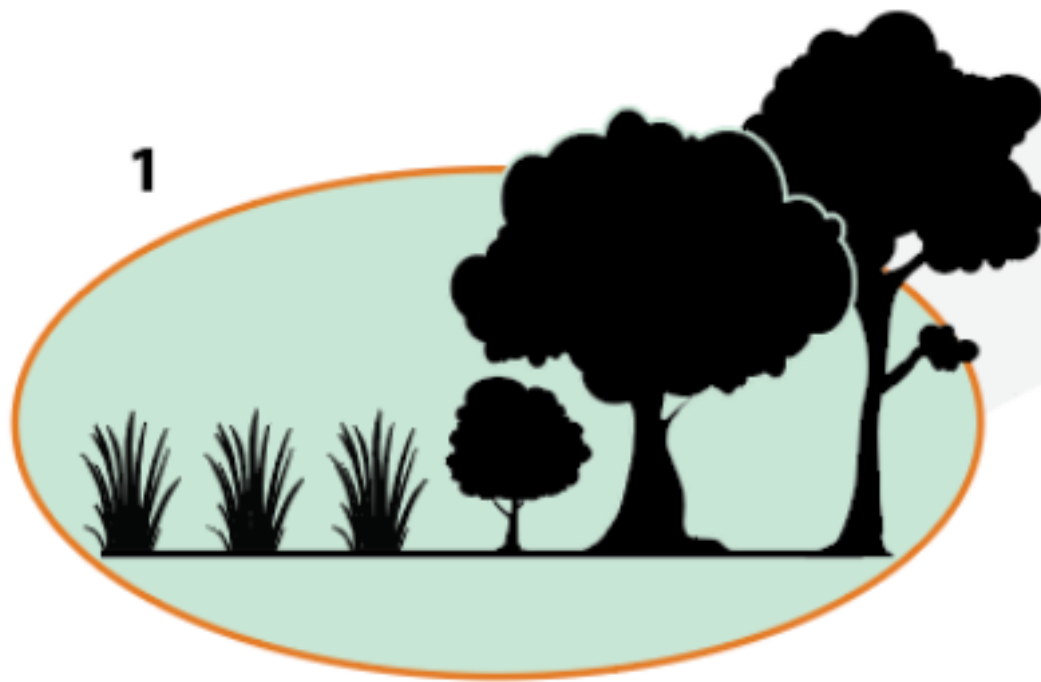
**GRASS BURNS  
AND GROWS  
RIGHT BACK,  
NO BIG DEAL**



Recurrent fires reduce the size of remnant forests, further increasing the area of grasslands<sup>1</sup>.

## **THE GRASS-FIRE CYCLE ON PACIFIC ISLANDS**





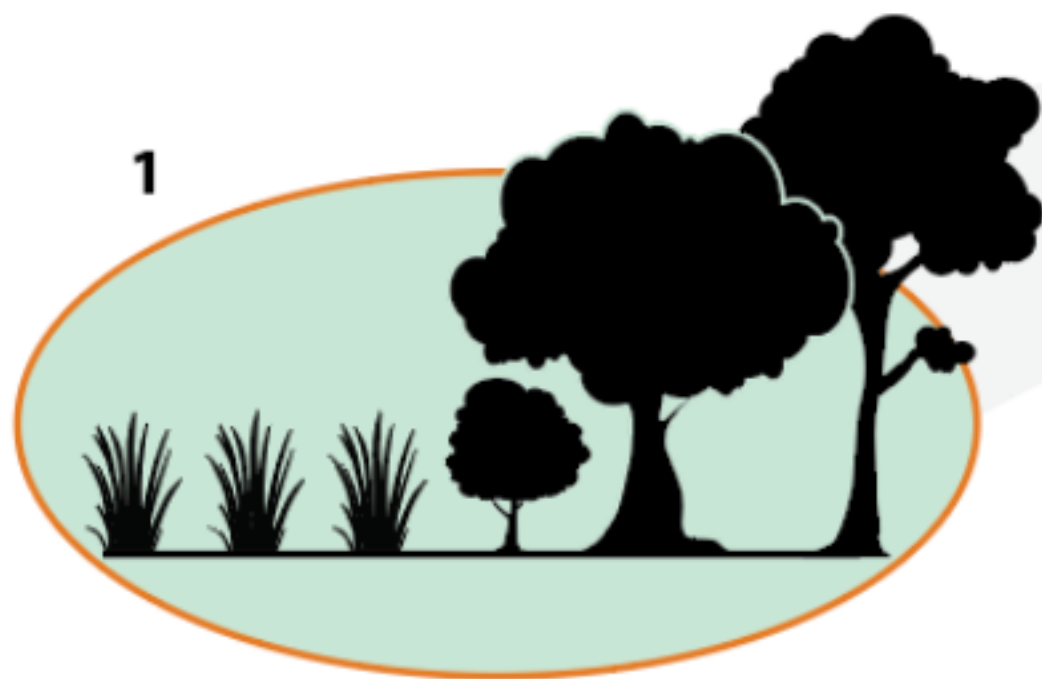
Grasses can carry fire from grass-dominated areas into forested and woodland areas<sup>3</sup>, as well as to communities where people live.



Recurrent fires reduce the size of remnant forests, further increasing the area of grasslands<sup>1</sup>.

## **THE GRASS-FIRE CYCLE ON PACIFIC ISLANDS**





Grasses can carry fire from grass-dominated areas into forested and woodland areas<sup>3</sup>, as well as to communities where people live.

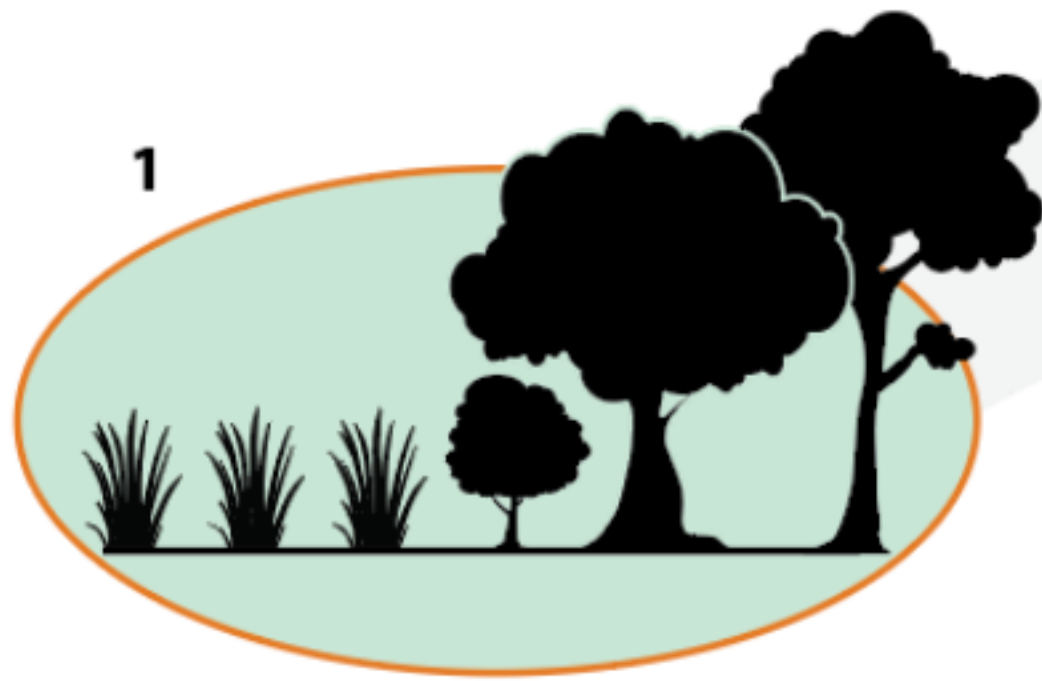


Many native trees and shrubs of Pacific Island forests are killed by repeated fires<sup>4</sup>. The negative impacts of even one single high-intensity fire can last for decades<sup>5</sup>.

Recurrent fires reduce the size of remnant forests, further increasing the area of grasslands<sup>1</sup>.

## THE GRASS-FIRE CYCLE ON PACIFIC ISLANDS

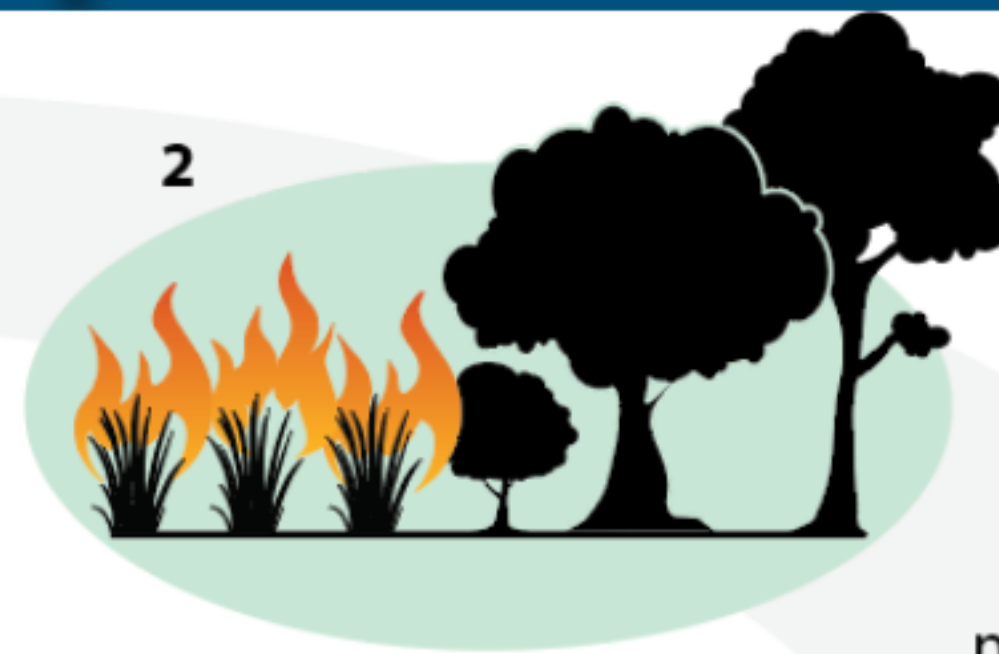




1

Grasses can carry fire from grass-dominated areas into forested and woodland areas<sup>3</sup>, as well as to communities where people live.

Recurrent fires reduce the size of remnant forests, further increasing the area of grasslands<sup>1</sup>.



2

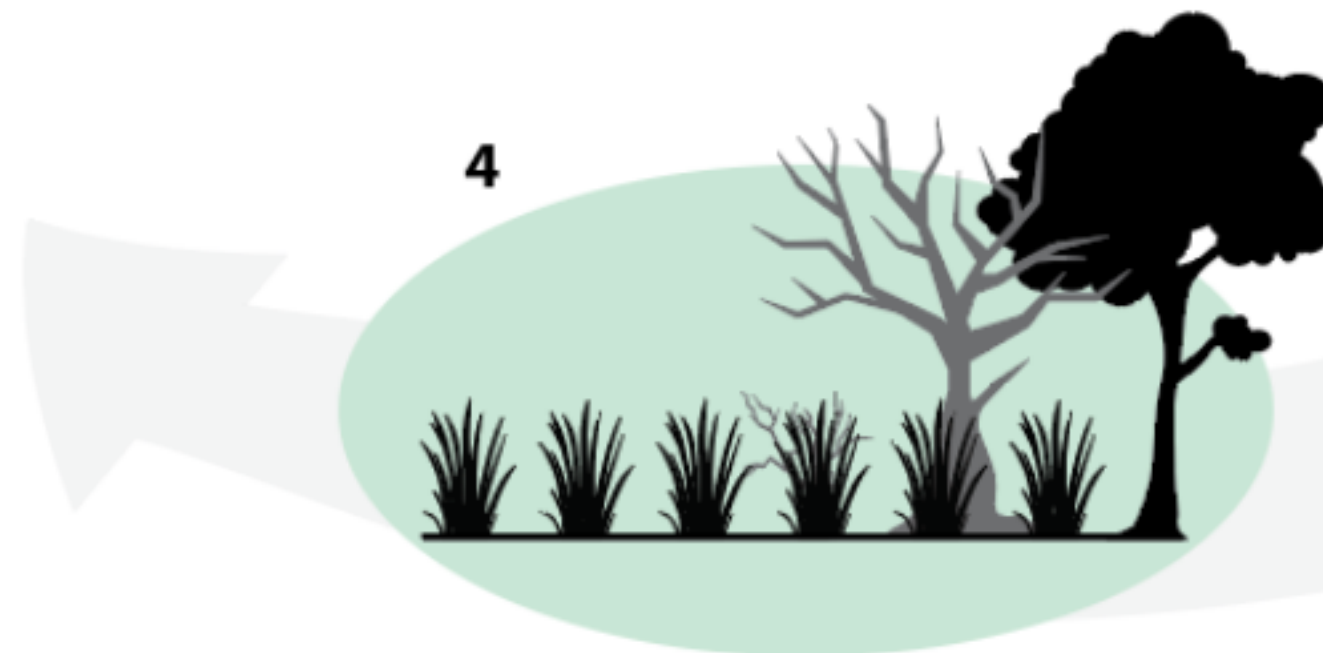
Many native trees and shrubs of Pacific Island forests are killed by repeated fires<sup>4</sup>. The negative impacts of even one single high-intensity fire can last for decades<sup>5</sup>.

## THE GRASS-FIRE CYCLE ON PACIFIC ISLANDS



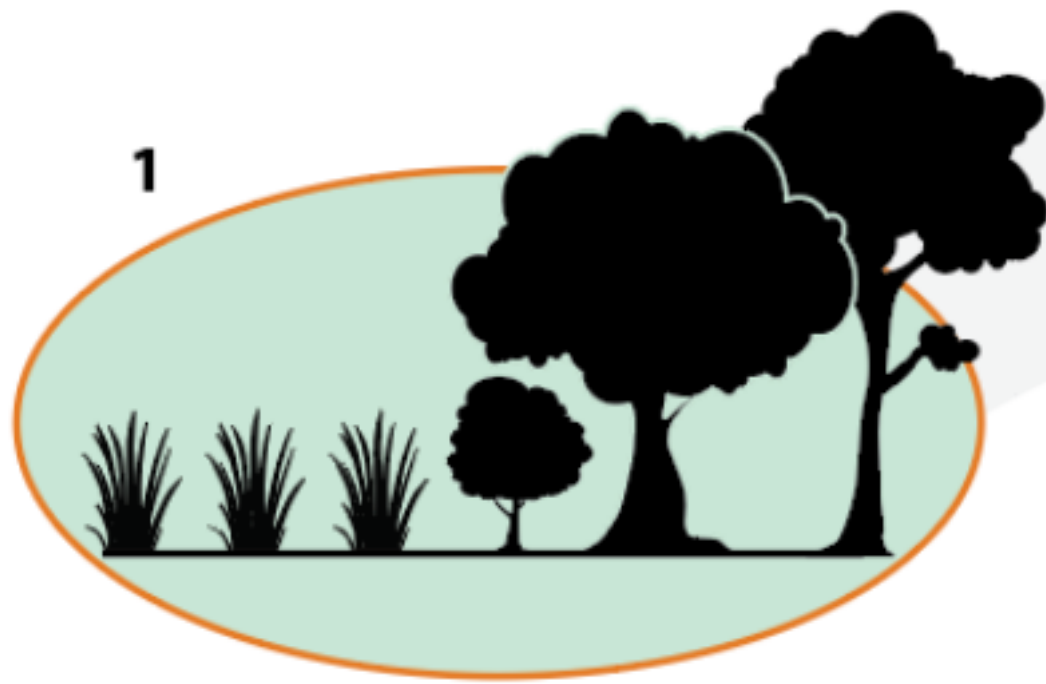
3

Grasses are able to seed and re-sprout shortly after fire, taking up light, water, and space. This competition for resources limits the ability of native plants to establish and may cause areas to become "stuck" in a grassland state<sup>2</sup>.



4





Grasses can carry fire from grass-dominated areas into forested and woodland areas<sup>3</sup>, as well as to communities where people live.



Many native trees and shrubs of Pacific Island forests are killed by repeated fires<sup>4</sup>. The negative impacts of even one single high-intensity fire can last for decades<sup>5</sup>.

Recurrent fires reduce the size of remnant forests, further increasing the area of grasslands<sup>1</sup>.

## THE GRASS-FIRE CYCLE ON PACIFIC ISLANDS



Grasses are able to seed and re-sprout shortly after fire, taking up light, water, and space. This competition for resources limits the ability of native plants to establish and may cause areas to become "stuck" in a grassland state<sup>2</sup>.



The spread of grasses increases the likelihood and size of future fires.





the result

**native Hawaiian wilderness**

VS.



Hawai'i's modern "wilderness"



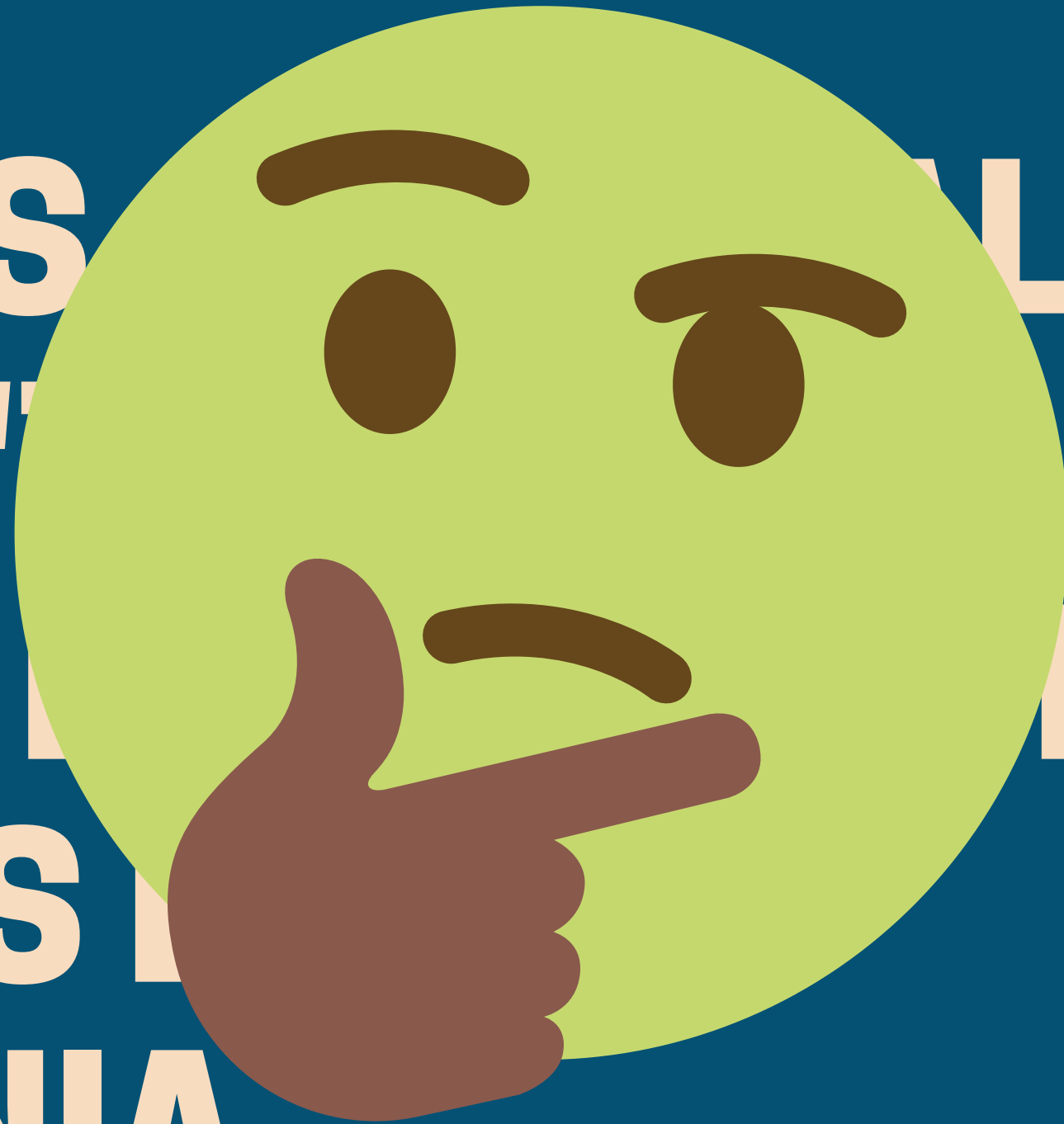
# Myth #6

OUR FIRES ARE SMALL  
AND DON'T HAVE BIG  
IMPACTS LIKE THEY DO  
IN PLACES LIKE  
CALIFORNIA.



# Myth #6

OUR FIRES  
AND DON'T  
IMPACTS  
IN PLACES  
CALIFORNIA.

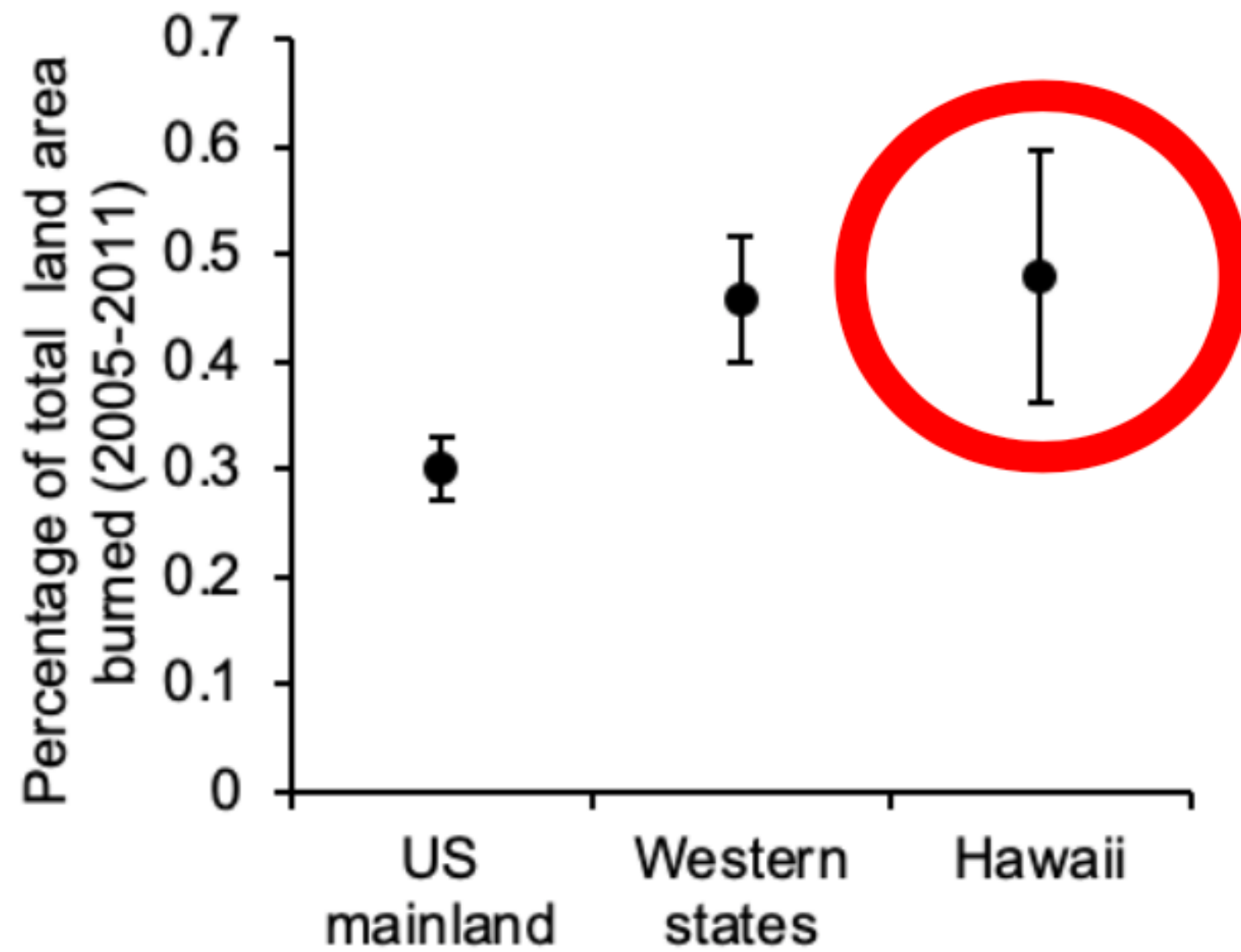


ALL  
DO

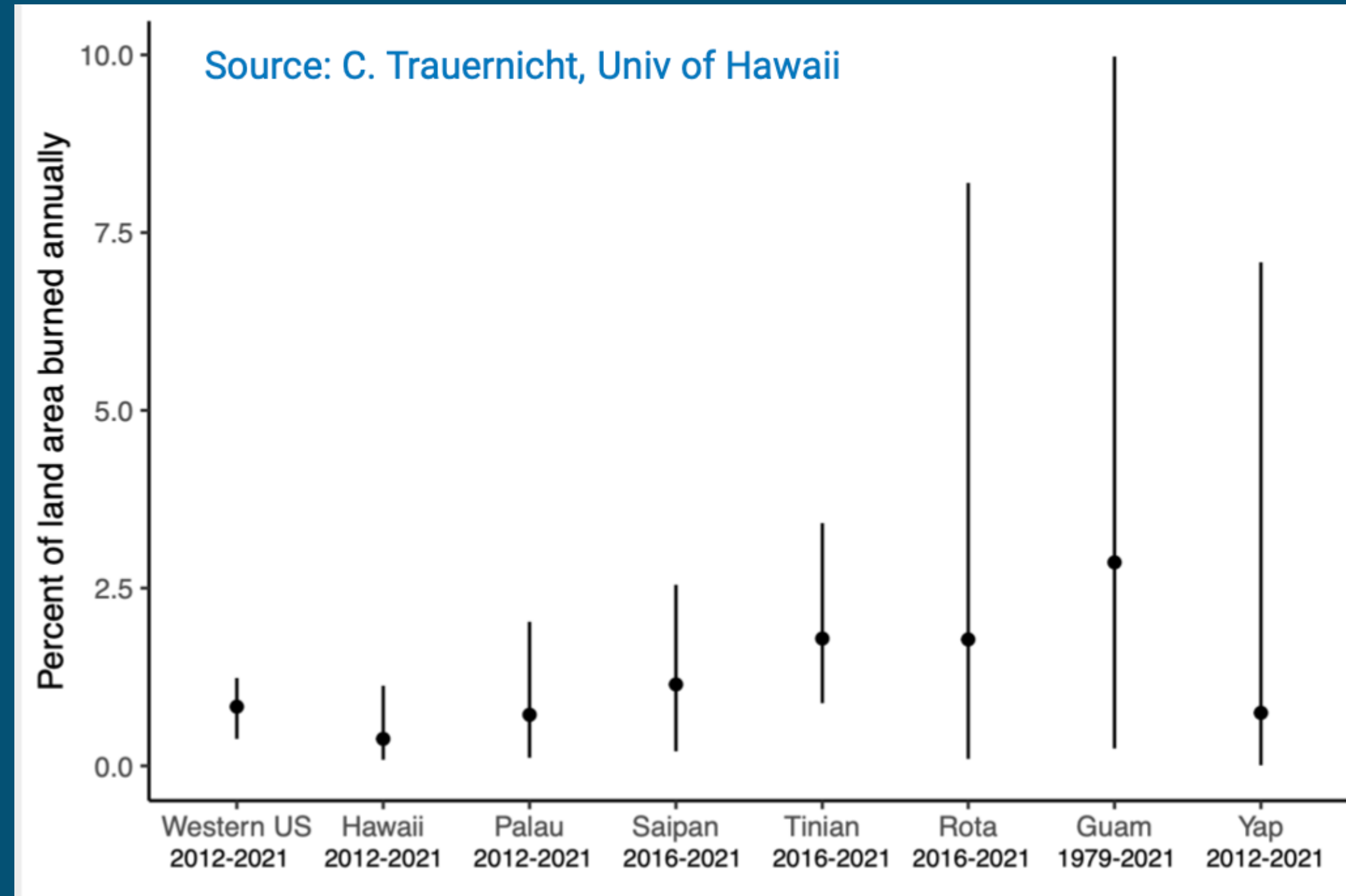
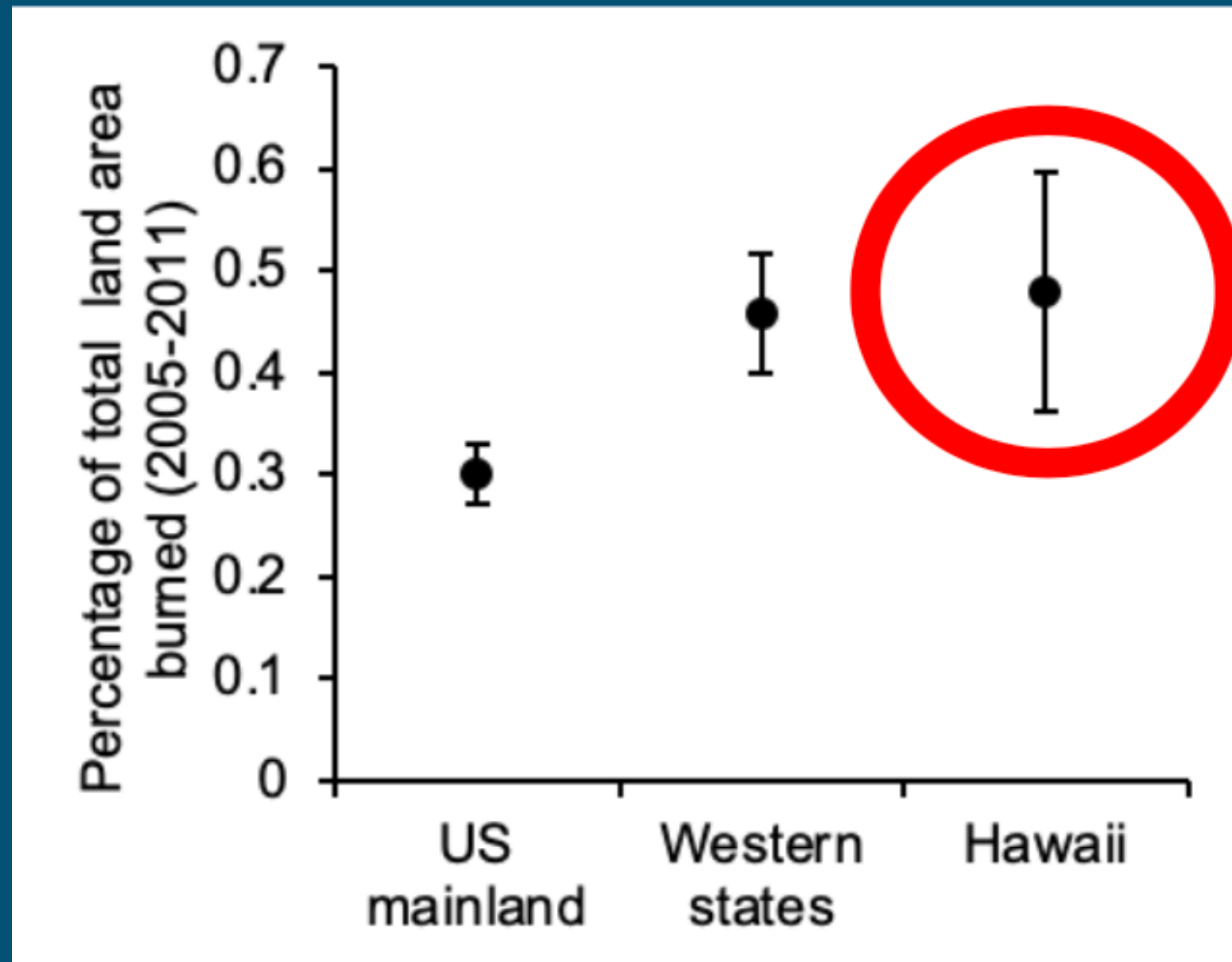




# PROPORTION OF HAWAII THAT BURNS MAKES IT ONE OF MOST FIRE PRONE STATES



# PROPORTION OF HAWAII THAT BURNS MAKES IT ONE OF MOST FIRE PRONE STATES

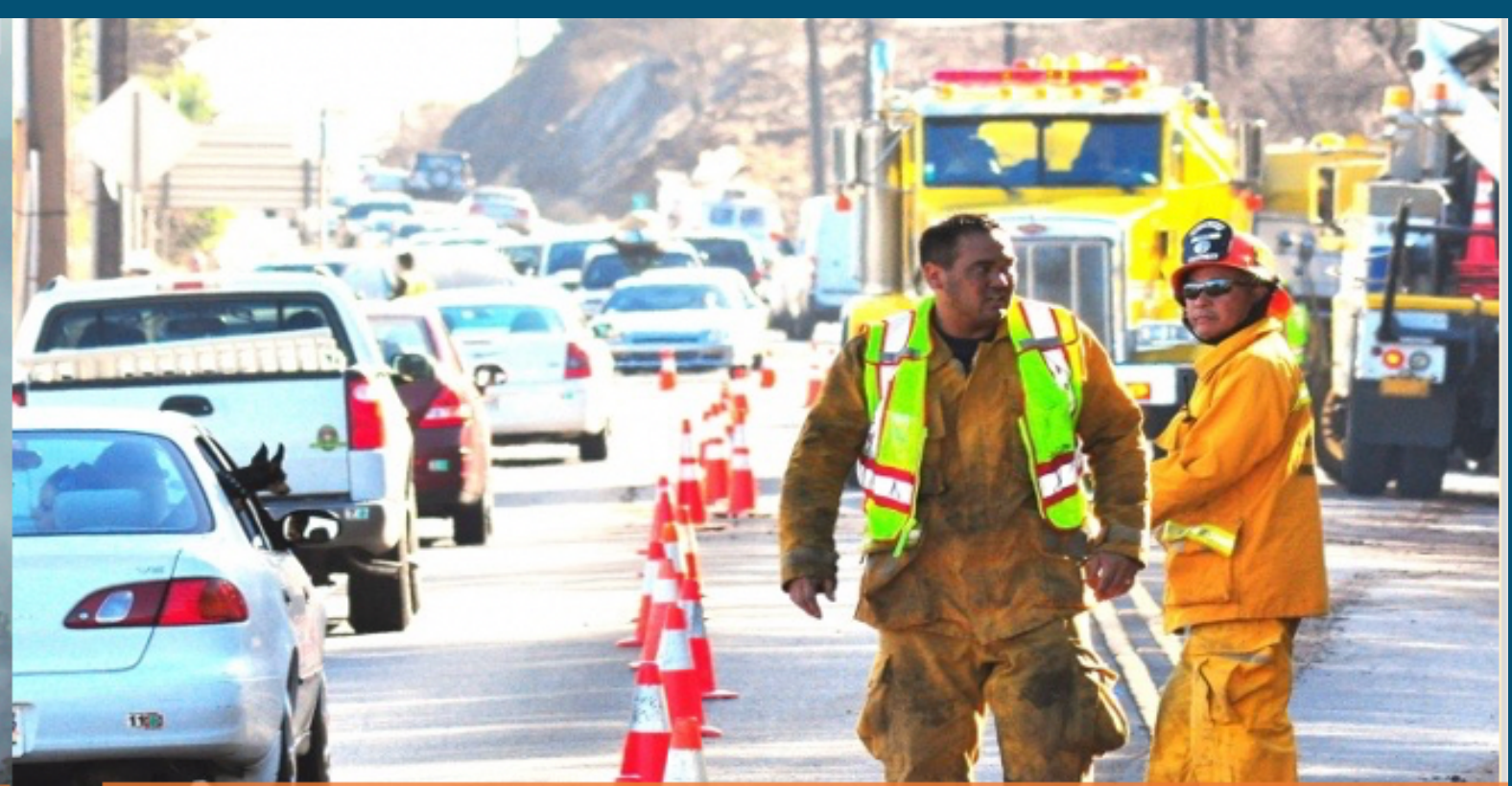


## PACIFIC ISLANDS ALSO EXPERIENCING SIGNIFICANT FIRES





Loss of natural resource health  
and function, native species



Traffic, road closures, expensive,  
lives endangered



Erosion and downstream  
sedimentation damages  
streams, coral reefs, fisheries

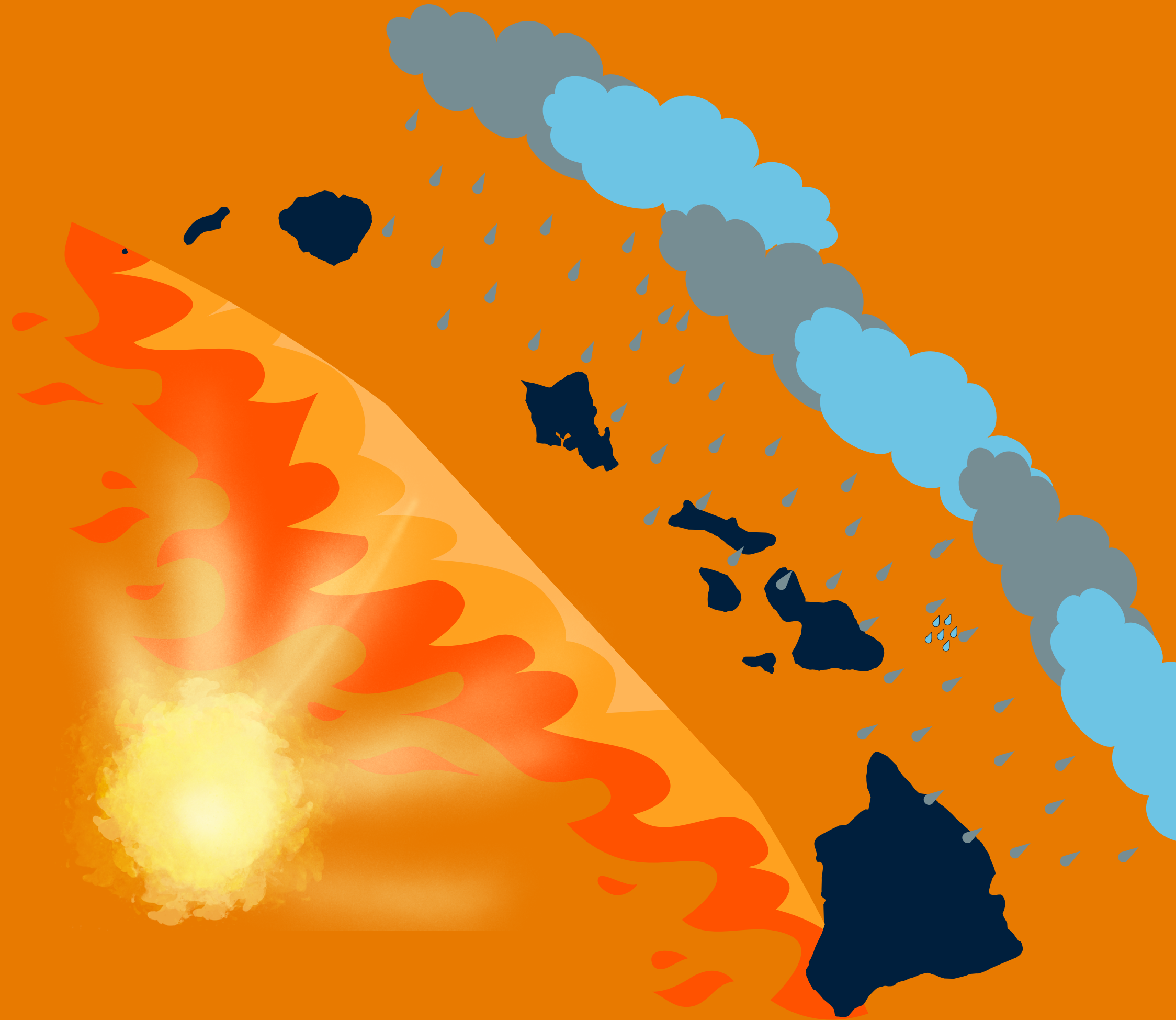


Homes and community  
infrastructure at risk



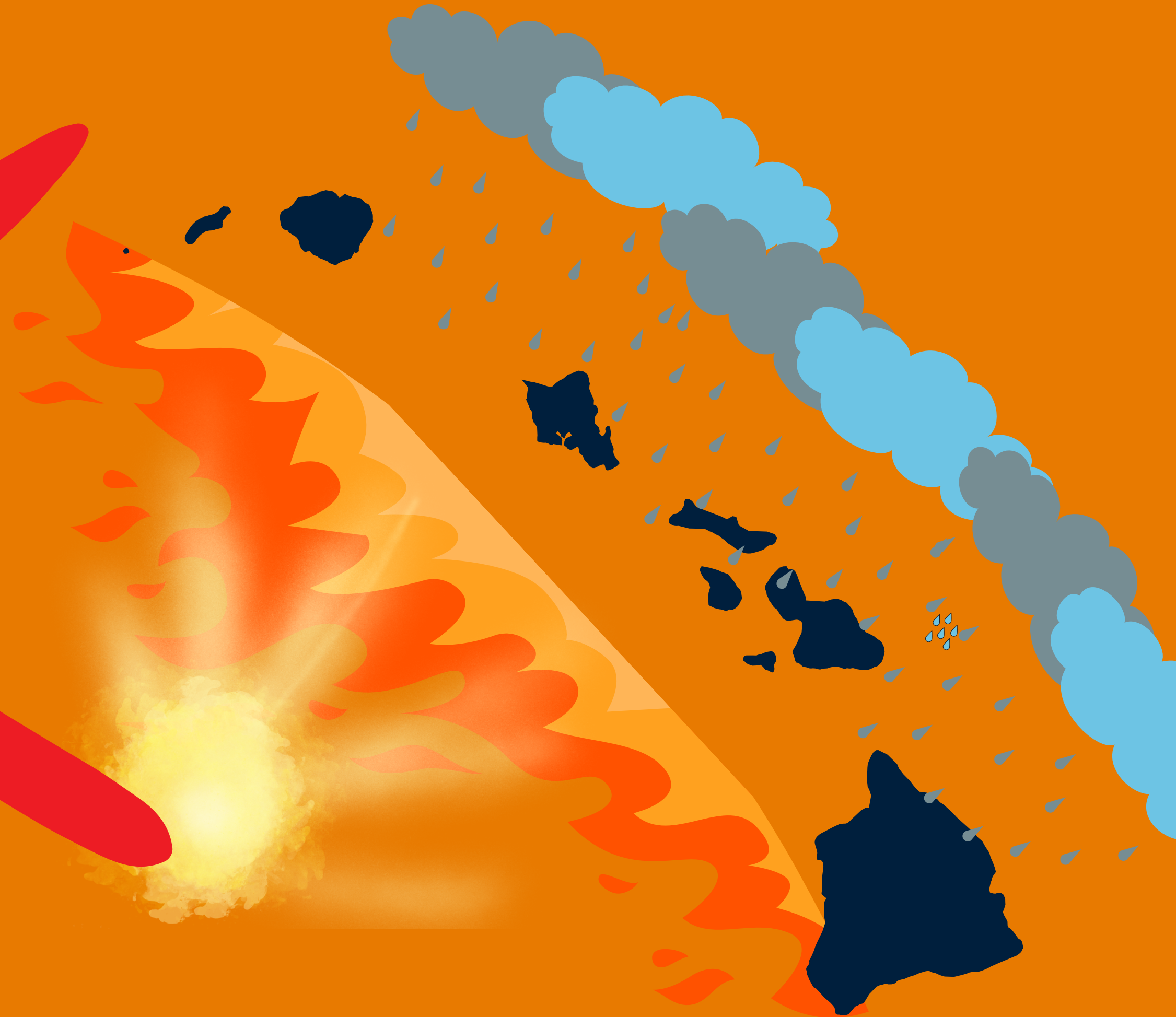
# Myth #7

**ONLY THE  
LEEWARD/  
DRY SIDES  
BURN**

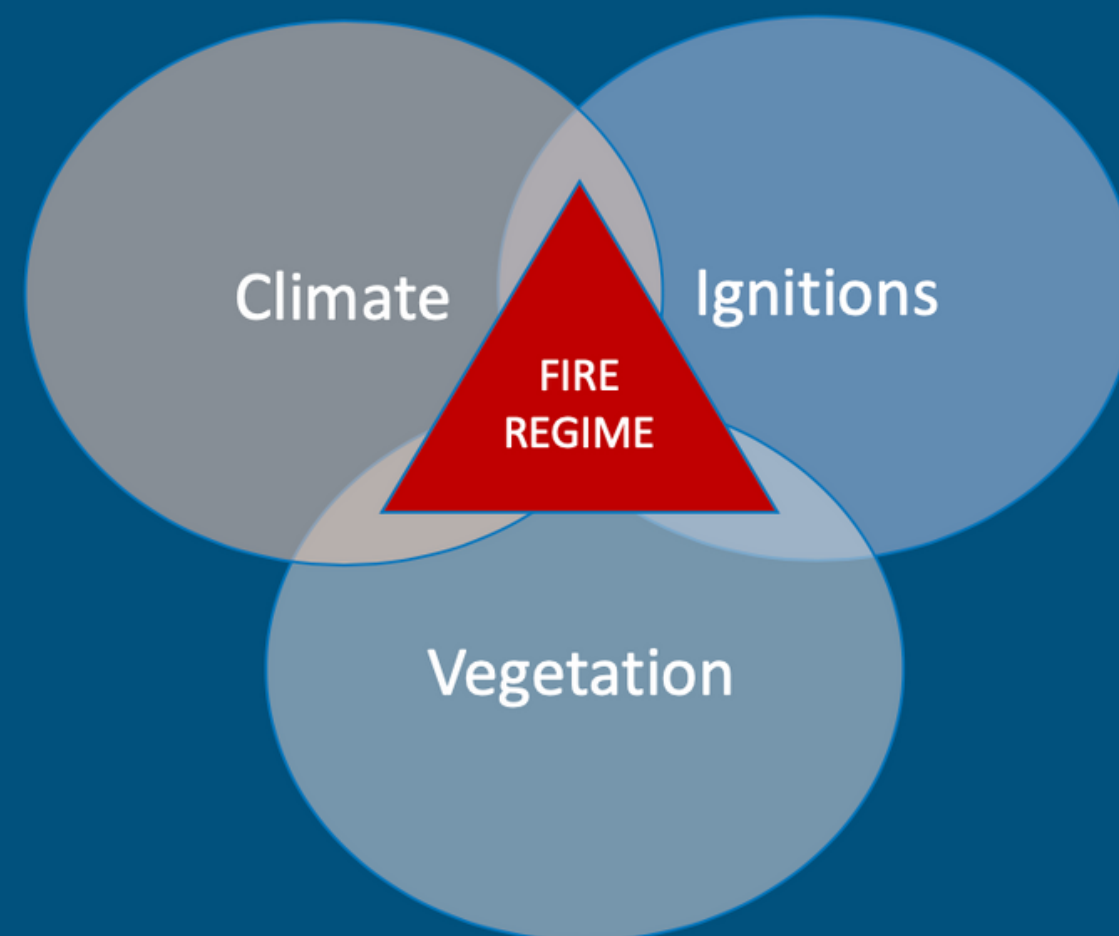


# Myth #7

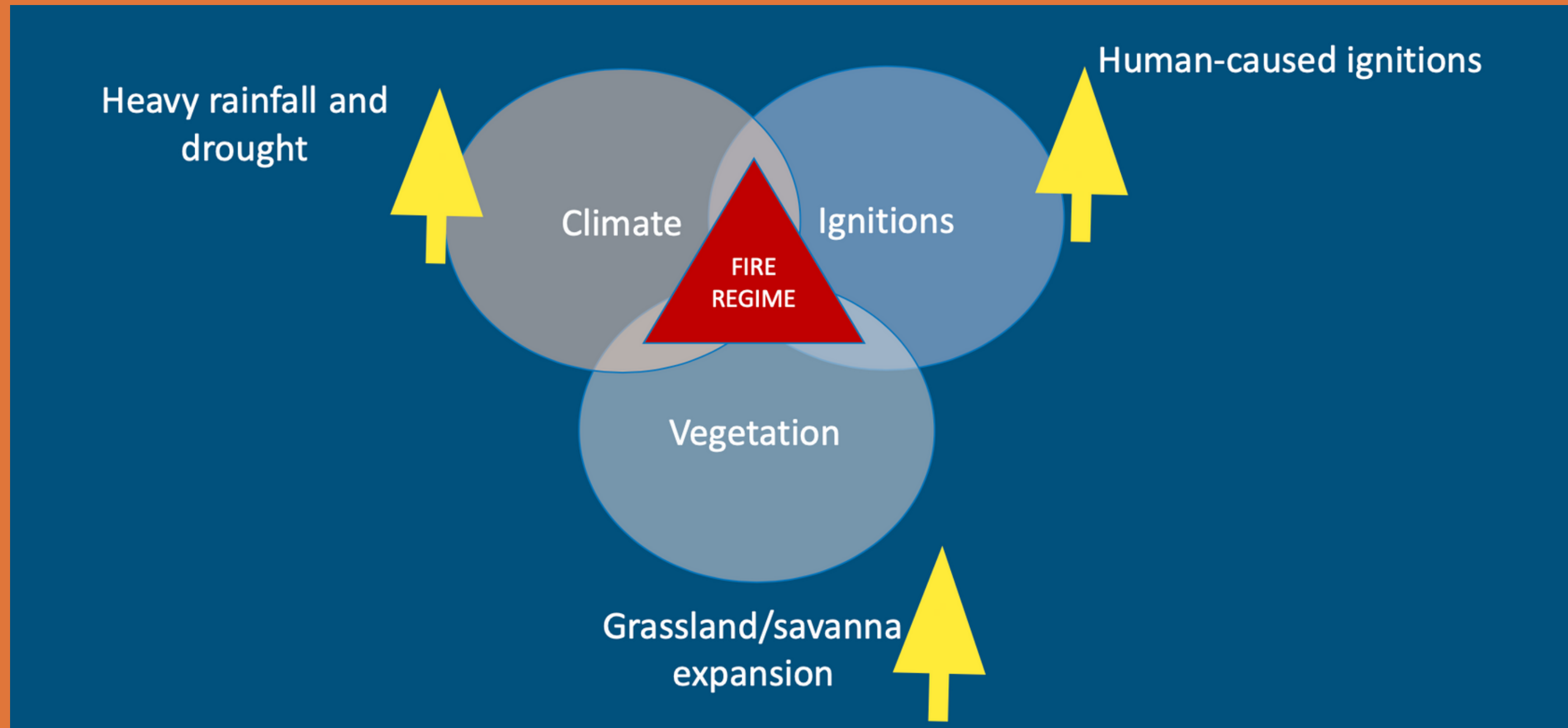
~~ONLY THE  
LEEWARD/  
DRY SIDES  
BURN~~



# WILDFIRE OCCURRENCE DEPENDS ON WHAT IS HAPPENING WITH CLIMATE, PEOPLE, & VEGETATION



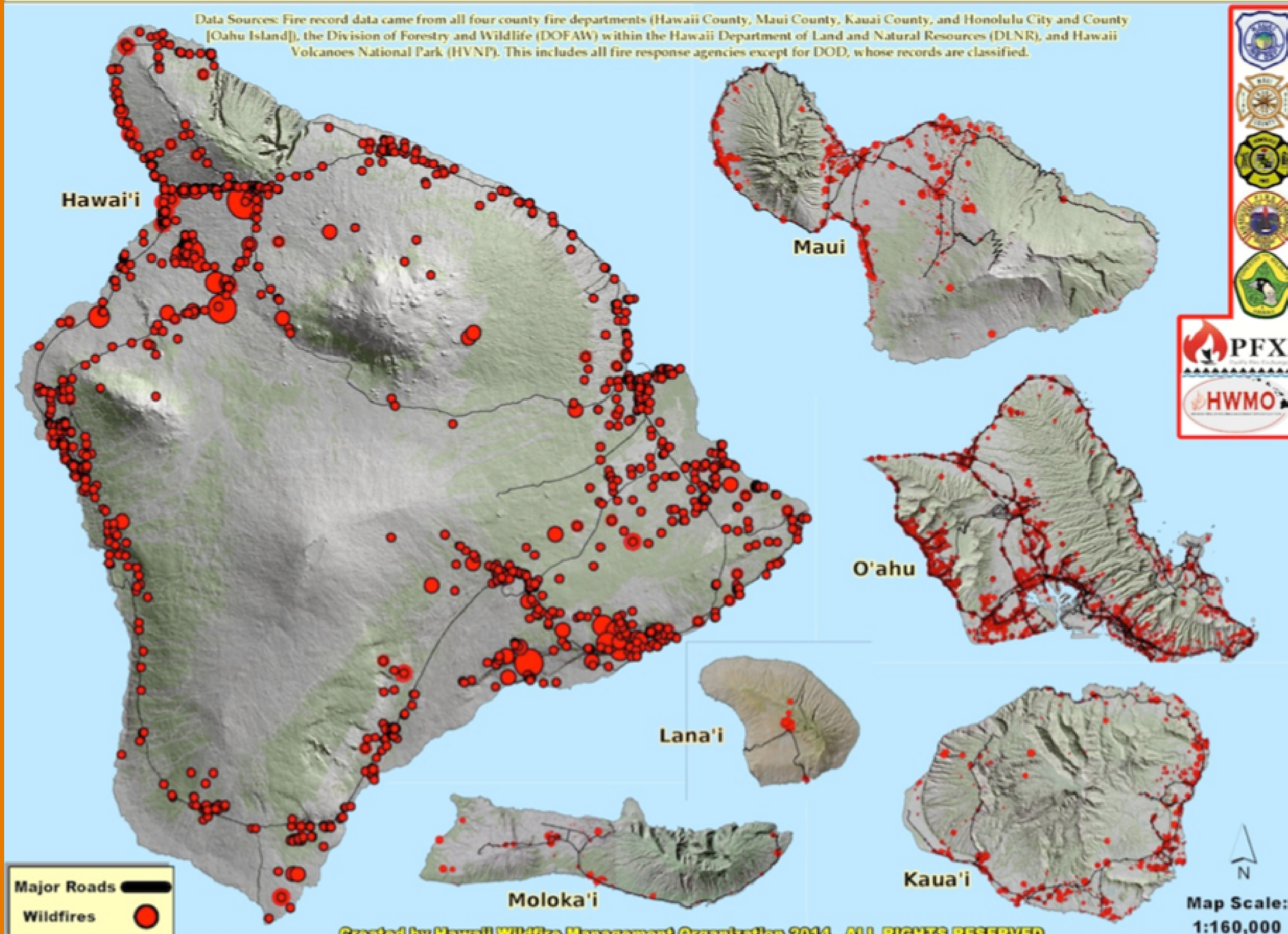
# WILDFIRE OCCURRENCE DEPENDS ON WHAT IS HAPPENING WITH CLIMATE, PEOPLE, & VEGETATION



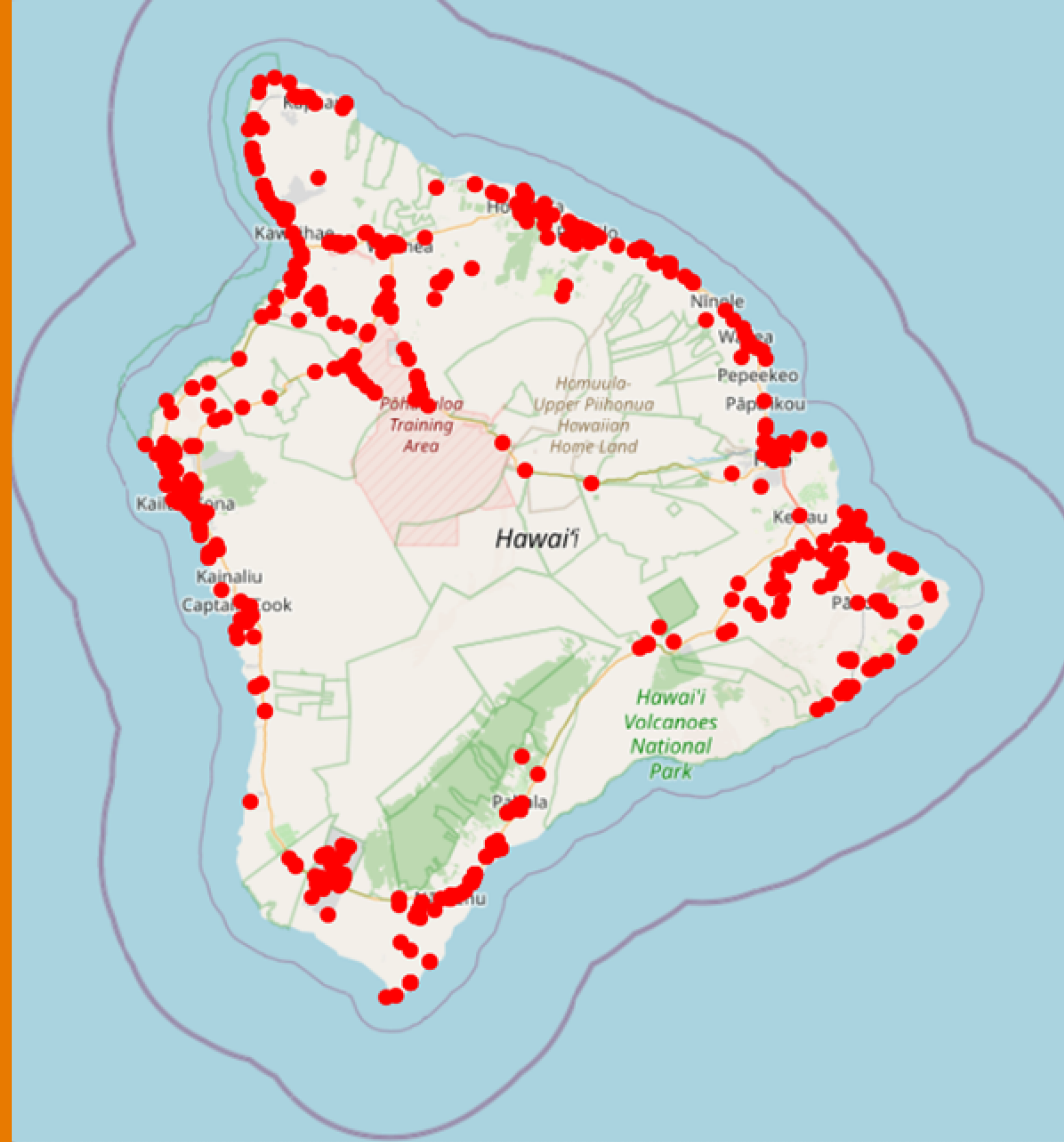


# Wildfire Incidents for the 6 Main Hawaiian Islands

Data Sources: Fire record data came from all four county fire departments (Hawaii County, Maui County, Kauai County, and Honolulu City and County [Oahu Island]), the Division of Forestry and Wildlife (DOFAW) within the Hawaii Department of Land and Natural Resources (DLNR), and Hawaii Volcanoes National Park (HVNVP). This includes all fire response agencies except for DOD, whose records are classified.



# 2017-2023





**HFD: Brush fire on Hawaii Island scorches 1,400 acres; 90% contained**



HAWAII  
**NEWS NOW**

Hawaii County authorities said both lanes of Highway 19 in Paauilo remain shut down because of a gro fire. (Nicola Nakama-Ching)

By HNN Staff

Published: Jun. 4, 2021 at 3:08 PM HST | Updated: Jun. 5, 2021 at 12:36 PM HST



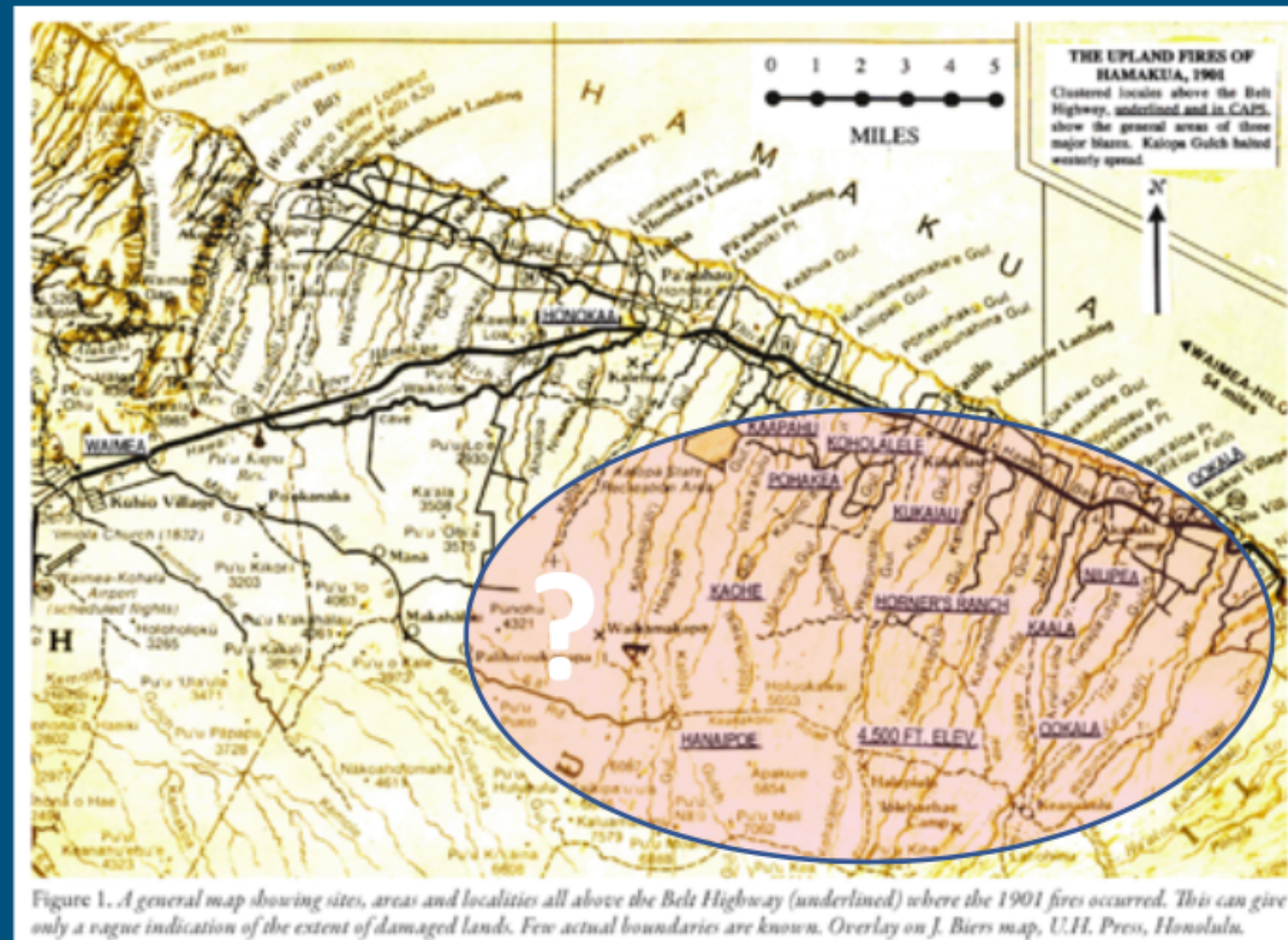
PAAUILO (HawaiiNewsNow) - Hawaii Fire Department said a brush fire in Paauilo has burned through a acres.



Acres of land remains scorched following large brush fire in Paauilo. (Nicola Nakama-Ching)



# Hawaii's Big Burn - 1901 Hamakua Fire



Burned for 3 months,  
affected 30,000 acres

Search "1901" at  
[Pacificfireexchange.org](http://Pacificfireexchange.org)

# Myth #8



**WILDFIRES  
ONLY HAPPEN  
IN THE SUMMER**



# Myth #8

**WILDFIRES  
ONLY HAPPEN  
IN THE SUMMER**





This is a Brush Fire message for Sunday, February 12th at 7 PM.

Hawaii Fire Department reports two brush fires south of Waikoloa Road and Makai of Highway 190. Fire and smoke will be visible.

# Firefighters continue to battle lightning-sparked wildfires on Hawaii Island



Hawaii Island firefighters are battling two brush fires sparked by lightning. Both blazes started over the weekend.

By HNN Staff  
Published: Feb. 13, 2023 at 9:28 AM HST | Updated: 6 hours ago





# **Myth #9**

**ONCE WE START GETTING  
RAIN, AND THINGS TURN  
GREEN, WE DON'T HAVE TO  
WORRY ABOUT WILDFIRE**





# Myth #9

ONCE WE START GETTING  
RAIN, AND THINGS TURN  
GREEN, WE DON'T HAVE TO  
WORRY ABOUT WILDFIRE







**How much fuel is available to burn later is a RESULT of rain and 'green up' events**



**This is when you should:**

- **Make and implement your vegetation management & risk reduction plans**
- **Plan & train for wildfire prevention, safety, & evacuation**

# Myth #10



**GRASS FIRES  
AREN'T AS BIG  
A DEAL AS  
FOREST FIRES**



# Myth #10



**GRASS FIRES  
AREN'T AS BIG  
A DEAL AS  
FOREST FIRES**





**GRASS FIRES ARE  
FAST MOVING,  
DANGEROUS  
THREATEN LIVES,  
COMMUNITIES,  
SENSITIVE NATURAL  
RESOURCES**





Credit: Hawaii News Now



Credit: DOFAW



# Myth #11

**FUELBREAKS AND  
FIREBREAKS  
STOP FIRES**





**Myth #11**

**FUELBREAKS AND  
FIREBREAKS  
STOP FIRES**

**Only part of  
the story**

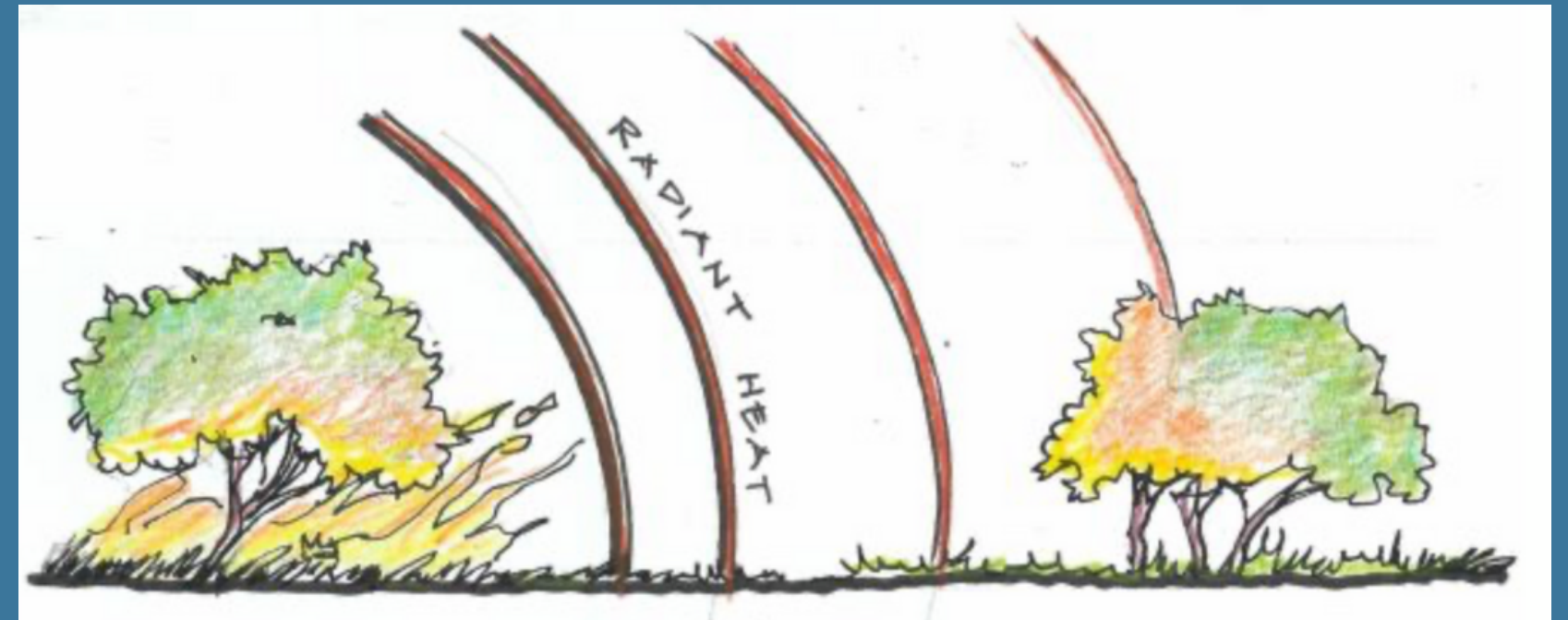




# FIRES SPREAD 3 WAYS:

- **DIRECT FLAME CONTACT**
- **RADIANT HEAT**
- **EMBERS**

**REQUIRING MULTI-FACETED  
MITIGATION & SUPPRESSION  
EFFORTS**



credit:



Bushfire best  
practice guide



**FUELBREAKS &  
FIREBREAKS  
ALSO PROVIDE  
ACCESS FOR  
FIREFIGHTING**



# Myth #12

**VEGETATION  
MANAGEMENT ON THE  
LANDSCAPE DOESN'T  
WORK TO REDUCE FIRE  
SPREAD**





# Myth #12

VEGETATION  
MANAGEMENT  
LANDSCAPE DESIGN  
WORK TO PREVENT  
SPREAD





**Topography**

**Weather**

**Fuel**

How wildfires behave depend on topography, weather, and fuel. We focus on vegetation management because it is the one part of the equation we can influence/mitigate. In low-to-medium intensity fires, fuels management makes a big difference!



**WE HAVE  
NO CONTROL**



**Topography**

**Weather**

**Fuel**

In heavy winds and certain topographic features, fires will still burn and spread very quickly-- often faster than suppression can keep up with!

**BUSTING MYTHS  
ABOUT WILDFIRES:  
WHAT CAN BE DONE  
& WHO SHOULD DO IT**

*What? Who?*



# Myth #13

**THE FIRE  
DEPARTMENT IS  
RESPONSIBLE FOR  
ALL THINGS  
RELATED TO FIRE**



# Myth #13

THE FIRE  
DEPARTMENT IS  
RESPONSIBLE FOR  
ALL THINGS  
RELATED TO FIRE

**FICTION**  
**AND UNREALISTIC**





# **FIREFIGHTING IS THE LAST LINE OF DEFENSE**





# EVERYONE HAS A ROLE

## CIVIC LEADERS

- Require defensible space around structures
- Don't allow development in high risk areas
- Follow safety codes to regulate building materials & locations

## DEVELOPERS AND BUSINESS OWNERS

- Don't build in high risk areas
- Make sure developments have adequate defensible space
- Use non-combustible building materials

## FIRST RESPONDERS

- Use the Ready, Set, Go! program
- Educate your jurisdiction about fire adapted communities
- Create a fire plan with other emergency responders

## LAND MANAGERS

- Treat hazardous fuels to reduce risk from wildfire
- Identify & assess wildfire risk on the land you manage
- Work collaboratively to reduce risk on the land you manage

## HOMEOWNERS

- Become a Firewise Community
- Create 100 feet of defensible space
- Keep roof & gutters clean







Community Members



Elected Officials &  
Government



Land Managers



Life Safety &  
Emergency Services



Business &  
Tourism



Farmers  
& Ranchers



Academia  
& Science



Utilities



Fire Agencies &  
Wildfire Practitioners



Community Services



Public Health

**WHO  
IS INVOLVED IN  
COMMUNITY WILDFIRE  
ADAPTATION?**





# Myth #14

**THE FIRE  
DEPARTMENT WILL BE  
ABLE TO PROTECT MY  
HOME, EVEN DURING A  
LARGE WILDFIRE**





# Myth #14

THE FIRE  
DEPARTMENT WILL BE  
ABLE TO  
HOME,  
LARGE WILDFIRE

**FALSE**





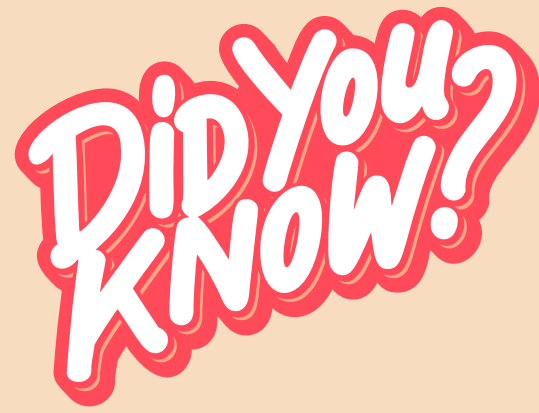
## **FACT:**

In the majority of wildfires, most homes are protected and saved, but some wildfires grow so large, so fast, with such heavy winds and fire intensity that the fire department may not have enough resources to protect every home.

An important factor in determining if firefighters can and will protect your home during a wildfire is how well your home is prepared for one.



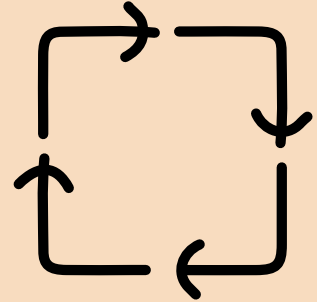




# Firefighting Realities



Many communities in Hawaii only have one way in and out.



Many neighborhoods have no firefighting access around the perimeter of the community.



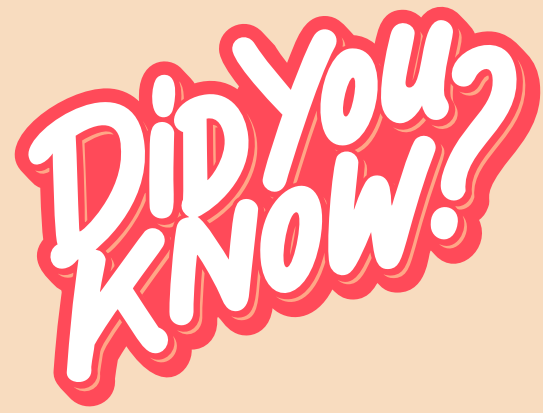
Many areas where wildfires occur do not have water resources available nearby.



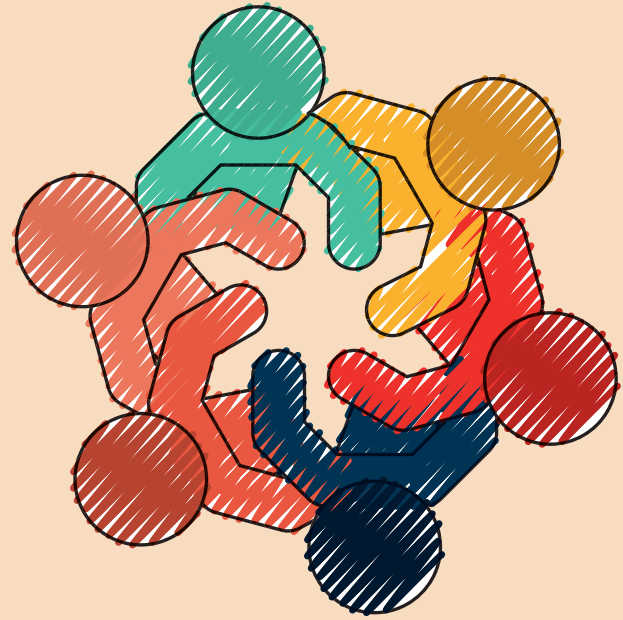
We do not have a large fulltime wildland firefighting agency (like the forest service) to fight our wildland fires.



Several years we have overspent wildland firefighting budgets before the season is even half-way through?

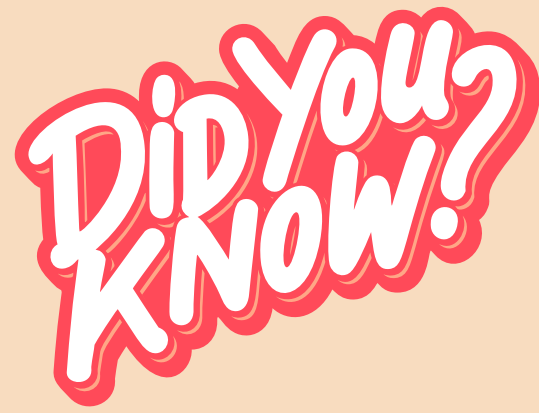


## Firefighting Realities

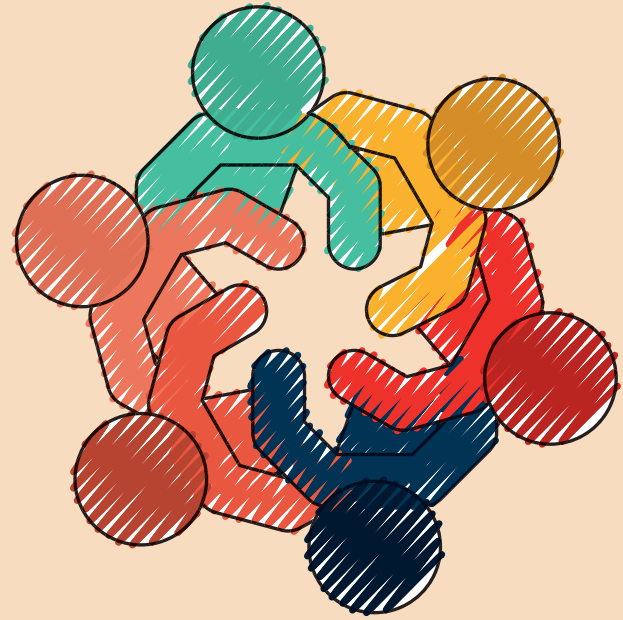


Because of the challenges, our many county, state, and federal fire agencies (and even some large landowners) frequently work together and have very strong collaborations and teamwork.





# Firefighting Realities



Because of the challenges, our many county, state, and federal fire agencies (and even some large landowners) frequently work together and have very strong collaborations and teamwork.

Since firefighting is the last line of defense, it is up to **EVERYONE** to:

- Not start fires
  - Put all bbq's and campfires **OUT COLD**
  - Don't use sparking equipment when it is dry or windy
  - Reconsider how and if you use fireworks
  - Don't drive or pull over on dry grass
- Manage vegetation so fires can't spread easily
- Advocate for prevention and risk reduction capacity



# Myth #15

**MY HOME WILL ONLY  
CATCH ON FIRE FROM  
FLAMES BURNING RIGHT  
UP TO THE STRUCTURE**





# Myth #15

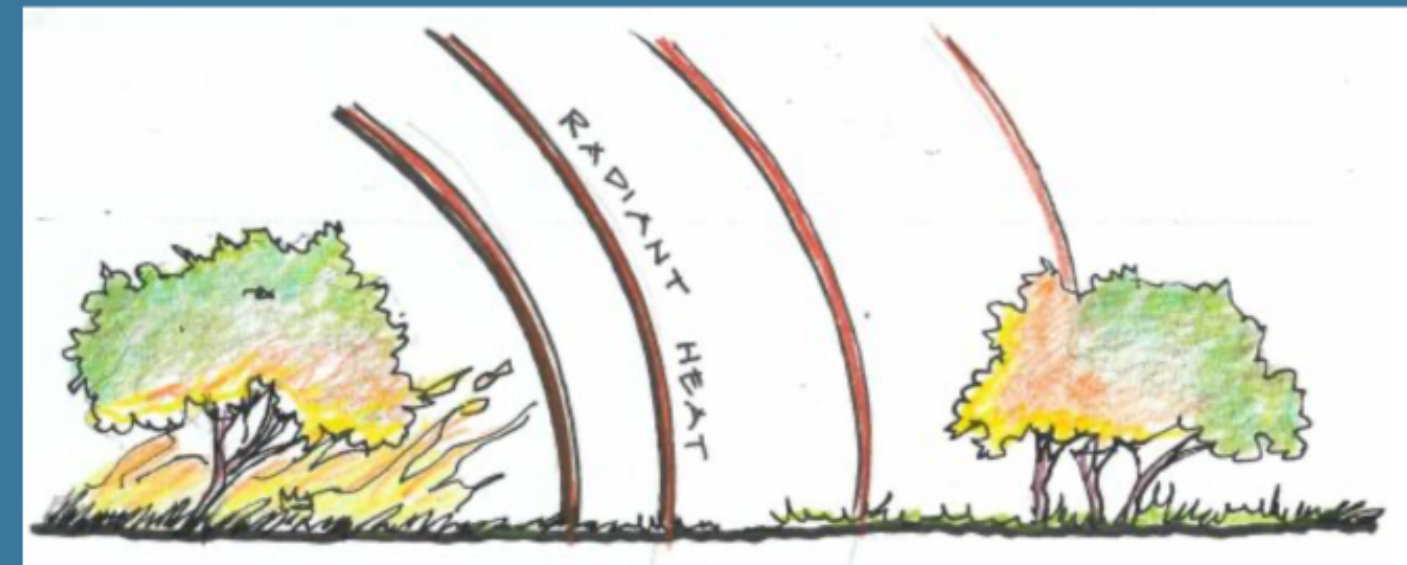
MY HOME WILL ONLY  
CATCH ON FIRE FROM  
FLAMES COMING RIGHT  
UP TO THE STRUCTURE



## FIRES SPREAD 3 WAYS:

- **DIRECT FLAME CONTACT**
- **RADIANT HEAT**
- **EMBERS**

**REQUIRING MULTI-FACETED  
MITIGATION & SUPPRESSION  
EFFORTS**



credit:



Bushfire best  
practice guide



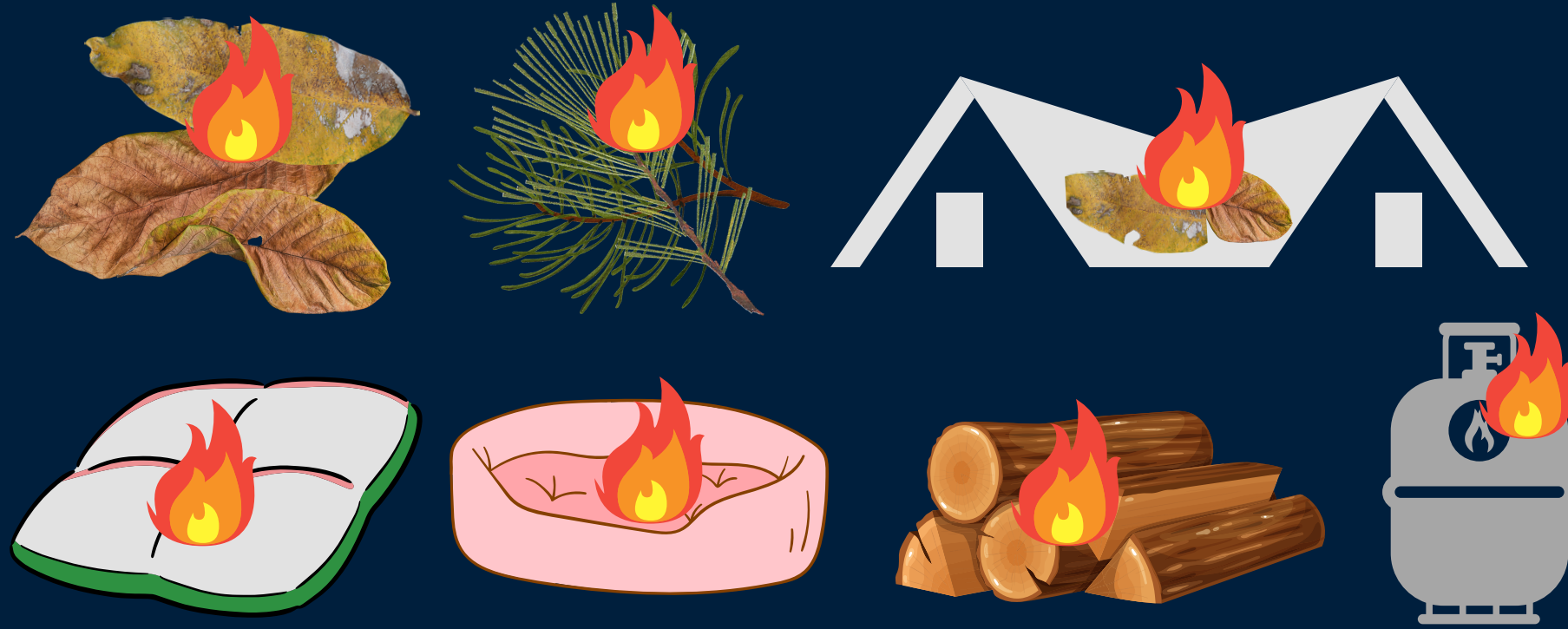


**Due to Hawaii's heavy winds, embers from nearby wildfires are a major source of wildfire spread.**

**FACT: RESEARCH SHOWS THAT EMBERS — BITS OF AIRBORNE BURNING VEGETATION — ARE A PRIMARY CAUSE OF HOMES CATCHING ON FIRE.**

**EMBERS OFTEN TRAVEL FAR AHEAD OF FLAMES, AS FAR AS A MILE OR MORE, AND CAN LAND NEAR YOUR HOME ON COMBUSTIBLE MATERIAL AND START A FIRE.**

## What counts as combustible?

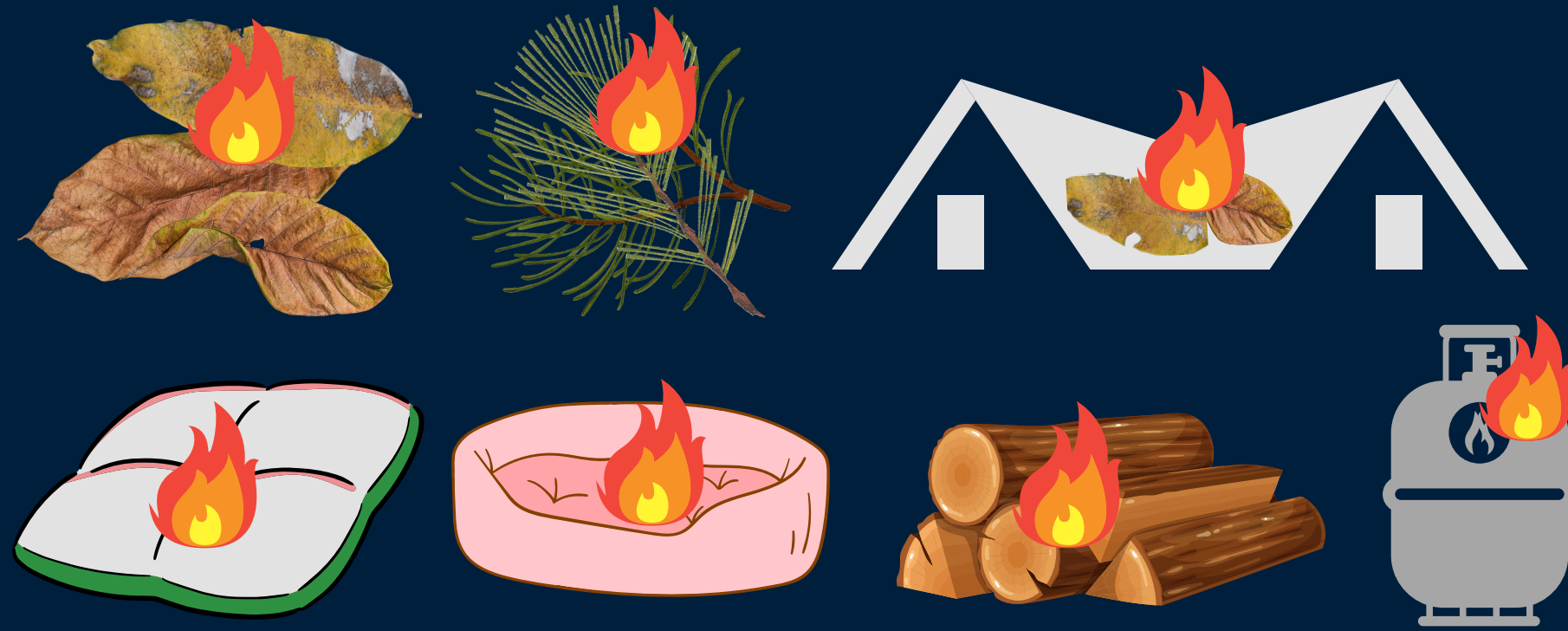


- Piles of firewood or mulch bark
- Fallen leaves and pine needles (on ground or house)
- Lawn furniture with foam cushions is combustible

If an ember lands on those debris piles or cushions, it will burn and burn hot.

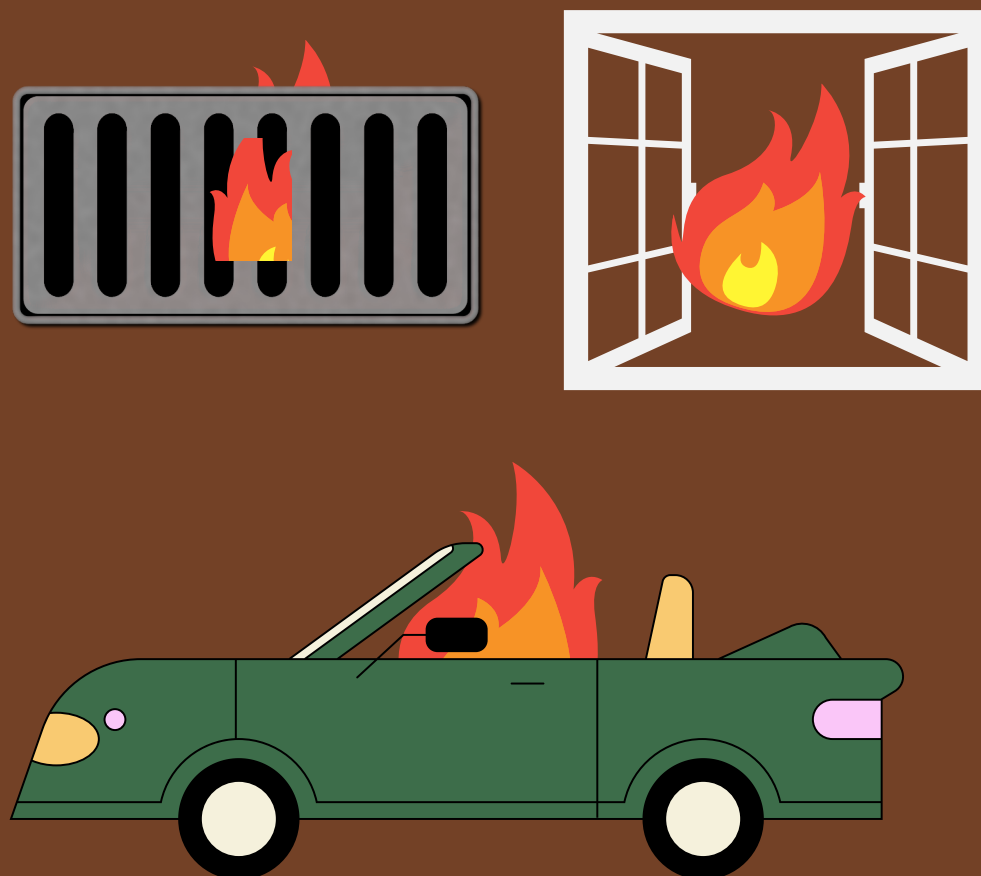


# What counts as combustible?



- Piles of firewood or mulch bark
- Fallen leaves and pine needles (on ground or house)
- Lawn furniture with foam cushions is combustible?

If an ember lands on those debris piles or cushions, it will burn and burn hot.



Embers can also:

Enter your home through vents and open windows or doors and ignite.

Get inside a car through an open window and set the vehicle on fire.

# Myth #16

**BECAUSE WILDFIRES  
ARE SO UNPREDICTABLE,  
THERE'S NOTHING I CAN  
DO TO PROTECT MY  
HOME.**





# Myth #1

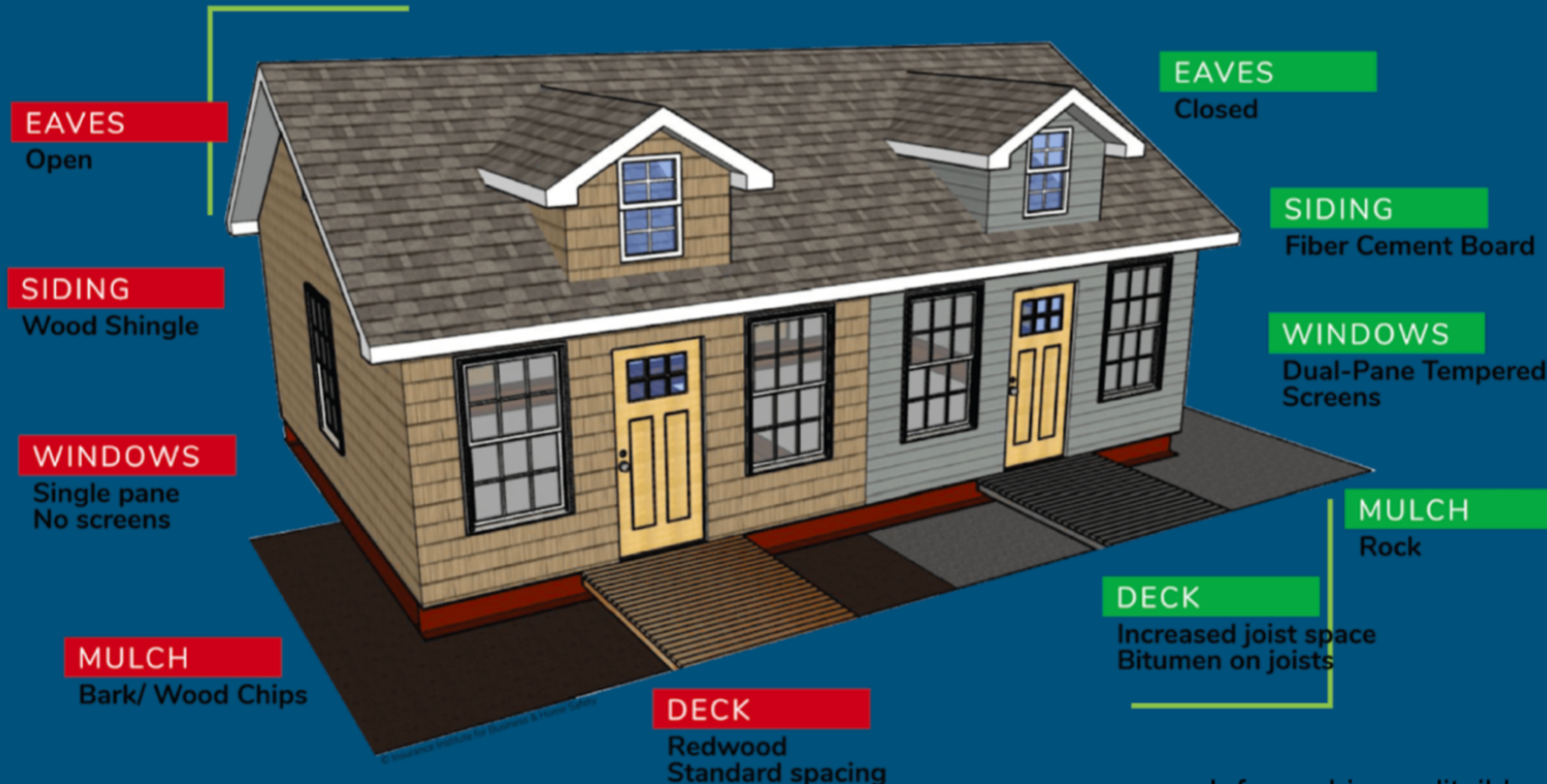
BECAUSE MYTHS ARE SO UNPREDICTABLE  
THERE'S NO WAY I CAN  
DO TO PROTECT MY HOME.

you can  
do it !



# Create “home ignition zone” by **hardening** **your home.**

Wildfire-Resistance: Make the “**RIGHT**” Choices





get ready!

Create “defensible space” by managing  
**vegetation, debris** & combustible **piles**.





# Reduce fire-prone grasses & replace with “Firewise” plants and landscaping.





# READY, SET, GO!

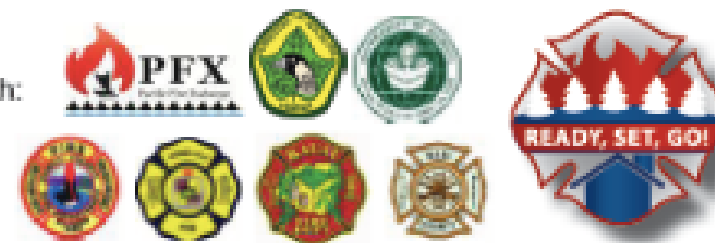
YOUR PERSONAL WILDLAND FIRE ACTION GUIDE



This guide was developed by:



In partnership with:



[hawaiiwildfire.org](http://hawaiiwildfire.org)

Work with your neighbors to reduce risk throughout your whole community.

- Raise awareness
- Address common-area and perimeter risks
- Increase communication
- Encourage home & family
- safety & action



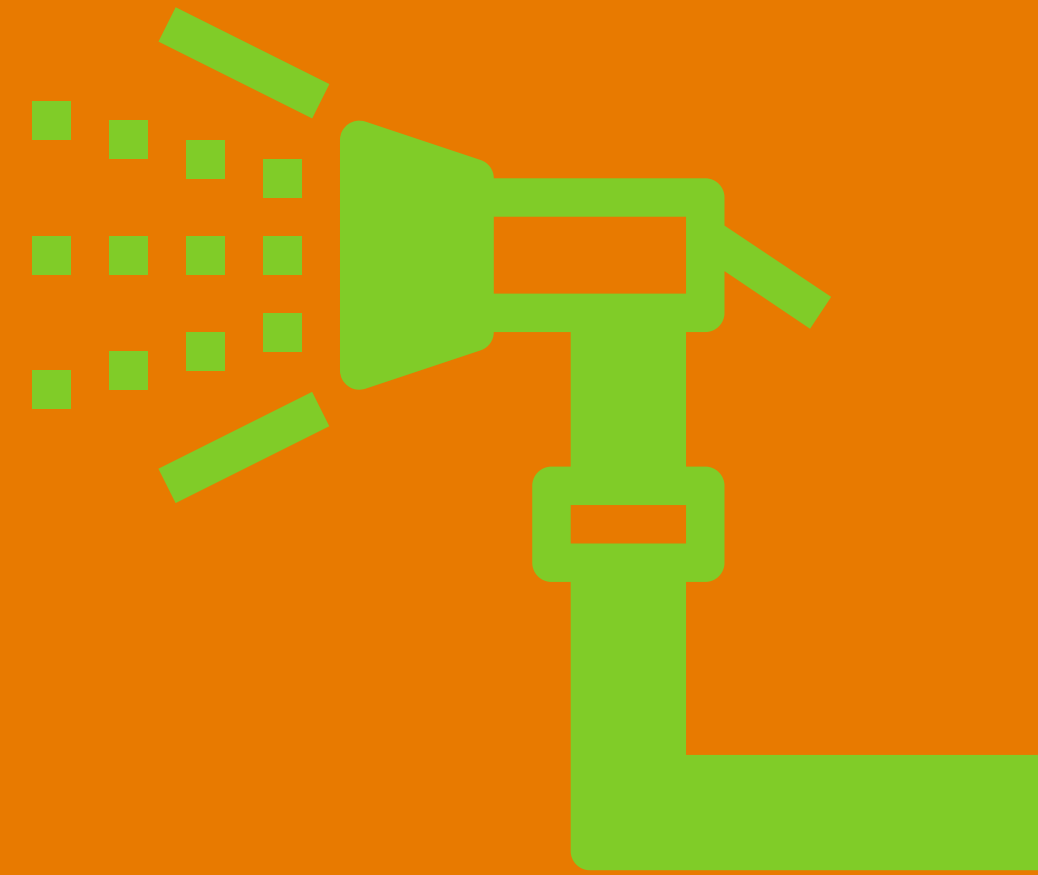
**FIREWISE USA®**  
RESIDENTS REDUCING WILDFIRE RISKS





# Myth #15

**I CAN DEFEND MY HOME  
AGAINST WILDFIRE  
USING MY PROPERTY'S  
IRRIGATION SYSTEM.**



# Myth #15



I CAN DEFINITELY  
GOVERN AGAINST VIOLENCE  
BY USING MY  
IRRIGATION



IE

S







Not only do hoses and irrigation systems lack the pressure needed to combat strong flames, there's no guarantee that you'll even be able to use them as a fire approaches—electricity may be down and local water reserves may be diverted to firefighters.



You also risk very late evacuation-- which is when the majority of fatalities occur!



The best method to help your home resist fire is ongoing preparation and maintenance!



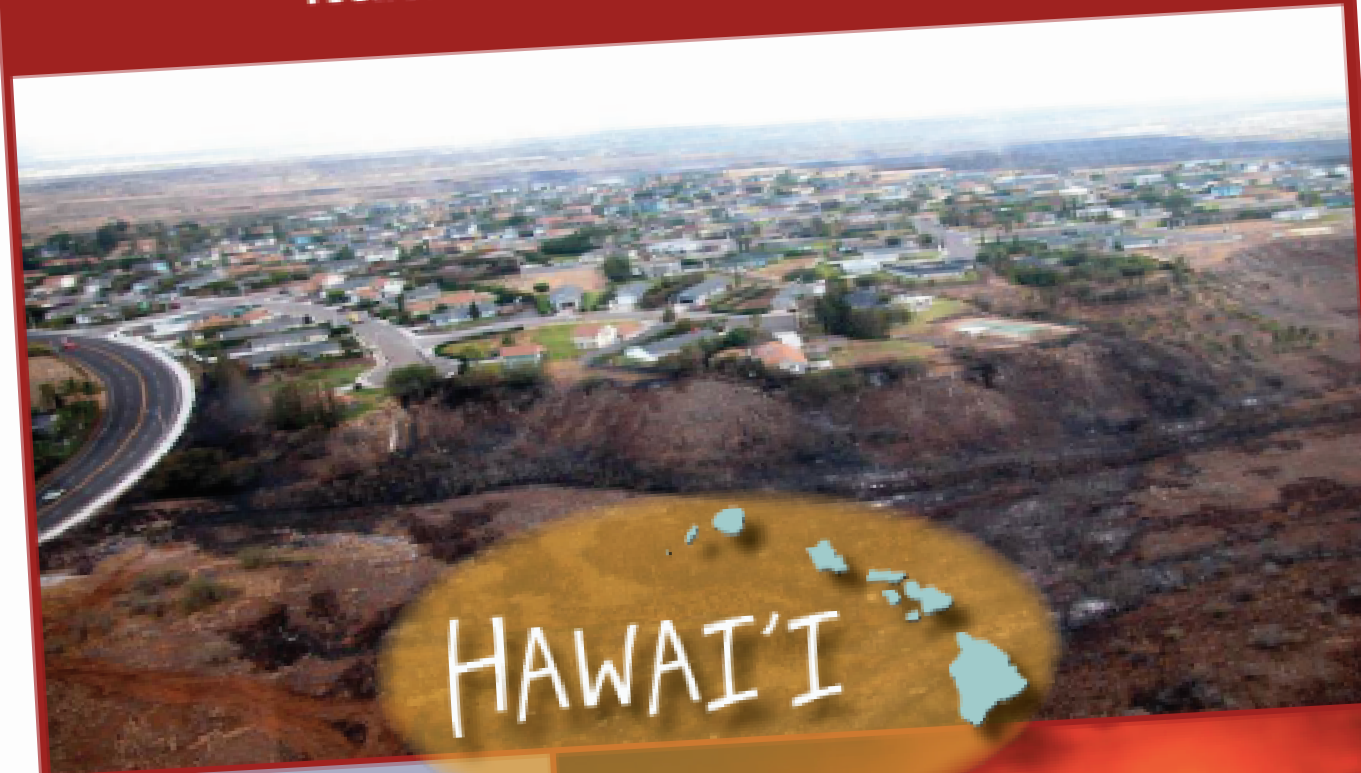
# Myth #17

**I'VE CREATED A  
DEFENSIBLE SPACE  
AROUND MY HOME, SO I  
CAN STAY PUT DURING AN  
EVACUATION WARNING.**



# READY, SET, GO!

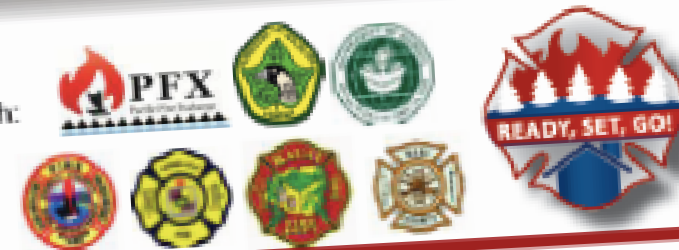
YOUR PERSONAL WILDLAND FIRE ACTION GUIDE



This guide was developed by:



In partnership with:



## Ready:



- Make and practice your family/neighbor evacuation plan, prep your go-bags
- Harden your home (Use non-combust. materials)
- Create defensible space (manage veg, clear debris piles)

## Set:



- STAY AWARE of the situation via your own observations and critical thinking
- Follow credible sources of info- sign up for your County Emergency Management/ Civil Defense alerts

## Go!:



- LEAVE EARLY, LEAVE EARLY, LEAVE EARLY



# Myth #18

**WILDFIRE IS LIKE ALL  
NATURAL HAZARDS, AND  
AS MUCH AS WE LEARN  
AND TRY, WE STILL  
CAN'T DO MUCH**



**Myth**



**LIKE ALL  
DS, AND  
E LEARN  
VE STILL  
D MUCH**

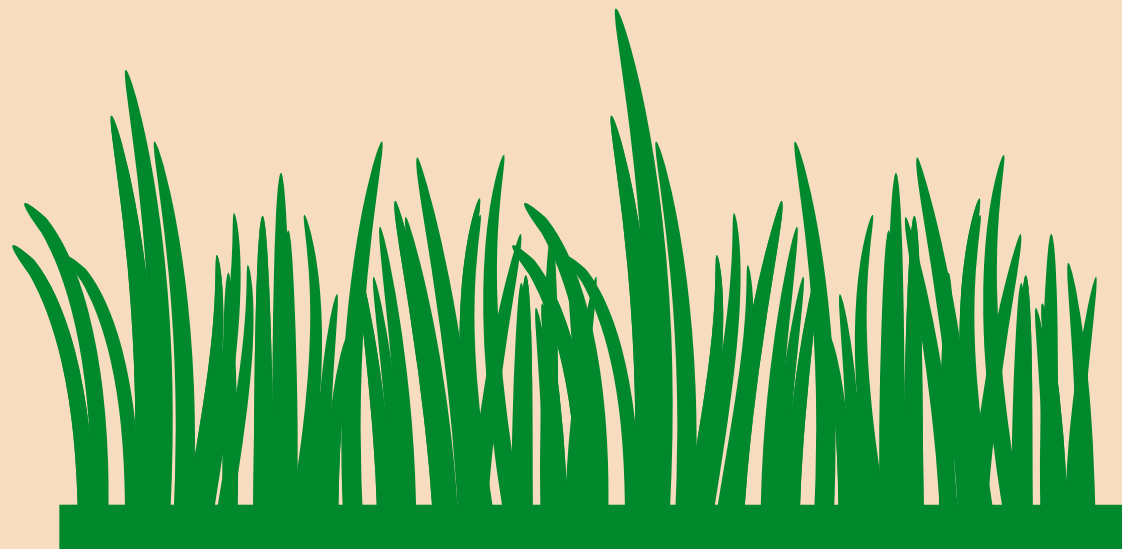


# WILDFIRE IS DIFFERENT!

**There is a lot we can do to reduce risk!**



Fire can only happen if there is an ignition.  
We can prevent accidental ignitions!



Fire can only travel where there is fuel.  
We can manage fuel!

# KEY TAKEAWAYS

Nearly all wildfires  
are caused accidentally  
from **vehicles, equipment,  
campfires, and fireworks**

Firefighting is the last  
line of defense

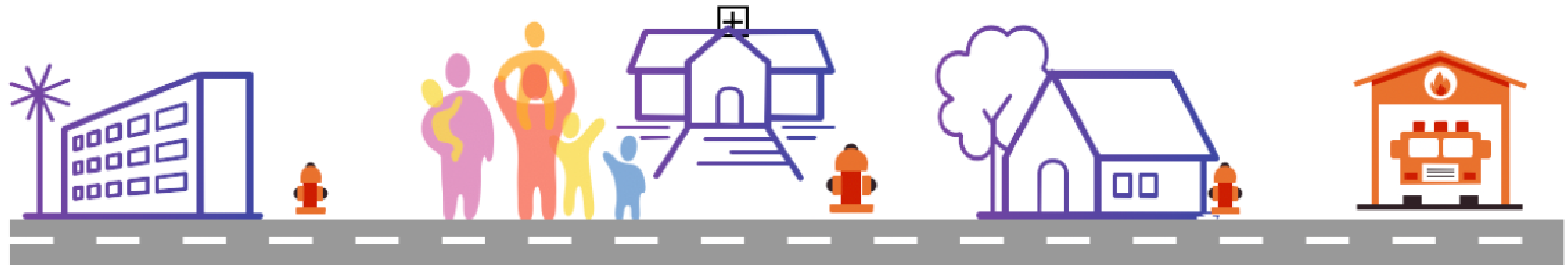
We all have a role to play in  
preventing wildfire occurrence  
& impacts

Once Hawaiian ecosystems burn,  
they don't recover causing  
damage to land, sea, & air

There is a lot you can do to  
protect your home, family,  
community, and HI's natural  
resources from wildfire



There is greater protection for the **community** when  
**everyone** participates **proactively**.



Thank you for being part of the SOLUTION!

# MYTHS ABOUT WILDFIRE IN HAWAII





**MYTHS**  
**ABOUT**  
**WILDFIRE**  
**IN HAWAII**

**BUSTED**





*mahalo*

[directors@hawaiwildfire.org](mailto:directors@hawaiwildfire.org)











**Unused slides --->**



# FACTS

**FACTS:**

**IT IS ALL ABOUT TIMING.**

**THE SAFEST AND SUREST WAY  
FOR BOTH THE PEOPLE AND THE  
HOME TO BE SAFE IS TO DO TWO  
THINGS:**

**EVACUATE WAAAAAAY EARLY-  
DON'T ADD TO TRAFFIC, SEARCH  
& RESCUE**

**HAVE YOUR HOME TOTALLY  
PREPPED AND READY AS IF IT  
WILL HAVE TO RESIST AND  
SURVIVE A HEAVY EMBER  
STORM.**

# MYTHS

**MYTH: EVACUATING IS  
MORE DANGEROUS  
THAN STAYING.**

**MYTH: IF I HAVE DONE  
ENOUGH TO REDUCE  
FLAMMABILITY  
AROUND MY HOME,  
IT'LL 100% WORK OUT**



**FACTS**

**FACTS:**

**IT IS ALL ABOUT TIMING.**

**MYTHS**

**MYTH: EVACUATING IS  
MORE DANGEROUS  
THAN STAYING.**

**MYTH: IF I HAVE DONE  
ENOUGH TO REDUCE  
FLAMMABILITY  
AROUND MY HOME,  
IT'LL 100% WORK OUT**

**THE SAFEST AND SUREST WAY  
FOR BOTH THE PEOPLE AND THE  
HOME TO BE SAFE IS TO DO TWO  
THINGS:**

**EVACUATE WAAAAAAY EARLY-  
DON'T ADD TO TRAFFIC, SEARCH  
& RESCUE**

**HAVE YOUR HOME TOTALLY  
PREPPED AND READY AS IF IT  
WILL HAVE TO RESIST AND  
SURVIVE A HEAVY EMBER  
STORM.**

