

**DANGERS OF MEDIA CONFLATION & MISREPRESENTATION OF DISTRIBUTIONS OF VIEWS IN CLIMATE SCIENCE & POLICY**

CIRES COOPERATIVE INSTITUTE FOR RESEARCH IN ENVIRONMENTAL SCIENCES

UNIVERSITY OF COLORADO

**INCREASED CO<sub>2</sub> WARMS THE PLANET**

**(A)**

**HUMANS CONTRIBUTE TO CLIMATE CHANGE**

**(B)**

**ANTHROPOGENIC CLIMATE CHANGE INCREASES HURRICANE INTENSITY**

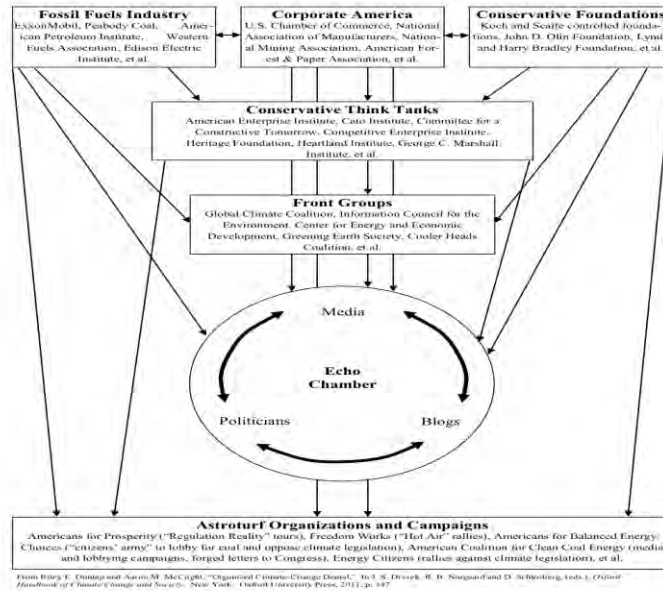
**(C)**

**US FEDERAL CAP & TRADE LEGISLATION WILL HAVE AN EFFECT ON THE ECONOMY**

**(D)**

2

# Dunlap & McCright (2011)



# US National Television News

media representations of climate change, 'experts' debate



31 January 2009  
CNN  
Lou Dobbs

"a renewed battle... over global warming – whether it even exists at issue. Joining me now, two of the best experts on climate

## from where does the science come?

[from Adger et al, 2001]



1. 'managerial' community
  - draws authority from science
  - often top-down processes
  - macro-level focus
  
2. 'populist/activist/interest' groups
  - advocacy: grassroots to special interests
  - multi-level attention on solutions



## Managerial Scientific Community



### International science community:

- Intergovernmental Panel on Climate Change (IPCC)
  - top climate scientists from around planet Earth
  - consensus processes
  - largely seen as legitimate communicator of top climate research
  
- The American Geophysical Union (AGU)



# Peer Review



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**LOCAL**

## Fifth-Grade Science Paper Doesn't Stand Up To Peer Review

DECATUR, IL—A three-member panel of 10-year-old Michael Nogrski's fellow classmates at Nathaniel Macon Elementary School unanimously agreed Tuesday that his 327-word essay "Otters" did not meet the requirements for peer approval.

Nogrski presented his results before the entire fifth-grade science community Monday, in partial fulfillment of his seventh-period research project. According to the review panel, which convened in the lunchroom Tuesday, "Otters" was fundamentally flawed by Nogrski's failure to identify a significant research gap.

"When Mike said, 'Otters,' I almost puked," said 11-year-old peer examiner Lacey Swain, taking the lettuce out of her sandwich. "Why would you want to spend a whole page talking about otters?"

"It's probably only the dumbest topic in the history of the entire world," 10-year-old Duane LaMott added.

Members of the three-person panel had many concerns about Nogrski's work, foremost among them their belief that the fifth-grader did not substantiate his thesis. Two panel members even suggested that

to defrost myself."

According to the examiners, Nogrski's second paragraph, which begins "Otters live in water," should have been followed by a description of the sea otter's natural habitat, rather than by a description of the world's largest full-grown otter and speculation as to what an otter that size could do to a sea lion.

"An otter could not kill a sea lion!" LaMott said. "I don't care how big it is—sea lions have gigantic claws."

"Nuh-uh," Swain said.

"Yes, sea lions do have gigantic claws," LaMott said. "If you don't believe me, look it up. Sea lions have very long claws. They would tear an otter to shreds in, like, two

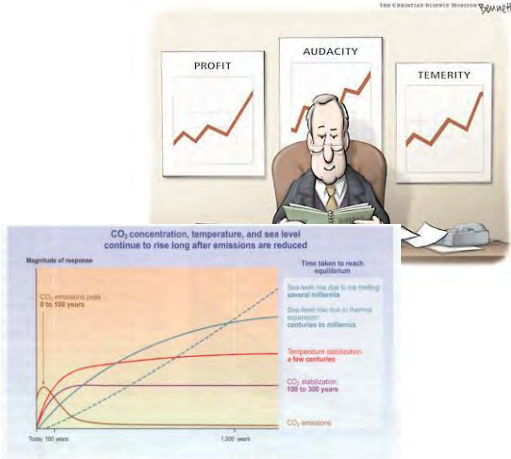
**Above: Fifth-grade panel members express disapproval of Nogrski's paper (left).**

# Doubt & Uncertainty



*'Uncertainty is a word we have invented for an order that is not understood'*

- an unavoidable issue in science
- distinct from imprecision
- e.g. 'stabilisation' and uncertainty



## Uncertainty and IPCC



### IPCC terminology:

- Virtually certain (greater than 99% chance that a result is true)
- Very likely (90-99% chance)
- Likely (66-90% chance)
- Medium likelihood (33-66% chance)
- Unlikely (10-33% chance)
- Very unlikely (1-10% chance)
- Exceptionally unlikely (less than 1% chance)



## Climate Skeptics



- *amplify uncertainty*
  - *emphasize doubt*
- muddle understanding:
- absence of certainty ~ not absence of risk
- attempts to grapple with this



GREENHOUSE GAS

from Bennett in *The Christian Science Monitor*

## and Climate Zealots

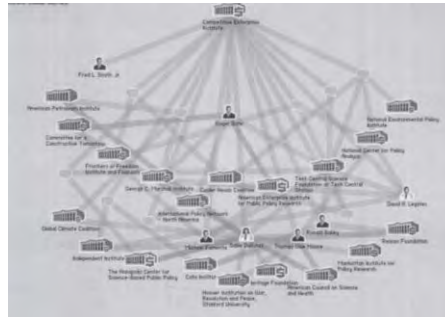
- The opposite of doubt is certainty
- This is a real danger in environmental science and policy
- Over-confidence is a worse *scientific* sin than underconfidence because it disrupts chains of inference

## links between carbon-based industry and climate contrarians



### Example: 1998 draft report of industry proposal

- \$600,000 budget
- raise questions/undercut scientific consensus
- recruit scientists to emphasize uncertainty



from [www.exxonsecrets.org](http://www.exxonsecrets.org)

### Example: 2006

Intermountain Rural Electric Agency and Pat Michaels

### Corporate Industry Lobby Groups:

- e.g. #1 Global Climate Coalition
- e.g. #2 Competitive Enterprise Institute
- e.g. #3 New Zealand Climate Science Coalition

## 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

