



Wildfire Risk in the United States



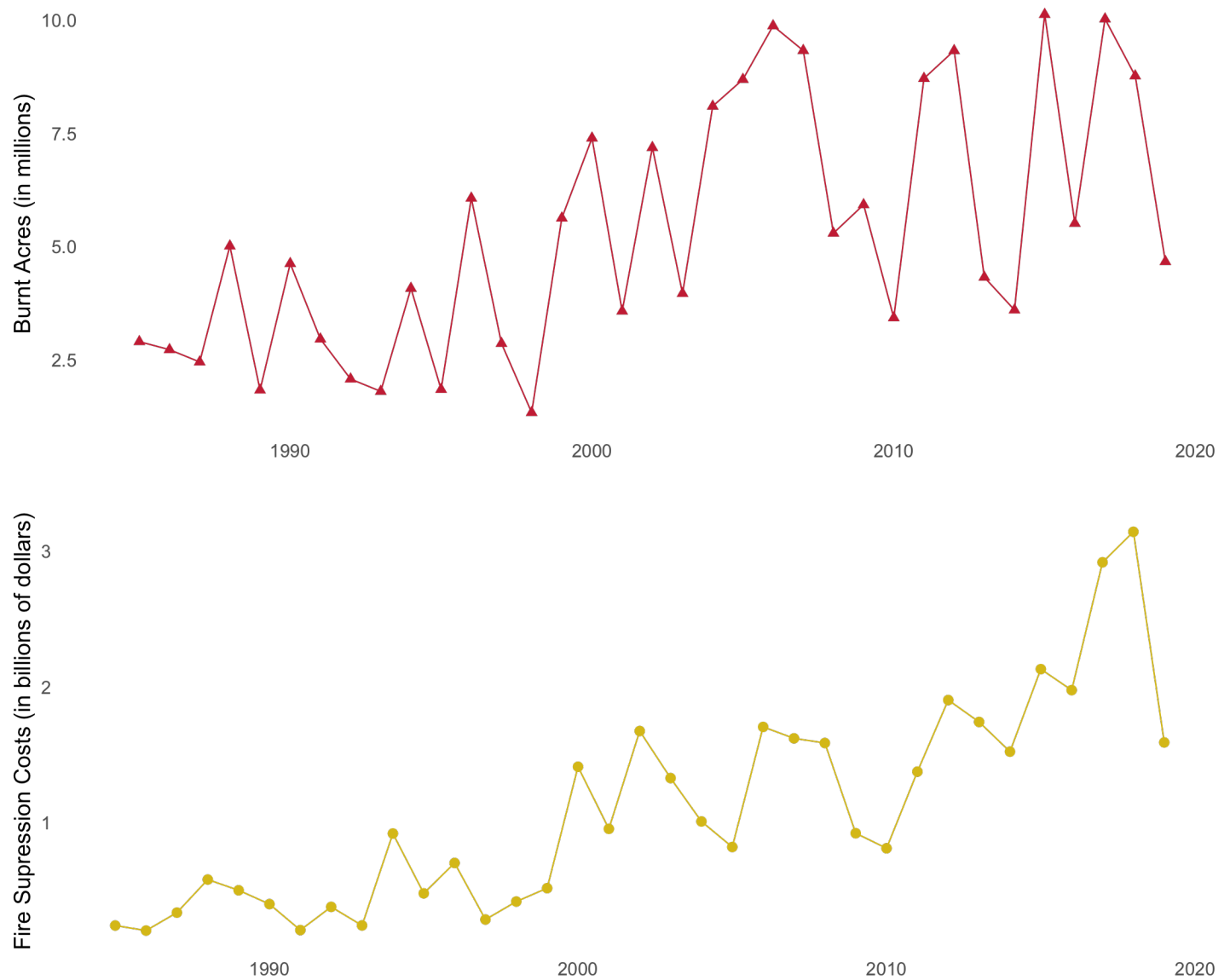
The annual threat of wildfires is of growing concern across the American West. This year, hundreds of severe fires in California have resulted in evacuation orders for thousands of residents. Over 12,000 lightning strikes over the course of a week resulted in about 600 fires. Over 1 million acres in California have burned. Seven people have died fighting the blaze thus far.

It has been an intense fire season for the state, by August 10, 2020 California had addressed 6,754 fires compared to 4,000 fires in the same period of time last year. Similarly, fires had burned only 56,000 acres by mid-August of 2019, while current burned acreage has surpassed 1.4 million. Two of the still burning fires, the SCU Lightning Complex fire, and the LNU Lightning Complex fire are the second and third largest fires recorded in California's history. Over 13,000 firefighters are working to combat the blazes.

According to a 2017 NIST study on the cost and losses of wildfires, the annualized economic burden of wildfires ranges anywhere from \$71.1 to 347.8 billion dollars. Though firefighting and fire suppression technologies and efforts have vastly improved in the last half century, there are increasingly more residences located in Wildland Urban Interface (WUI). These are residences and other structures at more severe fire risk due to their proximity or placement within forest or brush. In 2018, the federal government spent over 3 billion dollars on forest fire prevention.

Since the year 2000, there has been a significant increase in wildfire suppression costs across the United States. There has also been a marked increase in annual burnt acreage. The below graphics describe these trends. Burnt acreage from 2000-2009 and 2010-2019 are both double the amount of lost acreage from 1990-1999. Similarly, fire suppression costs from 2010-2019 exceeded costs from 1990-1999 by over 400%.

Burn Acreage and Fire Suppression Costs in the United States



According to Cal Fire, 17 of the 20 largest wildfires recorded in California have occurred since the year 2000. Similarly, 15 of the 20 most destructive fires have occurred since 2000.

The 10 Largest Fires in California History

Fire Name	Date	Acres	Structures	Deaths
1 Mendocino Complex	July 2018	459,123	280	1
2 SCU Lightning Complex	August 2020	363,772	18	0
3 LNU Lightning Complex	August 2020	352,913	937	5
4 Thomas	December 2017	281,893	1,063	2
5 Cedar	October 2003	273,246	2,820	15
6 Rush	August 2012	271,911 CA / 43,666 NV	0	0
7 Rim	August 2013	257,314	112	0
8 Zaca	July 2007	240,207	1	0
9 Carr	July 2018	229,651	1,614	0
10 Matilija	September 1932	220,000	0	0

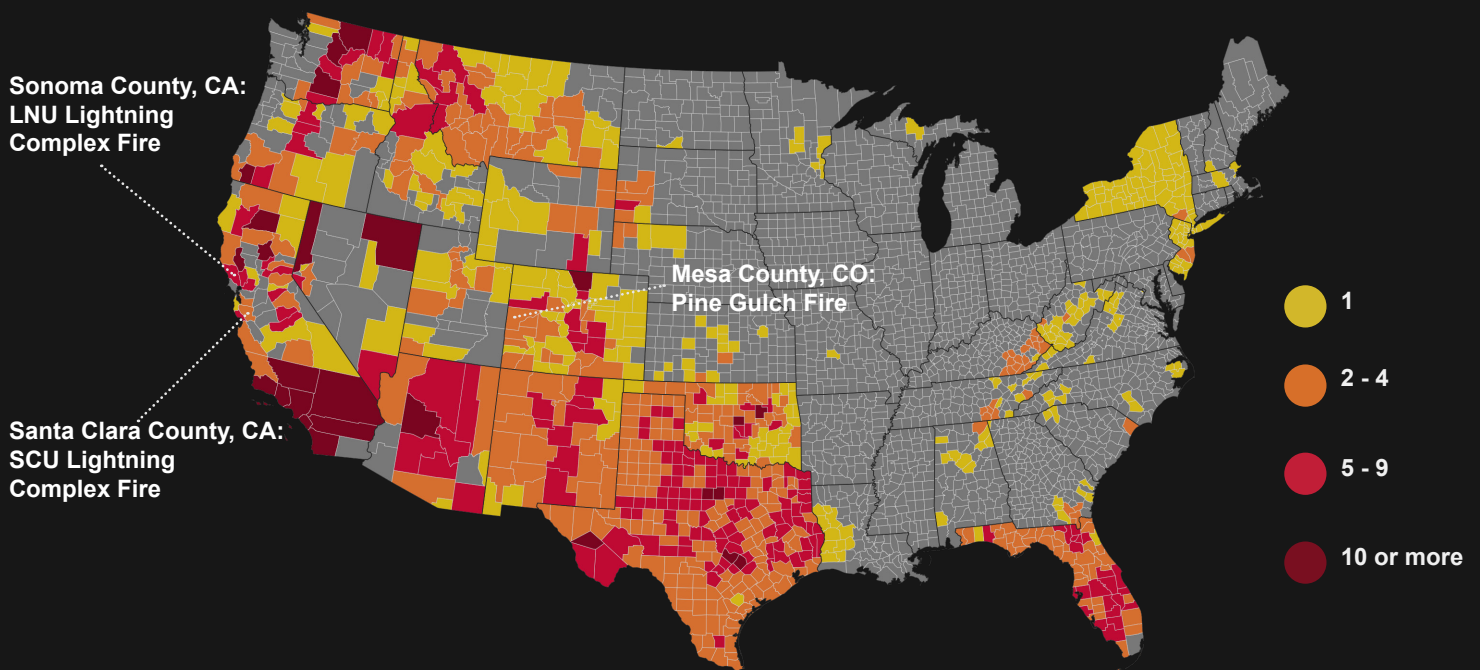
The 10 Most Destructive Fires in California History

Fire Name	Date	Acres	Structures	Deaths
1 Camp Fire	November 2018	153,336	18,804	85
2 Tubbs	October 2017	36,807	5,636	22
3 Tunnel- Oakland Hills	October 1991	1,600	2,900	25
4 Cedar	October 2003	273,246	2,820	15
5 Valley	September 2015	76,067	1,955	4
6 Witch	October 2007	197,990	1,650	2
7 Woolsey	November 2018	96,949	1,643	3
8 Carr	July 2018	229,651	1,614	8
9 Nuns	October 2017	54,382	1,355	3
10 Thomas	December 2017	281,893	1,063	2

Populous areas of Wildland Urban Interface throughout the American West face an increasing annual risk of wildfires in the summer. The wildfire season is traditionally considered to run from July to October but longer summers, and shorter drier winters have provided ample opportunity for increased fire season activity.

The risk of wildfire is distributed non-randomly across counties in the United States. The map below depicts FEMA Presidential Disaster Declarations due to wildfire since 1960. Wildfire risk is overwhelmingly concentrated in the American West. Three active fires that have burned over 100,000 acres have been labeled.

Distribution of Wildfire Presidential Disaster Declarations



SOURCES

Cal Fire: <https://www.fire.ca.gov/>

FEMA: <https://www.fema.gov/>

NIFC: <https://nifc.gov/fireinfo/>

NIST: <https://nvlpubs.nist.gov/>

