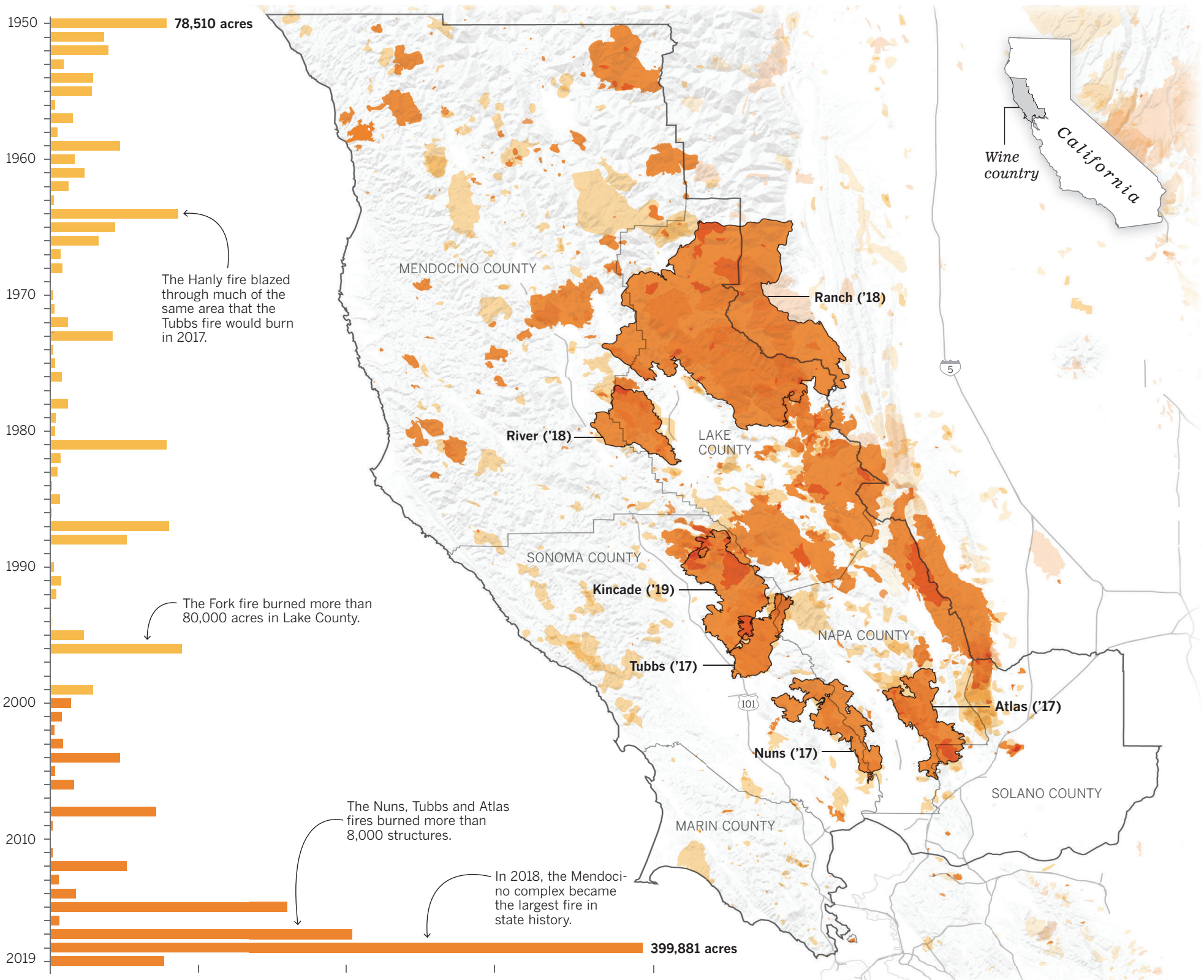
California's wine country fires are larger and more destructive than ever

By Priya Krishnakumar Recent wildfires in California's wine country are among the largest and most destructive in state history. October's massive Kincade fire is the latest in a wave of fires that are dramatically reshaping life in the region. The Times analyzed every wildfire since 1950, when the California Department of Forestry and Fire Protection began reliably tracking the size and spread of fires, and found that in the last 20 years, more acres have burned in the region than in the previous half-century.

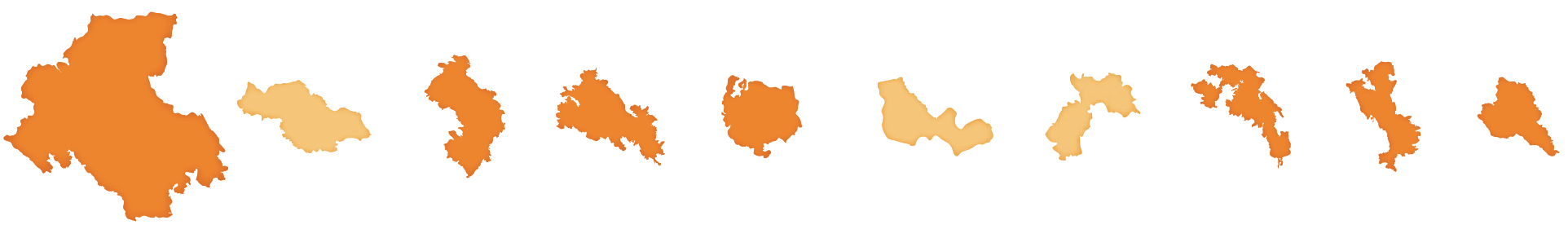
Acres burned in wine country region per year

1950-1999: **1,011,750** acres 2000-2019: **1,101,322** acres



Biggest fires in wine country

After 2015 Before 2015



Why is this happening?

Scientists point to rising temperatures and the effects of Diablo winds on increasingly dry terrain. "In a way, climate change is priming the landscape to ignitions," said Max Moritz, a wildfire specialist at UC Santa Barbara.

Seven of wine country's 10 biggest fires since 1950 occurred in the last five years. The Mendocino Complex fire in 2018, made up of the Ranch and River fires, was the largest recorded fire in California history.

New areas are burning

The fires aren't just bigger — they're also reaching territory that hasn't burned in many years. Since 2000, wildfires have consumed more than 600,000 acres of wine country that had been untouched since at least 1950.

The most destructive fires in recent years have been driven by high-speed, dry winds that carry embers faster and farther.

The state's top fire scientists are now focusing on researching wind patterns in an effort to reduce the risks of a hotter, drier climate that they link to global climate change.

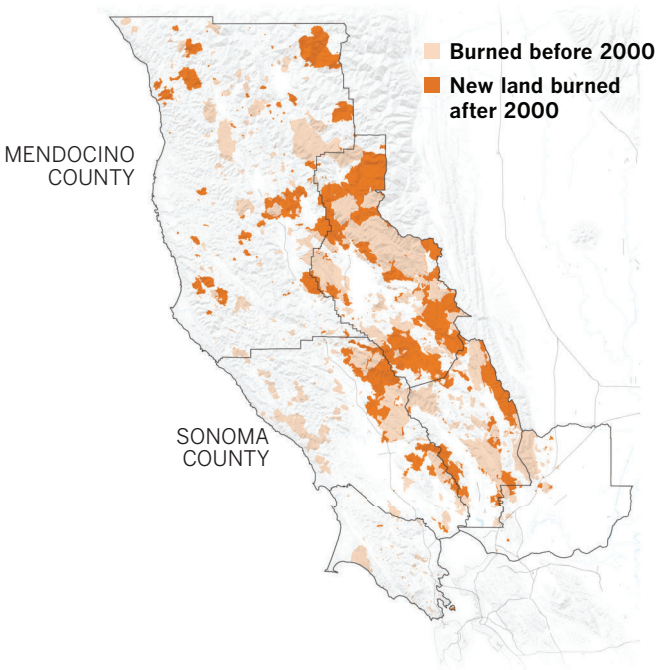
The wind "is a feature that aligns itself with these damaging events," said David Sapsis, chief scientist at Cal Fire.

More development, more destruction

The devastation wrought by wildfires is increasing as well. Three of the most destructive fires in California's history — the Tubbs, Valley and Nuns fires — burned in wine country, all within the last five years. These fires alone burned 8,946 buildings, killing 29 people.

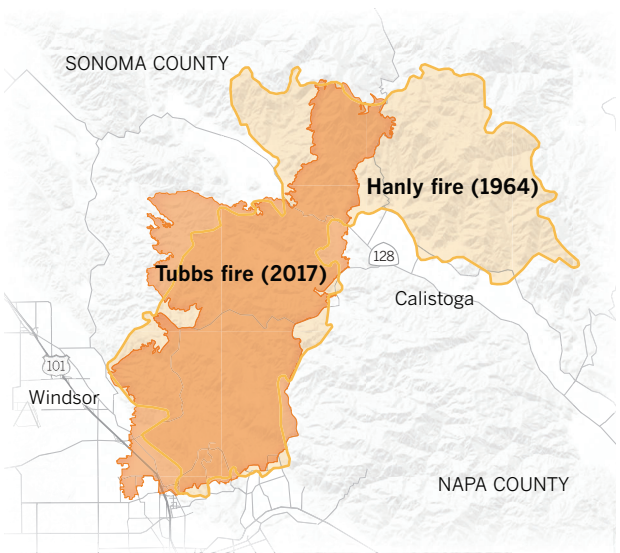
Experts say many of the losses are due to increased development, as more homes have been built in areas prone to fire.

"The homes are the fuels," Moritz said. "We see these burned neighborhoods where there are still shrubs and trees, and it's clear the homes propagated the fire."



Hanly: 52,700 acres burned | 108 homes destroyed | No fatalities

Tubbs: 36,807 acres burned | 4,651 homes destroyed | 22 fatalities



The change is clear when comparing the 1964 Hanly fire to the much more destructive 2017 Tubbs fire. Both burned much of the same area, but the Hanly fire destroyed only a few dozen homes in the then-sparsely settled region. In the decades after, thousands more people moved into the region as the wine industry flourished. When fire struck again in 2017, the impact was far more devastating, destroying 5,636 buildings and leading to 22 deaths.

Much of the state's newer development lies in these at-risk areas, known as wildland-urban interface, where fire-prone land and housing are in close proximity.

A 2017 study found that home building in such areas increased 41% nationwide between 1990 and 2010. Wine country's most destructive fires have all burned in these zones.

What you can do

Government agencies say that people who live in areas that are at risk of wildfires must work together with their communities to better prepare. This includes knowing the best routes to evacuate, clearing defensible space around homes and building with fire-resistant materials.

Sapsis says that barring a fundamental shift in the landscape and climate of the state, people in fire-prone areas must prepare for a large fire event.

"Don't think the fire won't come to you," he said. "That's a bad plan."

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The analysis was conducted using Cal Fire's FRAP database, which contains fire perimeters in the state dating back to 1878. The 2019 perimeters are from GeoMAC. The six counties were chosen for analysis because they constitute the North Coast American Vitacultural Area, California's largest wine-growing region. Wildland-urban interface areas are from SILVIS labs.