

# Why California should consider Australia's 'prepare, stay and defend' wildfire policy

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Even as debate rages over the safety of Australia's "Prepare, stay and defend, or leave early" policy of wildfire defense, fire researchers at the University of California, Berkeley, and in Australia say that the strategy is worth consideration in California and other regions in the United States.

Questions about the policy, which encourages able residents to stay home and actively defend their property from wildfires, are being renewed in the wake of Australia's devastating fires, which began on Feb. 7 and killed 210 people, burned down 1,800 homes and scorched 1,500 square miles of land.

"The key element of Australia's policy is to train willing homeowners to protect their homes in an active wildfire," said Scott Stephens, associate professor of fire science and co-director of UC Berkeley's Center for Fire Research and Outreach. "What the Australian strategy does is actively engage and help homeowners to become part of the solution rather than just to need evacuation. However, it should be noted that some California communities are so vulnerable that a 'prepare and leave early' strategy may be the only option."

The Australian approach also includes a more strategic land-use management policy in which decisions about new housing in areas vulnerable to wildfires are overseen at the state level, ensuring a more consistent standard for fire-resistant building codes and in urban development, the researchers said.

In contrast to Australia, the researchers said, fire agencies in California focus primarily on mandatory evacuations followed by fire suppression. Not only has this approach not reduced property loss, it could increase the risk for people if the evacuations are carried out at the last minute, the researchers argued.

Over the past several years, scientists from UC Berkeley's Center for Fire Research and Outreach have been collaborating with colleagues from Australia to study best practices in an effort to reduce the loss of life and property from wildfires. Their report on what lessons U.S. wildfire management officials can learn from Australia is scheduled for publication today (Thursday, Feb. 26) in the open-access journal *Environmental Research Letters*.

Their paper comes nearly three weeks after the southern Australia wildfires. The looming question is whether the "Prepare, stay and defend, or leave early" policy helped or hurt in that disaster - an issue that is sure to be addressed in an official inquiry established to investigate the country's deadliest wildfire in recorded history.

With the verdict from the latest fire pending, scientists are looking at a recent review of the policy, which was based upon 60 years of historical evidence. That review concluded that the policy is fundamentally sound.

The authors of the *Environmental Research Letters* paper point to the beneficial culture of preparation inherent in the policy. For instance, months or even years before fire season begins, residents are involved in reducing the vulnerability of their homes with such activities as clearing dangerous vegetation around their property or installing ember-blocking screens for their attic vents.

The researchers also emphasized that homeowners in Australia go through an annual training program run by local fire agencies, and are

provided with appropriate supplies such as hoses, radios and protective clothing.

"The Australian approach is different from what many call 'shelter-in-place,' an American concept stemming from other environmental hazards and connoting more passive action by residents," said co-author Max Moritz, cooperative extension specialist in wildland fire and co-director with Stephens of the Center for Fire Research and Outreach. "There is active participation from the homeowners before and possibly during a fire. In the process, they become more aware of the risks of living in an urban-wildland interface, and both homes and people are better prepared to handle fires when they inevitably occur."

The Australian wildfire management strategy, adopted after the country's 1983 "Ash Wednesday" brushfires, is based upon the premise that it is often riskier to leave a home as a fire front approaches than to stay sheltered while actively defending it. In that 1983 fire, 75 people died and many more were injured, most while outside their homes trying to escape.

"The clearest evidence was that late evacuation is dangerous," said the paper's co-author John Handmer, director of the Centre for Risk and Community Safety at The Royal Melbourne Institute of Technology (RMIT) University in Melbourne, Australia. "While deaths did occur inside houses, twice as many deaths occurred in vehicles or out in the open. This evidence has led to the Australasian Fire Authorities Council catch-phrase, 'houses protect people and people protect houses.'"

In the event of a wildfire, homeowners in Australia are taught to prepare their homes for the wildfire front and vigilantly patrol their properties for spot fires that may have started from flying embers. If the front of the wildfire reaches the home, residents are instructed to shelter inside as the flames burn past.

This is a smart strategy even for those who may intend to evacuate early but can't because of the speed of the fire's advance, the researchers said. "Chances of survival are significantly greater inside the home than outside in a car when the fire's front is upon you," said Stephens.

A number of communities in the United States, including counties in Southern California and in rural Montana, have already begun emulating aspects of the Australian approach, but the researchers said implementing the policy piecemeal could be a mistake.

"The state of California should take the lead on this to ensure that communities that adopt this policy receive the proper training, and that the policy is implemented properly," said Stephens. "Giving homeowners the option of staying home during a wildfire can be deadly if done incorrectly and without adequate preparation. It would take just one terrible instance of a family getting killed because they were trying to save their homes for the policy to be abandoned."

The researchers pointed out that it takes a significant amount of mental preparation by the homeowners to not panic and flee when flames are licking at their doors. "The noise alone of a wildfire front is phenomenal," said Stephens. "Then the sun goes away, and the sky goes dark. It's haunting, and people need to understand that before they sign up for this."

An important part of the policy is awareness of one's limitations and the potential for panic, the researchers said, as is knowing that preparing a home as much as possible but then leaving early in the event of a wildfire may be the safest option.

"The Australian model is partly based on homeowners having some time to prepare for an oncoming fire," said Moritz. "But what if there is no warning and homeowners suddenly find a wall of flame racing toward

them, a scenario that may have been at play in the recent Australian fires? It is this surprise factor that may end up playing a key role in determining whether people who would otherwise leave early have the chance to do so. In these 'sudden onset' fire situations, even the success of our own policy in California for evacuating everyone early would be challenged."

The researchers acknowledged that the Australian policy may not be appropriate in many areas of California and the United States. For instance, it probably would not work in areas dominated by a high percentage of vacation homes where owners are absent much of the year.

Before adopting the policy in any part of California, it would be necessary to determine which areas in the state might be candidates for the Australian approach, said Moritz. "Such a map would take into account what we know about fire patterns, weather, age of structures and the ability to evacuate," he said. "We need the equivalent of a flood zone map for fire to better understand our own landscape and risk."

Source: University of California - Berkeley ([news](#) : [web](#))

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