



The Challenge

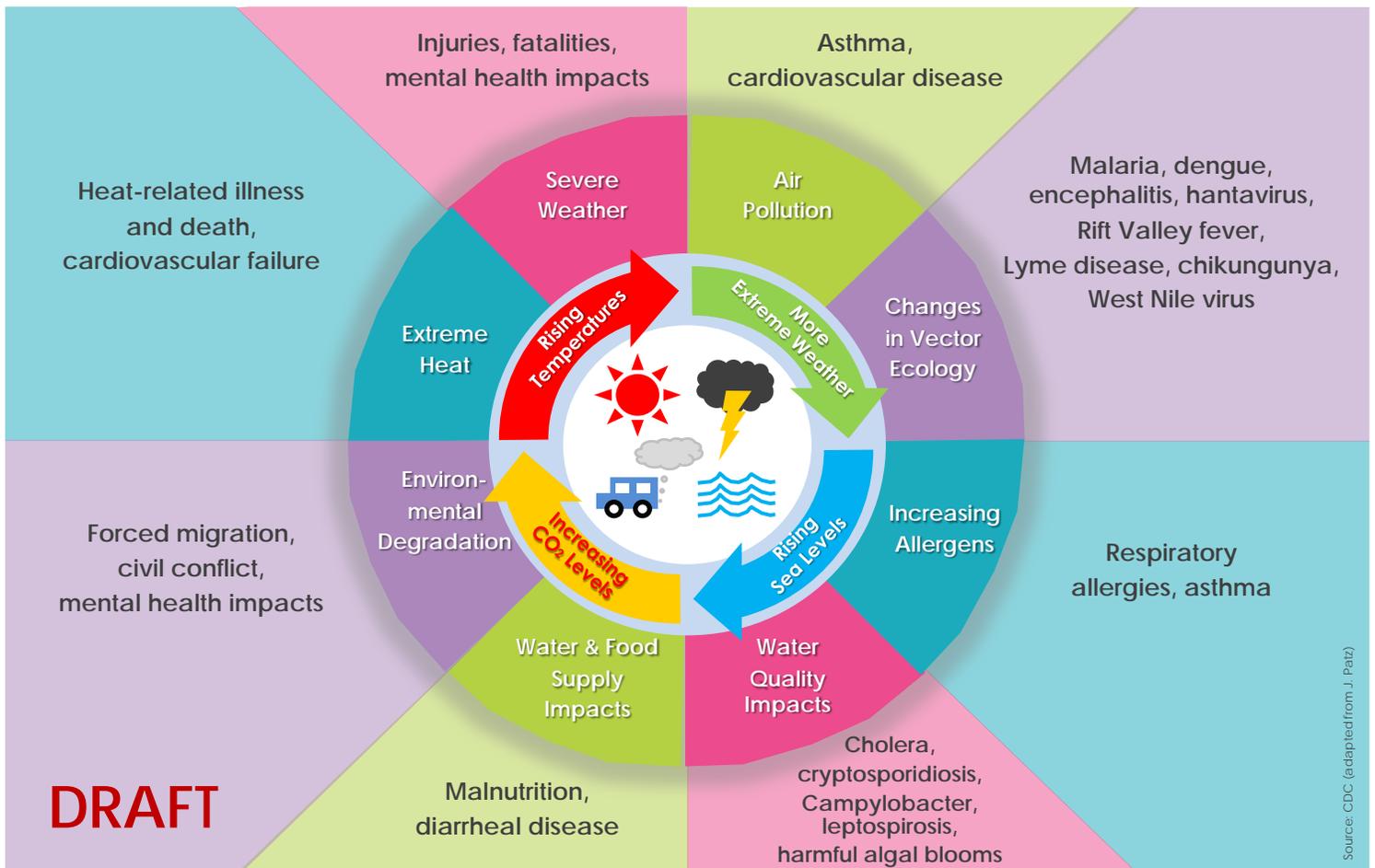
Climate change threatens the health and well-being of California's diverse population of nearly 38 million people. The impacts of climate change are wide-ranging and already being felt in California.¹ Public health engagement in climate change is extremely important to ensure that climate action strategies promote optimal health and reduce health inequities.² The good news is, many actions that help limit climate change also improve the health of our families and communities.

"For public health, climate change is the defining issue for the 21st century."

—Margaret Chan,
World Health Organization⁵

Climate Change & Health Impacts

Climate change impacts health through a variety of environmental changes including more extreme heat and other severe weather events, a decline in air quality, more frequent wildfires, increases in allergens, and altered environmental conditions that foster the spread of communicable and other diseases. Climate change also threatens the basic life support systems on which humans depend – our water, food, shelter and security. The resulting human health impacts are varied and include increases in the risk and occurrence of asthma, allergies and other respiratory ailments, cardiovascular disease, vector-borne diseases, mental health impacts, civil conflicts and migrations, malnutrition, injuries, and heat-related illness and death.^{1,3} These challenges are disproportionately impacting the state's most vulnerable populations and require mobilization of communities along with state and national strategies to enhance understanding of climate change and lessen its harm to the health of Californians.⁴



DRAFT

Source: CDC (adapted from J. Patz)



Disproportionate Effects of Climate Change

Climate change poses immense challenges for achieving health equity because, while all Californians are impacted by climate change, populations that are socially and economically vulnerable bear a disproportionate burden. Low-income families, some communities of color, those with existing health conditions such as chronic diseases and mental health problems, children and seniors, the homeless, outdoor workers and farmers, immigrants, tribal nations, and isolated people are most vulnerable to the impacts of climate change.^{1,7} These are often the same communities where residents are less likely to have air conditioning, more likely to have one or more chronic conditions, and less likely to own cars to escape from natural disasters and extreme heat.⁷

Climate change will magnify existing health inequities.

A Closer Look: Heat Waves

Climate change results in more severe and frequent heat waves that last longer and occur earlier in the season. Prolonged exposure to extreme heat can result in heat stress, heat exhaustion, heat stroke, or even death. During the 2006 California heat wave, there were 655 excess deaths, 16,166 excess emergency department visits, and 1,182 excess hospitalizations. This cost California \$133 million in health-related costs, along with agricultural losses exceeding \$1 billion. Children, the elderly, African Americans, farm workers and people with low incomes were at greatest risk.⁸



Climate Action In California

California is a national leader in addressing climate change, with statewide policies built upon the best available scientific understanding and ongoing climate research. California has passed some of the nation's strongest legislation to mitigate and adapt to the impacts of climate change. The **Climate Action Team (CAT)** coordinates statewide climate change efforts.⁹ As state health officer, Dr. Karen Smith represents the California Department of Public Health (CDPH) on the multi-agency CAT.

In April of 2015, Governor Edmund G. Brown Jr. issued **Executive Order B-30-15** to establish a California greenhouse gas (GHG) reduction target of 40 percent below 1990 levels by 2030. The Executive Order also requires that the state's adaptation strategy, *Safeguarding California*, is updated every 3 years; identifies vulnerabilities to climate change by sector or regions; outlines primary risks to residents, property, communities and natural systems; and establishes a process for agency coordination.

Key Legislation

California Global Warming Solutions Act of 2006 (AB 32): Requires California to reduce greenhouse gas emissions to 1990 levels by 2020, an estimated 15% reduction. The bill implemented a cap-and-trade or emissions trading system in the state.¹⁰

Greenhouse Gas Reduction Fund (SB 535): Requires setting aside 25% of the money from cap and trade revenues to mitigate climate change in disadvantaged communities.¹¹

Sustainable Communities and Climate Protection Act of 2008 (SB 375): Requires each of the State's 18 metropolitan planning organizations (MPO s) to create a Sustainable Communities Strategy that combines land use and transportation planning to decrease vehicle miles traveled and reduce greenhouse gas emissions.¹²

Clean Energy and Pollution Reduction Act of 2015 (SB 350): Requires 50% of California's utility power to come from renewable energy and a 50% increase in energy efficiency in buildings, both by 2030.¹³

Climate Change Adaptation (SB 246): Establishes the Integrated Climate Adaptation and Resiliency Program, administered by the Office of Planning and Research (OPR) to coordinate regional and local efforts to adapt to the impacts of climate change.¹⁴

Climate Change & Health Equity at CDPH

There are opportunities to incorporate health equity into the state's efforts to address climate change through CDPH's Climate Change and Health Equity Team, which is based in the Office of Health Equity (OHE).⁴ The Team works with local, state and national partners to assure that actions taken to reduce greenhouse gas emissions (**mitigation**) and actions taken to prepare for the challenges brought by climatic changes (**adaptation**) have beneficial effects on health while not exacerbating already existing unfair and preventable differences in health status of some groups (**health inequities**).

"The health community has a vital part to play in accelerating progress to tackle climate change. ...A public health perspective has the potential to unite all actors behind a common cause—the health and well-being of our families, communities, and countries."

— The Lancet Commission 2015⁶



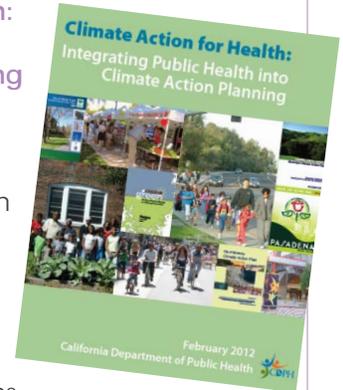
Climate Change & Health Equity at CDPH (continued)

The Climate Change and Health Equity Team works with local, state and national partners in the following areas:

- Supporting local health departments in climate and health planning
- Promoting health co-benefits of climate action
- Developing climate and health communication strategies
- Evaluating health effects of mitigation strategies
- Preparing adaptation plans for the state
- Working with other state agencies to assure that health and equity are considered in California 's climate planning
- Engaging with community groups working to promote health equity and environmental justice

Climate Action for Health: Integrating Public Health in Climate Action Planning

In February 2012, CDPH developed a guide to assist local planners and public health agencies in incorporating targeted health elements into climate action plans and achieve health co-benefits while reducing greenhouse gas emissions (see next page for link to guide).



Local Partner: San Luis Obispo County

In August of 2014 CDPH and San Luis Obispo County Public Health Department launched the **OutsidIn SLO** “We Take Health and Climate Change Personally” pilot. It was designed to highlight the co-benefits between climate change mitigation and health promotion.



Key Activities

- **Climate Action Team Public Health Workgroup (CAT-PHWG):** CDPH co-chairs the Public Health Workgroup of the California Climate Action Team, which addresses cross-cutting issues related to climate change and health. The Workgroup is responsible for providing public health input into the AB 32 implementation process, as well as other public health issues related to climate change mitigation and adaptation. Quarterly public meetings are held in Sacramento and by webcast. For more details, please visit: <http://www.arb.ca.gov/cc/ab32publichealth/ab32publichealth.htm>.
- **Climate and Health Education and Communications:** The Climate and Health Team works to expand awareness and knowledge of the health impacts of climate change and how climate mitigation and adaptation strategies can be integrated with efforts to promote healthy and sustainable communities and protect vulnerable populations. The Team also works on development of climate and health communication strategies and messages. Trainings and technical assistance are provided to local health departments and other stakeholders.
- Please visit the CDPH Climate Change and Health Equity webpage for more information: <http://www.cdph.ca.gov/programs/Pages/ClimateChange.aspx>.



Climate Change & Health Equity at CDPH (continued)

The CDPH Climate Change and Health Equity Team’s mitigation efforts center around strategies and programs aimed at **reducing greenhouse gas emissions** while advancing the goals of the Office of Health Equity in statewide climate change plans and actions and collaborating with and supporting stakeholders to reduce health disparities and inequities related to climate change.

Health is a strong motivator for climate action

Climate & Health Co-Benefits

Many strategies for reducing greenhouse gas emissions also have a beneficial effect on health and quality of life. These co-benefits make actions for climate protection a “win-win”. Health benefits include a reduction in obesity, some chronic diseases, respiratory illnesses, injury, and improved community cohesion and mental health.¹⁵

Co-Benefits of Active Transportation:

- Reducing GHG emissions from transportation by shifting away from automobiles and towards active transportation (walking, biking and using public transportation) is one climate mitigation strategy that can provide additional health benefits through increasing physical activity.¹⁶
- Integrated Transportation and Health Impact Modeling (ITHIM) assesses the health benefits of climate mitigation strategies of shifting commuter travel from personal passenger vehicles to walking and bicycling and/or to electric vehicles and biofuels (low carbon driving). For more information, see: http://www.cdph.ca.gov/programs/Documents/ITHIM_Summary%20Page.pdf.

Strategy to Reduce GHG Emissions	Potential Health Co-Benefits
Reduced vehicle miles traveled (VMT) <ul style="list-style-type: none"> ● Active transportation (walking, biking, transit) 	<ul style="list-style-type: none"> ● Increase physical activity ● Reduce chronic disease ● Improve mental health ● Reduce air pollution
Reduce emissions through land use changes <ul style="list-style-type: none"> ● Transit oriented and infill development 	<ul style="list-style-type: none"> ● Increase physical activity ● Reduce chronic disease ● Increase access to services ● Enhance safety
Reduce energy intensity in local food systems <ul style="list-style-type: none"> ● Buy local, farmer’s markets, gardens, reduce consumption of red and processed meats 	<ul style="list-style-type: none"> ● Increase access to healthy and fresh foods ● Reduce saturated fats ● Reduce air pollution ● Increase social cohesion ● Increase resilience
Urban greening <ul style="list-style-type: none"> ● Tree planting, parks, green infrastructure 	<ul style="list-style-type: none"> ● Reduce temperature and urban heat island effect ● Reduce air pollution ● Reduce noise
Reduce residential building energy use <ul style="list-style-type: none"> ● Energy efficiency, weatherization 	<ul style="list-style-type: none"> ● Reduce energy costs ● Promote healthy homes ● Create local green jobs ● Promote cooler communities

Adapted from CDPH’s *Climate Action for Health: Integrating Public Health into Climate Action Planning* (see link below).

Further Reading:

- Climate Action for Health: Integrating Public Health into Climate Action Planning: http://www.cdph.ca.gov/programs/CCDPHP/Documents/CAPS_and_Health_Published3-22-12.pdf.
- Health Co-Benefits of Transportation-Related Reductions in GHG Emissions in the Bay Area (Technical Report): http://www.cdph.ca.gov/programs/CCDPHP/Documents/ITHIM_Technical_Report11-21-11.pdf.



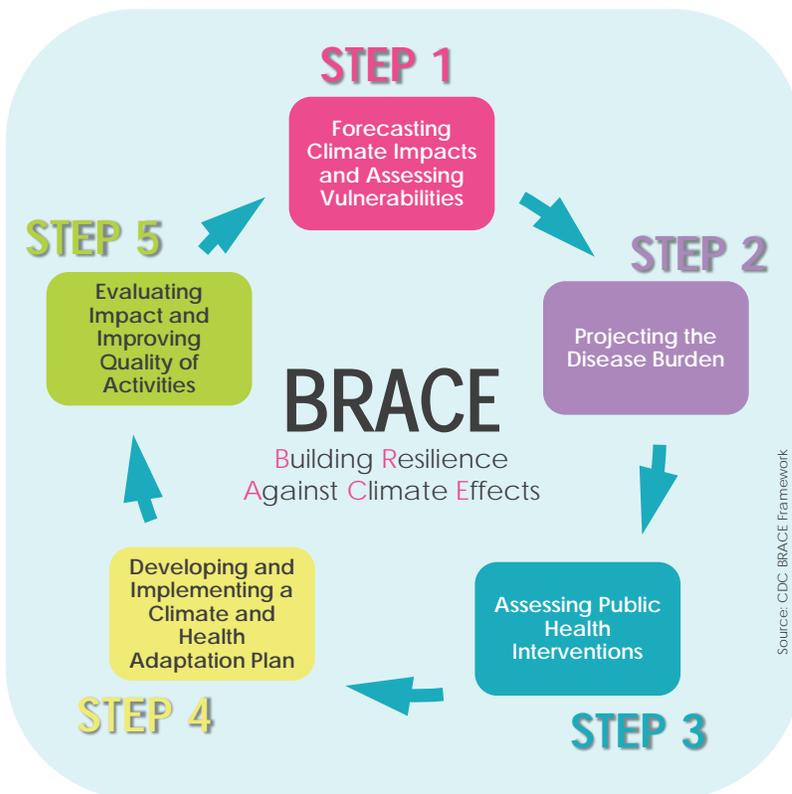
Climate Change & Health Equity at CDPH (continued)

The adaptation work of the CDPH Climate Change and Health Equity team focuses on strategies and programs centered on *adapting to the impacts of climate change* while addressing and reducing health disparities and inequities related to climate change. The Team works to help California communities prepare for and increase their resiliency in the face of climate change and public health impacts. Two programmatic initiatives related to climate adaptation are highlighted below.

- **California Climate Adaptation Strategy – “Safeguarding California” Plan:** CDPH is the Public Health sector lead and author of the Public Health chapter of the Safeguarding California adaptation strategy and implementation plan. For details of the plan, please see the California Natural Resources Agency webpage here: <http://resources.ca.gov/climate/safeguarding/>.

“Health equity and environmental justice are important goals in the state’s climate mitigation, adaptation and resilience planning efforts.”
—Safeguarding California

- **California Building Resilience Against Climate Effects (CalBRACE):** Funded by the CDC, CalBRACE provides resources and technical assistance for local public health departments to help them build their climate adaptation capacity and enhance resilience at the local and regional levels. Local health departments receive assistance to develop and expand their efforts to address climate change risks and actively participate in cross-sector climate adaptation planning. For additional information, please visit: <http://www.cdph.ca.gov/programs/Pages/CalBRACE.aspx>.



References

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- ^{9b} <https://www.gov.ca.gov/news.php?id=18938>
- ¹⁰ Assembly Bill 32 Overview. California Environmental Protection Agency Air Resource Board Website. <http://www.arb.ca.gov/cc/ab32/ab32.htm>.
- ¹¹ SB-535 California Global Warming Solutions Act of 2006: Greenhouse Gas Reduction Fund. California Legislative Information Website. http://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=2011201205B535.
- ¹² <http://www.climatechange.ca.gov/state/legislation.html>. Accessed November 2015.
- ¹³ http://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=2015201605B350. Accessed November 2015.
- ¹⁴ http://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=2015201605B246. Accessed November 2015.
- ¹⁵ Gould S, MPH, Dervin K, MPH. Climate Action for Health: Integrating Public Health into Climate Action Planning; 2012.
- ¹⁶ Maizlish N, Woodcock J, Co S, Ostro B, Fanal A, Fairley D. Health Co-benefits and Transportation-Related Reductions in Greenhouse Gas Emissions in the San Francisco Bay Area. *American Journal of Public Health* 2013.



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