

October 2017 Fire Siege

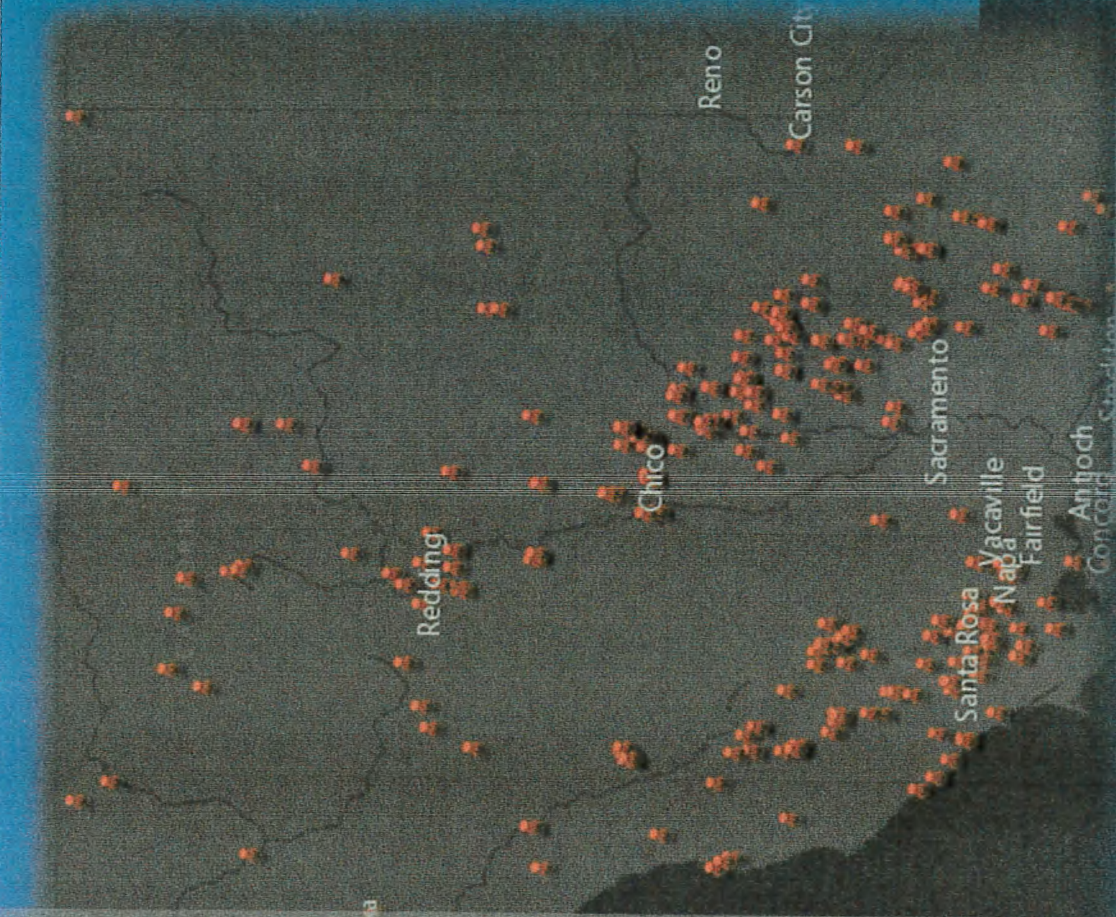


In the 48 hours spanning Sunday, October 8th and Monday, October 9th, 172 wildfires broke out across CAL FIRE's Northern Region. During that 48-hour period, the Sonoma-Lake-Napa Emergency command center alone – one of 12 CAL FIRE emergency command centers in the Northern Region – received 3,662 calls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

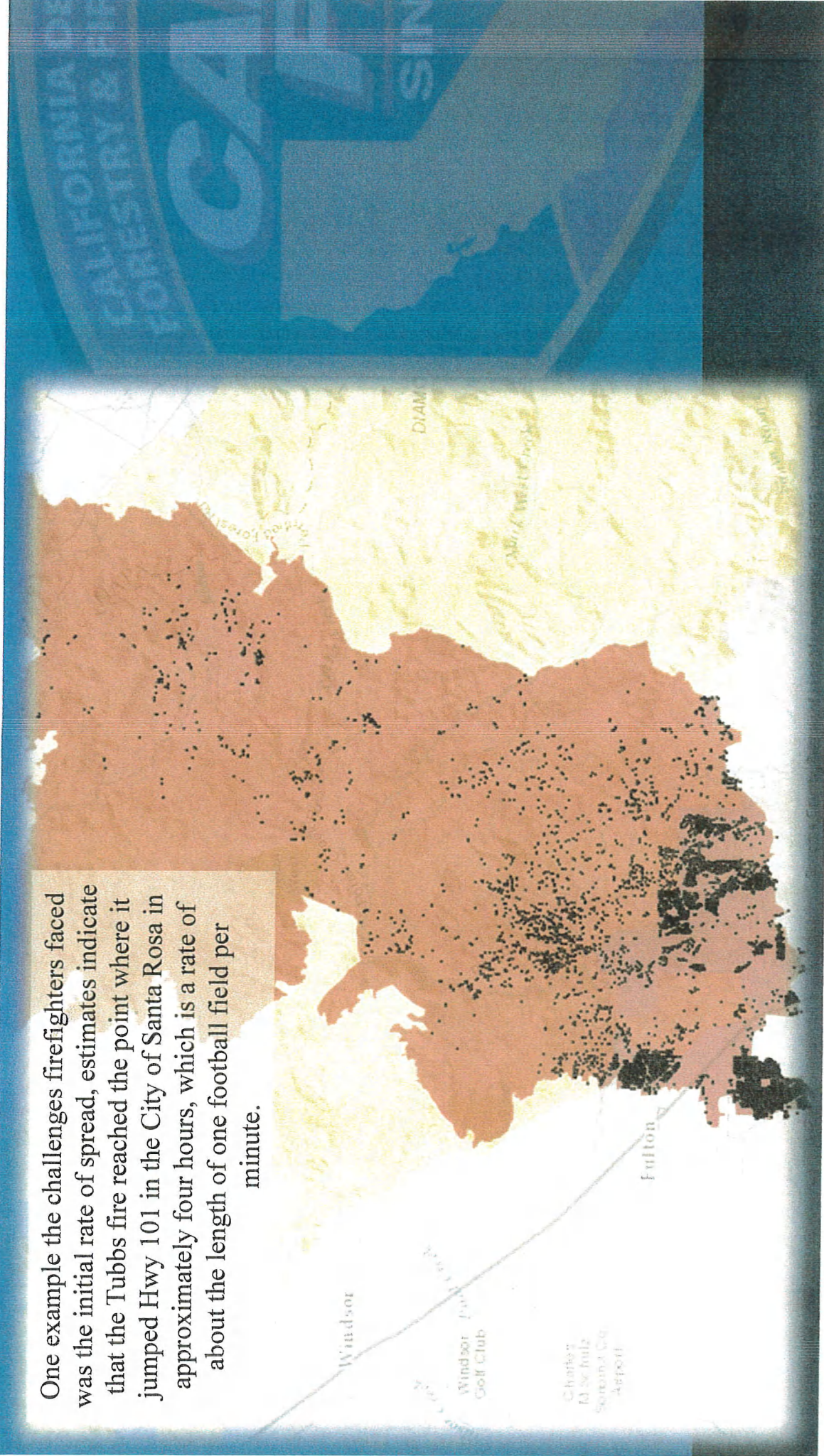
Of the initial 172 wildfires that ignited during what is being referred to as the October 2017 Fire Siege, 18 of them grew into large, fast moving conflagrations fanned by record-breaking strong winds.

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.

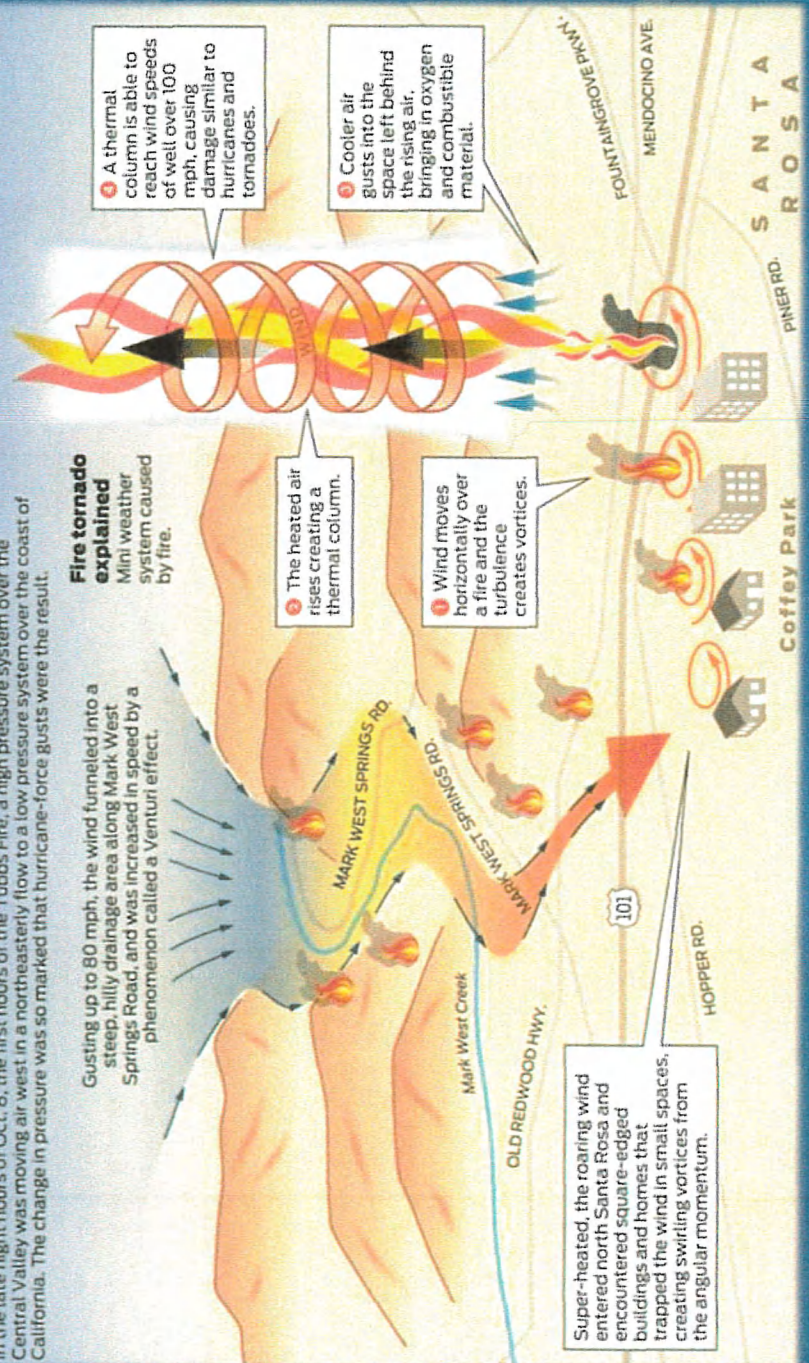
1 The heated air rises creating a thermal column.

2 Wind moves horizontally over a fire and the turbulence creates vortices.

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.

3 A thermal column is able to reach wind speeds of well over 100 mph, causing damage similar to hurricanes and tornadoes.

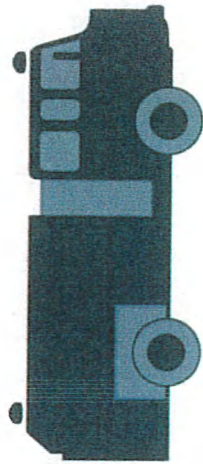
4 Cooler air gusts into the space left behind the rising air, bringing in oxygen and combustible material.



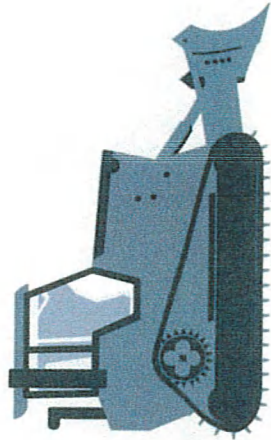


PEAK STATISTICS

OCTOBER 16, 2017



1,013 ENGINES



179 DOZERS

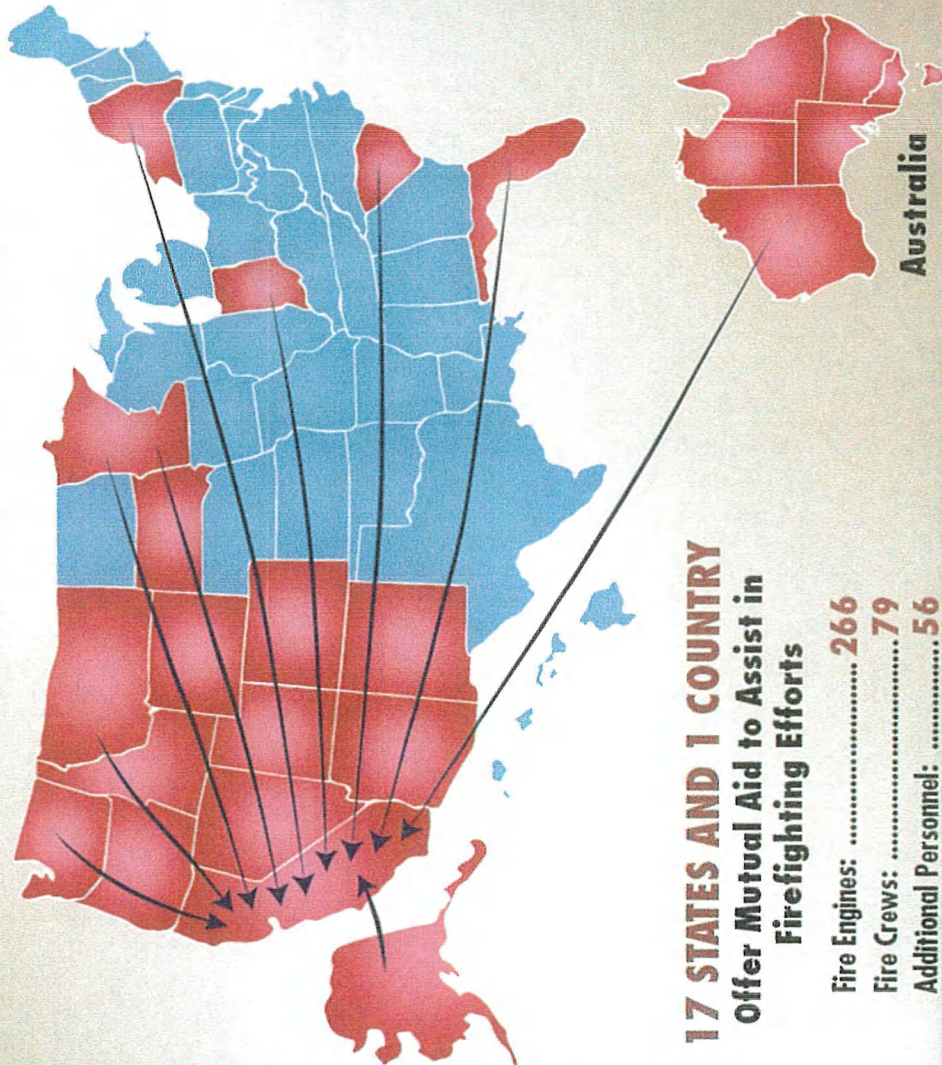


263 HAND CREWS

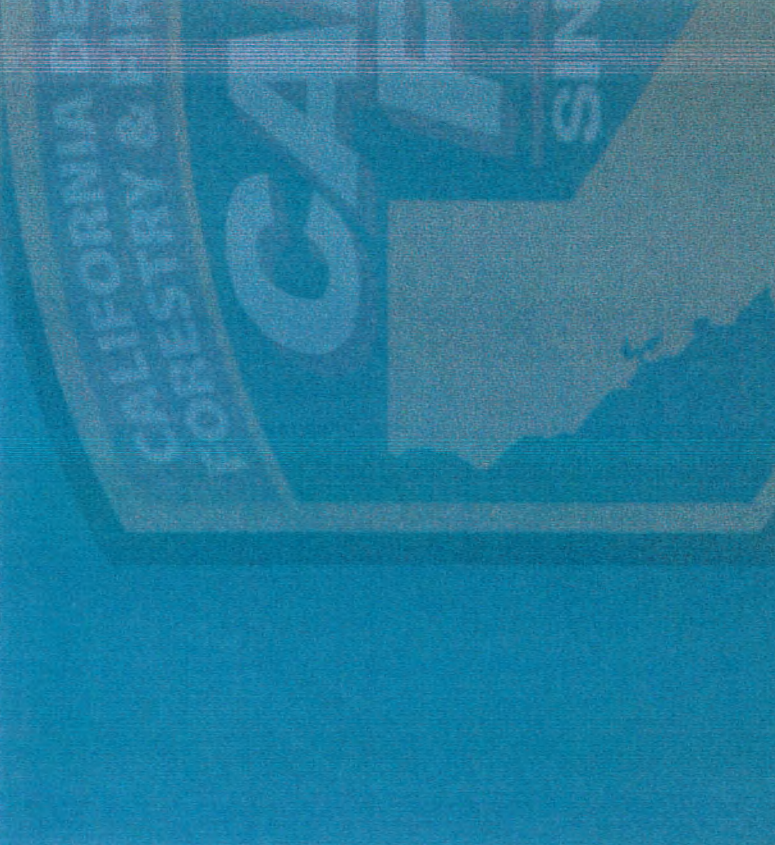
Incident Management Teams

4 - Type I's • 3 - Type III's

CALIFORNIA GETS ASSISTANCE TO BATTLE WILDFIRES



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.

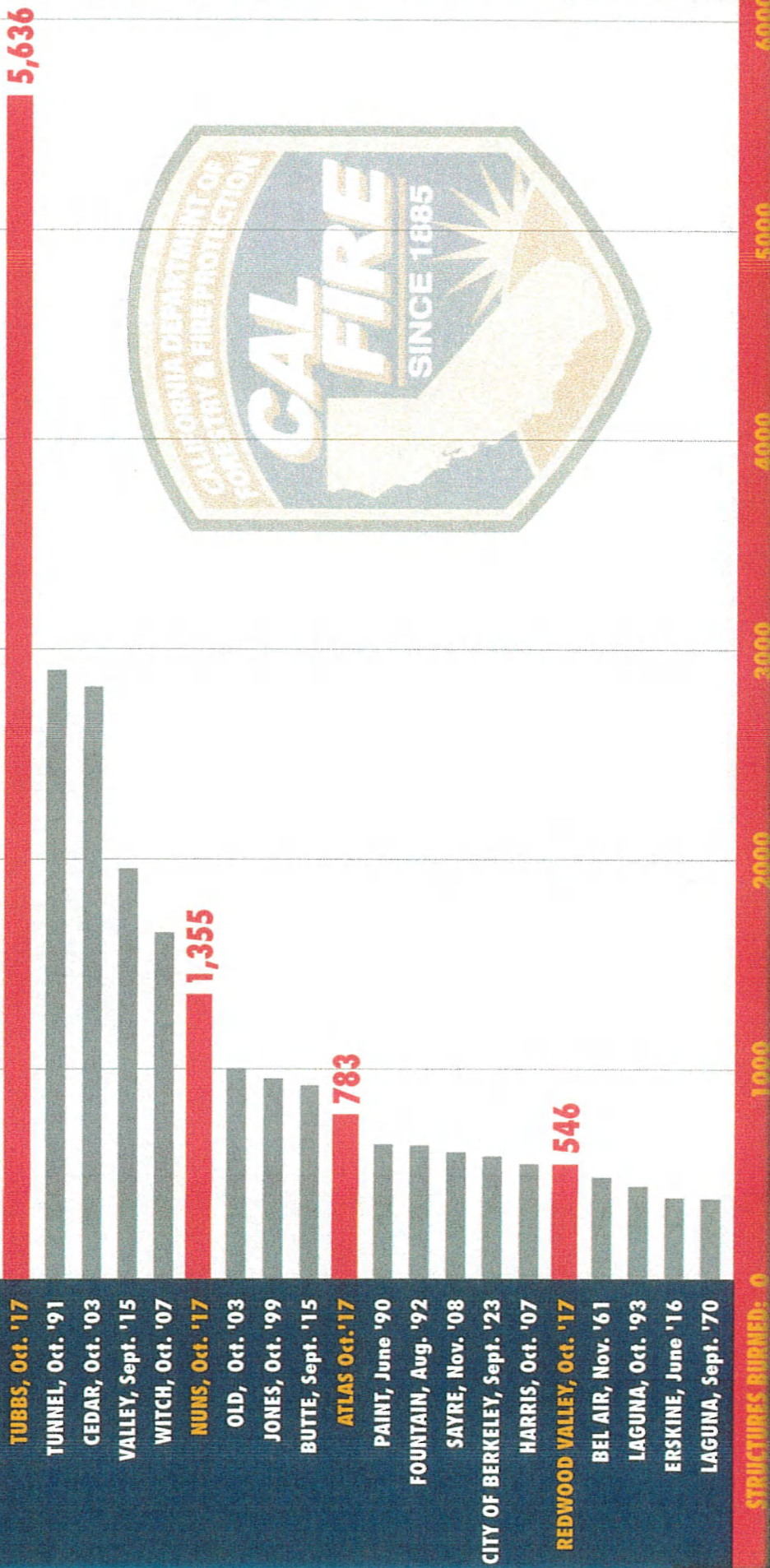
On October 9th Governor Brown declared a State of Emergency in Napa, Sonoma, Yuba, Butte, Lake, Mendocino, and Nevada counties due to the fires.

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

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



TOP 20 MOST DESTRUCTIVE CALIFORNIA WILDFIRES



STRUCTURES BURNED: 0

1000

2000

3000

4000

5000

6000

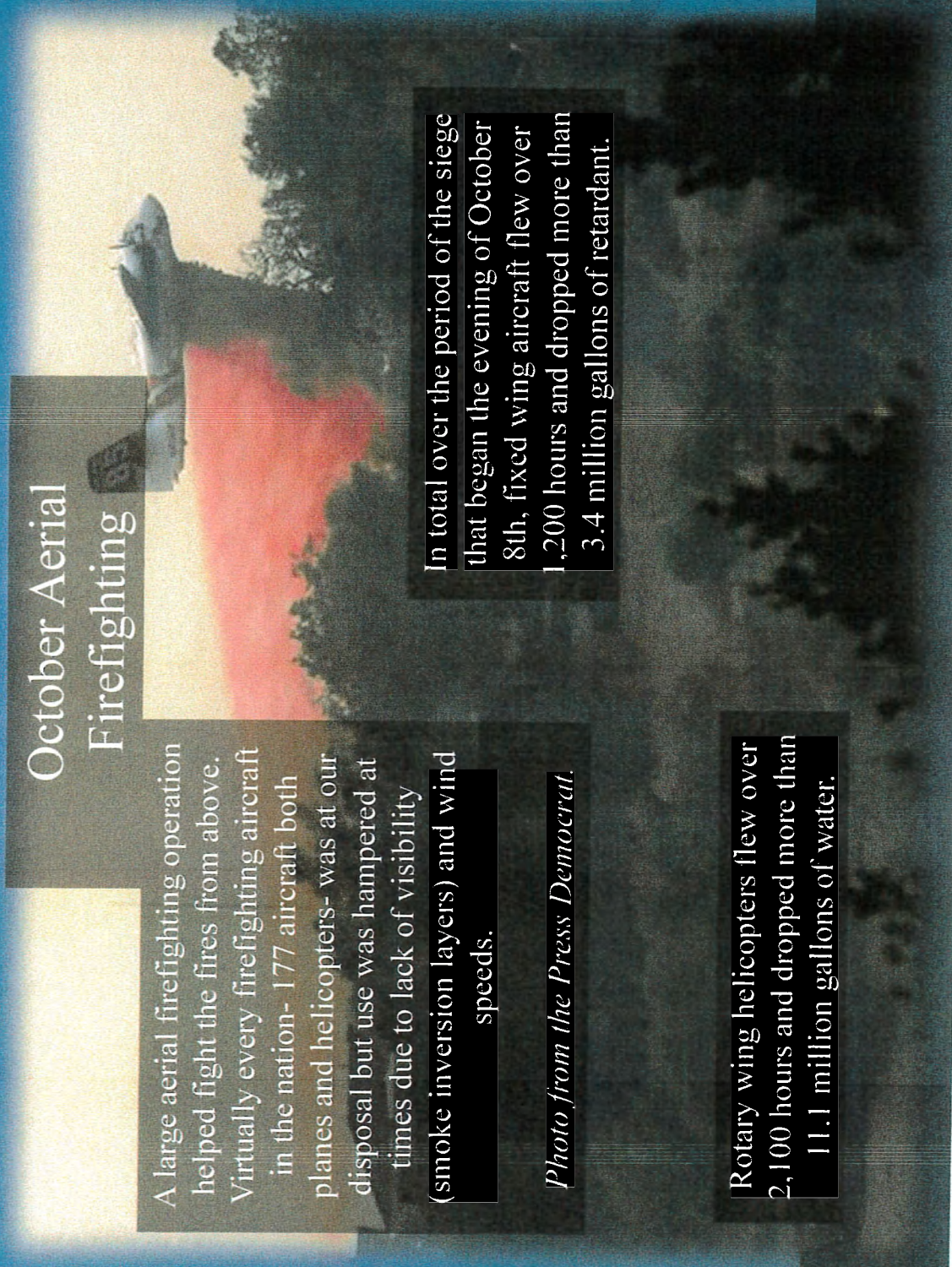
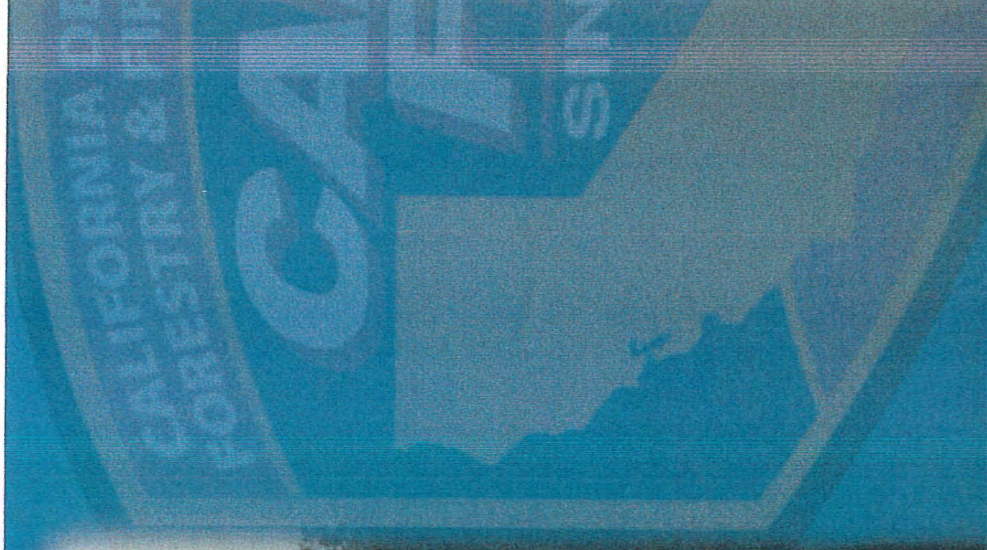
October Aerial Firefighting

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.

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

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.



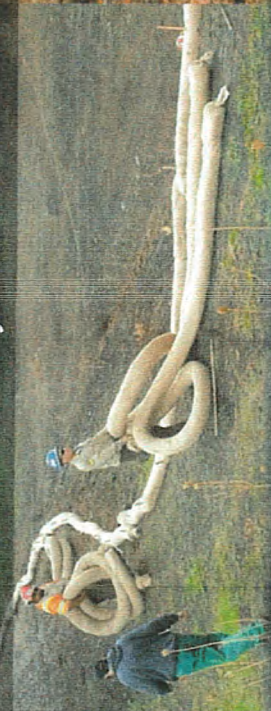
Statewide, at the height of the fire fight, over 11,000 firefighters battled 21 major wildfires that consumed nearly 245,000 acres during the siege period.





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.

CALIFORNIA WILDFIRES

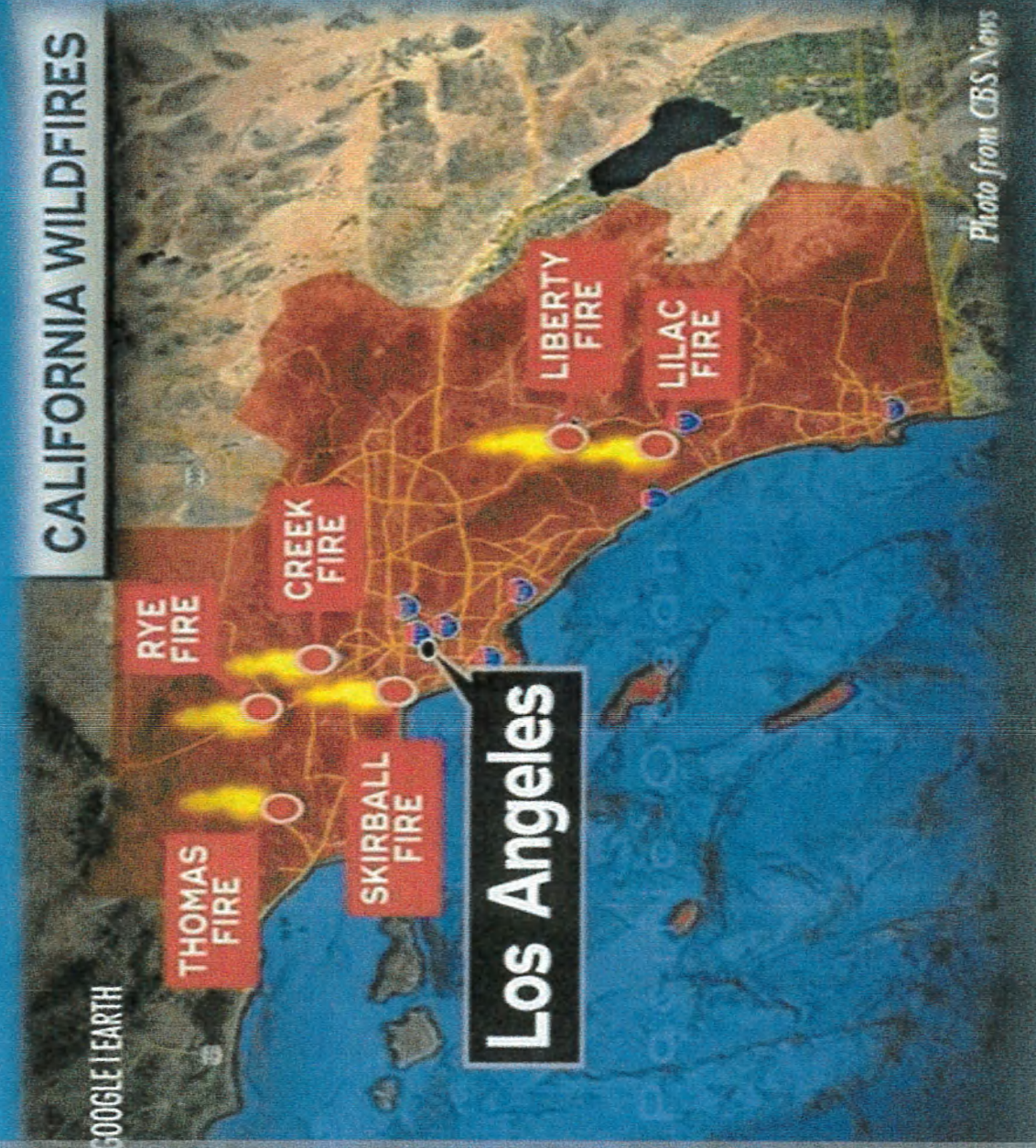


Photo from CBS News

TOP 20 LARGEST CALIFORNIA WILDFIRES

281,893

- THOMAS, DEC. '17
- CEDAR, OCT. '03
- RUSH, AUG. '12
- RIM, AUG. '13
- ZACA, JULY '07
- MATILAJA, SEPT. '32
- WITCH, OCT. '07
- KLAMATH THEATER COMPLEX, JUNE '08
- MARBLE CONE, JULY '77
- LAGUNA, SEPT. '70
- BASIN COMPLEX, JUNE '08
- DAY FIRE, SEPT. '06
- STATION, AUG. '09
- ROUGH, JULY '15
- MCNALLY, JULY '02
- STANISLAUS COMPLEX, AUG. '87
- BIG BAR COMPLEX, AUG. '99
- HAPPY CAMP COMPLEX, AUG. '14
- SOBERANES, JULY '16
- CAMPBELL COMPLEX, AUG. '90



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.

ACRES BURNED: 0 50,000 100,000 150,000 200,000 250,000 300,000

One of the primary challenges firefighters faced were the unrelenting weather conditions. The lack of humidity, tinder-dry vegetation, and some of the strongest Santa Ana winds seen in a decade created a constant battle to stop the spread of the fires. On the first day of the Thomas Fire alone, the fire spread over 31,000 acres in the span of only 9 hours. This is equal to nearly an acre per second.



Photo from The New York Times



Santa Ana Winds

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



High Pressure

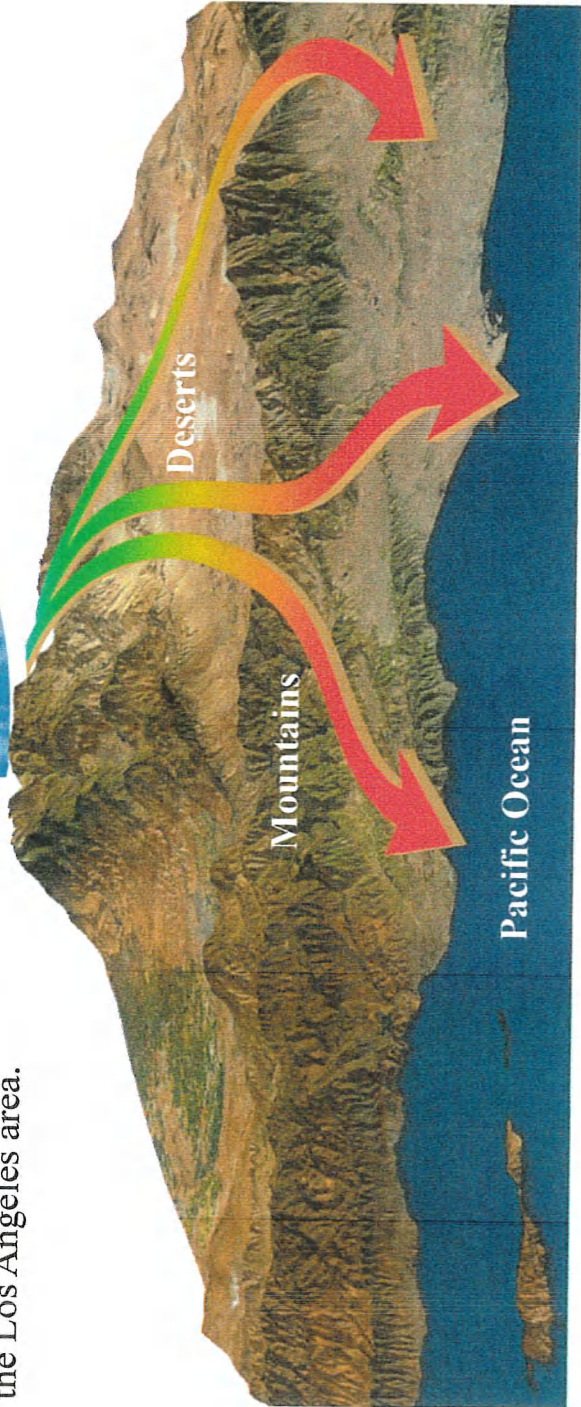
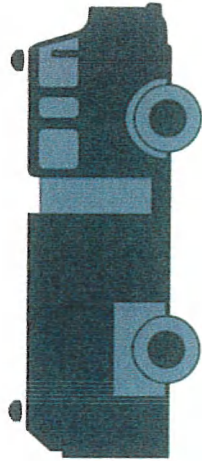


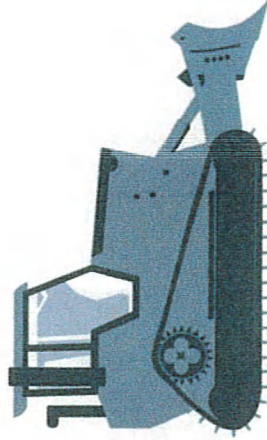
Photo from CNN



TOTAL RESOURCES FOR DECEMBER 2017 SANTA ANA FIRE SIEGE



2,023 ENGINES



160 DOZERS



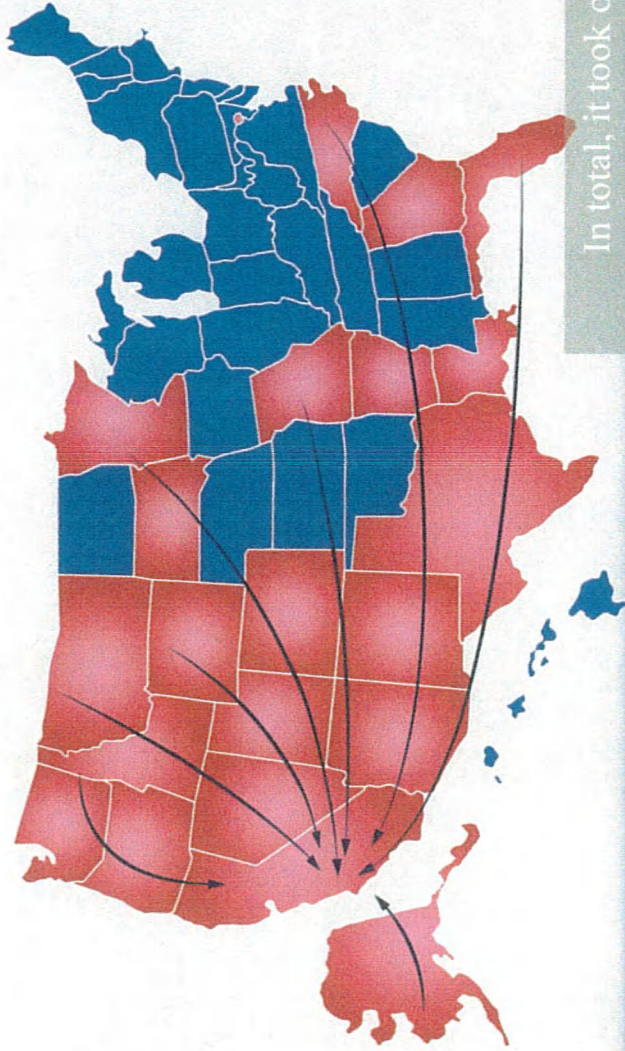
353 HAND CREWS

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.

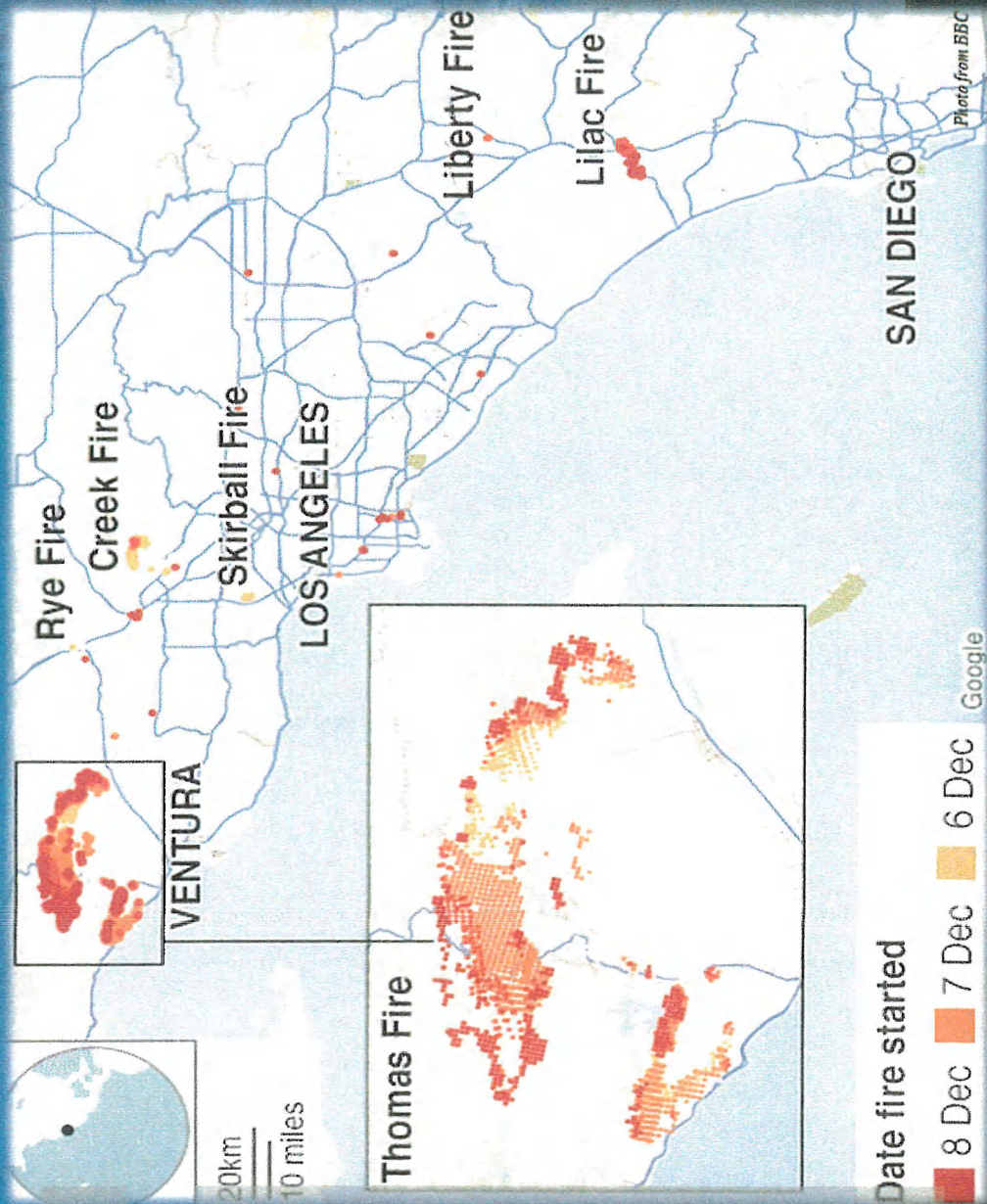
Declaration of Emergency

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

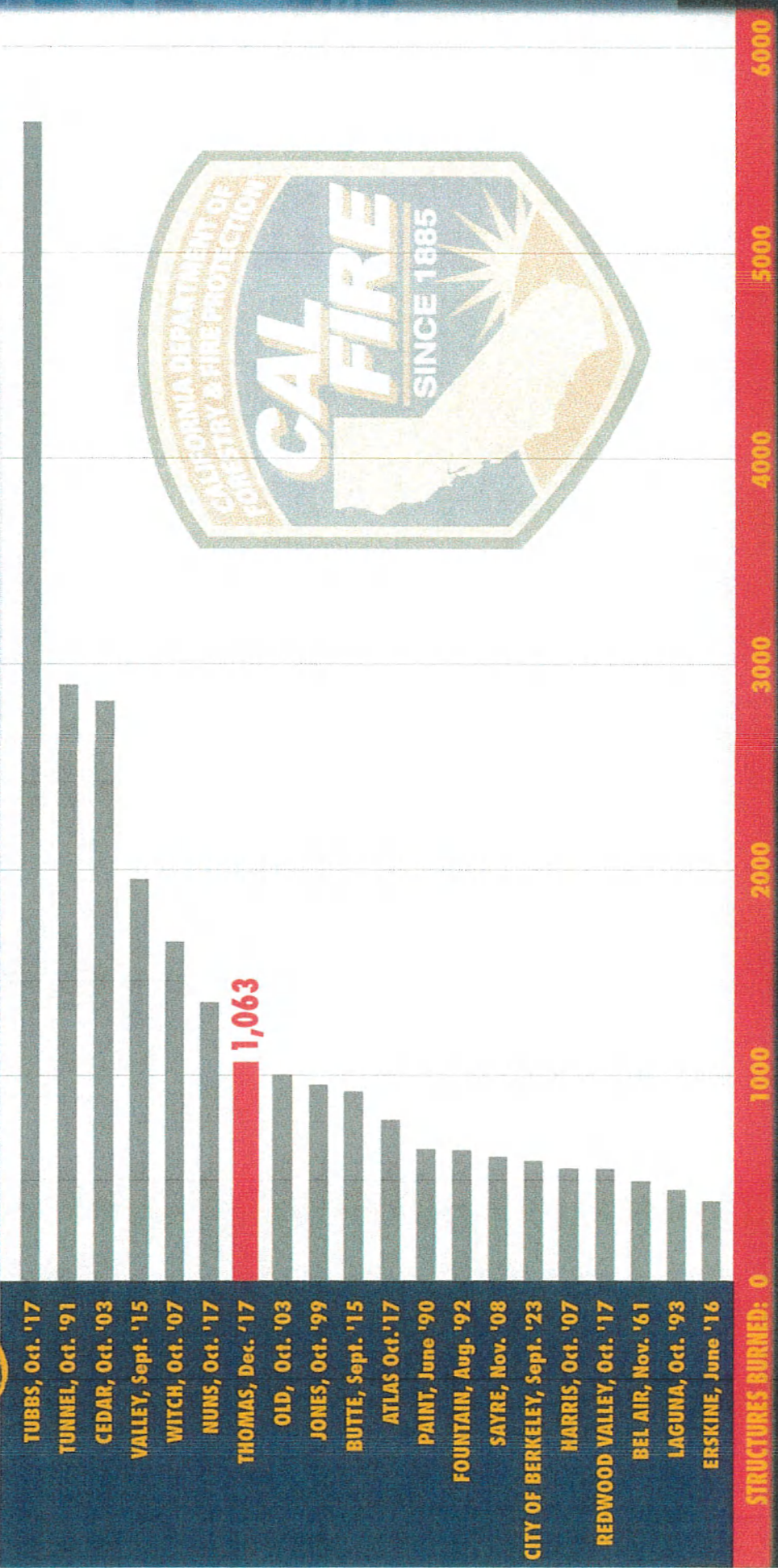
On December 5th Governor Brown declared a State of Emergency in Ventura county and Los Angeles county due to the Thomas, Creek, and Rye fires.

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.



TOP 20 MOST DESTRUCTIVE CALIFORNIA WILDFIRES



STRUCTURES BURNED: 0 1000 2000 3000 4000 5000 6000

A photograph showing an aerial firefighting operation. A helicopter is visible in the sky, and a fire is burning in a field. The scene is captured from an elevated perspective, showing the terrain and the fire's location.

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.

