

# *Ethics and Climate Change*

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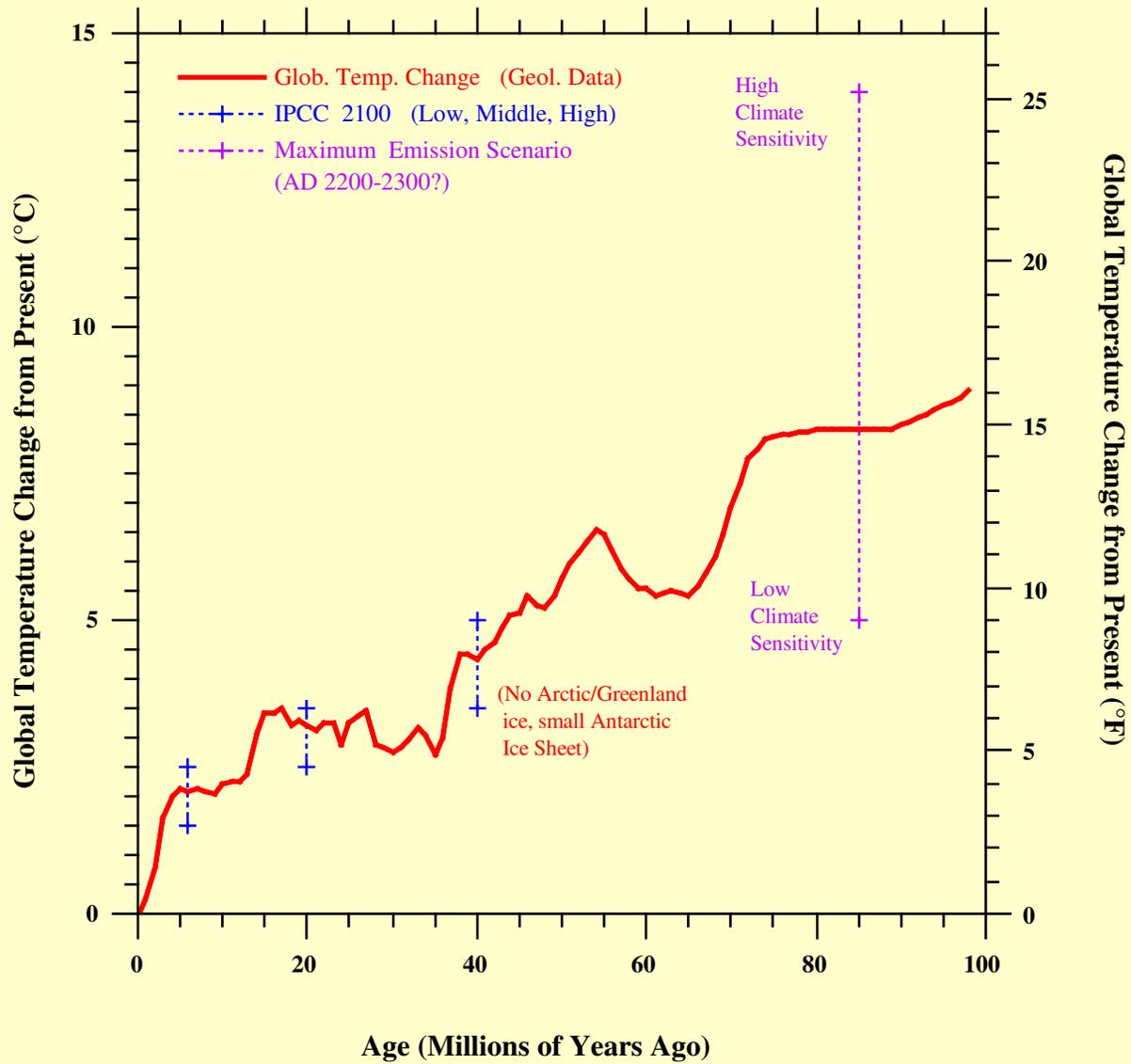
# Ethics and Climate Change

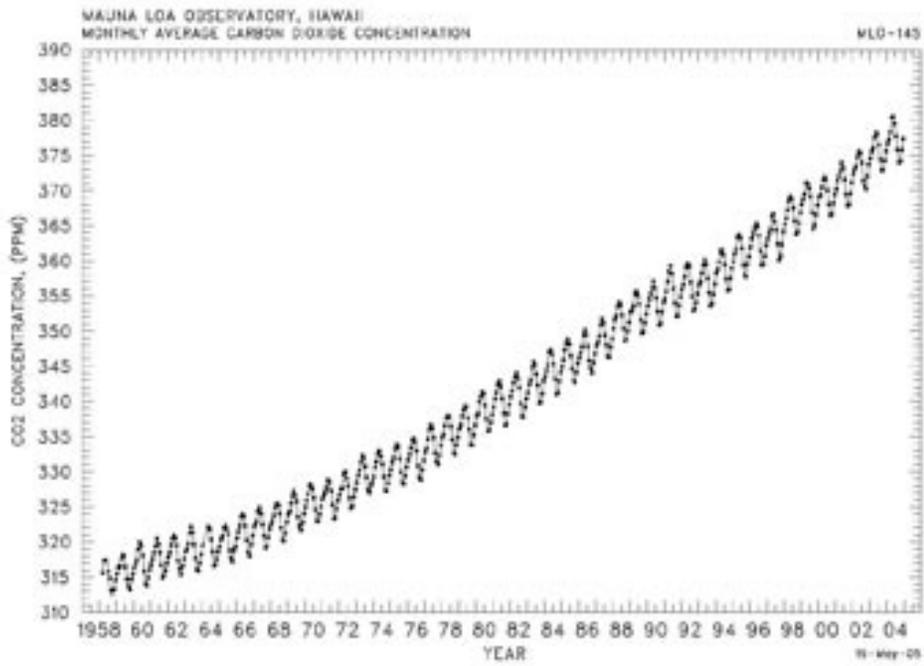
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1. **Climate Change**
2. **The Current Policy Opportunity**
3. **Climate Ethics**



## Comparison of Greenhouse Gas Projections Against Geologic History of Global Temperatures





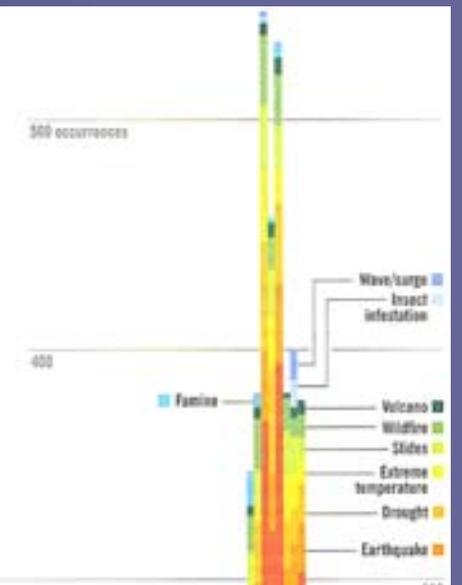
### CLIMATE SHOCK

reduce the resiliency of the global community. With every nation dealing with local emergencies, it would be more difficult to mobilize resources to aid victims in other areas, and there would be fewer resources to mobilize.

Municipalities around the world would struggle under the burden of greatly increased demands on funds to maintain and repair basic infrastructure. Forget about safety nets—FEMA and its ilk would be bankrupt. In the world's tightly coupled markets, financial tsunamis would surge through the system, leaving banks and corporations insolvent. Financial panics, largely absent for more than 70 years, would return with a vengeance.

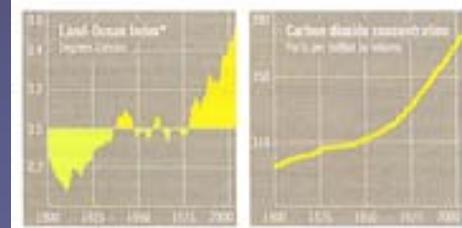
Here at home, a flickering climate would impose an enormous tax on every individual and business. Property values in most places would plummet as buyers disappeared and costs of insurance and maintenance soared. The upper-middle-class American family, today so well protected against external shocks, would find its layers of insulation gradually stripped away as fuel, food, jobs, and social order became less certain. Katrina's aftermath exposed how quickly extreme weather can reduce an orderly society to dysfunction.

Some of the calamities that may happen—droughts that last more than a century, an advance of arctic zones southward, incessant and epic storms—simply overwhelm the imagination when we try to envision them in a world of six billion people depending on an ex-



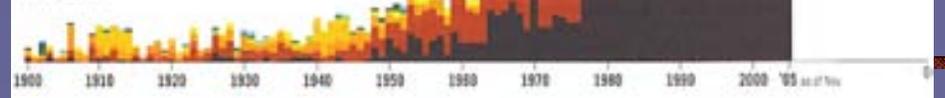
### MOUNTING CALAMITIES

Since the 1980s, the Earth's temperature has risen at an increasing rate (below left), probably in response to rising concentrations of CO<sub>2</sub>, the atmosphere's main greenhouse gas. Signs of climate change are obvious in data assembled by Belgium's Center for Research on the Epidemiology of Disasters: Calamities have become more frequent. (In part because the center only started in 1974, earlier data may not be as complete.)



\*Global annual temperature relative to the 1951-80 mean.

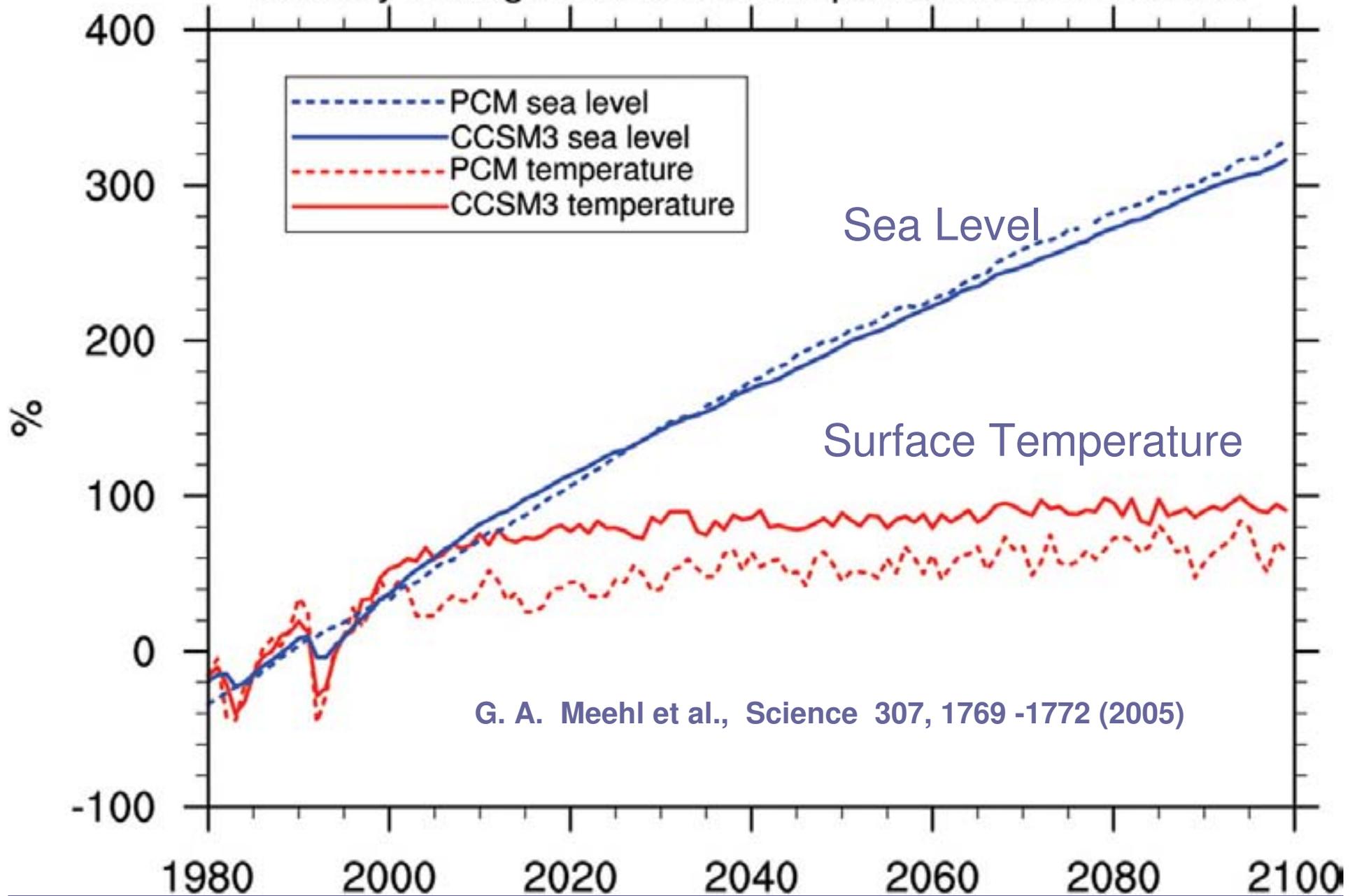
Number of natural disasters recorded each year worldwide 1900-2005



WORLD CLIMATE DATA CENTER, WASHINGTON UNIVERSITY FOR ENERGY AND ENVIRONMENT; WORLD RESOURCES INSTITUTE; CARBON DIOXIDE CONCENTRATION RESEARCH IN THE GEOBIOLOGY OF SYSTEMS (MLO), HAWAII

## Keeling Curve + effects

# Globally averaged surface air temperature & sea level rise

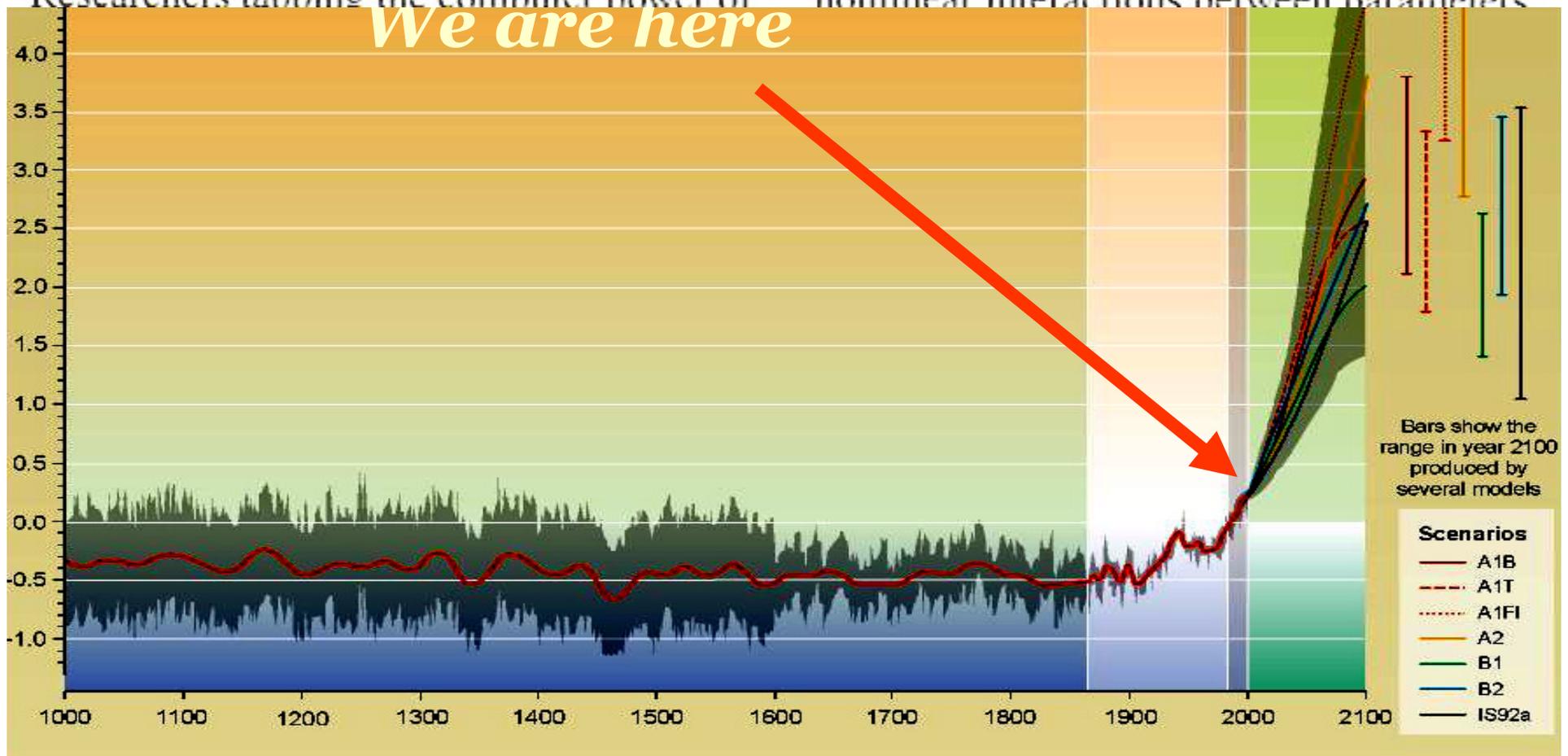


G. A. Meehl et al., Science 307, 1769 -1772 (2005)

## GREENHOUSE WARMING

# Climate Modelers See Scorching Future as a Real Possibility

Researchers tapping the computer power of nonlinear interactions between parameters



# Changes in Tropical Cyclone Number, Duration, and Intensity in a Warming Environment

P. J. Webster,<sup>1</sup> G. J. Holland,<sup>2</sup> J. A. Curry,<sup>1</sup> H.-R. Chang<sup>1</sup>

nature

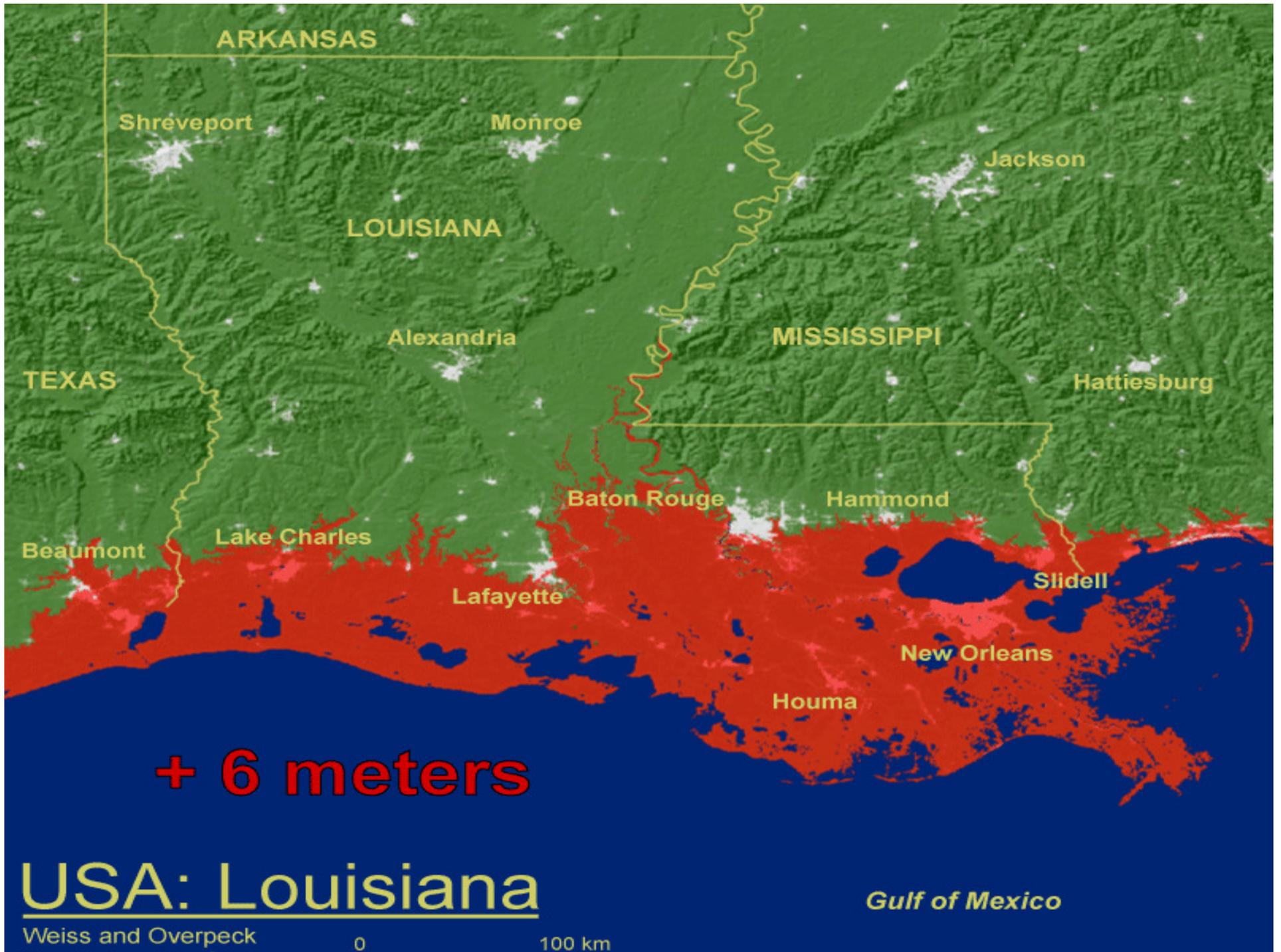
Vol 436|4 August 2005|doi:10.1038/nature03906

LETTERS

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## Increasing destructiveness of tropical cyclones over the past 30 years

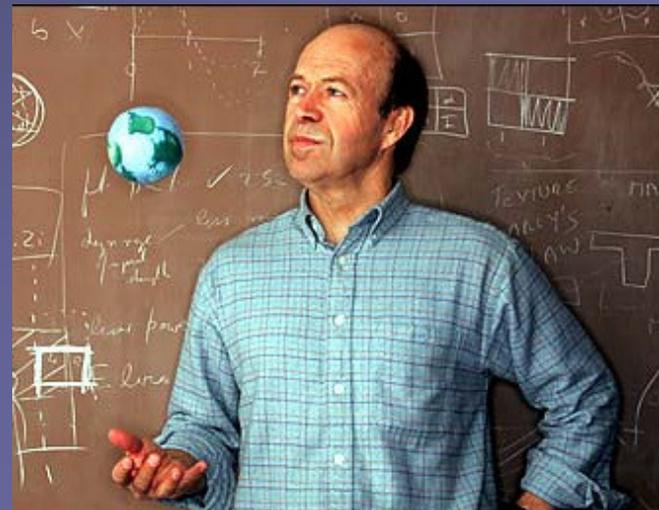
Kerry Emanuel<sup>1</sup>



## We have reached an absolutely critical moment on Climate Change

NASA's James Hansen (Jan. 2008): We need to reduce from today's atmospheric CO<sub>2</sub>, about 385 ppm, to 350ppm. We are "already too high to maintain the climate to which humanity, wildlife, and the rest of the biosphere are adapted. (. . .) This target must be pursued on a timescale of decades."

IPCC chair Rajendra Pachauri (Dec. 2007), "What we do in the next two or three years will define our future."



## 2. The Current Policy Opportunity



# 1. The Current Policy Opportunity

## A Perfect Storm



**UN Climate Talks  
Deadline**



**US Cap and  
Trade Bill**



**Global Economic Recession**

## 2. The Current Policy Opportunity

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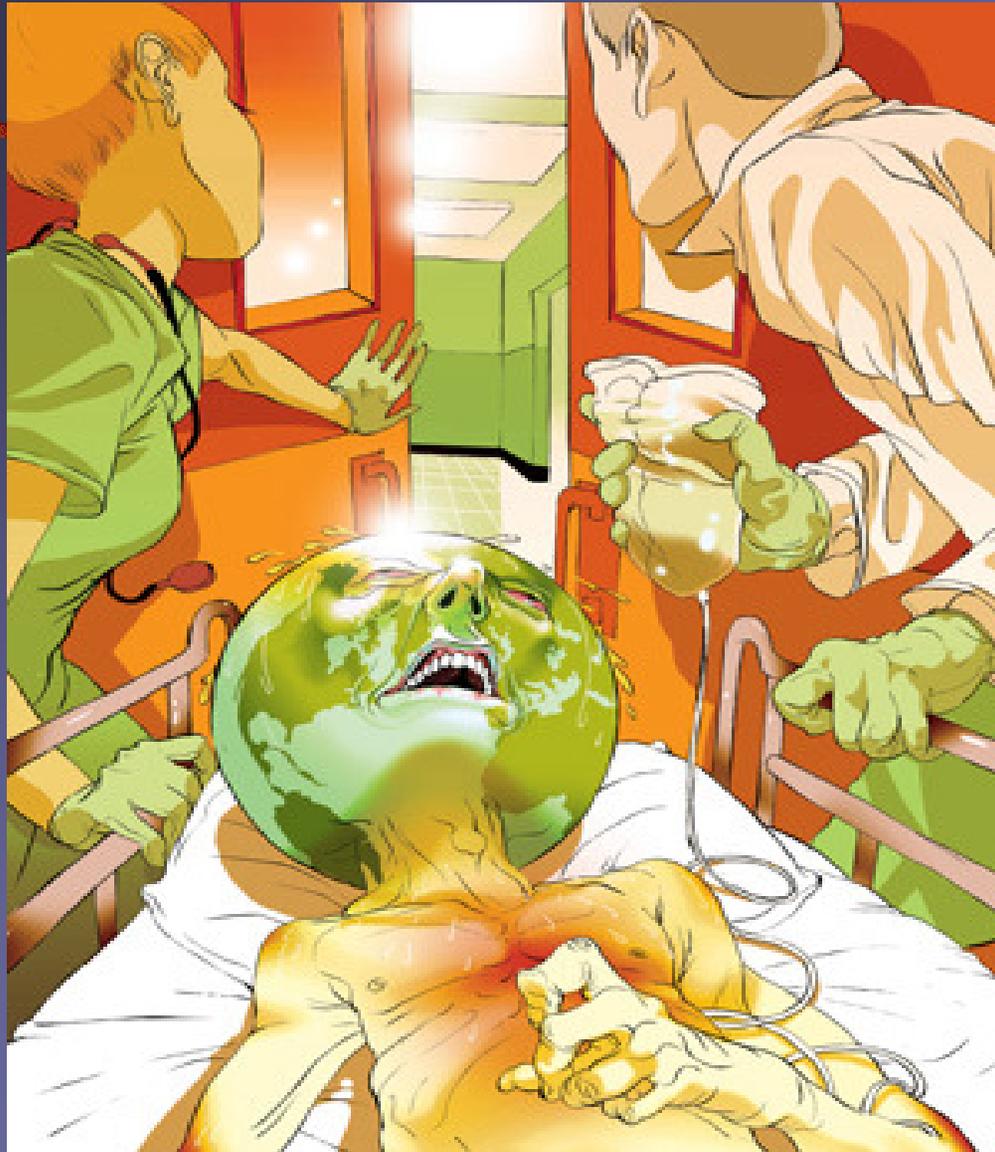
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- \$71 Billion in clean energy funding in HR1 Stimulus Package, and \$20 Billion in loan guarantees for clean energy projects.

## 2. The Current Policy Opportunity

### Dream Team on Energy and the Environment

- Steven Chu, Department of Energy
- Ken Salazar, Department of Interior
- Lisa Jackson, Environmental Protection Agency
- Nancy Sutley, Council on Environmental Quality
- John Holdren, Office of Science and Technology Policy
- Carol Browner, Climate Czar
- Hilda Solis, Department of Labor

### 3. Climate Ethics



## 3. Climate Ethics

**Two decades of outstanding contributions by ethicists to climate change.**

- Shue: Subsistence vs. Luxury Emissions
- Jamieson: Causal Complexity of Responsibility for Global Warming
- Wolf: Rawlsian Distributive Justice and Global Warming
- Hayward: Ecological Utilization Spaces
- Caney: Climate Change and Human Rights
- Gardiner: Temporal and Spatial Complexity of Global Warming

### 3. Climate Ethics

Example: **Stephen Gardiner, “A Perfect Moral Storm: Climate Change, Intergenerational Ethics and the Problem of Moral Corruption.”** *Environmental Values* 15 (2006): 397-413.

- Thesis 1: It will be difficult to address global warming because of the spatial dimensions of the problem.
  - Causes and effects are broadly dispersed over the globe.
  - Fragmentation of Agency: Not caused by one person but a vast number of individuals (resulting in a tragedy of the commons).
  - No existing global institutions exist to address these problems.

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- Thesis 2: It will be difficult to address global warming because of the temporal dimensions of the problem.
  - Causes and effects are temporally dispersed over multiple generations.
  - Fragmentation of Agency: Not caused by one generation but many possibly working at odds against each other (resulting in a temporal prisoners dilemma).
  - No existing global institutions exist to address these problems.

**Gardiner's Conclusion: Spatial and temporal dimensions of global warming will make it hard for us to address our moral responsibilities to others and future generations and we will be tempted to ignore those obligations for various reason.**

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“[There] is scientific uncertainty about the precise magnitude and distribution of effects [of climate change], particularly at the [U.S.] national level. One reason for this is the lack of trustworthy data about the costs and benefits of climate change at the national level . . . Perhaps, some nations wonder, we might be better off with climate change than without it. More importantly, some countries might wonder whether they will at least be relatively better off than other countries . . .” (Gardiner ‘06, 401).

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**Challenge: If this is really an argument being used now to determine policy outcomes or influence public opinion why accept this as a conclusion rather than giving an answer to it?**

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There are no morally agnostic losers. Losing here is not like losing in a fair sporting match.

Analogous to the claim that there are winners and losers in the global organ trade.

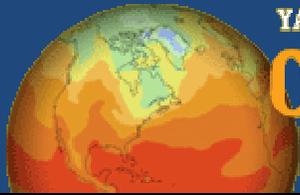


Mani Dhoj Tamang shows the scars, left from having his kidney removed, in the village of Sikharpur in this July 31, 2004 file photo. - Reuters

### 3. Climate Ethics

**Conclusion:** Not enough climate ethicists are yet addressing themselves to the critical audiences (policy advocates, policy makers, and the public) and asking the questions to effectively help those audiences. We need more immediate responses to the concerns of those audiences, contexts and situations = a need for a “*clinical climate ethics*.”

### 3. Climate Ethics



YALE F&ES PROJECT ON

**CLIMATE  
CHANGE**

THE YALE SCIENCE-TO-ACTION COLLABORATIVE  
SCHOOL OF FORESTRY & ENVIRONMENTAL STUDIES



4C

George Mason University

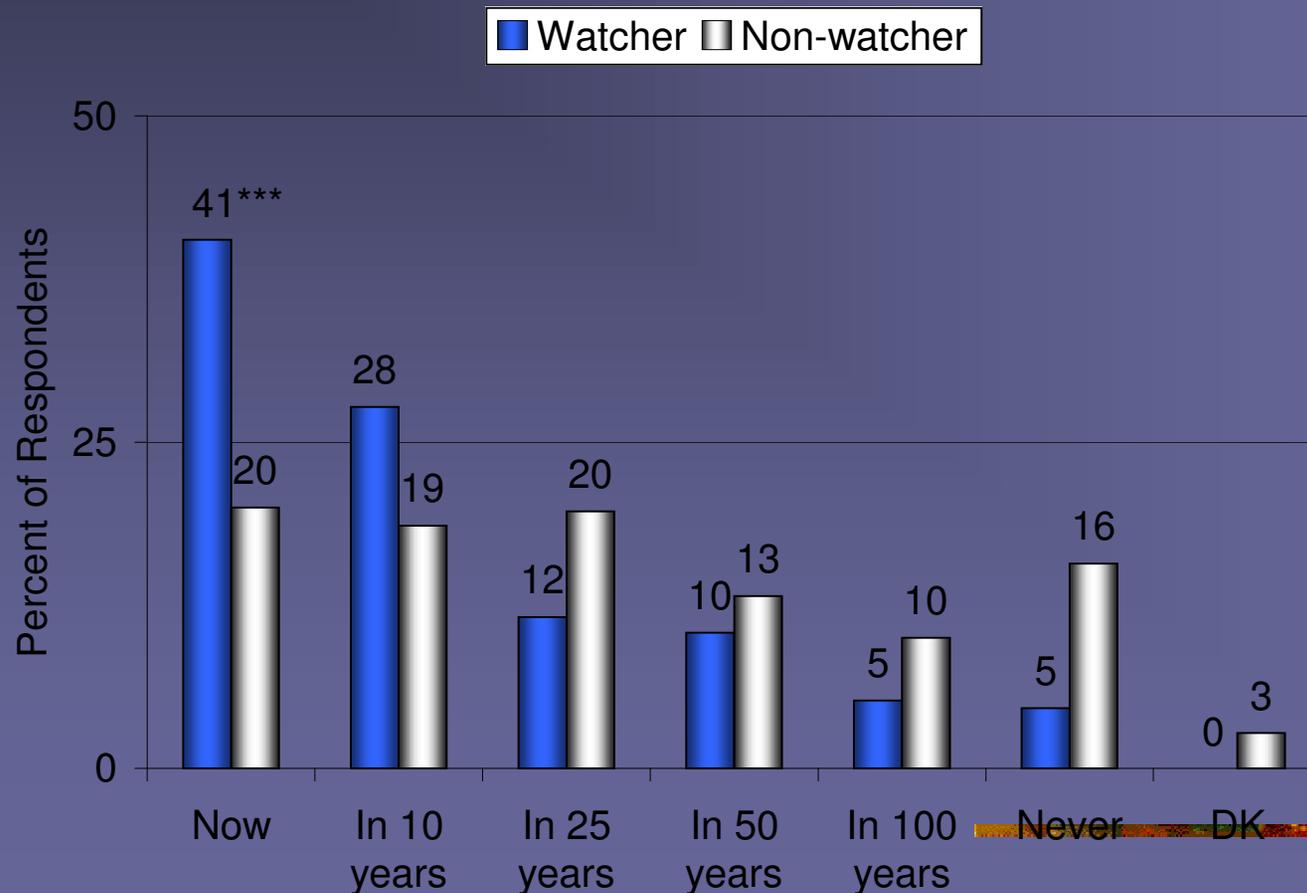
Center for Climate Change Communication

### Tracking and responding to three moral “gaps.”

- (1) Urgency Gap. Need to Act Now.
- (2) Temporal Gap. When will things go wrong?
- (3) Spatial Gap. Who will it happen to?

# Urgency Gap: *An Inconvenient Truth* (June '06 data)

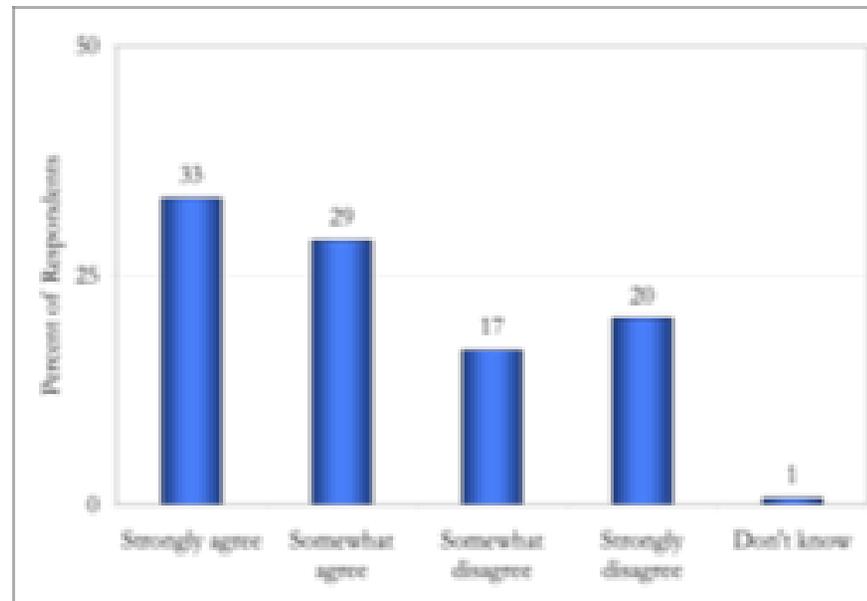
“Life on earth will continue without major disruptions only if we take immediate and drastic action to reduce global warming.”



\*\*\*  $p \leq .001$

## Urgency Gap: July 2007 data

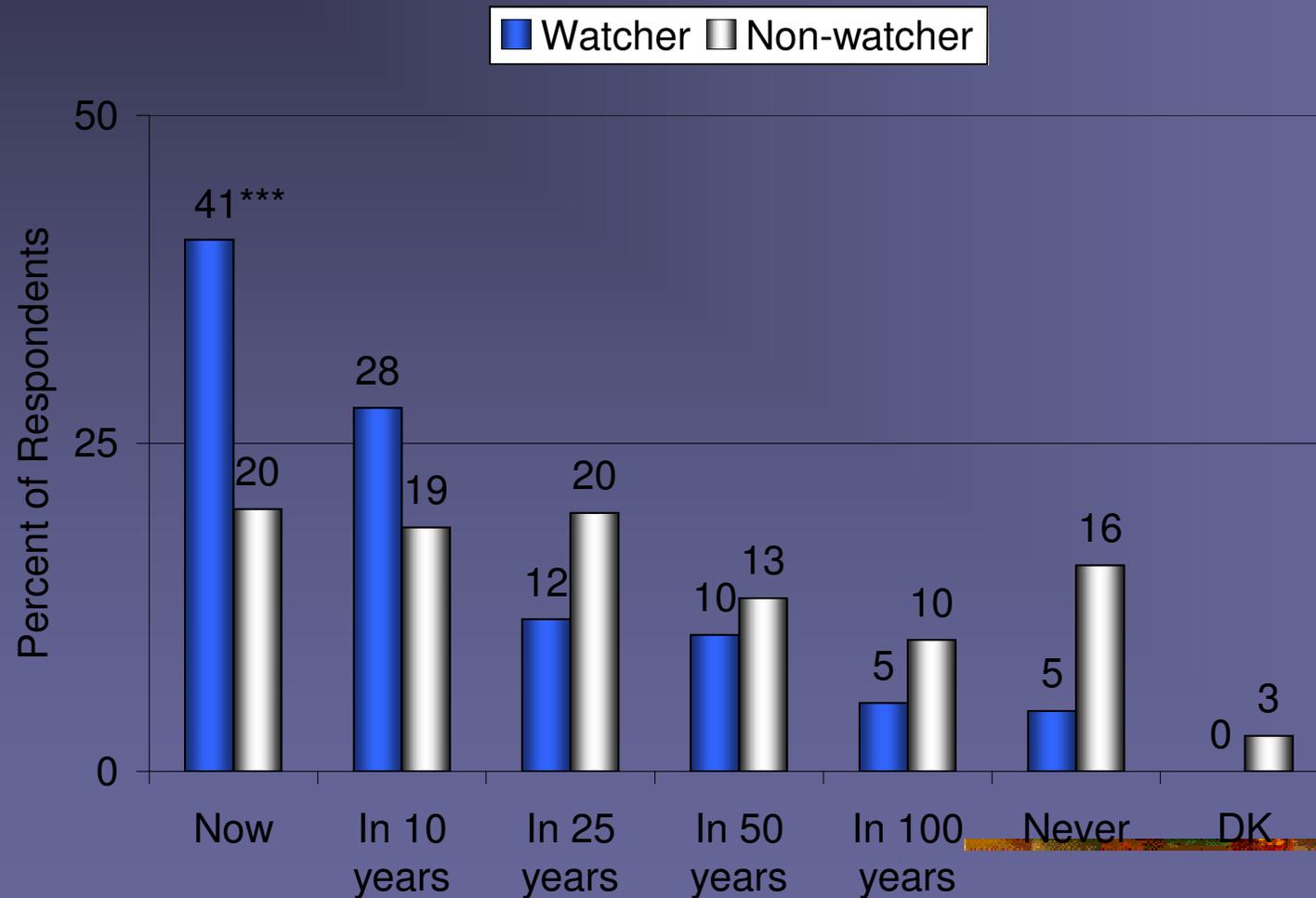
"Do you strongly agree, somewhat agree, somewhat disagree or strongly disagree with the following statement? Life on earth will continue without major disruptions only if we take immediate and drastic action to reduce global warming."



Urgency gap is closing in general population. 10% better in one year.

## Temporal Gap: *An Inconvenient Truth* ('06)

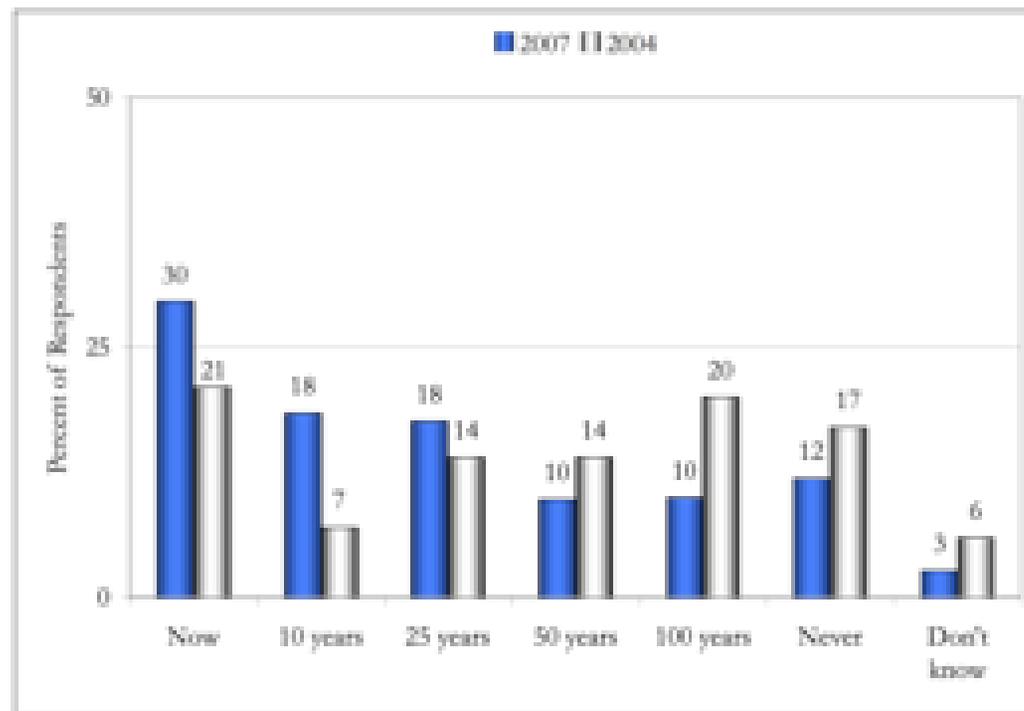
“When do you think GW will start to have dangerous impacts on people around the world?”



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## Temporal Gap: July 2007 data

“When do you think GW will start to have dangerous impacts on people around the world?”

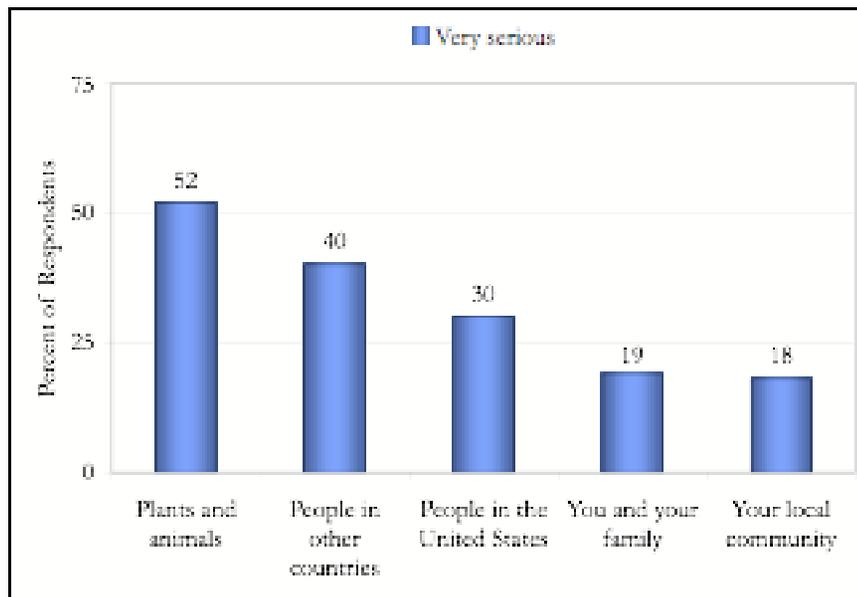


Note: 2004 data from a national survey conducted by A. Leiserowitz and Knowledge Networks, June 15-27 (n = 425).

Temporal gap is closing in general population. 10% better in one year.

## Spatial Gap: July 2007 data

"How serious of a threat is global warming to -- [ITEMS READ IN ORDER] -- very serious, somewhat serious, not very serious, or not at all serious?"



Unfortunately still a spatial gap. Knowing this will help to determine focus of shaping messages to influence moral motivations for lifestyle changes and political activity.

# CLIMATE CHANGE IN THE AMERICAN MIND

Americans' climate change beliefs, attitudes,  
policy preferences, and actions

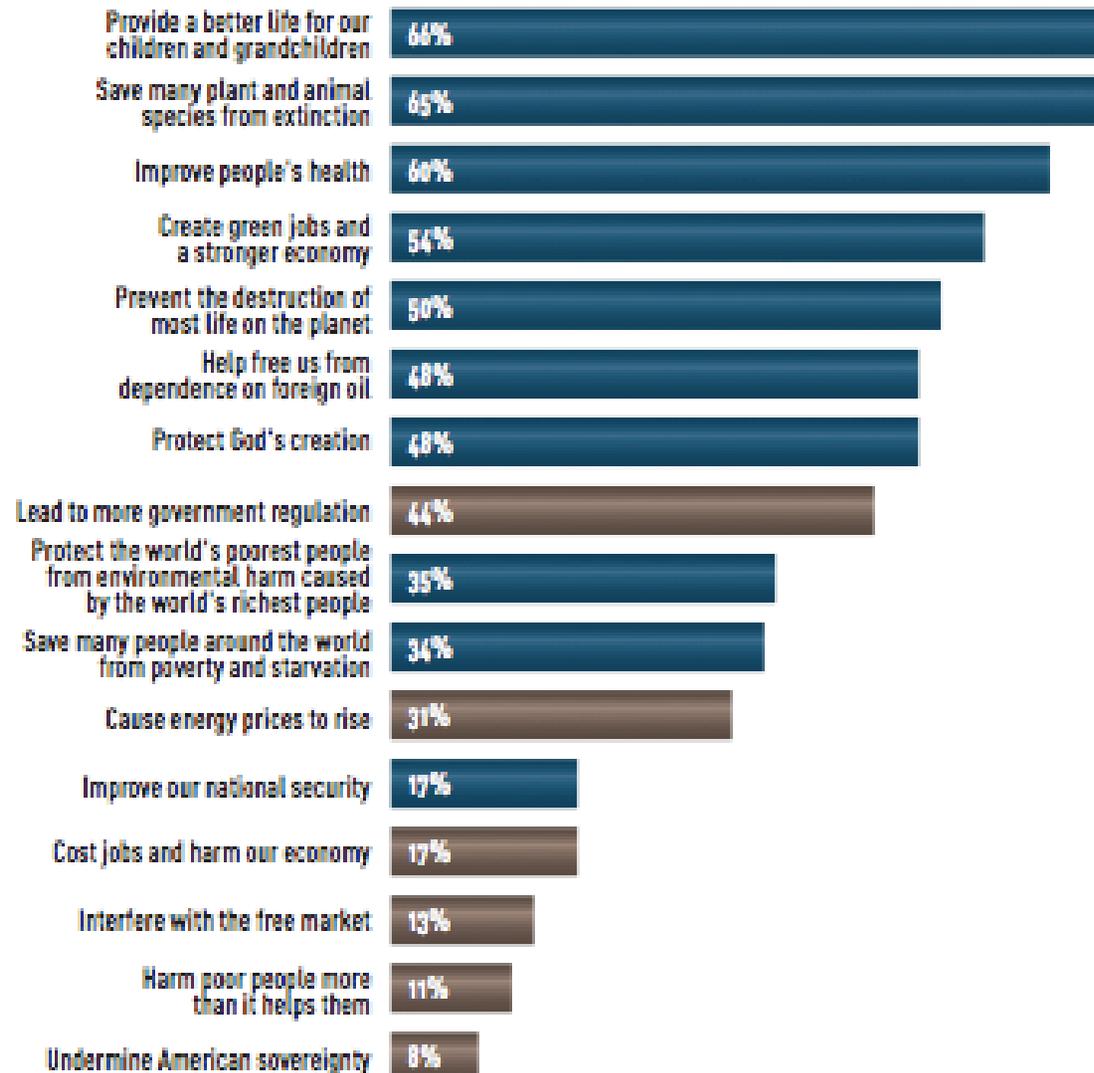


George Mason University  
Center for Climate Change Communication

## Figure 8: Potential Outcomes of Action to Reduce Global Warming

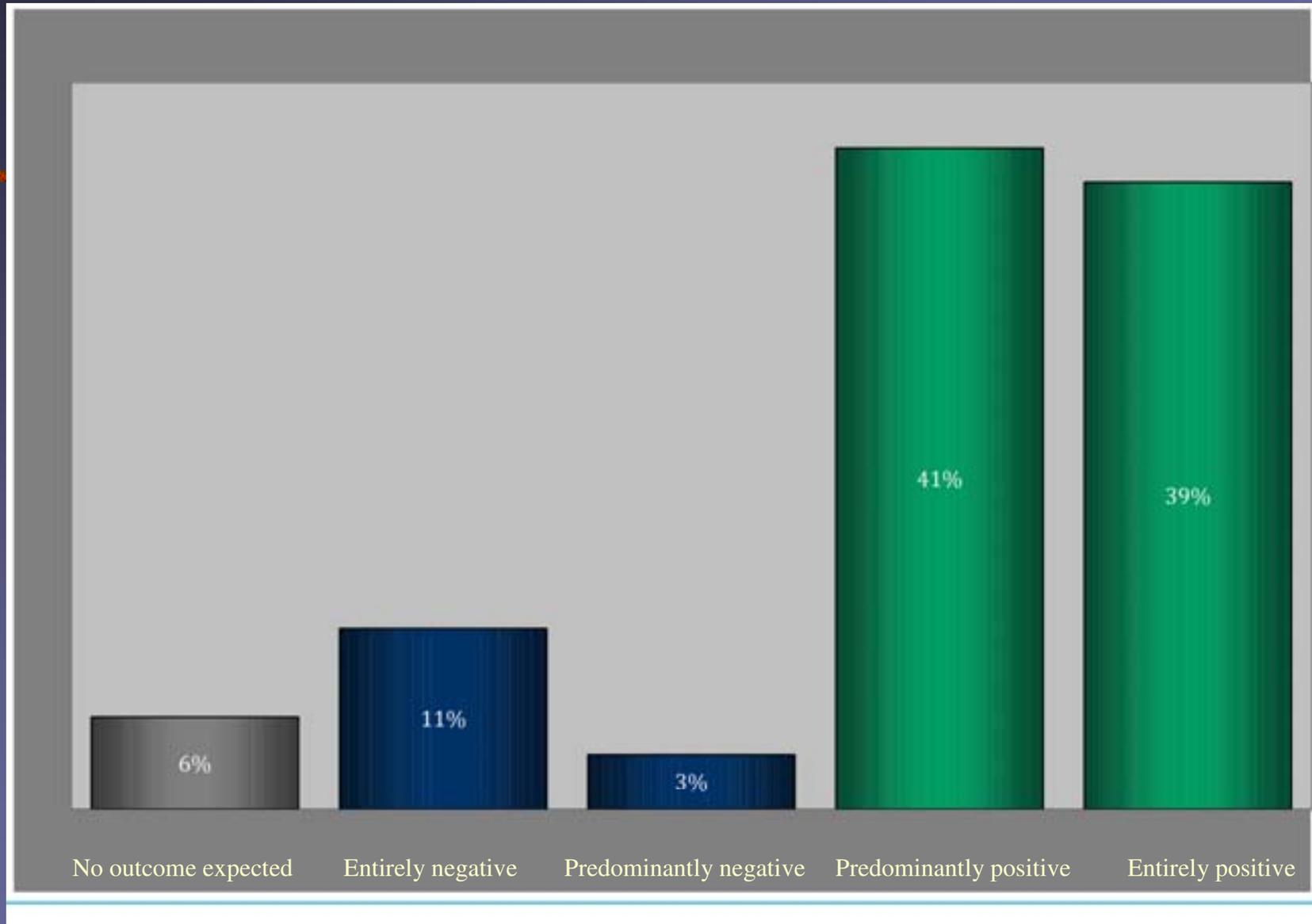
Please check all of the answers below that you believe are true.

If our nation takes steps to reduce global warming, it will ...

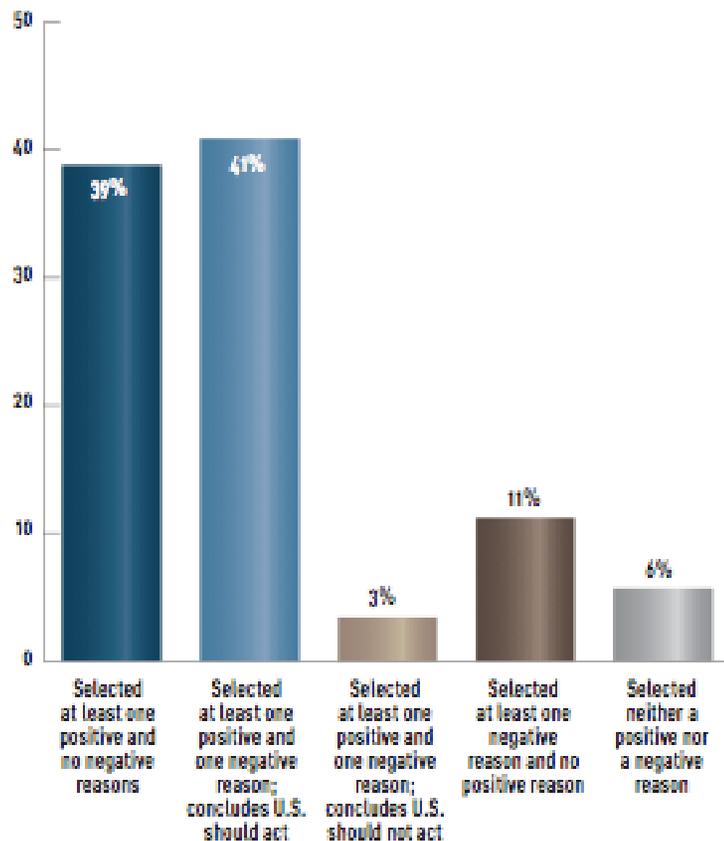


N=2,164

## Outcome expectancy groups.



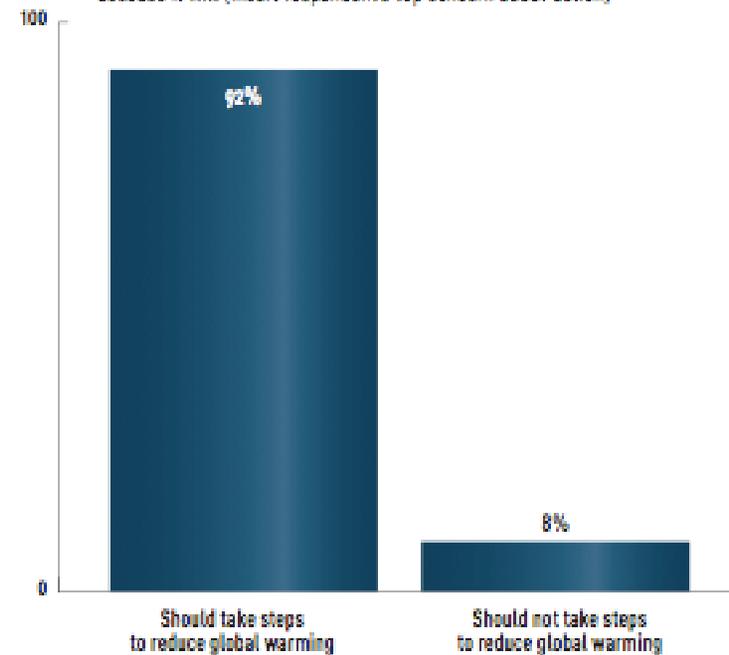
**Figure 11: Reasons and Conclusions About U.S. Action**



**Figure 12: Weighing the Reasons For and Against, Should the U.S. Act?**

Which of the following two statements do you find the most convincing?

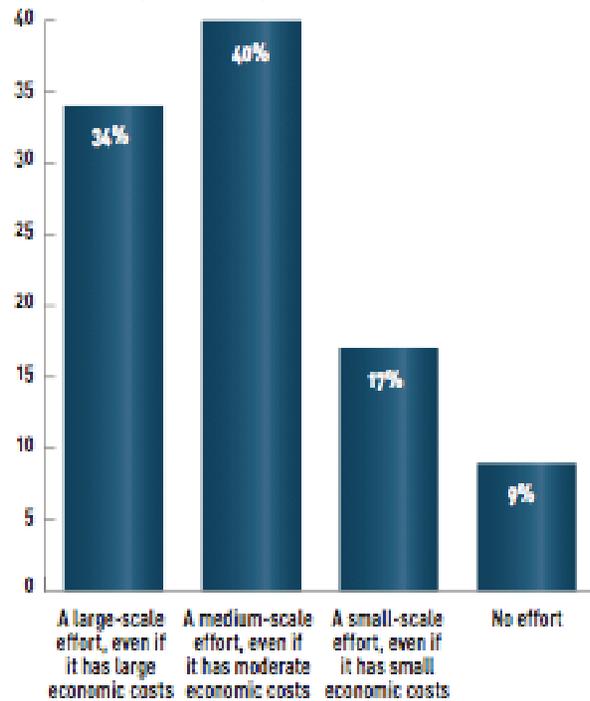
- We should take steps to reduce global warming because it will (insert respondent's top reason for action)
- We should not take steps to reduce global warming because it will (insert respondent's top concern about action)



Base = Respondents who selected at least one reason for action and one concern from the list in Figure 8; N=953 (44% of the total sample).

**Figure 5:  
Desired Scale of Action by the United States**

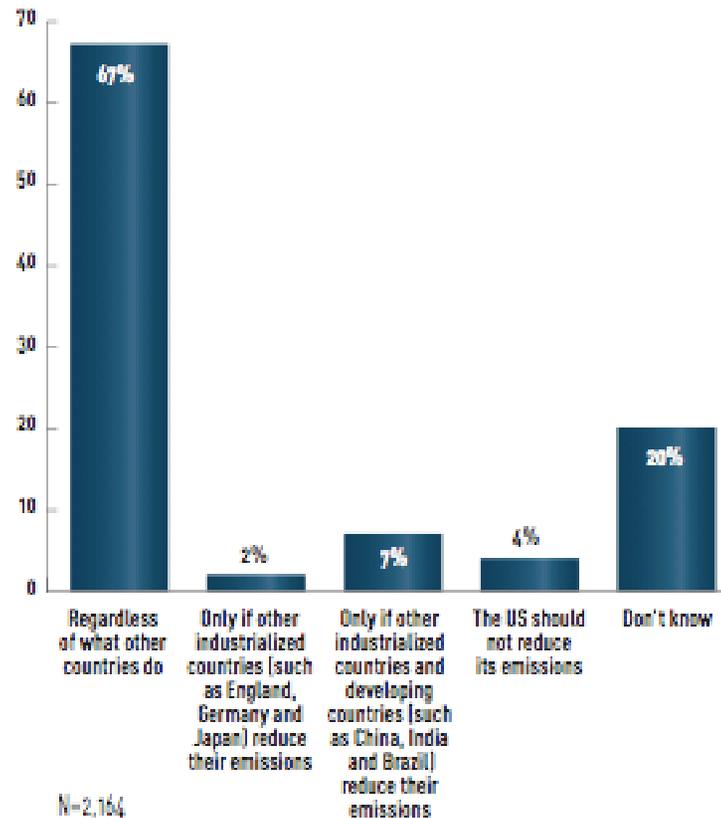
How big of an effort should the United States make to reduce global warming?



N=2,164

**Figure 6: Unilateral Action or Only if Other Countries Act?**

People disagree whether the United States should reduce greenhouse gas emissions on its own, or make reductions only if other countries do too. Which of the following statements comes closest to your own point of view? The United States should reduce its greenhouse gas emissions...



N=2,164