

**American Teens' Knowledge of Climate Change**  
better understanding on a few important measures:



- 57% of teens understand that global warming is caused mostly by human activities, compared to 50% of adults;
- 77% of teens understand that the greenhouse effect refers to gases in the atmosphere that trap heat, compared to 66% of adults;
- 52% of teens understand that carbon dioxide traps heat from the Earth's surface, compared to 45% of adults;
- 71% of teens understand that carbon dioxide is produced by the burning of fossil<sub>2</sub> fuels, compared to 67% of adults.

## public opinion & climate change - 'Six Americas' & cultural cognition



### cultural cognition (Dan Kahan):

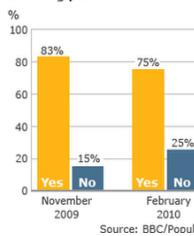
the tendency of individuals to form beliefs about societal dangers that reflect and reinforce their commitments to particular visions of the ideal society

### Carsey Institute study, University of New Hampshire (Lawrence Hamilton) on 'Climate Change, Partisanship, Understanding and Public Opinion'

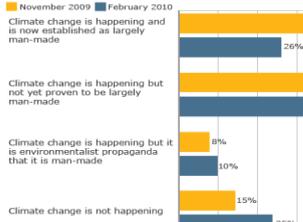
People "tend to selectively absorb information...fitting it into their pre-existing beliefs...our surveys said nothing about possible solutions or policies related to climate change. The deeply partisan responses nevertheless suggest that many people made this association themselves, basing their beliefs about science and physical reality on what they thought would be the political implications if human-caused climate change were true".

### ...dangers when climate science is treated as primarily political issues?

Do you think global warming is taking place?



Which of these statements is closest to your view?



**ClimateWire**  
THE POLITICS AND BUSINESS OF CLIMATE CHANGE

**ELECTIONS: Predicted voter turnout favors climate opponents**

By Erik Lonneman, I&E reporter

It's likely that more voters will identify or recall actual climate change and will avoid voting today than in years past, according to a new poll.

"It's almost a foregone conclusion," said Deborah, director of George Mason University's Center for Climate Change Communication, lead of the research firm.

Republican endorsement and the party's rising dominance of global warming are contributing to more than an election that is likely to be a close one. A poll by the Center for Climate Change Communication, which is a part of the Pew Research Center, shows that 19 percent of voters in the U.S. will not vote in the 2010 mid-term elections. Republican endorsement is likely to be a factor in this voter turnout.

Republicans could gain ground from the poll, which shows that voters will avoid voting today than in years past, according to a new poll. The poll shows that voters will avoid voting today than in years past, according to a new poll. The poll shows that voters will avoid voting today than in years past, according to a new poll.

**Economy trumps climate**

President Obama was able to win the hearts and minds of voters on the issue of climate change, but his administration has been cut the vote for voters. Therefore, the poll suggests that voters will avoid voting today than in years past, according to a new poll.

## The Policy Process: Undue Influence?



### Council on Environmental Quality: Philip Cooney ~ June 2005

**An Editor in the White House**

Handwritten versions and comments by Philip A. Cooney, chief of staff for the White House Council on Environmental Quality, appear on two draft reports by the Climate Change Science Program and the Sub-Committee on Global Change Research. Mr. Cooney's changes were incorporated into later versions of each document shown below with revisions in bold.

**"STRATEGIC PLAN FOR THE U.S. CLIMATE CHANGE SCIENCE PROGRAM" DRAFT TEXT, OCT. 2005**

14 methods will expand to areas where meltwater resulting from deeper and longer duration periods does not have a natural drainage path to the ocean.

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17 Warming and other changes in ecosystems and hydrology will have serious impacts on the environment. There will be significant risks to the sustainability of ecosystems that will have serious impacts on the environment.

18 of significant impact in polar regions - to have, itself, some well-changed and that

19 potential risks to the sustainability of ecosystems that will have serious impacts on the environment.

20 significant risks to the sustainability of ecosystems that will have serious impacts on the environment.

21 populations that will be affected and that will have serious impacts on the environment.

22 further complicated by the effects of permafrost thaw and possible contamination and

23 increased frequency of extreme hydrologic events. Reducing the uncertainties in current

24 understanding of the relationships between climate change and Arctic hydrology is critical.

**PUBLIC REVIEW DRAFT NOV. 2005**

Warming events also lead to changes in the water cycle in polar regions. Reducing the uncertainties

**FINAL REPORT, JULY 2005**

The paragraph does not appear in the final report.

**"OUR CHANGING PLANET" DRAFT TEXT, OCT. 2005**

619 the text, and perhaps well beyond.

620 The challenge for the USGCRP is to provide the best possible scientific basis for documenting, understanding, and projecting changes in the Earth's life-support systems, and the role for CCQER in this.

621 facilitating full use of scientific information in policy and decisionmaking on response strategies for adaptation and mitigation in the environmental, national, and regional scales of the U.S.

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626 From "Discovery" to "Comparative Analysis"

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**FINAL REPORT, 2002**

The challenge for the USGCRP is to provide the best possible scientific basis for documenting, understanding and projecting changes in the Earth's life-support systems, and the role for CCQER in this. The challenge for the USGCRP is to provide the best possible scientific basis for documenting, understanding and projecting changes in the Earth's life-support systems, and the role for CCQER in this. The challenge for the USGCRP is to provide the best possible scientific basis for documenting, understanding and projecting changes in the Earth's life-support systems, and the role for CCQER in this.



from *The Daily Show* with Jon Stewart (June 8th, 2005)

from *The New York Times* (June 2005)

## The Policy Process: Undue Influence?



### McCright & Dunlap (2000, 2003)

Examined media coverage of 5 'contrarians' and 5 prominent climate scientists:

- S. Fred Singer, Robert Balling, Sallie Baliunas, Richard Lindzen, & Patrick Michaels
- Stephen Schneider, F. Sherwood Rowland, Bert Bolin, James Hansen, and Benjamin Santer

Found 1) contrarian counterclaims gained salience, and 2) they successfully reframed climate change science and policy issues with greater uncertainty → greater public confusion

## Top 10 Rival Assertions in Climate Contrarian Community



10. humans' role in warming is negligible
9. global warming will be a benefit
8. satellite measurements are poor
7. sunspots are the real culprit
6. models give unrealistic prognoses
5. Sulfur Dioxide is the savior
4. inequality in commitments to reductions ruin all actions
3. there is actually global cooling
2. proposed global warming actions are draconian and bad for the economy
1. action in the face of uncertainty is unwise

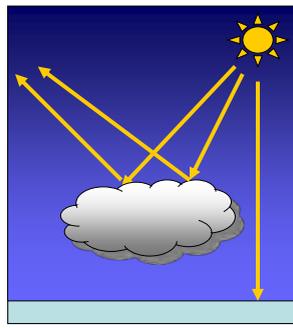
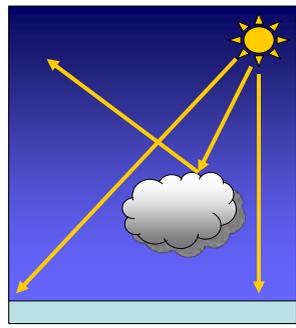


the 'Carbon Club': 'sceptics', 'contrarians'  



The Iris Effect  

- Lindzen argues that the earth self-regulates via tropical cloud mechanisms to limit the insolation, and hence keep temperatures down



## The Iris Effect



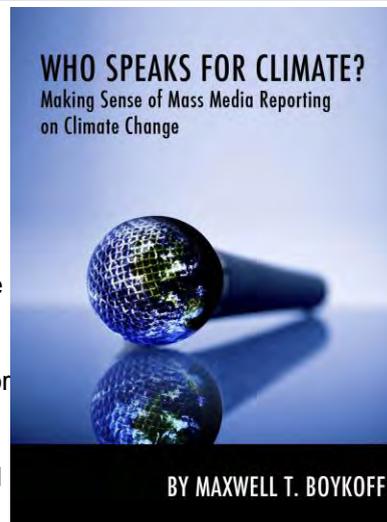
- Theoretically possible but lacks evidence
- Based on mechanisms that models find hard to simulate (and will always find hard to simulate)
- God-of-the-gaps move:
  - Because standard theory cannot explain or test everything, it cannot explain anything
  - Ignores or downplays the successes of standard theory
  - Is evidentially empty

## ongoing & formidable challenges/opportunities



- power of new/social media (e.g. democratizing content production; 'noise') – net neutrality
- working within a mix of news & entertainment approaches to influence awareness & engagement via 'expertise' and 'authority'
- mobilizing metaphors & analogies (e.g. hockey stick; bathtub); effective/appropriate 'hooks'
- fostering consistent, inclusive & open engagement with science/public/policy actor communities
- navigating through AND valuing varying ways of knowing: observational/experiential

**“All the world’s a stage, and all the men and women merely players. They have their exits and their entrances...”**



**Cambridge University Press**  
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