



Prepare for larger, longer wildfires

Climate change makes land management more urgent than ever, says Kathie Dello.

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Neighbourhoods burned this week in northern California, with more than 30 people reported dead and 2,000 buildings destroyed. Downtown San Francisco is hazy with smoke from wildfires covering 465 square kilometres, more than 30 kilometres north of the Golden Gate Bridge.

Whatever the proximate cause, these should serve as reminders that climate change is not a future problem, nor a hazard just for tiny island nations. It is a problem now, and our land-management plans need to do a better job of incorporating it.

Scientists must walk a careful line when attributing specific events to climate change. Wildfires are part of a healthy ecosystem and a fact of life in the western United States. Many aspects of a landscape affect them, including past fire suppression, land use and human carelessness.

But climate change increases the threat: fires that do start are larger and last longer. Warmer summer temperatures mean more evaporation. Overall, that means drier forests during the fire season. Ironically, California's past wet winter ended a long drought, but meant that there was more vegetation to become tinder. A 2016 study showed that the fire area attributed to human-caused climate change has doubled since 1984,

largely because vegetation has dried out more. Another 2016 study found that the average area of burnt forest in the northwest United States each year from 2003 to 2012 was almost 5,000% larger than in the years 1972 to 1983, and that the fire season grew from an average of 23 days to 116 days

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over the same periods. Four other forest areas studied — the Northern Rockies, Southern Rockies, Sierra Nevada and Southwest — also saw increases in both the area burnt and the length of the fire seasons.

Talk about climate change can focus exclusively on avoiding temperature increases in the vague future. The US government's moves to pull out of the Paris climate accord and the home-grown Clean Power Plan are short-sighted, and states' and municipalities' efforts to cut their own emissions are laudable. But it's not enough. We have to manage the effects of climate change that are already here. That means recognizing that threats are increasing.

The cost of fighting US wildfires this year exceeded a staggering US\$2 billion, more than half the US Forest Service's budget. The agency has to use funds to fight fires that would otherwise go towards prevention and forest management. It needs more resources so that plans for prevention can become bolder and more expansive.

In fact, the Forest Service is incorporating some climatic adaptation into its regional plans. These include planting seedlings less densely, for instance. But we need many more plans in place, and we need to make sure that goals are met.

“We have to manage the effects of climate change that are already here.”

What does adaptation mean for wildfires? We have to manage risk even more aggressively than we have done, and incorporate greater uncertainty. We are likely to need an expansion of the areas considered to be at risk. We should avoid building in the urban–wildland interface and mandate the use of materials that

are less likely to catch fire. We can boost attempts to thin woody growth and remove brush.

A public-education component is needed as well. At the end of August, a wildfire ravaged the breathtakingly beautiful Columbia River Gorge near Corvallis, Oregon, where I live. It was probably caused by a teenager throwing a firework off a cliff during one of the hottest summers on record in the Pacific Northwest. Everyone has to realize that the consequences of foolish behaviour or bad luck (many wildfires are started by lightning) are getting worse, so prevention and mitigation are even more important.

Let's face it — adapting to a changing climate makes the already difficult task of land management even tougher. The aspects we need to manage aren't isolated — for instance, the burn scars left by the fires will be prone to landslides in the rainy season and dust storms in the summer.

Those living far from fire hazards also need to adapt. The 2014 US National Climate Assessment counts only 15 states with climate-adaptation plans, mainly concerned with flooding and saltwater hazards. The Georgetown Climate Center in Washington DC, which has been tracking progress, says that most states have completed only a few of their goals, many set nearly a decade ago, although work on others is in progress.

The irony is that catastrophes can make for better planning. We should not be afraid to talk about them. Recent events — such as the fires this summer, and the crippling five-year drought that ended in 2015 — motivate us to account for more of these events in the future. Part of my job is talking to policymakers, natural-resource managers and the general public about climate change. Contrary to stereotypes, people in rural areas in the US West are ready to discuss it.

Approaches to climate change that start off in an atmosphere of blame and aggressive policy proposals rarely stick. Instead, discussions about the land that people know provide a common ground that images of lonely polar bears on ice floes do not. There's always an entry point, and it's around shared values and solutions. That's as true in Pocatello, Idaho, as it is in Portland, Oregon.

The wildfires in northern California are horrendous. There is much to mourn. And we can bet that these and other disasters will get worse. Our planning needs to take that into account. We need to protect our livelihoods now, to help ensure better prospects for future generations.

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