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
CalBRACE 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:

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

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Cal-BRACE 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 GFDL CM2.1 Global Climate Model.
CalBRACE Climate Change & Health Vulnerability Assessment Reports

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Elderly Population in Sacramento County, California, 2010

Source: U.S. Decennial Census 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.

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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