

Fire's Dust Bowl Moment



Will the huge plumes of smoke from recent wildfires prove as influential on policies as the Dust Bowl storms in the 1930s?

BY STEPHEN J. PYNE

Usually the pictures are of the fire itself. Flames are stunning and visceral, and draw the eye irresistibly. They also occur—even when engulfing the forest canopy—at a roughly human scale. The 2020 fire season’s outbreaks have served up a carnival of such images. But the more enduring visual of the year’s relentless conflagrations is likely to be smoke. Smoke in roiling vortexes.

Smoke in towering plumes, capped by pyrocumulus clouds punching through the troposphere. Smoke blanketing regions in biblical darkness. Smokelike debris flowing dense with embers, rushing over the countryside. The only comparable images might be of the dust storms that roiled the Great Plains in the 1930s.

Even fire science has taken notice. Ecology has begun to scrutinize smoke as it has fire, as an inevitable ecological presence, one that can stimulate the flowering of some plants and fumigate away pests. Recently, it has spawned a new subfield, aeropyrobiology, committed to studying how fire-powered plumes can waft microorganisms about the landscape, an atmospheric analogue to ocean currents.

Fire physics, too, has shifted from an obsession with radiation-driven flames to the role of convection in fire’s propagation. For decades, those who studied fire behavior examined the flaming fronts of surface fires pushed along by winds and terrain. But megafires have forced attention to the dominant feature of a fire, its immense wind-blown or convective-rising plume many times larger in area and geometrically vaster

by volume than the zone of flame. Fires breathe. Fires boil. Fires gush and suck, and flames—which, after all, are gases—swish and swirl in violent syncopation. Those big fires produce smoke, and those smoke-laden plumes affect the flames. Around the zone of combustion, fire makes its own weather.

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So, too, public perception of fire may be shifting. Megafires are typically remote from cities and urban areas, laying special claim to faraway landscapes, rural enclaves, public lands, and nature reserves. But in the most recent fire season, smoke fouled the air of Sydney and San Francisco, Portland and Vancouver, and

hundreds of smaller cities in a direct threat to the health of hundreds of thousands. Canberra shut down postal deliveries. Denver advised residents to consider safe rooms for shelter

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Thick smoke haze obscures the Space Needle on September 12, 2020, in Seattle, Washington. Unhealthy smoke levels throughout the western U.S. during 2020 and other bad fire seasons have yet to trigger an outcry for comprehensive federal action.

A dust storm that originated on the Great Plains enveloped the Lincoln Memorial on March 21, 1935, the same day Congress was meeting to discuss solutions to the Dust Bowl. Will smoke from distant wildfires similarly need to descend upon Washington to influence federal wildfire policy?

against the dirty air. Weather and fire forecasts included smoke maps along with fronts and red-flag warnings.

Like the dust squalls that blew out of the Plains nearly a century ago, the megapalls of today's unbounded fires testify to a profound disruption between climate and land use. In the 1930s, droughts were natural; humans contributed the loosened soils and put communities at risk. Today, humans are aggravating both climate and land. The big burns make undeniable the ways in which a legacy of unwise fire suppression, broken wildlands, careless urban sprawl, and a climate ratcheting implacably toward greater flammability have colluded to spread havoc.

And so far, those mesmerizing flames have been unable to move the public to consider the kinds of reforms required. Savage fires have swept into cities like Santa Rosa and Gatlinburg, burned over towns like Paradise, California, and Phoenix, Oregon, and dislodged postburn refugees by the tens of thousands. Yet serious reform at scale is missing. Instead, the chronicle of mass burnings of houses matches in creepy fidelity that of mass shootings and suggests that the country is willing to absorb a lot of violence and pain before it is prepared

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to act. Both conundrums seem to resist a national response. Because fire synthesizes its surroundings, it can't be tied to a single propellant or a single solution. The fires have not been enough by themselves to consolidate a response.

So, while flames and postburn wreckage have sparked lots of commentaries, they have not inspired much on-ground reform. Many of the topics implicated have been discussed for decades, among them reducing fuel buildups, rethinking exurban settlements, reversing the

ecological deterioration wrought by fire exclusion, and installing integrated fire management. Moreover, Congress has allowed the U.S. Forest Service to be hollowed out by the cost of fire suppression, and partisans have hijacked fire's vividness to animate messages that have little to do with solving actual fire-related problems.

It took years of distress on the Great Plains before the disaster deepened enough to spark a national reaction. The dust squalls gave the message a stunning visual. They filtered down on distant cities and even enshrouded the Capitol the same day Congress was hearing testimony about the issue. A regional crisis then became a national problem. It became for the New Deal both symbol and tangible expression of a broken system. The 2020 fires are not quite there yet, but their dust equivalent—the apocalyptic pall of wildfires—is no longer a remote



narrative. It is going to where the people are.

Some hopeful reformers, including CalFire Director Thom Porter, have suggested that the 2020 fire season will have the galvanizing effect of the Great Fires of 1910, which brought together a package of practice and policy for wildland firefighting that defined our dominant relationship to fire for a century. More likely, if a new rally point emerges, the geodetic marker drawn from history will be the dust storms that boiled out of the parched and sod-busted grasslands of the Great Plains.

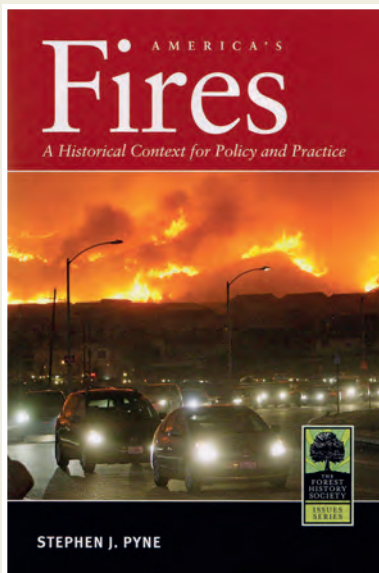
This year's smoke changed the story. It changed the optics: fire is vivid, specific, but smoke can drift across continents and encircle the world (as Australia's did). It changed the calculus of damages: the fires killed relatively small numbers of people, but the second-hand smoke

that saturated the atmosphere and socked in valleys like a killer fog threatened millions. It changed the narrative. The theme is no longer about feckless westerners who build houses where there are fires but about fires going to where the people are, about smoke whose writhing tendrils can reach communities a thousand miles away. Smoke changed the audience and the possibly the politics. In an eerie way, those spreading palls made manifest—projected outward—the sense of gloom and foreboding of lives unsettled by a pandemic. Instead of obscuring, smoke made unblinkingly clear the magnitude of humanity's troubled relationship with fire.

In the Dirty Thirties, dust became the emblem of a cruel interplay of economics and environment, a national malaise in which American society and American land were

profoundly out of whack. Today, the smoke plumes tell much the same tale. Then, apologists could point to bad luck, as a natural rhythm of droughts met a thoughtlessly advancing plow. Now, even the worsening climate is our doing. The megaplumes blowing through the West today may prove as influential as the dust storms then. It's early days still, but the Blowout of 2020 may become American fire's Dust Bowl moment.

Stephen J. Pyne is an emeritus professor at Arizona State University and the author of many books, including [Between Two Fires: A Fire History of Contemporary America](#). He discussed the "Pyrocene" in his presentation for the 2020 Lynn W. Day Distinguished Lectureship in Forest and Conservation History, available on the [Forest History Society's website](#).



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by Stephen J. Pyne

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