

October 2017 Fire Siege



In the 48 hours spanning Sunday, October 8th and Monday, October 9th, 172 wildfires broke out across CAL FIRE's Northern Region. During that 48-hour period, the Sonoma-Lake-Napa Emergency command center alone – one of 12 CAL FIRE emergency command centers in the Northern Region – received 3,662 calls for help.


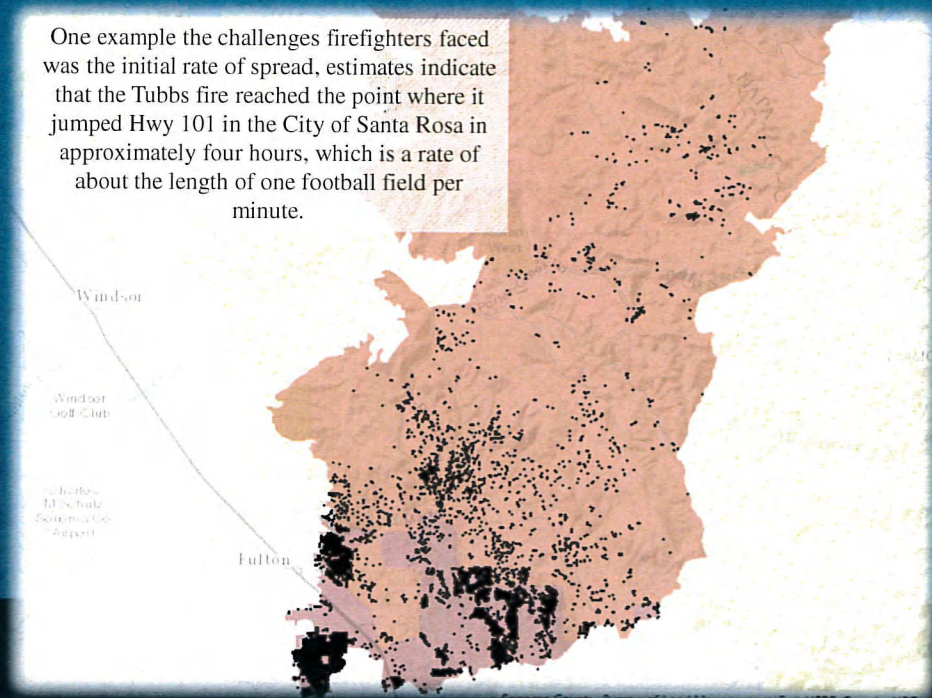
Of the initial 172 wildfires that ignited during what is being referred to as the October 2017 Fire Siege, 18 of them grew into large, fast moving conflagrations fanned by record-breaking strong winds.

During the siege 8,920 structures were destroyed and 736 structures were damaged.

44 people lost their lives.



One example the challenges firefighters faced was the initial rate of spread, estimates indicate that the Tubbs fire reached the point where it jumped Hwy 101 in the City of Santa Rosa in approximately four hours, which is a rate of about the length of one football field per minute.


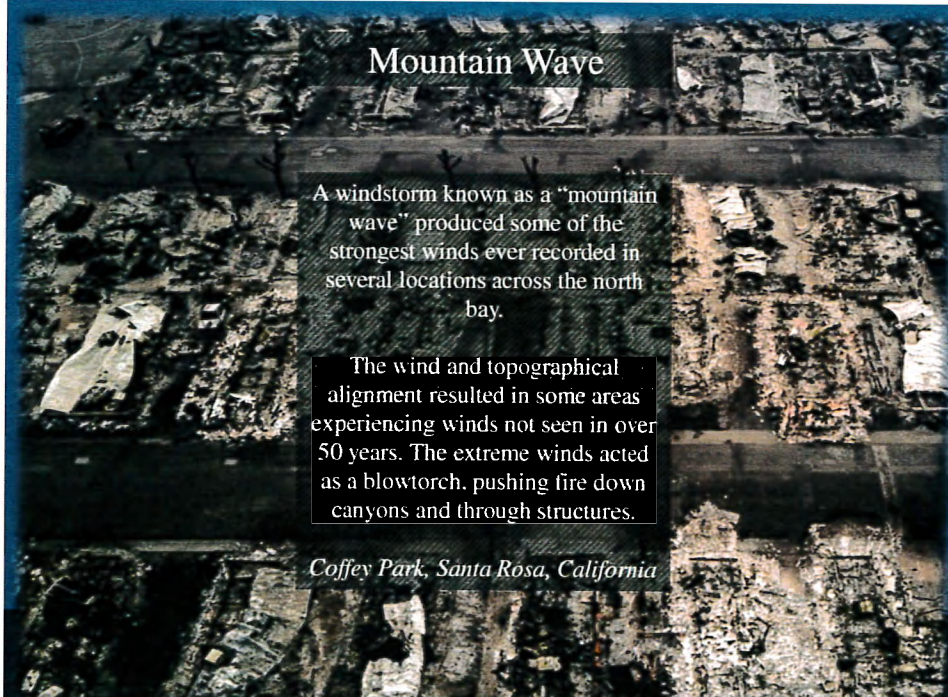


Mountain Wave

A windstorm known as a "mountain wave" produced some of the strongest winds ever recorded in several locations across the north bay.

The wind and topographical alignment resulted in some areas experiencing winds not seen in over 50 years. The extreme winds acted as a blowtorch, pushing fire down canyons and through structures.

Coffey Park, Santa Rosa, California



Tubbs Fire unleashed tornadoes

In the late night hours of Oct. 8, the first hours of the Tubbs Fire, a high pressure system over the Central Valley was moving air west in a northeasterly flow to a low pressure system over the coast of California. The change in pressure was so marked that hurricane-force gusts were the result.

Fire tornado explained
Mini weather system caused by fire.


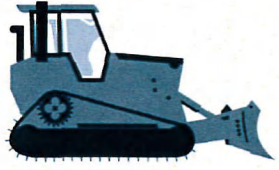

- Gusting up to 80 mph, the wind funneled into a steep, hilly drainage area along Mark West Springs Road, and was increased in speed by a phenomenon called a Venturi effect.
- The heated air rises creating a thermal column.
- Wind moves horizontally over a fire and the turbulence creates vortices.
- A thermal column is able to reach wind speeds of well over 100 mph, causing damage similar to hurricanes and tornadoes.
- Cooler air gusts into the space left behind the rising air, bringing in oxygen and combustible material.

Super-heated, the roaring wind entered north Santa Rosa and encountered square-edged buildings and homes that trapped the wind in small spaces, creating swirling vortices from the angular momentum.

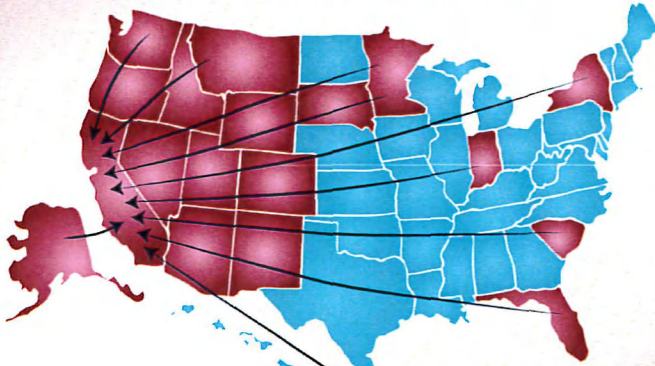
COURTESY: SAN FRANCISCO CHRONICLE

PEAK STATISTICS

OCTOBER 16, 2017

 <p>1,013 ENGINES</p>	 <p>179 DOZERS</p>	 <p>263 HAND CREWS</p>
<p>Incident Management Teams 4 - Type I's • 3 - Type III's</p>		

CALIFORNIA GETS ASSISTANCE TO BATTLE WILDFIRES

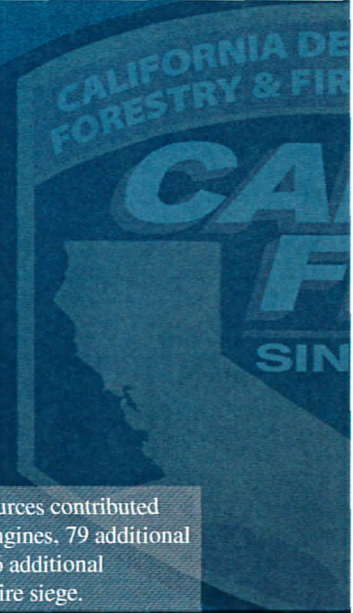


17 STATES AND 1 COUNTRY Offer Mutual Aid to Assist in Firefighting Efforts

Fire Engines: **266**
 Fire Crews: **79**
 Additional Personnel: **56**



Out of state resources contributed 266 additional engines, 79 additional fire crews and 56 additional overhead to the fire siege.



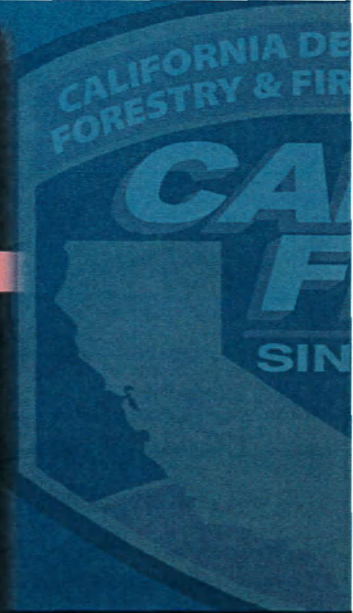
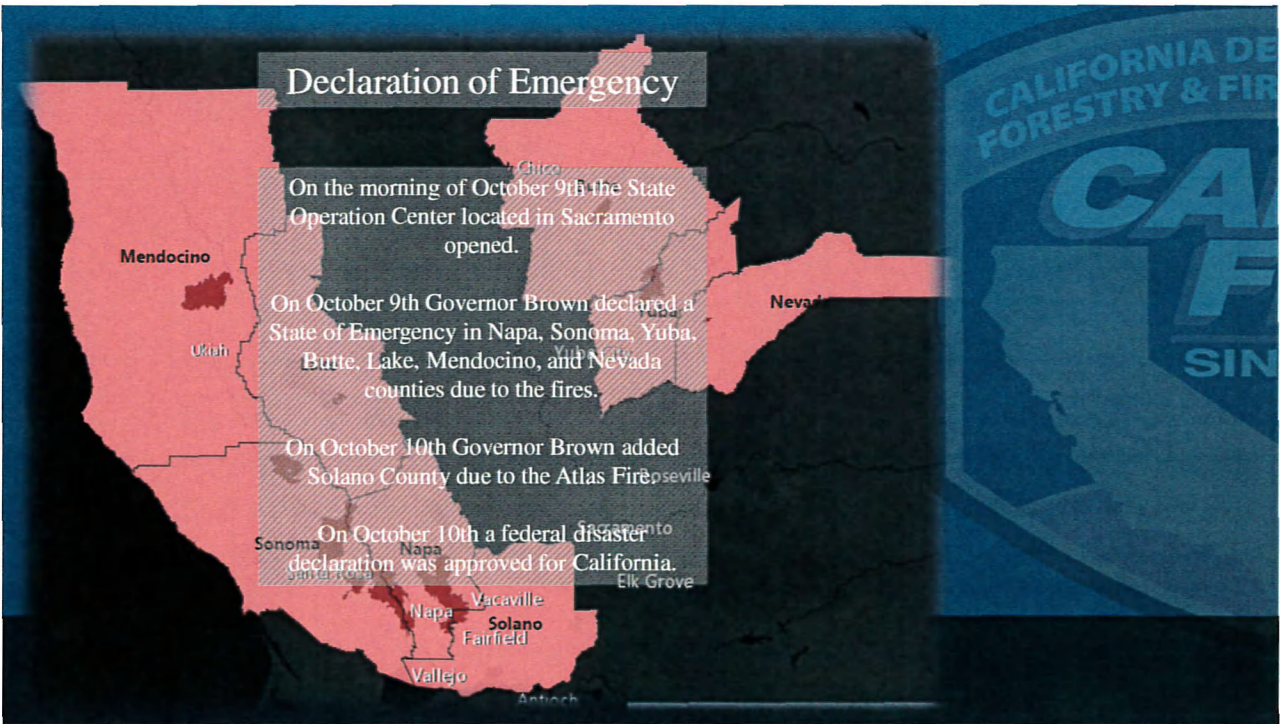
Declaration of Emergency

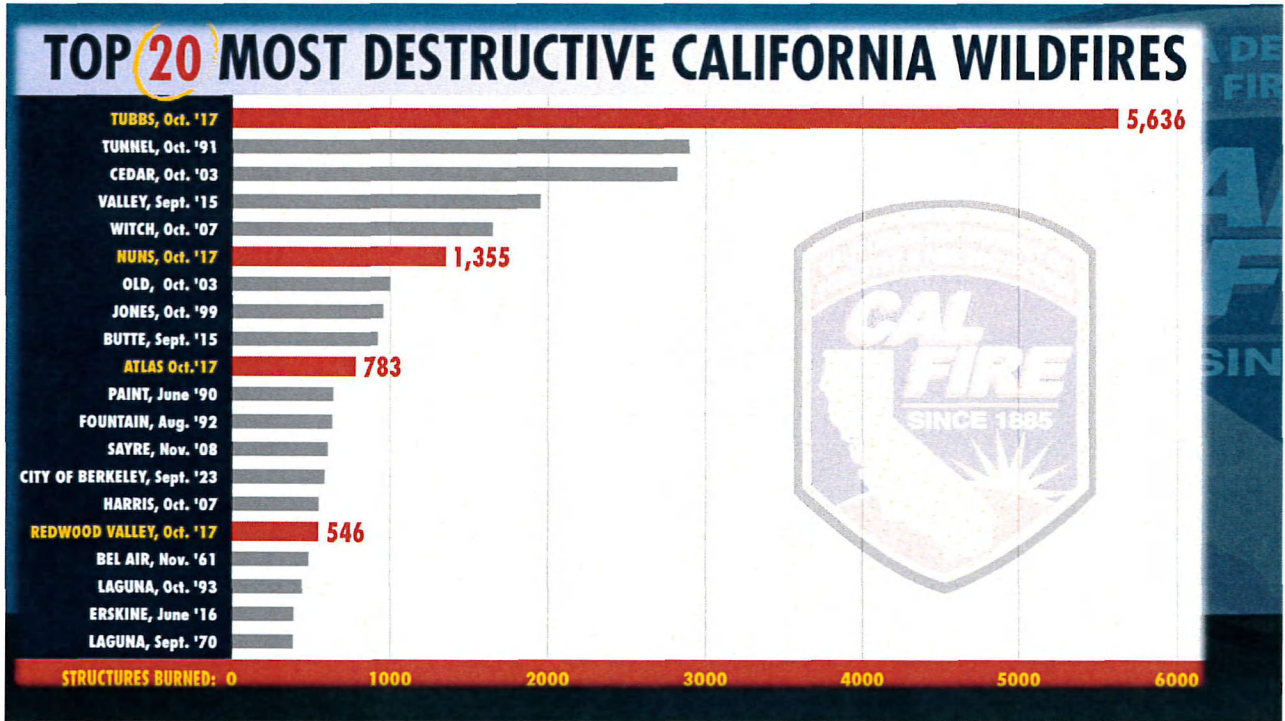
On the morning of October 9th the State Operation Center located in Sacramento opened.

On October 9th Governor Brown declared a State of Emergency in Napa, Sonoma, Yuba, Butte, Lake, Mendocino, and Nevada counties due to the fires.


On October 10th Governor Brown added Solano County due to the Atlas Fire.

On October 10th a federal disaster declaration was approved for California.





October Aerial Firefighting

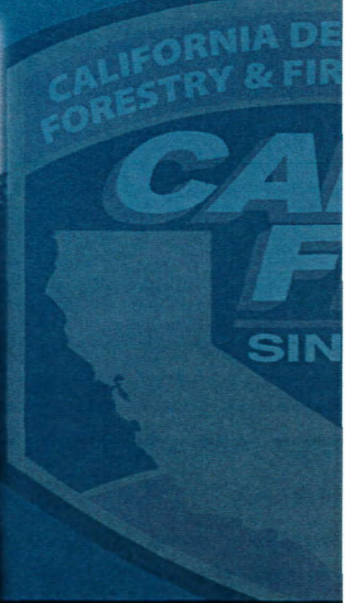


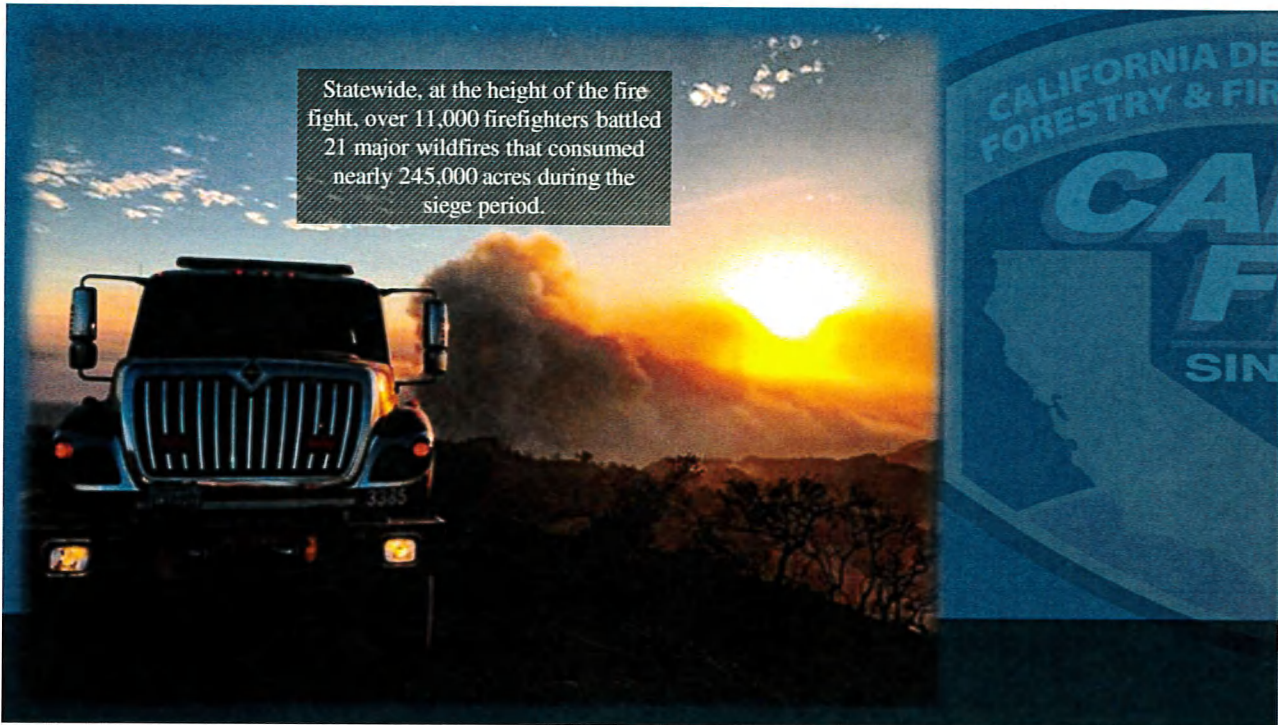
A large aerial firefighting operation helped fight the fires from above. Virtually every firefighting aircraft in the nation- 177 aircraft both planes and helicopters- was at our disposal but use was hampered at times due to lack of visibility (smoke inversion layers) and wind speeds.

Photo from the Press Democrat.

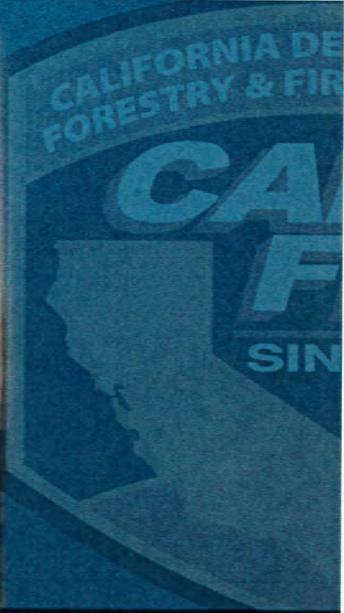
In total over the period of the siege that began the evening of October 8th, fixed wing aircraft flew over 1,200 hours and dropped more than 3.4 million gallons of retardant.

Rotary wing helicopters flew over 2,100 hours and dropped more than 11.1 million gallons of water.





Statewide, at the height of the fire fight, over 11,000 firefighters battled 21 major wildfires that consumed nearly 245,000 acres during the siege period.



Recovery

Work continues by crews to clean up after the October fires. Crews are installing straw wattles and removing brush from water ways to help protect areas from potential flooding and erosion ahead of winter storms. Two CAL FIRE Incident Management Teams were activated after the fires were controlled to assist in managing the recovery efforts.



December 2017 Fires



Photo from CBS News

In the two weeks subsequent to Monday, December 4th, 122 wildfires broke out under Red Flag Santa Ana wind conditions across CAL FIRE's Southern Region.

Of the initial 122 wildfires that ignited during what is being referred to as the December 2017 Santa Ana Fire Siege, six of them grew into large, fast moving conflagrations fanned by strong winds and critically dry conditions. Some areas were reporting 1% relative humidity readings, while others were even reporting as low as 0%.

During the siege, over 1,370 structures were destroyed and over 440 structures were damaged.

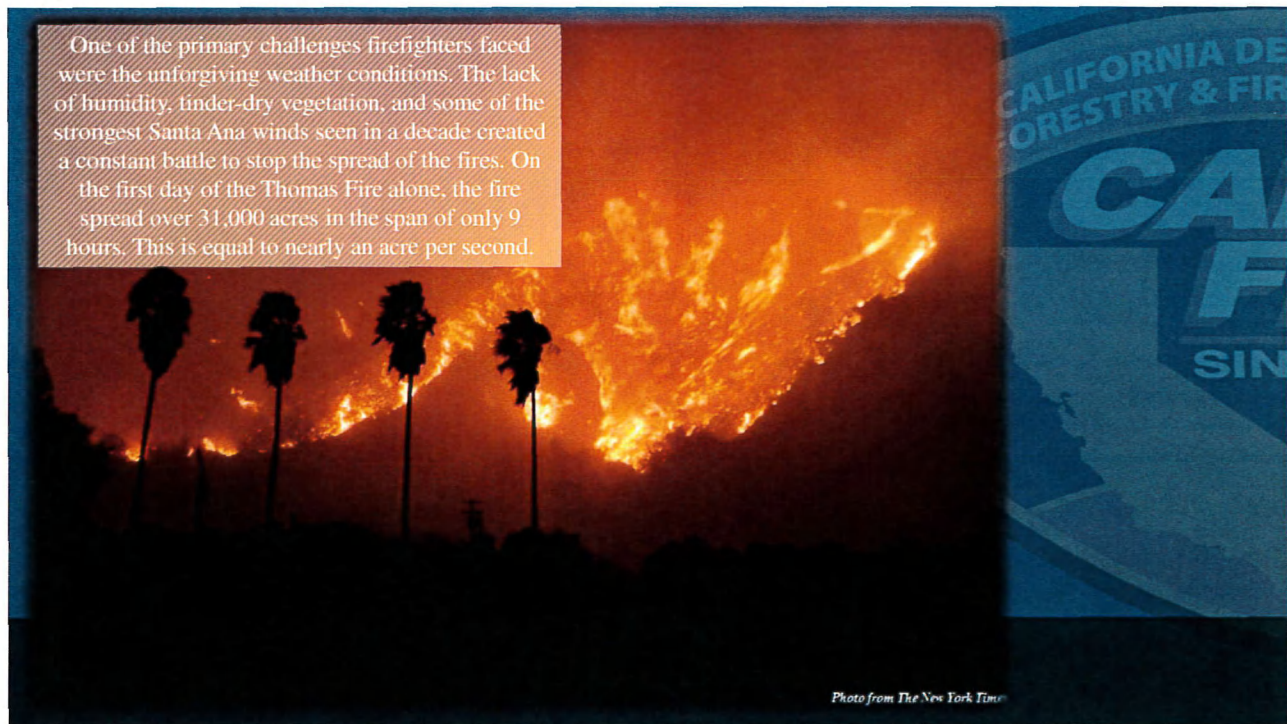
2 people lost their lives, including CAL FIRE Engineer Cory Iverson.



Photo from CBS News



Just before 6:30 p.m. on Monday, December 4th, 2017 the first of what ultimately would be six large wildfires broke out under Red Flag Santa Ana wind conditions. The Thomas fire started north of Santa Paula in Ventura County and would ultimately go on to destroy 1,063 structures, take the lives of two people, including CAL FIRE Engineer Cory Iverson, and burn over 280,000 acres, making it the largest wildfire in California's recorded history.



Santa Ana Winds

Winds strengthen and air dries as it descends from the inland deserts funneling through coastal mountains in the Los Angeles area.

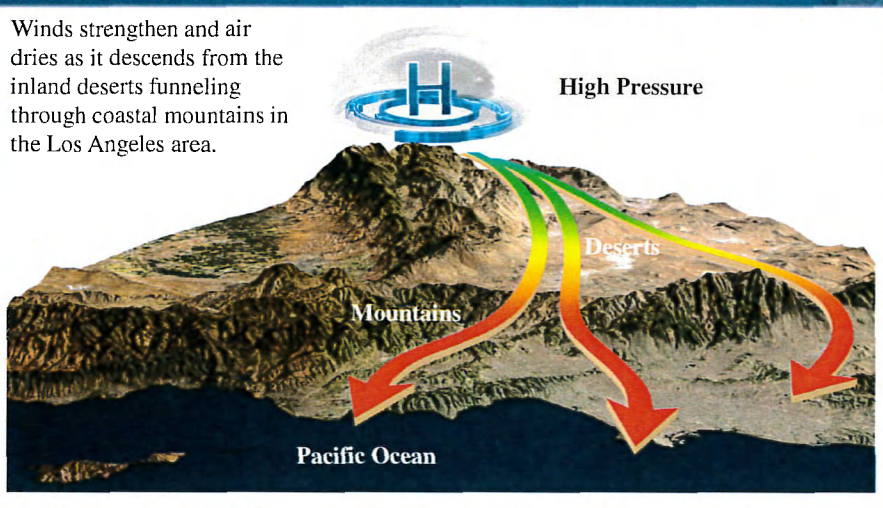


Photo from CNN



TOTAL RESOURCES FOR DECEMBER 2017 SANTA ANA FIRE SIEGE



2,023 ENGINES



160 DOZERS

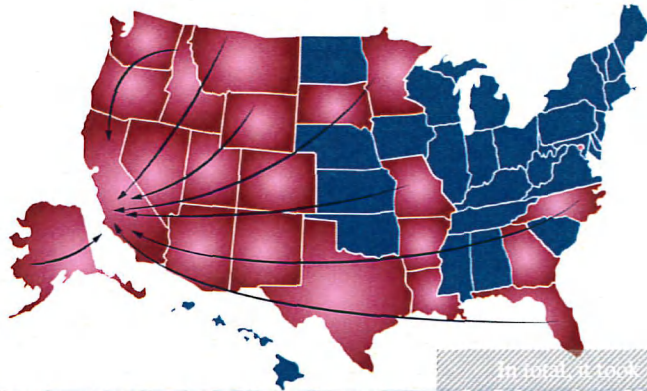


353 HAND CREWS

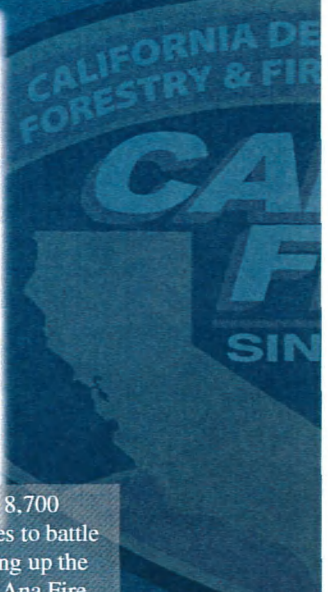
Incident Management Teams
4 – Type I CAL FIRE Teams

CALIFORNIA GETS ASSISTANCE TO BATTLE SOUTHERN CALIFORNIA WILDFIRES

21 STATES PROVIDED MUTUAL AID



In total, it took over 8,700 firefighters from 21 states to battle the six large fires making up the December, 2017 Santa Ana Fire Siege.



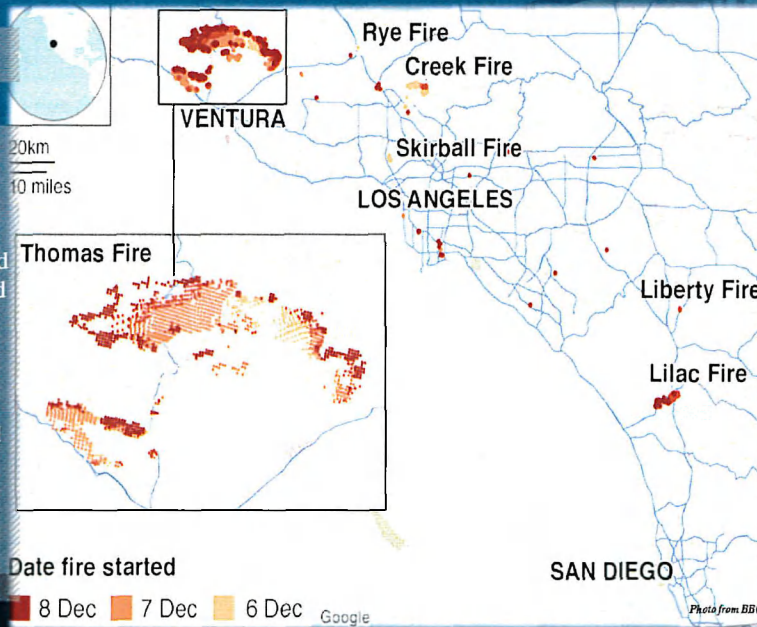
Declaration of Emergency

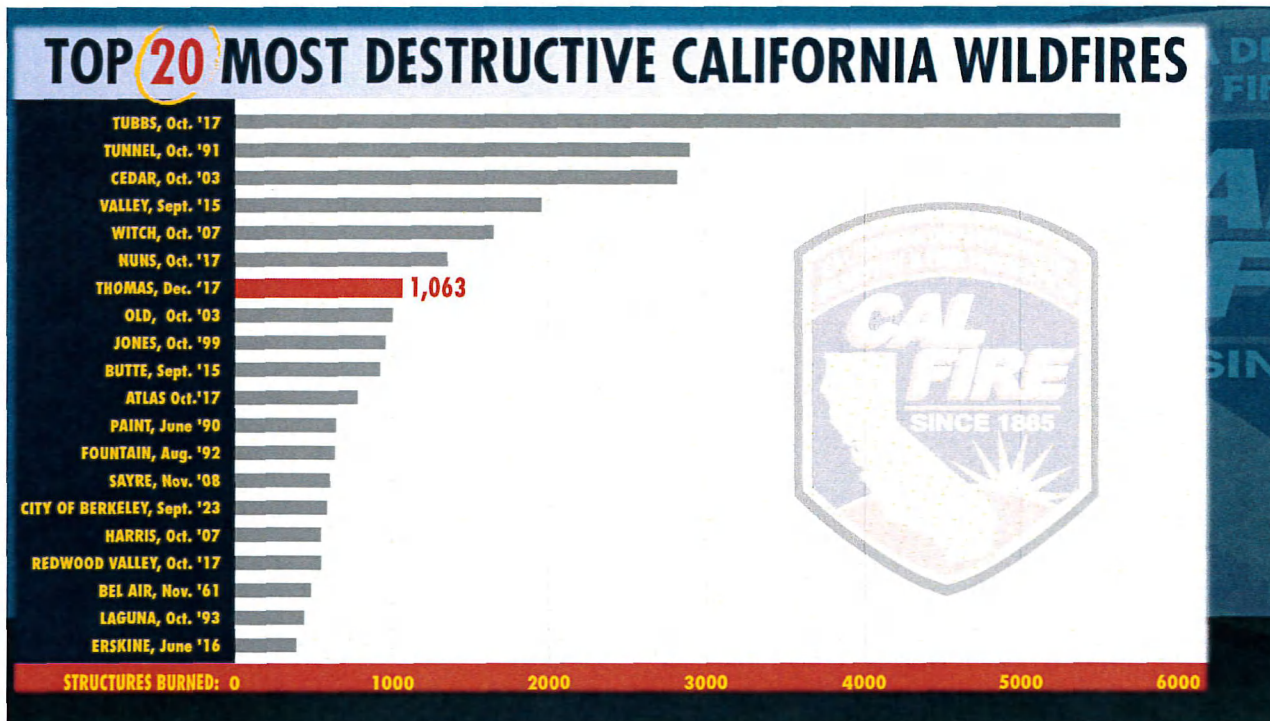
On the morning of December 5th the State Operation Center located in Sacramento opened.

On December 5th Governor Brown declared a State of Emergency in Ventura county and Los Angeles county due to the Thomas, Creek, and Rye fires.

On December 7th Governor Brown added San Diego County due to the Lilac fire and Santa Barbara County due to the Thomas fire.

On December 8th a federal disaster declaration was approved for California.





December Aerial Firefighting

A large aerial firefighting operation helped fight the fires from above. 102 aircraft, both planes and helicopters, were in service at the peak of operations.

In total over the period of the siege, fixed wing aircraft flew over 746 hours and dropped more than 1.3 million gallons of retardant.

CAL FIRE rotary wing helicopters flew over 137 hours with 169,774 gallons of water and retardant delivered.

The fires burned under one of the longest duration Santa Ana wind events in history causing Red Flag Warnings to remain in effect for a historic 13 days. These 6 fires combined burned over 308,380 acres and destroyed over 1,375 structures.



Recovery

Crews continued repair work in areas affected by the December fires. However, on January 9th, 2018, efforts abruptly shifted after these fire ravaged areas were met with days of the heaviest rain fall experienced in nearly a year.

The scorched soil, due to intense heat from the fires, were unable to absorb the more than 5.5 inches of rain that had fallen over the course of only 2 days. Additionally, the lack of vegetation allowed for increased rates of erosion.

This combination led to catastrophic flooding and devastating mud slides that consumed the same areas impacted by the December 2017 Santa Ana Fire Siege and claimed several lives.

Crews continue to assist in the recovery and repair efforts that follow both these natural disasters.



Photo from ABC News