

# The 2017 Tubbs vs. “average” WUI fire: *before, during, and after*



On some streets in Coffey Park, homes on one side were incinerated while those on the other side appeared untouched. Derek Watkins/The New York Times



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# Before the Fire

## C. Hanly Fire

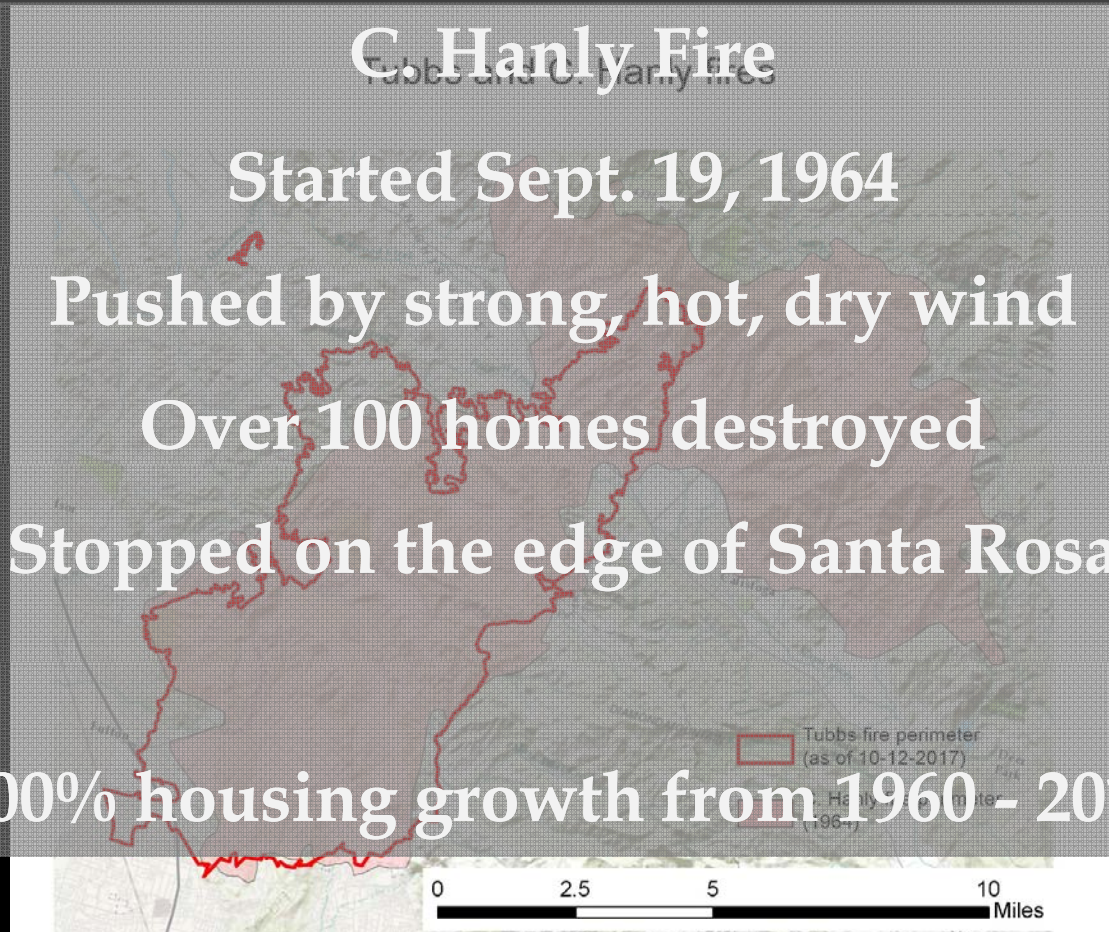
Started Sept. 19, 1964

Pushed by strong, hot, dry wind

Over 100 homes destroyed

Stopped on the edge of Santa Rosa

700% housing growth from 1960 - 2010



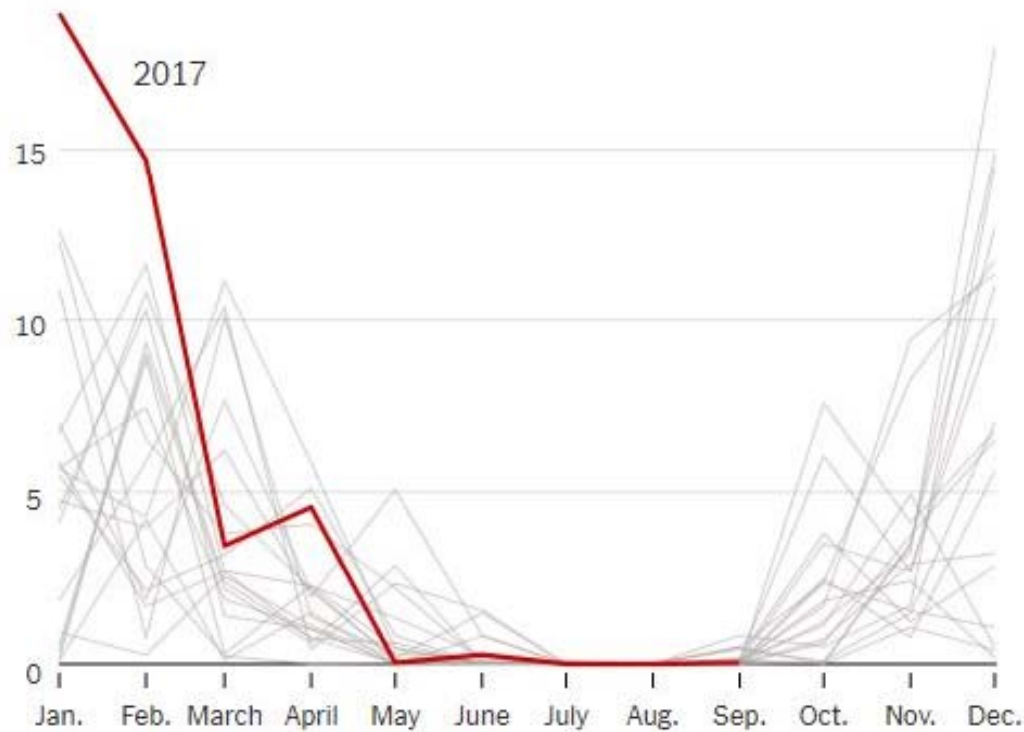
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# Before the Fire

Monthly rainfall in Sonoma County since 1999



Source: National Oceanic and Atmospheric Administration

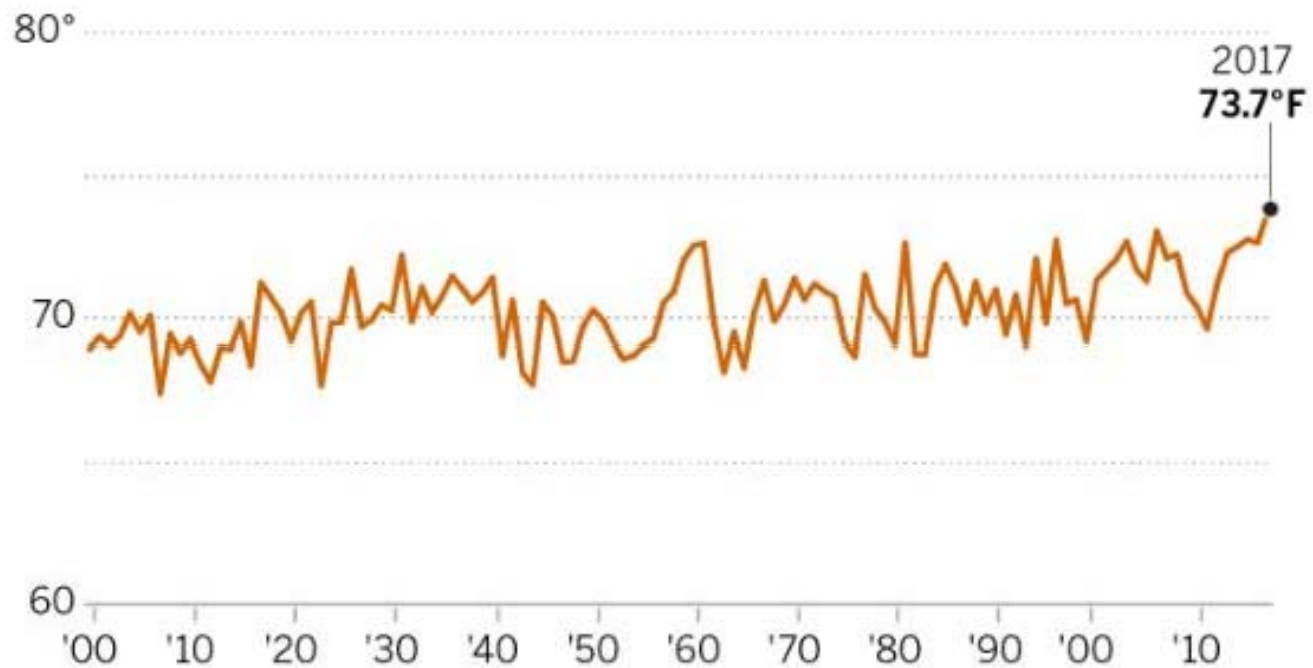


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# Before the Fire

Average summer temperature (June - August) per year in California



Source: Western Regional Climate Center



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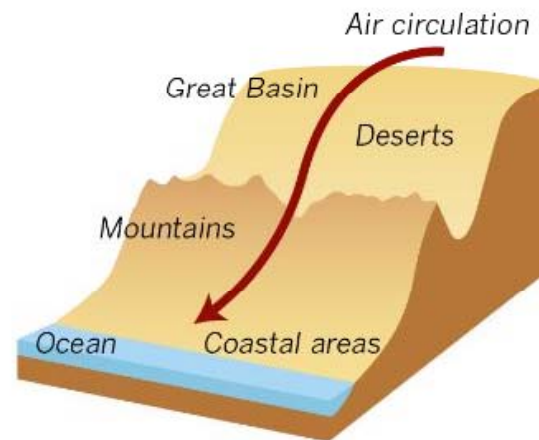
# Before the Fire

## How these winds work



Source: Times reporting, Mapzen, OpenStreetmap.

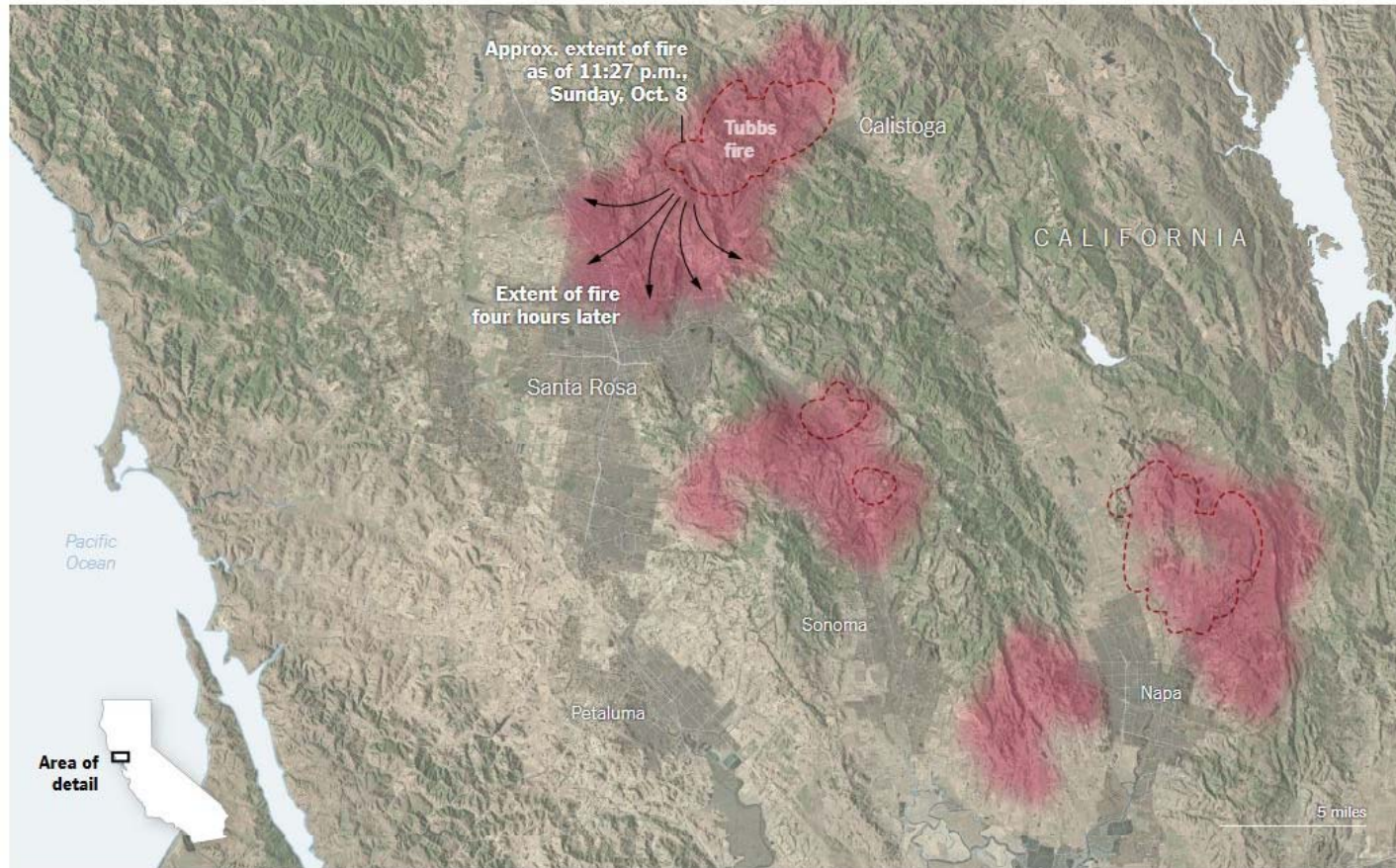
Winds originate inland in areas of high pressure. The winds travel down to lower-pressure, coastal areas, picking up speed and becoming hotter. Winds may speed up more as they squeeze through canyons and narrow mountain spaces.



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# Before the Fire



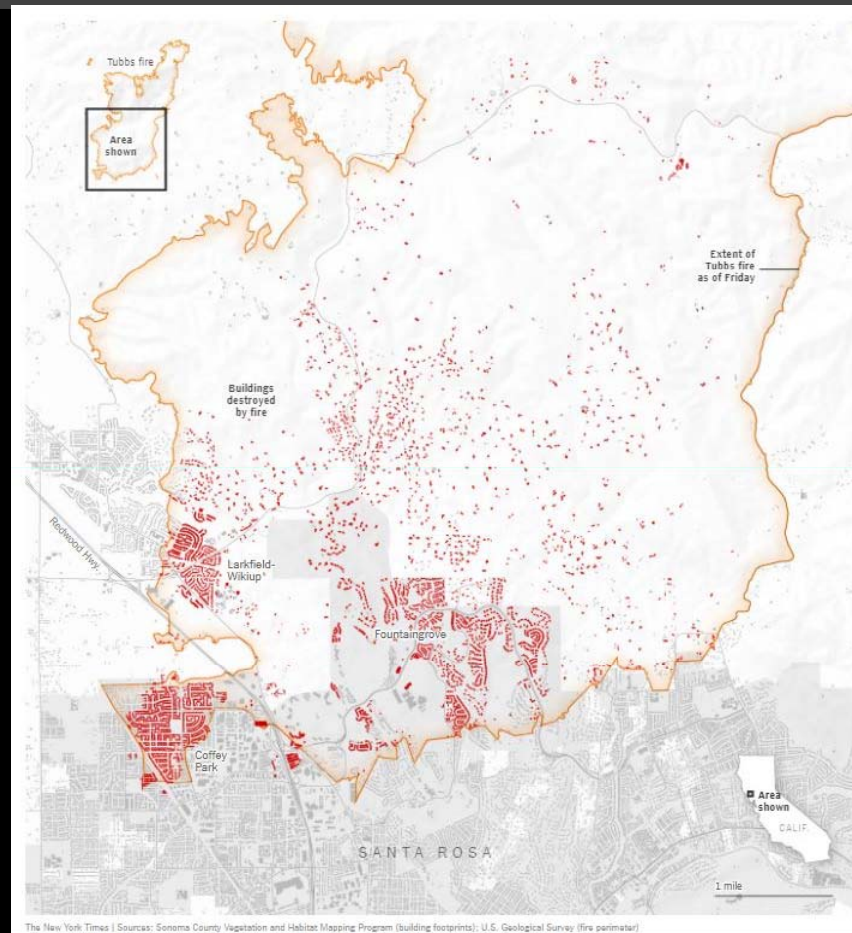
Source: NASA MODIS



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# During the Fire



The New York Times | Sources: Sonoma County Vegetation and Habitat Mapping Program (building footprints); U.S. Geological Survey (fire perimeter)



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# During the Fire

- **In the US, only a few fires account for the majority of destruction:**
  - Between 2000 and 2013, 4% of destructive fires accounted for 70% of all destroyed buildings
  - Destruction in these fires averaged 39% and ranged between 11% and 73%
- **Tubbs was a highly destructive fire**
  - Most destructive in CA history at time
  - 5,000 buildings were destroyed (*data from NYT, 10-13*)
  - 69% of all threatened buildings were destroyed



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# During the Fire

- **In the US:**
  - 69% buildings destroyed by wildfire in WUI
  - 2% destroyed buildings in non-WUI, urban
  - 29% buildings in non-WUI, non-urban



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# During the Fire

- **In the US:**
  - 69% buildings destroyed by wildfire in WUI
  - 2% destroyed buildings in non-WUI, urban
  - 29% buildings in non-WUI, non-urban
- **In Tubbs:**
  - 73% buildings destroyed by wildfire in WUI
  - 25% destroyed buildings in non-WUI, urban
  - 2% buildings in non-WUI, non-urban



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# During the Fire



An aerial picture of Coffey Park taken Wednesday. Josh Haner/The New York Times

DigitalGlobe



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# After Fire

- Not all buildings are rebuilt
- In the U.S., 23% are rebuilt within 5 years
- In CA, 35% are rebuilt within 5 years
- In CA, 72% are rebuilt within 20 years (ranging from 13% to 100%)



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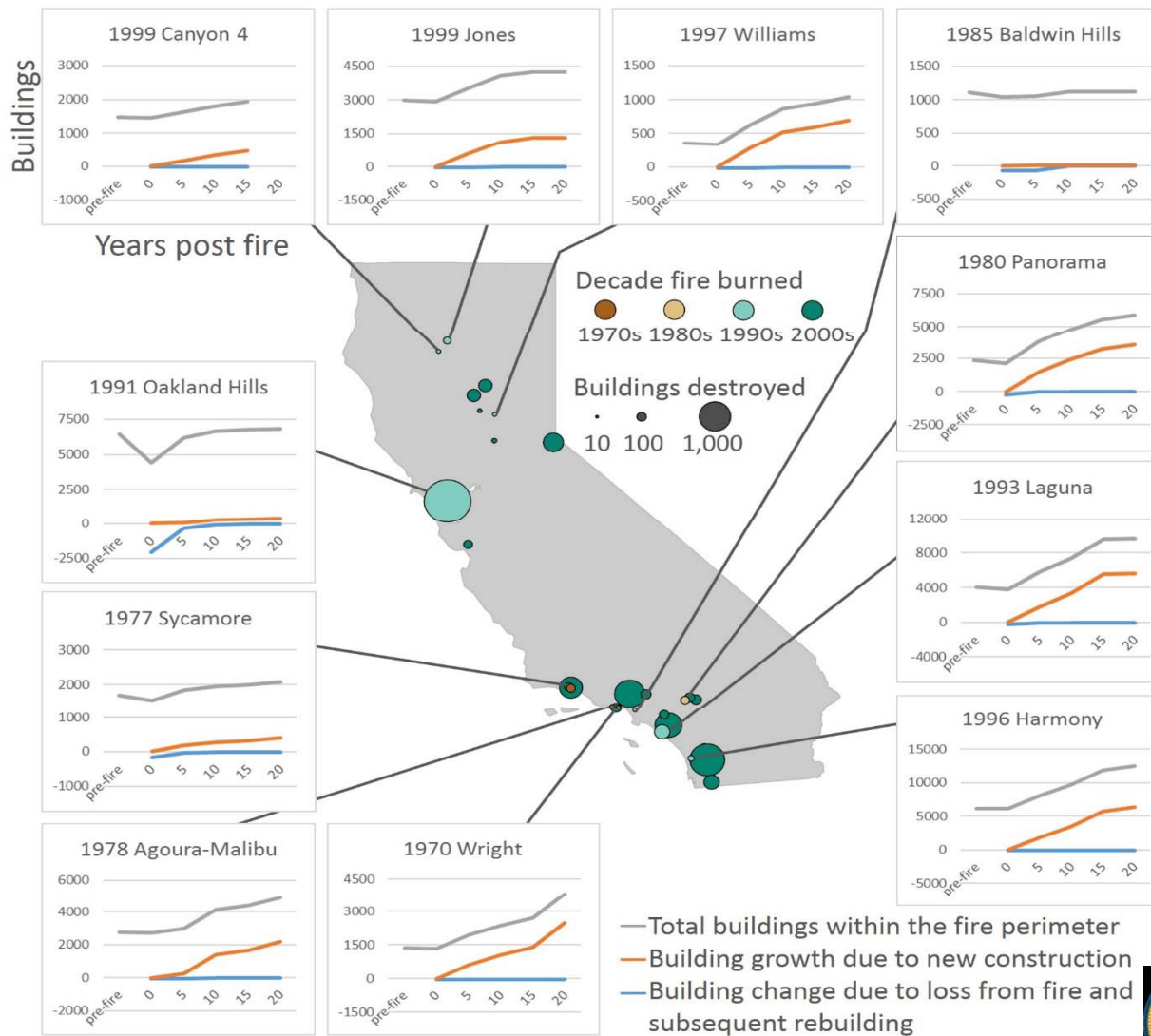
# After Fire

- Of all rebuilt buildings, 67% are rebuilt in 5 years & 94% in 10
- With new construction, most fires contain more buildings 5 years after fire than before



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## In conclusion

- The WUI wildfire problem is likely to continue to get worse
- Defensible space is important
  - It will not be solved by managing forest

Landscape planning is needed

- But we would have advocated for areas like Coffey Park

# Thank you

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