



Climate Change as a Public Health Issue: *Communication Lessons and Strategies for Local Health Departments*

Nov 12, 2010 - Oakland

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Workshop Overview

- Welcome and Introductions
- Agenda and schedule
- Logistics

Climate Change & Health

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Climate Change:

- Temperature rise
- Sea level rise
- Hydrologic extremes

HEAT



Heat stress, cardiovascular failure

SEVERE WEATHER



Injuries, fatalities

AIR POLLUTION



Asthma, cardiovascular disease

ALLERGIES



Respiratory allergies, poison ivy

VECTOR-BORNE DISEASES



Malaria, dengue, encephalitis, hantavirus, Rift Valley fever

WATER-BORNE DISEASES



Cholera, cryptosporidiosis, campylobacter, leptospirosis

WATER AND FOOD SUPPLY



Malnutrition, diarrhea, harmful algal blooms

MENTAL HEALTH



Anxiety, despair, depression, post-traumatic stress

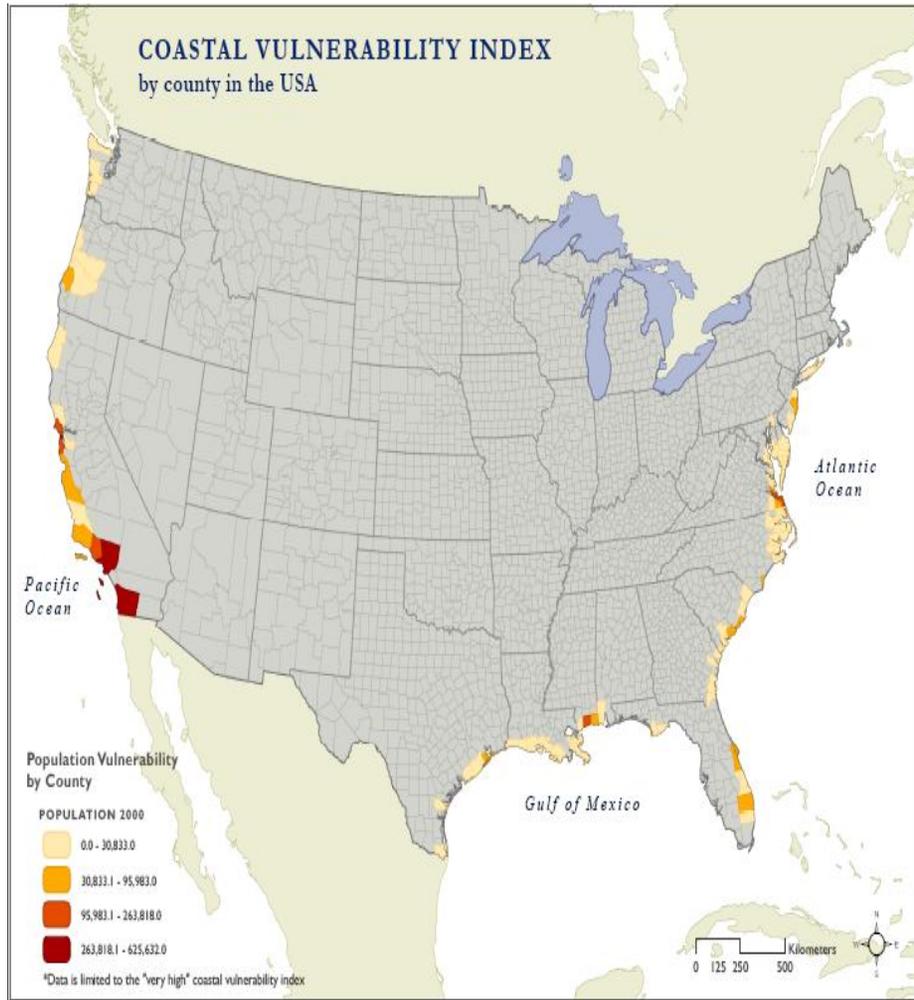
ENVIRONMENTAL REFUGEES



Forced migration, civil conflict

Adapted from J. Patz

Population at risk for sea level rise



Increased risk from flooding from a 1.4-meter sea-level rise:

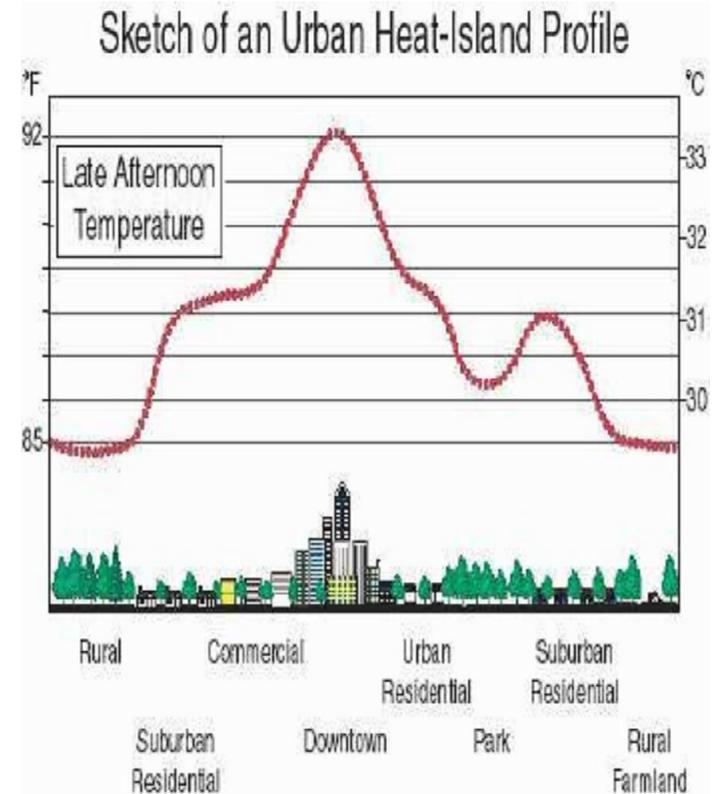
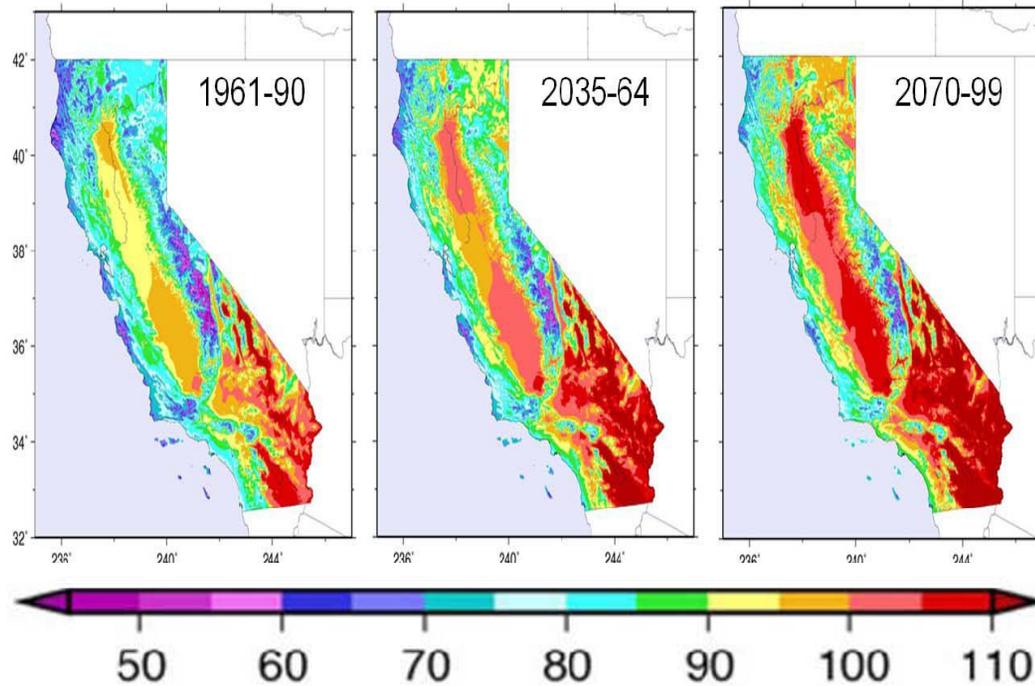
- 480,000 people
- Wide range of critical infrastructure
- Vast areas of wetlands and other natural ecosystems
- Nearly \$100 billion in property along the California coast

Pacific Institute

Source: USGS and U.S. Census 2000

Heat

California Historical and Projected July Temperatures



- Europe 2003: 30,00 confirmed, estimated 70,000 deaths
- California 2006: estimated 650 excess deaths
- Urban Heat Island: Can add 7° – 12° F

Paradise: Today the AQI in Paradise is forecast to reach **375**. At this level the air quality is rated **HAZARDOUS**.

Building existing capacity of Public Health's Emergency Preparedness operations to respond to climate change related incidents and emergencies



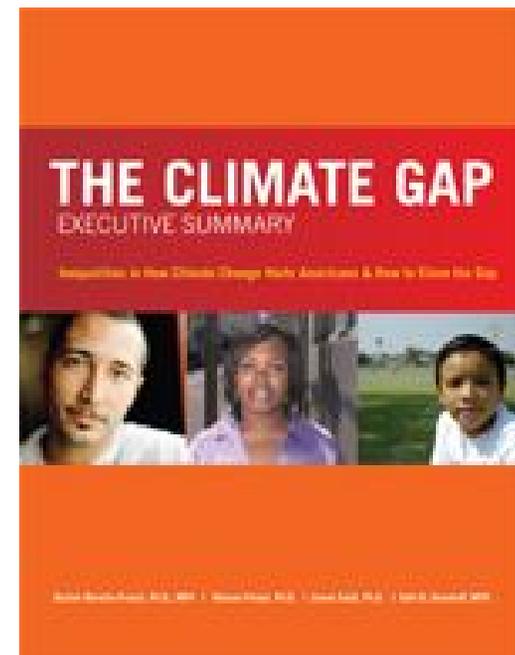
Wildfire forces out thousands of Californians - Photo 14 of 16

The Station Fire is visible Saturday night from the mountains near the Rose Bowl in Pasadena in a photo from iReporter Tammy Alsterlind. Courtesy Tammy Alsterlind

Photo from CNN <http://www.cnn.com/2009/US/08/31/california.wildfires/index.html#cnnSTCPhoto>

The Climate Gap

- Low-income & minority at increased risk for:
 - Heat effects
 - urban heat islands
 - more concrete, fewer trees, less green space
 - less AC, less transportation options
 - agricultural and construction work
 - Increased air pollution impacts
 - Proximity to traffic, ports
 - Higher baseline respiratory/CV illness
 - Impacts of extreme weather events
 - Think Katrina
 - Fuel poverty with rising energy costs
 - Food insecurity with rising food costs
 - Economic impacts of climate-related job loss
 - Agriculture
 - tourism



Why must public health be involved?

- Climate change happening now
 - Faster than expected
 - Upper end of IPCC scenariosScale of threat: global; touches all, everywhere
- Intensity of the threat: threatens all of our basic survival mechanisms -- food, water, shelter, and health.
- Scale of response: must engage every sector of society
- Timeframe for response: "...we have at most 10 years -- not 10 years to decide upon action, but 10 years to alter fundamentally the trajectory of global greenhouse emissions."
- If we act urgently and aggressively we can
 - Prevent the most catastrophic climate scenarios
 - Promote mitigation and adaptation strategies with health co-benefits
 - Build resilient communities to adapt better
- "There is still time, but just barely."

(James Hansen)

Adaptation and Mitigation

- Mitigation involves attempts to slow, stabilize, or reverse the process of global climate change by lowering the level of greenhouse gases in the atmosphere
 - Public health primary and secondary prevention

- Adaptation involves developing ways to protect people and places by reducing their vulnerability to and lessen the impact of climate change
 - Public health preparedness & response, tertiary prevention

- BOTH ARE NECESSARY.

Transportation Sector Health Co-Benefits

Reductions

- Greenhouse gas emissions
- Air pollution
- Noise
- Infrastructure costs
- Community Severance

Increases

- Physical Activity
- Social Capital

Reductions

- Respiratory disease
- Traffic injuries
- Heart disease
- Depression
- Osteoporosis
- Diabetes
- Cancer
- Stress



Climate & Health Benefits of Local Sustainable Food Systems

Reductions

- Greenhouse gas emissions
- Pesticide use
- Synthetic fertilizer use
- Food miles
- Antibiotic use
- Water pollution (nitrates)
- Air pollution
- Biodiversity loss
- Soil erosion
- Unsustainable H2O consumption

Increases

- Local food systems
- Rural community strength

Reductions

- Ischemic heart disease
- Obesity
- Colorectal cancer
- Breast & prostate cancers
- Type II Diabetes
- Antibiotic resistance
- Respiratory disease
- Pesticide health effects



Heat Adaptation & Preparedness Co-Benefits

- Promote community resilience to reduce vulnerability to climate change
 - Map heat vulnerability locally
 - Identify vulnerable populations
 - Urban heat island mitigation
 - Built environment
 - Urban greening
 - Reduce baseline air pollution exposures
 - Social support
- Promote public health infrastructure
 - Heat warning system
 - Cooling Centers
- Strengthen PH Surveillance Capacity
 - Real-time ER/hospital surveillance
- Urban greening
- Reduce heat island effect
 - Energy consumption
 - Lower energy costs
- Reduce air pollution
- Reduce storm water run-off
 - Decrease flooding risk
- Improve aesthetics
 - Reduce crime
- Places to be active
- Healthy food access

California Climate Action

- AB 32 California Global Warming Solutions Act
- California Climate Adaptation Strategy
- Strategic Growth Council and SB375
 - Sustainable Community Plans
 - SGC grants – Urban Greening, Sustainable Communities
- Climate Action Team (CAT)
 - Public Health Work Group

Action is urgent !

“Ignorance is no excuse for us. There is overwhelming scientific evidence of global warming, its causes, and many of its implications. Today’s generations will be accountable, and how tall we stand remains to be determined. There is still time, but just barely.”

James Hansen