



CLIMATE CHANGE IN CALIFORNIA: THE FUTURE HAS ARRIVED

Climate change is not a far off threat -- the impacts are already being felt in California and they're going to get steadily worse in the coming decades.

For more than a generation, scientists have predicted that climate change caused by human activity will result in more frequent and intense heat waves, escalating severity of weather events, accelerated sea level rise, and a growing public health crisis. For California, these are no longer just predictions – the harmful effects of climate change are all around us. Here are just a few of the climate impacts we are already seeing in California:

Frequent and Intensifying Heat Waves: 164 Californians died during the July 2006 heat wave, along with more than 25,000 cattle and 700,000 farmed fowl.ⁱ This is a harbinger of what's to come over the next 20-60 years. Heat waves in just Los Angeles alone have more than tripled over the past 100 years.ⁱⁱ Since 1980, nighttime temperatures have increased about three times as much as daytime temperatures, resulting in lower wheat, maize and barley yields. Researchers anticipate that extreme heat waves will be commonplace by 2039.ⁱⁱⁱ

Escalating Water Crisis: Climate change has started to drastically alter California's snowpack, sea level, and river flows -- all essential to our state's fresh water supplies. Droughts are now commonplace and scientists predict a permanent drought by 2050 throughout the Southwest.^{iv} Over the next 40 years, we're likely to see a loss of at least 25 percent of the Sierra snowpack (up to 90 percent by century's end), which provides as much as 65 percent of California's fresh water.^v San Francisco Bay's sea level rose by seven inches in the 20th century, and new findings indicate that in a business-as-usual scenario California sea level may rise by as much as five feet this century.^{vi} According to the Pacific Institute, the resulting floods and storm damage along California's coastline threaten 55 health care facilities, 140 schools and 58 power and wastewater treatment plants.^{vii} The impacts will be felt by every Californian working and living along the coast, ranging from public sector workers and teachers to business owners and seniors.

Frequent and Intensifying Wildfires: In October 2007, California wildfires forced more than 900,000 people in Southern California to evacuate, making it the largest evacuation in California history and the largest evacuation caused by fire in United States history.^{viii} According to U.S. Forest Service Chief Gail Kimbell, wildfires are "burning hotter and bigger, becoming more damaging and dangerous to people and to property. Each year the fire season comes earlier and lasts longer."^{ix} By 2050, the number of large wildfires in California is projected to increase by 12-53 percent, with wildfire burn areas expected to sharply increase — as much as 175 percent.^x According to Thom Porter, staff chief at CAL-FIRE, if fires continue to increase and water

resources dry up due to climate change “we could see all of society have to move from certain areas.”^{xi}

Escalating Public Health Crisis: Health experts maintain that climate change now poses the largest threat to human health in the 21st century. Climate-linked infectious disease tolls are expected to double globally by 2030.^{xii} Increases in the number, length and severity of heat waves will dramatically raise the risk of heat stroke, heart attack, and severe dehydration, particularly among elderly, children, ethnic minority and farm worker populations. The public health sector in California faces \$3.8 billion to \$24 billion in additional annual costs associated with climate change impacts. All this will put huge stress on an already struggling healthcare system and its workers^{xiii}

Irreparable Damage to National Parks in California: Due to rising temperatures, the dramatic snow covered peaks of Yosemite could soon be barren in the summers. Six glaciers in Yosemite have decreased in size between 31 and 78 percent over the past century. At the same time, Joshua trees – which need winter freezes to flower and produce seed – are predicted to be all but gone from Joshua Tree National Park by the end of the century. The trees are struggling to withstand warm winters and summer temperatures already averaging 100 degrees Fahrenheit. And all 59 miles of coastline within the Golden Gate Recreational Area are vulnerable to sea level rise that could completely inundate beaches.^{xiv}

The Outlook is Not Improving: Last year MIT scientists reported that global warming could be twice as bad as forecasts estimated just six years ago. With new data flooding in month after month, the “worse case scenario” is now looking worse and worse.^{xv}

For More Information, contact the BlueGreen Alliance at www.bluegreenalliance.org or the Labor Network for Sustainability at www.labor4sustainability.org.

The BlueGreen Alliance (BGA) is a national, strategic partnership between labor unions and environmental organizations dedicated to expanding the number and quality of jobs in the green economy. It was founded in 2006 by the United Steelworkers (USW) and the Sierra Club and now includes Communications Workers of America (CWA), Natural Resources Defense Council (NRDC), Service Employees International Union (SEIU), National Wildlife Federation (NWF), Laborers' International Union of North America (LIUNA), Union of Concerned Scientists (UCS), Utility Workers Union of America (UWUA), American Federation of Teachers (AFT), Amalgamated Transit Union (ATU), Sheet Metal Workers' International Association and the United Auto Workers.

Labor Network for Sustainability is dedicated to engaging trade unions, workers and their allies to support economic, social, and environmental sustainability. LNS provides a community for those in the labor and sustainability environmental movements and their allies who care about economic justice, ecology, and equality. Its members are helping labor become a force for advancing worker interests –while advancing the broader social good.

Paid for by the BlueGreen Alliance Committee Against Proposition 23
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Endnotes:

ⁱGershunov, Alexander, et. al, "The Great 2006 Heat Wave Over California and Nevada: Signal of an Increasing Trend," *American Meteorological Society Journal of Climate*, 2009, p.3.

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ⁱⁱTamrazian, Arbi, et al., "Heat Waves in Southern California: Are They Becoming More Frequent and Longer Lasting?" *Association of Pacific Coast Geographers Yearbook*, 2008, p. 59.

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ⁱⁱⁱShwartz, Mark, "Heat Waves Could Be Commonplace in US by 2039", *Science Daily*, 2010.

<http://www.sciencedaily.com/releases/2010/07/100708122617.htm>

^{iv}Seager, Richard, et al., "Model Projections of an Imminent Transition to a More Arid Climate in Southwestern North America" *Science*, 2007, Vol. 316, no. 5828, pp. 1181-1184.

<http://www.sciencemag.org/cgi/content/short/316/5828/1181>

^vCA Department of Water Resources, "Climate Change In California Fact Sheet", 2007.

<http://www.water.ca.gov/climatechange/>

^{vi}California Natural Resources Agency, "California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008", 2009.

^{vii}Heberger, Matthew, et al., "The Impacts of Sea-Level Rise on the California Coast, California Climate Change Center, August 2009.

<http://www.energy.ca.gov/2009publications/CEC-500-2009-024/CEC-500-2009-024-F.PDF>

^{viii}Mike Nizza, "Tracking the California Wildfires" *New York Times*, October 25, 2007.

<http://thelede.blogs.nytimes.com/2007/10/25/tracking-the-california-wildfires-thursday/>

^{ix}Fimrite, Peter, "Climate Change: Hotter World May Fan Flames", *San Francisco Chronicle*, October 25, 2007.

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<http://listserv.energy.ca.gov/2008publications/CEC-500-2008-071/CEC-500-2008-071.PDF>

^{xi}Public Service Announcement by Thom Porter, CAL-FIRE Chief of Staff, December 2009.

<http://www.youtube.com/watch?v=59dfjFFZncw>.

^{xii}Eilperin, Juliet, "Climate Shift Tied to 150,000 Fatalities", *Washington Post*, November 17, 2005.

<http://www.washingtonpost.com/wp-dyn/content/article/2005/11/16/AR2005111602197.html>

^{xiii}*Ibid*, p. 110

^{xiv}Western National Parks Endangered by Climate Disruption, Stephen Saunders and Thomas Easley, *The Rocky Mountain Climate Organization and Natural Resources Defense Council*, July 2006.

^{xv}"Global Warming Could be Twice As Bad As Forecast" *Reuters*, May 19, 2009.

<http://www.reuters.com/article/idUSTRE54I6PF20090519>