



# Building Resilience Against Climate Effects

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

California Department of Public Health



# 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

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- *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

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

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## 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

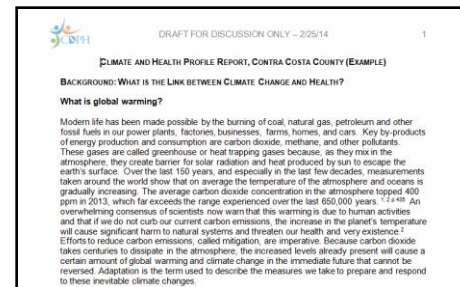
## 5. Inform with:

- 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





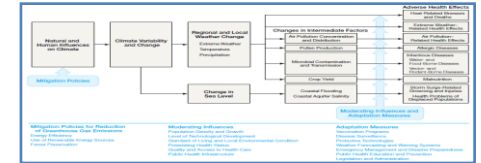
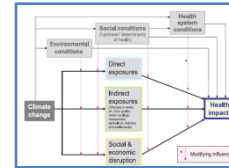
# Outline of the Climate and Health Report

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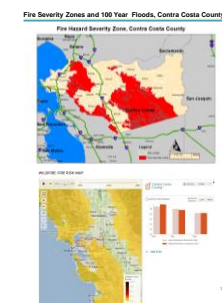
- I. Background: Link Between Climate and Health
  - a. What is global warming?
  - b. How will it impact climate and weather?
  - c. What are pathways in which climate change impacts health?
  - d. Which population subgroups are particularly vulnerable?
  
- II. Climate and Health Profile for County 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)



Climate Factor	2050 Range of Projections	2080 Range of Projections
Temperature	July 31st to 97th percentiles increase in average temperatures by 2.0C	July 31st to 97th percentiles increase in average temperatures by 4.0C
Precipitation	Precipitation varies widely in the winter, with annual totals from 40 inches to 100 inches. In the summer, totals are from 10 to 20 inches.	Precipitation varies widely in the winter, with annual totals from 40 inches to 100 inches. In the summer, totals are from 10 to 20 inches.
Sea Level Rise	10-20" sea levels may rise up to 10 inches, giving considerable threats to coastal areas especially in the San Francisco Bay Area.	10-20" sea levels may rise up to 10 inches, giving considerable threats to coastal areas especially in the San Francisco Bay Area.
Heat Waves	Along the coast, particularly in the south, heat waves are defined as four days over 100°F in a row. Under the assumption of the rate to appear this is expected by 2050 with only the western area exceeding more than one or two times per year. By 2080, between one and 10 times heat waves are expected.	Along the coast, particularly in the south, heat waves are defined as four days over 100°F in a row. Under the assumption of the rate to appear this is expected by 2050 with only the western area exceeding more than one or two times per year. By 2080, between one and 10 times heat waves are expected.
Drought Risk	There is a high chance of increased risk in that region, due to the slight decrease in precipitation in western California.	There is a high chance of increased risk in that region, due to the slight decrease in precipitation in western California.



Strategy	Public Health Strategy	Action Steps
1. Increase community resilience to climate change by reducing vulnerability	• Promote healthy diet environments • Identify and reduce health vulnerabilities • Improve food security and quality	• Promote food accessibility • Reduce food waste • Promote safe food environments • Increase food security and quality
2. Educate community members on climate change and its impacts	• Increase community awareness of climate change and its impacts • Increase community awareness of climate change and its impacts	• Increase community awareness of climate change and its impacts • Increase community awareness of climate change and its impacts
3. Increase community resilience to climate change by reducing vulnerability	• Promote healthy diet environments • Identify and reduce health vulnerabilities • Improve food security and quality	• Promote food accessibility • Reduce food waste • Promote safe food environments • Increase food security and quality
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# Objectives Met?

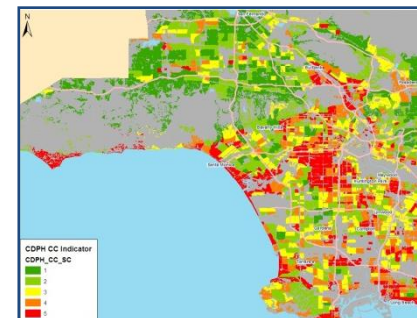
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3. Describe the link between climate and health, vulnerable populations, health equity, mitigation and adaptation, co-benefits
4. Objective and evidence-based
5. Inform with realistic tone, not being depressing, offer strategies for solutions
6. Be conscious of potential for under-reaction or overreaction
7. Complement and be consistent with more technical detailed information



# Next Steps

- Climate and health profile report
  - Additional feedback in webinars and re-prototype
  - Learn more how will be used
  - Build statewide database
- Tie into detailed vulnerability assessment
- Assess additional burden of disease
- Capacity building activities

Final CDPH Climate Vulnerability Scores



## Contact Information

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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

