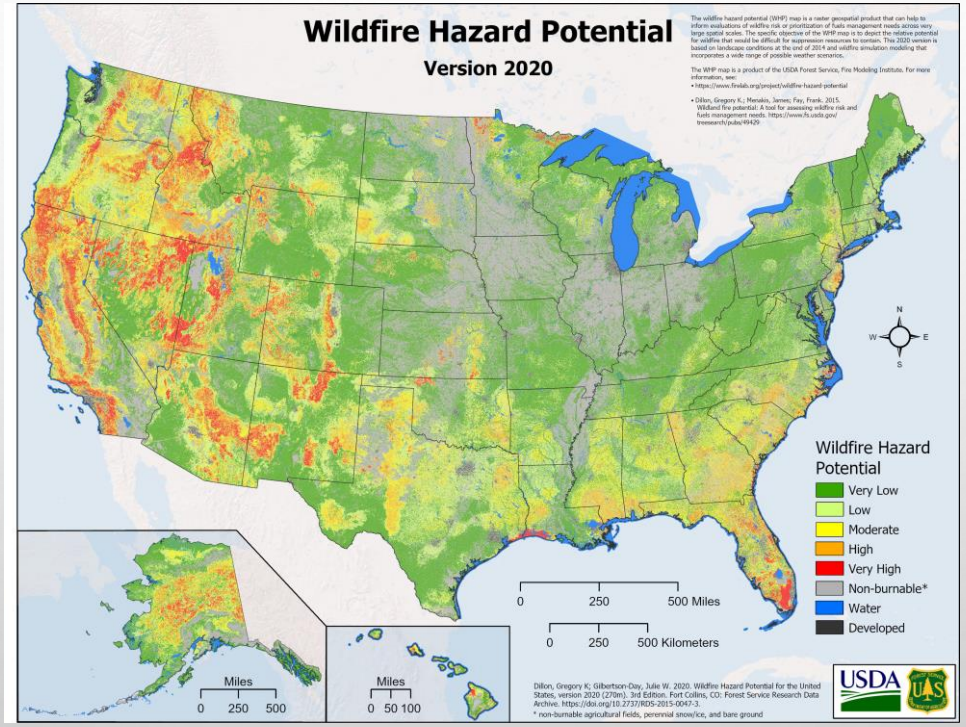
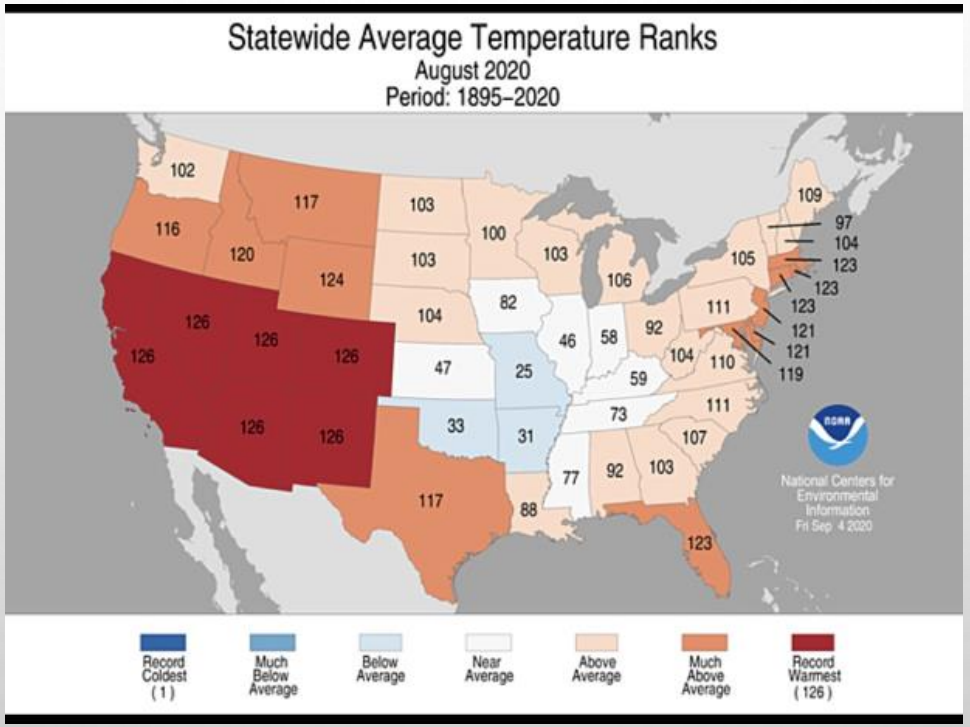
CA WILDFIRES: TRENDS, STATISTICS
LAH FIRE DISTRICT COMMISSION MEETING
APRIL 20, 2021

WILDFIRE HAZARD POTENTIAL
WHERE DO WE STAND?

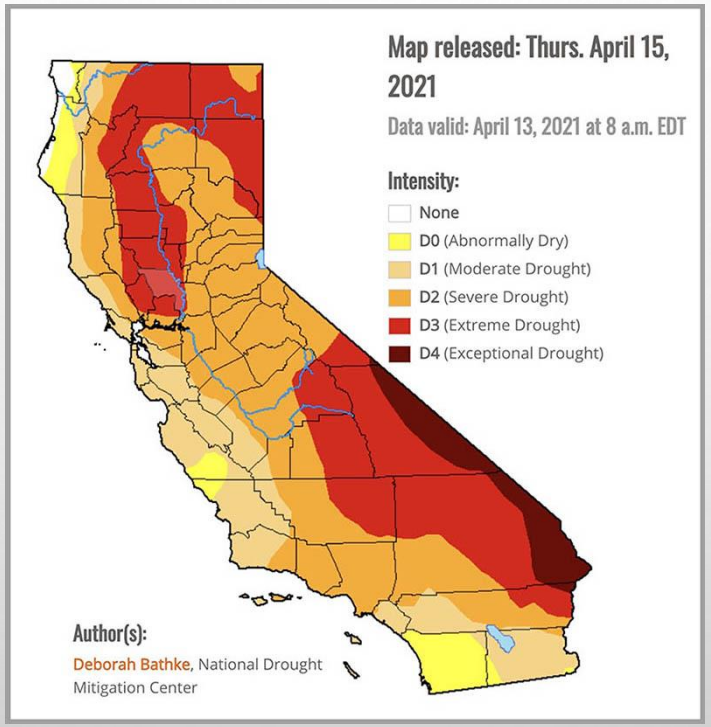


THE TREND IS NOT OUR FRIEND

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

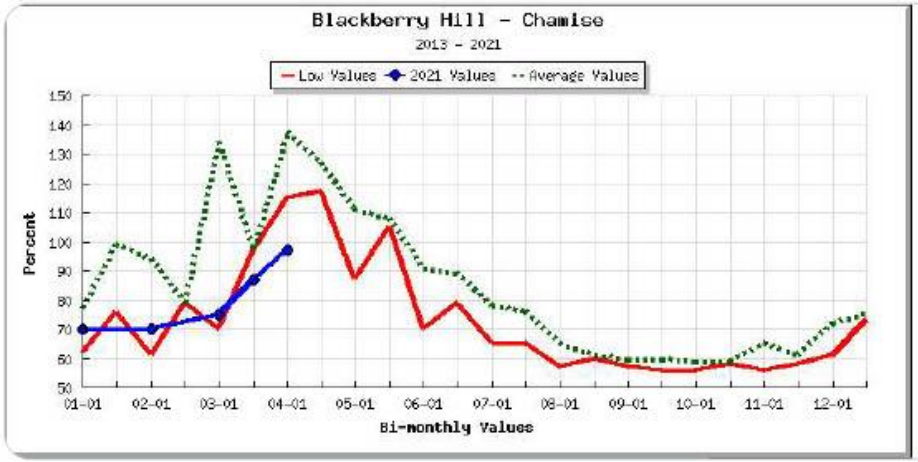
11/3/2020

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 5TH – APRIL 11TH, 2021

67 FIRES FOR 51 ACRES

FIRES AND ACRES 2021 YTD

433 FIRES FOR 1,324 ACRES

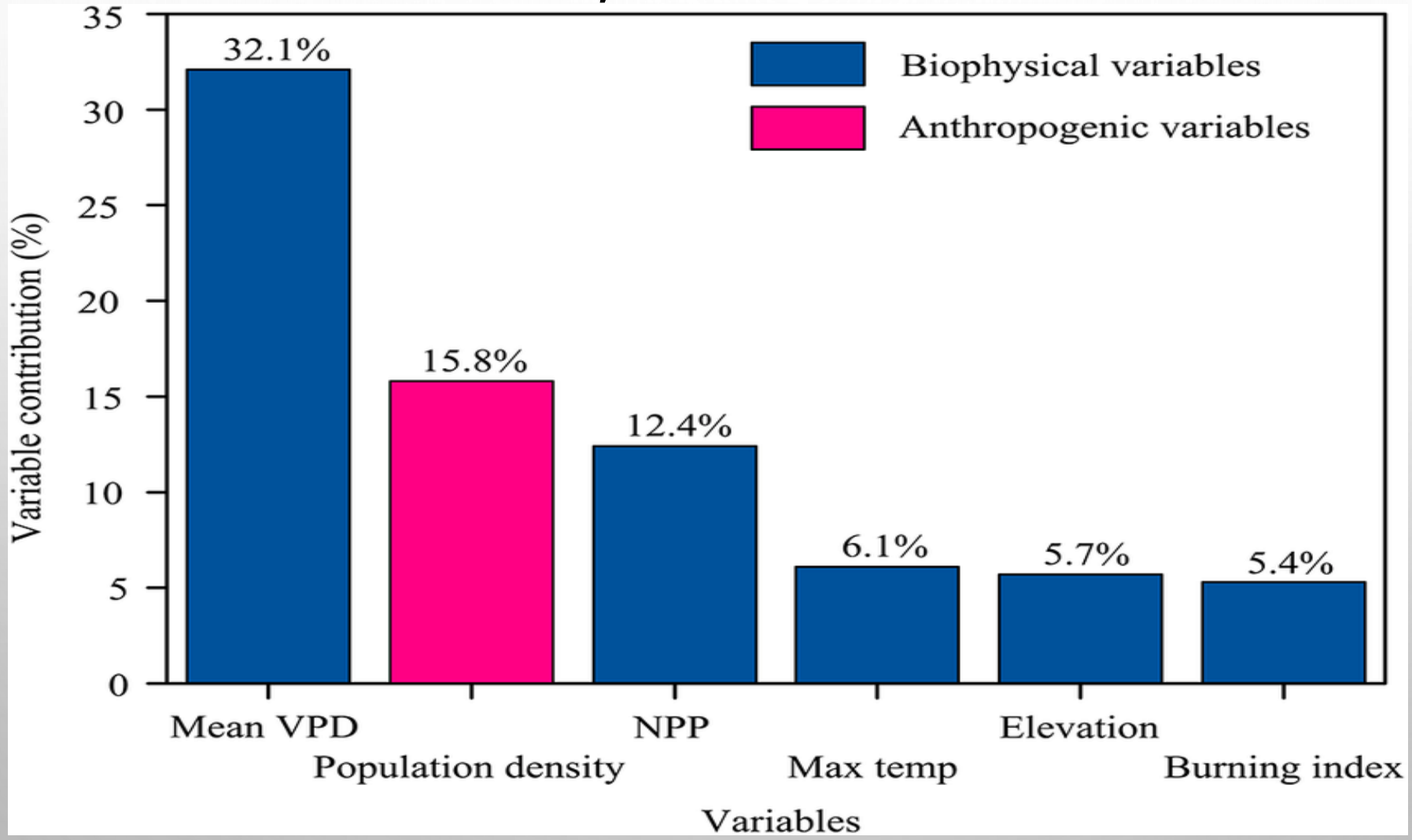
FIRES AND ACRES 2020 YTD

350 FIRES FOR 480 ACRES

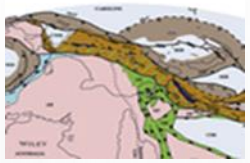
FIRES AND ACRES APRIL 5TH – APRIL 11TH, 2020

12 FOR 3 ACRES

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

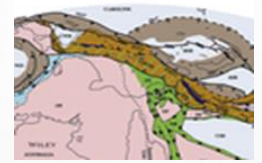


Climate, Fuel, and Land Use Shaped the Spatial Pattern of Wildfire in California's Sierra Nevada First published: 08 February 2021



TRANSLATING THIS INTO ENGLISH

AGU
JGR
Biogeosciences

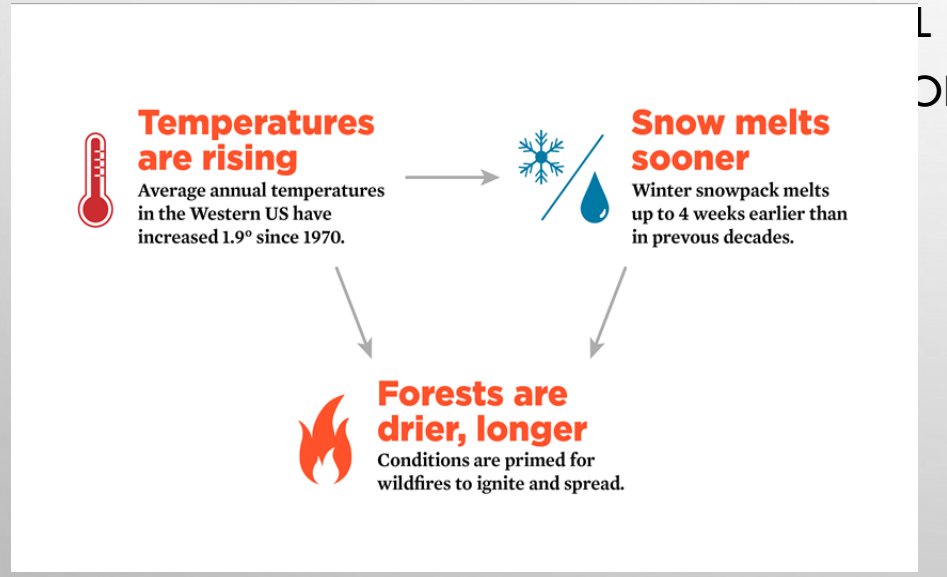


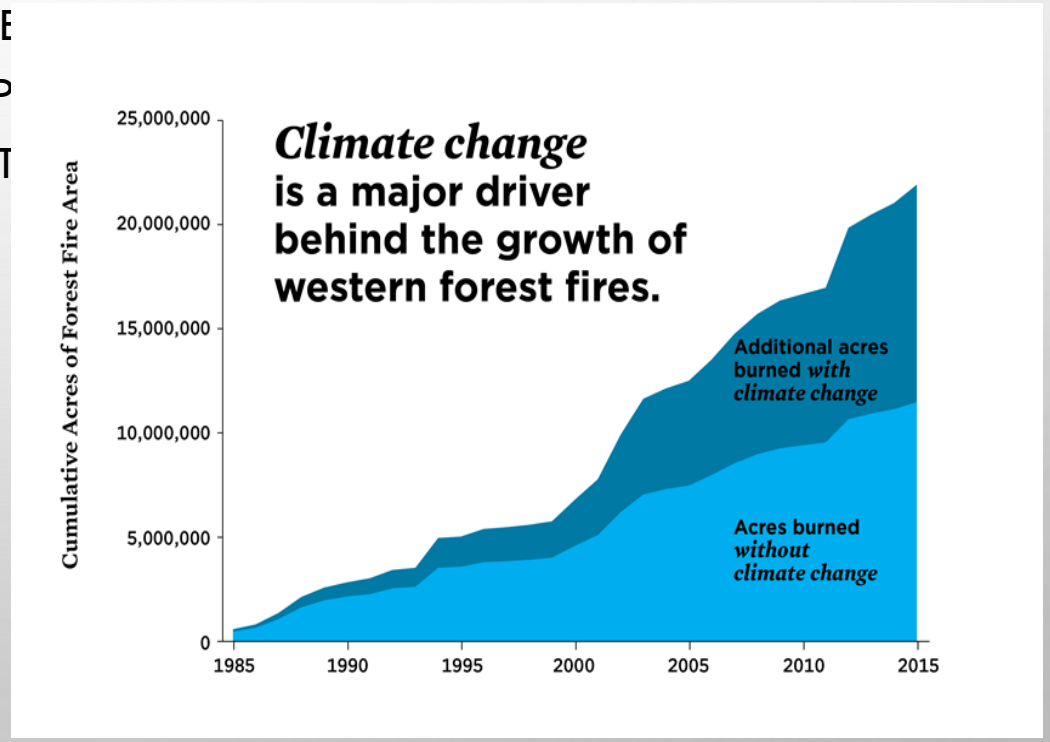
MODEL DIAGNOSTICS REVEALED THAT ASPECTS OF THE CLIMATE, INCLUDING VAPOR PRESSURE DEFICIT (VPD), TEMPERATURE, AND BURNING INDEX (DIFFICULTY OF CONTROL), DOMINATED THE SPATIAL PATTERNS OF FIRE PROBABILITY ACROSS THE WHOLE SIERRA NEVADA REGION.

- 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.
- BIN CHEN, YUFANG JIN, ERICA SCADUTO, MAX A. MORITZ, MICHAEL L. GOULDEN, JAMES T. RANDERSON: ***CLIMATE, FUEL, AND LAND USE SHAPED THE SPATIAL***

CLIMATE CHANGE IMPACTS: WILDFIRE IMPLICATIONS

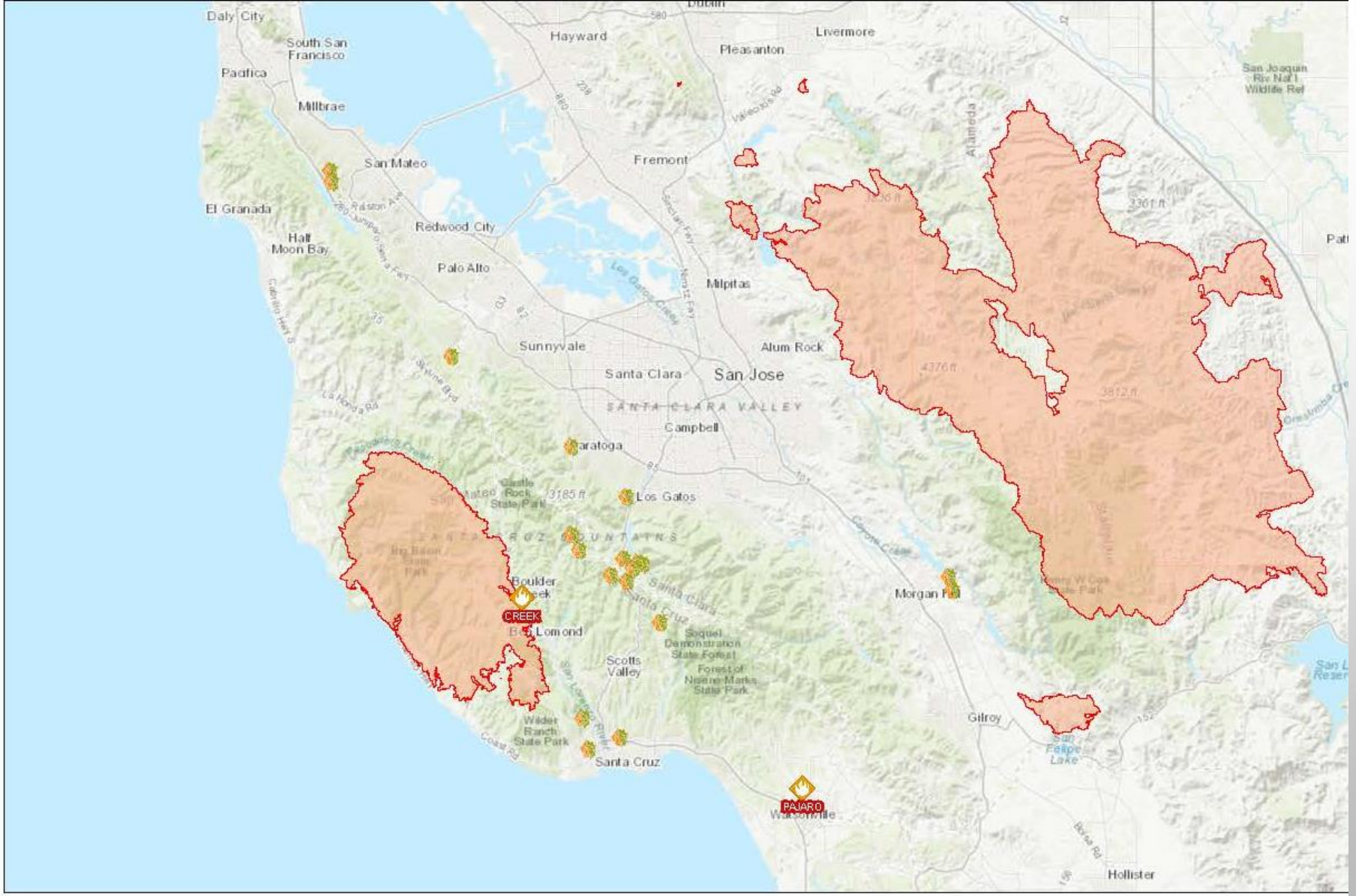
- FIRE HAS HISTORICALLY BEEN A NATURAL PART OF MANY WILD LANDSCAPES. BUT GLOBAL WARMING HAS CHANGED SOME OF THE UNDERLYING VARIABLES THAT MAKE WILDFIRES MORE OR LESS LIKELY TO OCCUR EVERY YEAR.
- WARMER TEMPERATURES INCREASE THE LIKELIHOOD THAT FIRES WILL BURN MORE INTENSELY. THEY ALSO CAUSE SNOW TO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





LET'S GET LOCAL

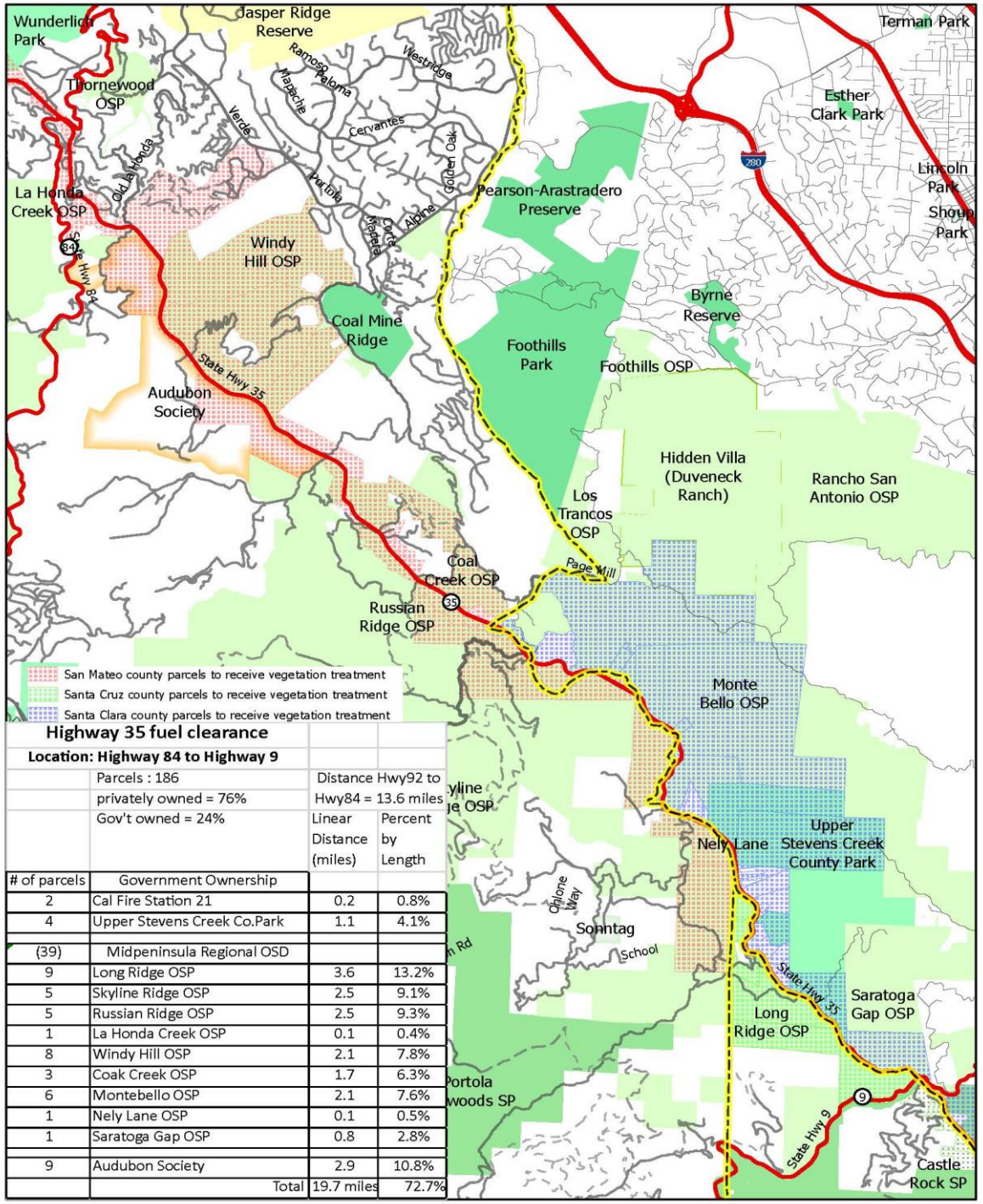
FIREWISE COMMUNITIES ARE FORMING INCONNECTED D-SPACE



April 19, 2021

Firewise USA Sites in Good Standing as of 01_21_21 View Layer

0



Highway 35 fuel clearance

Location: Highway 84 to Highway 9

Parcels : 186
privately owned = 76%
Gov't owned = 24%

Distance Hwy92 to Hwy84 = 13.6 miles

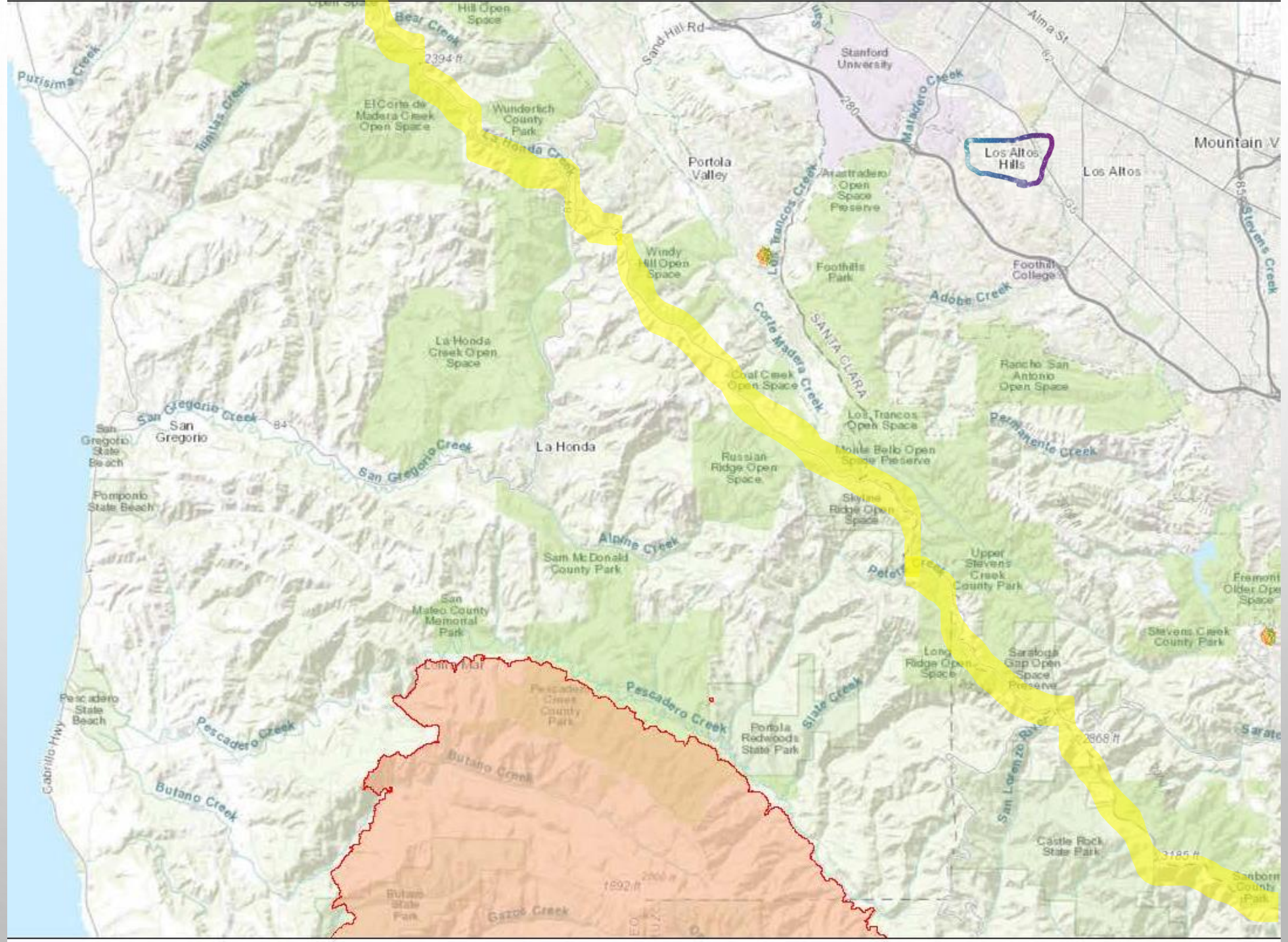
# of parcels	Government Ownership	Linear Distance (miles)	Percent by Length
2	Cal Fire Station 21	0.2	0.8%
4	Upper Stevens Creek Co.Park	1.1	4.1%
(39)	Midpeninsula Regional OSD		
9	Long Ridge OSP	3.6	13.2%
5	Skyline Ridge OSP	2.5	9.1%
5	Russian Ridge OSP	2.5	9.3%
1	La Honda Creek OSP	0.1	0.4%
8	Windy Hill OSP	2.1	7.8%
3	Coak Creek OSP	1.7	6.3%
6	Montebello OSP	2.1	7.6%
1	Nely Lane OSP	0.1	0.5%
1	Saratoga Gap OSP	0.8	2.8%
9	Audubon Society	2.9	10.8%
	Total	19.7 miles	72.7%

HIGHWAY 35 TASK FORCE

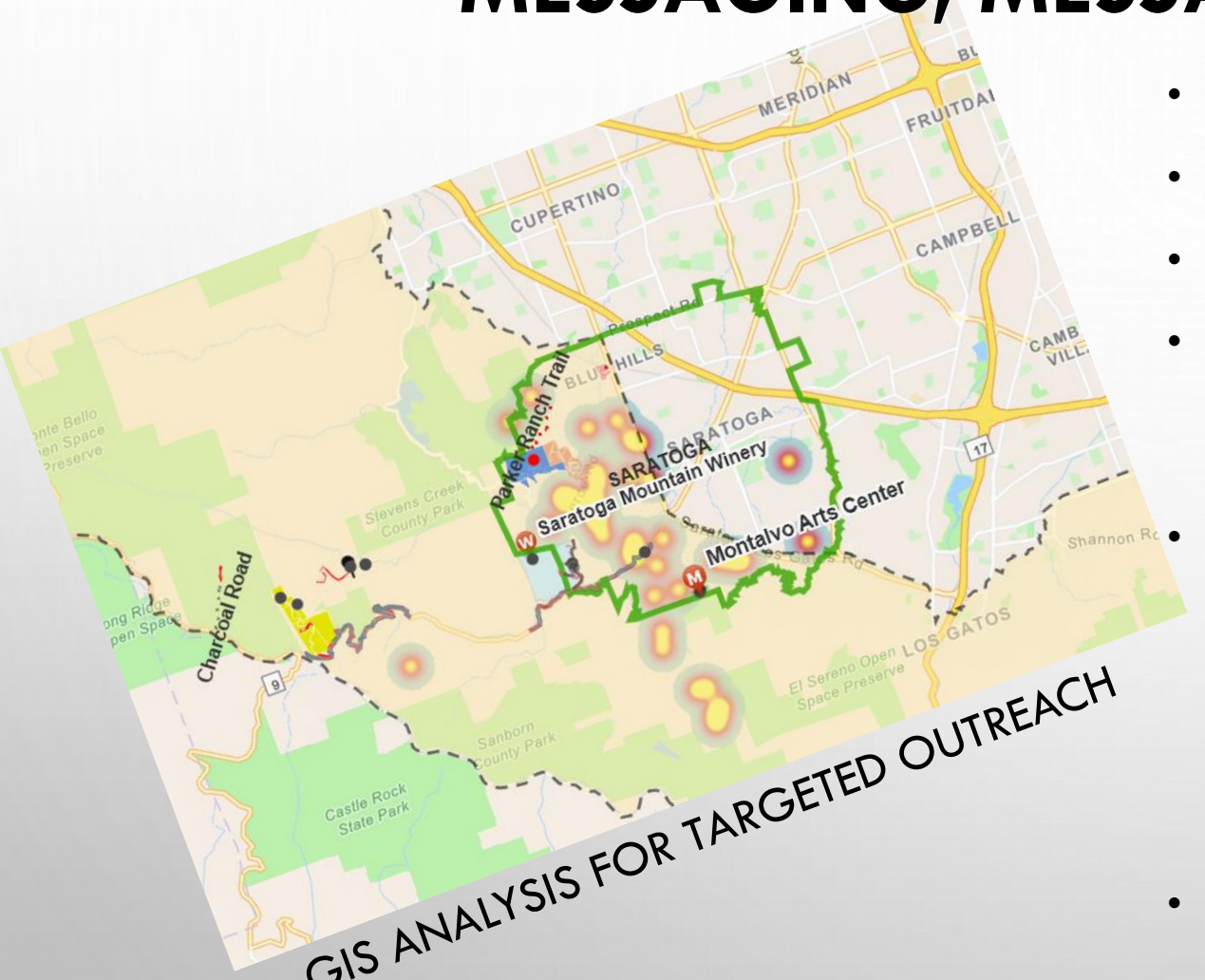
- HIGHWAY 35 FROM 92 SOUTH TO 17
- SUMMIT ROAD FROM 17 SOUTH TO MT MADONNA COUNTY PARK (152)
- VARYING WIDTHS FROM ESCAPE ROUTE TO FUEL BREAK DEPTH DEPENDING ON PERMITS, PARTICIPATION, ACCESSIBILITY ETC

LET'S GET LOCAL

HWY 35 TASK FORCE



MESSAGING, MESSAGING, MESSAGING

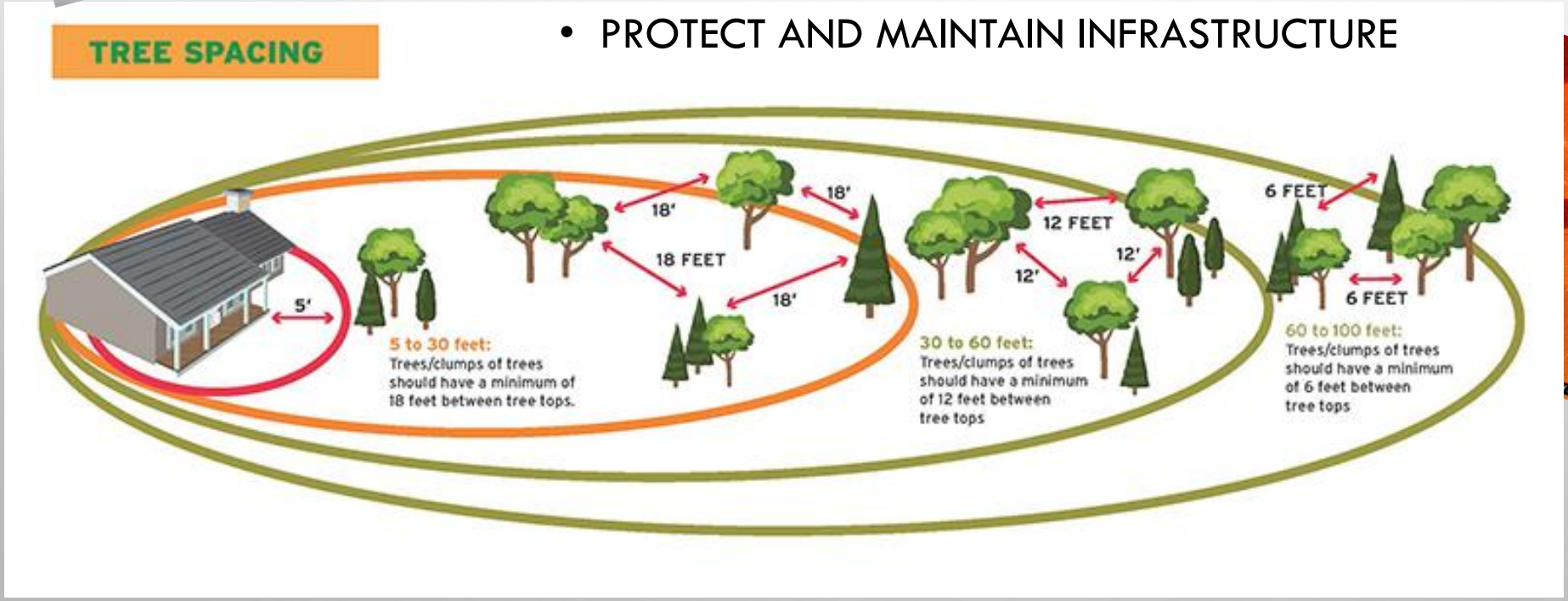


GIS ANALYSIS FOR TARGETED OUTREACH

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

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



Santa Clara County FireSafe COUNCIL

QUESTIONS?

SETH SCHALET, CEO
SSCHALET@SCCFIRESAFE.ORG

EUGENIA RENDLER, MANAGING DIRECTOR
EDUCATION@SCCFIRESAFE.ORG

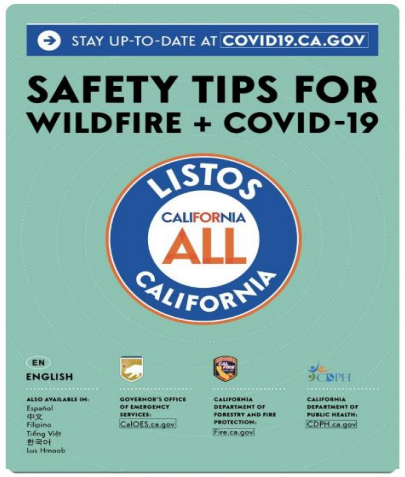
Santa Clara County FireSafe COUNCIL

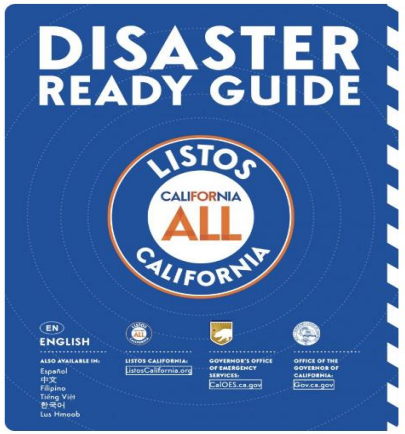
Learn Prepare Volunteer Projects About Contact Resources Donate

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.





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/

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