Global Warming and California's Public Health

California Climate Choices

A Fact Sheet of the Union of Concerned Scientists

MORE THAN 90 PERCENT OF California's population lives in areas that fail to meet the state's air quality standards for ground-level ozone ("smog") or particulate matter ("soot"). Exposure to these pollutants can cause or exacerbate acute respiratory diseases, decreased lung function in children, asthma, and other serious health problems.

Unhealthy Air Made Worse

Continued global warming is expected to exacerbate air quality problems by increasing the frequency, duration, and intensity of conditions conducive to air pollution formation. If temperatures rise to the medium warming range (5.5 to 8°F), the number of days with weather conducive to smog formation is expected to rise by 75 to 85 percent in Los Angeles and the San Joaquin Valley—areas where the air is already the dirtiest in the nation. This is more than twice the increase expected if temperature rise is kept to the lower warming range (3 to 5.5°F). Furthermore, if temperatures rise into the medium warming range the risk of wildfires is expected to increase by as much as 50 percent, which would further worsen air quality by elevating soot levels.

Extreme Heat

If global warming continues unabated, causing temperatures to rise into the higher warming range (8 to 10.5°F), statewide summer temperatures in California are projected to rise as much as 9 to 18°F. Heat waves will become more common and more severe, and the number of days with temperatures above 90°F in Los Angeles and 95°F in Sacramento are expected to increase by about 100 days toward the end of the century.

As temperatures rise, California's population will face greater risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress.

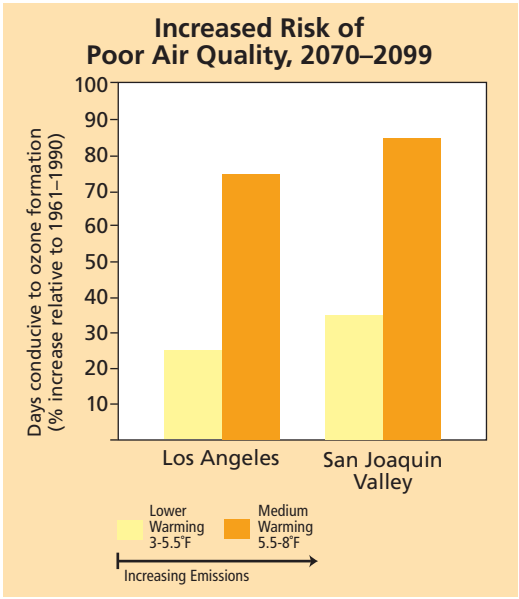
By mid-century, extreme heat events in urban centers such as Sacramento, Los Angeles, and San Bernardino are projected to cause two to three times as many heat-related deaths as there are today.

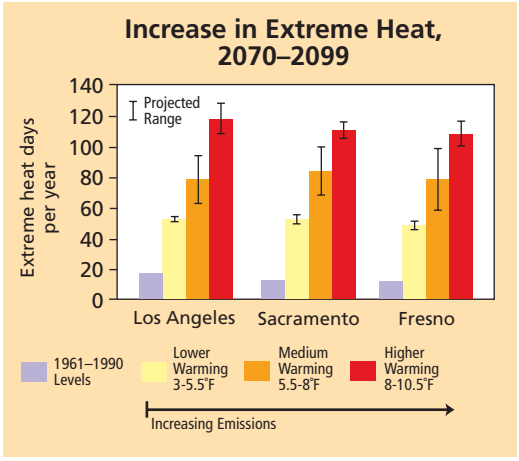
Those most vulnerable to heat-related problems include people who are already ill, the elderly, and the poor, who may lack the sufficient access to air conditioning and medical assistance. Paradoxically, while expanding air conditioner use can help improve society's ability to cope with extreme heat, it will also lead to increased costs as well as increased energy consumption, which—based on today's energy mix—would contribute to further global warming and worsening air quality.

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. ■

AP Photo/Nick Ut

Global warming is expected to more than quadruple the number of extreme heat days in large cities.





SOURCES

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Westerling, A., and B. Bryant. 2006. *Climate change and wildfire in and around California: Fire modeling and loss modeling.* California Climate Change Center report. Online at *www.energy.ca.gov/2005publications/ CEC-500-2005-190/CEC-500-2005-190-SF.pdf*.

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