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

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Workshop Overview

- Welcome and Introductions
- Agenda and schedule
- Logistics
Climate Change:
- Temperature rise
- Sea level rise
- Hydrologic extremes

Adapted from J. Patz

- Heat stress, cardiovascular failure
- Injuries, fatalities
- Asthma, cardiovascular disease
- Respiratory allergies, poison ivy
- Malaria, dengue, encephalitis, hantavirus, Rift Valley fever
- Cholera, cryptosporidiosis, campylobacter, leptospirosis
- Malnutrition, diarrhea, harmful algal blooms
- Anxiety, despair, depression, post-traumatic stress
- Forced migration, civil conflict
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

Source: USGS and U.S. Census 2000

Pacific Institute
Heat

California Historical and Projected July Temperatures

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

CDPH November 200
**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

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

Morello-Frosch, Pastor
Why must public health be involved?

- Climate change happening now
  - Faster than expected
  - Upper end of IPCC scenarios
  Scale 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
“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