

CaIBRACE

CALIFORNIA BUILDING RESILIENCE AGAINST CLIMATE EFFECTS

California Department of Public Health
Office of Health Equity, Climate and Health Team

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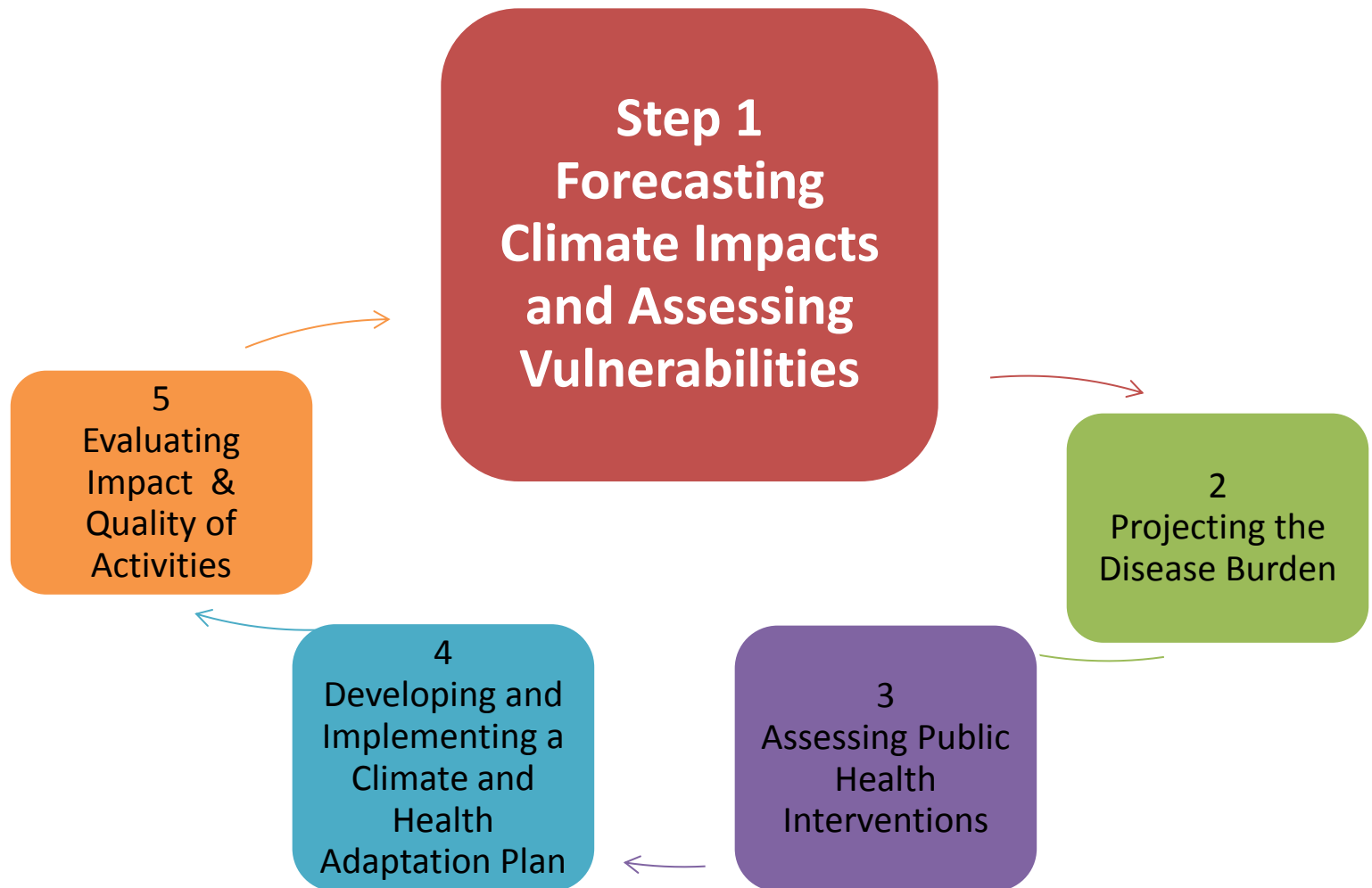
Outline

- **CalBRACE- Accelerating Adaptation Planning for Public Health**
- **Climate adaptation planning tools for local counties**
- **Bringing federal, state and local public health practitioners together to address climate change in California**
- **Next BRACE Framework Steps and engagement**

Accelerating Adaptation Planning

- **Climate change is happening now**
- **Health equity principles and partners**
- **The CDC BRACE Framework**
- **Exposures: extreme heat, sea level rise, wildfires, drought, and air quality**

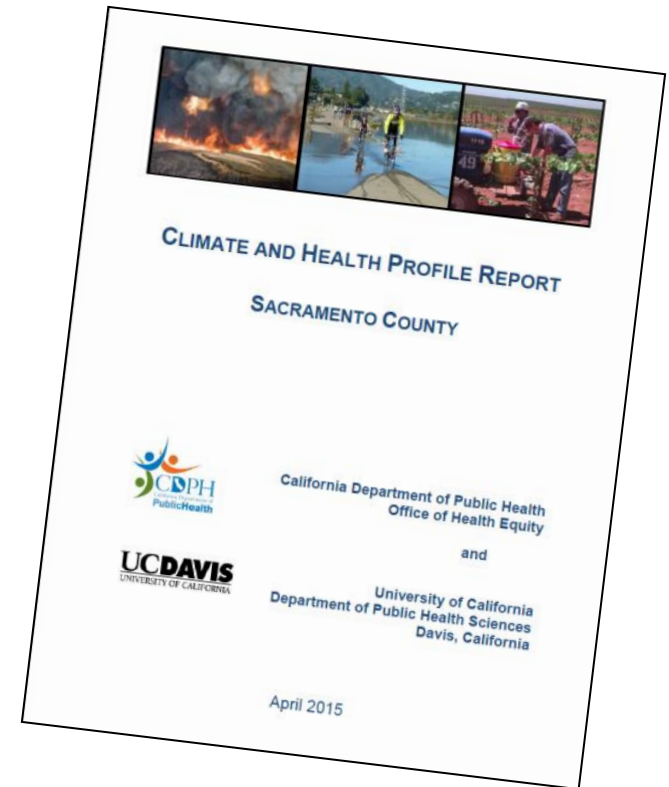
CDC BRACE Framework



BRACE Step 1

Climate and Health Profile Reports

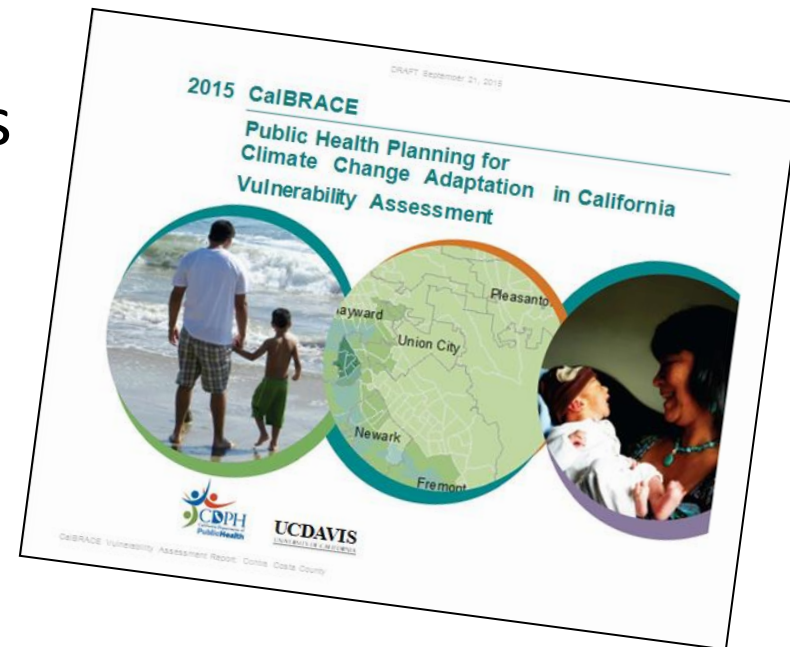
- Overview of climate change and impacts on health
- County-specific climate projections
- Current health status and health inequities



BRACE Step 1

Vulnerability Assessment Reports

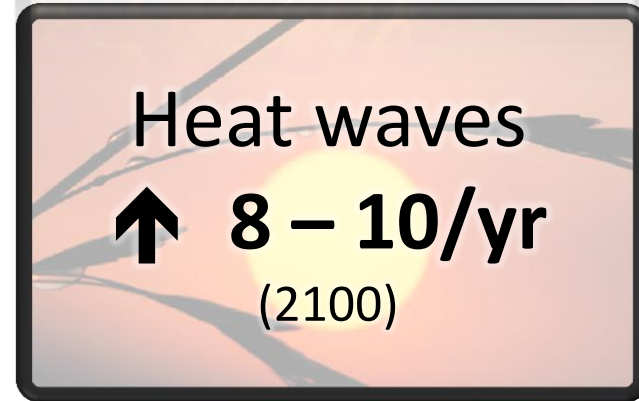
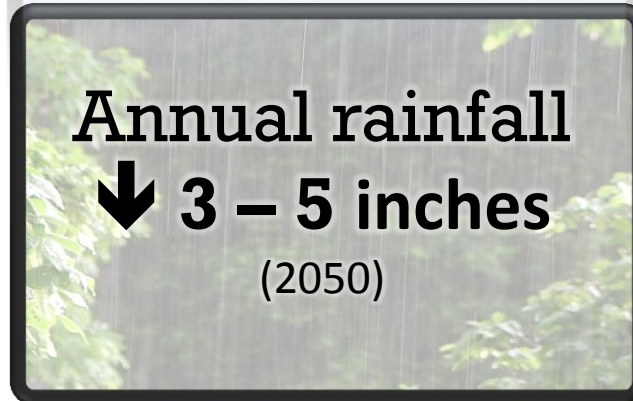
- Identifies places and populations through narratives, tables, and charts
- 24 indicators of environmental exposure, population sensitivity, and adaptive capacity



BRACE Step 1

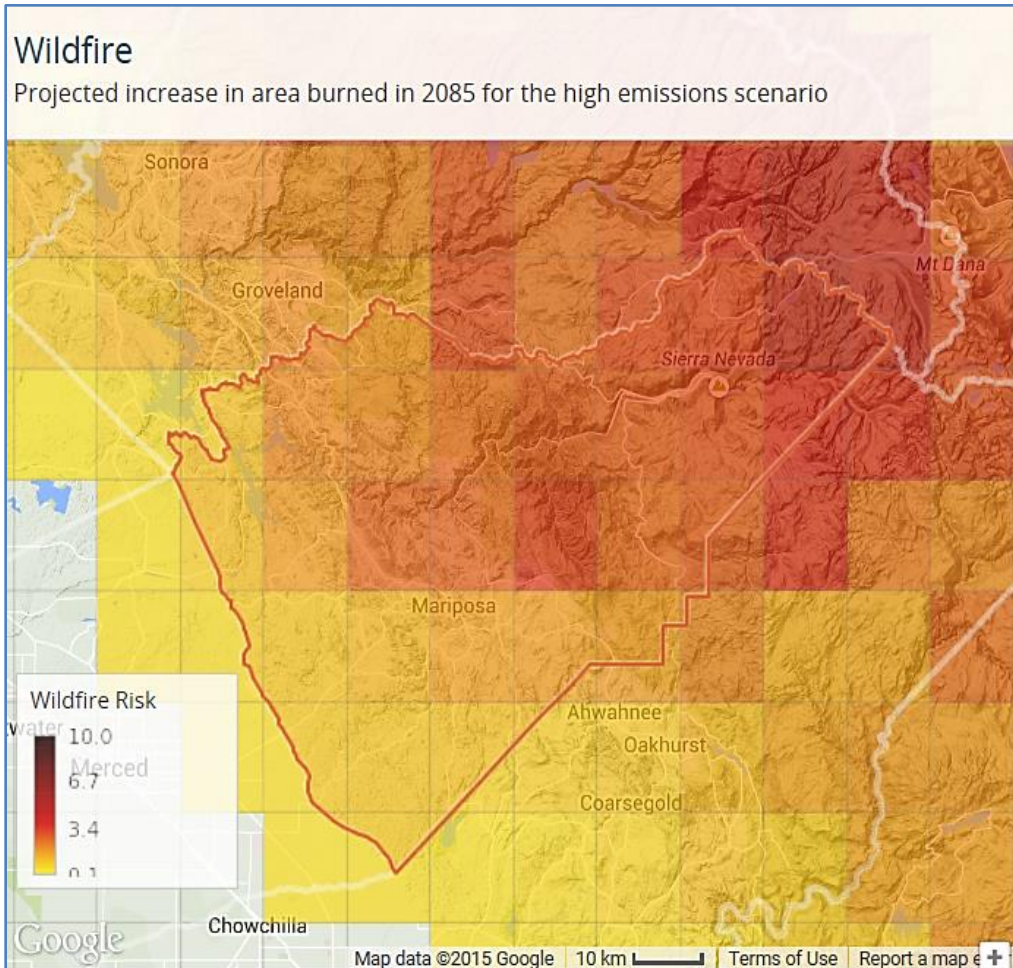
ENVIRONMENTAL EXPOSURES	POPULATION SENSITIVITIES	ADAPTIVE CAPACITY
Extreme Heat Days	Children	Air conditioning
Sea Level Rise	Elderly	Tree canopy
Air Quality	Education	Impervious Surfaces
Drought	Poverty	Public Transit Access
Wildfires	Housing Cost Burden	
	Race and Ethnicity	
	Outdoor Workers	
	Vehicle Ownership	
	Linguistic Isolation	
	Disability	
	Health Care Access	
	Violent Crimes Rate	
	Voter Participation	

Climate Projections: North Sierra Region



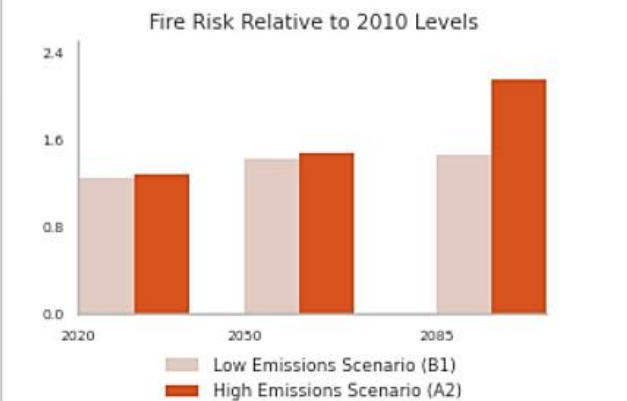
Source: Cal-Adapt.com

Projected wildfire risk in 2085 in Mariposa County



MARIPOSA COUNTY

	2020	2050	2085
Low Emission Scenario:	1.25	1.42	1.46
High Emission Scenario:	1.29	1.48	2.15

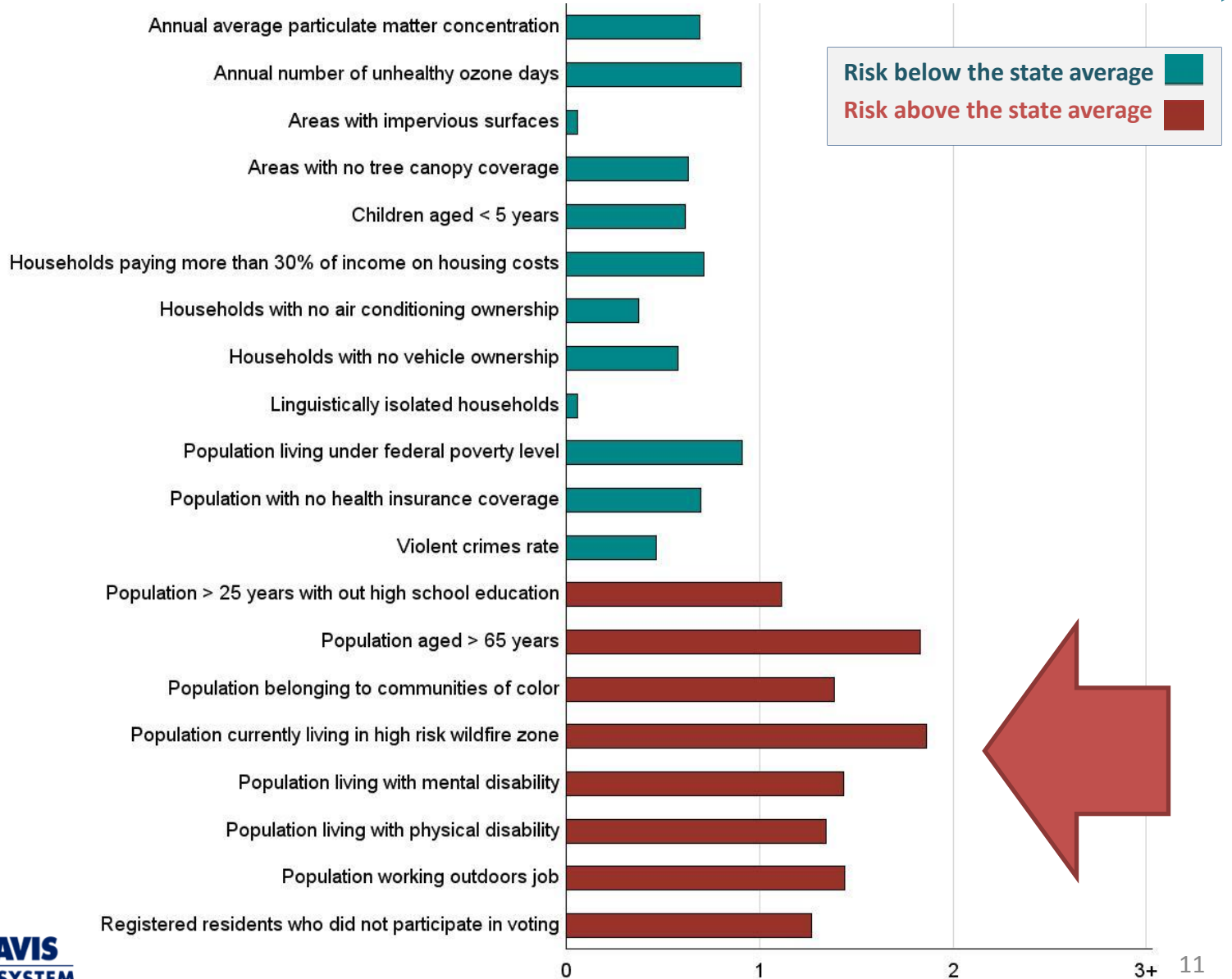


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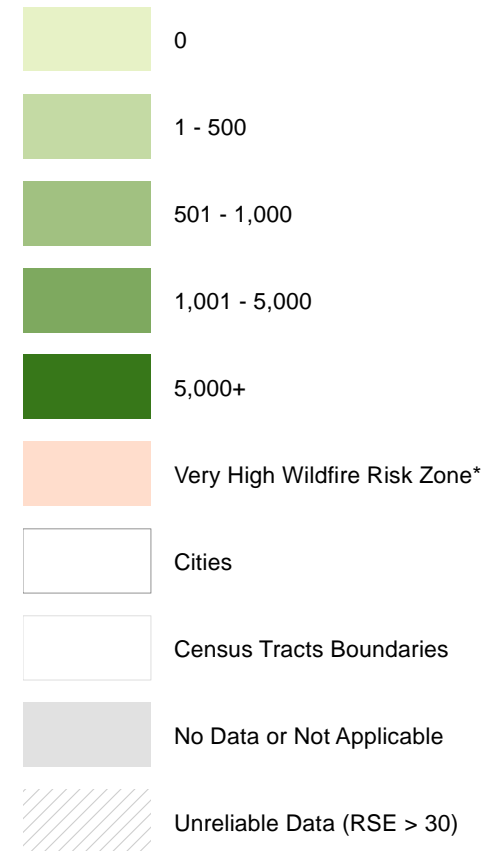
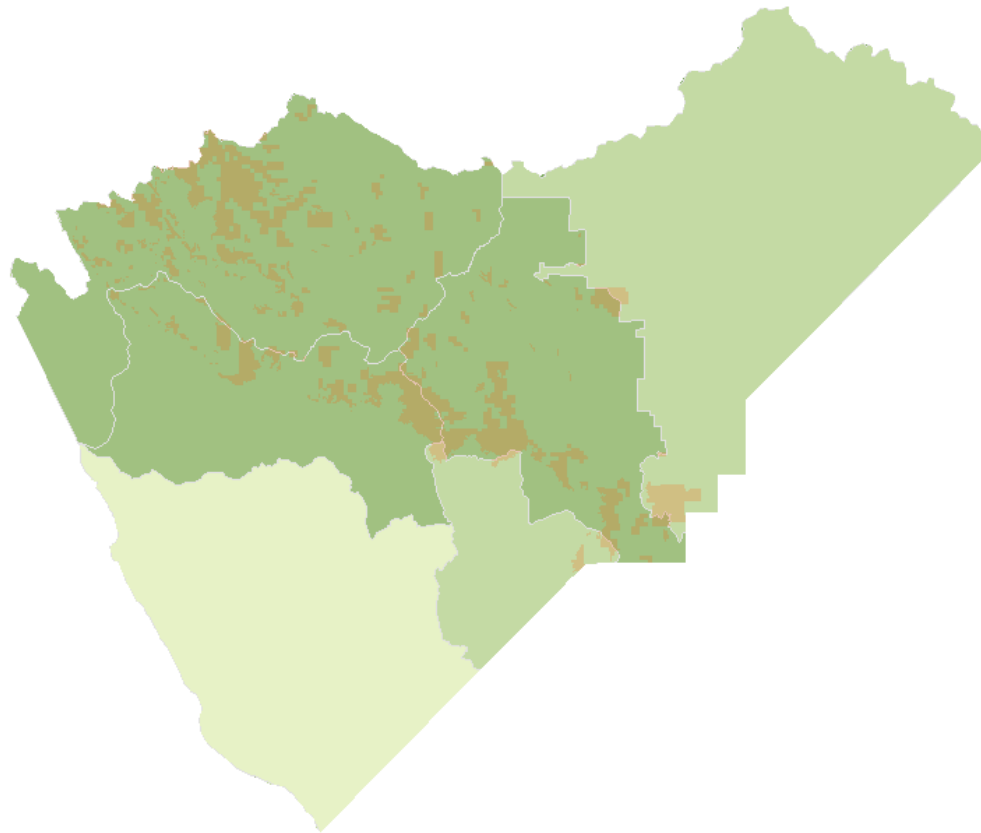
Source: CalAdapt, 2007

Mariposa County

Snapshot of Climate and Health Indicators



Population Living in Very High Fire Hazard Severity Zones in Mariposa County



Preliminary Findings

Source: Data from 2007 CAL FIRE FHSZ Model. Analysis by CDPH and UC Davis.

Mariposa County: Children

Children

What is the challenge?

Children, primarily because of physiological and developmental factors, are disproportionately impacted from the effects of heat waves, air pollution, infectious illnesses, and trauma resulting from climate change and extreme weather events. Children under 5 years old are especially vulnerable to the health impacts of climate change because they are rapidly growing, both physically and mentally: their lungs are developing, they breathe at a higher rate than adults, and they spend more time outdoors. Additionally, children depend on their caregivers for response to extreme weather events such as hurricanes and floods.

Why is this important to climate and health?

The majority of the existing burden of disease due to climate change occurs in children under 5 years old. Conditions like injury, death, infectious diseases, malnourishment and posttraumatic stress are more common in children than adults after extreme weather events. Furthermore, early childhood conditions can impact the health in the long-term. Exposure to air pollution increases the risk for allergen sensitization in children under 5 years old. Studies in Southern California found that fine particulate matter (PM2.5) increased the risk of hospitalization for bronchiolitis and death among infants. A study done in Orange County showed increased asthma related emergency department visits and hospitalizations with increased levels of O3 and PM2.5. During the 2003 wildfires in Southern California, respiratory hospital admissions related to wildfires increased 8.3% among children under 5 years old. For children returning to New Orleans after the flooding from Hurricane Katrina, mold growth at home was associated with a 50% increase in lower respiratory symptoms. Additionally, intensely stressful exposures may lead to adverse birth outcomes including pre-term birth, low-birth weight, and maternal complications.

Who is most impacted?

- Children under 5 years old
- Children in low-income, rural, or linguistically isolated households
- Children with pre-existing disease (especially cardiac and respiratory)

Figure 13. Percent of Children Under 5 Years Old by Race/Ethnicity, Mariposa County, CA 2010

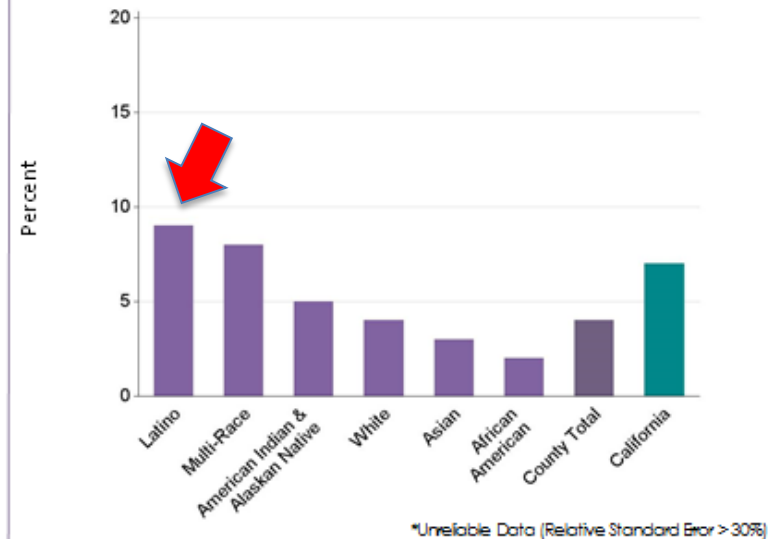


Table X. Cities and Towns with Highest Percent of Children < 5 years of age, Mariposa County, California, 2010

City/Town	Percent	Total Population
Mariposa	6%	2173
Midpines	6%	1204
Lake Don Pedro	2%	1077
Mariposa County	4%	18251
California	7%	37,253,956

Preliminary Findings

Source: 2010 U.S. Decennial Census

Mariposa County: Outdoor Workers

Outdoor Workers

What is the challenge?

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

Why is this important to climate and health?

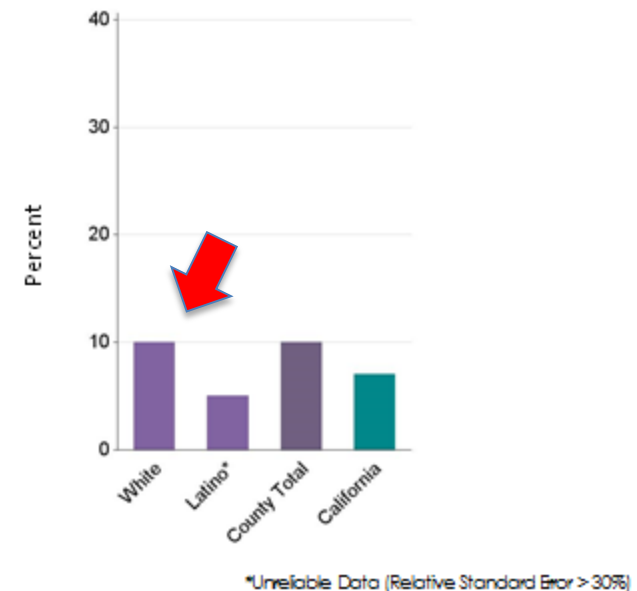
Heat-related illness among miners, construction workers, farm laborers, first responders, and military personnel may be the most common cause of nonfatal environmental emergency department admission in the United States. During 1992-2006, the United States had a total of 68 crop workers die from heat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

Who is most impacted?

Farm workers and day laborers tend to have lower incomes and to be racial or ethnic minorities, both factors which increase the risk of adverse health effects due to climate change. 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.



Figure 23. Population Working Outdoor Jobs, by Race/Ethnicity Groups, Mariposa County, CA 2006-2010



Sample population includes all civilian noninstitutionalized employed population 16 years and older.

Data unavailable at place level and census tract level.

Source: American Community Survey (ACS), 2006-2010

Vulnerability Assessment Introduction and Guide



Approaches for planning

- Health Equity
- Regional Climate Collaboratives (ARCCA)
- SB375
- Health in All Policies

Summarizes vulnerability report elements

- Health Impacts and Indicators

CaBRACE Pilot LHDs

- One pilot county LHD from each climate region
- Local Health Departments co-develop and pilot climate adaptation planning tools
- Webinars and workshop to foster collaboration and co-development.
- 1:1 technical assistance



CalBRACE Next Steps

STEP 1

- Release of CalBRACE Climate and Health Profile Reports Review (CHPR) and CalBRACE Vulnerability Assessment Reports (CVAR) (email CalBRACE@cdph.ca.gov)
- Produce Combined State-level Report (CHPR & CVAR)

STEP 2

- Projecting Burden of Disease – Regional

STEP 3

- Assessing, Prioritizing and Evaluating Public Health Interventions

STEP 4

- Strategic Climate Adaptation Plan for Public Health in California

STEP 5

- Ongoing evaluation and QI

Contact Us!

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www.cdph.ca.gov/programs/Pages/CalBRACE.aspx

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CLIMATE CHANGE IS
NO BIGGIE. RISING OCEANS
MAKE THE EXTREME HEAT
BEARABLE...

