



Global Warming and California Wildfires

California Climate Choices

A Fact Sheet of the Union of Concerned Scientists

WILDFIRES ARE A MAJOR environmental hazard that have historically cost California more than \$800 million each year and contribute to “bad air days” throughout the state. The more global warming pollution that is emitted into the atmosphere, the more wildfires we can expect to see in California.

More Wildfires Expected

If average statewide temperatures rise to the medium warming range (5.5 to 8°F), the risk of large wildfires in California is expected to increase about 20 percent by mid-century and 50 percent by the end of the century. This is almost twice the wildfire increase expected if temperatures are kept within the lower warming range.

Along with temperature, wildfires are determined by a variety of factors, including precipitation. Because of this, future wildfire risk throughout the state will not be uniform. For example, a hotter, *drier* climate could increase the flammability of vegetation in northern California and promote up to a 90 percent increase in large wildfires by the end of the century. A hotter, *wetter* climate would also lead to an increase in wildfires in northern California, but to a

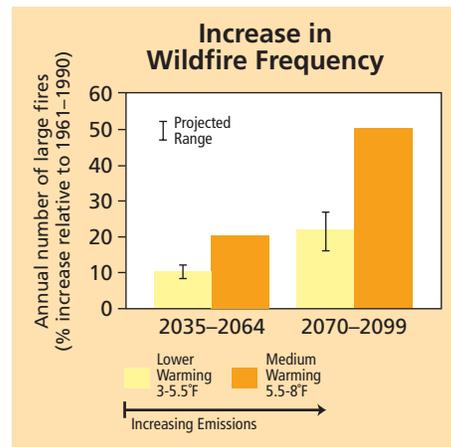
lesser extent—about a 40 percent increase by century’s end.

More “Bad Air Days”

Wildfire smoke produces small soot particles, which can cause or aggravate cardiovascular and respiratory illness and lead to premature death. For example, the wildfires that burned nearly three-quarters of a million acres in southern California in 2003 caused particulate matter (soot) to increase four to five times above normal levels throughout the southern part of the state. Five million people were exposed to dangerous levels of air pollution for at least two days during the fires, and nearly two million were exposed for five days in a row.

Wildfire Costs Expected to Increase

If global warming emissions continue unabated and temperatures rise into the higher warming range, property damage costs from California wildfires could increase as much as 30 percent toward the end of the century. This estimate is conservative because it assumes population and land-use patterns are held constant at 2000 levels, even though the state’s popu-



lation is expected to grow from 36 million today to more than 55 million by 2050. Furthermore, other fire-related costs such as fire prevention and suppression, health effects of fire-related pollution, flooding, mudslides, altered recreation opportunities, and loss of timber were not included.

Because most global warming emissions remain in the atmosphere for decades or centuries, the choices we make today greatly influence the climate our children and grandchildren inherit. We have the technology to increase energy efficiency and significantly reduce emissions from energy and land use. We must act now to avoid the dangerous consequences of global warming and help ensure a high quality of life for future generations. ■



If global warming emissions are not substantially reduced, large wildfires in California are projected to increase 55 percent.

AP Photo/Anne Chadwick-Williams

SOURCES

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