

The age of the megafire

Why the forest fires raging across Europe, North America and Australia are a sign of the world to come

By Tim Flannery

This may well be remembered as the year of the megafire. The Dixie fire in California, which is still raging, is the largest single wildfire in that fire-prone state's history, while in Siberia, forest fires have broken all records for the amount of greenhouse gases they have released. The plume of smoke they generated has spread as far as the North Pole, scattering ash on the Arctic Sea ice as it goes, hastening its melting. In Canada, a place hardly known for its hot weather and fires, more than 4,900 blazes burn in British Columbia and Ontario alone, while in Europe 693 million hectares have burned – more than double the average by this time of year – and the number of fires in the continent has never been greater.

Australia, where I live, has a reputation as the land of fire. The continent has warmed by almost 1.5°C over the past century and the impact of this on fire offers a sort of window into the future for the Northern Hemisphere. Firefighting in Australia is often a family tradition, with knowledge being passed down the generations, and our firefighters have a long and detailed understanding of fire behaviour. Fifty years ago in New South Wales the fire season was well defined, occurring in the summer months. It has gradually got longer and longer, until

today it is 11 months long and almost nowhere is safe. Even temperate rainforests that have never been known to burn are now vulnerable.

I speak from personal experience when I say that a forest fire is like an angry beast. I've lost one house near Sydney to the flames, and years later successfully defended another. Waiting for days or weeks for the attack in the stifling, smoke-filled air, your precious possessions stowed in your car, ready to evacuate at the approach of an unearthly roar and towering flames, leaves an indelible psychological scar.

This summer across the Northern Hemisphere, from the Greek island of Evia to south-western Turkey, California to Russia, large numbers of people are confronting the fire-beast close-up. Some have already lost their lives, and many, many more their homes and economic security. Sadly, those people are in the vanguard of a great global change, for while there have always been forest fires, the blazes are becoming larger, the fire season longer, and the burns more damaging almost everywhere. That's because climate change has altered, in a fundamental way, the nature of wildfires.

That alteration has its origins in subtle shifts that have played out over decades, slowly building until thresholds are crossed

and fire itself is transformed. We often miss seeing the subtle changes because we're desperate to find someone to blame, and so search for an arsonist rather than the conditions that made the fire inevitable. But the sparks that light fires – whether they be dropped cigarette butts or lightning bolts – are regular occurrences. They only result in forest fires if the nearby vegetation is dried and cured into fire-fuel.

As they gauge the coming fire season, firefighters have learned to look not only at the weather forecasts, but at the forests themselves. Greater warmth means that the vegetation requires more water, and to get it trees suck moisture from the soil. When the soil is dry, the tree canopy wilts, and the shrubs and grass grow brittle. Even in mild conditions, such changes put firefighters on alert: they know that they are only one hot, windy day away from potential catastrophe.

As the fuel that feeds the fire becomes more abundant, fires are growing larger and hotter. Some become so big that they themselves alter the weather. Australia's Black Summer fires of 2020 fed on unprecedented volumes of fuel created by the driest year on record (and one of the hottest) and grew to be like no fire previously experienced. Prior to 2000, in a bad year around 2 per cent of Australia's temperate, ►