

Using CalBRACE data and reports to identify populations vulnerable to heat

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Outline

- **Overview of CalBRACE Reports**
- **Heat Data in CalBRACE Reports**
- **Identifying Vulnerable Populations using CalBRACE Reports**

CaIBRACE Reports

Tools to Accelerate Adaptation Planning for County Public Health Departments

58 Climate Change and Health Profile Reports

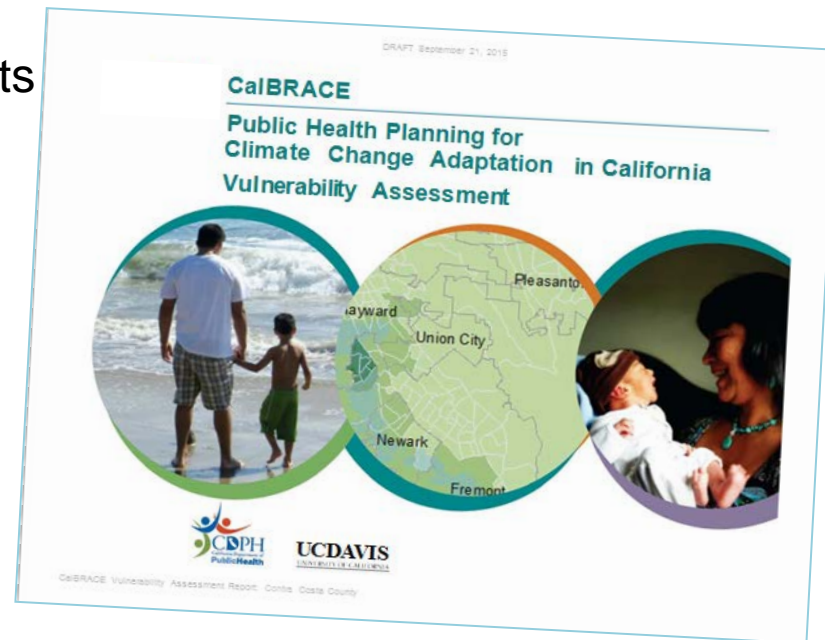
Overview of climate change impacts:

- Climate change projections and health impacts
- Current health status and health inequities

11 Vulnerability Assessment Reports

Identifies places and populations:

- Descriptive narratives, tables, and charts
- 22 indicators of environmental exposure, population sensitivity, and adaptive capacity



CalBRACE Climate Change & Health Profile Reports

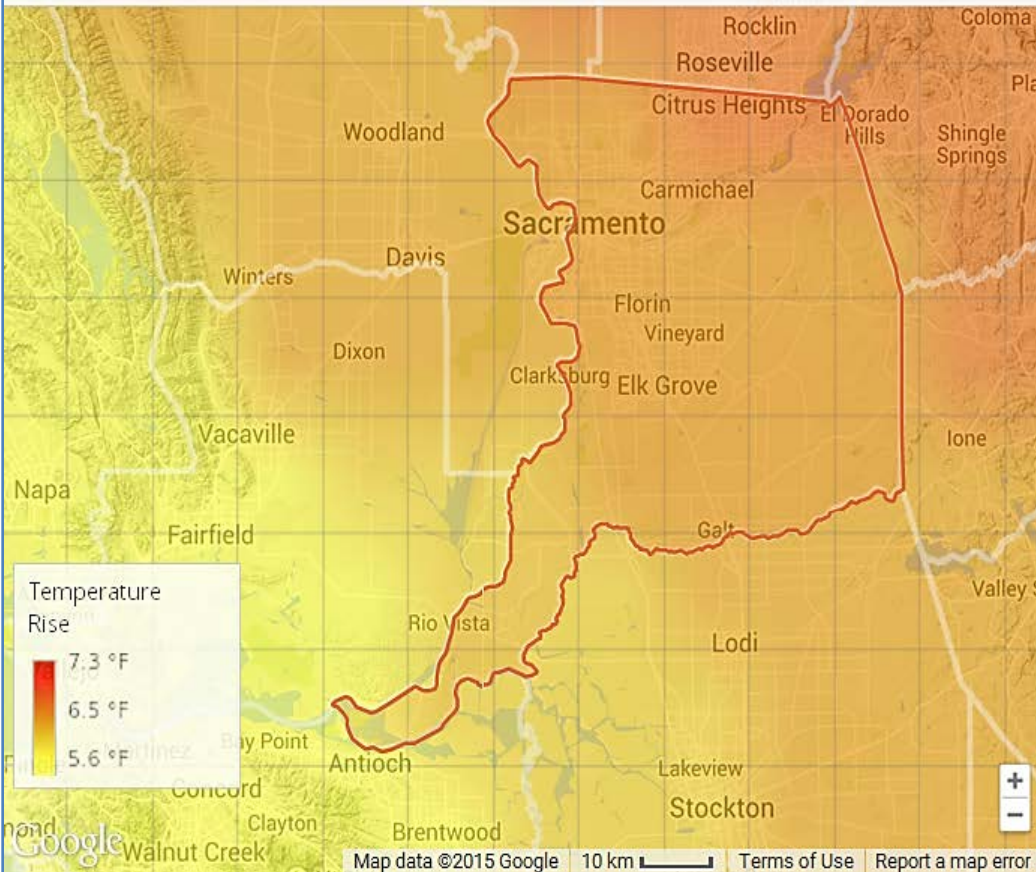
Heat data included in report:

Scale	Heat-Related Data	Year	Data Source
Region	Projected increase in temperature	2050, 2100	Scripps Institute of Oceanography (cal-adapt.org)
Region	Projected increase in heat waves	2050, 2100	Scripps Institute of Oceanography (cal-adapt.org)
County	Map of projected increase in temperature	2099	Scripps Institute of Oceanography (cal-adapt.org)
County	Annual heat-related emergency room visits per 100,000	2005-2010	CDPH Environmental Health Tracking Program
County	Prevalence of multiple chronic conditions, asthma, and obesity	2011-2012	California Health Interview Survey (CHIS)

CalBRACE Climate Change & Health Profile Reports

Temperature

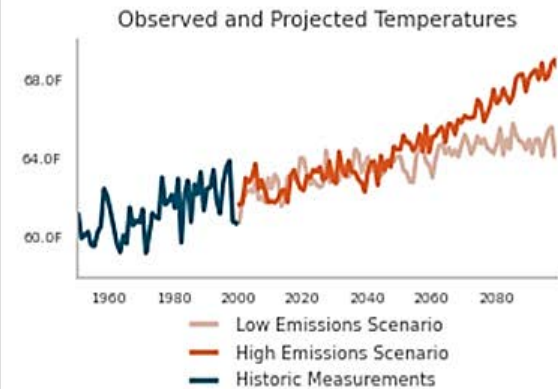
Projected changes in annual average temperatures for the high emissions scenario



SACRAMENTO COUNTY

The information in the chart below corresponds to the selected area on the map (outlined in orange).

Historical Average	61.3 °F	
Low-Emissions Scenario:	64.8 °F	+3.5 °F
High-Emissions Scenario:	67.5 °F	+6.2 °F



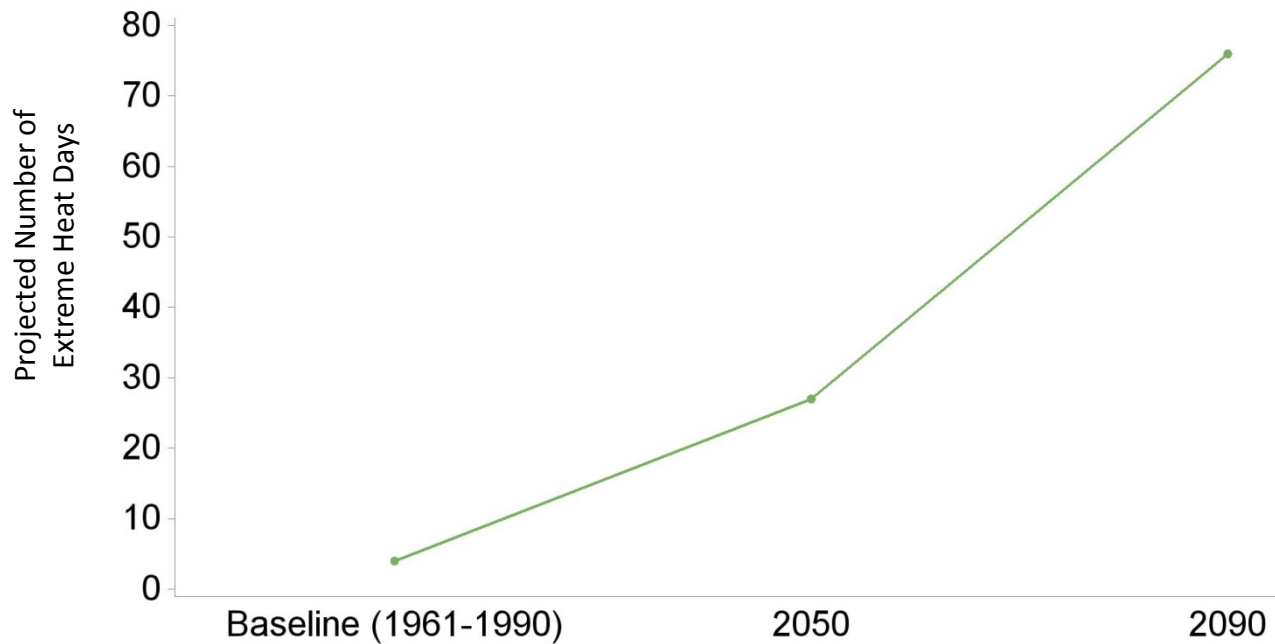
Source: Cal-Adapt, Scripps Institution of Oceanography

CalBRACE Climate Change & Health Vulnerability Assessment Reports

ENVIRONMENTAL EXPOSURES	POPULATION SENSITIVITY	ADAPTIVE CAPACITY
Extreme Heat	Children	Air conditioning
Air Quality	Elderly	Tree canopy
	Education	Impervious Surfaces
	Poverty	Public Transit Access
	Race and Ethnicity	
	Outdoor Workers	
	Vehicle Ownership	
	Linguistic Isolation	
	Disability	
	Health Care Access	
	Violent Crimes Rate	

CalBRACE Climate Change & Health Vulnerability Assessment Reports

Projected number of extreme heat days > 101 °F in Sacramento City, Sacramento County, California



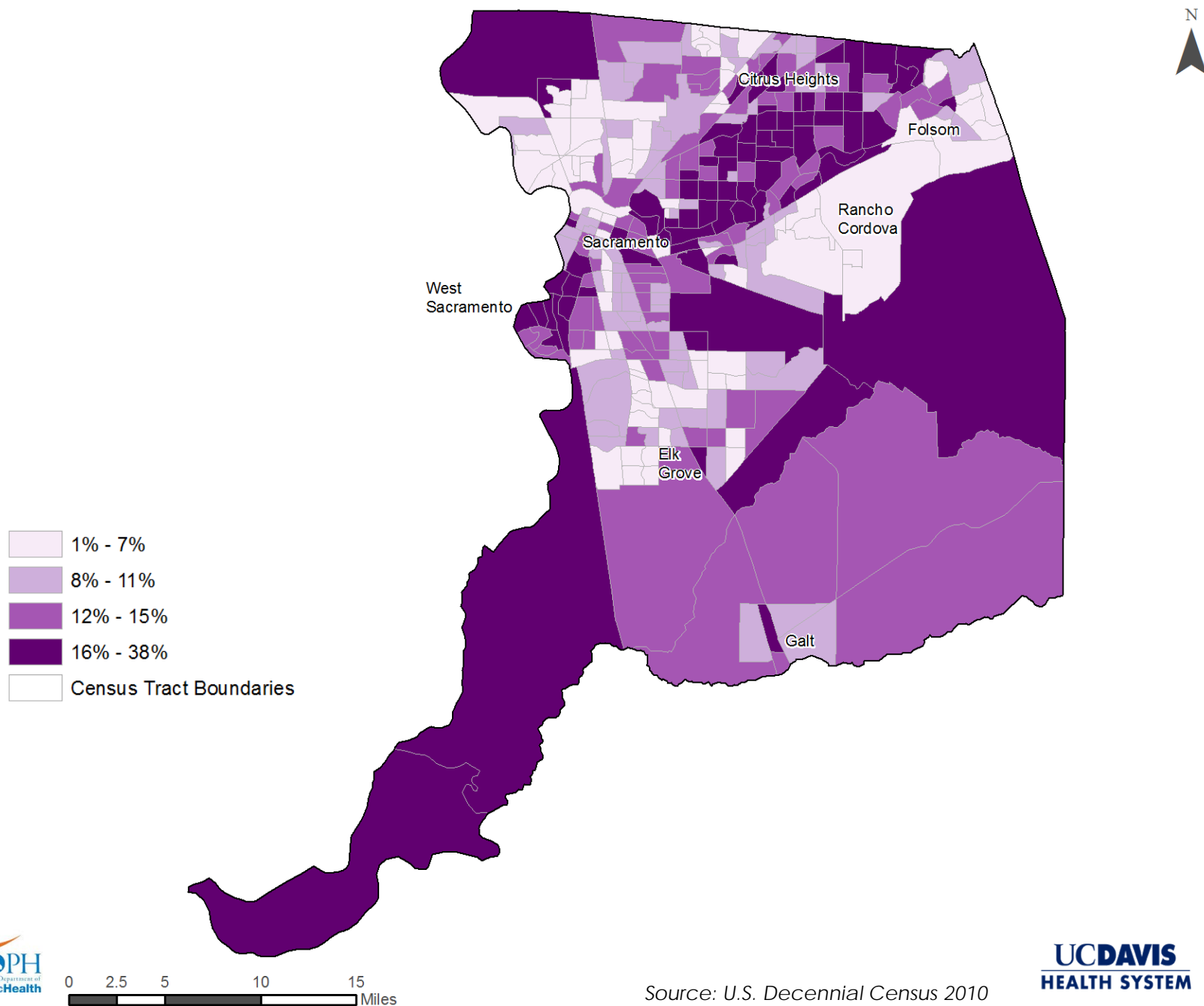
Source: Cal-Adapt, Scripps Institution of Oceanography.

Cal-Adapt defines extreme heat days as above the 98th percentile of the computed maximum temperature for each location using 1961-1990 data for the May to October warm season using GFLD CM2.1 Global Climate Model.

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Elderly Population in Sacramento County, California, 2010



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Sacramento County: Outdoor Workers

What is the climate change challenge?

Working in an environment that is excessively hot poses a risk for heat-related health effects among persons who work outdoors.

Why is this climate change impact important to health?

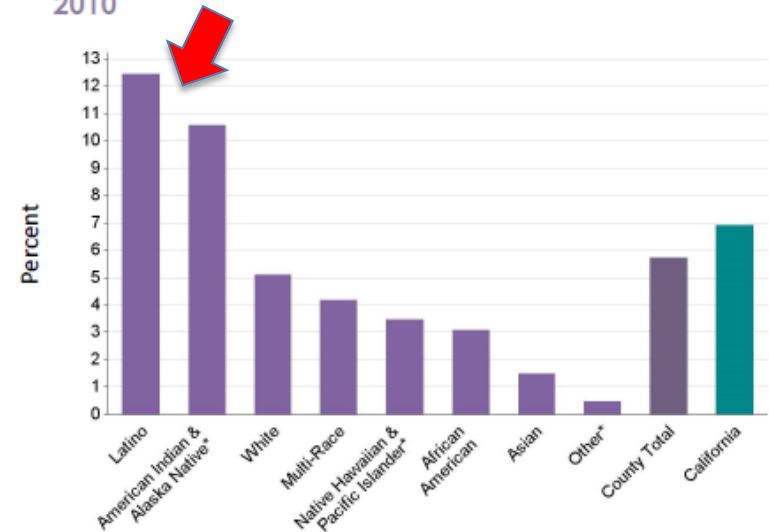
A review of miners, construction workers, farm workers, first responders, and military personnel emphasized that heat-related illness may be the most common cause of nonfatal environmental emergency department admission in the United States. California's agricultural and construction workers have experienced severe heat-related illness and death. During 1992-2006, the United States had a total of 68 farm workers die from heat stroke, representing a heat stroke rate of nearly 20 times greater than all civilian workers in the country.

Who is most impacted?



- Farm workers and day laborers: This population tends to have lower incomes and belong to communities of color, both of which are associated with adverse health effects due to climate change.
- Immigrants who work outdoors: The socioeconomic status of immigrants in California who work in the agricultural and construction sectors makes them particularly vulnerable because of long workdays under strenuous conditions, language barriers, limited capacity to protect their rights, and exposure to chemicals such as pesticides.
- Outdoor occupations most at risk of heat stroke include construction, refining, surface mining, hazardous waste site activities, agriculture, forestry, and fishing.

Figure 18. Percent of Population Working Outdoors, by Race/Ethnicity Groups, Sacramento County, CA 2006-2010



*Unreliable Data (Relative Standard Error >|30%)

Sample population includes all civilian noninstitutionalized employed population 16 years and older. Estimates are based on residency and some outdoor workers, particularly migrant workers, may travel far from their residence for work.

Source: U.S. Census Bureau, American Community Survey (ACS), 2006-2010

Contact Us!

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