

Public Health and Climate Change

California State Activities

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Action is urgent.

- Scale & complexity 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."
- "There is still time, but just barely."

(James Hansen)

Prevention and Preparedness

- 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.

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California Climate Action

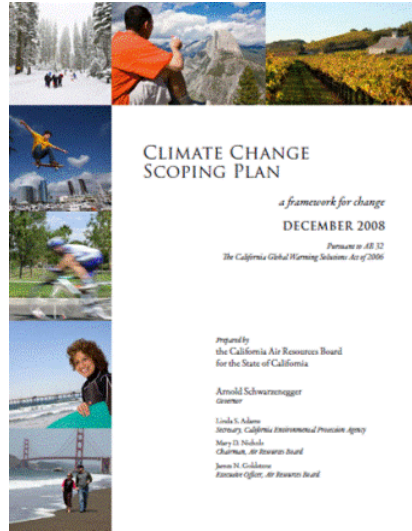
- Climate Action Team: coordination
 - Mitigation, adaptation, research
- AB 32 : Global Warming Solutions Act
 - Scoping Plan – set of mitigation actions and GHG goals
- California Adaptation Strategy
 - Governor Executive Order
- California Energy Commission research

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AB 32: Global Warming Solutions Act

- Target for GHG
 - 1990 levels by 2020
 - 15% below today
- Scoping plan – 74 MEASURES
 - Energy and fuel efficiency
 - Renewable energy
 - Cap and trade
 - Transportation emission targets
 - Targeted fees
- Reporting of GHG emissions
- Regulatory, market mechanisms, other
- Impacts on economy, environment, public health; equity



California Adaptation Strategy

- Prepare for climate change
- Promote and protect public health and safety
- Protect and enhance natural resources and environment
- Promote equitable and prosperous society

<http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>

Climate Action Team Public Health Work Group (1)

- Health Impact Assessments
 - Guidelines for HIA
 - Assessing the co-benefits and/or potential unintended adverse consequences of proposed mitigation and adaptation strategies
- Vulnerability Assessment
 - Develop comprehensive analysis of climate change health risks and associated vulnerabilities, individual and community
- Surveillance
 - Develop and implement robust surveillance systems to track climate change related morbidity and mortality, vulnerable populations, adaptive capacity, real-time incidence in emergencies
 - Build on and enhance existing surveillance systems
- Research
 - Identify major areas that require new or ongoing research in climate change.

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Climate Action Team Public Health Work Group (2)

- Communication and Outreach
 - Risk communication messaging
 - Messaging on climate mitigation and adaptation
- Adaptation, Preparedness, & Response
 - Building existing capacity of Emergency Preparedness to respond to climate change related incidents and emergencies
- Training and Technical Assistance
 - Build the capacity of local organizations (e.g., health departments, CBOs, local government, health care sector) to promote mitigation and adaptation strategies with health co-benefits and to prevent and respond to climate change related incidents and emergencies
- Policy Development
 - Develop a public policy agenda to ensure promotion and institutionalization of mitigation and adaptation strategies with health co-benefits

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What are Co-Benefits?

- Primary benefits
 - Reductions in the expected long-term consequences of global warming; avoided damages of climate change
- Health co-benefits
 - Benefits of climate change mitigation strategies that have a positive effect on health independent of the impacts on climate change

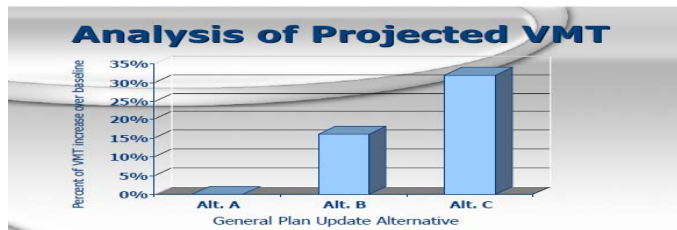
Transportation Sector Mitigation Strategies & Co-Benefits

Mitigation strategies	Effects	Health Co-Benefits
<ul style="list-style-type: none"> Fuel efficiency Hybrids Biofuels 	<p>Reduced:</p> <ul style="list-style-type: none"> GHG emissions Air pollution 	<p>Reductions in:</p> <ul style="list-style-type: none"> Respiratory disease Heart disease
<ul style="list-style-type: none"> Public transport Active transport Land-use planning Reduce speed 	<ul style="list-style-type: none"> Noise Community Severance <p>Increased:</p> <ul style="list-style-type: none"> Physical Activity Social Capital 	<ul style="list-style-type: none"> Traffic injuries Depression Osteoporosis Diabetes Cancer Stress

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Why is VMT a health indicator?



- **Safety** – reduced auto injuries
- **Active transportation** – increased physical activity
- Improve air quality – **reduce asthma/CV disease**
- Decrease commute – increase **social/civic** time
- Purchase power (**food, health care**) with lower transportation costs
- **Access** to essential goods & services
- Increase **social connections**

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Small Actions = Big Impacts



= 10 lb. CO₂



= 1 lb. CO₂

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Climate & Health Benefits of Sustainable Agriculture

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

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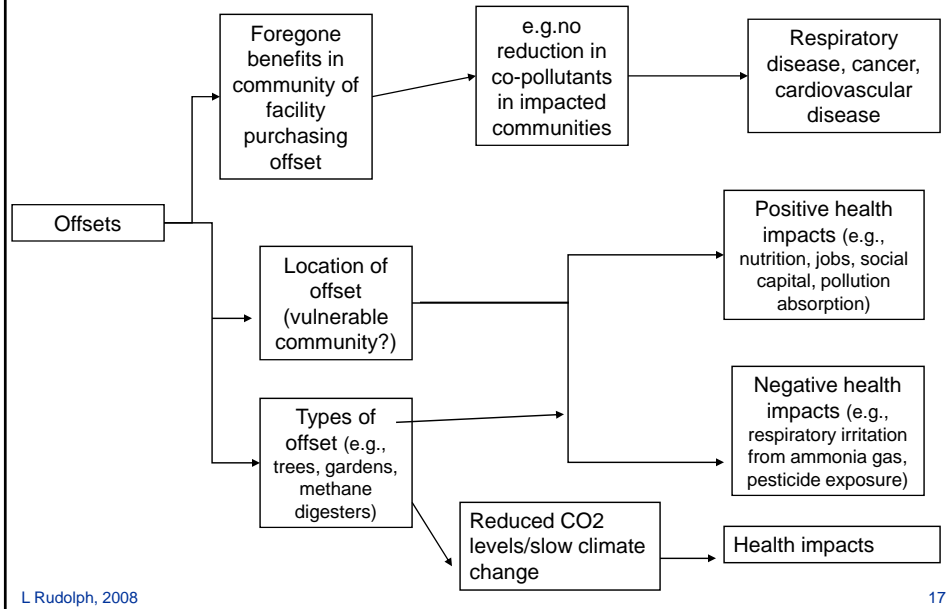
Health in All Policies

- How do we ensure that health impacts – both positive and adverse – are considered in policy processes at all levels?

Health Impact Assessment

- A combination of methods to systematically examine the potential health effects of proposed policies, programs, and projects
- Provides decision-makers and stakeholders with information on potential health benefits, harms, disparities in the distribution of impacts, alternatives for improving the ratio of benefit to harm
- Enables more informed policymaking and implementation
- Aim of improving population health, equity, and sustainability

Offset Trading



What is Adaptation?

- Efforts to respond to the impacts of climate change
- Adjustments in natural or human systems to actual or expected climate changes
- Goals
 - Minimize harm
 - Take advantage of beneficial opportunities

Public Health Adaptation Strategy

- Vulnerability Assessment
 - Exposure to climate change
 - Varies by geography
 - Requires “downscaling” to local communities
 - Sensitivity to climate change
 - Varies by individual
 - Age, pre-existing illness
 - Fair skin and sun damage with reduced stratospheric ozone
 - Varies by community
 - Urban, housing stock, infrastructure
 - Preparedness and response capacity
 - Varies by individual and community ability to minimize adverse consequences
 - Social network, access to services
 - Health impacts

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Public Health Adaptation Strategies

- Promote community resilience to reduce vulnerability
- Educate, empower, engage to take action
- Promote mitigation/adaptation with public health co-benefits
- Robust rapid surveillance systems
- Improve public health preparedness & response capacity
- Lead by example

- Cross-sectoral partnerships
- Research
- Multi-level policy change
- Resources – staff & funding

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Promote Community Resilience

- Promote built environments that mitigate climate change and/or reduce impact of climate change on health
 - Smart growth
 - Open space & parks
 - Buildings designed to weather wildfire
 - Reduce urban heat islands
 - Trees, cool roofs/green roofs, cool pavement
 - Reduce flood risk
 - Permeable surfaces, modernize sewage systems
- Reduce baseline exposures to toxic air and water pollutants
- Promote sustainable local food systems
- Promote strong social support networks
- Enhance public health infrastructure

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Healthy Communities = Sustainable Communities



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Co-Benefits of Adaptation Strategies

- Reducing Urban Heat Islands
 - Cool roofs, cool paving, urban trees
- Urban trees also
 - Reduce electricity consumption (shading)
 - Improve air quality
 - Absorb polluting gases
 - Attach PM to leaves
 - Reduce ozone levels (with cooling)
 - Improve quality of life – reduce stress

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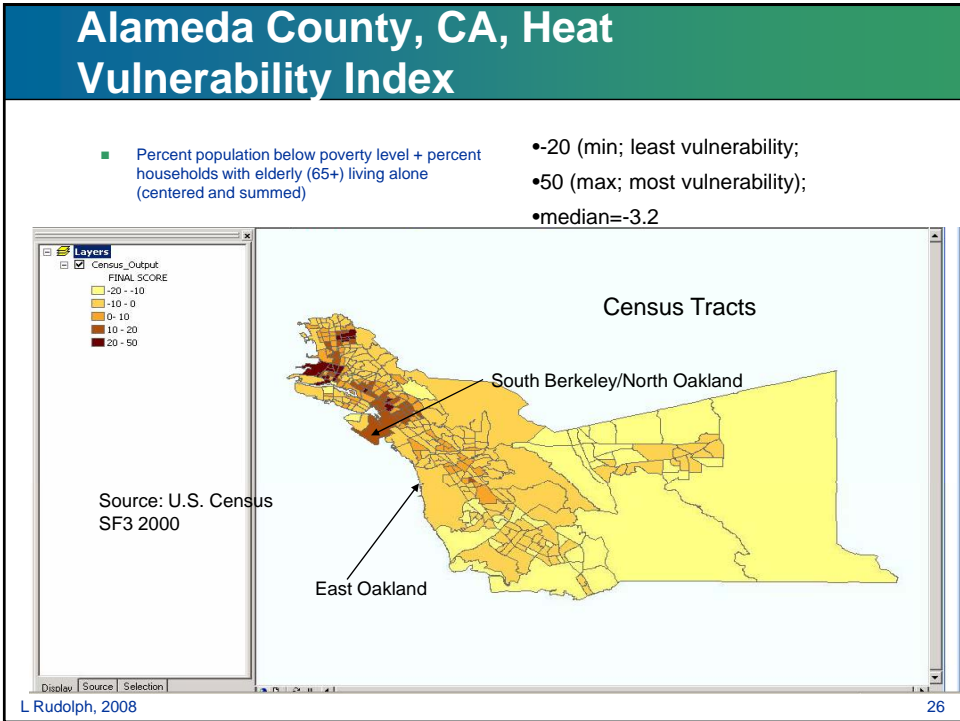
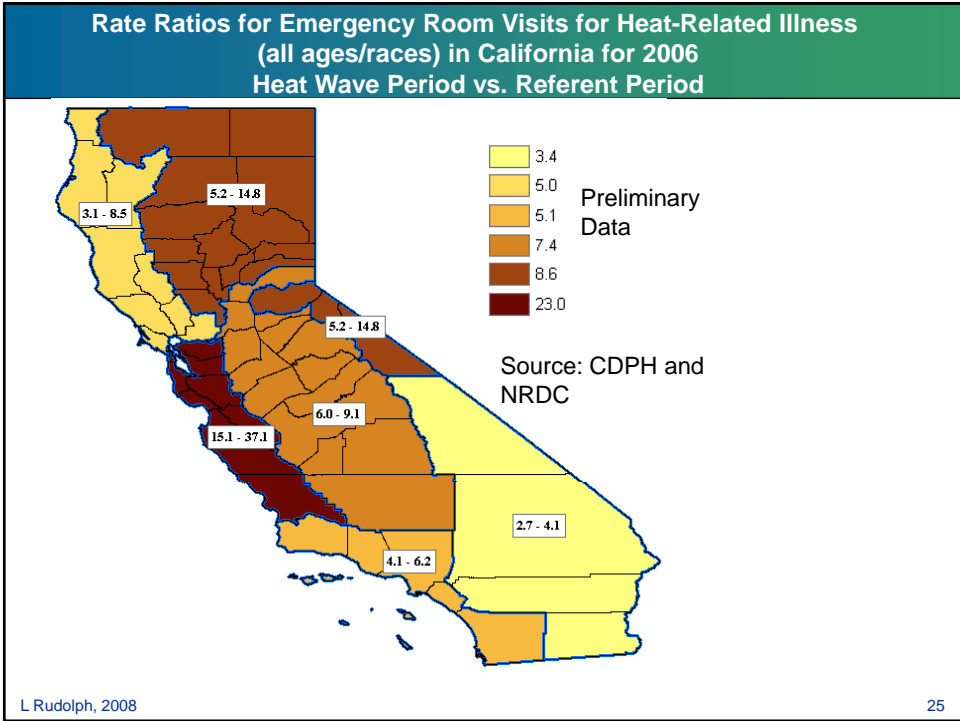
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Robust Surveillance

- Environmental conditions
 - Heat
 - Air pollution
 - Vectors
 - Water contamination
- Climate-related illness
 - Real-time
 - Post-disaster
- Vulnerabilities and protective factors
 - Chronic disease
 - Social support networks
- Adaptive capacities
 - Access to cooling centers

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Educate, Empower, Engage

- Citizens, businesses, CBOs, everyone!
- Disseminate climate change & health information
- Identify and provide info specific to vulnerable
 - Outdoor workers, people in urban heat islands
- Engage community in planning and preparing for effective disaster response, and in climate mitigation and adaptation

- Social norms change to accompany regulation & market incentives

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Be A Champion on Climate Change & Health

- **Make climate change and health a priority**
- Inform the public and policy makers about climate change and health
- Advocate for public policy that promotes health – cross-sectoral
- Advocate for strategies with co-benefits
- Advocate for inclusion of health impact assessments
- Get involved in state and local Climate Action Plans
- Advocate for equity in climate policy and response
- Conduct research on climate change and health
- Get involved in preparedness/adaptation planning

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