



# Building Resilience Against Climate Effects

Neil Maizlish, PhD, Climate and Health Team  
Office of Health Equity

California Department of Public Health  
Local Health Department Kick-off, May 27, 2014



# CalBRACE Framework: Overview

---

- CalBRACE 5-Step Model:
  1. Forecast climate change exposures and population vulnerabilities at a local/regional level
    - Heat, sea level rise/storms, wildfire projected distributions using Cal-Adapt (12km grids)
    - Vulnerability assessment using EJST climate change ASTHO add-on
  2. Conduct regionalized health risk assessments
    - Heat-related illness and mortality, weather-related injuries, increased PM2.5/ozone from heat and wildfires, post-traumatic stress, food insecurity/fuel price using comparative risk assessment and burden of disease database
  3. Assess interventions to adapt/build community resilience to climate
  4. Make/refine adaptation plans and their implementation
    - Engagement with local health departments and fit with existing public health programs
    - Build capacity for local health department staff engage and participate in local/regional adaptation efforts
  5. Evaluate BRACE process and outcomes/impacts



# Step 1. Forecast climate change exposures and population vulnerabilities

---

- *CDC: “the Climate and Health Report should be prepared with multiple audiences in mind, and it should lay the groundwork for the subsequent steps outlined in the BRACE”*
  1. Rationale and objectives
  2. Climate projections summary
  3. Climate-sensitive health impacts
  4. Demographic groups and geographic areas deemed most vulnerable



# Objectives for the Climate and Health Report

- Statewide overview
- County-specific chapters
  - Target audience: Local health department and local government staff, CBOs, policy makers/staff (non technical lay audience)





# Objectives for the Climate and Health Report

---

1. Useful to state/local health departments to carry out essential functions:
  - Monitor health status to identify community health problems.
  - Diagnose and investigate community health problems/health hazards
  - Inform, educate, and empower people about health issues
  - Mobilize community partnerships to identify and solve health problems
  - Develop policies/plans that support individual/community health efforts
  - Link people to needed personal health services
  - Assure a competent public health and personal healthcare workforce.
  - Evaluate effectiveness, accessibility, and quality of health services.



# Objectives for the Climate and Health Report

---

## 2. Accessible to target audience

- Highlight visuals (graphs, maps) and keep text narrative to minimum
- Jargon-free, plain English

## 3. Describe the link between:

- climate and health
- vulnerable populations
- health equity
- mitigation and adaptation
- co-benefits

## 4. Be objective and evidence-based



# Objectives for the Climate and Health Report

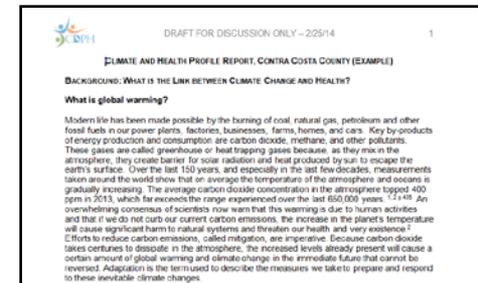
## 5. Inform with:

- realistic tone
- not being depressing, or demotivating
- offer strategies for solutions at same time as raising climate and health threats

## 6. Be conscious of potential for under-reaction or overreaction

## 7. Complement and be consistent with more technical detailed information (vulnerability assessment at census tract) and less technical information (general public educational materials)

Please refer to handout





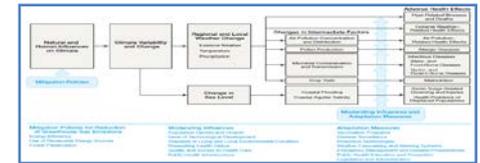
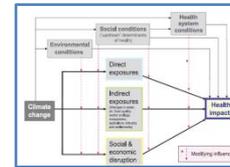
# Outline of the Climate and Health Report

---

- I. Background: Link Between Climate and Health
  - a. What is global warming?
  - b. How will it impact climate and weather?
  - c. What are pathways in which climate change impacts health?
  - d. Which population subgroups are particularly vulnerable?
  
- II. Climate and Health Profile for County X
  - a. What are the climate projections?
  - b. What is the health status and existing health inequities?
  
- III. What are the strategies we can use to meet the challenge of climate change?

# Content and Format of Draft Template

- Can you use this? How?
- What you like? What you don't like? What's missing? What is unnecessary?
- Text: More/less/OK detail?
- Figures: Figure 1, Figure 2
- Table 1 graphics (Cal-Adapt Summary)
- Vulnerability Bar Graph
- Fire maps
- Flood maps
- Table 2 (Public health strategies)



**Table 1. Major and Minor Climate Problems for the Bay Area in 2050 and 2080.**

Problem	2050	2080
Temperature	Annual average temperature will increase by 2.0 to 3.0 degrees Fahrenheit (1.1 to 1.7 degrees Celsius) by 2050. The number of days with temperatures above 90 degrees Fahrenheit (32 degrees Celsius) will increase by 10 to 20 days per year. The number of days with temperatures above 100 degrees Fahrenheit (38 degrees Celsius) will increase by 5 to 10 days per year.	Annual average temperature will increase by 4.0 to 6.0 degrees Fahrenheit (2.2 to 3.3 degrees Celsius) by 2080. The number of days with temperatures above 90 degrees Fahrenheit (32 degrees Celsius) will increase by 20 to 30 days per year. The number of days with temperatures above 100 degrees Fahrenheit (38 degrees Celsius) will increase by 10 to 20 days per year.
Sea Level Rise	Sea level rise will range from 1 to 3 feet (0.3 to 0.9 meters) by 2050. The number of days with sea level rise above 1 foot (0.3 meters) will increase by 10 to 20 days per year.	Sea level rise will range from 3 to 6 feet (0.9 to 1.8 meters) by 2080. The number of days with sea level rise above 1 foot (0.3 meters) will increase by 20 to 30 days per year.
Floods	Floods will increase in frequency and severity. The number of days with flooding above 1 foot (0.3 meters) will increase by 10 to 20 days per year.	Floods will increase in frequency and severity. The number of days with flooding above 1 foot (0.3 meters) will increase by 20 to 30 days per year.



**Table 2. What are some of the public health strategies and action steps for adapting to climate change?**

Strategy	Objective
1. Increase community resilience to climate change by reducing greenhouse gas emissions and increasing energy efficiency.	• Reduce greenhouse gas emissions • Increase energy efficiency • Increase community resilience to climate change
2. Develop climate change adaptation plans for California residents, organizations, and businesses to reduce vulnerability and increase resilience.	• Develop climate change adaptation plans • Increase community resilience to climate change • Increase organizational resilience to climate change
3. Increase community resilience to climate change by increasing community preparedness and response capacity.	• Increase community resilience to climate change • Increase organizational resilience to climate change • Increase community preparedness and response capacity
4. Increase community resilience to climate change by increasing community preparedness and response capacity.	• Increase community resilience to climate change • Increase organizational resilience to climate change • Increase community preparedness and response capacity
5. Increase community resilience to climate change by increasing community preparedness and response capacity.	• Increase community resilience to climate change • Increase organizational resilience to climate change • Increase community preparedness and response capacity
6. Increase community resilience to climate change by increasing community preparedness and response capacity.	• Increase community resilience to climate change • Increase organizational resilience to climate change • Increase community preparedness and response capacity
7. Increase community resilience to climate change by increasing community preparedness and response capacity.	• Increase community resilience to climate change • Increase organizational resilience to climate change • Increase community preparedness and response capacity
8. Increase community resilience to climate change by increasing community preparedness and response capacity.	• Increase community resilience to climate change • Increase organizational resilience to climate change • Increase community preparedness and response capacity
9. Increase community resilience to climate change by increasing community preparedness and response capacity.	• Increase community resilience to climate change • Increase organizational resilience to climate change • Increase community preparedness and response capacity
10. Increase community resilience to climate change by increasing community preparedness and response capacity.	• Increase community resilience to climate change • Increase organizational resilience to climate change • Increase community preparedness and response capacity



## Contact Information

---

Neil Maizlish ([Neil.Maizlish@cdph.ca.gov](mailto:Neil.Maizlish@cdph.ca.gov))

Kathy Dervin ([Kathy.Dervin@cdph.ca.gov](mailto:Kathy.Dervin@cdph.ca.gov))

Paul English ([Paul.English@cdph.ca.gov](mailto:Paul.English@cdph.ca.gov))

Dorette English ([Dorette.English@cdph.ca.gov](mailto:Dorette.English@cdph.ca.gov))

### CalBRACE Team

