

The Health Consequences of a Changing Climate



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Potential Health Effects of Climate Change

Climate Change:

- Temperature rise
- Sea level rise
- Hydrologic extremes



HEAT

SEVERE WEATHER

AIR POLLUTION

ALLERGIES

VECTOR-BORNE DISEASES

WATER-BORNE DISEASES

WATER AND FOOD SUPPLY

MENTAL HEALTH

ENVIRONMENTAL REFUGEES

- ➔ 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

CDC's Climate Change Program (New Name – Climate and Health Program)

Formally constituted as a Program in March 2009
with a congressional appropriation

www.cdc.gov/climatechange

Leads efforts to:

- identify the health impacts of climate change and the populations most vulnerable to these impacts;
- anticipate future trends;
- assure that systems are in place to detect and respond to emerging health threats;
- and take steps to assure that these health risks can be managed now and in the future.



The Climate Change Program at CDC fills three critical roles:

- (1) to **analyze and translate** the latest findings in climate science to our public health partners;
- (2) to apply these findings to **decision support tools** that will aid in the state and local public health response (i.e.: vulnerability maps, surveillance tools, adaptation planning); and
- (3) to **provide leadership** inside and outside CDC to ensure that public health concerns are represented in climate change adaptation and mitigation strategies and to create linkages between public health and efforts in other sectors



Translate Climate Science to our Public Health Partners

Identify the health impacts of climate change and the populations most vulnerable to these impacts

Identify regional climate trends that impact health

Model future health impacts

<http://www.cdc.gov/climatechange/>

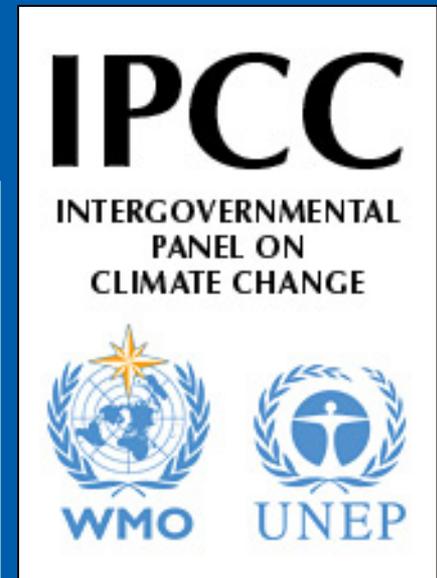
**Global Climate Change Impacts
in the United States**



Leadership and Collaboration

Establish and communicate the key importance of public health in the climate change response

Create linkages between public health and efforts in other sectors

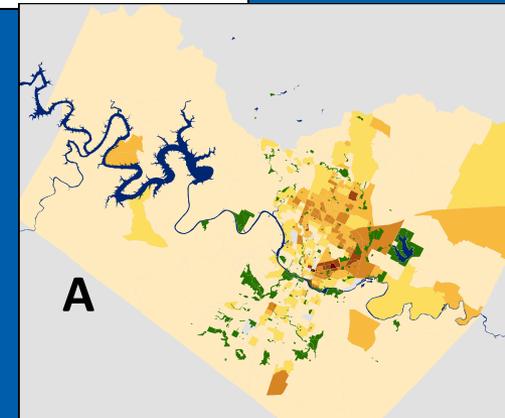
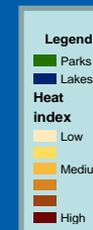
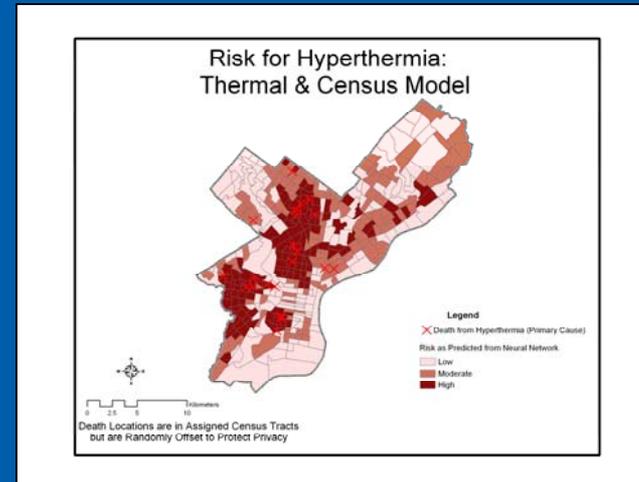


Develop Support Tools for State and Local Public Health

Technical guidance and support for adaptation planning

Create vulnerability maps

Enhance surveillance tools



CDC Climate Ready-States and Cities Initiative

To build the capacity of state and local health departments to address the public health consequences of climate change and its implications on human health

Climate Ready States and Cities Initiative

Category 1:

Assessment and
Planning to Develop
Climate Change
Programs

- forecast impact & vulnerability assessment
- health risk assessment
- intervention assessment

Category 2:

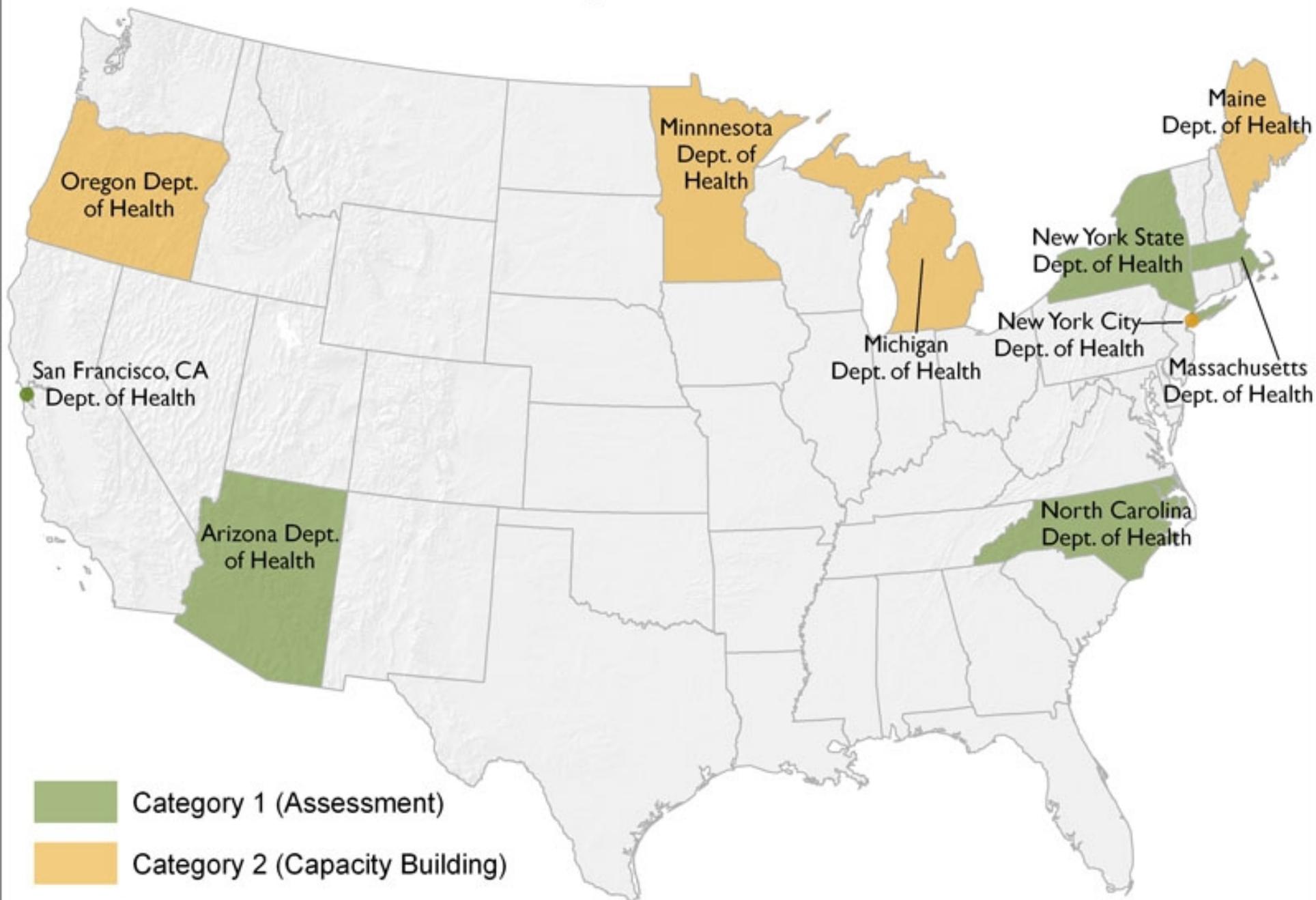
Building Capacity to
Implement Climate
Change Programs and
Adaptations

- health adaptation planning and implementation
- evaluation

Funding Levels

- Approximately 5.25 million will be available for the following categorical funding:
 - Category 1: \$80,000 - \$120,000
(5 Awards)
 - Category 2: \$150,000 - \$250,000
(5 Awards)
- Project Period 9-1-2010 - 8-31-2013

CDC Climate Ready States and Cities Initiative



Major Activities - Category 1

- **Create a strategic plan that will outline the steps needed to raise institutional awareness of climate change**
- **Establish key partnerships with stakeholders in the field of climate change**

Major Activities - Category 2

- **Strengthen the capacity of state and local public health agencies through training and skills building activities to implement a climate change program**

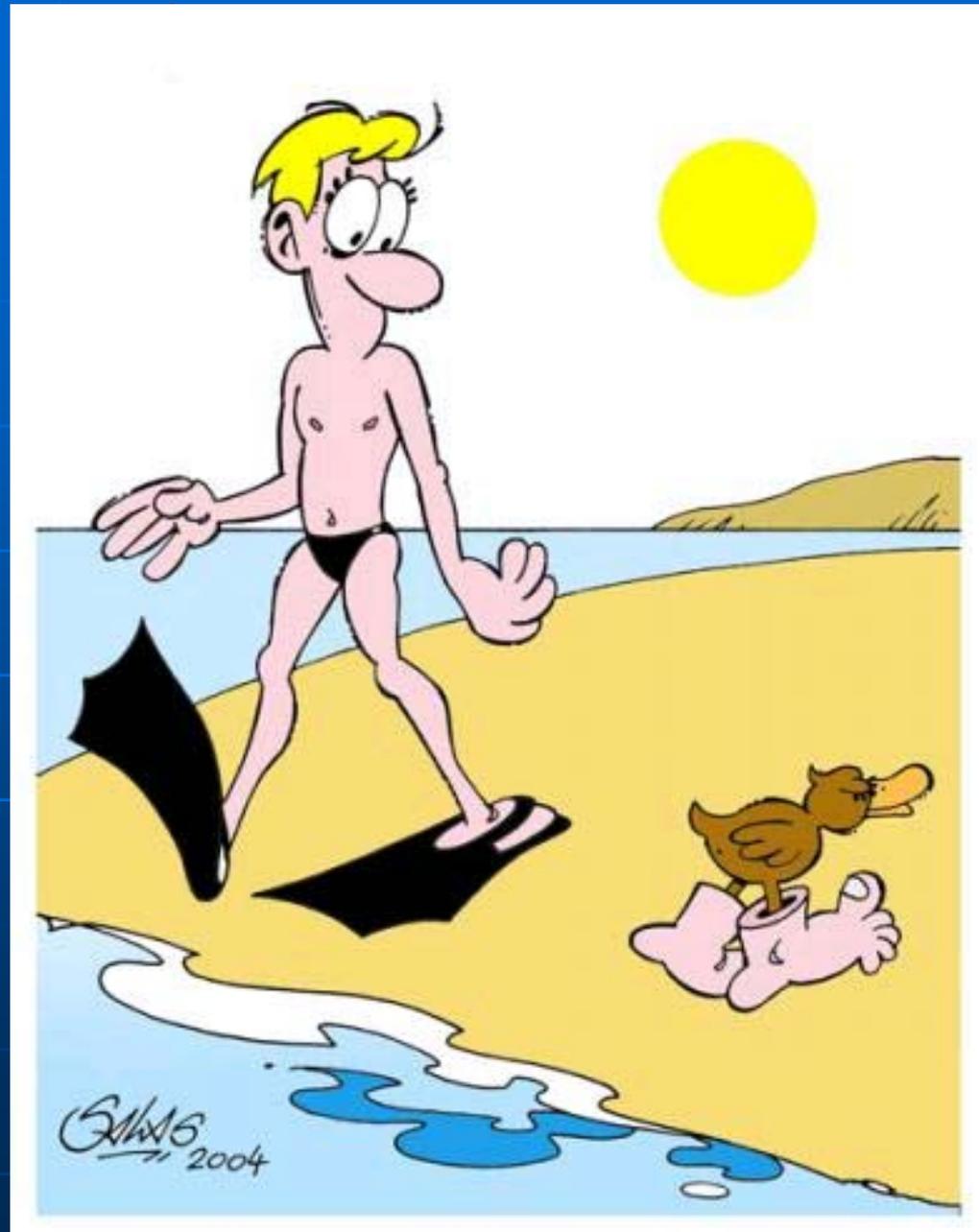
Major Activities - Category 2

- **Develop a strategy for conducting health impact assessments to determine the effects of climate change on human health and the identification of vulnerable communities**

Major Activities - Category 2

- **Develop and implement strategies and action plans to prepare for, and respond to, the health impacts of climate change including adaptations to address geographically specific climate change impacts**

Adaptations...



Now the bad news...

- Despite existing breadth of organizations and sectors with initiatives on climate change
- Despite the likelihood of anticipated health effects of climate change

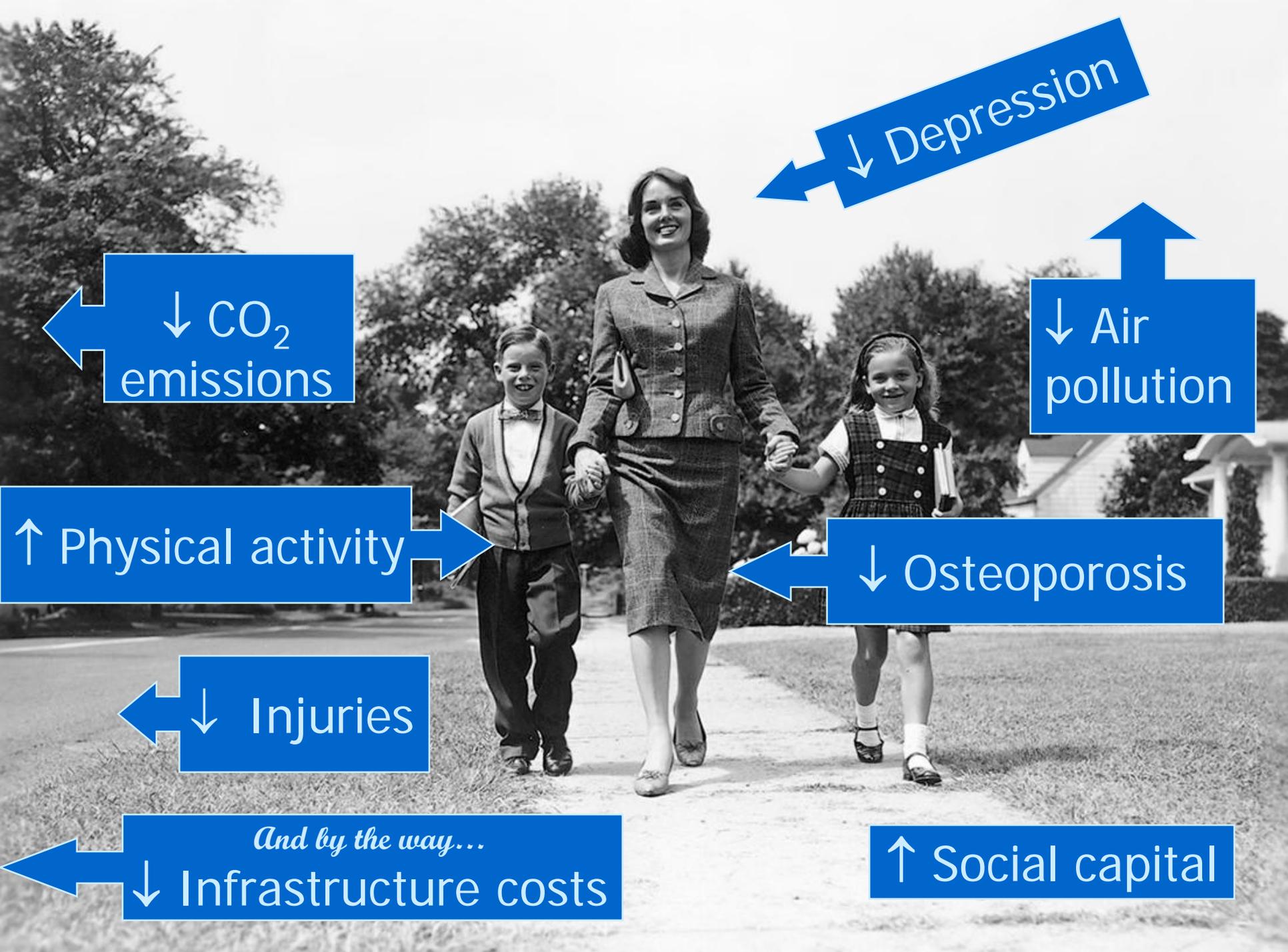
Public health effects of climate change remain largely unaddressed

The Path Forward

Framing Climate Change as a Societal Issue, (and not just an Environmental one)

Path #1: Identify Co-benefits and Synergies

- Efforts to mitigate or adapt to the effects of climate change frequently yield other health benefits.



↓ Depression

↓ Air pollution

↓ CO₂ emissions

↑ Physical activity

↓ Osteoporosis

↓ Injuries

And by the way...
↓ Infrastructure costs

↑ Social capital

Path #2: Focus on the Most Vulnerable in Our Communities

**Environmental Justice, poverty and
disempowerment as critical vulnerability factors**

**“The rich will find their world to be more
expensive, inconvenient, uncomfortable,
disrupted and colorless — in general,
more unpleasant and unpredictable,
perhaps greatly so. The poor will die.”**

Kirk R. Smith, 2008

Professor, Environmental Health Sciences, UC- Berkeley

Path #3: Communicate, Communicate, Communicate

The Health sector has some successes to draw upon



Climate communication

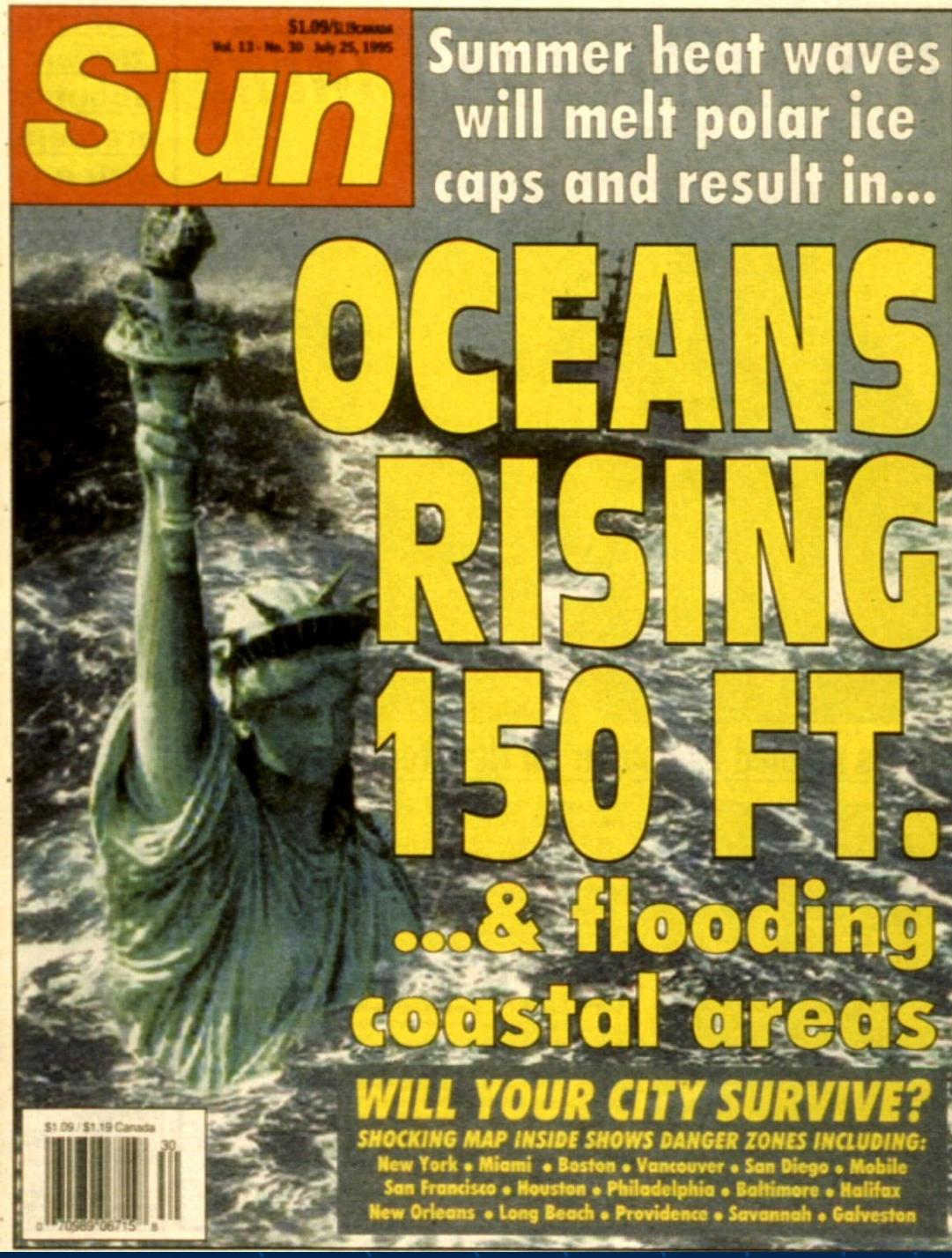


\$1.09/1.19 Canada

Vol. 13 - No. 30 July 25, 1995

Sun

Summer heat waves
will melt polar ice
caps and result in...

The background of the magazine cover is a black and white photograph of the Statue of Liberty. She is standing in the middle of a turbulent sea, with waves crashing around her. Her right arm is raised, holding the torch, and her left arm is bent at the elbow, holding the tablet. The sky is dark and stormy.

OCEANS RISING 150 FT.

...& flooding
coastal areas

WILL YOUR CITY SURVIVE?

SHOCKING MAP INSIDE SHOWS DANGER ZONES INCLUDING:

New York • Miami • Boston • Vancouver • San Diego • Mobile
San Francisco • Houston • Philadelphia • Baltimore • Halifax
New Orleans • Long Beach • Providence • Savannah • Galveston

\$1.09 / \$1.19 Canada

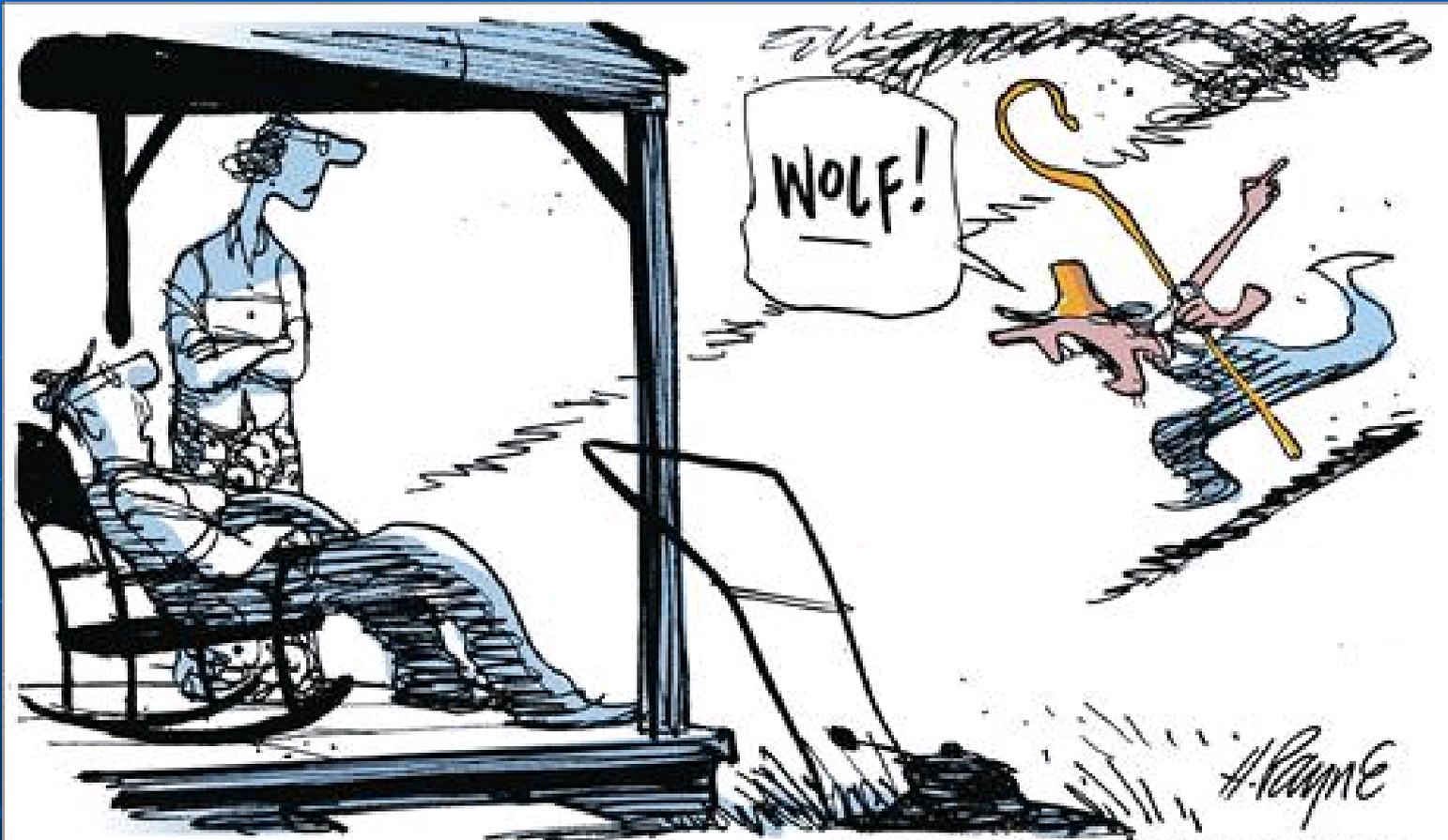


The Accusatory Approach





“Peter Cried”



comics.com EMAIL: hpayne@detnews.com ©07

“(SIGH) WHATTIZIT THIS TIME? CROP DESTRUCTION BY PESTICIDES? GLOBAL FREEZING? OVERPOPULATION? GLOBAL WARMING?”

Path #4: Leadership and Collaboration

**Bridging the gap between the
global and local**

Re-Framing the Climate Change Dialogue



Conclusions



- Climate change is now a mainstream issue
- Climate change must also be framed as a human welfare and public health issue.
- Opportunity costs of not taking action are high



Thank You



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