

Climate Change: The Public Health Response

APHA

Climate Change and the Public Health Community:
Mobilizing for Precautionary Action
5 November, 2007

Howard Frumkin, M.D., Dr.P.H., Director
National Center for Environmental Health /
Agency for Toxic Substances and Disease Registry
Centers for Disease Control and Prevention

Potential Health Effects of Climate Change

Climate change:

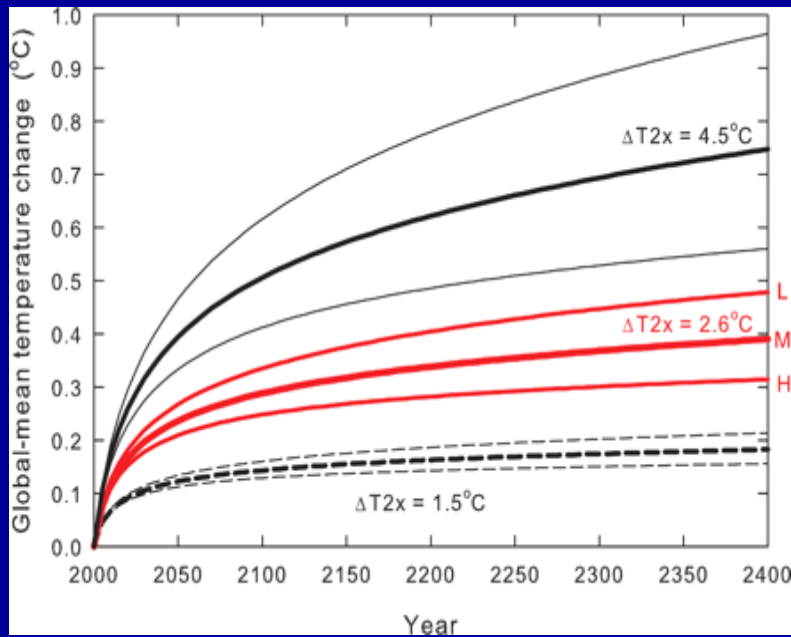
- Temperature rise
- Sea level rise
- Hydrologic extremes



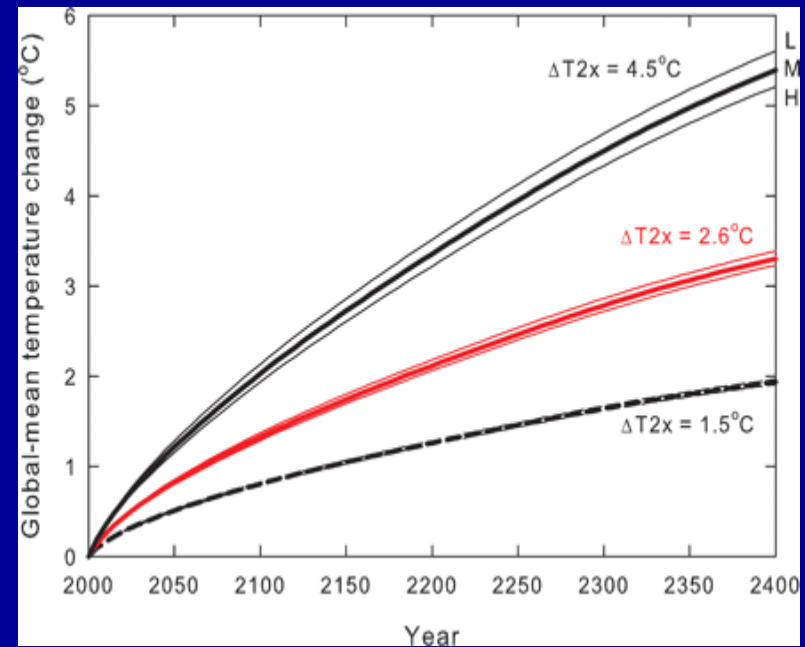
- ➔ Heat stress, cardiovascular failure
- ➔ Injuries, fatalities
- ➔ Asthma, cardiovascular disease
- ➔ Resp allergies, poison ivy
- ➔ Malaria, dengue, hantavirus, encephalitis, Rift Valley fever
- ➔ Cholera, cryptosporidiosis, campylobacter, leptospirosis
- ➔ Malnutrition, diarrhea, harmful algal blooms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

Adapted from J. Patz

The "Warming Commitment"



Constant Composition



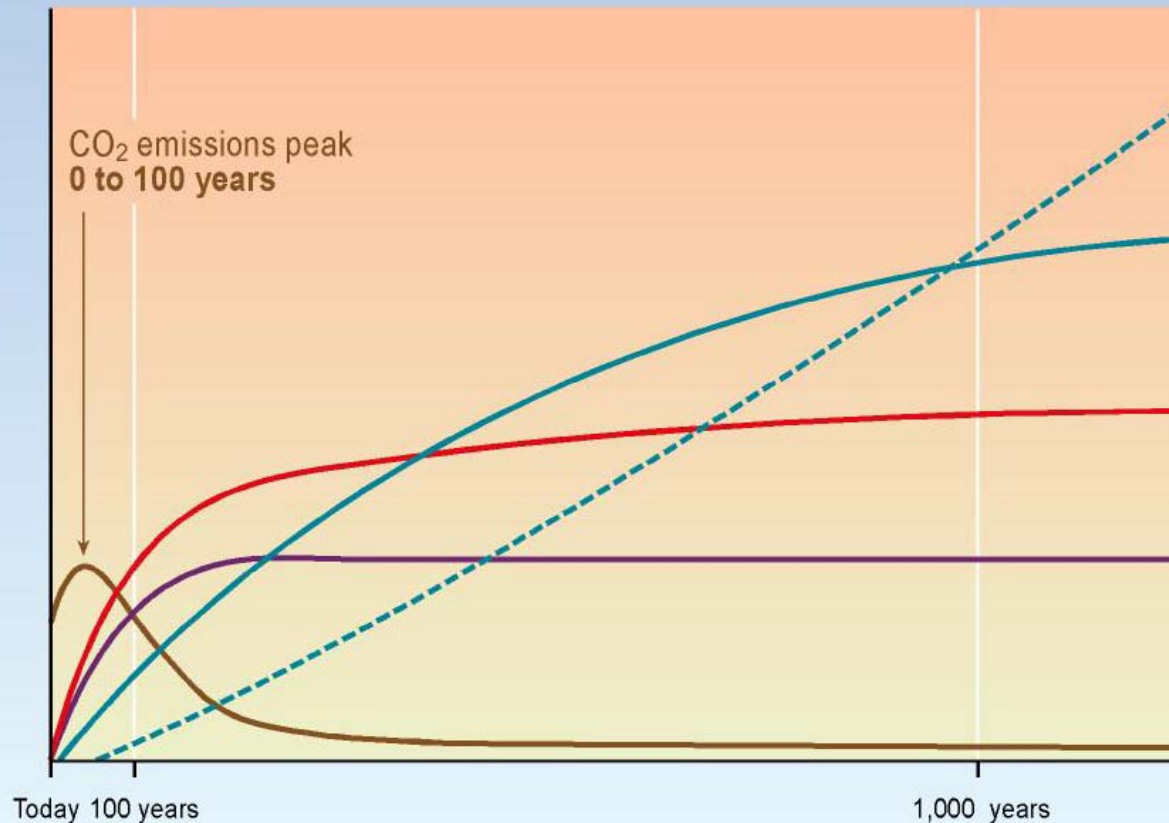
Constant Emissions

Wigley TML. The climate change commitment. *Science* 2005;307:1766-69.

Mitigation vs Adaptation?

CO₂ concentration, temperature, and sea level continue to rise long after emissions are reduced

Magnitude of response



Time taken to reach equilibrium

Sea-level rise due to ice melting:
several millennia

Sea-level rise due to thermal expansion:
centuries to millennia

Temperature stabilization:
a few centuries

CO₂ stabilization:
100 to 300 years

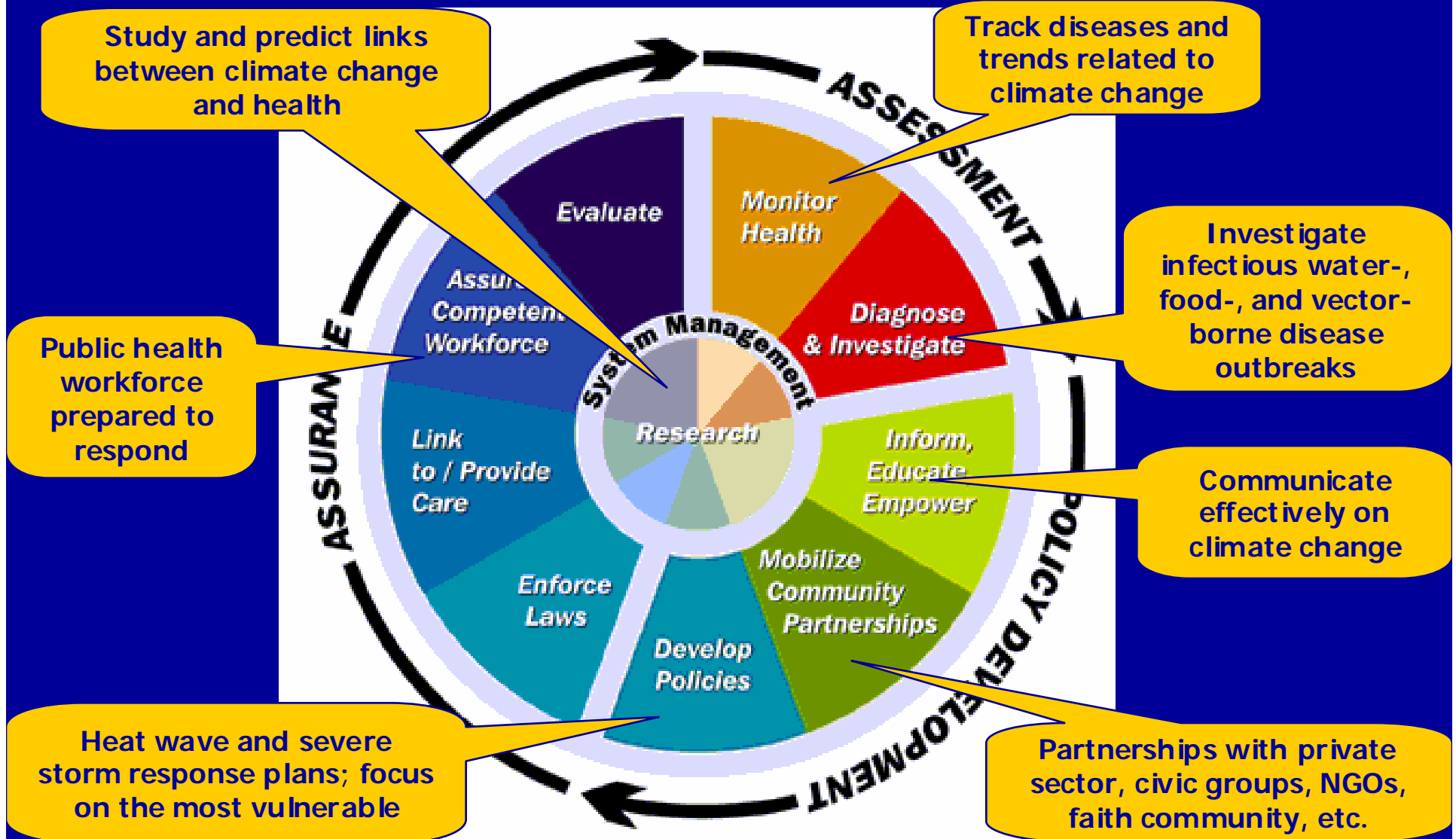
CO₂ emissions

Source: IPCC

Public health frameworks

- Prevention
- Preparedness
- Acting the face of uncertainty
- Risk management
- Co-benefits
- Economics
- Ethics

Public Health Action on Climate Change

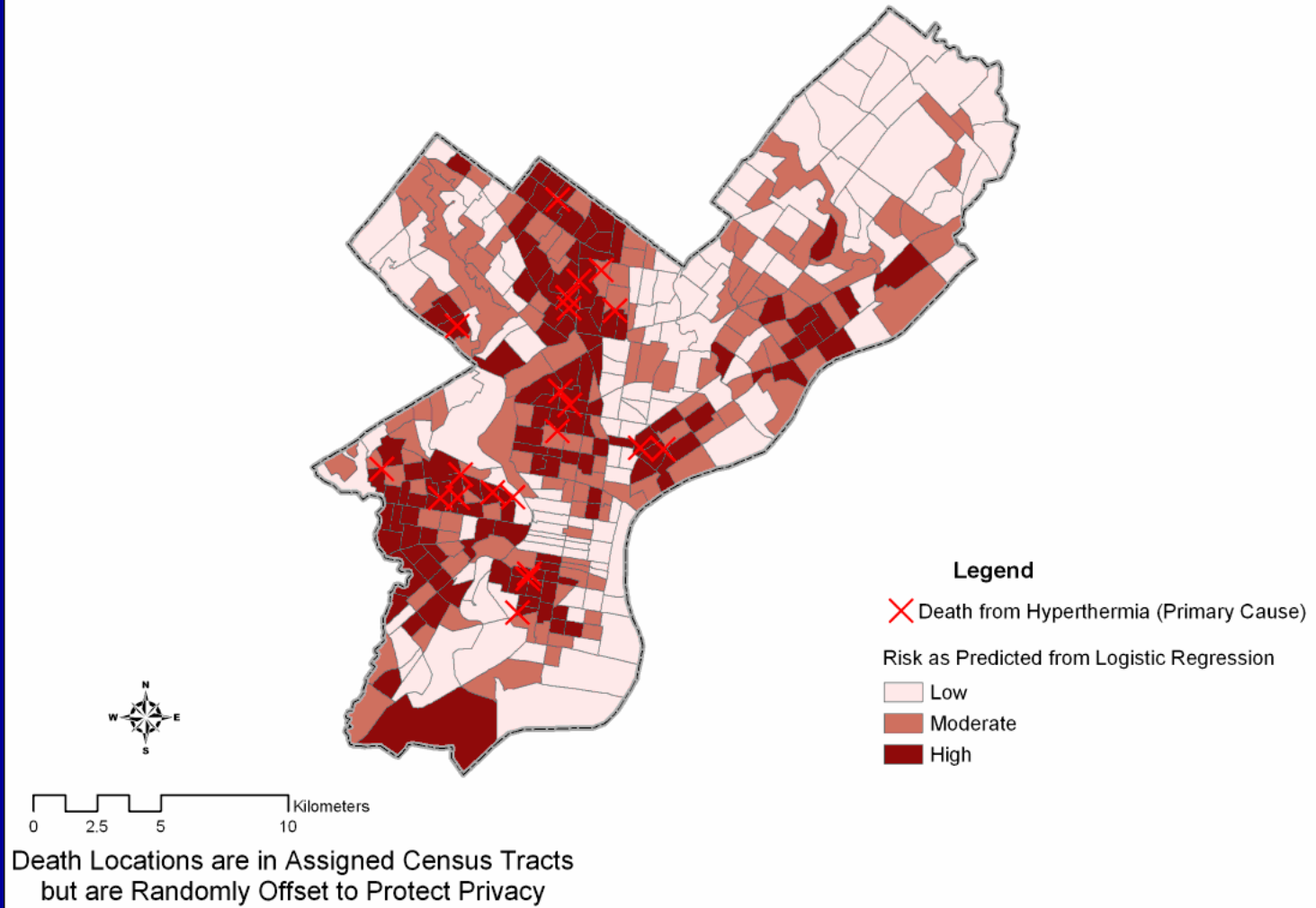


Public Health Action on Climate Change

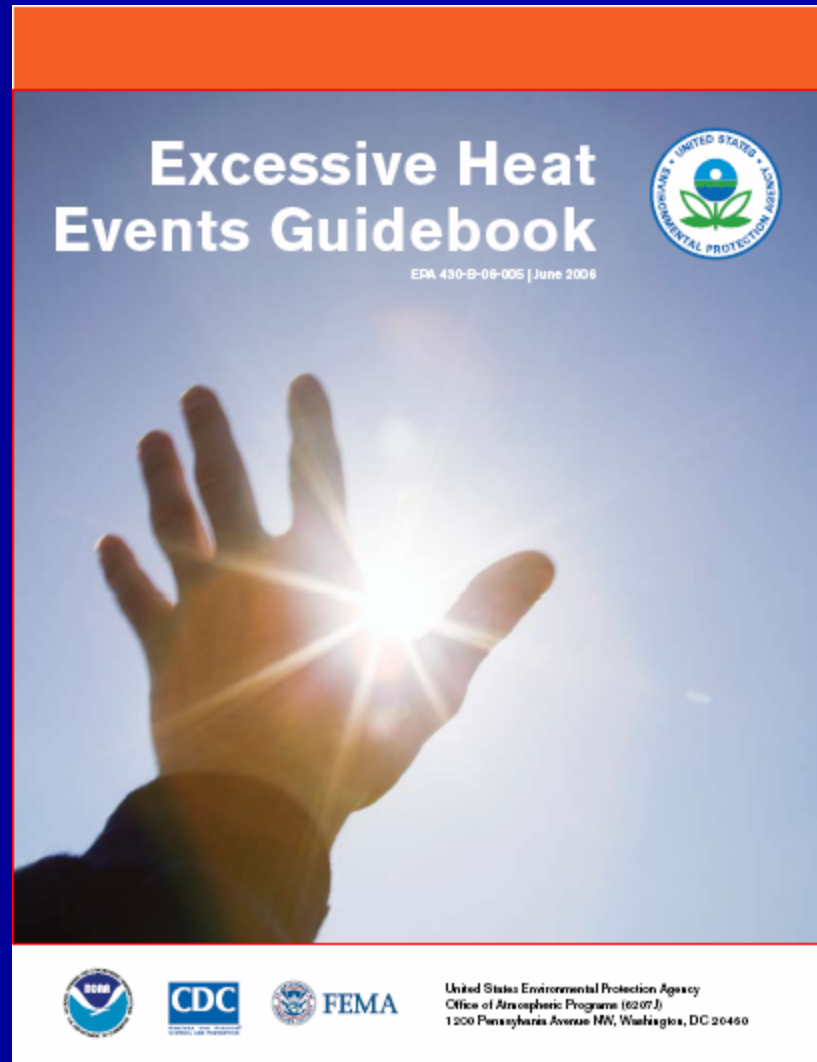
- Predicting threats to public health
- Planning for public health protection
- Communicating effectively
- Promoting co-benefits
- Mobilizing partnerships

Vulnerability analysis

Risk for Hyperthermia: Census & Thermal Model



Preparedness planning



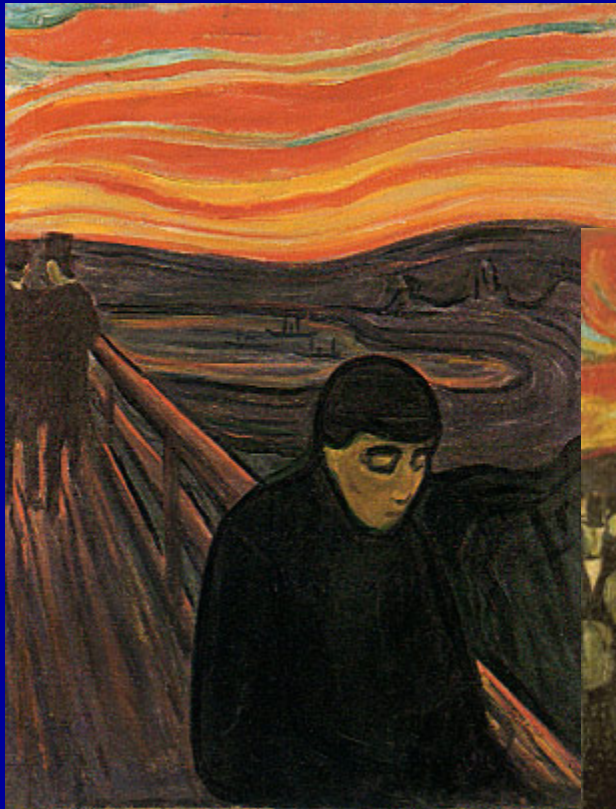
Communicating effectively





When we don't communicate effectively...





Despair



Anxiety



The Scream

Edvard Munch does
Climate Change



"Hargrove, what's all this I hear about your living in constant fear of the polar ice caps melting?"

Climate Change Scenarios Scare, and Motivate, Kids

By [Darragh Johnson](#)


Washington Post Staff Writer

Monday, April 16, 2007; Page A01

The boy has drawn, in his third-grade class, a global warming timeline that is his equivalent of the mushroom cloud.

"That's the Earth now," the 9-year-old says, pointing to a dark shape at the bottom. "And then," he says, tracing the progressively lighter stripes across the page, "it's just starting to fade away."

Last Updated: Tuesday November 14 2006 11:15 GMT

 [E-mail this to a friend](#)

 [Printable version](#)

Climate change is kids' top fear



How we're damaging the environment is more of a worry to you than getting a girl or boyfriend, says a survey.

The results showed three quarters of 11 to 14-year-olds worry about climate change, compared to 41% who are worried about going out with someone.

And it looks like you lot aren't just all talk - 63% turn off the lights when you leave a room, 82% of you recycle, and 75% say we should recycle more.

The survey quizzed 1,554 kids on their views on the



“This past summer, I got deeply depressed about our planet—as if I didn’t have enough problems of my own.”



Copyright 2007, Howard Frumkin, hfrumkin@cdc.gov



“I have a nightmare...”

“I have a dream...”

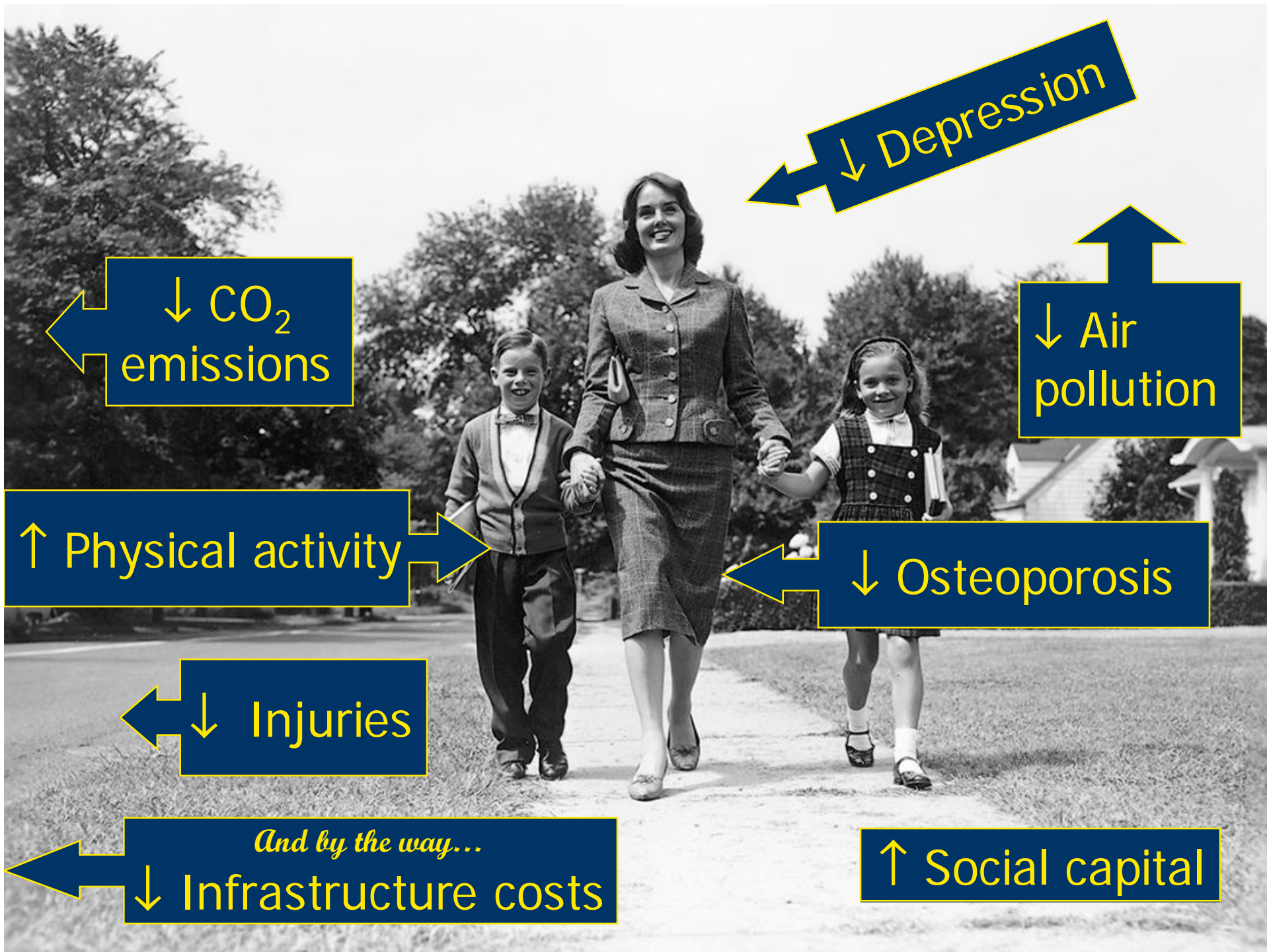


Promoting co-benefits



Climate Change Synergies

Heat wave plans including “buddy systems”	↑ social capital
↓ Vehicular travel	↓ car crashes; clean air; ↑ physical activity
↑ Fuel efficiency	↓ air pollution
Locally grown food	Fresh food; ↓ pesticide exposure; local business
Energy-efficient buildings	↓ operating costs
Alternative energy sources	Business opportunities



Health Impact Assessment



World Health Organization

عربي | 中文 | English | Français | Русский | Español

Search

All WHO This site only

Home | **Health Impact Assessment (HIA)** | QUICK LINKS

About WHO | Evidence | Examples | Toolkits | Other resources

Countries | WHO > WHO sites

Health topics | **Health Impact Assessment**

Publications

Research tools

WHO sites

HIA home

Information package on environmental and occupational health

This brochure outlines WHO's strategy to tackle two major energy and health challenges: household energy and indoor air pollution, and transport and health for the developing world. World Health Organization, 2005. [Full text](#)

Guidance on evaluating an HIA [More information](#)

Evidence that HIA works [More information](#)

What is a WHO collaborating centre? [More information](#)

Frequently Asked

IA provides decision makers with information about how any policy, programme or project may affect the health of people. HIA seeks to influence decision makers to improve the proposal. WHO supports the use of HIA because of its ability to influence policies, programmes and/or projects. This provides a foundation for improved health and wellbeing of people likely to be affected by such proposals

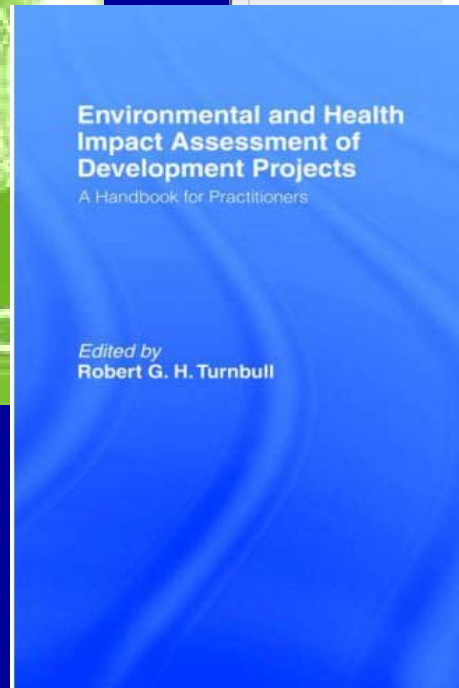
On this web site, we provide information:

About HIA

[Why use HIA](#)

[Short guides](#)

[Definitions of HIA](#)

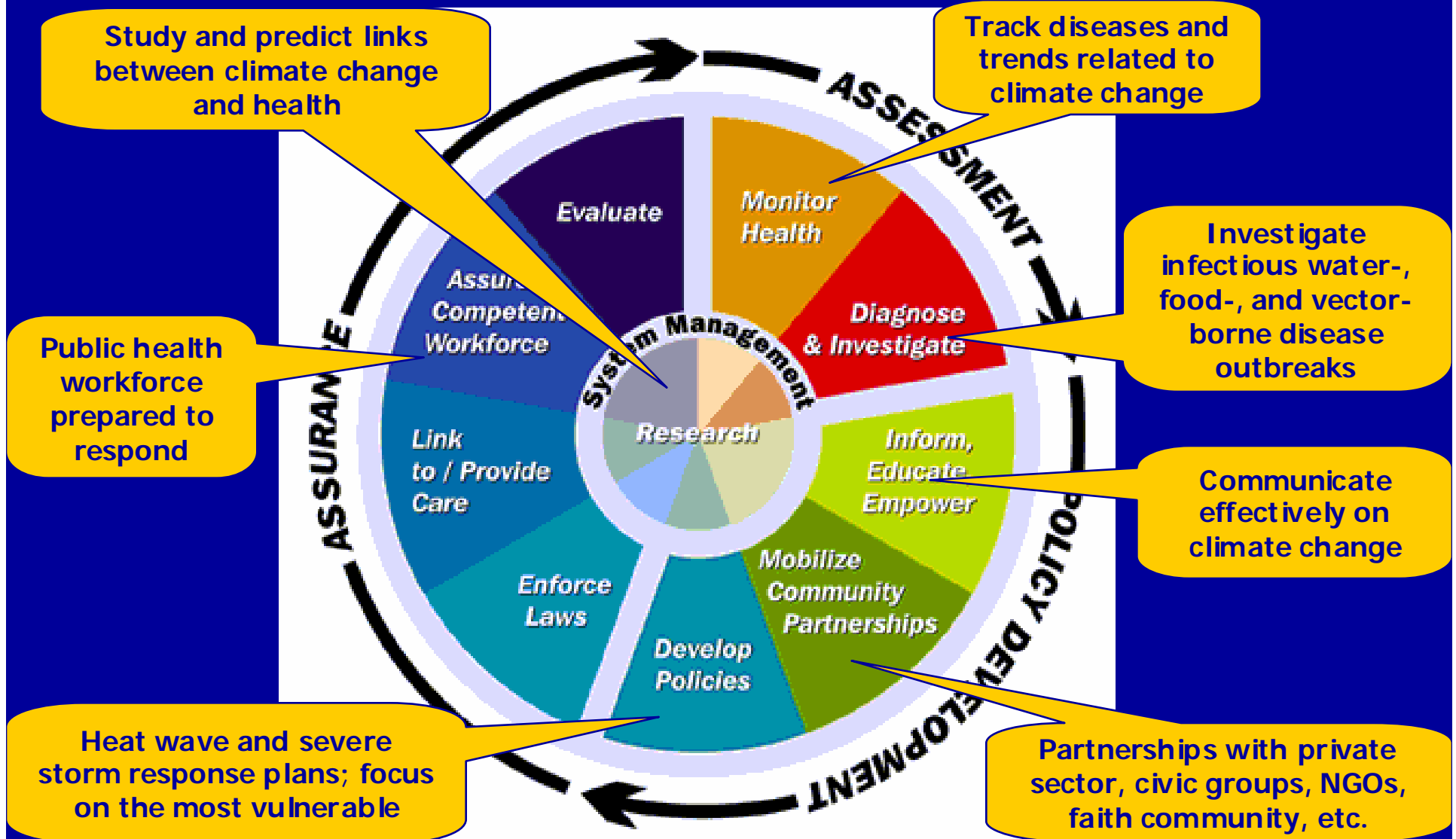


Mobilizing partnerships

- Within government: Federal – state – local
- More broadly:
 - Energy
 - Transportation
 - Urban planning
 - Manufacturing
 - Architecture
 - Faith
 - Environmental

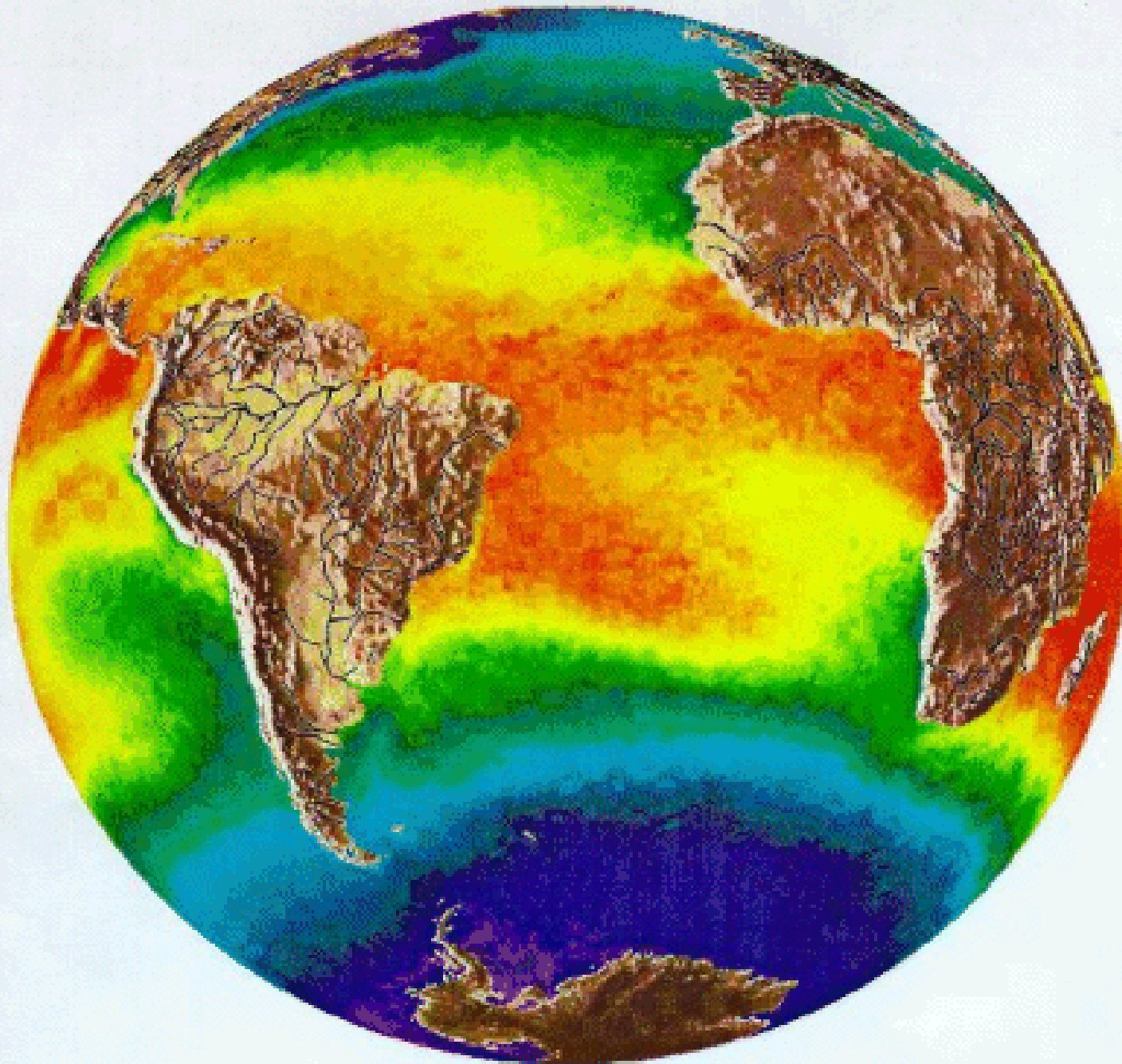


Public Health Action on Climate Change



Public Health Action on Climate Change

- Predicting threats to public health
- Planning for public health protection
- Communicating effectively
- Promoting co-benefits
- Mobilizing partnerships



Thank
you!