

Climate Change, Health, and Equity

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“Climate change is the defining health challenge of our time.” Margaret Chan, World Health Organization

“Climate change threatens our fragile existence on this planet.” Jim Kim, World Bank



"Social injustice is killing people on a grand scale."

WHO Commission on the Social Determinants of Health, 2008

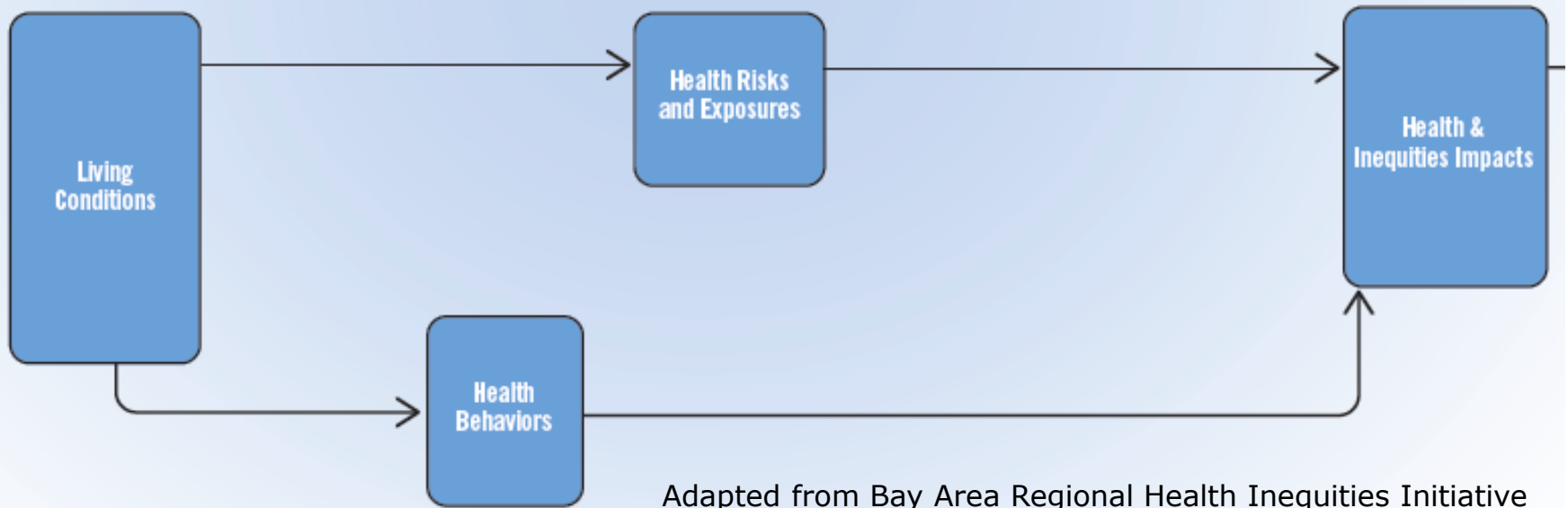
ZIP CODE 95219 Life Expectancy 73 < 88 ZIP CODE 92657 Life Expectancy

health happens here

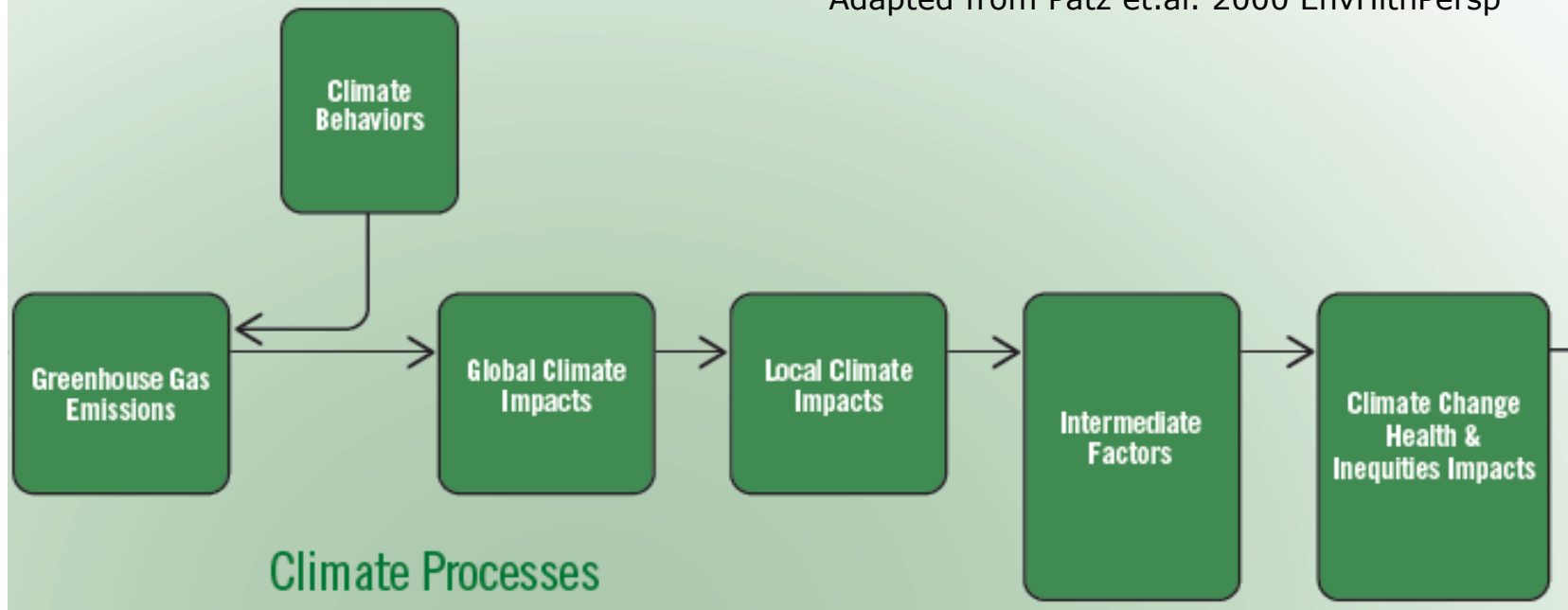
Living Conditions: Physical, Social, Economic, Services Environments



Health Processes

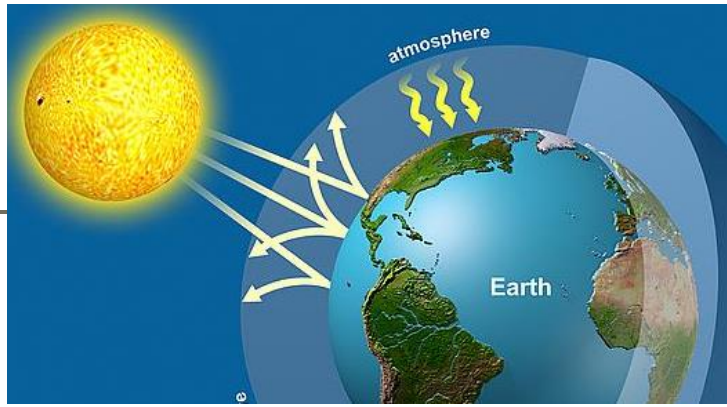


Adapted from Patz et.al. 2000 EnvHlthPersp

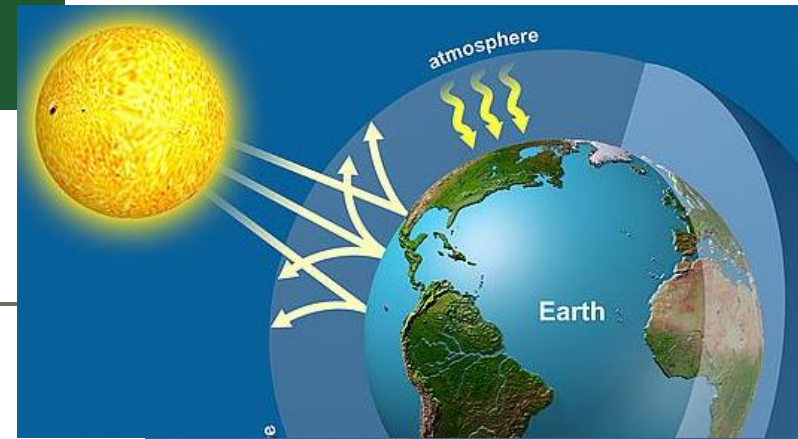
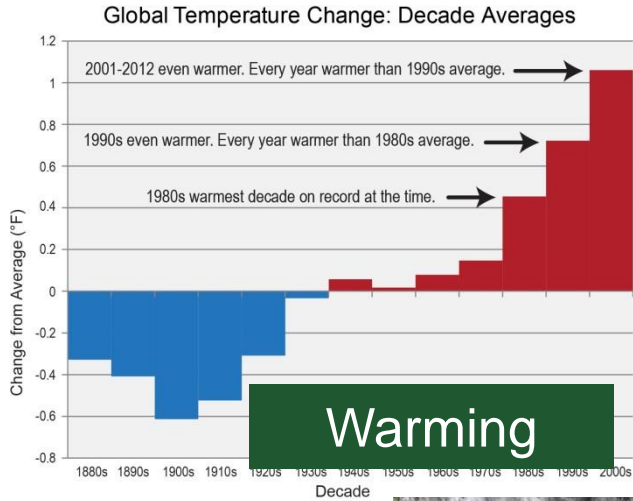


Climate Behaviors

Greenhouse Gas Emissions



Global Climate Impacts



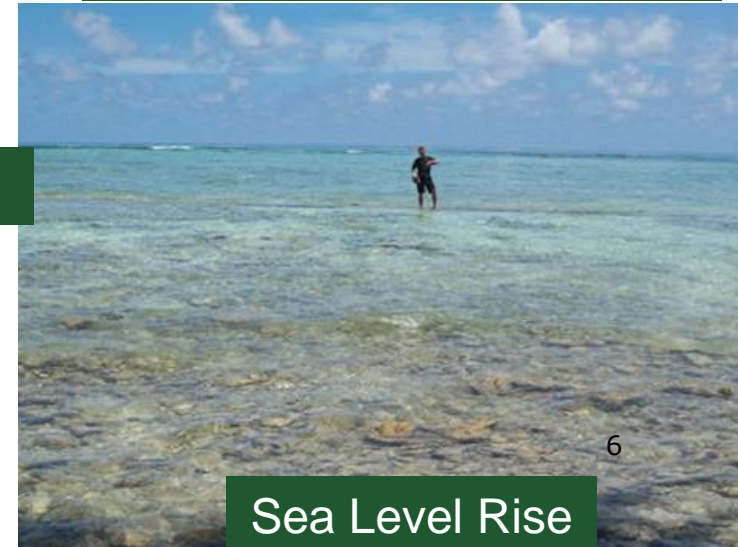
Hydrologic Variability



Glacier & Snowpack Loss



Ocean Acidification



Sea Level Rise

Local Climate Impacts

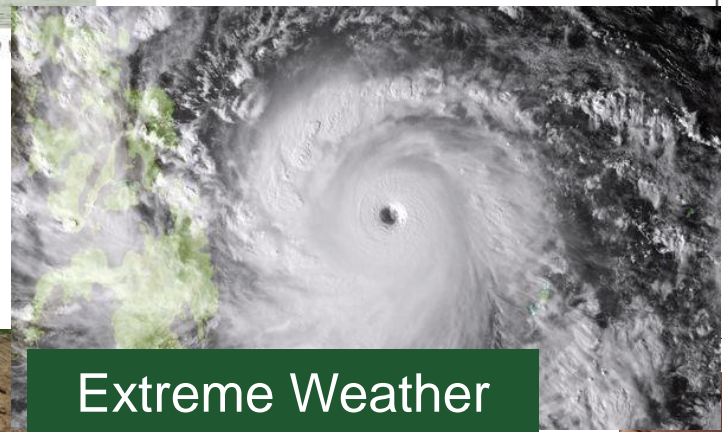


January 13, 2
Decreased Snowpack

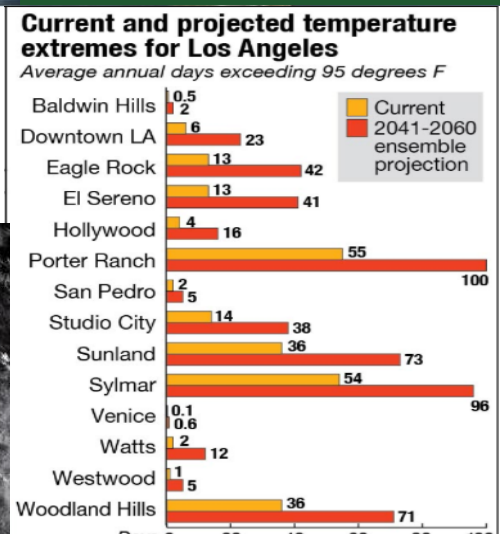


Coastal Flooding

storm in Jan. 2010. Image Credit: Robert Casillas



Extreme Weather



Extreme Heat



Drought



Wildfires

Environmental & Socioeconomic

Intermediate Factors



Water impacts



Declines in Crop Yield



Vector Habitat



Microbial & Toxics Contamination



Economic Losses



Resources Conflict

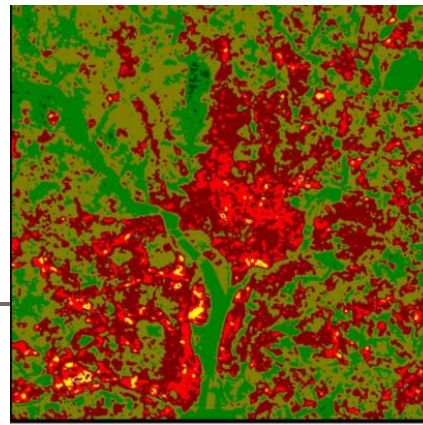


Climate Health Impacts

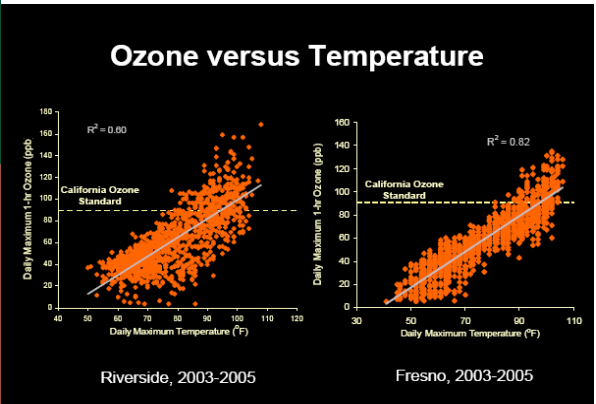
- Extreme weather injuries, drownings, fatalities
- Heat-related illnesses and deaths
- Air pollution impacts – respiratory, cardiovascular
- Allergic disease
- Infectious disease
 - Water and food-borne disease
 - Vector-borne disease
- Food insecurity and malnutrition
- Water insecurity
- Displacement, conflict, and migration
- Stress and mental health impacts

Climate Health Impacts: Heat

- Leading weather-related cause of death
- Urban Heat Islands, chronic disease, work
- Worsens air pollution



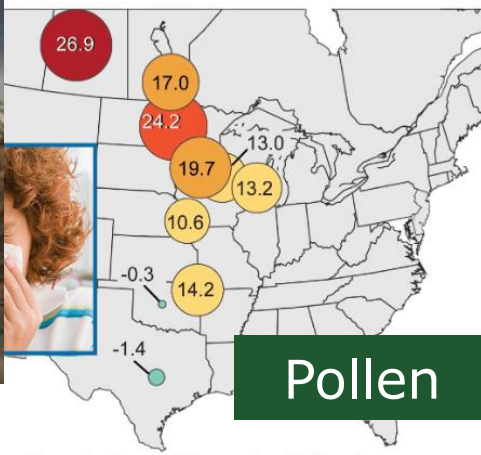
Deaths



Increased Ozone Levels



Wildfire Smoke



Pollen

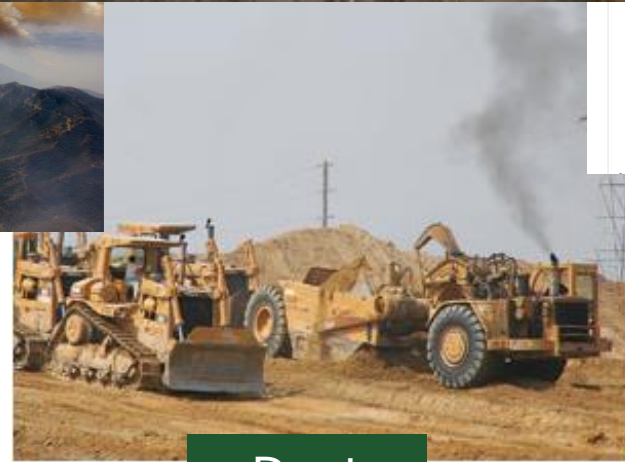


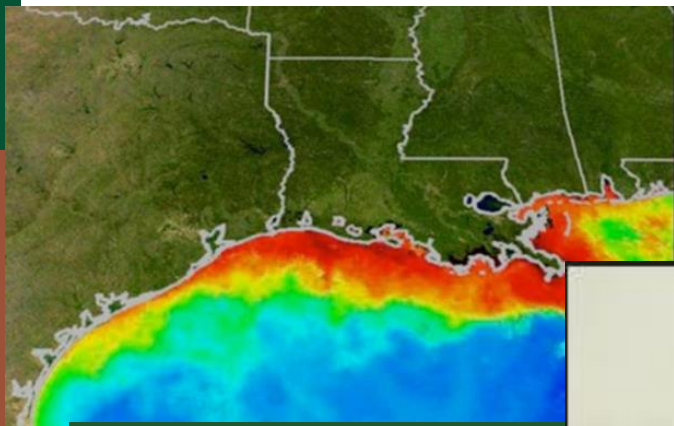
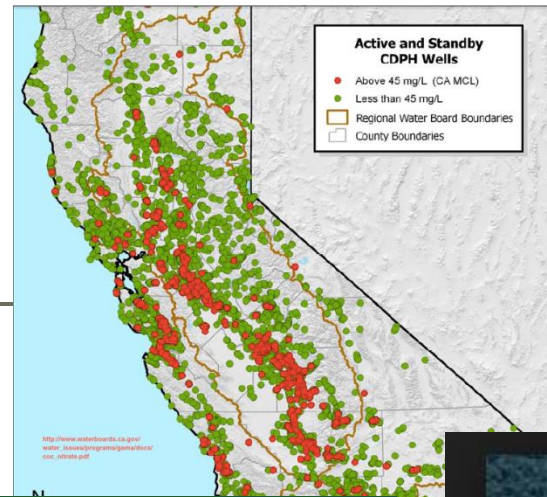
Photo: Tudor V

Dust



Energy Use

Other Environmental Impacts



Ocean Dead Zones

Water Contamination



Air Pollution



Deforestation

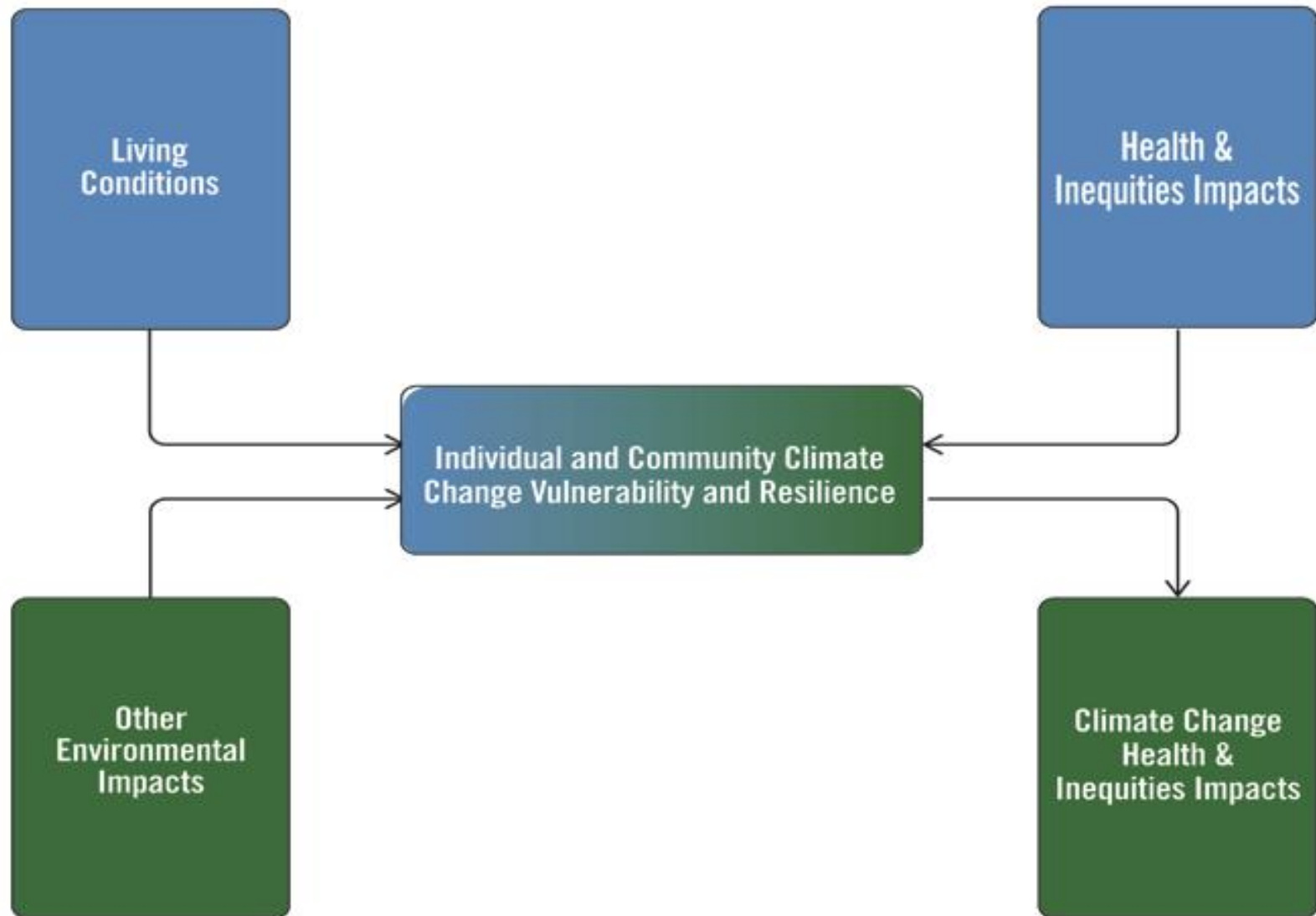


Ecosystems Collapse



Topsoil Depletion

Climate Change Vulnerability & Resilience



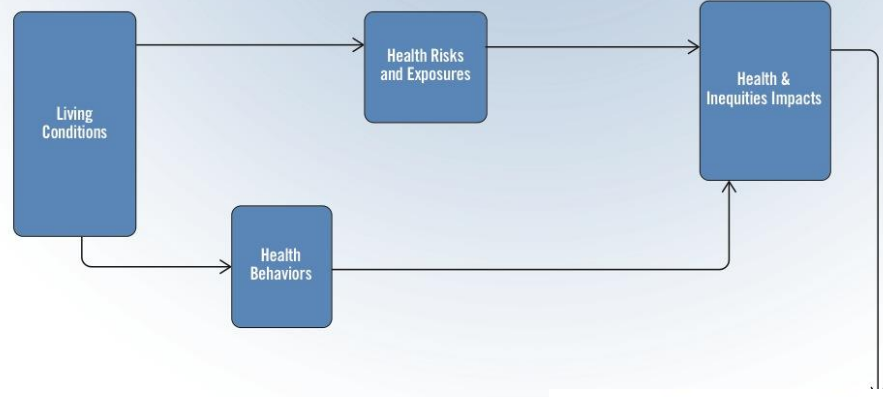
Climate Health Inequities

“Climate Gap”

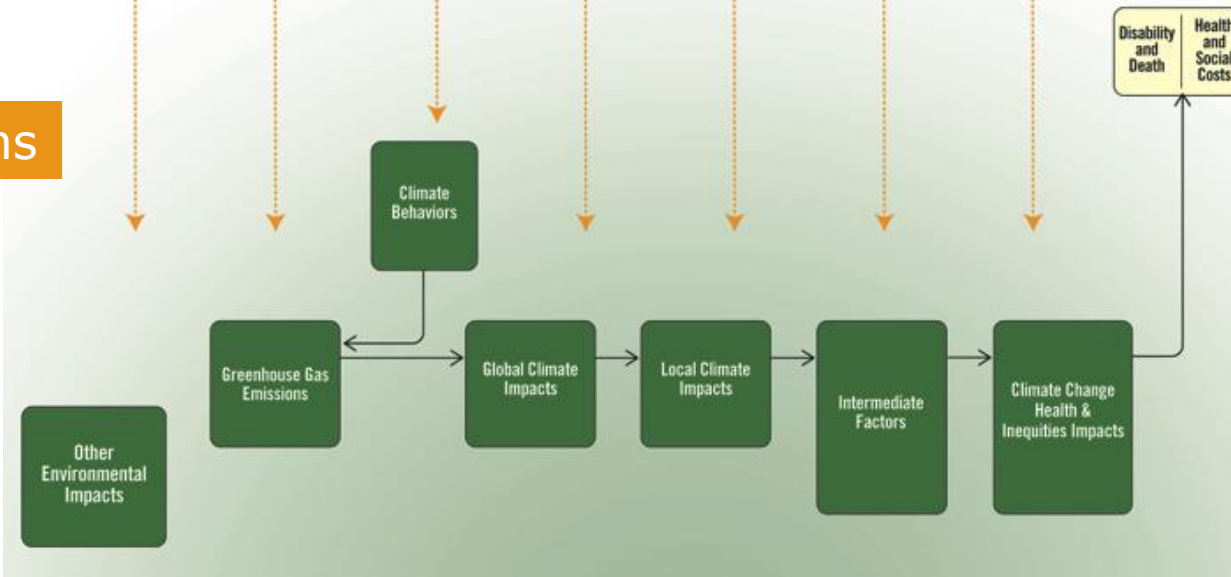




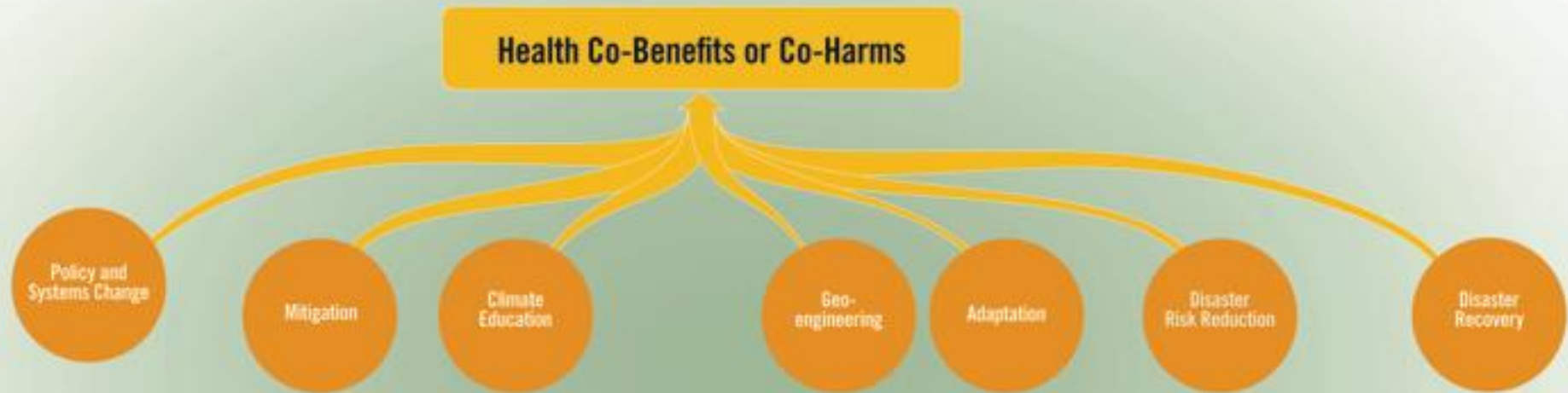
Health Interventions



Climate Interventions



Health Co-Benefits or Co-Harms of Climate Interventions



Clean Energy/Energy Efficiency Co-Benefits

□ Reduce

- Greenhouse gases
- Air pollution
- Fuel poverty

• Reduce

- Asthma
- Respiratory disease
- CVD
- Adverse birth outcomes



Sustainable Food Systems/Consumption Co-Benefits

□ Reductions

- GHG emissions
- Pesticide use
- Synthetic fertilizer use
- Food miles
- Antibiotic use
- Water pollution
- Soil erosion
- Biodiversity loss
- Meat consumption
- Unsustainable H2O consumption

□ Increases

- Access affordable healthy food
- Rural community strength
- Agricultural land preservation

□ Reductions

- Obesity
- Cardiovascular disease
- Cancer (breast, prostate, colorectal)
- Type II Diabetes
- Antibiotic resistance
- Pesticide illness










Heat Resilience Co-Benefits

- ❑ Urban greening
 - Reduce heat illness risk
 - Places to be active
 - Healthy food access
 - Reduce storm water run-off & flooding risk
 - Replenish groundwater
 - Reduce crime
 - Decrease energy consumption
 - Lower energy costs
 - Reduce air pollution



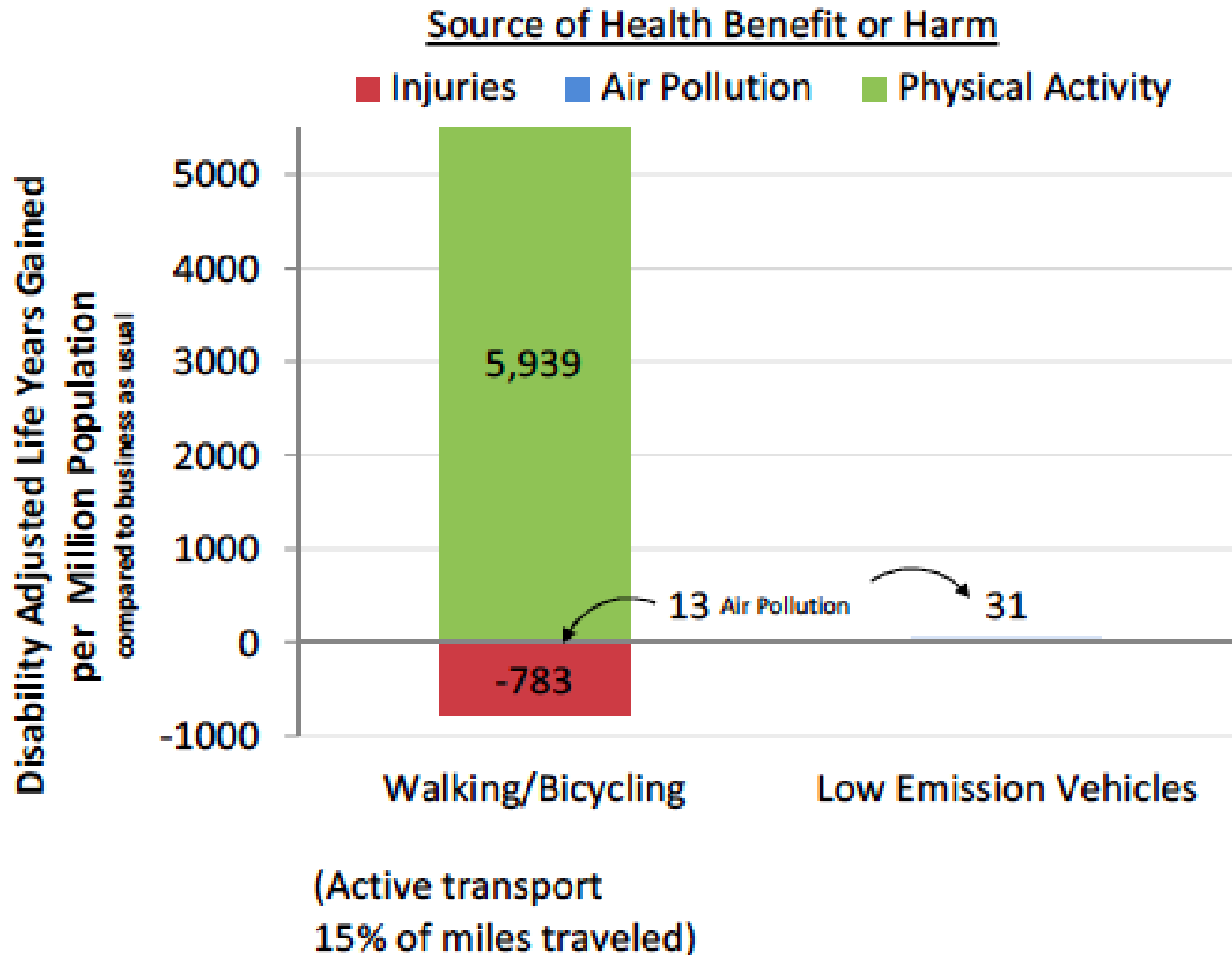
Active Transportation Co-Benefits

ITHIM Preliminary Projections of Health Impacts of Increased Bicycling and Walking: 4 to 19 minutes of daily physical activity, SCAG Region

	Change in disease burden		Change in premature deaths/yr
Cardiovascular Dis.*	12%		3,134
Diabetes	12%		374
Depression	3%		<2
Dementia	6%		465
Breast cancer	3%		60
Colon Cancer	3%		75
Road traffic crashes	22%		315

* Ischemic heart disease, stroke, hypertensive heart disease

Annual Health Benefits of Active Transport and Low Carbon Driving in the Bay Area Predictions from the Woodcock Model



Co-Harms



Green Jobs: Occupational Risks



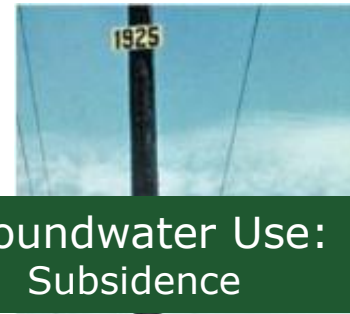
Job Loss



TOD: Gentrification



LCFS: Food Prices & Insecurity



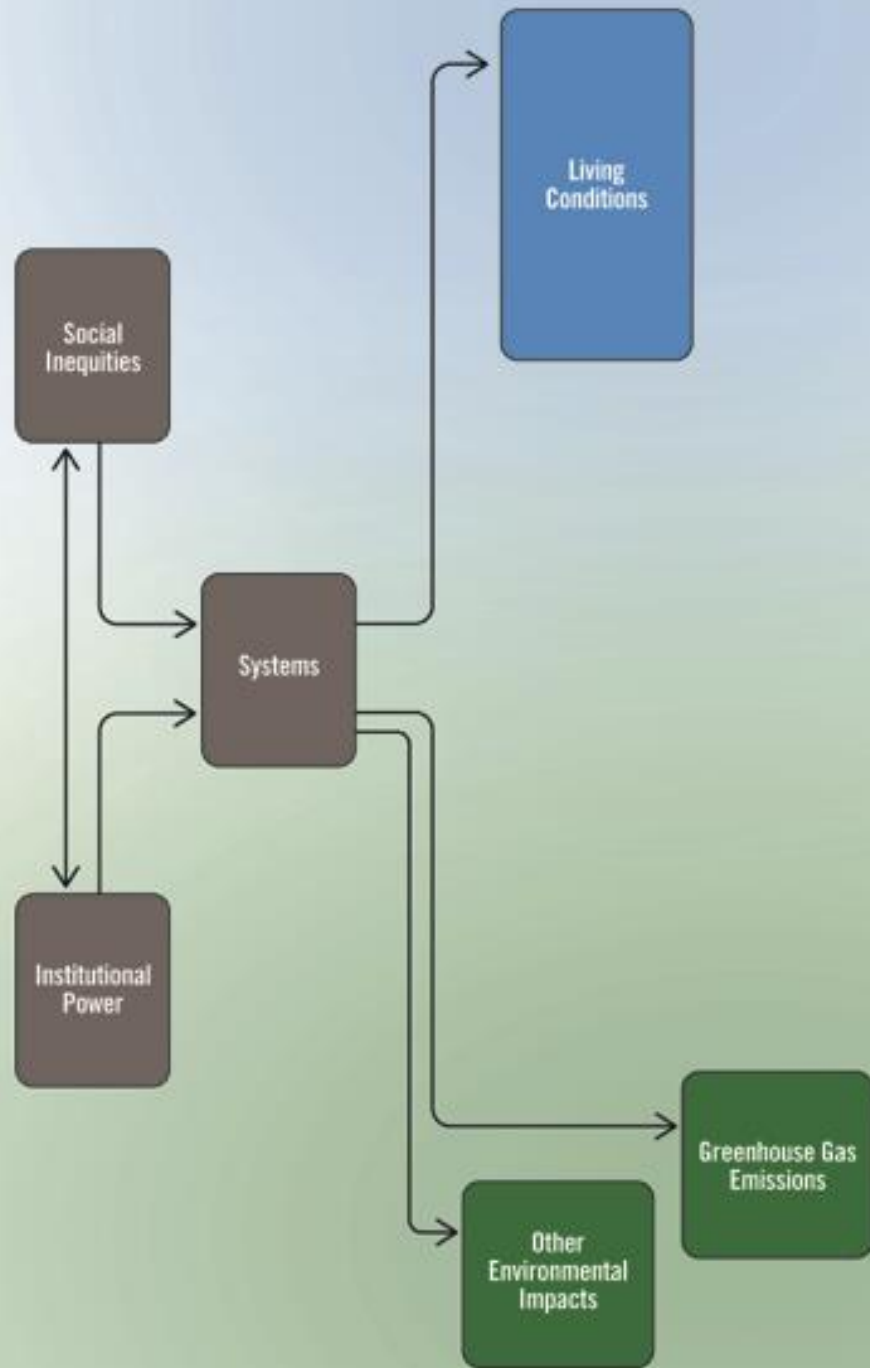
Groundwater Use: Subsidence

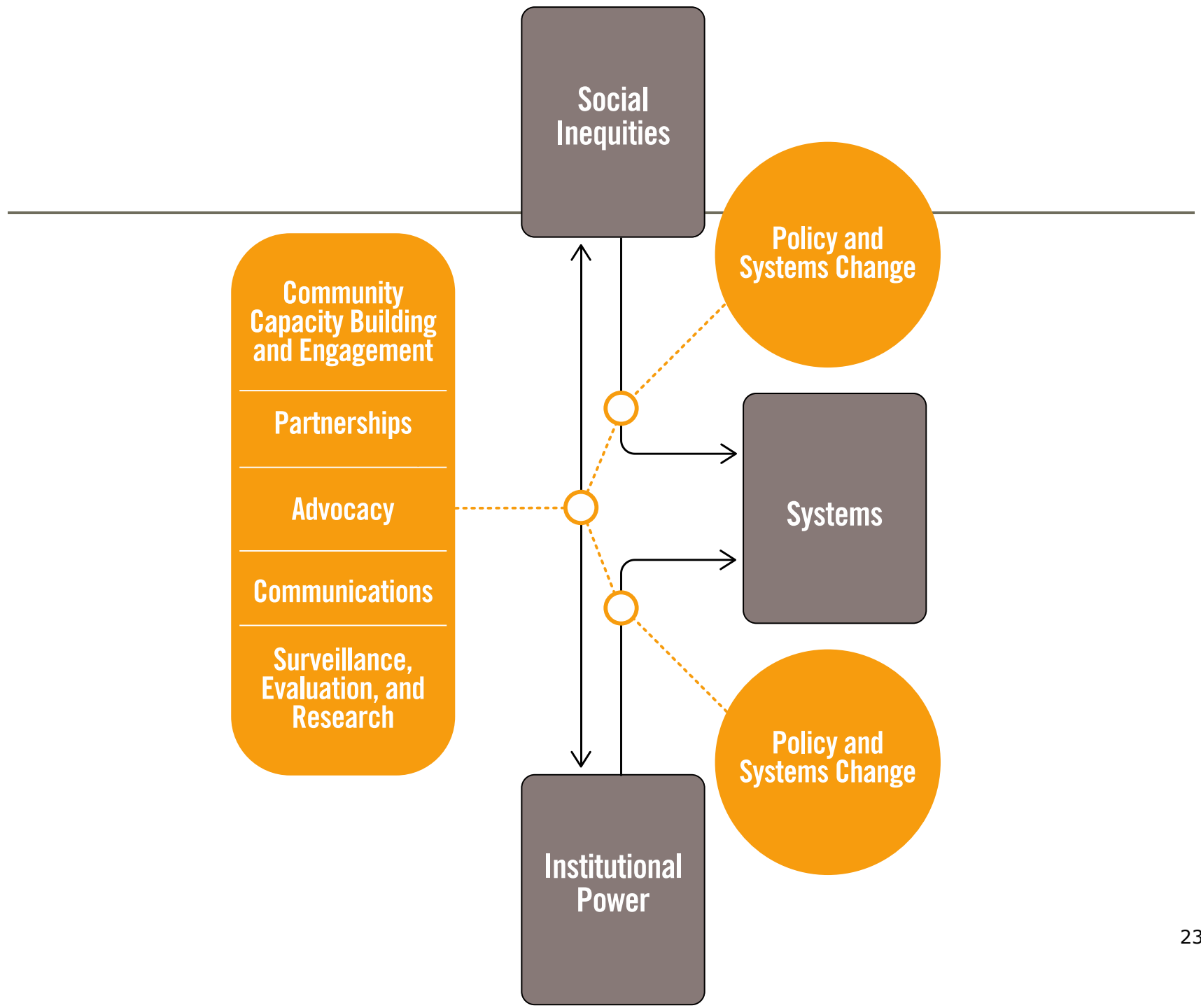


Market Mechanisms: Pollution in EJ Communities

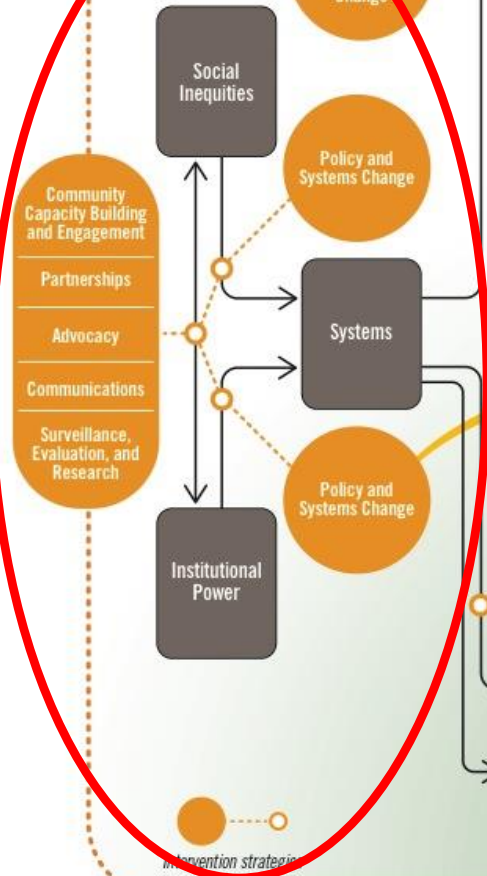


Root Causes

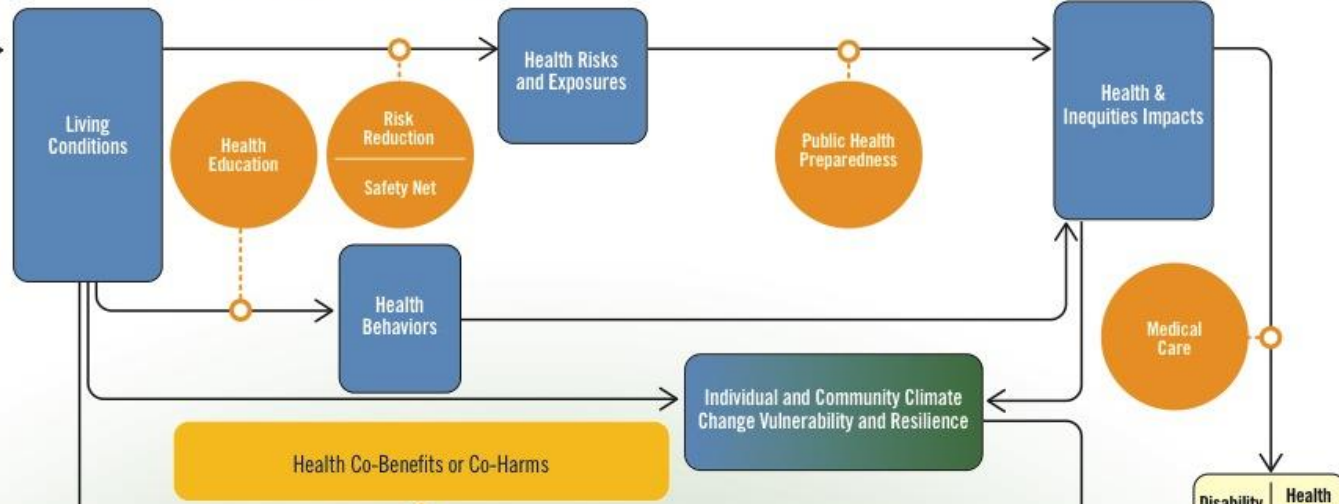




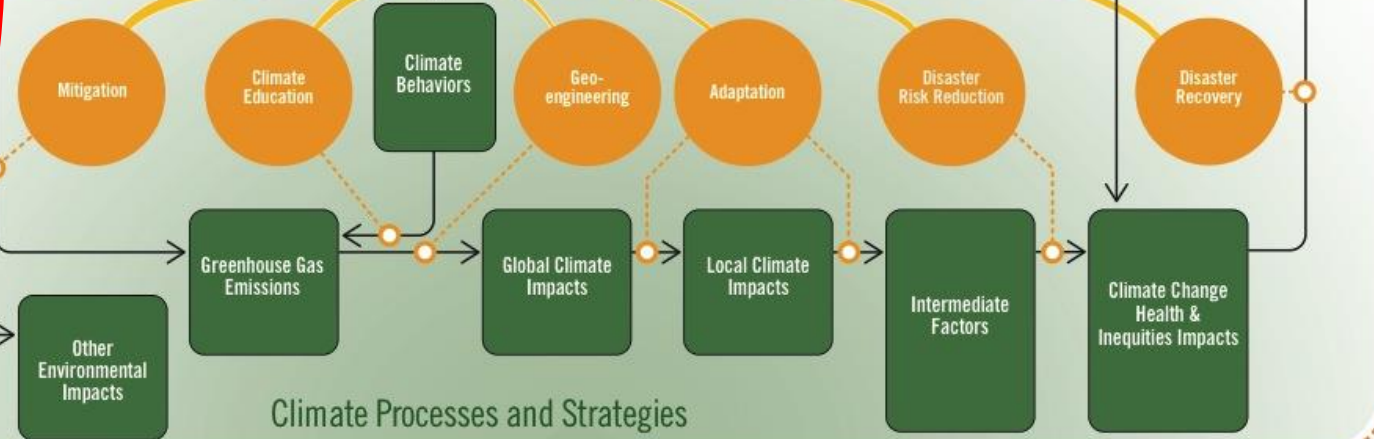
Climate Change and Health: A Framework for Action



Health Processes and Strategies

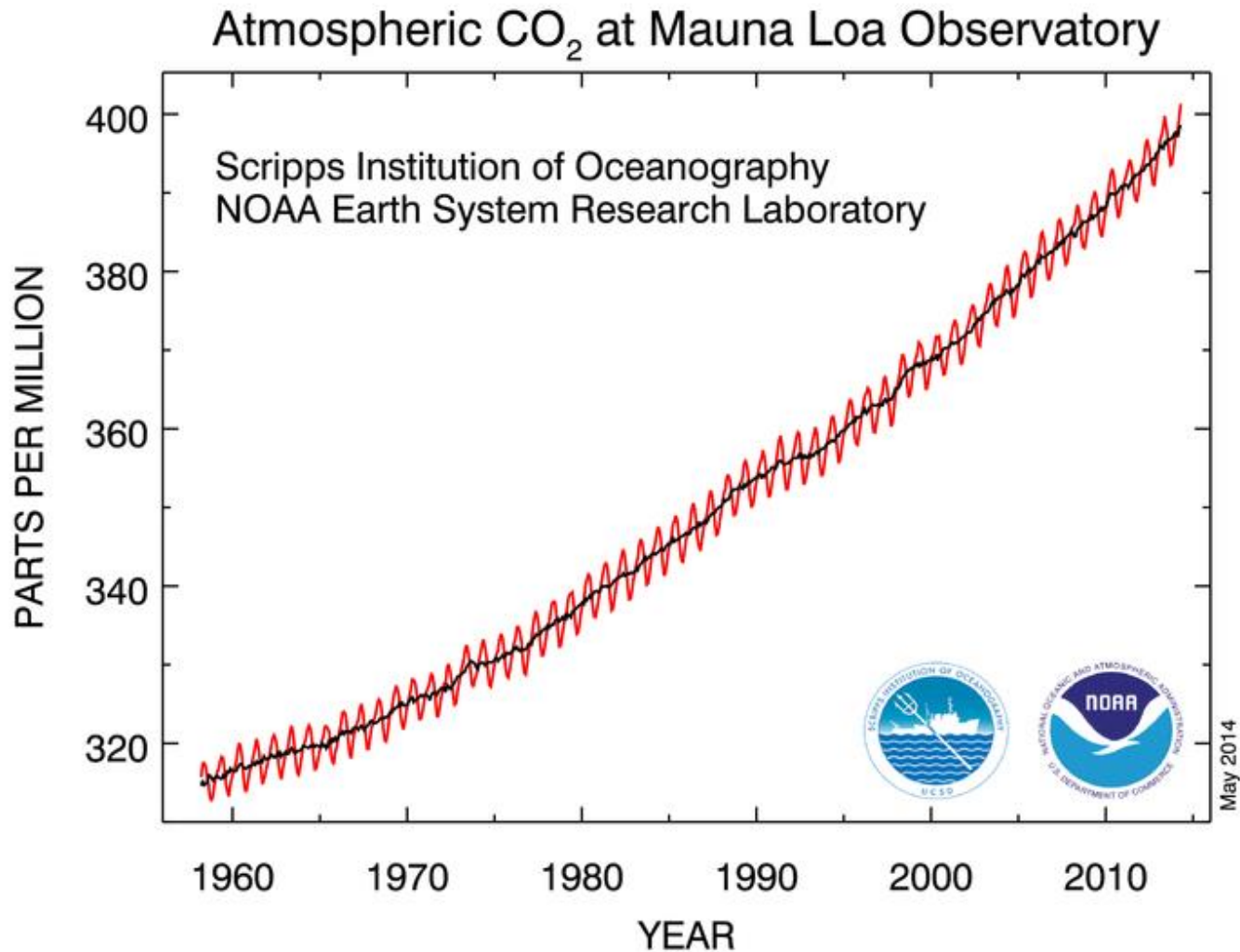


Climate Processes and Strategies



Developed by the Public Health Institute's Center for Climate Change & Health. © Public Health Institute 2014

Highest levels CO₂ in at least 800,000 years



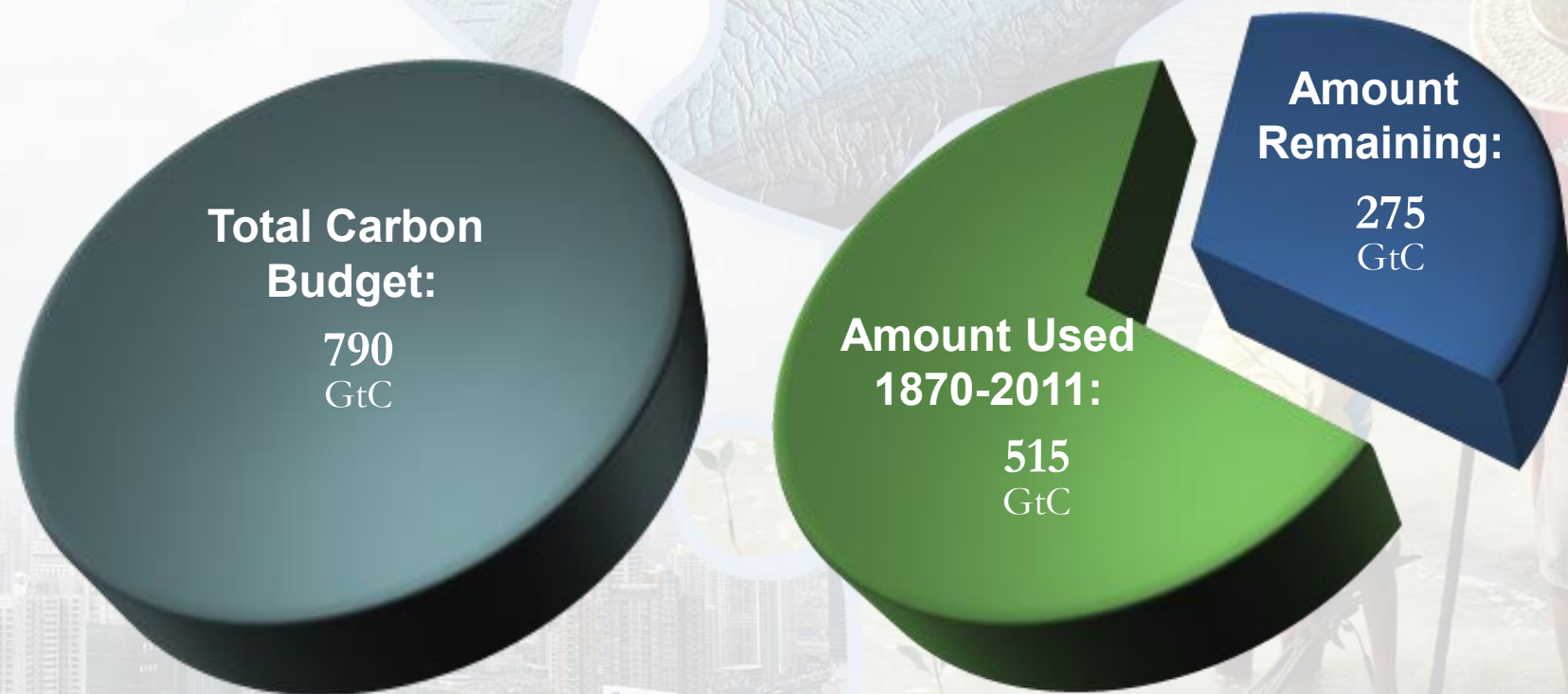
The Costs of Inaction

"We do not face a choice between protecting our environment or protecting our economy. We face a choice between protecting our economy by protecting our environment — or allowing environmental havoc to create economic havoc."

Former Treasury Secretary Robert Rubin

The window for action is rapidly closing

65% of our carbon budget compatible with a 2°C goal already used



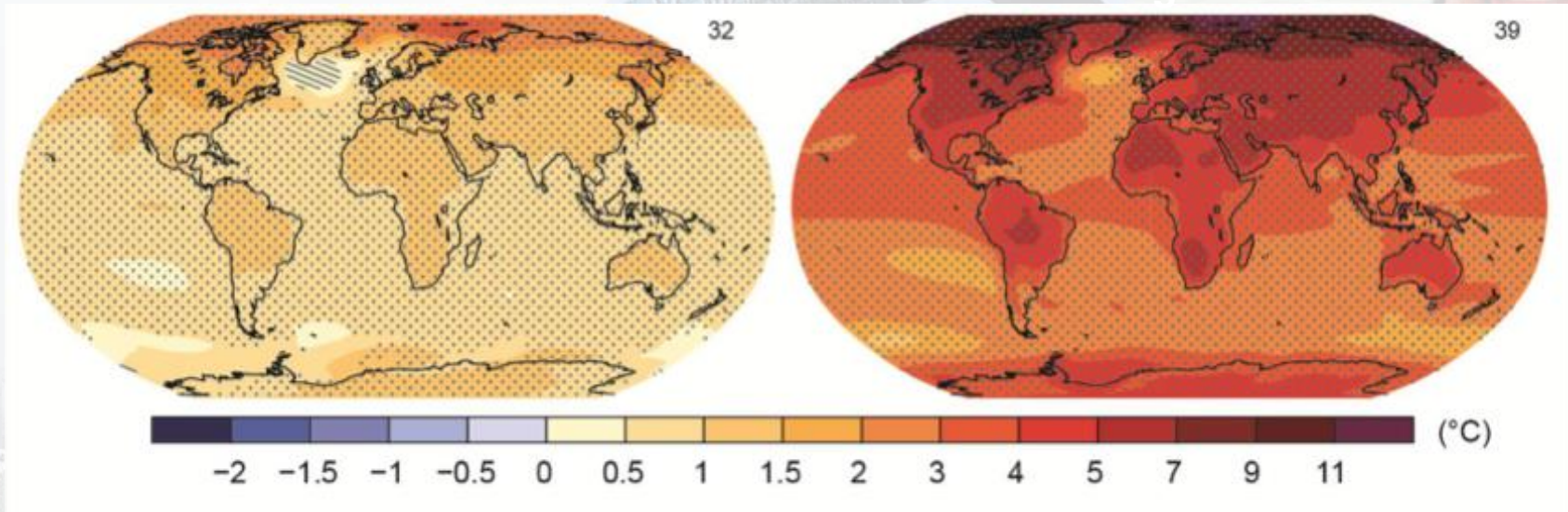
AR5 WGI SPM

**Climate Change is
a Health Emergency.**

The Choices We Make Will Create Different Outcomes

With substantial
mitigation

Without
additional
mitigation



Change in average surface temperature (1986–2005 to 2081–2100)

AR5 WGI SPM

The Choice is Ours



Public Concern is Rising..... But...

- ❑ Scientific consensus for climate change: 62%
- ❑ Local government and states should act: 82%
- ❑ Climate change a serious threat to California's future and quality of life:
 - Latinos: 67%
 - African-Americans: 63%
 - Whites: 40%
 - Asians: 38%
- ❑ Most have not yet connected the dots between global climate change and health impacts
- ❑ Uncomfortable expressing opinions if think they differ from personal networks
- ❑ Many confused, cognitive dissonance

ARE YOU CHOKING ON TOBACCO INDUSTRY LIES?

SECONDHAND SMOKE KILLS.

For more information visit www.heart.org



OIL COMPANIES SHOULD SUPPORT THE COMMUNITIES THEY'RE A PART OF.

WE AGREE.

Professor Michel Kazatchkine
Executive Director, The Global Fund
to Fight AIDS, Tuberculosis and Malaria

Rhonda Zygocki
Vice President, Policy, Government & Public Affairs
Chevron



U.S. Congress asks the tobacco industry if nicotine is addictive



Hidden Gas Tax Increase

Health sector has a vital role

- ❑ Health frame elicits support for climate action
- ❑ Health co-benefits and community empowerment provide antidote to despair and helplessness
- ❑ Health and equity opportunities are real and current
- ❑ Health workers are trusted, credible messengers in community
- ❑ Health works in and with vulnerable communities
- ❑ Health voice has been critical – in partnership with community advocates
 - e.g. nuclear weapons, tobacco, HIV/AIDs

What we can do?

- ❑ Be a leader - talk to colleagues, communities, decision makers
- ❑ Support local, state, and federal climate actions with health and equity co-benefits, **eg EPA Clean Power Plant rules**
- ❑ Oppose expansion of fossil fuel extraction/production
- ❑ Support clean, safe, renewable, energy
- ❑ Support rapid acceleration/ funding for active transportation
- ❑ Support funding and policies for sustainable ag & peri-urban ag
- ❑ Advocate for green zones and just transition
- ❑ Support building standards for climate resilience
- ❑ Divest endowments and pension funds from fossil fuels
- ❑ Advocate to end fossil fuel subsidies
- ❑ Develop and implement urban heat island mitigation strategies
- ❑ Support regulations of carbon, methane, ozone pollution
- ❑ Make polluters pay e.g. carbon tax, nitrogen fertilizer tax

CHEAP:

Climate, Health, & Equity in All Policies

- Integrate health & equity explicitly into climate change policies and programs
- Integrate climate change reduction and resilience explicitly into health and CED policies & programs

Build capacity

- Provide venues and resources for peer support & TA
- Support climate and health learning collaboratives

Communications and Social Marketing

- ❑ Research, develop, train, and deliver effective climate, health, and equity communications and social marketing campaign tools

Promote and support greater cross-sectoral collaboration and alignment

- Health-social justice-EJ-community economic development-climate change advocates
- Local government-NGOs-CBOs

Support Movement Building





<http://climatehealthconnect.org/climate-and-health-alliance/>

Thank you.



Center for
Climate Change & Health

<http://climatehealthconnect.org>

