

Workshop Sessions, Day 1 “Case Studies”

The Camp Wildfire, Butt County, CA (2018)

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Facilitator

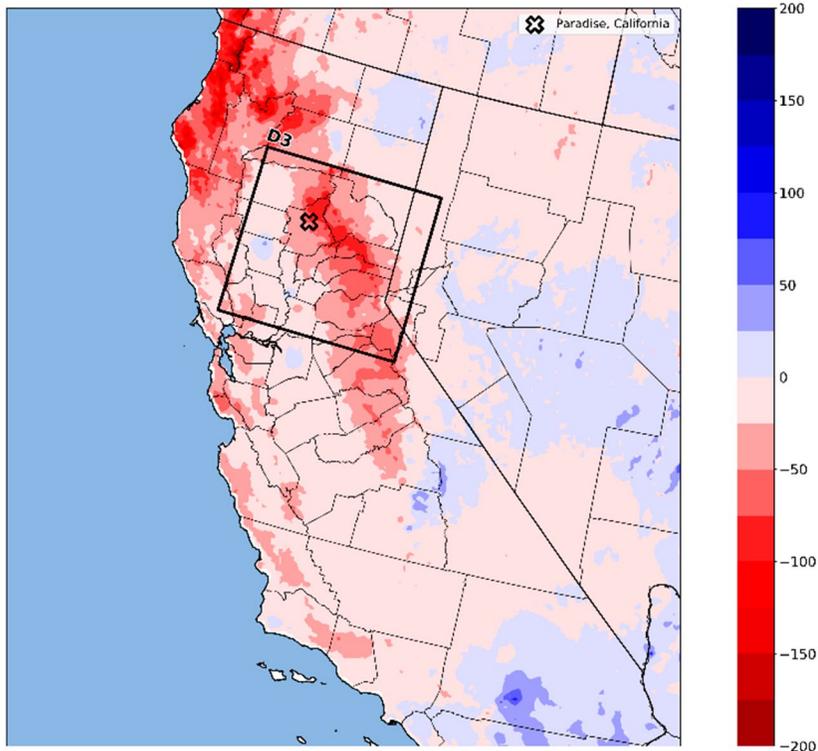
California's Challenge

In the last 10 years in California.....

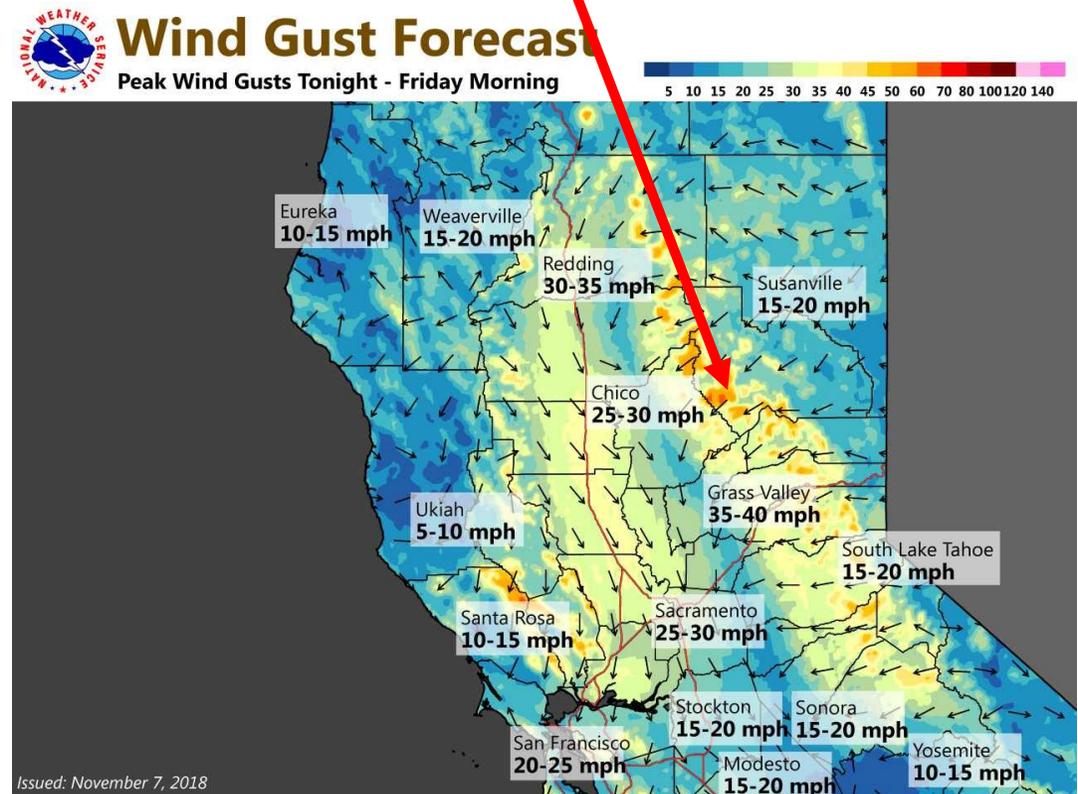
- **1 of every 8 acres has burned**
- **Over 43,000 structures have been destroyed**
- **173 lives have been lost**

Dry fall + wind

Red Flag Warning in Effect: Strong Diablo (north) wind event began Nov 7 wind 25-30 mph, gusts 50 from northeast.

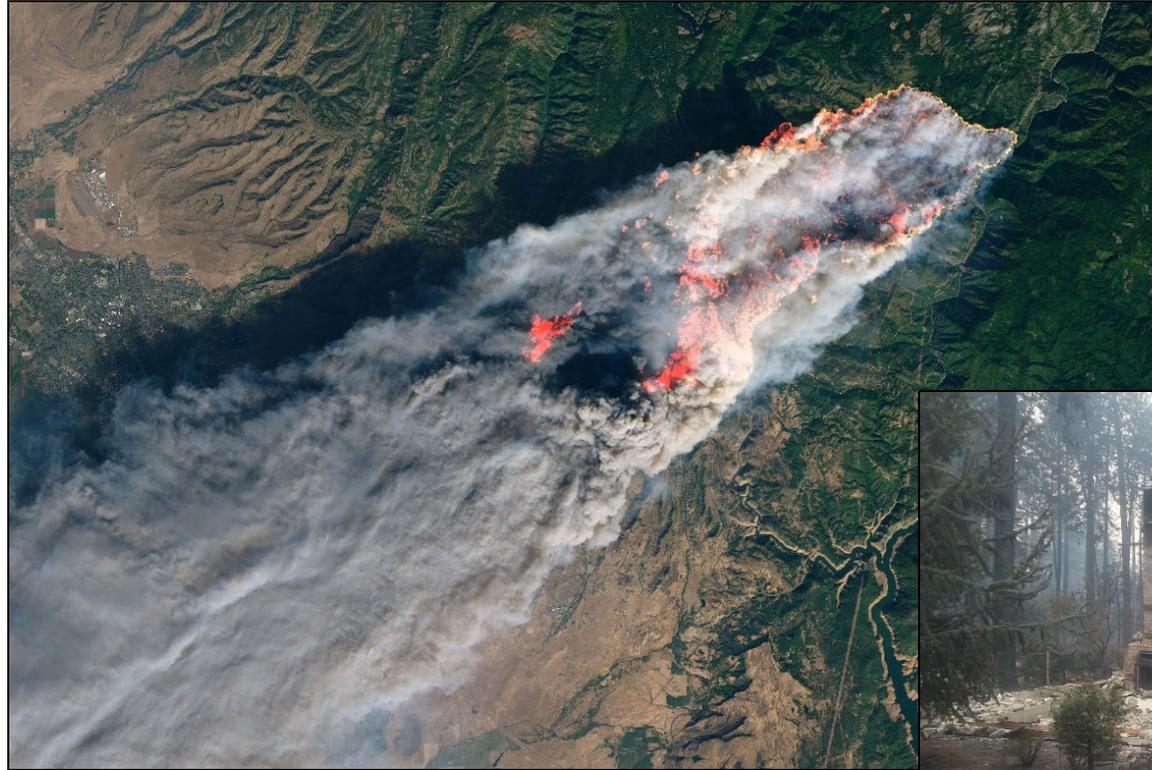


% precipitation departure from normal
Brewer and Clements (2019)

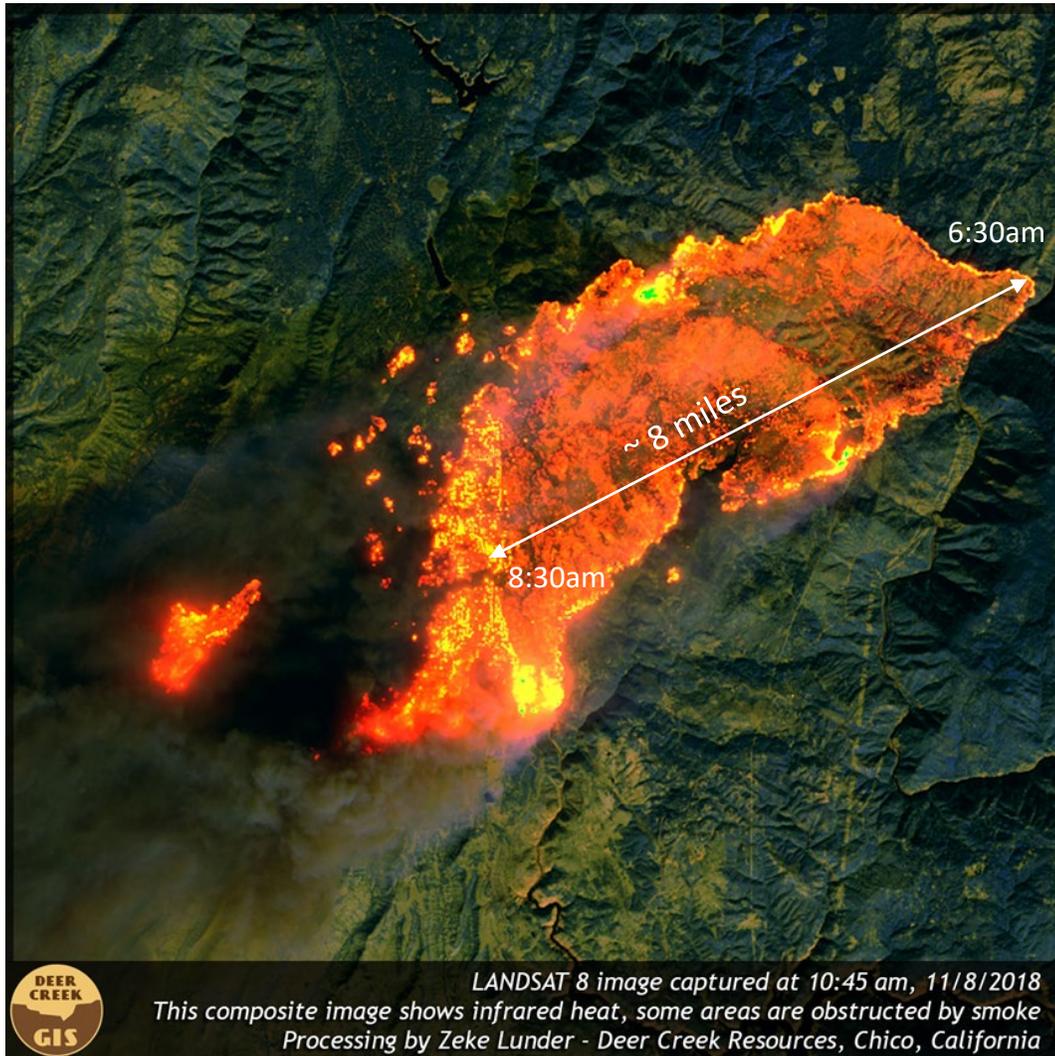


CAMP FIRE (2018)

- 85 people died
- 18,804 structures were destroyed
- A large proportion of the homes lost were in the town of Paradise
- Much of Paradise burned in ~6 hours



Fire behavior and progression



- Extreme ember-driven rates of spread
- Flaming front ~5 miles wide when the fire hit Paradise
- Structure to structure fire spread



Camp Fire



Paradise and Concow devastated in less than 12 hours

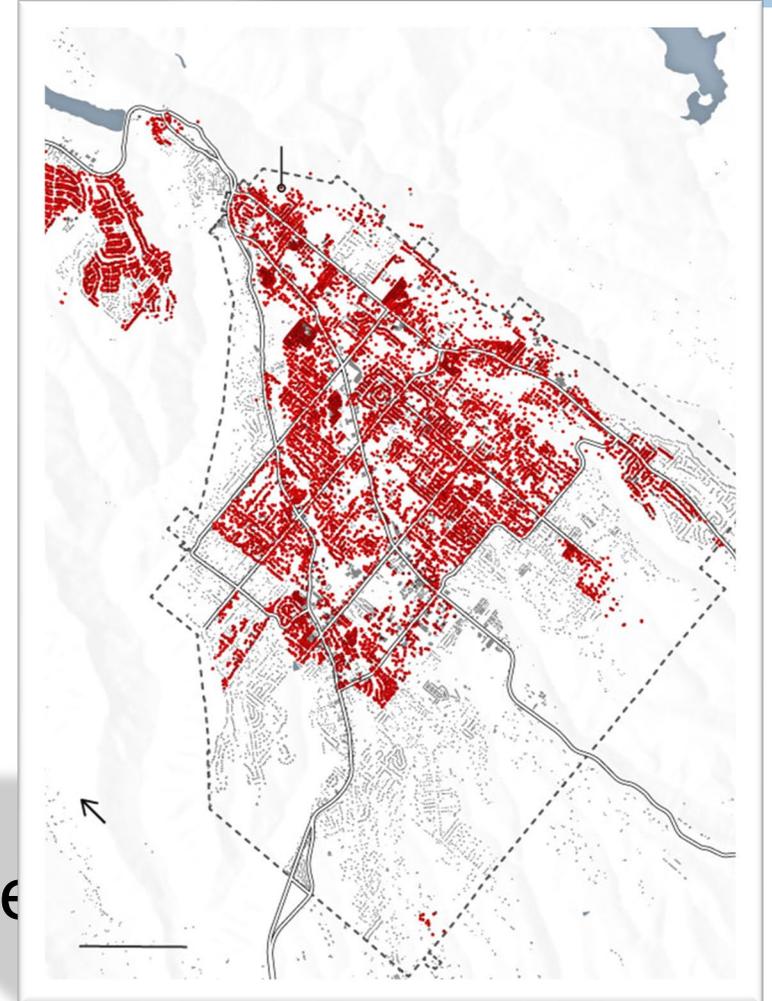


Homes Destroyed/Damaged

18,804 Structures destroyed

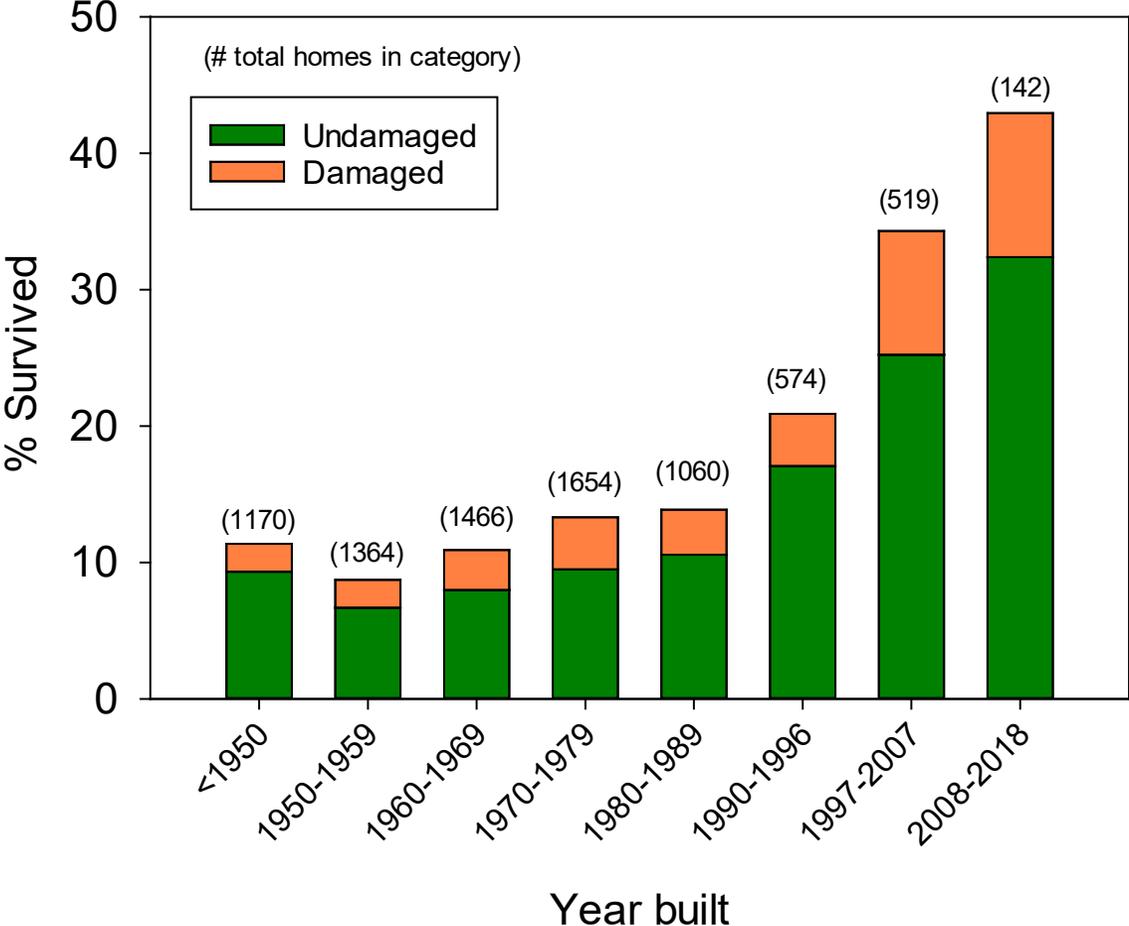
- 13,696 - Single family Residences destroyed
- 462 - Single family Residences damaged*
- 276 - Multi-family Residences destroyed
- 25 - Multi-family Residences damaged*
- 4,293 - Other Minor Structures destroyed
- 528 - Commercial Structures destroyed
- 102 - Commercial Structures damaged*

Note: * Not included in final report of destroyed



Home age and survival in Paradise, CA

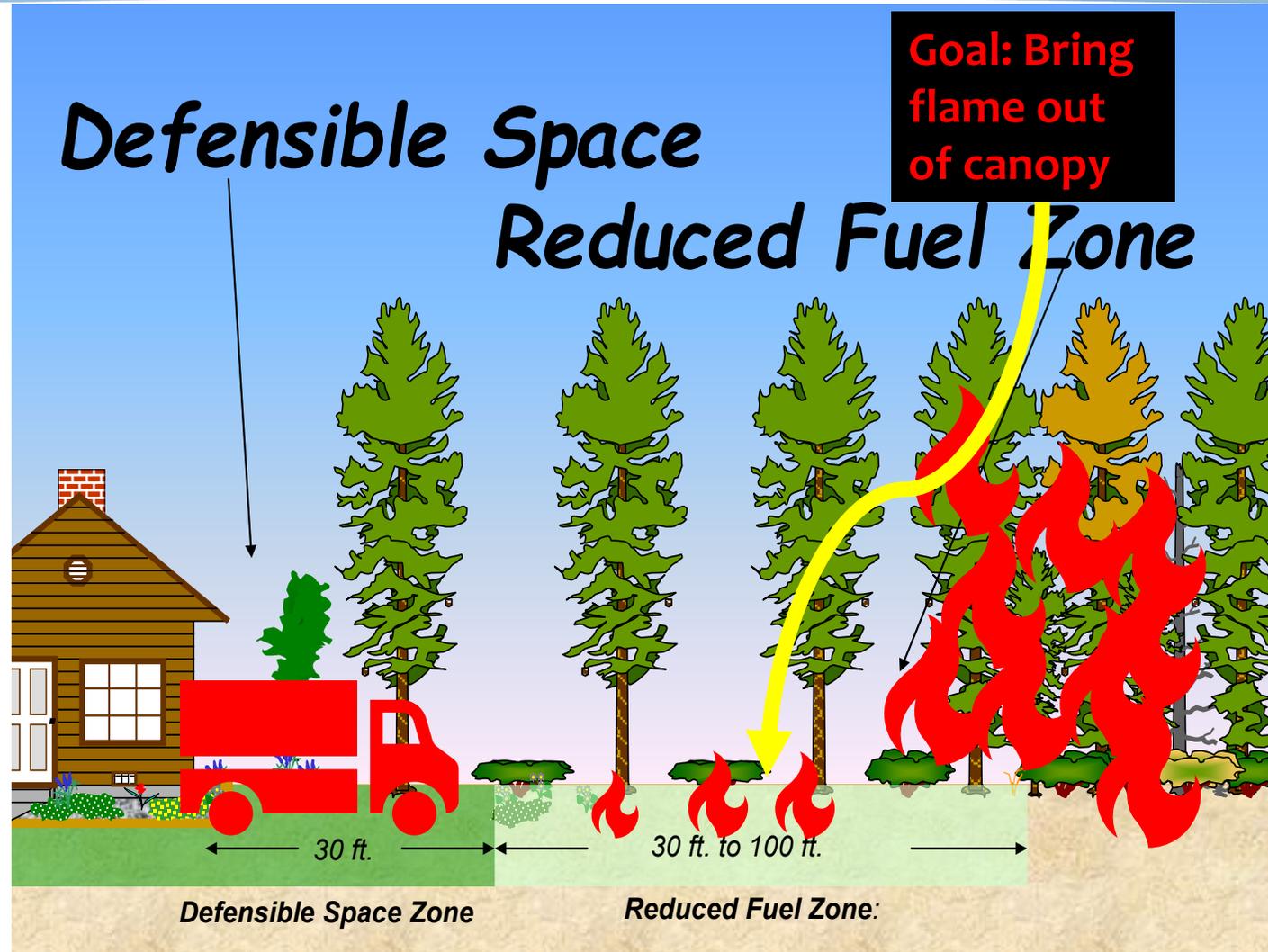
2018 Camp Fire - Paradise (single family homes)



California has been a leader in fire preparedness

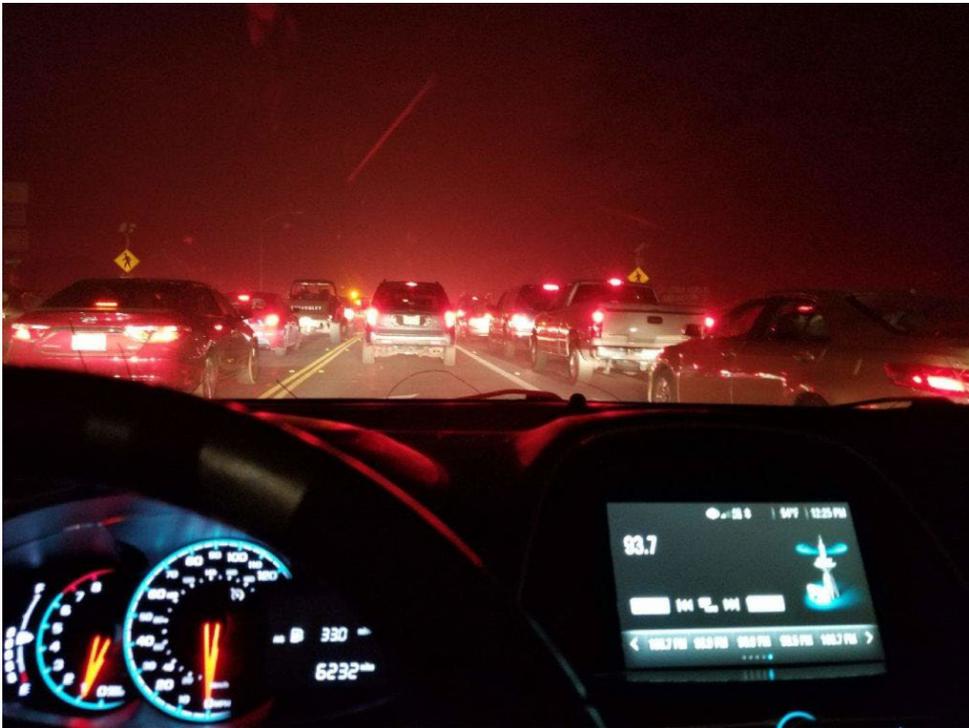
- 1965 – California enacts **PRC 4291**. Vegetation modification requirements around buildings in forest, brush and grass covered areas.
- 1982 – California enacts PRC 4201 – 4204. **State Responsibility Areas** (SRA) classified into Fire Hazard Severity Zone.
- 1991- State establishes **Fire Safe Regulations** PRC 4290
- 1992 – Following Oakland-Berkeley Hills fire, passage of Bates Bill (AB 337). **Local Responsibility Areas** (LRA) assessed based on accumulated fuels, topography, fire weather, building density.
- 2005- Defensible space expanded to 100 feet.
- 2008- Wildland Urban Interface Building Standards (WUIBS) **Chapter 7A** – California Building Code (Office of the Fire Marshal <https://osfm.fire.ca.gov/divisions/fire-engineering-and-investigations/building-materials-listing/bml-search-building-materials-listing/>)
- 2018- **Fire Safe Regulations** (SB 901) update
- 2020- Defensible Space (**Zone Zero**) in response to ember awareness PRC 4291 (AB 3074)
- 2021- Board of Forestry and Fire Protection updating the **Fire Safe Regulations** (in progress)

Defensible space guidance has been about creating a defendable space



Egress Routes are Cut Off

09:42 - Branch II advised Pentz, Pearson, Billie, Wagstaff, all were blocked and they were getting direct impingement by flames.



11:21 - Branch II from Hotel, states he has about 1,000 people on the road trapped by fire, and is setting multiple Temporary Refuge Areas (TRAs) up.

Temporary Refuge Areas

13:27 - Fireline
Supervisor reports
200 trapped at Clark
and Skyway. Trying to
protect with fire
engines and aircraft

Buses are dispatched
to pick up trapped
evacuees



Facets of Fire Resiliency



Wildland management Fuel reduction, Rx fire, wood product markets



Open space and agriculture Buffers, safe zones



Weather forecasting and alerts

Red Flag Warning

The NWS issues a Red Flag Warning, in conjunction with land management agencies, to alert land managers to an ongoing or imminent **critical fire weather** pattern.

Critical fire conditions are ongoing or expected within the **next 24 hours**. Be extremely careful with open flame **action.**

Fire response and evacuation Mutual aid, neighborhood-scale planning, signage



Infrastructure protection Utilities, water, hospitals, etc.



Land use planning Building codes, zoning



Fire resilient homes Construction, landscaping, defensible space



Rebuilding communities People, organizations, and infrastructure



Workshop Schedule - Day 1

1:30 pm to 2:30 pm - Introductions and small group work

2:30 pm to 2:45 pm - Break

2:45 pm to 4:00 pm - Small group work continues

4:00 pm to 4:20 pm - Break

4:20 pm - reconvene in the main lecture room

4:20 pm to 5:00 pm - Workshop facilitators present findings
(of their small groups)

Workshop / Group Activities (Day 1)

1 hour - Introductions and small group work

Facilitator introduces the “case”

Attendee introductions

Case and Ecosystem discussion

15 min - Break

1 hr 15 min - Small group work continues

Facilitator records small group recommendations

15 min - Break

Workshop / Group Goals (Day 1)

Introduce yourself to each other

(Current job, location, role(s) within the NFPA Ecosystem, why interested in this topic)

Discuss the contemporary issue

Identify challenges / recent failures

Identify what elements of the NFPA Ecosystem may have been lacking (under-represented) in recent failures

Identify ways the NFPA Ecosystem may help in the future



IT'S A BIG WORLD.
LET'S PROTECT IT TOGETHER.

Facilitator Reports in the Main Room

Day 1

Each report - 13 minutes

1. Present the “case study”
2. As discussed by the small group(s):
 - a. What major issues were there?
 - b. How can the NFPA Ecosystem be applied to help address the issues?