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Wildland fires

As many as 90 percent of wildland fires in the United States are caused by people, according to the U.S. Department of Interior. Some human-caused fires result from campfires left unattended, the burning of debris, downed power lines, negligently discarded cigarettes and intentional acts of arson. The remaining 10 percent are started by lightning or lava.

According to [Verisk's 2019 Wildfire Risk Analysis](#) 4.5 million U.S. homes were identified at high or extreme risk of wildfire, with more than 2 million in California alone.

Wildfires by year

2020: From January 1 to November 6, 2020 there were 48,858 wildfires compared with 45,244 wildfires in the same period in 2019, according to the [National Interagency Fire Center](#). About 8.6 million acres were burned in the 2020 period, compared with 4.6 million acres in 2019. Six of the top 20 largest California wildfires occurred in 2020, according to [CalFire's](#) list. Wildfires in [California](#) have burned a record 4.2 million acres, damaging or destroying 10,500 structures and killing 31 people.

In August a series of lightning strikes started hundreds of fires across Northern California. Dubbed the August Complex Fire, they are the largest fires in California's history, together burning 1.03 million acres in six counties and continuing into November. Another fire, the SCU Lightning Complex Fire, located in five counties in northern California near San Francisco, is the [third largest fire](#) on record in the state, burning almost 400,000 acres. The LNU Lightning Complex Fire spanned five counties and was nearly as large. The North Complex Fire, encompassing three counties, burned 319,000 acres and was the 6th largest fire in the state's history. The SQF Complex Fire was the 18th largest California fire, burning 171,000 acres.

On September 28 a state of emergency was declared in California in response to the wildfires that burned through Napa, Sonoma and Shasta Counties, where tens of thousands were forced to evacuate. In October, the Glass Fire in Napa County and Sonoma County burned about 67,500 acres and destroyed 1,555 structures. State authorities ordered 70,000 residents of Sonoma and Napa Counties to evacuate, including the entire city of Calistoga in Napa Valley. The Creek Fire in Fresno and Madera counties has burned almost 400,000 acres into November, destroying 850 structures.

In early October, 65 large fires were burning in California, Idaho, Montana, Oregon, Washington and five other states, consuming over 2 million acres. In Oregon thousands of residents evacuated their homes to escape the flames that scorched more than 230,000 acres. In California fires burned from the north all the way down to the Mexican border, stretching across approximately 800 miles of landscape. In Washington, more acres had been burned in 2020 than in the past 12 fire seasons. The fires are being fueled by continuing dry conditions.

2019: In 2019 there were 50,477 wildfires compared with 58,083 wildfires in 2018, according to the [National Interagency Fire Center](#) (NIFC). About 4.7 million acres were burned in 2019 while there were 8.8 million acres burned in 2018. In late October significant fires broke out throughout California, leading to the evacuation of more than 200,000 people and the declaration of a state of emergency.

The [Kincadee Fire](#) in Sonoma County ignited on October 23, and burned about 78,000 acres—an area more than twice the size of the city of San Francisco. According to [CalFire](#), 374

buildings were destroyed, and 60 more were damaged.

The **Getty** Fire in Los Angeles broke out on October 28, fueled by strong Santa Ana winds, with wind gusts up to 80 miles an hour and burned 745 acres.

In Ventura County, the **Maria** Fire began on October 1 and burned 10,000 acres and destroyed four structures. The **Ranch** Fire, ignited November 3, burned 2,500 acres.

2018: In 2018 there were 58,083 wildfires, compared with 71,499 wildfires in 2017, according to the NIFC. About 8.8 million acres were burned in 2018, compared with 10 million in 2017. The **Mendocino Complex Fire** broke out on July 27 in Northern California and grew to be the largest fire state history to date, with 459,000 acres burned. The **Carr** Fire, which broke out on July 23 in Northern California, was the 8th most destructive fire in the state's history to date. Eight fatalities are attributed to the fire, and 1,614 structures were destroyed. Loss estimates are not yet available from the Property Claims Services (PCS) unit of ISO. The Insurance Information Institute (Triple-I) estimates that insured losses from the Carr Fire totaled between \$1 billion and \$1.5 billion in dollars when it occurred.

The Camp Fire broke out in Butte County, California, on November 8 and became the deadliest and most destructive fire on record in the state. According to Cal Fire **statistics** 85 people perished. About 153,000 acres were burned and 18,800 structures were destroyed. Loss estimates are not yet available from the Property Claims Services (PCS) unit of ISO. The Triple-I estimates that insured losses from the Camp Fire totaled between \$8.5 billion and \$10.5 billion in dollars when it occurred.

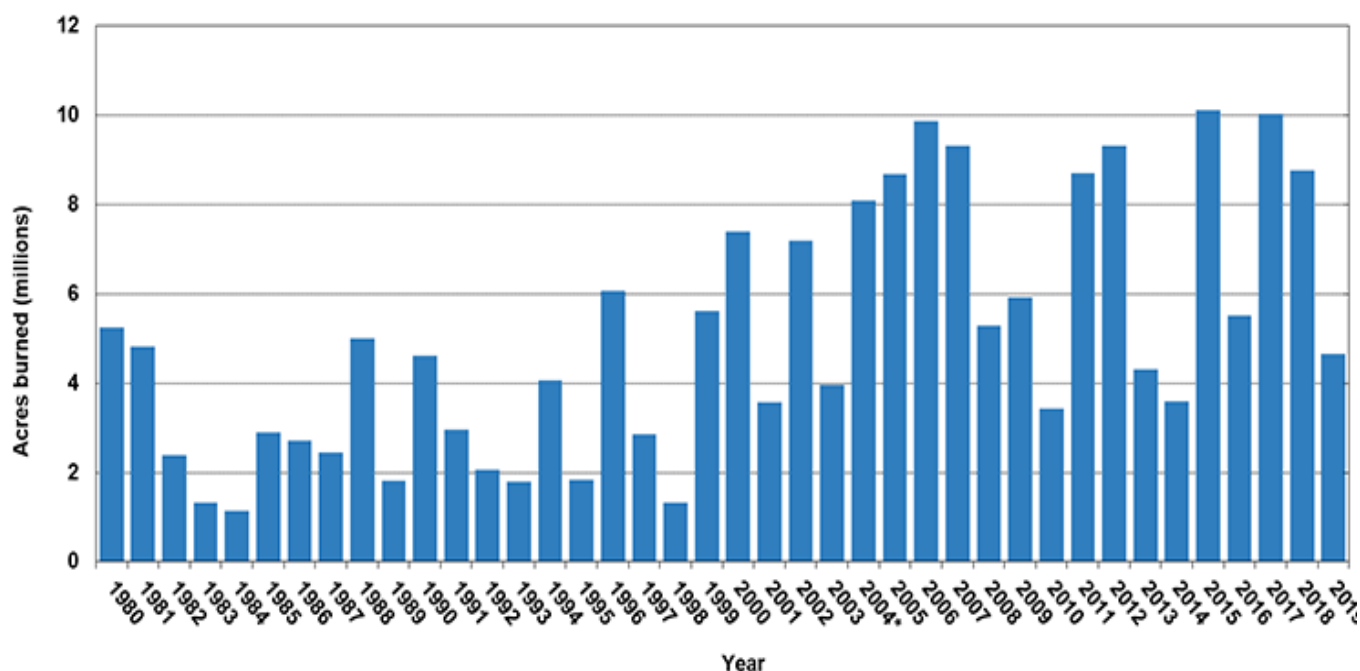
The Hill and Woolsey Fires started on November 8. The **Woolsey Fire** burned about 97,000 acres, according to Cal Fire. It destroyed about 1,600 structures and killed three people. Loss estimates are not yet available from the Property Claims Services (PCS) unit of ISO. The Triple-I estimates that insured losses from the Woolsey Fire totaled between \$3 billion and \$5 billion in dollars when it occurred. The **Hill Fire** burned about 4,500 acres and destroyed four structures.

In response to the soaring cost of wildfires in 2018, which could add up to more than \$17 billion when all losses are tallied, California enacted legislation to form a \$21 billion wildfire insurance fund designed to cover California utility companies for some of the losses they could incur when they pay victims of fires that their equipment caused. In May 2019 the California Department of Forestry and Fire Protection (CalFire) announced that the Camp Fire—the deadliest and costliest wildfire in U.S. history—was caused by electrical transmission lines owned by Pacific Gas and Electric (PG&E). The fund would prevent the state from having to bail out utilities facing bankruptcy, removing the burden from taxpayers. The California Earthquake Authority (CEA), which currently purchases reinsurance for earthquakes that occur in the state, will handle administrative responsibility for the fund. Utilities will contribute to the fund, while the state will raise 50 percent of the \$21 billion via bond sales. According to **Artemis**, the fund could operate as a risk pool where electric utility exposure could be handled by insurance, reinsurance or insurance-linked securities. By the end of July 2019 all three of California's utilities had agreed to **join** and commit funds to the plan.

2017: In 2017 there were 71,499 wildfires, compared to 65,575 wildfires in 2016, according to the [NIFC](#). About 10 million acres were burned in 2017, compared with 5.4 million in 2016. The number of acres burned in 2017 was higher than the 10-year average. From October 6 to October 25, eight counties in Northern California were hit by a devastating wildfire outbreak that caused at least 23 fatalities, burned 245,000 acres and destroyed more than 8,700 structures.

The [Tubbs Fire](#) began on October 8 and destroyed almost 37,000 acres and 5,600 structures and claimed 22 victims. The Triple-I estimates that insured losses from the Tubbs Fire totaled between \$7.5 billion and \$9.7 billion in dollars when it occurred. The [Atlas Fire](#) also began on October 8 and consumed 52,000 acres and destroyed 120 structures. Six people perished in the Atlas Fire. According to the Triple-I the Atlas Fire caused insured losses of between \$2.5 billion and \$4.5 billion when it occurred. The [Thomas Fire](#) was ignited on December 4. It burned 282,000 acres and destroyed 1,063 structures. Loss estimates are not yet available from the Property Claims Services (PCS) unit of ISO. The Triple-I estimates that insured losses from the Thomas Fire totaled between \$1.5 billion and \$3.5 billion when it occurred.

Annual Number of Acres Burned in Wildland Fires, 1980-2019



*2004 fires and acres do not include state lands for North Carolina.

Source: National Interagency Fire Center.

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FireLine®, Verisk’s wildfire risk management tool, assesses wildfire risk at the address level using advanced remote sensing and digital mapping technology. The three primary factors considered in analyzing wildfire risk are distribution of vegetative fuel, steepness of slope and degree of access for firefighting equipment. FireLine assigns a wildfire hazard score for each factor plus a cumulative score, on a scale from negligible to extreme risk. The following chart ranks the most wildfire-prone western U.S. states by high to extreme wildfire risk as of 2019. According to Verisk estimates, more than 4.5 million U.S. properties are at high to extreme wildfire risk.

Top 10 States At High To Extreme Wildfire Risk, 2019 (1)

Rank	State	Estimated number of properties at risk	Rank	State	Percent of properties at risk
1	California	2,019,800	1	Montana	29%
2	Texas	717,800	2	Idaho	26
3	Colorado	371,100	3	Colorado	17
4	Arizona	237,900	4	California	15
5	Idaho	175,000	5	New Mexico	15
6	Washington	160,500	6	Utah	14
7	Oklahoma	153,400	7	Wyoming	14
8	Oregon	151,400	8	Oklahoma	9
9	Montana	137,800	9	Oregon	9
10	Utah	136,000	10	Arizona	8

(1) As of September 2019.

Source: Verisk Wildfire Risk Analytics used data from FireLine®, Verisk’s wildfire risk management tool.

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Wildfires By State, 2019

State	Number of fires	Number of acres burned
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State	Number of fires	Number of acres burned
Alabama	1,107	22,159
Alaska	720	2,498,159
Arizona	1,869	384,942
Arkansas	660	8,602
California	8,194	259,148
Colorado	857	40,392
Connecticut	88	72
Delaware	0	0
District of Columbia	0	0
Florida	2,121	122,500
Georgia	3,158	12,407
Hawaii	155	10,710
Idaho	960	284,026
Illinois	2	41
Indiana	38	523
Iowa	153	2,020
Kansas	19	21,167
Kentucky	755	11,714
Louisiana	361	3,059
Maine	355	142
Maryland	140	1,498
Massachusetts	289	248
Michigan	361	1,128
Minnesota	1,021	5,862
Mississippi	959	5,473
Missouri	67	5,091
Montana	1,474	64,835
Nebraska	15	9,478
Nevada	562	82,282
New Hampshire	16	25
New Jersey	727	11,346
New Mexico	859	79,887
New York	79	221
North Carolina	3,872	14,548
North Dakota	488	4,454
Ohio	498	1,038

State	Number of fires	Number of acres burned
Oregon	2,293	79,732
Pennsylvania	547	691
Puerto Rico	97	2,906
Rhode Island	45	33
South Carolina	992	5,939
South Dakota	346	2,261
Tennessee	571	5,478
Texas	6,892	215,493
Utah	1,025	92,380
Vermont	19	22
Virginia	364	2,643
Washington	1,394	169,742
West Virginia	593	7,653
Wisconsin	710	1,198
Wyoming	486	41,857
United States (1)	50,477	4,664,366

(1) Includes Puerto Rico.

Source: National Interagency Fire Center.

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Top 10 States For Wildfires Ranked By Number Of Fires And By Number Of Acres Burned, 2019

Rank	State	Number of fires	Rank	State	Number of acres burned
1	California	8,194	1	Alaska	2,498,159
2	Texas	6,892	2	Arizona	384,942
3	North Carolina	3,872	3	Idaho	284,026
4	Georgia	3,158	4	California	259,148
5	Oregon	2,293	5	Texas	215,493
6	Florida	2,121	6	Washington	169,742

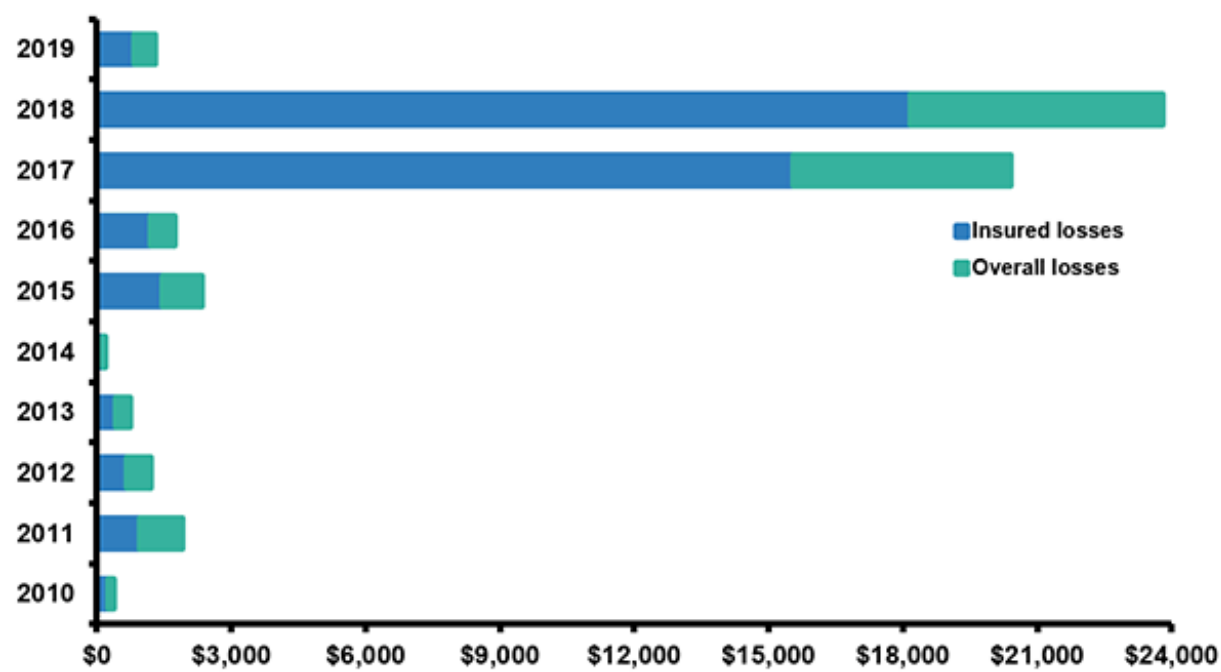
Rank	State	Number of fires	Rank	State	Number of acres burned
7	Arizona	1,369	7	Florida	122,500
8	Montana	1,474	8	Utah	92,380
9	Washington	1,394	9	Nevada	82,282
10	Alabama	1,107	10	New Mexico	79,887

Source: National Interagency Fire Center.

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Wildfire Lossses In The United States, 2010-2019 (1)

(2019 \$ millions)



(1) Adjusted for inflation by Munich Re based on the Consumer Price Index.

Source: © 2020 Munich Re, NatCatSERVICE.

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Top 10 Costliest Wildland Fires In The United States (1)

(\$ millions)

			Estimated insured loss	
Rank	Date	Name, Location	Dollars when occurred	In 2019 dollars (2)
1	Nov. 8-25, 2018	Camp Fire, CA (3)	\$8,500-\$10,500	\$8,700-\$10,700
2	Oct. 8-20, 2017	Tubbs Fire, CA (3)	7,500-9,700	7,800-10,100
3	Nov. 8-22, 2018	Woolsey Fire, CA (3)	3,000-5,000	3,100-5,100
4	Oct. 8-20, 2017	Atlas Fire, CA (3)	2,500-4,500	2,600-4,700
5	Dec 4-23, 2017	Thomas Fire, CA (3)	1,500-3,500	1,600-3,600
6	Oct. 20-21, 1991	Oakland Hills Fire, CA	1,700	2,900
7	Oct. 21-24, 2007	Witch Fire, CA	1,300	1,600
8	Jul. 23-Aug. 30, 2018	Carr Fire, CA (3)	1,000-1,500	1,000-1,500
9	Oct. 25-Nov. 4, 2003	Cedar Fire, CA	1,060	1,400
10	Oct. 25-Nov. 3, 2003	Old Fire, CA	975	1,300

(1) Property losses only for catastrophic fires. Effective January 1, 1997, ISO's Property Claim Services (PCS) unit defines catastrophes as events that cause more than \$25 million in insured property damage and that affect a significant number of insureds and insurers. From 1982 to 1996, PCS used a \$5 million threshold in defining catastrophes. Ranked on dollars when occurred. As of September 30, 2020.

(2) Adjusted for inflation through 2019 by the Insurance Information Institute using the GDP implicit price deflator.

(3) Insurance Information Institute estimate based on data from catastrophe risk modelers, reinsurance companies, the California Department of Insurance, and the Property Claims Services unit of Verisk Analytics. These estimates are preliminary because the organizations involved periodically resurvey the events, and the severity of losses and other factors create a high level of uncertainty surrounding the ultimate loss figures.

Source: Insurance Information Institute, catastrophe risk modelers, reinsurance companies, the California Department of Insurance, the Property Claim Services® (PCS®) unit of ISO®, a Verisk Analytics® company, and the U.S. Bureau of Economic Analysis.

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Top 10 Largest California Wildfires (1)

Rank	Fire name (cause)	Date	County
1	August Complex (Under investigation) (2)	August 2020	Mendocino, Humboldt, Trinity, Tehama, Glenn, Lake, and Colusa
2	Mendocino Complex (Under investigation)	July 2018	Colusa, Lake, Mendocino and Colusa
3	SCU Lightning Complex (Under investigation) (2)	August 2020	Stanislaus, Santa Clara, Alameda, Contra Costa, and San Joaquin
4	LNU Lightning Complex (Under investigation) (2)	August 2020	Sonoma, Lake, Napa, Yolo and Colusa
5	Creek Fire (Under investigation) (2)	September 2020	Fresno and Madera

Rank	Fire name (cause)	Date	County
7	Thomas (Power lines)	December 2017	Ventura and Santa Barbara
8	Cedar (Human related)	October 2003	San Diego
9	Rush (Lightning)	August 2012	Lassen
10	Rim (Human related)	August 2013	Tuolumne

(1) As of October 20, 2020.
 (2) Numbers not final.

Source: [Calfire](#).

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Top 10 Most Destructive California Wildfires (1)

Rank	Fire name and cause	Date	County	Acres	Structures destroyed
1	Camp Fire (Power lines)	November 2018	Butte	153,336	18,900
2	Tubbs (Electrical)	October 2017	Napa and Sonoma	36,807	5,000
3	Tunnel - Oakland Hills (Rekindle)	October 1991	Alameda	1,600	2,900
4	Cedar (Human related)	October 2003	San Diego	273,246	2,800
5	North Complex (Under investigation) (2)	August 2020	Butte, Plumas and Yuba	318,930	2,500
6	Valley (Electrical)	September 2015	Lake, Napa and Sonoma	76,067	1,900
7	Witch (Power lines)	October 2007	San Diego	197,990	1,600
8	Woolsey (Under investigation)	November 2017	Ventura	96,949	1,000
9	Carr (Human related)	July 2008	Shasta County and Trinity	229,651	1,000
10	Glass fire (Under investigation) (2)	September 2020	Napa and Sonoma	67,484	1,500

(1) As of October 20, 2020.
 (2) Numbers not final.

Source: [Calfire](#).

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Top 10 Deadliest California Wildfires (1)

Rank	Fire name and cause	Date	County	Acres	Stru
1	Camp Fire (Power lines)	November 2018	Butte	153,336	
2	Griffith Park (Unknown)	October 1933	Los Angeles	47	
3	Tunnel - Oakland Hills (Rekindle)	October 1991	Alameda	1,600	
4	Tubbs (Electrical)	October 2017	Napa and Sonoma	36,807	
5	North Complex (Under investigation) (2)	August 2020	Butte, Plumas and Yuba	318,930	
6	Cedar (Human related)	October 2003	San Diego	273,246	
7	Rattlesnake (Arson)	July 1953	Glenn	1,340	
8	Loop (Unknown)	November 1956	Los Angeles	2,028	
9	Hauser Creek (Human related)	October 1943	San Diego	13,145	
10	Inaja (Human related)	November 1966	San Diego	43,904	

(1) As of October 20, 2020.

(2) Numbers not final.

Source: [Calfire](#).

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