WILDFIRES ARE A CLIMATE CHANGE WAKE-UP CALL



Wildfires are increasing in frequency, size and severity, raging across Canada, and burning from Australia to Europe and from the Arctic to South America. What will it take to wake us up to the need to address climate change? Fires and floods have always been here and are often nature's way of renewing ecosystems — but with global temperatures on the rise, the need to reduce wildfire risk is more critical than ever. Fires also emit CO2, exacerbating climate change. Boreal forests in Canada and Russia store large amounts of carbon and help regulate the climate, but they're especially vulnerable to wildfires. Today's more intense and more frequent record-breaking wildfire seasons are a wake-up call. If we are serious about our commitments, we can't build more pipelines, expand oil sands, continue fracking or exploit Arctic and deep-sea oil.

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In the western U.S., annual average temperatures have increased by 2 C and the fire season has grown by three months since the 1970s, leading to "new era of western wildfires," according to a recent study led by University of Colorado Boulder wildfire experts, published in *Proceedings of the National Academy of Sciences*.

Climate change doesn't necessarily start the fires — lightning, unattended campfires, carelessly tossed cigarette butts and sparks from machinery are major causes — but it creates conditions for more and larger fires. Lightning, which causes up to 35 per cent of Canada's wildfires and is responsible for 85 per cent of the area burned annually, increases as temperatures rise, with studies showing 12 per cent more lightning strikes for each degree Celsius of warming.

Drier, shorter winters and earlier snowmelt extend fire seasons. As the atmosphere warms, it holds more moisture, some of which it draws from forests and wetlands, and increasing precipitation is not enough to offset the drying. This means fuel sources ignite more easily and fires spread faster over greater areas. Outbreaks of pests such as mountain pine beetles — previously kept in check by longer, colder winters — have also killed and dried forests, adding fuel to the fires. Because trees and soils hold moisture on slopes, fires can also increase the risk of flash floods when rains finally arrive.

We are losing valuable resources and ecosystems. Health impacts from smoke put people — especially children and the elderly — at risk and drive health care costs up. Wildfires now kill more than 340,000 people a year, mainly from smoke inhalation.

Suggested solutions are wide-ranging. The authors of the PNAS study recommend letting some wildfires burn in areas uninhabited by people, setting more "controlled" fires to reduce undergrowth fuels and create barriers, thinning dense forests, discouraging development in fire-prone areas and strengthening building codes.

These adaptive measures are important, as are methods to prevent people from sparking fires, but our primary focus should be on doing all we can to slow global warming. According to NASA, Earth's average surface temperature has risen by 1.1 C since the late 19th century, with most warming occurring over the past 35 years, and 16 of the 17 warmest years occurring since 2001. Eight months of 2016 were the warmest on record. Oceans have also been warming and acidifying quickly, Arctic ice has rapidly decreased in extent and thickness, glaciers are retreating worldwide, and sea levels have been rising at an accelerating pace. Record high temperature events have been increasing while low temperature events have decreased, and extreme weather events are becoming more common in many areas. © 2023 David Suzuki Foundation.