

# CA WILDFIRES: TRENDS, STATISTICS

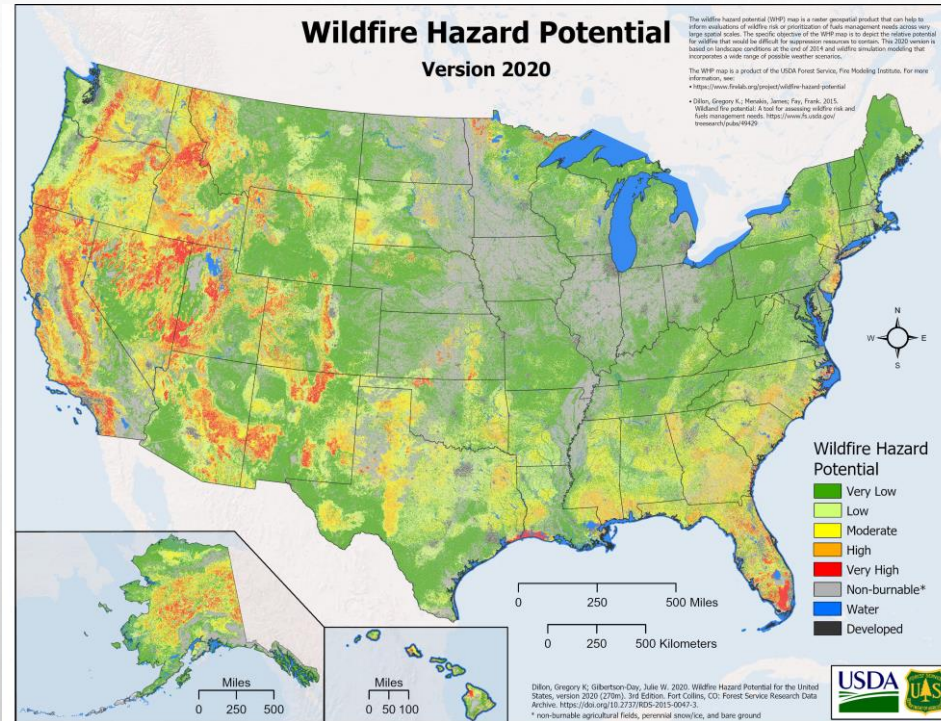
## LAH FIRE DISTRICT COMMISSION MEETING

### APRIL 20, 2021



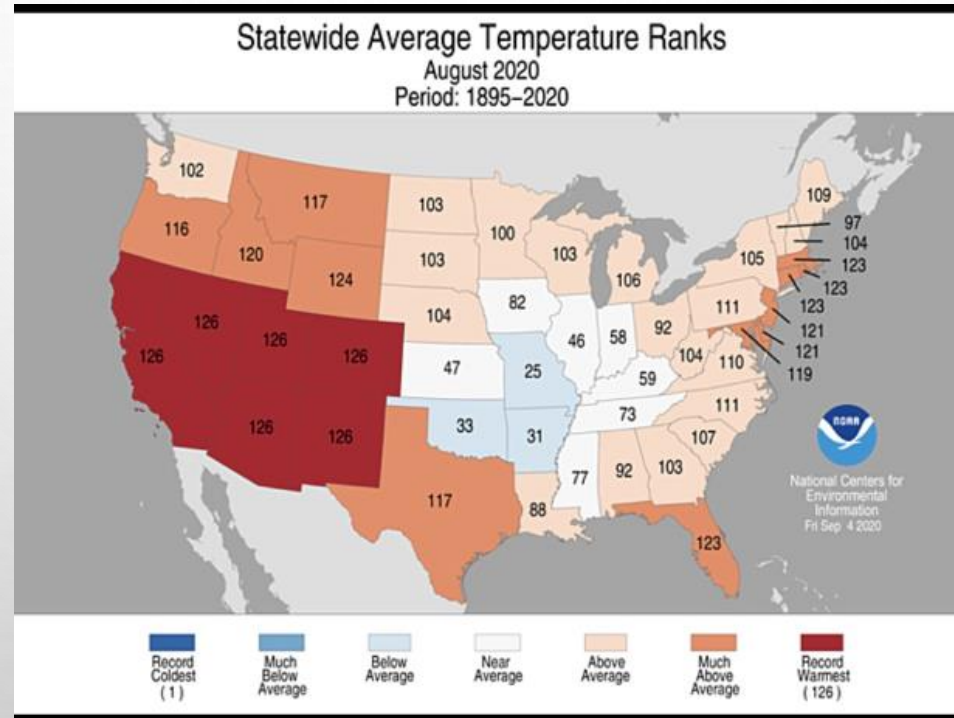
# WILDFIRE HAZARD POTENTIAL

## WHERE DO WE STAND?



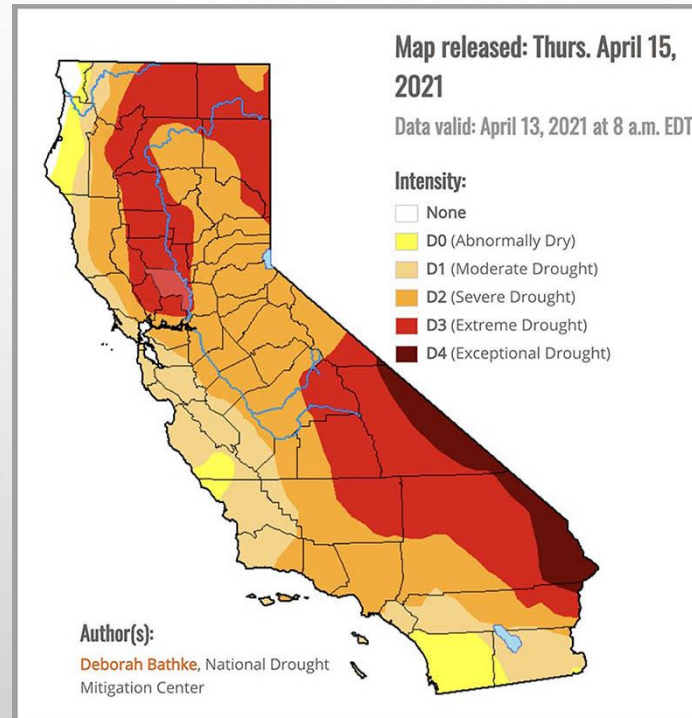
# THE TREND IS NOT OUR FRIEND

U.S. NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION COMPILED DATA ON STATEWIDE AVERAGE TEMPERATURE RANKS.  
MANY ABOVE-AVERAGE OR RECORD WARMEST TEMPERATURES HAVE  
OCCURRED IN STATES WITH UNPRECEDENTED WILDFIRE ACTIVITY





# CALIFORNIA DROUGHT MONITOR, APRIL 13, 2021.





# TOP 20 LARGEST CALIFORNIA WILDFIRES

## 9 OF THE 20 LARGEST HAVE OCCURRED SINCE 2017



Top 20 Largest California Wildfires

FIRE NAME (CAUSE)	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1 AUGUST COMPLEX (Under Investigation)*	August 2020	Mendocino, Humboldt, Trinity, Tehama, Glenn, Lake, & Colusa	1,032,649	935	1
2 MENDOCINO COMPLEX (Under Investigation)	July 2018	Colusa, Lake, Mendocino & Glenn	459,123	280	1
3 SCU LIGHTNING COMPLEX (Under Investigation)*	August 2020	Stanislaus, Santa Clara, Alameda, Contra Costa, & San Joaquin	396,624	222	0
4 CREEK FIRE (Under Investigation)*	September 2020	Fresno & Madera	377,693	853	0
5 LNU LIGHTNING COMPLEX (Under Investigation)*	August 2020	Sonoma, Lake, Napa, Yolo & Solano	363,220	1,491	6
6 NORTH COMPLEX (Under Investigation)*	August 2020	Butte, Plumas & Yuba	318,930	2,352	15
7 THOMAS (Powerlines)	December 2017	Ventura & Santa Barbara	281,893	1,063	2
8 CEDAR (Human Related)	October 2003	San Diego	273,246	2,820	15
9 RUSH (Lightning)	August 2012	Lassen	271,911 CA / 43,666 NV	0	0
10 RIM (Human Related)	August 2013	Tuolumne	257,314	112	0
11 ZACA (Human Related)	July 2007	Santa Barbara	240,207	1	0
12 CARR (Human Related)	July 2018	Shasta County & Trinity	229,651	1,614	8
13 MATILJA (Undetermined)	September 1932	Ventura	220,000	0	0
14 WITCH (Powerlines)	October 2007	San Diego	197,990	1,650	2
15 KLAMATH THEATER COMPLEX (Lightning)	June 2008	Siskiyou	192,038	0	2
16 MARBLE CONE (Lightning)	July 1977	Monterey	177,866	0	0
17 LAGUNA (Powerlines)	September 1970	San Diego	175,425	382	5
18 SQF COMPLEX (Lightning)	August 2020	Tulare	170,384	228	0
19 BASIN COMPLEX (Lightning)	June 2008	Monterey	162,818	58	0
20 DAY FIRE (Human Related)	September 2006	Ventura	162,702	11	0

There is no doubt that there were fires with significant acreage burned in years prior to 1932, but those records are less reliable, and this list is meant to give an overview of the large fires in more recent times.

This list does not include fire jurisdiction. These are the Top 20 regardless of whether they were state, federal, or local responsibility.

\*Numbers not final.



11/3/2020



# TOP 20 MOST DESTRUCTIVE WILDFIRES

## 12 OF THE 20 MOST *DESTRUCTIVE* HAVE OCCURRED SINCE 2017

Top 20 Most Destructive California Wildfires

FIRE NAME (CAUSE)	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1 <b>CAMP FIRE</b> (Powerlines)	November 2018	Butte	153,336	<b>18,804</b>	85
2 <b>TUBBS</b> (Electrical)	October 2017	Napa & Sonoma	36,807	<b>5,636</b>	22
3 <b>TUNNEL - Oakland Hills</b> (Rekindle)	October 1991	Alameda	1,600	<b>2,900</b>	25
4 <b>CEDAR</b> (Human Related)	October 2003	San Diego	273,246	<b>2,820</b>	15
5 <b>NORTH COMPLEX</b> (Under Investigation) *	August, 2020	Butte, Plumas, & Yuba	318,935	<b>2,352</b>	15
6 <b>VALLEY</b> (Electrical)	September 2015	Lake, Napa & Sonoma	76,067	<b>1,955</b>	4
7 <b>WITCH</b> (Powerlines)	October 2007	San Diego	197,990	<b>1,650</b>	2
8 <b>WOOLSEY</b> (Under Investigation)	November 2018	Ventura	96,949	<b>1,643</b>	3
9 <b>CARR</b> (Human Related)	July 2018	Shasta County, Trinity	229,651	<b>1,614</b>	8
10 <b>GLASS FIRE</b> (Under Investigation) *	September 2020	Napa & Sonoma	67,484	<b>1,520</b>	0
11 <b>LNU LIGHTNING COMPLEX</b> (Under Investigation) *	August 2020	Lake, Napa, Sonoma, Yolo & Solano	363,220	<b>1,491</b>	6
12 <b>CZU LIGHTNING COMPLEX</b> (Lightning)	August 2020	Santa Cruz, San Mateo	86,509	<b>1,490</b>	1
13 <b>NUNS</b> (Powerline)	October 2017	Sonoma	54,382	<b>1,355</b>	3
14 <b>THOMAS</b> (Powerline)	December 2017	Ventura & Santa Barbara	281,893	<b>1,063</b>	2
15 <b>OLD</b> (Human Related)	October 2003	San Bernardino	91,281	<b>1,003</b>	6
16 <b>JONES</b> (Undetermined)	October 1999	Shasta	26,200	<b>954</b>	1
17 <b>AUGUST COMPLEX</b> (Under Investigation) *	August 2020	Mendocino, Humboldt, Trinity, Tehama, Glenn, Lake, & Colusa	1,032,649	<b>935</b>	1
18 <b>BUTTE</b> (Powerlines)	September 2015	Amador & Calaveras	70,868	<b>921</b>	2
19 <b>CREEK FIRE</b> (Under Investigation) *	September 2020	Fresno & Madera	377,693	<b>856</b>	0
20 <b>ATLAS</b> (Powerline)	October 2017	Napa & Solano	51,624	<b>783</b>	6

"Structures" include homes, outbuildings (barns, garages, sheds, etc) and commercial properties destroyed.

This list does not include fire jurisdiction. These are the Top 20 regardless of whether they were state, federal, or local responsibility.

\*Numbers not final



11/3/2020

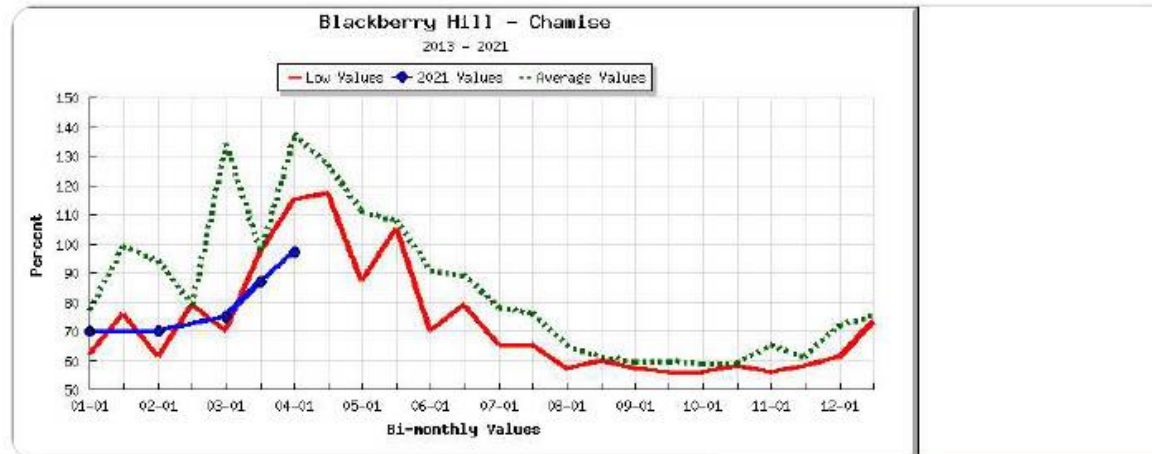
# RECORD LOW FIRE MOISTURE CONTENT (FMC)

FOLLOWING AN EXCEPTIONALLY DRY WINTER (AND A RECORD HOT AUTUMN & V. DRY 2020), VEGETATION FLAMMABILITY ACROSS NORTHERN CALIFORNIA IS AT/NEAR RECORD LEVELS FOR THE DATE (EARLY APRIL) & IS APPROACHING LEVELS MORE TYPICAL OF MID-SUMMER (LATE JULY) LEVELS IN SOME AREAS. \*DANIEL SWAIN @ WEATHERWEST 4/15/21



SJSU FireWeatherLab  
@FireWeatherLab

Fire season 2021 is looking grim. Our region's FMCs are tracking lower than the minimum-- a new record low. This is caused by the lack/delay of new growth. Average is 137%, low is 115%, 2021= 97% [#wildfire](#) [#CAwx](#) [@wildfirecenter](#)



10:01 AM · Apr 5, 2021 · Twitter Web App





# CA WILDFIRE ACTIVITY 2021 YTD



## STATS AND EVENTS

### CURRENT YEAR STATISTICS: 2021

THE BELOW STATISTICS ARE TRACKED ON A WEEKLY BASIS AND PROVIDE A SNAPSHOT OF THE NUMBER OF FIRES AND ACRES BURNED. THESE ARE PRELIMINARY NUMBERS TAKEN FROM OUR COMPUTER AIDED DISPATCH (CAD) SYSTEM, AND WILL LIKELY CHANGE AS DISPATCHED WILDFIRES MAY END UP BEING OTHER TYPES OF FIRES OR FALSE ALARMS. THESE NUMBERS ARE SUBJECT TO CHANGE UNTIL THE FINAL FIRE SEASON REPORTS ARE COMPLETED AND TABULATED.

### NUMBER OF FIRES AND ACRES:

INTERVAL:	FIRES	ACRES
JANUARY 1, 2021 THROUGH APRIL 11, 2021	1,016	1,715
JANUARY 1, 2020 THROUGH APRIL 11, 2020	779	1,445
5-YEAR AVERAGE (SAME INTERVAL)	515	544
2021 COMBINED YTD (CALFIRE & US FOREST SERVICE)	1,160	3,304

(STATISTICS INCLUDE ALL WILDFIRES RESPONDED TO BY CAL FIRE IN BOTH THE STATE RESPONSIBILITY AREA, AS WELL AS THE LOCAL RESPONSIBILITY AREA UNDER CONTRACT WITH THE DEPARTMENT. STATISTICS MAY NOT INCLUDE WILDFIRES IN STATE RESPONSIBILITY AREA PROTECTED BY CAL FIRE'S CONTRACT COUNTIES. FINAL NUMBERS WILL BE PROVIDED IN THE ANNUAL WILDFIRE ACTIVITY STATISTICS REPORT (REDBOOK) ONCE IT'S PUBLISHED.)



# CA WILDFIRE ACTIVITY 2021 YTD

## CAL FIRE NORTHERN REGION FIRES AND ACRES

### CNR FIRES AND ACRES REPORT

FIRES AND ACRES APRIL 5<sup>TH</sup> – APRIL 11<sup>TH</sup>, 2021

**67 FIRES FOR 51 ACRES**

FIRES AND ACRES 2021 YTD

**433 FIRES FOR 1,324 ACRES**

FIRES AND ACRES 2020 YTD

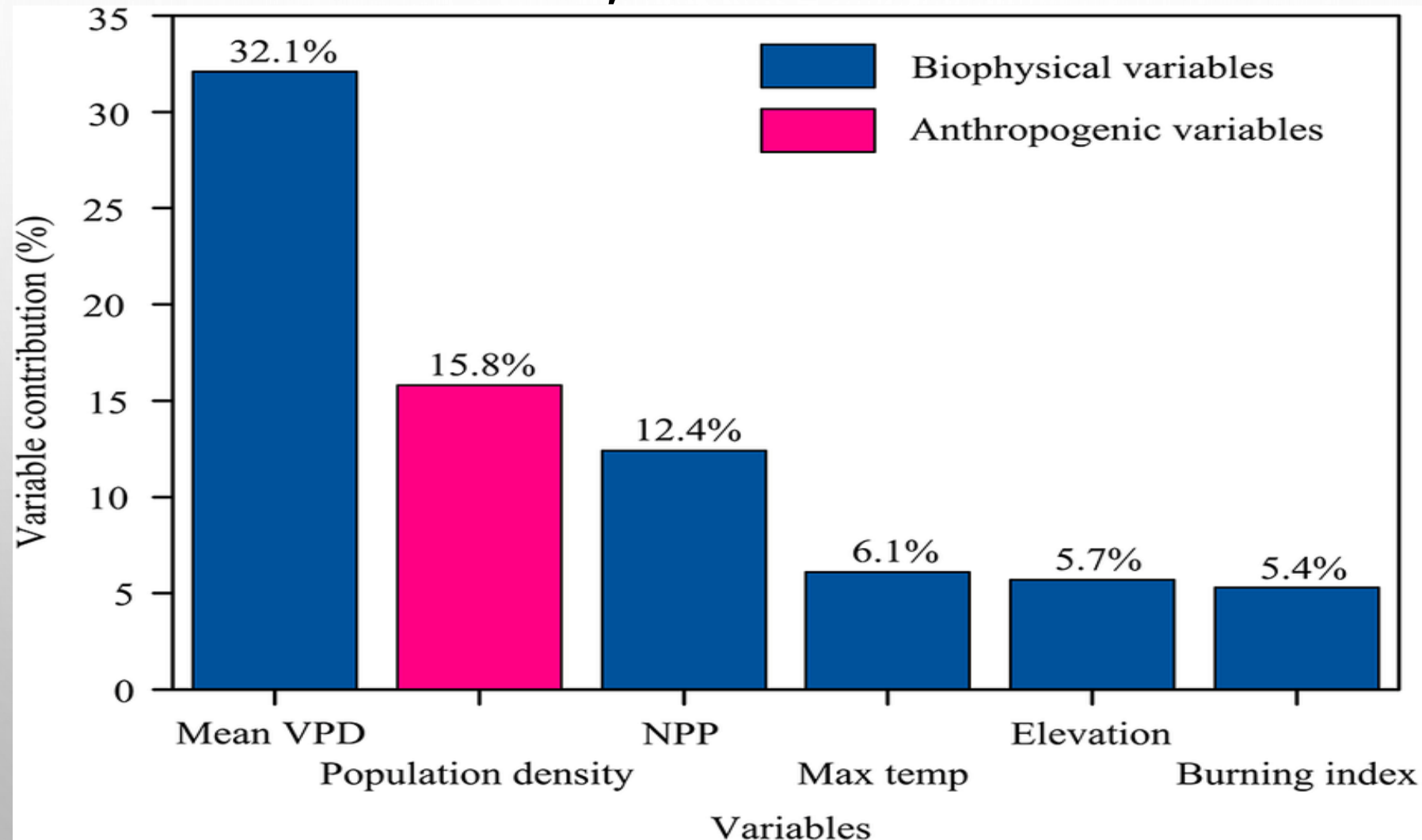
**350 FIRES FOR 480 ACRES**

FIRES AND ACRES APRIL 5<sup>TH</sup> – APRIL 11<sup>TH</sup>, 2020

**12 FOR 3 ACRES**



# THE RELATIVE CONTRIBUTION OF TOP SIX VARIABLES TO FIRE PROBABILITY, BASED ON RESULTS FROM THE



*Climate, Fuel, and Land Use Shaped the Spatial Pattern of Wildfire in California's Sierra Nevada*  
First published: 08 February 2021



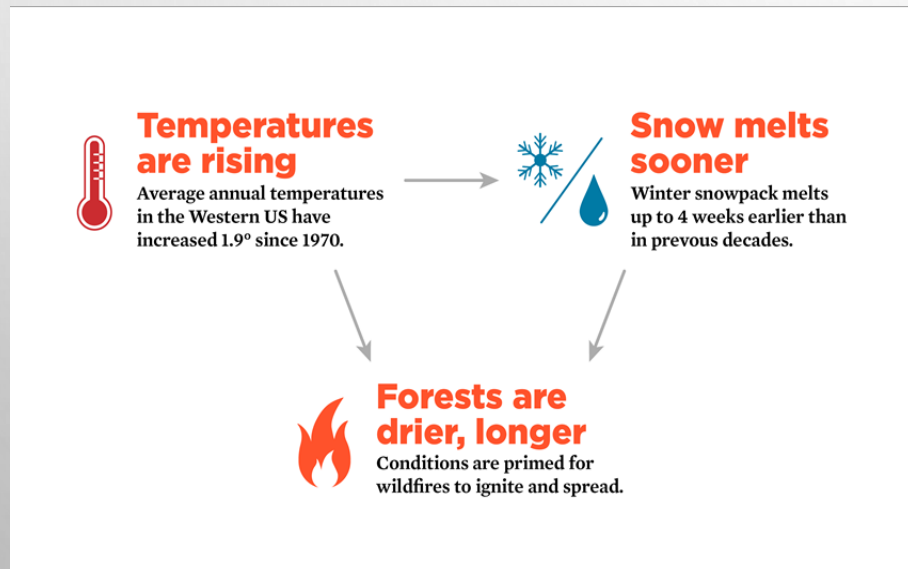
# TRANSLATING THIS INTO ENGLISH

MODEL DIAGNOSTICS REVEALED THAT ASPECTS OF THE CLIMATE, INCLUDING VAPOR PRESSURE DEFICIT (VPD), TEMPERATURE, AND BURNING INDEX (DIFFICULTY OF CONTROL), DOMINATED THE SPATIAL PATTERNS OF FIRE PROBABILITY ACROSS THE WHOLE SIERRA NEVADA REGION.

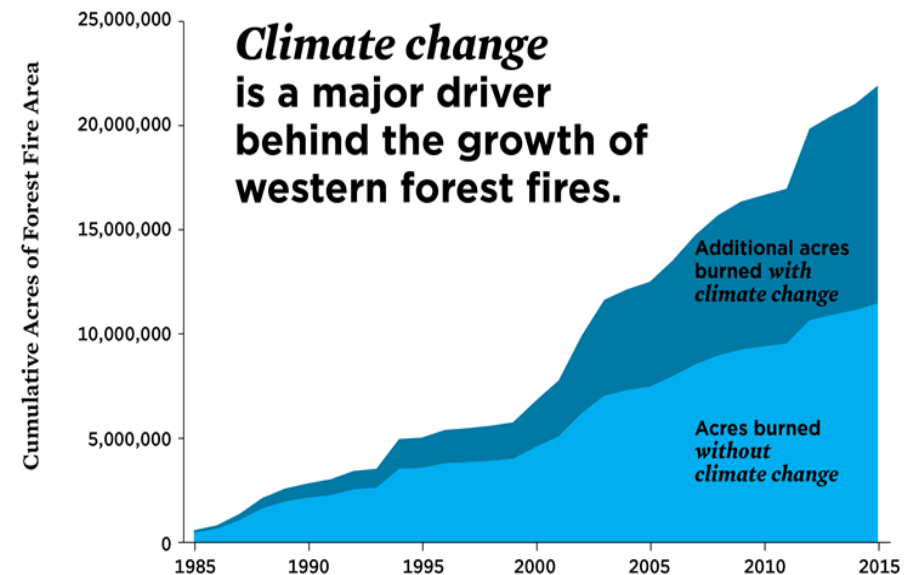
- THE VPD WAS THE LEADING CONTROL, WITH A RELATIVE CONTRIBUTION OF 32.1%
- BY LOOKING AT EACH VARIABLE'S RELATIVE CONTRIBUTION TO MODEL PERFORMANCE, THE AUTHORS FOUND THAT THE ANNUAL MEAN VAPOR PRESSURE DEFICIT WAS THE MOST SIGNIFICANT PREDICTOR OF FIRE OCCURRENCE. **(VAPOR PRESSURE DEFICIT IS THE DIFFERENCE BETWEEN THE AIR'S WATER CONTENT AND ITS SATURATION POINT) POPULATION DENSITY WAS THE SECOND LEADING PREDICTOR OF FIRE PROBABILITY.**
- POPULATION DENSITY AND FUEL AMOUNT ALSO PLAY A LARGE ROLE IN WHERE FIRES ERUPT, ACCORDING TO THE MODELING. LESS DENSELY POPULATED AREAS HAD A HIGHER FIRE RISK, AS DID MORE DENSELY VEGETATED TRACTS. HOWEVER, THESE TRENDS DID NOT HOLD ACROSS ALL ELEVATIONS. FOR INSTANCE, POPULATION DENSITY AFFECTS LOW-ELEVATION FORESTS MORE THAN HIGHER ELEVATION FORESTS.
- VPD AND BURNING INDEX WERE THE MOST IMPORTANT FACTORS FOR FIRE PROBABILITY IN HIGHER ELEVATION FOREST, WHILE POPULATION DENSITY WAS COMPARATIVELY MORE IMPORTANT IN THE LOWER ELEVATION FOREST REGIONS OF THE SIERRA NEVADA. POPULATION DENSITY WAS THE SECOND LEADING PREDICTOR OF FIRE PROBABILITY.

# CLIMATE CHANGE IMPACTS: WILDFIRE IMPLICATIONS

- FIRE HAS HISTORICALLY BEEN A NATURAL PART OF MANY WILD LANDSCAPES. BUT GLOBAL WARMING HAS CHANGED SOME OF THE UNDERLYING VARIABLES THAT MAKE WILDFIRES MORE OR LESS LIKELY TO OCCUR EVERY YEAR.
- WARMER TEMPERATURES INCREASE THE LIKELIHOOD THAT FIRES WILL BURN MORE INTENSELY. THEY ALSO CAUSE SNOW TO MELT SOONER, AND LEAD TO DRIE



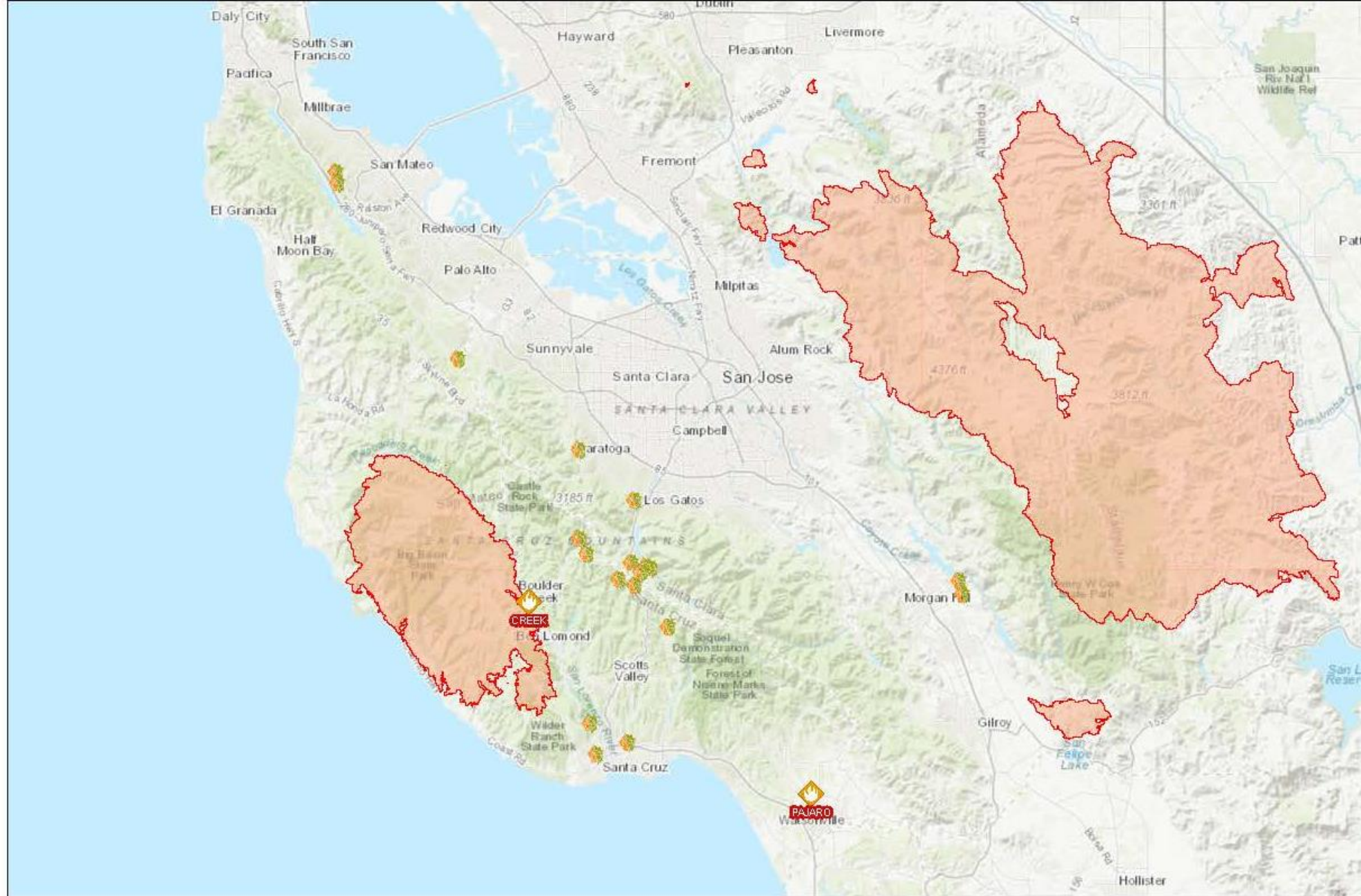
L RAIN P  
ONNECT





LET'S GET  
LOCAL

FIREWISE  
COMMUNITIES  
ARE FORMING  
INCONNECTED  
D-SPACE



April 19, 2021

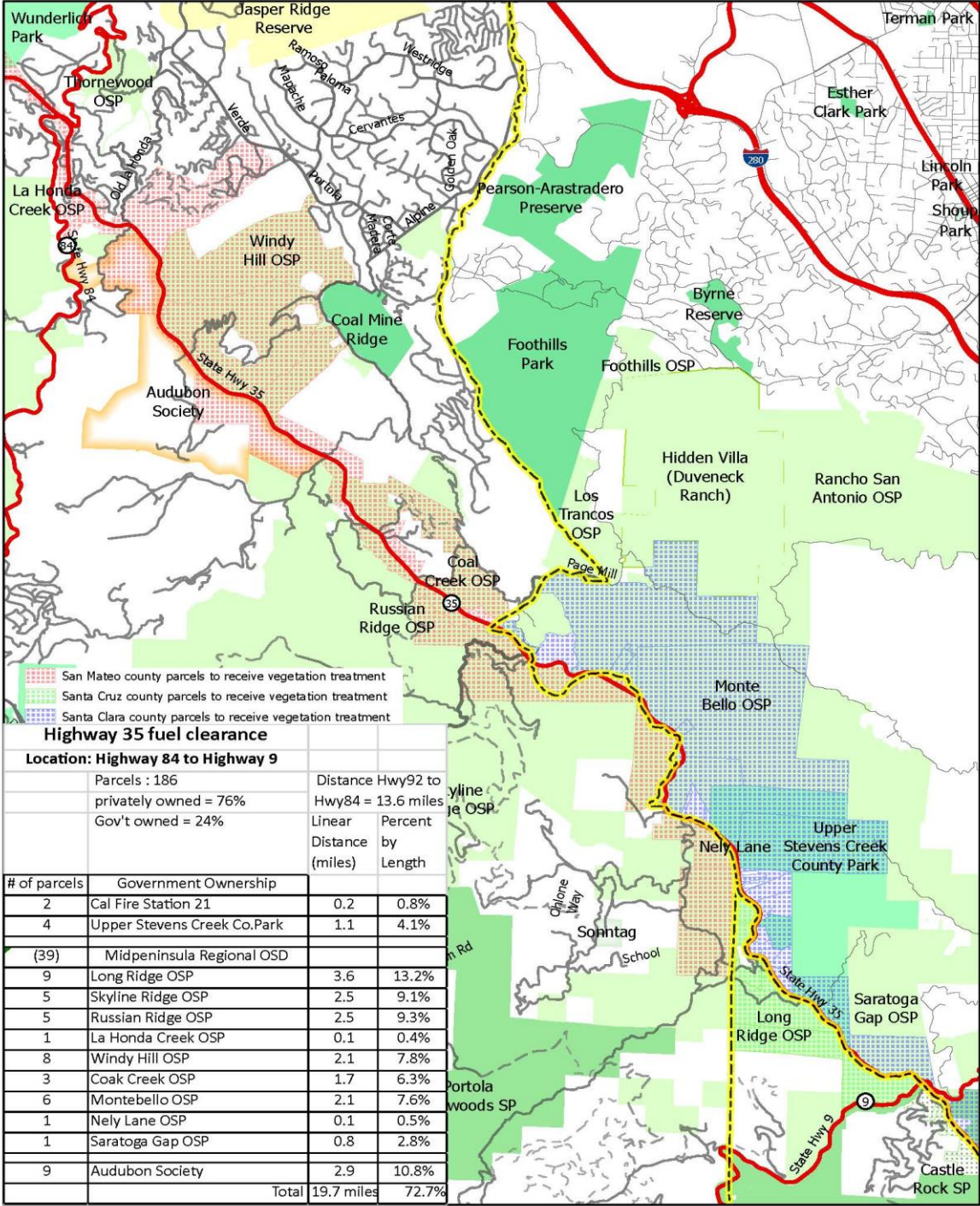
Firewise USA Sites in Good Standing as of 01\_21\_21 View Layer





# HIGHWAY 35 TASK FORCE

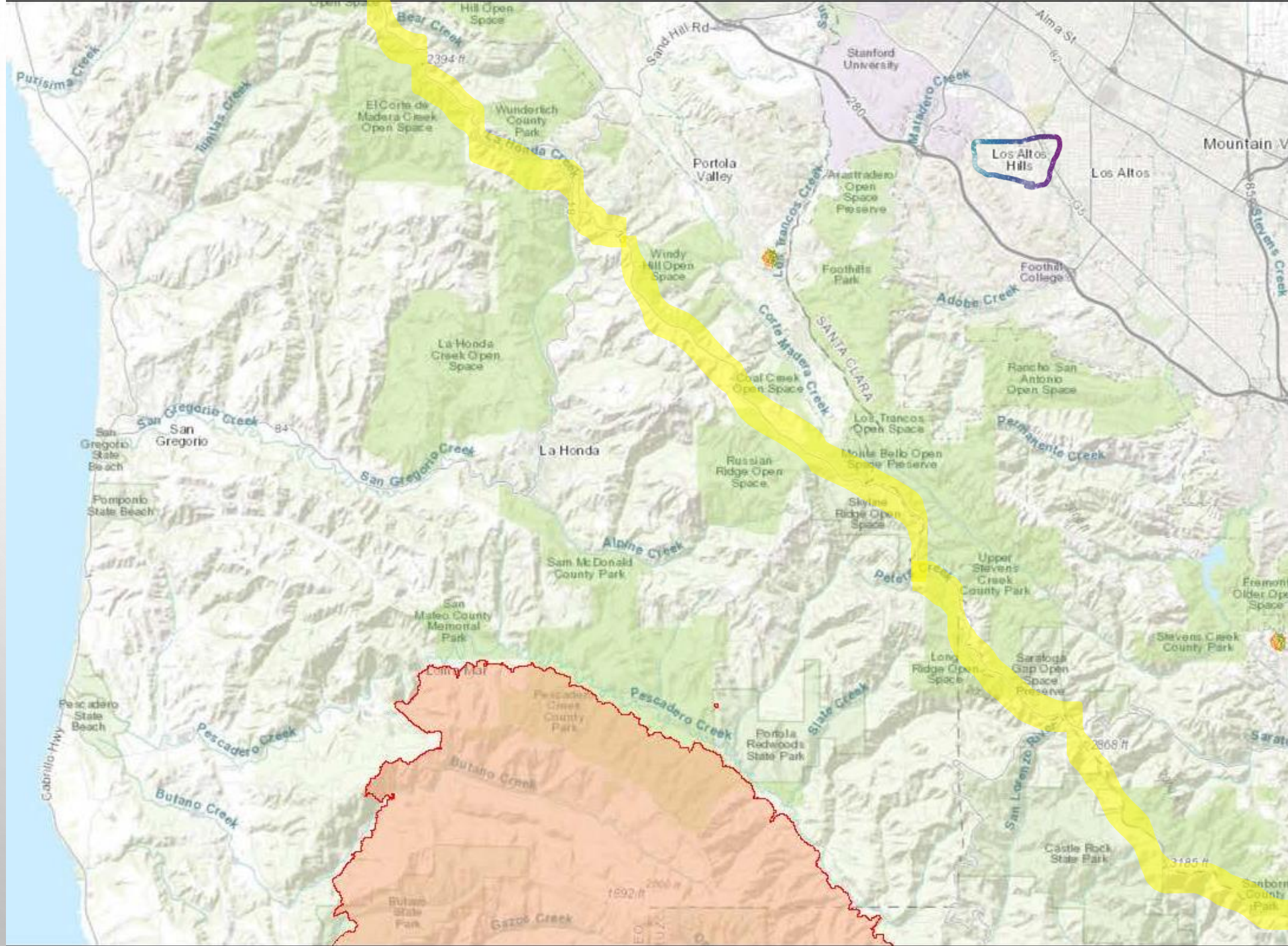
- HIGHWAY 35 FROM 92 SOUTH TO 17
- SUMMIT ROAD FROM 17 SOUTH TO MT MADONNA COUNTY PARK (152)
- VARYING WIDTHS FROM ESCAPE ROUTE TO FUEL BREAK DEPTH DEPENDING ON PERMITS, PARTICIPATION, ACCESSIBILITY ETC





LET'S GET  
LOCAL

HWY 35  
TASK  
FORCE





# MESSAGING, MESSAGING, MESSAGING



- READY-SET-GO
- DEFENSIBLE-SPACE
- HOME HARDENING
- EVACUATION
- PREPAREDNESS: GO BAGS
- AVOID HUMAN CAUSED IGNITION SOURCES: FIREWORKS, CIGARETTES, TOW CHAINS
- RED FLAG DAYS

**COMMUNITY WILDFIRE PREPAREDNESS 2021**

**Understanding Homeowners Insurance in High Fire Risk Areas**

CALIFORNIA DEPARTMENT OF INSURANCE

- Homeowners insurance webinar and insurance coverage
- What to do after a loss
- Insurability in high risk areas
- What rural landowners should know

**Ready, Set, Go Webinar**

Learn how to reduce wildfire risk and better prepare your home, your family and your neighborhood.

- Read flag warnings and responding to extreme conditions
- Creating defensible space and fire safe landscaping
- Making your home more fire resistant
- Creating a wildfire action plan
- Evacuation planning
- Build fire resilient communities

**REGISTER at SCCFD.EVENTBRITE.COM or CALL (408) 378-4010**

**WILDFIRE RESEARCH FACT SHEET**

**IMMEDIATE (NONCOMBUSTIBLE) ZONE**

Why is it important to create and maintain 5 feet of noncombustible space around the exterior of a building?

Wildfire risks are on the rise, but there are ways home and business owners can take control of their vulnerabilities. Changes made to a structure and its surroundings within 100 feet can make a big impact. Research from the Insurance Institute for Business and Home Safety (IBHS) shows that the fire 0 to 5 feet around the structure, known as the immediate zone or noncombustible zone, has the greatest impact on your risk. IBHS and the National Fire Protection Association (NFPA) recommend keeping this zone well-maintained and clear of combustible materials.

**IBHS Research**

The main objective of the 0 to 5-foot zone is to reduce the potential that embers landing near a building will ignite fuels and expose the area around a home to a direct flame (Figure 1). Removing anything that can ignite from embers is critically important. To verify how effective a 5-foot noncombustible zone is around a building, more than 180 tests were conducted in 2018 at the IBHS Research Center to evaluate the potential of heating of buildings (Figures 2a & 2b).

**Key Observations**

- For combustible landscaping, such as wood mulch, the thickness of the mulch bed and wind speed, and location of the flame and building all impact the potential of mulch to ignite and how quickly fire can spread to the building.
- Burning mulch generates embers that can ignite nearby mulch, increasing the chances of direct flame contact spreading to the building.
- When flames are 5 feet away, a building's surface temperature is below temperatures that could cause ignition. However, corners of a building (45-degree angles) experience a higher temperature when exposed to flames, even when a 5-foot space is present. Tests showed that corners can be more vulnerable due to fire spread through fuel (such as mulch) on the ground, because at the same time wind speed, wind blowing directly at a wall (90-degree angle) will result in faster spread and more radiant heat, while wind on a corner (45-degree angle) will result in larger flames that are closer to the ground.

**Recommendations**

- Keep the corner areas of a building clear of combustible materials due to the higher probability of having direct flame touching the surrounding ground.
- Keep gutters free of debris and use metal gutters.
- Install hard surfaces, such as a concrete walkway or use noncombustible plants.
- Products and trees are not recommended in the 5-foot zone.
- Keep the lawn well irrigated and use low-growing herbaceous (non-woody) plants.
- Remove dead vegetation and implement a maintenance strategy to keep the 5-foot zone clear of dead plant materials.
- Migrating home ignition zones shouldn't stop at 5 feet from the building. It should be combined with the footprint of an attached deck and area that extends away from the building up to 100 feet or to the property line.

**Learn More**

- For online training and other resources, see [nfpa.org/home](https://www.nfpa.org/home)
- Access the latest research from IBHS at [ibhs.org](https://www.ibhs.org)

**FIREWISE USA**

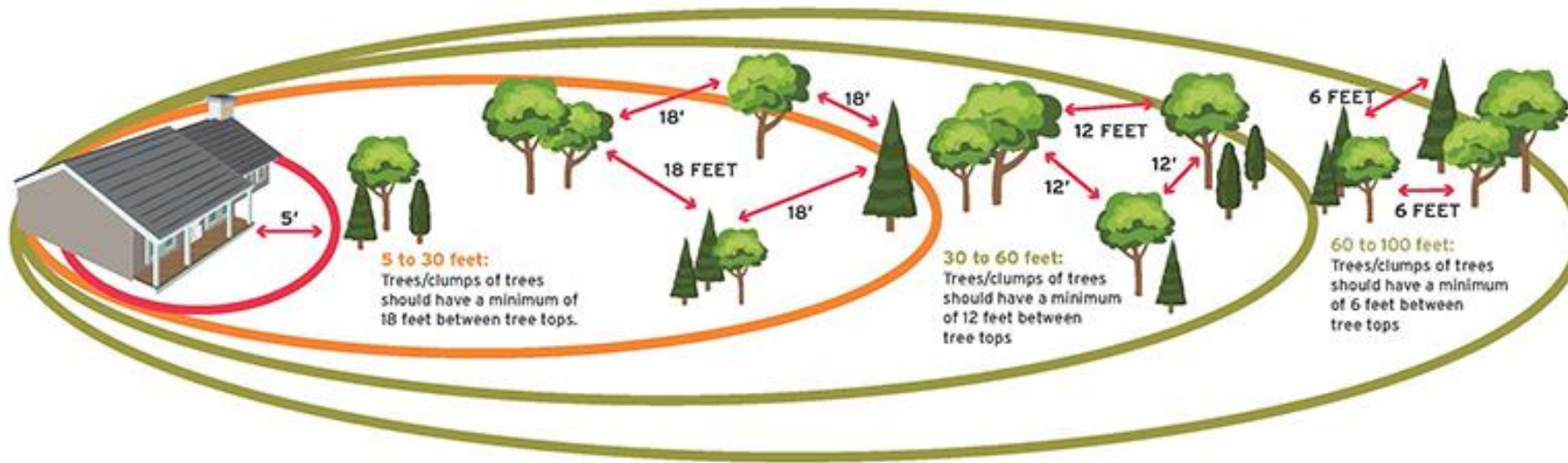
A national partnership between the U.S. Forest Service, U.S. Department of the Interior and the National Association of State Foresters. NFPA is an original partnership provider. Firewise USA is a registered trademark of the National Fire Protection Association. Copyright 2018. Firewise USA is a program of the National Fire Protection Association.



# SUPPORT COMMUNITY CHANGES

- LANDSCAPE SCALE PROJECTS
- HOME HARDENING BUILDING CODE CHANGES
- PROGRAMS THAT HELP RESIDENTS OVERCOME YEARS OF DEFERRED MAINTENANCE
- GET BUSINESS INVOLVED-THEIR WORKERS LIVE AND WORK HERE
- PROTECT AND MAINTAIN INFRASTRUCTURE

## TREE SPACING





QUESTIONS?

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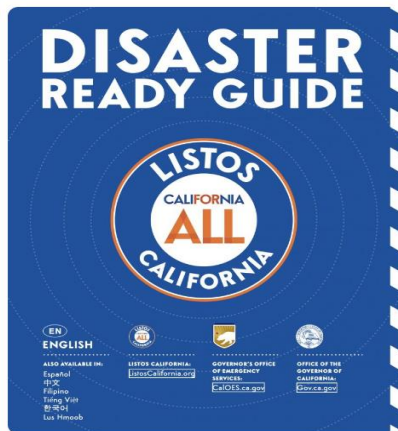
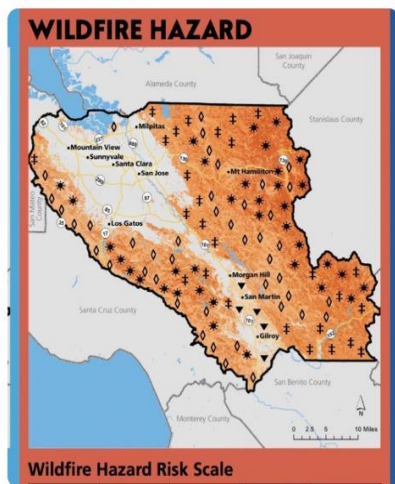




## LISTOS

[Home](#) / [Resources & Downloads](#) / [LISTOS](#)

SCCFSC has partnered with LISTOS to provide communities with disaster preparedness information in multiple languages. Hover over graphic below to download or view material in multiple languages.



### PREPARE FOR A DISASTER

Living in California, you might experience a natural disaster, like wildfire, earthquake, or flood. You are the best person to help yourself and your family prepare for disaster by taking five simple steps.

- STEP 1: GET ALERTS**
  - Go to [www.CalAlerts.org](http://www.CalAlerts.org) to sign up for disaster alerts
  - Call 2-1-1 from your phone to get more information
- STEP 2: MAKE A PLAN**
  - Make a list of contact information for all the people you might need to reach
  - Share with your family in case you are separated
  - Practice how you would evacuate and where you would meet up in an emergency
- STEP 3: MAKE A GO-BAG**
  - Make a Go-Bag for when you have to evacuate quickly
  - Include your most important items including documents, medication lists, photos, and money in small bills
  - Don't forget to grab your phone and phone charger
- STEP 4: MAKE A STAY BOX**
  - Make a stay box for when you cannot leave your home
  - Include basic supplies like food that won't spoil, water, medications, a flashlight, and trash bags
  - Try to store enough to last for three days
- STEP 5: HELP OTHERS**
  - Be ready to assist those around you who might be less able to help themselves during a disaster

Remember, if an emergency occurs, stay calm and follow the instructions of the police, the department and local officials. Download the LISTOS California Disaster Ready Guide at: [www.ListosCalifornia.org](http://www.ListosCalifornia.org)  
[www.listos.org/prepare4disaster](http://www.listos.org/prepare4disaster) Graphics by [www.CaliforniaHomes.com](http://www.CaliforniaHomes.com)

## Wildfire Hazard Map

English

Spanish

Chinese

Filipino

Korean

Vietnamese

# ACCESS MULTILINGUAL INFORMATION TO SPREAD THE WORD

TOGETHER WITH LISTOS AND CALIFORNIA FIRESAFE COUNCIL, SCCFSC WOULD LIKE TO OFFER AND ENCOURAGE USE AND SHARING OF THESE MULTILINGUAL RESOURCES.

[SCCFIRESAFE.ORG/RESOURCES/LISTOS/](https://SCCFIRESAFE.ORG/RESOURCES/LISTOS/)

THESE RESOURCES HAVE BEEN FULLY VETTED AND APPROVED BY THE CA STATE OFFICE OF EMERGENCY MANAGEMENT