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California Wildfires

Who is at Fault?

At the time of this writing, wildfires in California have burned over three and a half million acres, almost 4% of the state's 105 million acres, making this the deadliest recorded fire season in California history. Sadly, this fire season still has over three months to go until the official end in December and, hopefully, the start of the rainy season.

On a recent visit to California, the President blamed the fires on the state's failure to adequately manage its fire risk. But the wildfires, like most disasters, cannot be blamed on a single cause. The contributing causes are many and the issues complex, making the fixing of blame difficult.

Climate and Climate Change

California is essentially a desert state. While the official version is that the state is named for the goddess Califia, folklore claims that it is a corruption of the Spanish phrase, "caliente forno" or "hot furnace". While climate varies throughout the state's geographical regions, inland temperatures can exceed 100°F during the summer and the state is subject to prolonged periods of drought lasting several years.

The periods of drought are interspersed with heavy rainy seasons that spark a considerable growth of vegetation. Coupled with the warm temperatures and droughts, the result is a heavy fuel load of dead, desiccated vegetation.

Whether or not you believe in climate change, there is no doubt that temperatures in California have risen over the past hundred years. The fire season is growing longer, and high temperatures are leading to tree death and beetle infestation that increase the fuel load.

Forest Management

One of the criticisms leveled against the state of California is that its management of its forests has been inadequate. This criticism over-simplifies the complexities involved.

As a desert state, only about a third (33 million acres) of the state are forest, mainly in the higher elevations in the north, along the coastal ranges, and the eastern mountains. The rest is grassland and scrub oak, the grass being primarily a non-native species of wild oats inadvertently imported by Spanish settlers. This grassland dries out quickly and burns fast and hot, making for an extremely dangerous fuel load that is easily ignited.

State and local agencies combined only own about 3% of the state's 33 million acres of forest. The bulk, about 57%, is owned by various agencies of the federal government. The remaining 40% is owned by private companies, families, and Native American tribes. The coordination issues generated by these multiple jurisdictions was the impetus for the development of the Incident Command System in the 1970's

One of the major problems with forest management has been the federal policy of fire suppression. Following the Great Fire 0f 1910, the fledgling US Forest Service adopted a policy of complete fire suppression. This ignored forest ecology where small fires cleared undergrowth and stimulated reseeding. The result has been an increase in fuel load that produced larger and hotter fires that destroyed trees rather than stimulating regrowth. While this policy has changed and the state and the federal government are embarking on a program of controlled burns, the window for such activities is narrowing due to climate change and it will take years to correct the problem.

Wildland-urban Interface

One of the significant changes in wildland fire suppression over the past 50 years has been the development of the wildland-urban interface. As communities have expanded over the years, we have seen an increase in "at risk" communities that are adjacent to or encroaching on wilderness areas with the potential for major fires.

The presence of these communities alters the traditional attack strategy of creating a perimeter to control a fire and affects the ability to use methods such as aerial attack. Instead, fire fighters may need to conduct mass evacuations, fight structural fires, and factor in economic harm to the communities involved.

Mitigation practices have not kept pace with the increase risk of wildfires and, absent any specific code requirements, home and business owners are opting for the cheapest rather than the best mitigation options. In many cases, the codes are intended to provide time for evacuation and for the firefighters to deploy, not necessarily to prevent destruction of the home. This raises the concern that people will develop a false sense of security that might hinder their decision to evacuate.

There is, as always, a human factor involved as well. Following the 1991 Tunnel Fire in the Oakland-Berkeley hills, residents ignored recommendations to widen the roads that had severely limited the mobility of fire apparatus. Instead, many homeowners increased the size of their homes, further limiting access.

Who's to Fault?

In the end, assigning blame is an exercise in futility. From the federal policy of fire suppression and inadequate forest management to the state's building codes and local zoning ordinances, there's more than enough to go around. We have allowed people to build where they should not and allowed the use of construction that is inadequate to the risk. And this is not limited to fire risk alone. We see the same problem in flood zones.

The problem is complex, and the solutions are equally complex. It will require a coordinated effort from all levels of government and the community and will involve changes to public policy, building codes, and mitigation practices, and, in the long term, mitigating the effects of climate change.