

# Climate Adaptation from a Public Health Perspective

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# Overview

- Health impacts of climate change in the Los Angeles region
- Climate adaptation planning at the Department of Public Health
- Future needs and directions



# Climate Change in Los Angeles means

- Higher average temperatures
  - More extreme heat days (over 95°F)
- Worse air quality
- More acres burned by wildfires
- Greater incidence of vector-borne diseases



# Health impact: Heat

- Hundreds of deaths in the US:
  - Philadelphia (1993):  
**118 deaths**<sup>1</sup>
  - Chicago (1995):  
**739 deaths**<sup>2</sup>
  - California (2006):  
**> 650 deaths**<sup>3</sup>
- More deaths than floods, storms, and lightning combined<sup>4</sup>



# Health impact: Heat

## California Heat Wave of 2006

- **Illness**

- 16,166 excess ER visits; 1,182 excess hospitalizations
- More ER visits for heat-related illness, acute kidney failure, cardiovascular diseases, diabetes, electrolyte imbalance, nephritis (kidney inflammation)<sup>5</sup>



# Health impact: Heat

## Los Angeles County

- 3.6 x as many heat-related Emergency Dept. visits and 5.6 x as many emergency calls on days  $\geq 100^{\circ}\text{F}$  vs. days  $80\text{-}89^{\circ}\text{F}$ <sup>6</sup>
- Only known region in the country to experience winter heat-related mortality



# Heat: Vulnerable populations

- Outdoor workers
- The elderly
- Young children
- Athletes
- People with chronic medical conditions
- Homeless
- Low income
- People without air conditioning
- People in areas with minimal tree canopy or green space

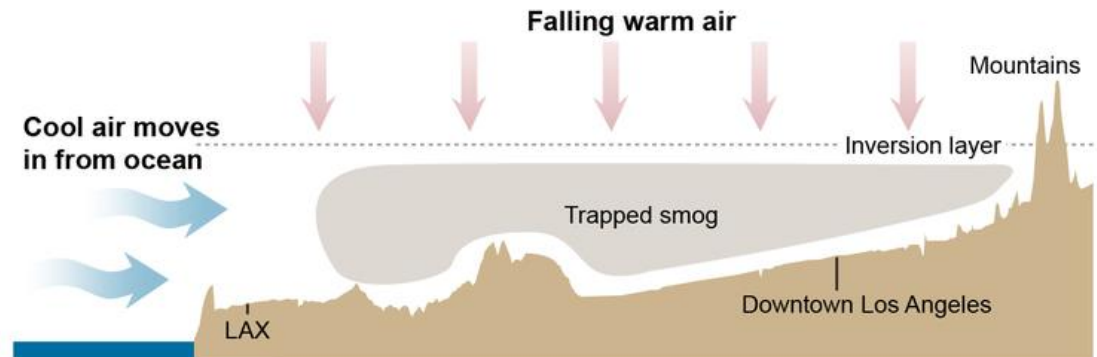


# Health impact: Air quality

- Heat worsens air quality
  - More creation of ground-level ozone
  - More temperature inversions
  - Wildfires

## Smog sticks around

Pollution can get trapped in a basin when high pressure prevents air from moving.



Sources: Times reporting and Google Earth

Jon Schleuss / @latimesgraphics





# Health impact: Wildfires

- Asthma and other respiratory illnesses
- Displacement and trauma
- Interruption of public services



# Five Point Plan to Reduce the Health Impacts of Climate Change



## **Inform**

...and engage the general public about the nature of climate change and the health co-benefits associated with taking action to reduce carbon emissions.



## **Promote**

...local planning, land use, transportation, water, and energy policies that reduce carbon emissions and support the design of healthy and sustainable communities.



## **Provide**

...guidance on climate preparedness to local government and community partners to reduce health risks and create more resilient communities.



## **Build**

...the capacity of Departmental staff and programs to monitor health impacts, integrate climate preparedness, and improve climate response.



## **Adopt**

...best management practices to reduce carbon emissions associated with Departmental facilities and internal operations.



# Staff capacity building

- Climate & Health Workshop Series
  - Presentations developed by UCLA
  - Locally-specific projections
  - Brainstorming sessions informed development of *Five Point Plan*



# Cross-departmental collaboration

- **Climate Committee**
  - Formed in 2014
  - Focused on advancing projects related to climate change
  - Comprised of Public Health, Public Works, Regional Planning, Parks and Recreation, Fire, Internal Services, CEO



# Cross-departmental collaboration

- Hallmarks of Climate Committee
  - Consensus-building
  - Agreed-upon criteria for selecting projects
  - Action-oriented (clear, concrete, and achievable goals)
  - Focus on assisting each member meet existing mandates



# Urban heat island effect in LA

89.3 KPCC



LISTEN LIVE

NEWS

PROGRAMS

EVENTS

SUPPORT US

ABOUT US



DONATE NOW



## Environment & Science

### LA area has highest urban heat island effect in California

Sanden Totten

September 21 2015

*Downtown Los Angeles. DAVID MCNEW/GETTY IMAGES*



COUNTY OF LOS ANGELES  
**Public Health**

# Reducing the urban heat island

- Saves lives
- Lowers energy costs
- Allows people to exercise and play outside
- Improves air quality





# Measures to reduce urban heat island

- Trees
- Green space
- Cool roofs
- Cool and permeable pavements



# Tree Committee

- Interdepartmental collaboration to expand and maintain the urban forest



# Public concerns

- Lack of green space and parks
- No air conditioning
- Asthma and allergies
- Elderly neighbors can't reach cooling centers

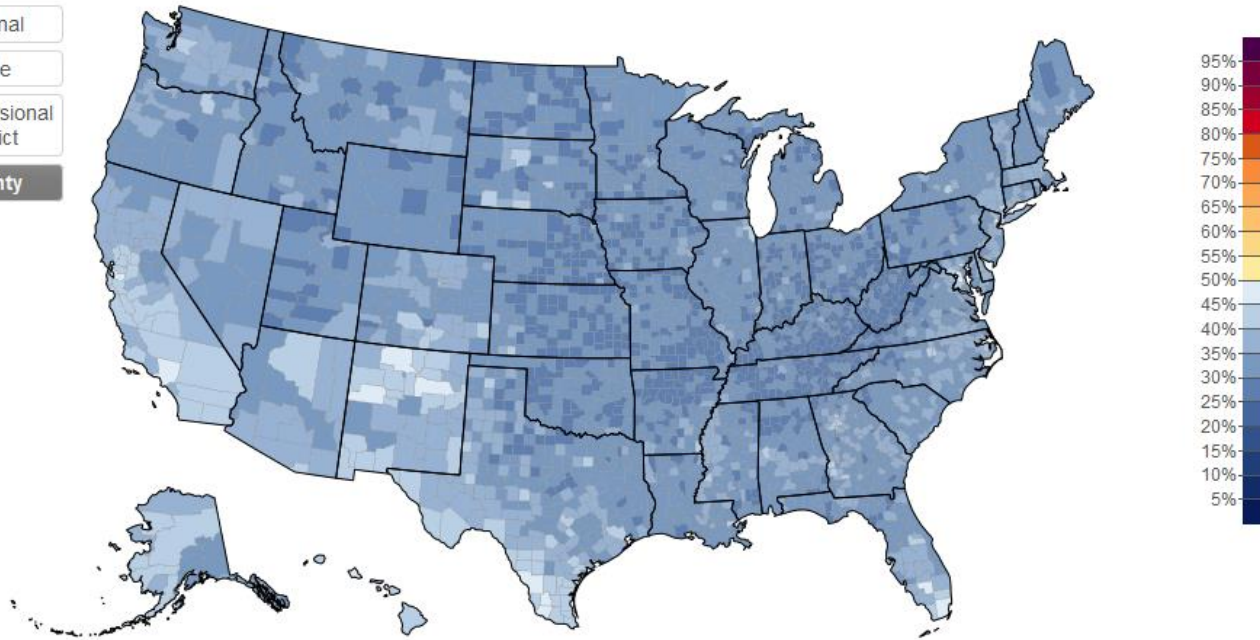


# Public opinions about climate change

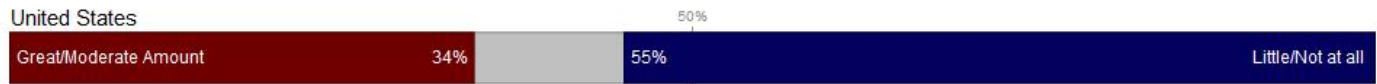
Estimated % of adults who think global warming will harm them personally, 2014

Display model output:

- National
- State
- Congressional District
- County**



... 5.3k  
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# The public health frame

- Framing climate change with a “public health focus was the most likely to elicit emotional reactions consistent with support for climate change mitigation and adaptation.”



# Future needs and directions

- Coordination
- Communication
- Capacity



# Future needs and directions

- Increase **Coordination** with other counties and the State
- Expand **Communication**, with an emphasis on public health framing
- Develop staff **Capacity** (“climate literacy”)



# References

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