

NOTE

This is an excerpt from IDMC's 2019 Global Report on Internal Displacement (GRID).

SPOTLIGHT

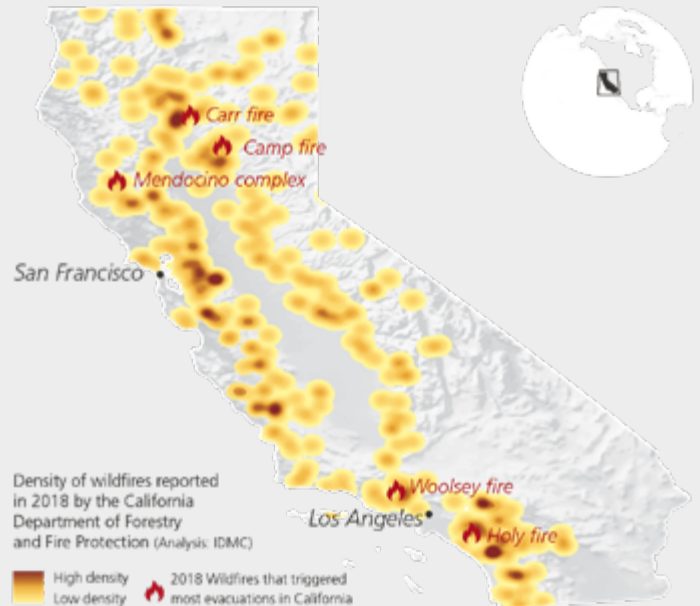
UNITED STATES

California wildfires: urban expansion and the risk of displacement

The western US state of California is highly prone to wildfires. In recent years, the combination of climate change and people's increased vulnerability and exposure to hazards made the wildfire seasons longer and more destructive. The extension of the two long seasons, the first spanning from June to September and the other from October to April, has the potential of turning wildfires into a year-round threat.²¹² Prolonged drought, higher temperatures, stronger winds and the overuse of water for agriculture have caused significant harm to local ecosystems, leaving forests tinder-dry and littered with dead wood.²¹³ The increasing housing stock in the wildland-urban interface, where housing meets and intermingles with wildland vegetation, also means ever more homes are exposed to fire risk, which in turn increases the risk of displacement.²¹⁴

The state experienced the deadliest and most destructive outbreak of wildfires in its history in the second half of 2018, burning about 355,000 hectares of land, four times the annual average for the past five years.²¹⁵ More than 100 people are thought to have died. At least 22 wildfires triggered over 354,000 new displacements, accounting for almost 30 per cent of the total new displacements recorded in the United States last year. The Carr, Holy and Mendocino Complex fires, named after the places where they started, forced the evacuation of over 90,000 people in July and August, and during the Woolsey and Camp fires a further 235,000 people in November.

Camp fire alone killed 85 people, displaced at least 53,000 and destroyed almost 14,000 homes.²¹⁶ It burnt 62,000 hectares of land and caused between \$11 and \$13 billion in commercial and residential losses. It was not the largest fire. Mendocino Complex burned almost

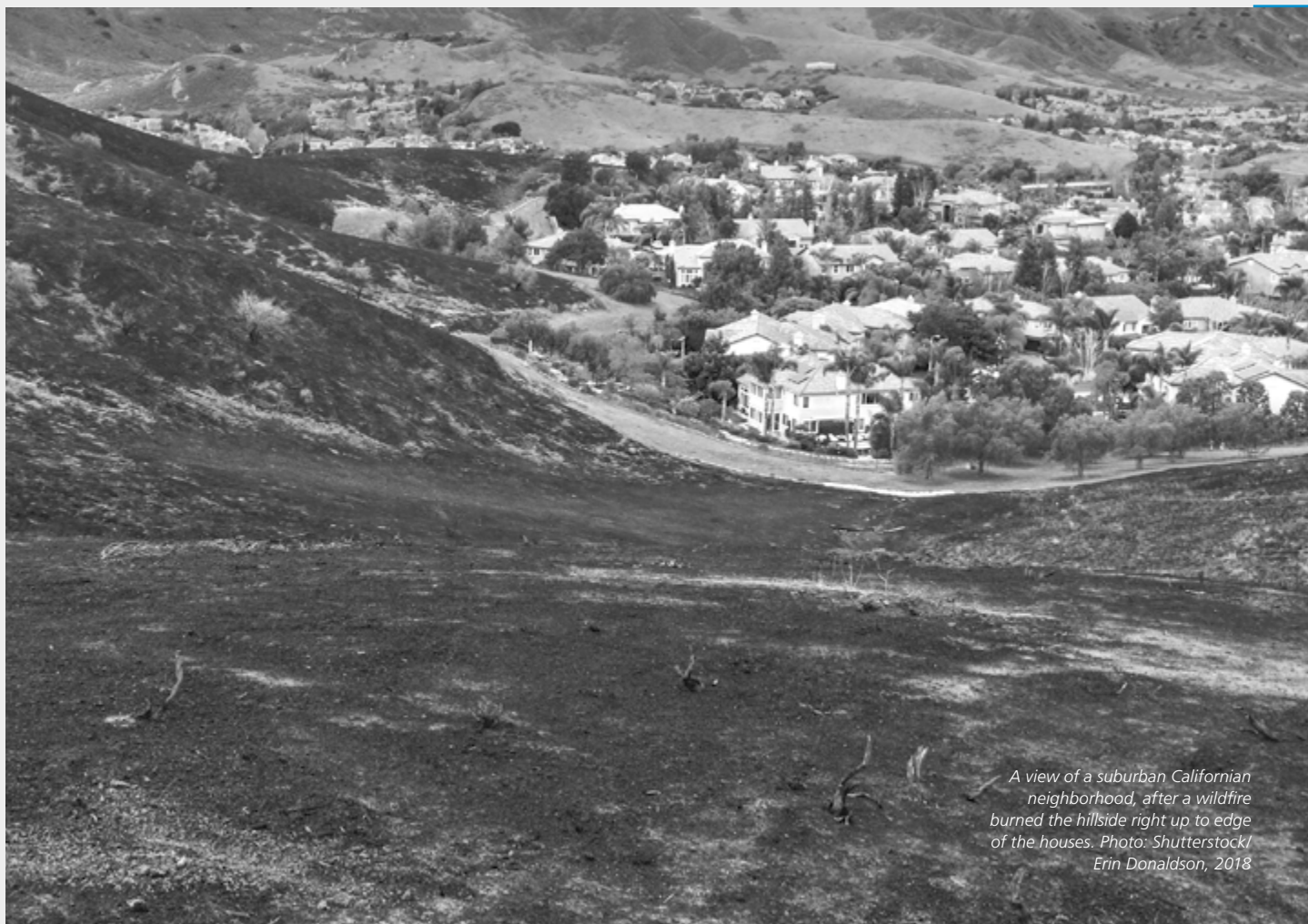


four times the area. Nor was it unique in how fast it spread. The Tubbs fire in 2017 moved at similar speeds. What set Camp fire apart and made it the deadliest and most destructive fire in California's history was what happened in Paradise, a town which lay in its path.²¹⁷

Paradise, a picturesque town in Butte county nestled in the Sierra Nevada foothills, had a large percentage of its homes in the wildland-urban interface, increasing the town and its residents' exposure and vulnerability to wildfires.²¹⁸ Within a few hours of taking hold, the fire had spread and destroyed most of the town, displacing about 30,000 people. It was an example of urban conflagration, a phenomenon last seen more than a century ago in which a fire leaps from structure to structure igniting them as it goes.²¹⁹

Since the 1906 San Francisco fire, urban design and development have included better materials and more defensible spaces, space between buildings and grass, trees or shrub, to prevent fire from spreading quickly.²²⁰ Since the 1990s, however, millions of homes have been built in undeveloped areas on the fringes of towns and cities. This has increased the interface between wilderness and urban areas, and the trend is set to continue as ever more people move to such places to live closer to nature and reduce living costs.²²¹

If future urban conflagrations are to be prevented, homes in the wildland-urban interface will have to be built with more fire-retardant materials and larger defensible spaces between them to slow the spread of fires.²²² The California Board of Forestry and Fire Protection recommends that homes have between 30 and 100 feet (10 to 30 metres) of defensible space, but without



A view of a suburban Californian neighborhood, after a wildfire burned the hillside right up to edge of the houses. Photo: Shutterstock/ Erin Donaldson, 2018

state enforcement of regulations on private property, such guidelines are more often than not ignored.²²³

In an area that was already experiencing a housing shortage, Camp fire left thousands of people homeless. The Federal Emergency Management Agency (FEMA) has dispersed millions of dollars in assistance to those who lost their homes, but many of those displaced still struggle to find somewhere to live locally. FEMA is encouraging people to look for housing in Sacramento, 135 kilometres away, and further afield, but this would disconnect people from their livelihoods and social networks.²²⁴ The lack of available and affordable housing in the area will inevitably affect those with fewer resources the most.

The 2018 wildfire season in California demonstrates how climate change and urban expansion have combined to intensify fires, alter their patterns and extend the seasons. Average temperatures will continue to rise and populations living in the wildland-urban interface to grow, exposing more people to the risk of displace-

ment. The disaster in Paradise offers an example of what the future may hold if authorities do not enforce urban planning legislation and strengthen disaster prevention and response.²²⁵

| Notes

212. Jin et al., "Identification of two distinct fire regimes in Southern California", September 2015.
213. California Department of Water Resources, "Drought in California, Fall 2015 Drought Brochure", 2015; Auburn University, "Case Study: California - Climate, Energy, and Society", May 23, 2018, available at, <https://cla.auburn.edu/ces/climate/california-case-study/>.
214. Radeloff et al., "Rapid growth of the US wildland-urban interface raises wildfire risk", March 27, 2018; EcoWest, "Wildland urban interface", available at, <http://ecowest.org/fires/wui/>.
215. Government of California, "Fire Statistics", January 24, 2018, available at, http://cdfdata.fire.ca.gov/incidents/incidents_stats?year=2018; Government of California, Archived Fires, available at, http://cdfdata.fire.ca.gov/incidents/incidents_archived.
216. Government of California, "Camp Fire Incident Update 11/25/2018", 2018.
217. National Fire Protection Association, "Old & In Harm's Way: How demographics and topography collided to make the Camp Fire California's deadliest and most destructive wildfire ever", January 2, 2019.
218. *Ibid.*
219. USA Today, "Camp fire: Paradise, California destroyed, 27,000 forced to evacuate", November 9, 2018.
220. Wired, "The Terrifying Science Behind California's Massive Camp Fire", November 9, 2018.
221. Science News, "Development near natural areas puts more Californians in the path of wildfires", November 15, 2018.
222. National Fire Protection Association, "Old & In Harm's Way: How demographics and topography collided to make the Camp Fire California's deadliest and most destructive wildfire ever", January 2, 2019.
223. CityLab, "What California's Cities Can Do to Prevent Wildfires", November 16, 2018.
224. NBC News, "'Where's everybody going to go?' Survivors of California's Camp Fire struggle to find housing", November 21, 2018.
225. Vox, "The Paradise fire is catastrophic. And the wildfire threat to California is only growing", November 16, 2018.