

Leveraging Public Health Agencies to Support Your Climate Resilience Goals

10:15 - 11:45 am





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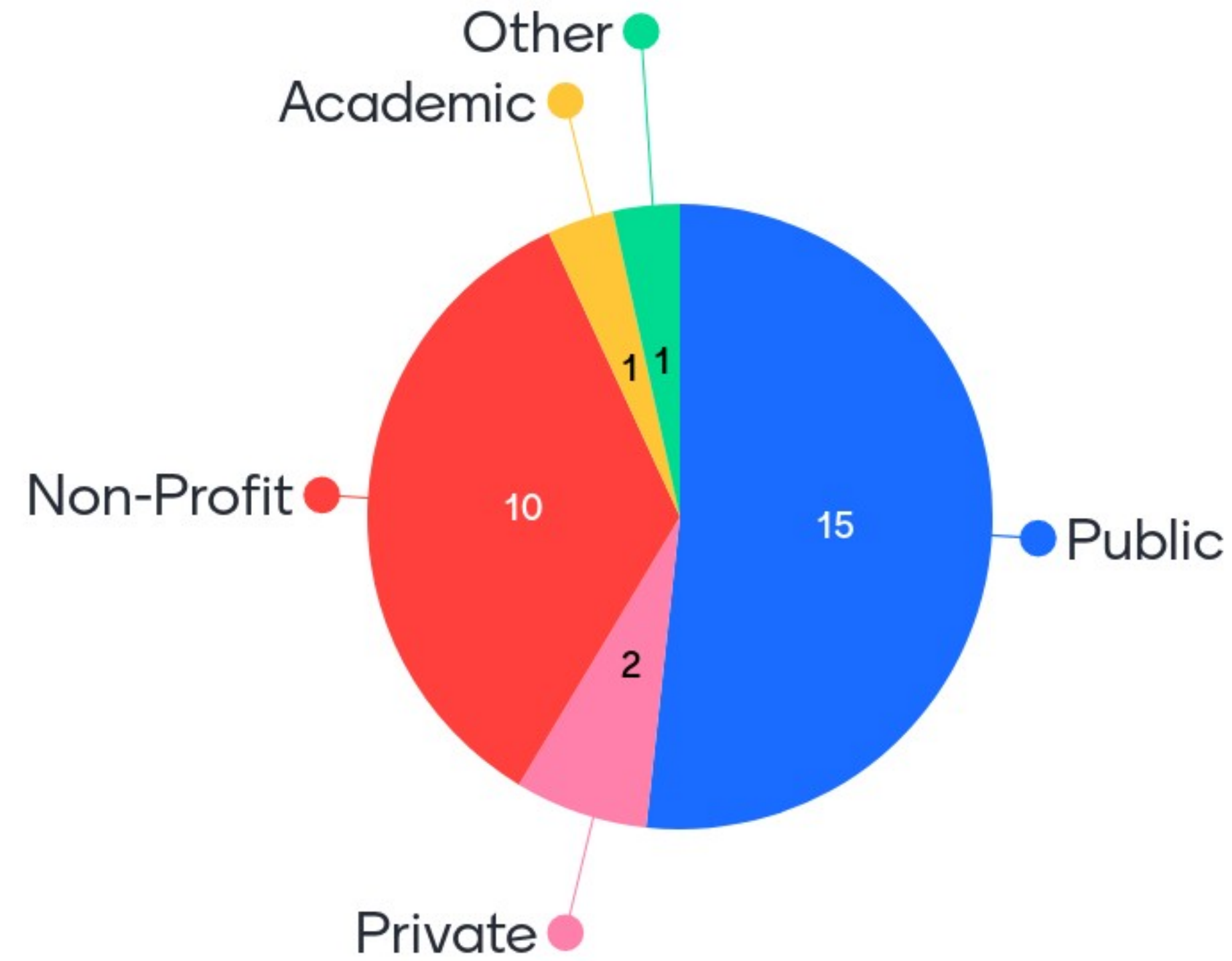


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Instructions

What department or sector do you represent?



What program or discipline do you represent?



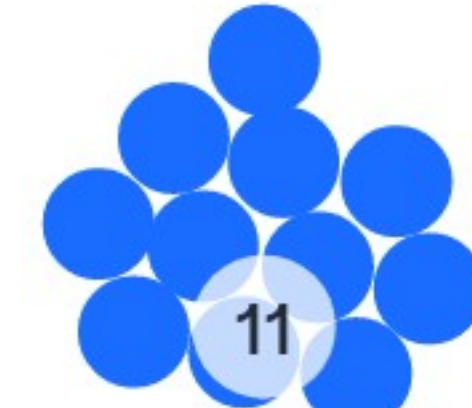
How have you worked with your state or local health department?



Developing Plans and Policies



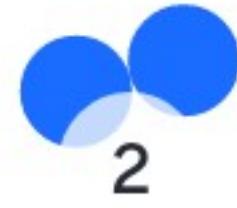
Utilizing Data and Tools



Outreach and engagement (inclusion and involvement)



Collaboration and Partnerships with community members



Funding

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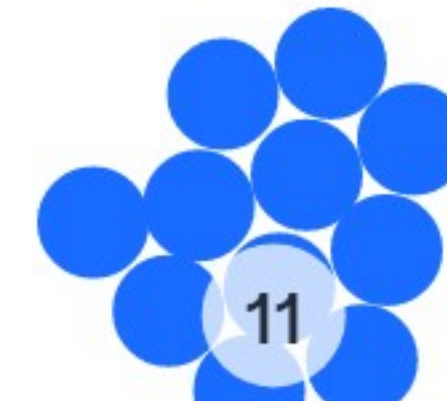
Evaluation



Disaster, Preparedness and Response



I work at a health department

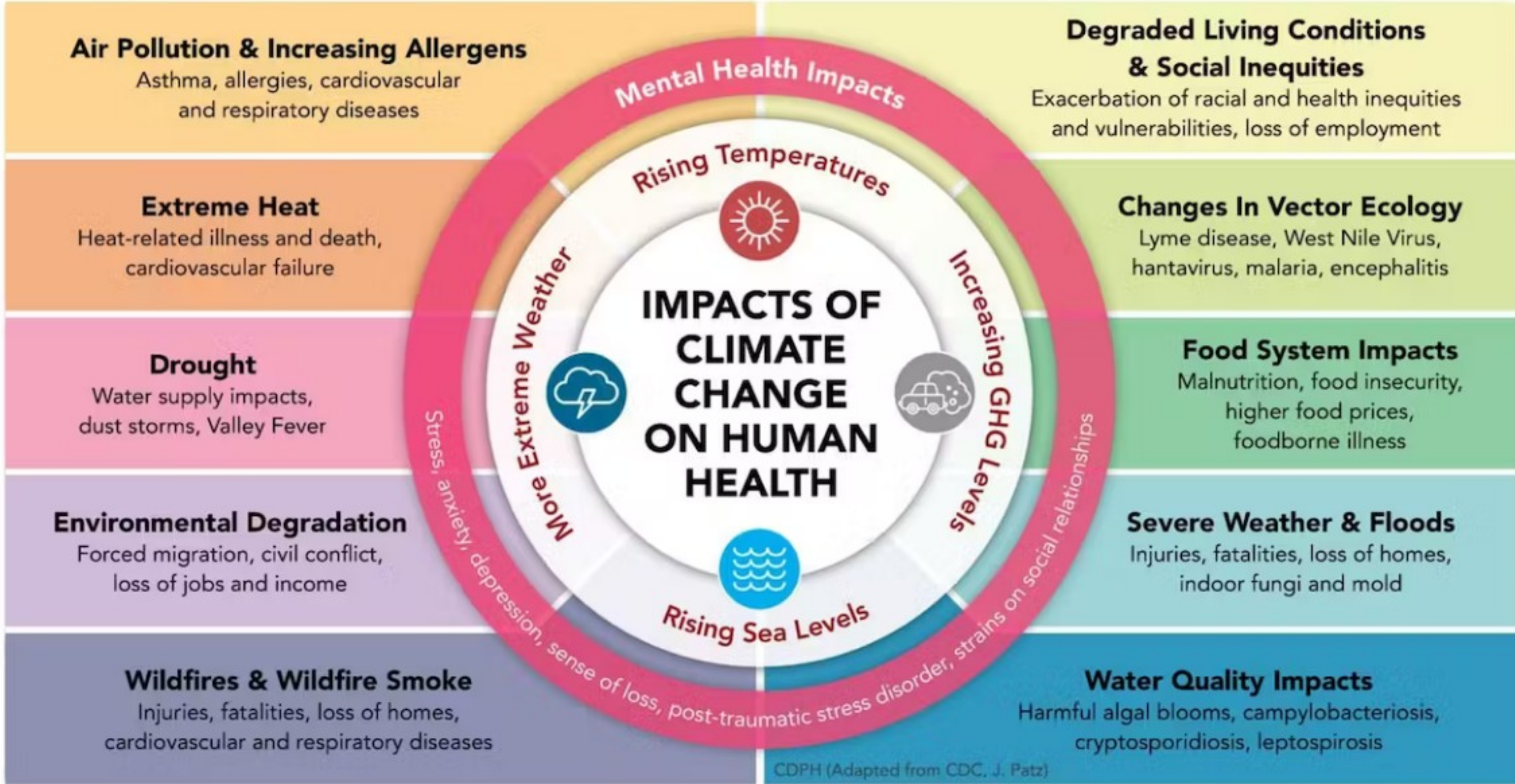



I have not worked with my health department

Climate change is making severe weather events more frequent and more extreme




These events have significant, cascading, and compounding impacts on public health.





These health impacts are inequitable, and disproportionately burden the populations most exposed, most sensitive, or least likely to have the economic, political, or social resources to prepare or respond.



The actions necessary to be resilient to the health impacts of climate change are interdepartmental and cross-sectoral in scope.



Public health departments can be important partners in all local, state, and federal climate resilience actions.



First point of contact



Data analysis and evaluation



Environmental health services



Communications and coalition-building



Emergency preparedness and response

Almost all public health departments are already engaged in climate change work, even if some of the work is not actually labeled “climate change”.



Examples of how California's state and local public health agencies have supported climate resilience actions

Presentation	Public Health Role
<p>California Department of Public Health: Advancing Health Equity in State and Local Climate Actions</p>	<p>Technical Assistance, Community Partnerships, Research, Policies and Plans, Data Analysis and Tools, and Evaluation</p>
<p>Santa Clara County Department of Public Health: Advancing Climate Action through Public Health Policy</p>	<p>Plans and Policies, Community Partnerships</p>
<p>San Francisco Department of Public Health: The San Francisco Heat and Air Quality Resilience Project (HAQR)</p>	<p>Assessment, Policy-Development, Assurance</p>



Advancing Health Equity in State and Local Climate Actions

William Jardell (*CalBRACE Coordinator, California Department of Public Health*)

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Climate Change & Health Equity Section: Embedding health and racial equity in California climate action

Mission: Assure that California's actions to prevent and prepare for climate change improve health and racial equity.

CCHES helps to implement California's climate change policies, contributing health and racial equity guidance, research approaches, and tools, to improve living conditions and health outcomes with and for people facing inequities.

Strategies:

- Embed health and racial equity into climate change programs and policies so that implementation improves living conditions for communities facing inequities.
- Guide State investment and resource distribution to prioritize health and racial equity.
- Provide data, research, and tools to reduce and prepare for the health effects of climate change and maximize the health equity benefits of climate action.
- Increase the capacity of public health departments and tribes to work on climate change and health equity through consultation and technical assistance.
- Engage with climate justice and health equity stakeholders to increase their decision-making power.



More Americans Are Concerned About Climate Change Than You Think and a Health Frame Motivates Action

75% of Americans are concerned about climate change but only 51% think those around them are concerned

Source: ecoAmerica / American Climate Perspectives Survey 2022, Vol. I <https://ecoamerica.org/wp-content/uploads/2022/01/acps-2022-vol-i.pdf>

Protecting health is the top reason Americans select for supporting climate solutions (ecoAmerica):

- 76% motivated by health
- 71% motivated by good paying jobs

68% of Americans trust health professionals for information on climate change

Source: ecoAmerica / American Climate Perspectives Survey 2021, Vol. II

Addressing Climate Change is a means of Operationalizing Equity

Equity mechanisms:

- Prioritized financial incentives, investments, or resources
- Higher levels of service
- Facilities
- Capacity building or training
- Jobs
- Decision-making power



Photo: Istock JuanMonino

“Cash, capacity, control” - Genoveva Islas

Climate Change & Health Vulnerability Indicators for California

Environmental Exposures:

- Heat
- Air Quality
- Drought
- Wildfires
- Sea Level Rise

Adaptive Capacity:

- Air Conditioning Ownership
- Tree Canopy
- Impervious Surfaces
- Public Transit Access

Population Sensitivity:

- Children and Elderly
- Poverty
- Education
- Race and Ethnicity
- Outdoor Workers
- Vehicle Ownership
- Linguistic Isolation
- Disability
- Health Insurance
- Violent Crime Rate

CDPH Climate Change & Health Vulnerability Indicators for California Counties Compared to the State

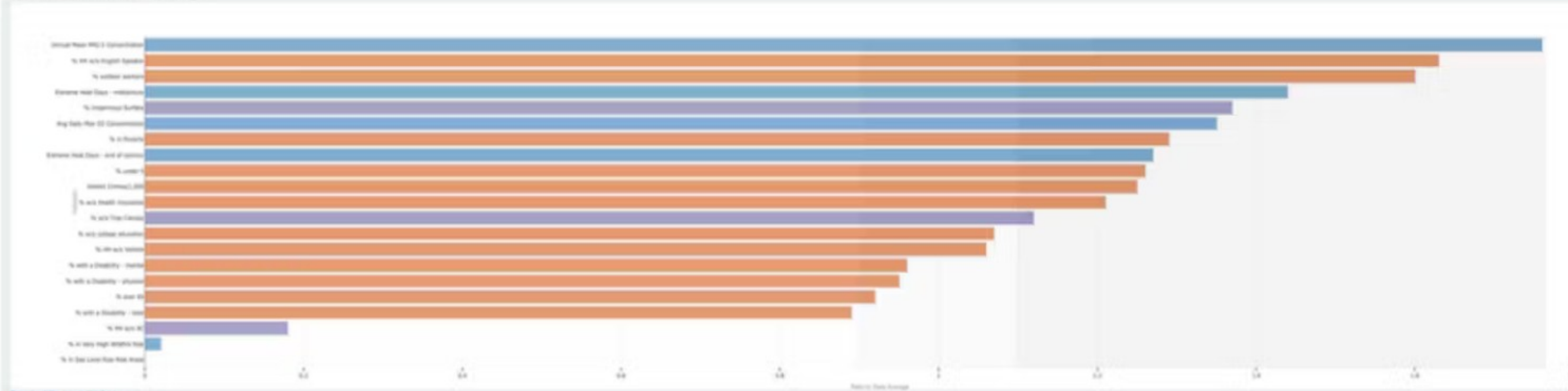
County Snapshot

This plot shows how the selected county compares to the state average for each indicator.

Using a simple ratio of the county's value to the California average value for each indicator, you can see where this particular county experiences greater climate and health risks than other parts of the state. You can also identify which factors represent areas to focus adaptation efforts and which represent areas of strength.

Fresno County
[Download County Health Profile](#)

County compared to the state average



[Download the data in this figure](#)

Fresno County faces climate change exposures that pose considerable health risks to the population, especially to a number of vulnerable groups.

Environmental Exposures

More frequent extreme weather patterns will pose a hazard to Fresno County's population health. If greenhouse gas emissions continue to grow as they have in the past, the number of extreme heat days over 74.6°F are expected to be 29 days per year in 2040-2060 and 72 days per year in 2080-2099. Higher temperatures can also increase hazardous air pollution. In 2012-2014, Fresno County's average maximum ozone concentration was 6.063 ppm. The particulate matter (PM2.5) was 15.2 µg/m³ which is higher than the state standard of 12 µg/m³ (the statewide averages were 0.047 ppm for ozone and 8.8 µg/m³ for PM2.5). Higher temperatures and changes in precipitation are leading to longer, more severe droughts which, in turn, contribute to increased risk of wildfires. Around 0.2% (1,820 residents) of the Fresno County population lived in very high wildfire risk areas in 2010 (statewide average was 1.1%).

Population Sensitivity

Certain populations will experience the health impacts of climate change earlier, more often, or more severely, such as children and elderly, and those with disabilities. In 2011-2015, Fresno County's population included 8.2% children (71,445 persons under 5) and 10.7% elderly (104,115 persons 65 years and older) (state population included 8.6% children and 11.7% elderly). Between 2011-2015, 7.2% (63,002 people) of Fresno County's population reported having physical disabilities (statewide average was 6%). In 2011-2015, Fresno County's population included 1.2% (105,617 people) with mental disabilities (statewide average was 4%). Social or cultural isolation can also limit protective behaviors, community support, or the efficacy of emergency notifications during extreme weather and disasters. In 2011-2015, 30% of the county's households were considered linguistically isolated (21,484 households), where no one aged 14 or older spoke English (statewide average was 9.2%). Climate change and its impacts add to the cumulative stresses already experienced by populations without adequate financial resources, those living in communities with high incidence of violence, or who have limited access to supports like higher education, insurance or personal transportation. In Fresno County, 31% (476,643 residents) of the population was living below 200% of the poverty level in 2011-2015 (statewide average was 36%). Fresno's violent crime rate in 2012 was 5.1 per 100,000 persons (statewide average was 4.8 per 100,000). In 2011-2015, 81% of people (465,727 residents) in Fresno County aged 25 years or older had an educational attainment of less than a four-year college degree (statewide average was 68.7%). In 2011-2015 16% of the population (151,327 residents) in the county were without health insurance (statewide average was 14.7%). Please note that data is per 2011-2015. This covers a time period both before and after the full implementation of the Affordable Care Act, which increased access to insurance. In 2011-2015, 9% of households (24,546 households) lacked a personal vehicle (statewide average was 8%). Finally, 62% (41,702 workers) of Fresno County's labor force worked outdoors in 2011-2015, and face an elevated risk to heat's effects on health (statewide average was 4.4%).

Adaptive Capacity

Adaptive capacity is important for responding to the impacts of climate change. Expansion of concrete and asphalt impervious surfaces make hot summers even hotter, while parks and trees can help make future heat waves more bearable. In the portions of Fresno County where people resided in 2011, the land was about 47% impervious surfaces and 91% areas without tree canopy cover (statewide averages were 30% and 92%, respectively). Access, transit and air conditioning helps people relocate to cooler or safer spaces in the event of heat waves, extreme weather, or other events like wildfires. According to a 2009 survey, 6% (18,515 households) of households in Fresno County did not have air conditioning (statewide average was 36%). These findings highlight the aspects of vulnerability and the populations in Fresno County most susceptible to health risks from current and future climate change.

CDPH Climate Change & Health Vulnerability Indicators County Snapshot

Fresno County

Select an indicator: Percent of population aged 65 years or older

State: none

People aged 65 and older are especially vulnerable to the health impacts of climate change.

Download the Narrative for this Indicator

County Map

Percent of population aged 65 years or older

- Higher than 50% of other counties (Most Vulnerable)
- Higher than 40% of other counties
- Higher than 25% of other counties
- Lower than 25% of counties (Least Vulnerable)

Download the Data in this Map

What is the climate change challenge?

Climate change is increasing the severity and frequency of heat waves and extreme weather events which poses a risk to elderly populations. Aging impairs muscle strength, coordination, cognitive ability, immune system, and regulation of body temperature. In addition, the proportion of the elderly population in the United States is increasing and California is one of nine states where most Americans aged 65 years and older reside.

Why is this climate change impact important to health?

Growing evidence suggests that injury, disease, and death are greatest among the elderly during heatwaves. Acute kidney failure, electrolyte imbalance and inflammation were the most common heat-related health effects among elderly in the 2000 California heat wave. Side effects of some medications intensified the heat-related conditions in elderly. Elderly have increased risk of other climate impacts as well. For example, elderly with limited mobility can have increased risk of flood-related impacts. During the 2003 Southern California wildfires, respiratory hospital admissions related to wildfire smoke increased 10% among adults 65 years of age and older. Pre-existing health conditions among the elderly can increase susceptibility to more severe consequences of climate-related infectious diseases. Several studies show that elderly are at increased risk of West Nile virus infection with climate change predicted to increase the overall risk of transmission in California.

Who is most impacted?

Elderly populations with the following characteristics are at an increased risk of health impacts from climate change:

- Elderly ages 65 years or older
- Elderly living alone, with limited mobility, who are socially isolated, residents of institutions, or dependent of care
- Elderly women, low socioeconomic status, or of African American race
- Elderly with multiple chronic conditions (e.g. cardiovascular disease, respiratory disease, diabetes) or pre-existing health conditions

Statewide comparison

Percent of population aged 65 years or older for California Counties (Peters (dark grey), Climate region (grey), CA avg (white line))

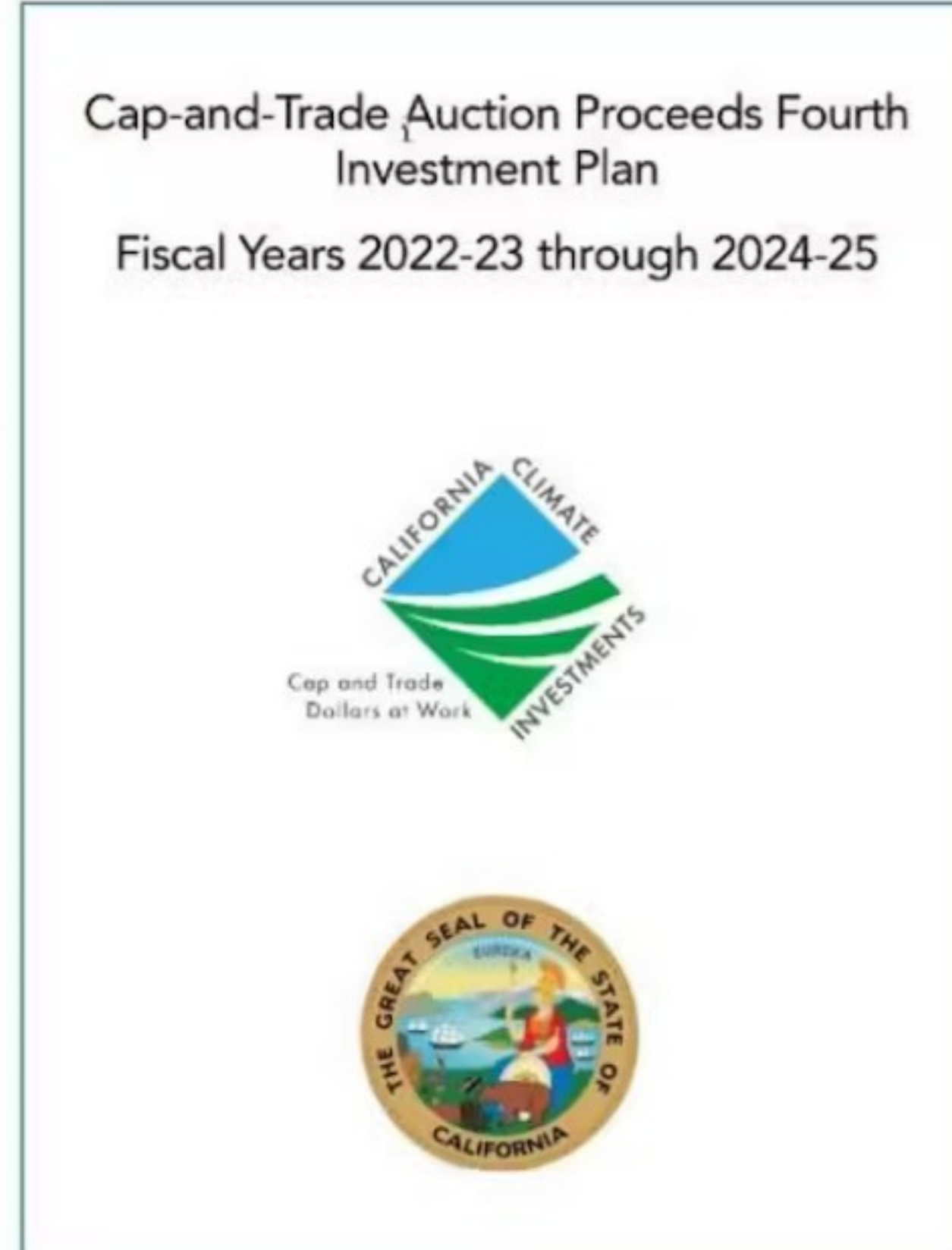
Download the Data in this Figure

Differences by race

Download the Data in this Figure

Integrating Health Equity in State Plans – Example:


California Climate Investments Plan





Integrating Health Equity in State Grant Programs – Example:

Transformative Climate Communities (SGC)



Transformative Climate Communities Program


Round 5 Final Program Guidelines
FY 2022–2023



February 28, 2023

Program information can be accessed at: <https://sgc.ca.gov/programs.html>

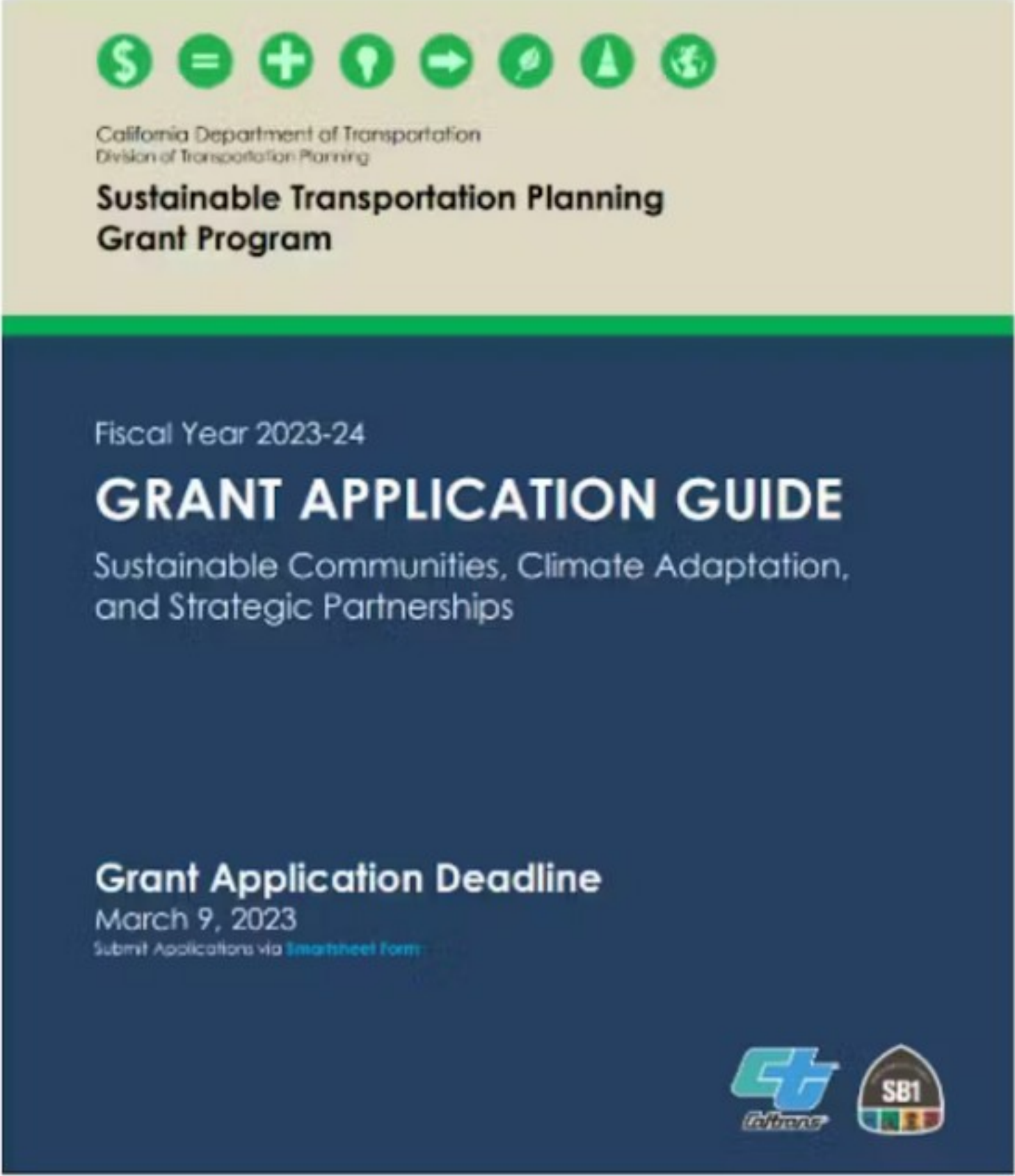
To sign up to receive notices, updates, and information regarding the Transformative Climate Communities Program (and other Strategic Growth Council (SGC) grant programs and initiatives), visit the SGC website and click on the "E-list" link at: <https://sgc.ca.gov/>






Integrating Health Equity in State Grant Programs – Example:

Sustainable Transportation Planning Grants
(Caltrans)







California Department of Transportation
Division of Transportation Planning

**Sustainable Transportation Planning
Grant Program**

Fiscal Year 2023-24

GRANT APPLICATION GUIDE
Sustainable Communities, Climate Adaptation,
and Strategic Partnerships

Grant Application Deadline
March 9, 2023
Submit Applications via [SmartSheet Form](#)

Public Health Efforts to Combat the Health Effects of Climate Change

Weatherization Programs: Community-level climate and health equity framework for improving the health and living conditions of people facing climate change and health disparities.

- A public health adaptation strategy to address climate change impacts.
- Reduce health risks, reduce energy cost, and improve resilience to heat, wildfire smoke, and air pollution.
- Households served are low-income and priority populations, including disadvantaged and low-income communities most impacted by climate change impacts.



Weatherization Services and Energy Efficiency

Weatherization:

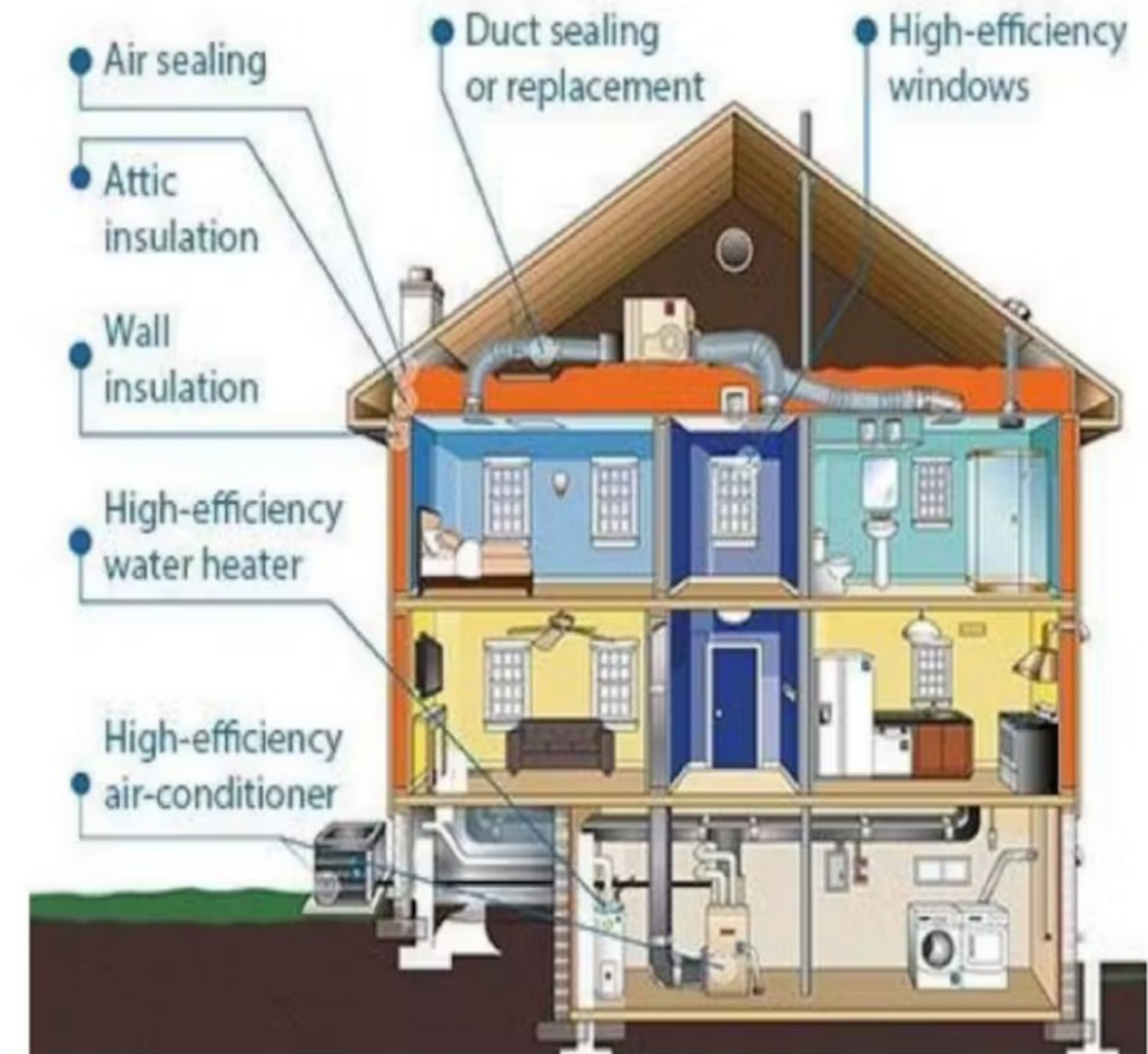
Weatherization is the practice of improving physical aspects of a building to reduce energy cost, optimize energy efficiency, and support health and safety measures

Measures can include:

- Air sealing
- Repair or replacement of windows
- AC installation
- Solar panels
- Repair or Replace Cooking Appliances

Why Tulare County?

- Tulare County has the highest number of projected extreme heat days per year in mid-century (2040-2060)
 - 42 extreme heat days per year vs. state average of 27.
- 3rd highest concentration of outdoor workers (19.7% vs. 7.6% state average)





Weatherization Benefits

- Improved health, safety, and quality of life of residents.
- Reduce energy costs and high energy burden for low-income families.
- Improvements in thermal comfort.
- Decrease energy consumption- reduction in air pollution and greenhouse gas emissions associated with energy production.
- Improvements in housing stability, affordability, and quality.
- Healthcare cost savings and reduced health care utilization.
- Reduction in mortality rates associated with asthma and thermal stress.

Tulare County Weatherization Pilot Project (CHWs, Healthy Homes, and Healthy Families)

Why is this pilot unique?

1. **Engagement of Community Health Workers in Pilot Process**
 - Trusted community leaders.
 - Extensive experience communicating and interacting with patients.
 - Culturally and linguistically competent outreach.
 - Provide feedback and guide all aspects of pilot process (Training guide, Trainings, Intake survey, in-home visits, pre-post outreach)
1. **Health Equity Lens**
 - Connect vulnerable patients who experience adverse health impacts to weatherization services.
1. **Multi Sectoral Partnerships**
 - Health care systems, non-profits, weatherization providers, public health state agency.



Meet the Program Partners

Kaweah Health

Kaweah Health was founded in 1963 as a district hospital and are the largest hospital in Tulare County and a certified level III Trauma Center. Kaweah works with more than 5,200 medical professionals and offers comprehensive health services including cardiac surgery, general surgery, cancer treatment, mental health services, orthopedic surgery, a renowned NICU and pediatric center and more.

The Association for Energy Affordability

The Association for Energy Affordability, Inc. is dedicated to achieving energy efficiency in new and existing buildings in order to foster and maintain affordable and healthy housing and communities, especially those of low-income. AEA representatives engage in a broad range of educational, technical and construction management activities and services to promote this mission and develop the industry that advances and sustains it.

Proteus, Inc.

Proteus, Inc. is a multistate nonprofit, 501c3 organization that has been serving agricultural workers and their families since 1979. Proteus, Inc "Mission" is to provide education, workplace training, job placement, and other support services to farm working families and diverse program participants to empower them to achieve self-sufficiency.

California Department of Public Health, Climate Change and Health Equity Section

The CDPH Climate Change and Health Equity Section (CCHES) envisions a state where all Californians thrive in healthy, equitable, and resilient communities. CCHES achieves this by building health equity, advancing climate action, and improving living conditions through policies, systems, and environmental changes.



Key Takeaways

- Remember the humans – prioritize those facing inequities
- Build resiliency through racial and health equity
- Use a policy, systems, and environmental (PSE) approach that champions climate, health and equity (CHE) in all policies
- Use data tools confirmed by local community knowledge to identify communities for prioritized investment to improve living conditions.
- Primary prevention – address root causes (i.e., housing conditions)



Contact Information

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Advancing Climate Action through Public Health Policy

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Health Program Specialist
Climate and Health Program
Public Health Department
Santa Clara County



Santa Clara County
**PUBLIC
HEALTH**

Desired Outcomes



1. Understand how public health uses plans and policies to build climate resilience and increase health equity.
2. Identify opportunities to collaborate with public health agencies to enhance Climate adaptation.

General Plan Elements

1. Land use
2. Housing
3. Circulation
4. Open Space
5. Resource Conservation
6. Noise
7. Safety



Health Element

- A. Health Conditions, Equity and Access
- B. Social and Emotional Health
- C. Land Use and Urban Design
- D. Active and Sustainable Transportation
- E. Recreation and Physical Activity
- F. Healthy Eating, Food Access, and Sustainable Food Systems
- G. Air Quality and Climate Change
- H. Healthy Housing
- I. Violence Prevention and Safety

Health Element



G. Air Quality and Climate Change Strategies



Credit: St. Mary's County Health Department

1. Improve air quality through land use, transportation, and air quality planning.
2. Reduce health impacts and increase resilience to extreme heat.
3. Reduce vector-borne disease and infectious illness resulting from climate change.
4. Increase investment and planning to serve vulnerable populations.

EJ Requirements

Identify **policies to reduce health risks among priority communities** by:

- Reducing pollution exposures
- Improving air quality
- Promoting public facilities
- Promoting healthy food access
- Promoting safe and sanitary homes
- Supporting physical activity





Partners/Stakeholders

Government Department/Agencies

- Planning
- Sustainability
- Government
- Emergency management
- Transportation
- Engineering
- Public safety
- Air quality management
- Parks and recreation

Community Groups

- Safety net organizations
- Healthcare
- Non-profit agencies
- Community-based organizations
- Faith Communities
- Housing advocates
- Business
- Education

Engaging with Public Health

1. Request model policies that prioritize health and equity.
2. Invite PH to participate in the development of plans, policies, and evaluation strategies.
3. Obtain data to guide planning efforts and support grant opportunities.
4. Partner with PH to develop innovative strategies and prioritize vulnerable populations.
5. Explore collaborative opportunities to address climate change.





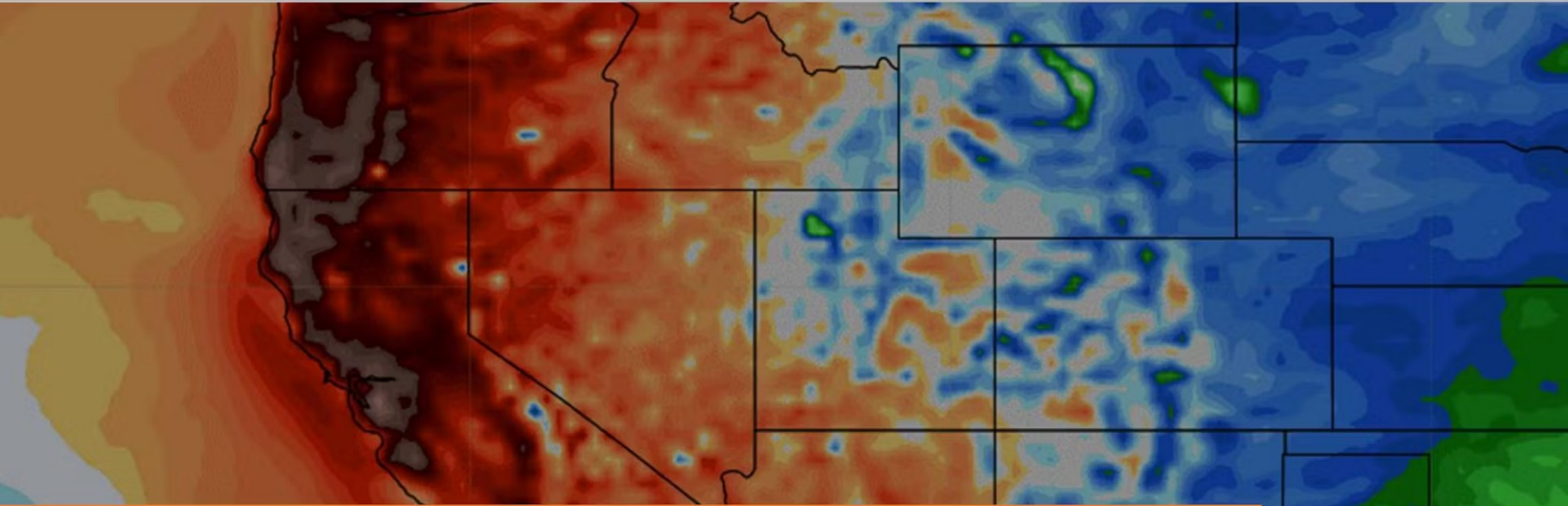
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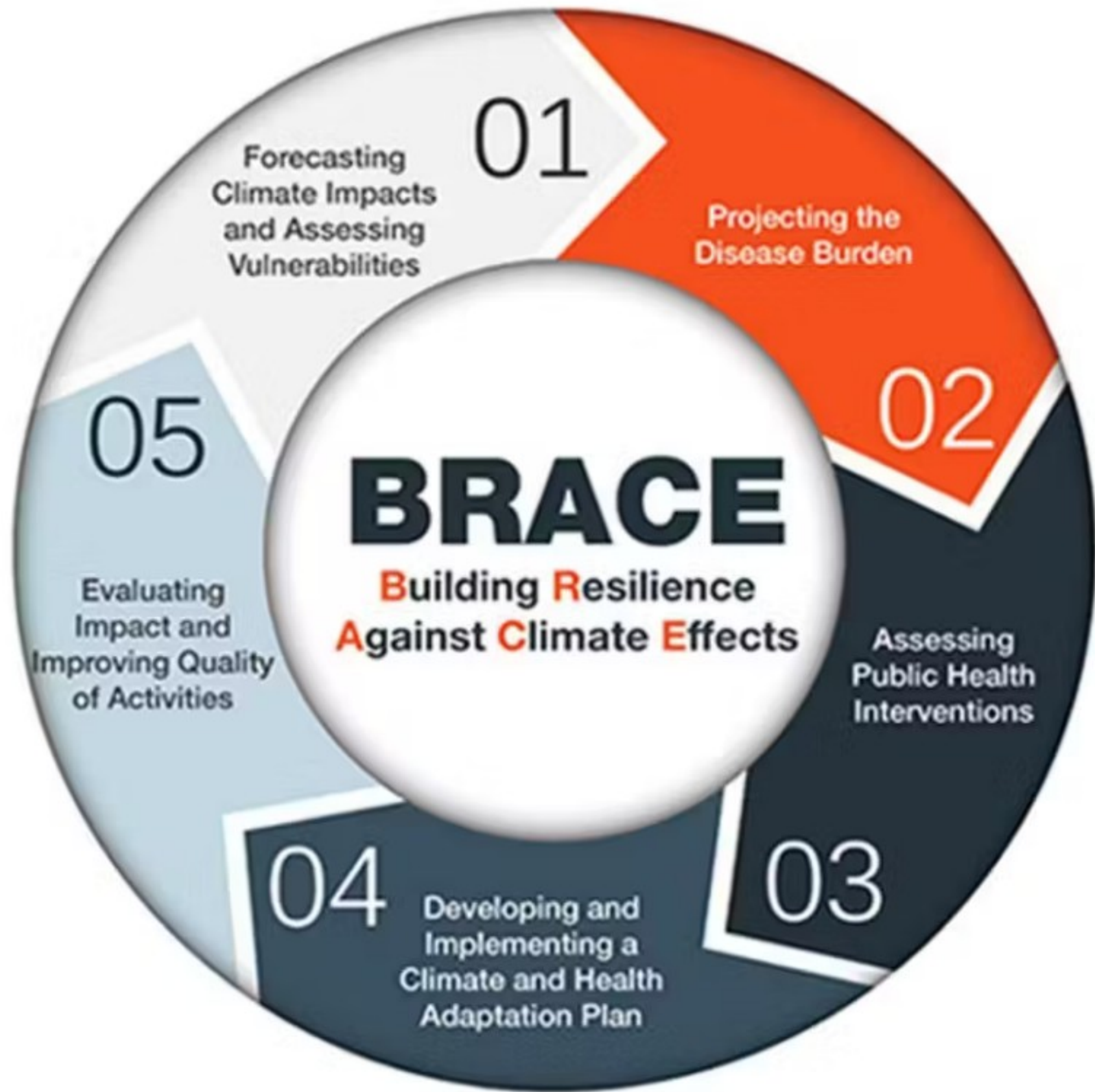
(408) 817-6868

sccphd.org/climate



San Francisco Heat and Air Quality Resilience Project (HAQR)

Matt Wolff | SFDPH Climate and Health Program | Matt.Wolff@sfdph.org



Outreach and Engagement

Research and Data Analysis

Adaptation of Public Health Programs and Services

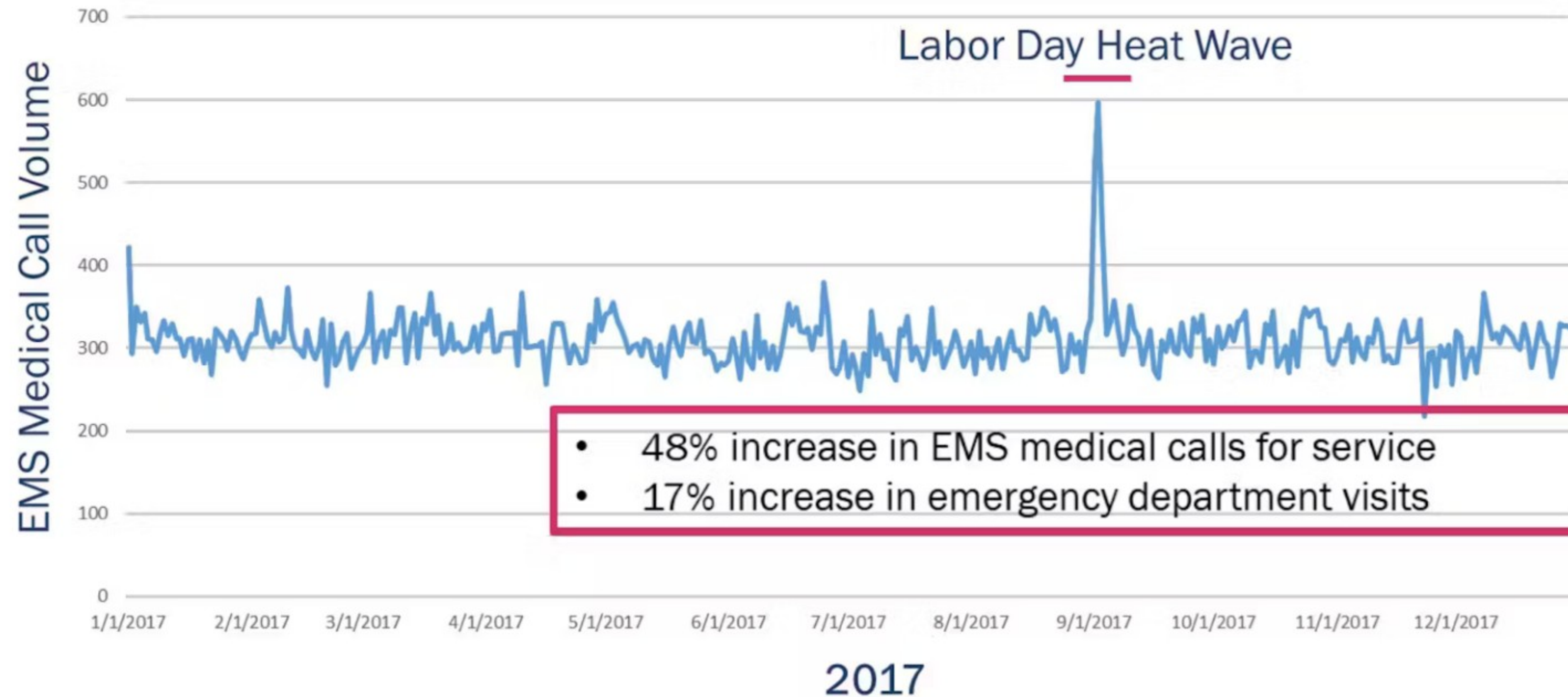
Interdepartmental Planning and Collaboration

Climate change is making San Francisco's extreme heat and wildfire smoke events more frequent and more

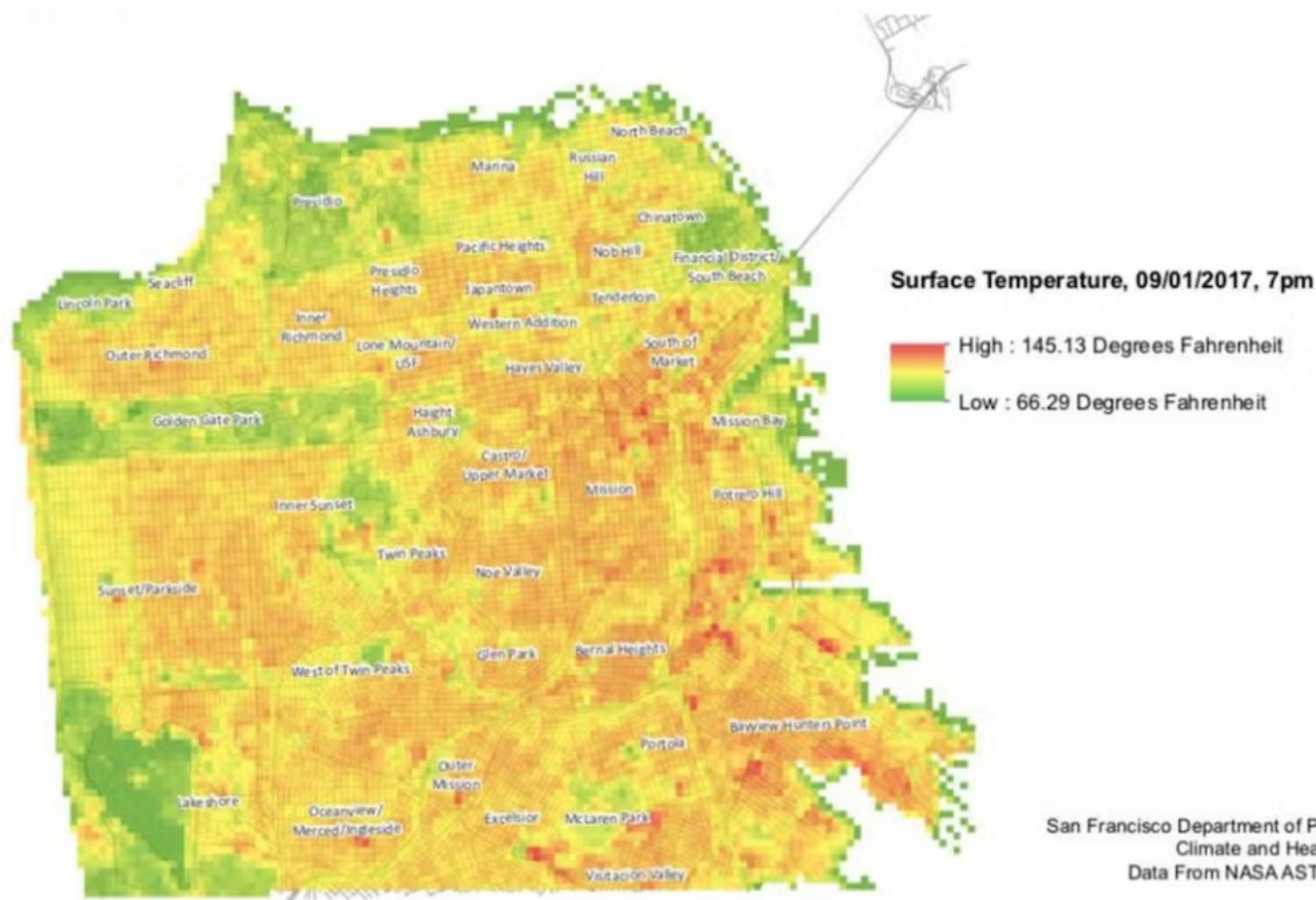
All Days Over 85F (Extreme Heat)					
Days per Year (1961 – 1990)		Mid-Century Projected Days per Year (2035 – 2064)		End-Century Projected Days per Year (2070 – 2099)	
Average	3	Average	7	Average	15
Maximum	10	Maximum	24	Maximum	51

All Heat Days Over 95F (VERY Extreme Heat)					
Days per Year (1961 – 1990)		Mid-Century Projected Days per Year (2035 – 2064)		End-Century Projected Days per Year (2070 – 2099)	
Average	0	Average	1	Average	2
Maximum	1	Maximum	7	Maximum	10

San Francisco is particularly vulnerable to the health impacts of extreme heat



San Francisco is particularly vulnerable to the health impacts of extreme heat



Heat in San Francisco's SROs: One Man's Story

This graph displays temperatures measured by a sensor inside Floyd Ware's room in a Single Room Occupancy building, compared to cooler weather outside. The measurements were taken in summer, 2018.

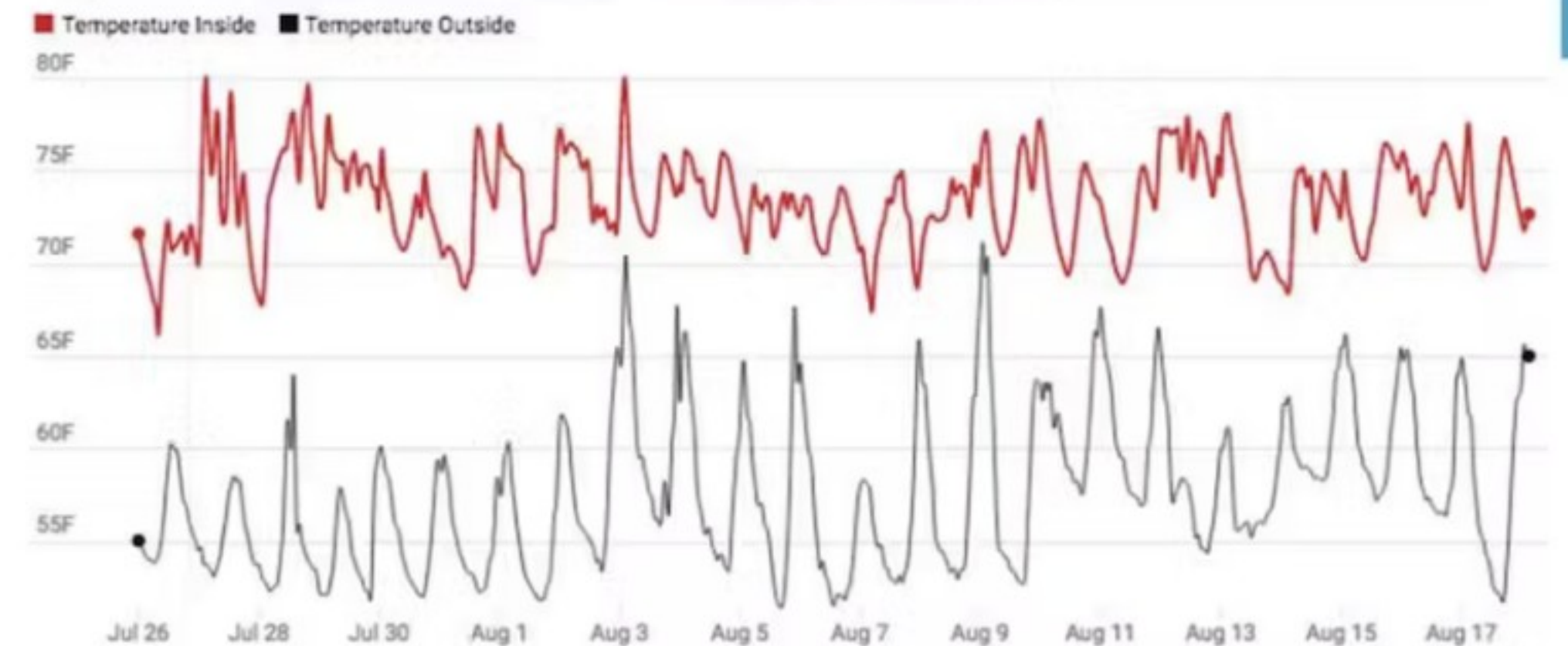


Chart: KQED Science
 - Source: Residential data analyzed by Molly Peterson & Carolyn Thompson, from data gathered by Peterson with sensors supplied by David Hondula at Arizona State University.
 - Created with Datawrapper

San Francisco Department of Public Health
 Climate and Health Program
 Data From NASA ASTER Satellite
 01/17/2019



Because they are such novel hazards, extreme heat and wildfire smoke did not “live” anywhere.

CITY ADMINISTRATOR
ONESF
Building Our Future



San Francisco
Planning

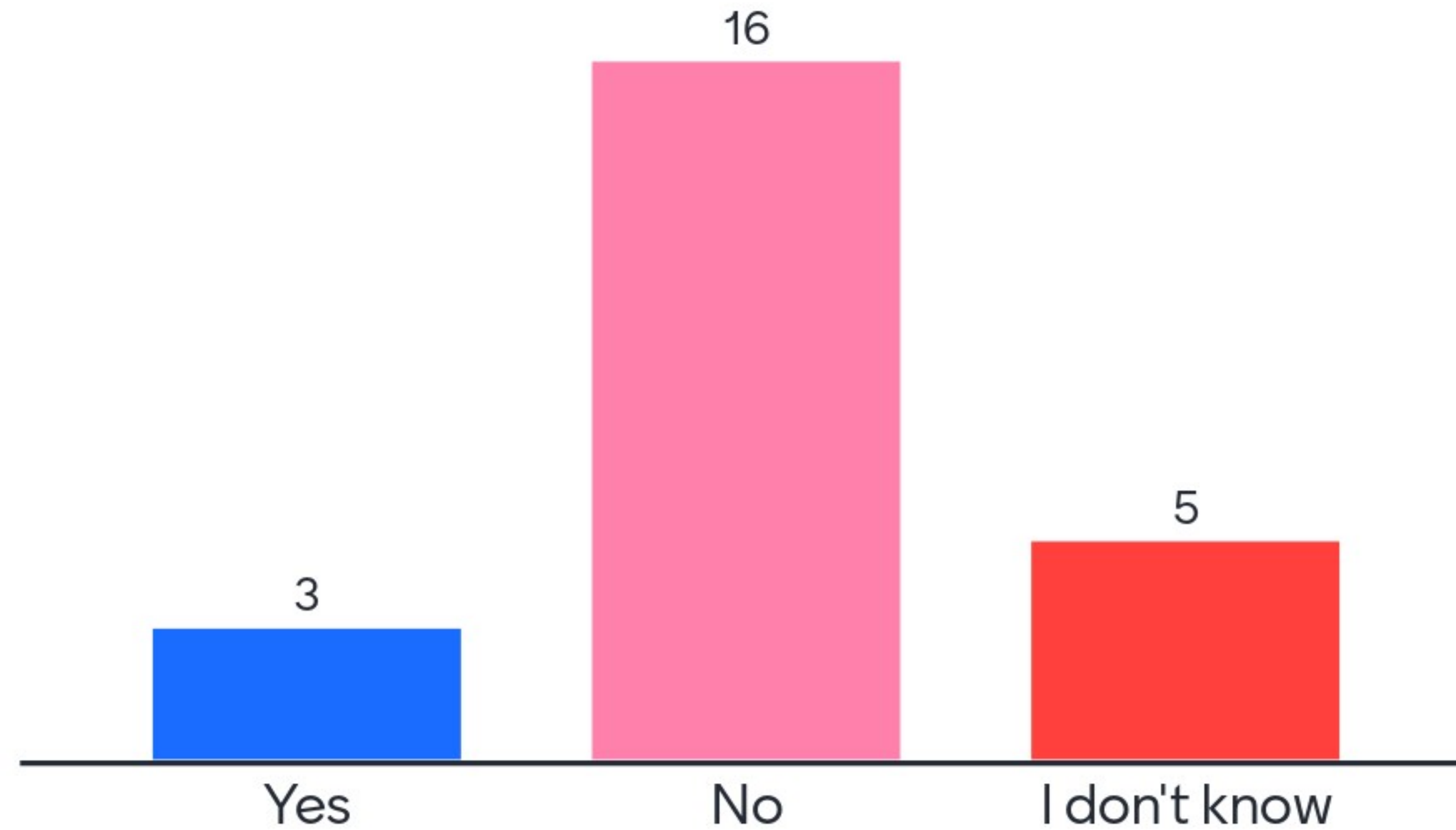
Services of the San Francisco
Public Utilities Commission



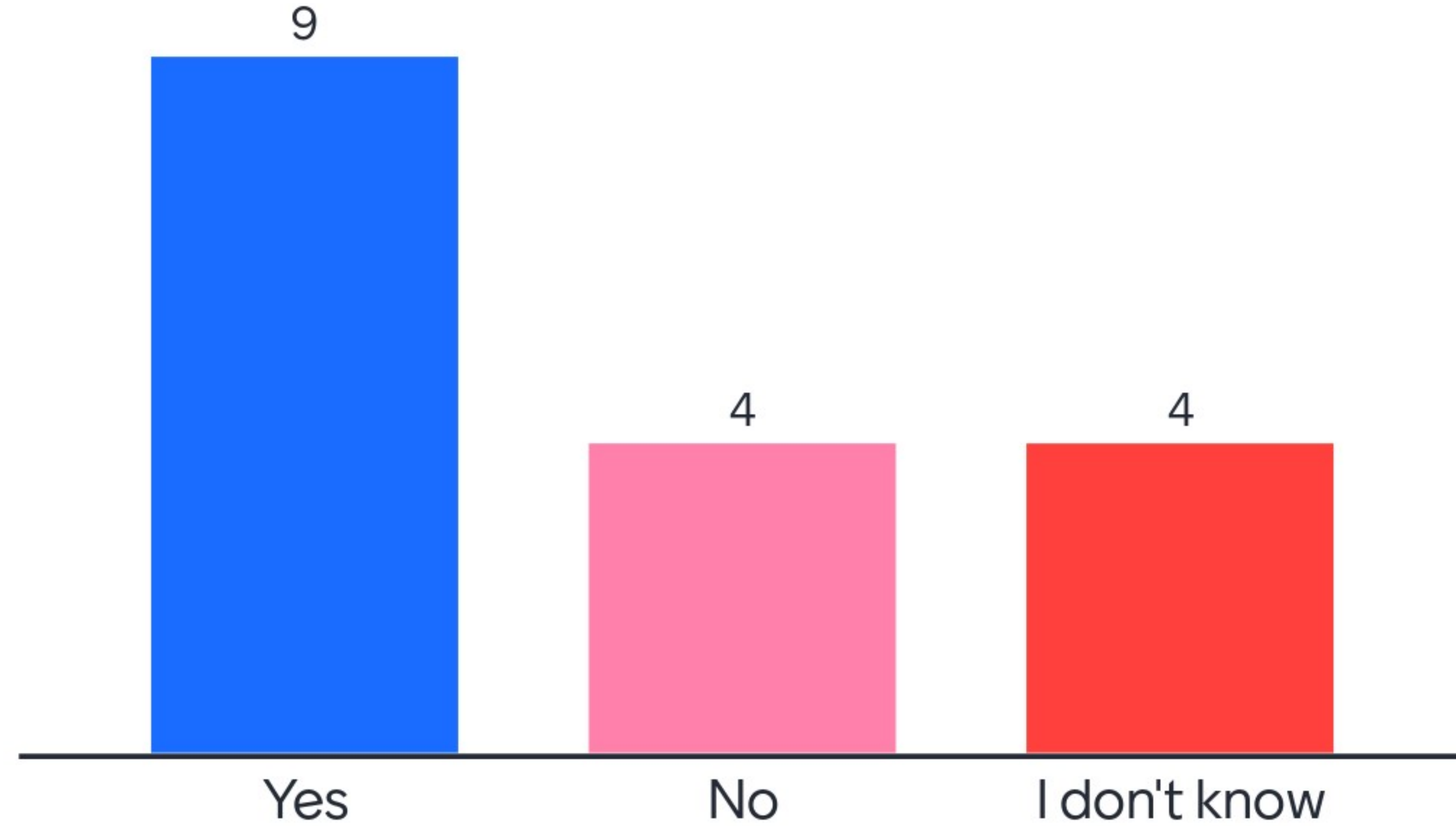
Because they are such novel hazards, extreme heat and wildfire smoke did not “live” anywhere.

Agency Type	Planning and Infrastructure Agencies (asset management framework)	Emergency Response and Healthcare Systems (emergency response framework)
Opportunities	<ul style="list-style-type: none">• Work impacts many of the upstream causes of vulnerability• Long timelines• Continuous engagement• Access to financial resources	<ul style="list-style-type: none">• Actions largely centered on human health and equity• Significant public communications capacity.• Framework <i>more</i> aligns with community priorities
Barriers	<ul style="list-style-type: none">• Actions largely centered on physical infrastructure and assets• Limited access to health data to drive equitable implementation• Less communications capacity• Competing priorities	<ul style="list-style-type: none">• Often event-specific engagement• Often short-term actions• Often does not address root causes of inequities• Focus on “heat” or “wildfire smoke” or “vectors” instead of “climate change”

Are your jurisdiction's climate change efforts centralized?



Is public health part of this process?



The Heat and Air Quality Resilience Project:

Summary:

The Heat and Air Quality Resilience Project (HAQR) is a cross-sectoral initiative to get the public, private, community, and academic stakeholders together identify, plan, and implement medium-to-long term extreme heat and wildfire smoke resilience strategies to support short-term emergency response actions.

Objectives:

1. Centralize extreme heat and air quality resilience planning to foster increased interdepartmental coordination and align objectives, share research, engage stakeholders, identify barriers, and discuss heat and air quality-related issues as they emerge.
2. Facilitate the technical implementation and evaluation of specific extreme heat and air quality-related strategies.

Program Management

- Public Health, Office of Resilience and Capital Planning

Oversight:

- Public Health, Office of Resilience and Capital Planning, Department of Emergency Management, ClimateSF

The Heat and Air Quality Resilience Project:

Coordination Committee



Implementation Teams



Existing Buildings



Green Infrastructure



Community Readiness



Emergency Response

Data and Research



18+ City Agency Partners



10+ CBO Partners

The Heat and Air Quality Resilience Project:

Outcomes	Barriers	Landscape Analysis	Opportunities	Strategies
Where would we like to be?	Why aren't we there now?	What have we done so far?	How can we improve / add to that?	Prioritized list of actions



Existing Buildings

Green Infrastructure

Community Readiness

Emergency Response

The Heat and Air Quality Resilience Project:

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Full Plan

<https://onesanfrancisco.org/sites/default/files/inline-files/HAQR-230522.pdf>

New Website

<https://sf.gov/san-francisco-climate-and-health-program>

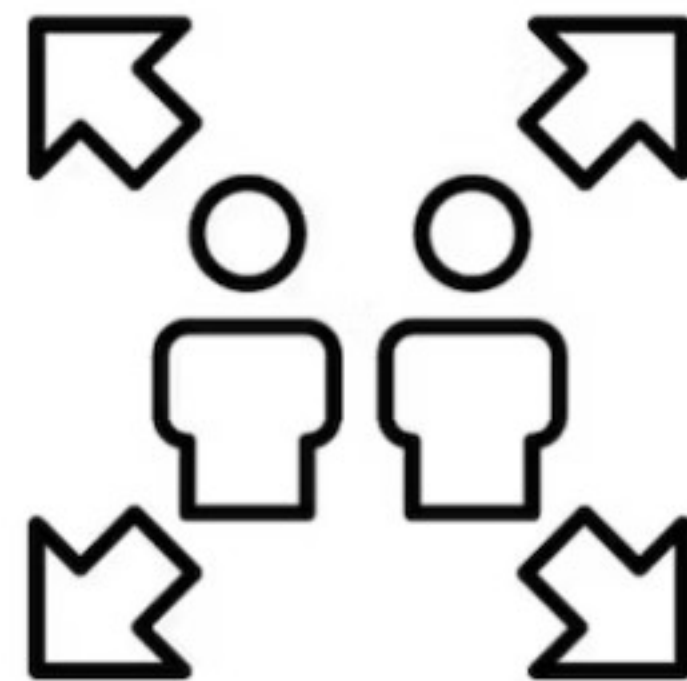


The Heat and Air Quality Resilience Project: What's Next

HAQR is moving from planning to implementation. Here's how public health can support.



Facilitation



Outreach



Research



Implementing
Health-Specific
Interventions



Contact Information

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<https://sf.gov/san-francisco-climate-and-health-program>

Small Group Discussion

When it comes to climate...

1. How have you worked or would like to work with a health department? Have you prioritized vulnerable populations in this work? Please explain.
2. When engaging with a health department, what has/hasn't worked well?

What do you want or need from your local health department?



Questions?



Thank you!

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