

The future has arrived. These explosive fires are our climate change wakeup call

Scientists have been warning of the growing threat of climate change, and now those projections are a reality

By **Peter Gleick** in San Francisco, the guardian.com, 11 Sept 2020



Californians woke up to red, sunless skies and layers of ash coating everything as a result of wildfires across the state. Photograph: Frederic Larson/AP

Like millions of people in the western United States this week, I woke up to deep red, sunless skies, layers of ash coating the streets, gardens, and cars, and the smell of burning forests, lives, homes, and dreams. Not to be too hyperbolic, but on top of the political chaos, the economic collapse, and the worst pandemic in modern times, it seemed more than a little apocalyptic.

Too much of the western United States is on fire, and many areas not suffering directly from fire are enveloped in choking, acrid smoke.

While fires in the west are not unusual or unexpected, these fires are different: they're earlier, bigger, and hotter than usual. They are expanding explosively, overwhelming towns and firefighting resources. And there's no getting away from them. As of Thursday evening, five of the ten largest wildfires in California's history are burning. Seven of the 10 largest fires have occurred in the last four years. This isn't normal.

What's different now? Human-caused climate change.

We're reaping the consequences of more than a century of using the thin, delicate layer of atmosphere that surrounds the planet as a dumping ground for the major waste product of burning fossil fuels – carbon dioxide. For more than half a century, scientists have been warning of the growing threat of climate change. My own work on climate and water 35 years ago found that rising temperatures would alter California's snowpack, water availability, and soil moisture in ways we're now seeing in our mountains and rivers. In the early 1990s, scientists such as Margaret Torn, Jeremy Fried, Kevin Ryan, Colin Price, and others were evaluating the risks of increases in western wildfire areas and intensity under scenarios of climate change. The National Climate Assessments required by federal law have regularly warned that worsening fires were a likely future consequence of accelerating climate change.

Projections have turned to reality. The future has arrived. What we're seeing now, with massive wildfires, worsening storms, unprecedented heat, and record droughts and floods is just the beginning of the climate changes to come. On top of rising oceans, the accelerating destruction of the Arctic ice cap, expanding water crises, and new health disasters, these climate impacts are something no human society has ever experienced and for which we remain woefully unprepared.

I'm not arguing any individual disaster has been *caused* by climate change, though the science is strengthening on that as well. I'm saying we are now seeing the unambiguous *influence* of climate change on these disasters. What used to be considered acts of God are now *also* acts of humans. Hurricanes such as Harvey in 2017 are stronger and they're delivering more devastating floods. Heat waves are happening earlier and they're longer and hotter than they used to be. California just experienced its hottest August on record including what may have been the hottest temperature ever recorded, in Death Valley. The wildfires, as we've seen, are turning into fierce, fearsome, monsters.

The influence of climate change on wildfires is easy to see. Global warming is diminishing our mountain snowpack, leading to hotter and drier summers. Eighty percent of California, 95% of Oregon, and all of Colorado, Utah, Arizona, and New Mexico are currently in drought. Severe droughts over the past decade have killed hundreds of millions of trees in our forests, adding to the fuels available to burn. Higher temperatures further dry out forest and rangeland soils. Unusual lightning storms are igniting multiple fires at a time, overwhelming our ability to squelch them early.

We're not alone. The wildfire signal of climate change is being seen around the world, in southern Europe, Canada, Australia, South America, and Africa, and other climate-change impacts are accelerating too, in the form of storms, melting glaciers, rising seas, and more.

More and more scientists are speaking out about the connections between these disasters and climate change. The media is slowly getting better at reporting these links, though too many stories still fail to do so.

It is also time for our politicians to lead or get out of the way. For decades both major political parties in the US ignored the climate problem, putting off decisions for the next generation and permitting the rich and powerful fossil fuel interests to hide, misrepresent, and deny the science and the threat. And the claim that the cost of tackling climate change is too high is complete crap. The reality is the cost of *failing* to address the problem is so much higher.

We have no more time to twiddle our collective thumbs. The bad news is that the long delay in tackling climate change means that some severe impacts, like the fires we're seeing now, are no longer avoidable and we must begin the process of adapting to them. We must, at the same time, accelerate the complete elimination of fossil-fuel combustion to slow the rate of future climate changes and prevent even worse, potentially catastrophic impacts from occurring.

The good news is that we know how to do both things. Adaptation options include changing zoning laws, forest management, construction practices and building materials, insurance policies, and public health strategies. And the amazingly fast growth in renewable energy options and the dramatic plunge in their costs means that it makes economic as well as environmental sense to get rid of fossil fuels.

The links between human-caused climate change and extreme events are real, dangerous, and worsening. But now that we're beginning to accept and acknowledge those links, now that the public is increasingly aware of the problem, now that at least one political party has embraced the need to act, we have a chance to break these links. There is no time to waste.

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