



SEMINARIO INTERNACIONAL  
PLANIFICACIÓN Y PREVENCIÓN DE  
INCENDIOS DE PAISAJE Y EL ROL DE LA  
RESTAURACIÓN POST INCENDIOS

Santiago, Chile, 20 y 21 de junio 2019



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# Experiences of the National Fire Protection Association (NFPA) in community-based fire management programs

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# Agenda

- Who is NFPA?
- What is our role in wildfire?
- The wildfire disaster experience in the U.S.
- The science of home ignition
- The role of the resident in disaster prevention
- Future vision



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# Who is NFPA?



The National Fire Protection Association – a global non-profit devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards.

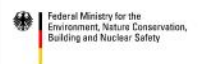


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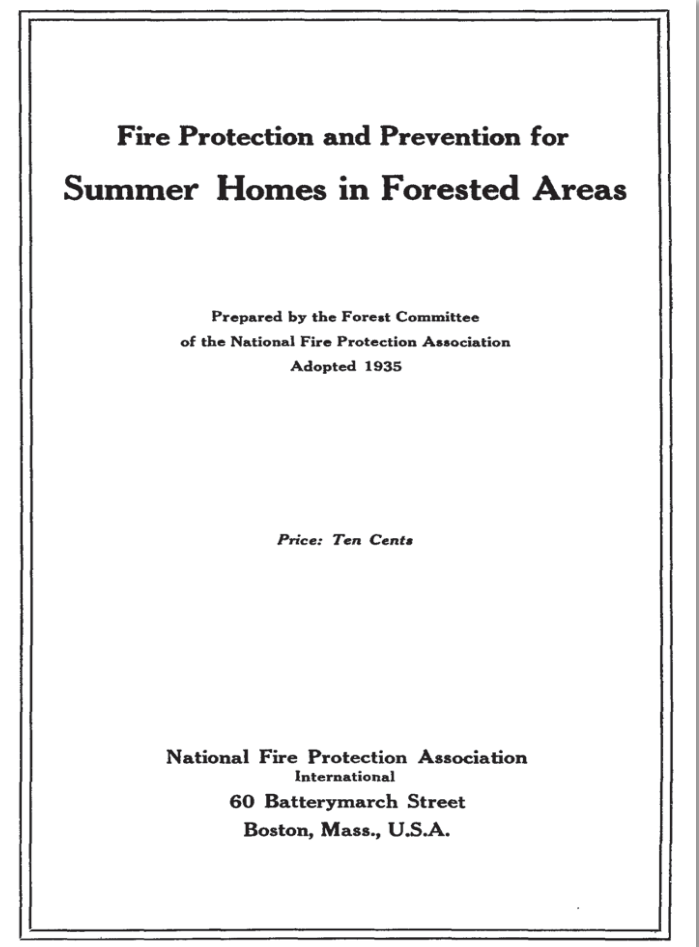


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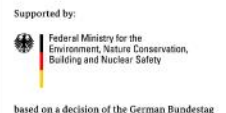


# NFPA's Role in Wildfire

- Structures and residents are at risk to fire anywhere.
- We focus on life safety and property-loss elimination.
- Engaged in risk reduction since U.S. wildfire season of 1985.



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# Today: the Fire and Life Safety Ecosystem

## ¿Qué es el ECOSISTEMA NFPA?



El ecosistema de seguridad contra incendios y vida de NFPA **es el marco a través del cual queremos comprometernos con cada uno de ustedes**, trabajando juntos para proteger a las personas y sus propiedades.

NFPA Fire & Life Safety Ecosystem



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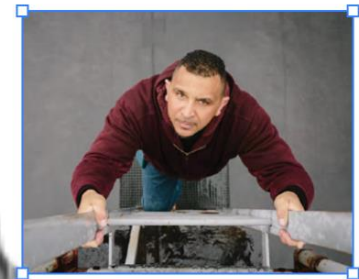
# The Fire and Life Safety Ecosystem has 8 components





# For wildfire, we focus on two components

- **Responsabilidad del Gobierno**
- **Público Informado**



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## Responsabilidad del Gobierno

El gobierno mantenga una política eficaz y un entorno reglamentario que respalde la seguridad

Los funcionarios estatales y locales deben **crear un entorno reglamentario donde las leyes, políticas y prioridades de gastos** se dicten por necesidades de seguridad pública



**Responsabilidad  
Gubernamental**

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## Público Informado

Confiar demasiado en las otras piezas del ecosistema, damos por sentada la seguridad.

Cuando entiendan los riesgos involucrados, estarán más inclinados a actuar.

Es nuestra responsabilidad romper el "ruido" y empoderar a comunidades, personas y familiares.

**Público  
Informado**

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# The wildfire disaster experience

Bastrop, Texas- 2011



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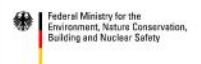


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Coffey Park - 2017  
Santa Rosa, CA



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## Paradise, California - 2018



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# The problem is getting worse

- Growing population and construction in the wildfire risk areas
- Build-up of trees and brush due to over-suppression and land use changes
- Climate change: drought, invasive species, longer fire season, etc.




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michaelfrye.com



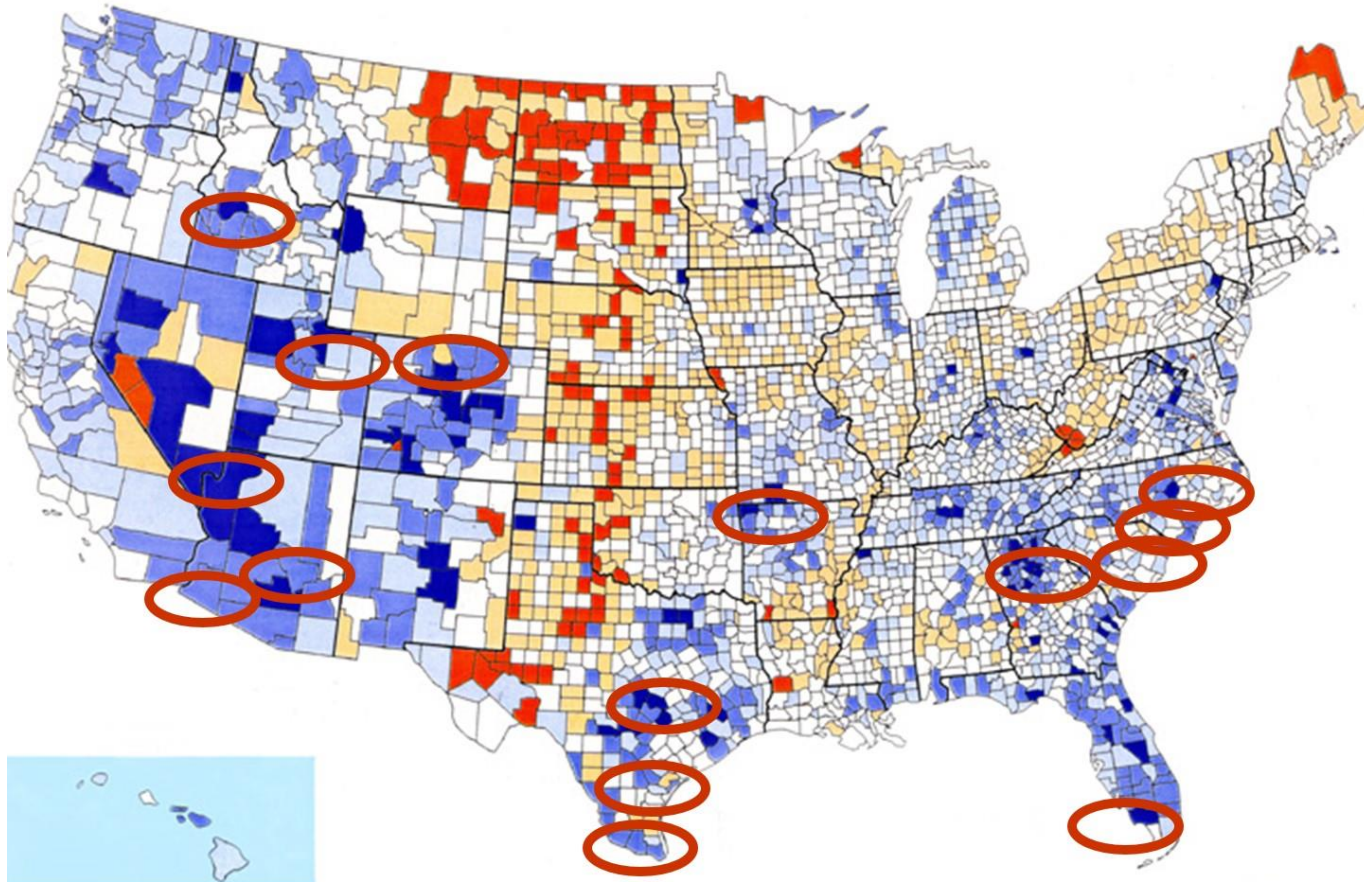
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# Population change – 1990-2000



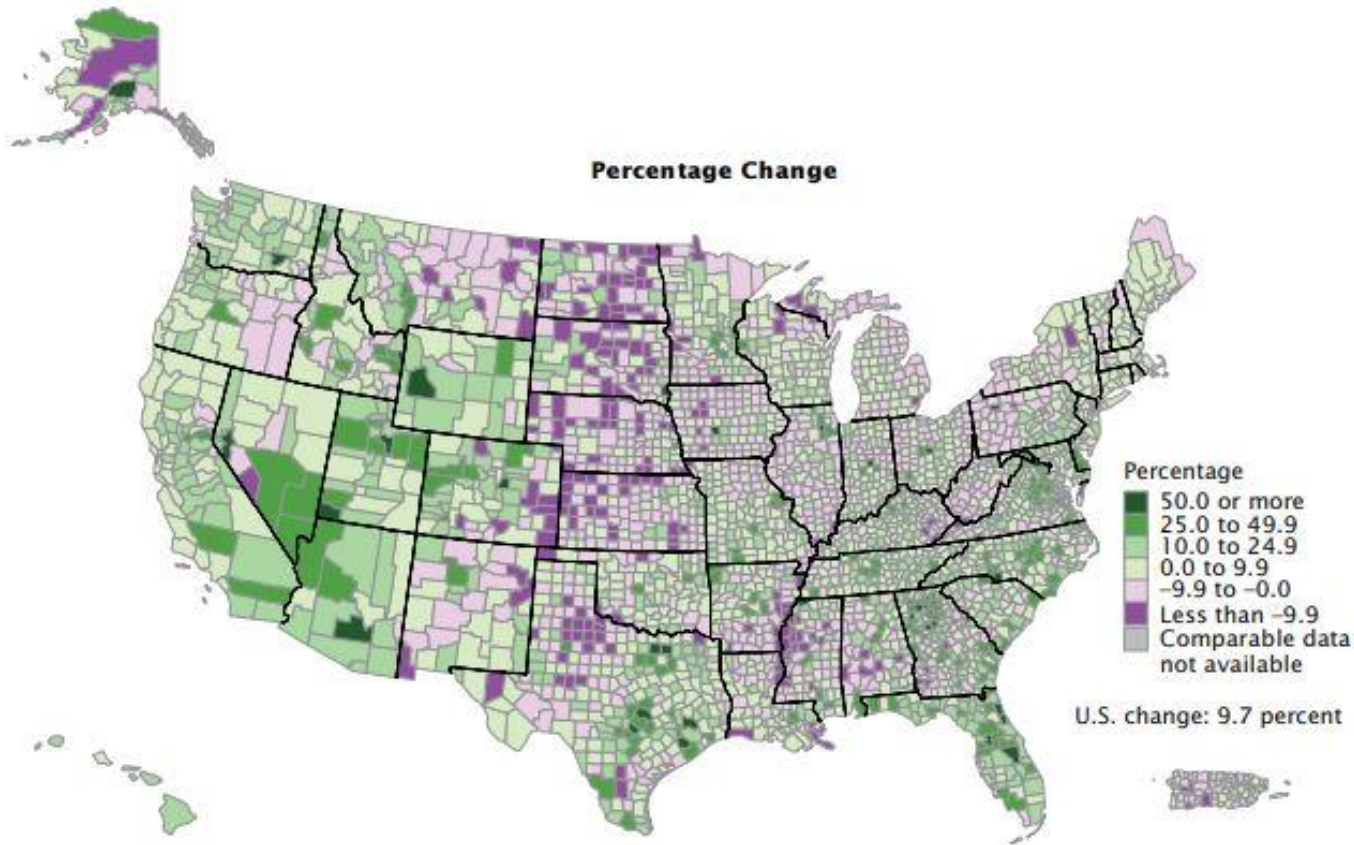
- 13.2% growth overall
- The largest increase IN HISTORY
- US added 32.7 million people
- Dark blue is 50% to 191% growth







# Population change 2000-2010



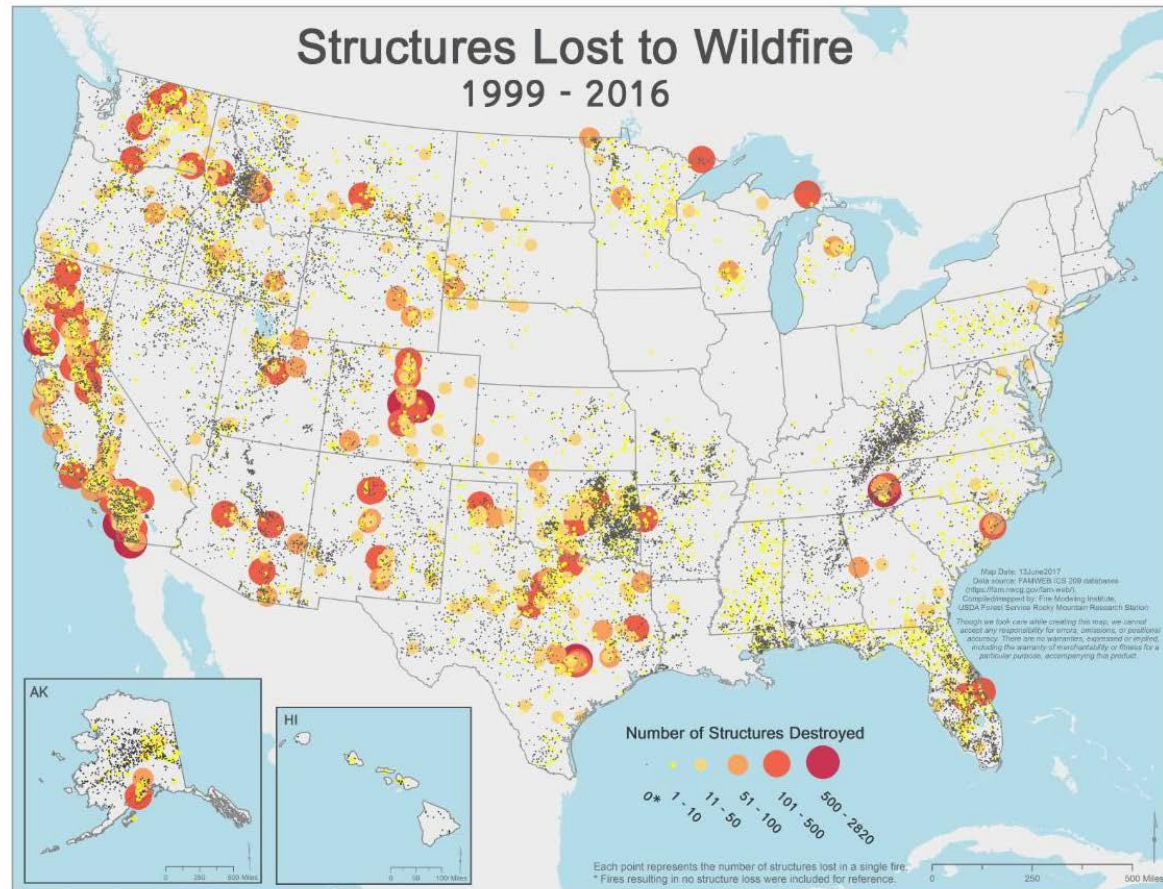
Source: U.S. Census Bureau, 2010 Census and Census 2000.

- Slower-growing decade – 9.7% growth
- Growth in the South/West more than 3x that of Midwest/Northeast
- Dark green is 50% to 110% growth
- Top 5 states for growth:
  - Nevada
  - Arizona
  - Utah
  - Idaho
  - Texas





# A national problem with local solutions







# The 98% problem

- Most of the homes at risk are already built
- Codes and regulation have little impact
- How can we get people to act?



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# American beliefs and attitudes

- Wildfire is the enemy
- It is the firefighter's job to rescue me
- Nobody can tell me what to do with my property...but government should aid me after a disaster
- I am helpless in the face of wildfire
- There is nothing I can do to reduce my risk



**Cedar Fire - 2003, San Diego, California**



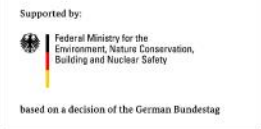


# Research and observation leads to solutions

- 1961 Belair-Brentwood Fire - 95% home survival with 10-20 meters of clearance
- 1990 Painted Cave Fire - 86% home survival with at least 10 meters of clearance
- 1998 International Crown Fire Modeling Experiment - Northwest Territories findings
  - Big crown fire flames burn out in about 50 seconds
  - Crown fire must be less than 30 meters from a structure to ignite a wood wall; firebrands do not ignite walls
  - At 10 meters, few ignitions



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# Home ignition zone science

- A house burns because of its interrelationship with everything in its immediate surroundings (30-60 meters)
- What happens within this zone is critical to structure survival
- A wildfire's potential relationship with a house can be interrupted here



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# Physical Fire Science Research Says:

## The Little Things are Frequent Culprits

- Roof flammability dominates likelihood for ignition, usually from embers
- Openings are vulnerable to ember penetration
- Complex roofs are vulnerable to embers


## Fuel Reduction Around the Home is Effective

- Keep flames from touching the house or attachments
- Keep radiant heat from large flames at least 10 meters away from structure and attachments



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**FIREWISE USA™**  
Residents reducing wildfire risks

***“Esto no es fisica cuántica.  
Es mucho más complejo.  
Son ciencias sociales.”***

***- Dr. Jack Cohen, USFS Missoula Fire Lab***



# Our vision – Firewise can save homes

- Wildland fires can occur in areas of residential development **without** the occurrence of disastrous loss



Village of Ruidoso, NM - Kokopelli Fire, 2002



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# Our vision – Firewise can protect the environment

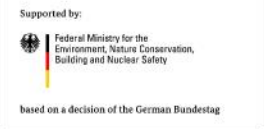
A house and its surrounding community can be compatible with the area's ecosystem and coexist with wildfire



Cave Bay - Worley, Idaho



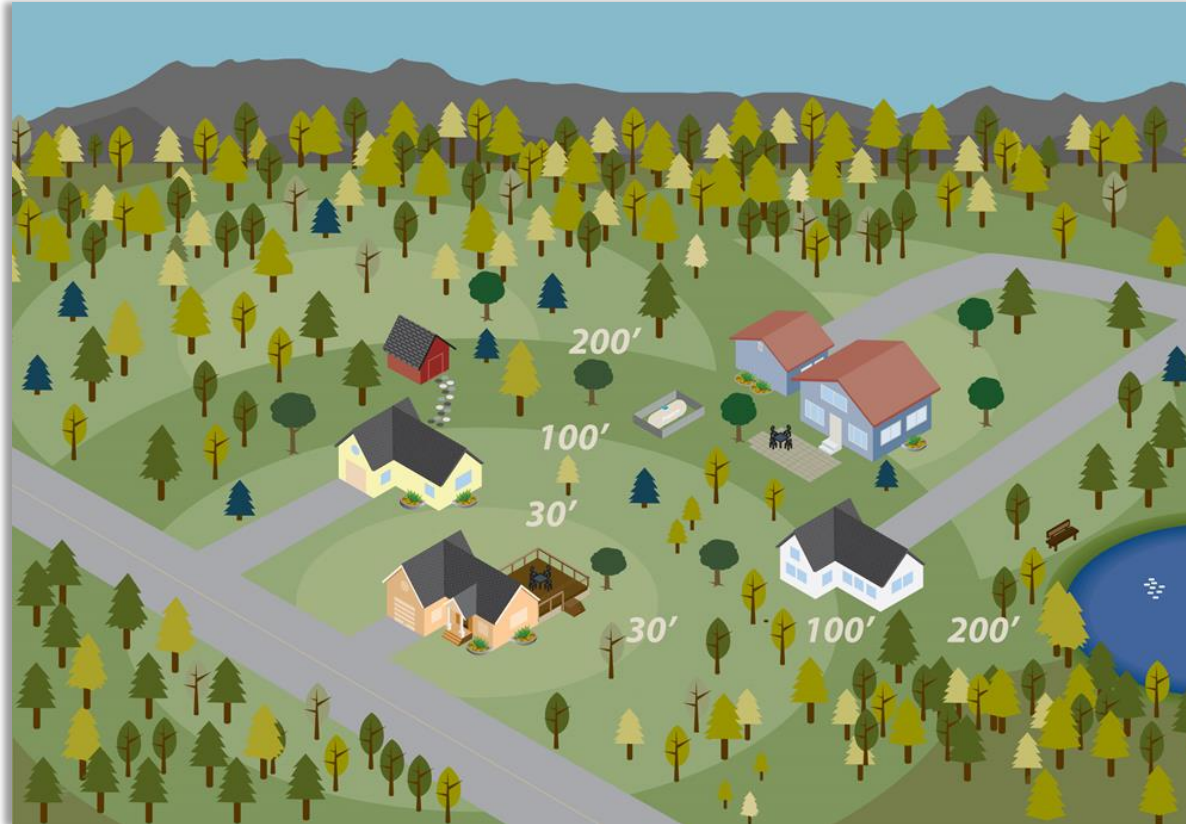
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# Qué podemos hacer?



- No podemos controlar el viento, pero...
- Podemos controlar los combustibles
- Todos en la casa y todos cerca de la casa





# Changing the Results

- Interrupting the fire's path
- Small changes can have big results
- If homes don't ignite, they don't burn







# Firewise USA<sup>®</sup>: the program

- Fire science informs social science
- Neighbors **MUST** work together
- Creating a Firewise community




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## BECOMING A NATIONALLY RECOGNIZED FIREWISE USA SITE

The Firewise USA® program provides a collaborative framework for neighbors to take action to reduce wildfire risks at the local level. The national recognition program's criteria is designed to empower and engage residents living in wildfire prone areas with a plan and actions to undertake each year that can increase their home's chances of surviving a wildfire while also making it safer for firefighters.

### Steps to Achieving National Recognition



#### Complete a Wildfire Risk Assessment

- Completing a written wildfire risk assessment is the first step in becoming a nationally recognized Firewise USA® site.
- Contact your Firewise® state liaison for the state's requirements on developing a risk assessment.



#### Form a Board/Committee

- Form a board/committee comprised of residents and other appropriate stakeholders.
- This group will collaborate on developing the site's risk reduction priorities and they will develop a multi-year action plan based on the assessment, along with overseeing the completion of the annual renewal requirements.



#### Develop an Action Plan

- Action plans are a prioritized list of risk reduction projects developed by the participant's board/committee for their site.
- Plans include recommended home ignition zone projects, educational activities and other stakeholder outreach efforts that the site will strive to complete annually or over multiple years.



#### Complete Educational Outreach Activity

- Each participating site is required to have a minimum of one wildfire risk reduction educational outreach event, or related activity annually.



#### Invest in Wildfire Risk Reduction

- At a minimum, each site is required to invest the equivalent value of one volunteer hour per dwelling unit in risk reduction activities annually.
- A wide range of qualifying actions and expenditures (contractor costs, rental equipment, resident activities, grants, etc.) comprise the overall investment totals.



#### Create a Site Profile and Apply

- Applicants begin the overall process by creating a site profile at: [portal.firewise.org](http://portal.firewise.org). The application is eligible for submission when the overall criteria is completed.
- State liaisons approve applications with final processing completed by the National Fire Protection Association® (NFPA®). Please note: Individual states may require additional application requirements beyond those of the national program.

NFPA has many free tools and resources available. Reach out to us to learn more: [firewise.org](http://firewise.org).

# How and why?

- Firewise USA® is community-wide wildfire risk reduction
- National, voluntary, standard criteria



**FIREWISE USA®**  
RESIDENTS REDUCING WILDFIRE RISKS

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## Key Partners:

- USDA Forest Service
- National Association of State Foresters
- Each State has a liaison who manages the program at a state level.



**FIREWISE USA®**  
Residents reducing wildfire risks



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# Firewise changes people's behaviors

- Community's effort makes a difference
- Builds local resiliency
- Everyone learns about wildfire and what it can do







# Firewise Relationships

- Neighbors helping neighbors
- New resident mentoring
- Voluntary participation
- Provides means to decreased risk



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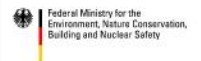


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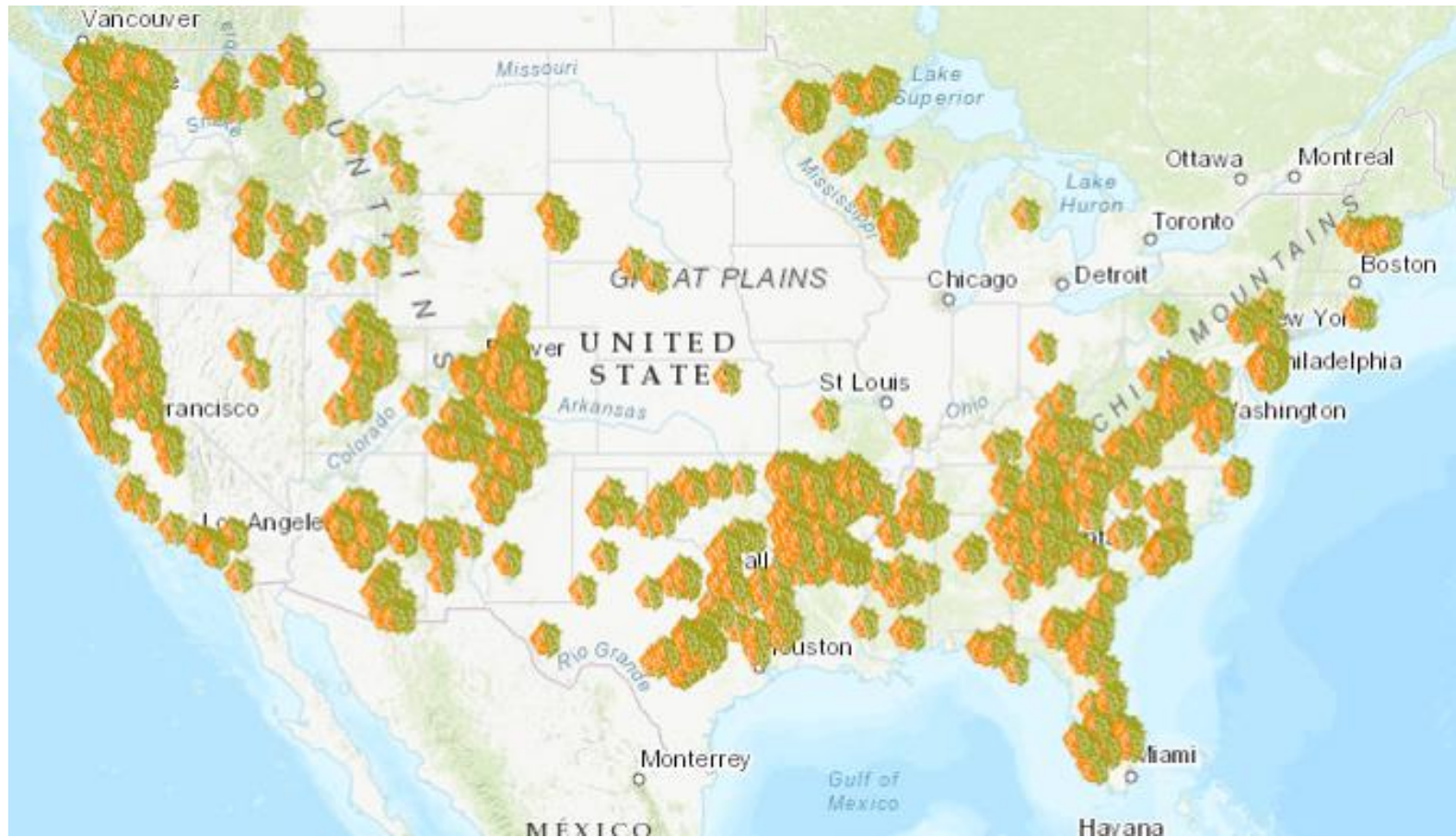
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# Total Active Sites: 1,540 in 42 states







# How to become a Firewise USA® Site

- Organize it
  - Form a committee
- Plan it
  - Get a risk assessment
  - Create an action plan
- Do it
  - Annual Firewise event
  - Risk reduction work
- Tell us about it
  - Use the Firewise Portal to apply online
  - Update your status each year



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# Community Signage

- Demonstrates commitment
- Public Pledge
- Daily risk reminder
- Source of local pride



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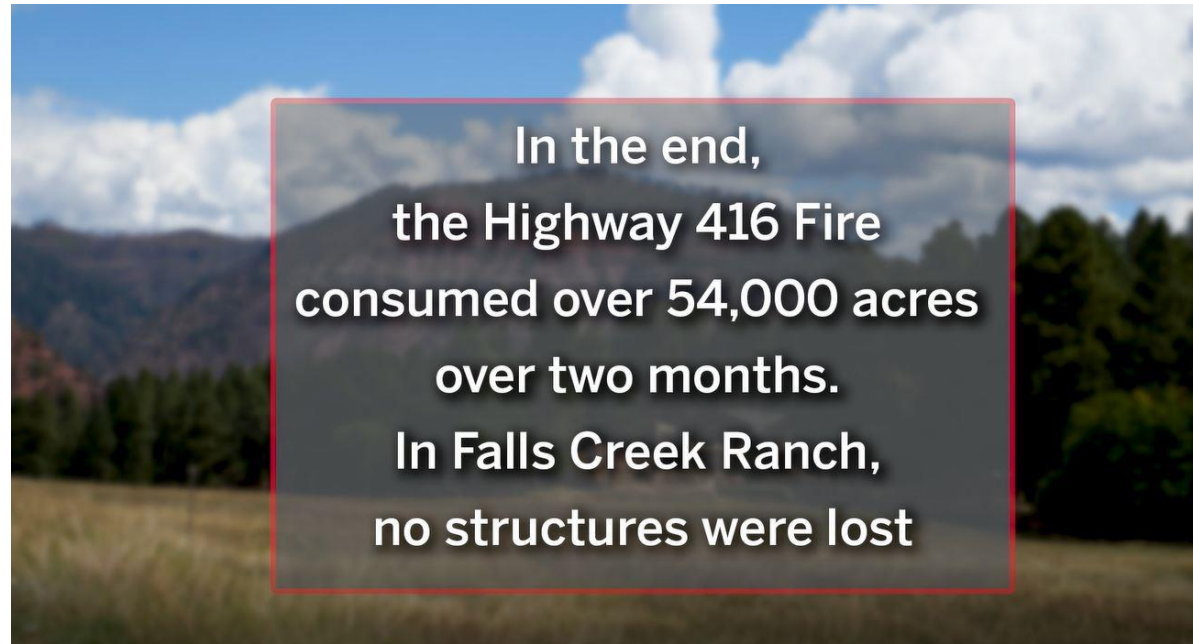


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# Impact and influence

- Success stories and “saves”
- Sustained activity and growth
- Recognition of risk reduction by insurers



<https://www.nfpa.org/Public-Education/By-topic/Wildfire/Firewise-USA/Firewise-USA-success>



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# What's Next? Sites of Excellence

New 24-month pilot program


2019 & 2020, partnering with 7 sites from 7 states

Increase resident participation in active wildfire risk reduction through a focused approach.

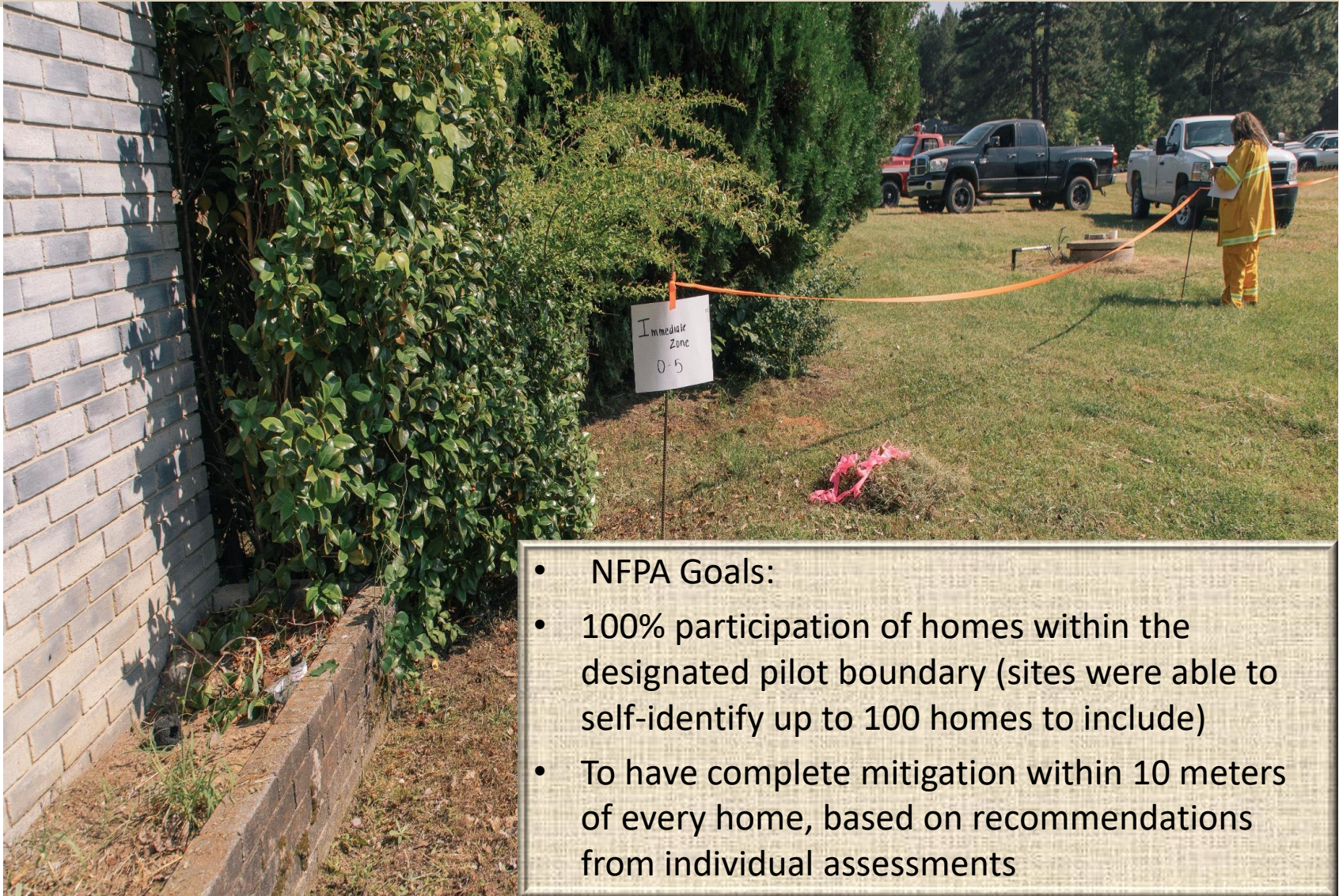


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- NFPA Goals:
- 100% participation of homes within the designated pilot boundary (sites were able to self-identify up to 100 homes to include)
- To have complete mitigation within 10 meters of every home, based on recommendations from individual assessments







People  
Projects  
Purpose

Sponsored by:  
 **State Farm**



[www.wildfireprepday.org](http://www.wildfireprepday.org)



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# What the people say:

**Colorado homeowners:** “We helped the firefighters save our neighborhood and that was a big complement to us to hear the fire professionals say, ‘You did a great job here!’”



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# What the people say:

**Robert Boone, Firewise USA® Participant in Maine:**  
“Everybody has to be a part of it. If you have one cottage that poses a danger, it poses a danger to all the cottages. So there is a good understanding that Firewise is an island- wide effort to reduce fire danger.”



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# What the people say:

**Durango Fire Chief Hal Doughty during the 416 wildfire:** “Falls Creek is an area that we can stop this fire and the reason is that it is well mitigated and **it’s a Firewise community**. We have the ability to slow this thing down and stop it at Falls Creek. This is where we turned it westward and stopped it from coming into the community, this was the pivotal neighborhood.”



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# What the people say:

**Joyce Statz, Participant of Firewise USA® Site in Texas** “I think neighbors have a feeling of helplessness...  
...because they see all the videos of the wildfires where there is a big wall of flame crushing communities, but we explain to them that is not how it works. **Most of the losses from wildfire are from the embers** and that’s the thing that we can deal with and so they can see that **they have the power** to make their homes impervious to the embers.”



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For more information, visit  
[www.firewise.org](http://www.firewise.org)



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Santiago, Chile, 20 y 21 de junio 2019

**Gracias | Thank You**