

Welcome to ATMS 111 Global Warming

<http://www.atmos.washington.edu/2010Q1/111>





Source: Dan Wasserman, Tribune Media Services, Inc.



Notable scientific and societal landmarks: 1985-present

- 1985 Ozone Hole Discovered: center-stage the human influences can have global environmental consequences (solved with a successful treaty)
- 1988 US Action
 - Drought and extreme heat wave in mid-west US
 - Jim Hansen (climate scientist, NASA) testifies to congress that he is “99% sure” that global warming is upon us
 - Pres Bush (I) establishes US Global Change Program; similar action in UK by Thatcher
- 1989 IPCC is established; first consensus science report issued in 1990

Notable landmarks (cont.)

- 1992 “Earth Summit” sponsored by the UN held in Rio de Janeiro (“Rio conference”). Discussions and negotiations led to the Kyoto Protocol (more later)
- 1995 Second IPCC assessment published (SAR)
 - Concluded “The Balance of Evidence suggests that humans have had a discernable influence on climate”
 - The strength of this statement made many climate scientists uneasy, and galvanized research to re-evaluate the science (models and data)
- 2000: The end of the 20th Century
 - Global annual average temperature continues to increase
 - The warmest decade in the instrumental record
 - Rate of temperature increase is greatest in the instrumental record

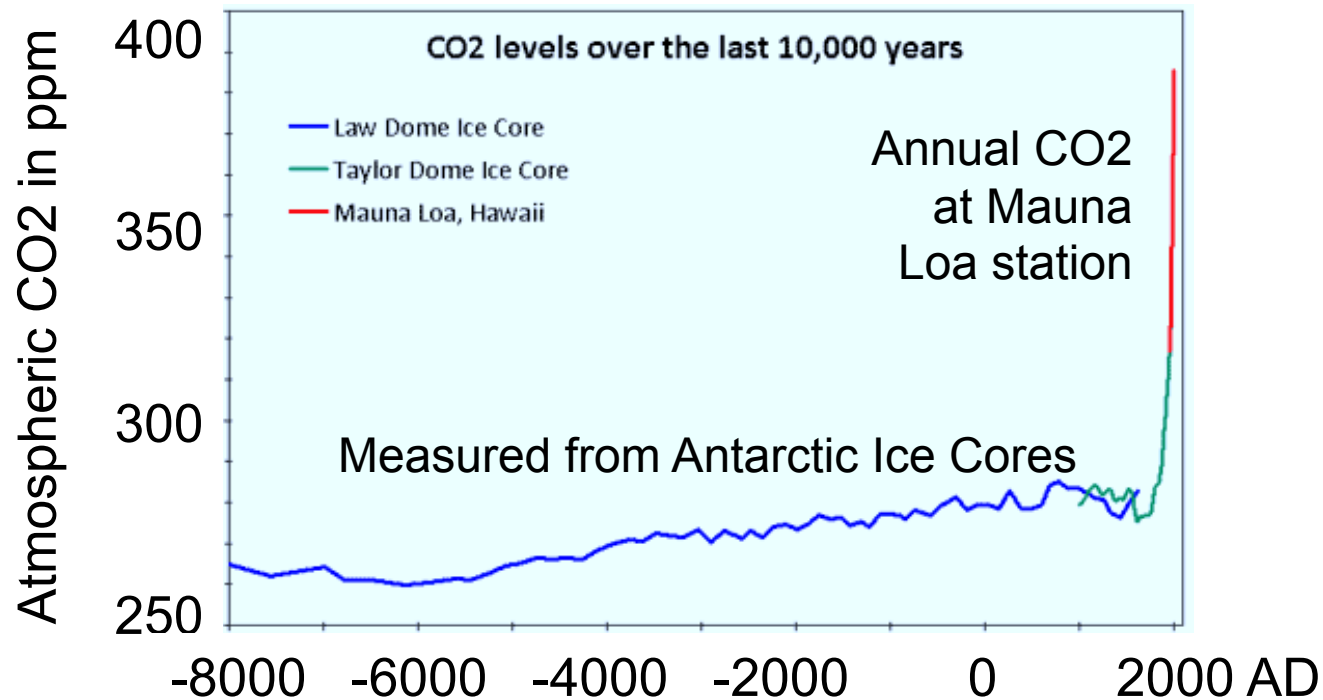
Notable landmarks (cont.)

- 2000 - Present: Third and fourth IPCC assessments published
 - TAR and AR4 reaffirm and strengthen conclusions from AR2 report
- 2000 - Present:
 - Stakeholders mobilize campaigns of disinformation and fear (on both sides)
 - Bush administration censors highly-outspoken US climate scientists (and scientists in other sciences) and suppress or misrepresents science
 - Examples, Dr. James Hansen (NASA), Dr. Ben Santer (Lawrence Livermore National Laboratory)
- 2009
 - Copenhagen, 7-18 December 2009
 - meeting to craft international policy concerning emissions of greenhouse gases (2013-2020)
 - follow up to Kyoto Protocol, which expires in 2012.

Why is the public so misinformed about science?

- There are more people debating science than ever before. It is unclear to me that the average person knows less.
- The issues are hard

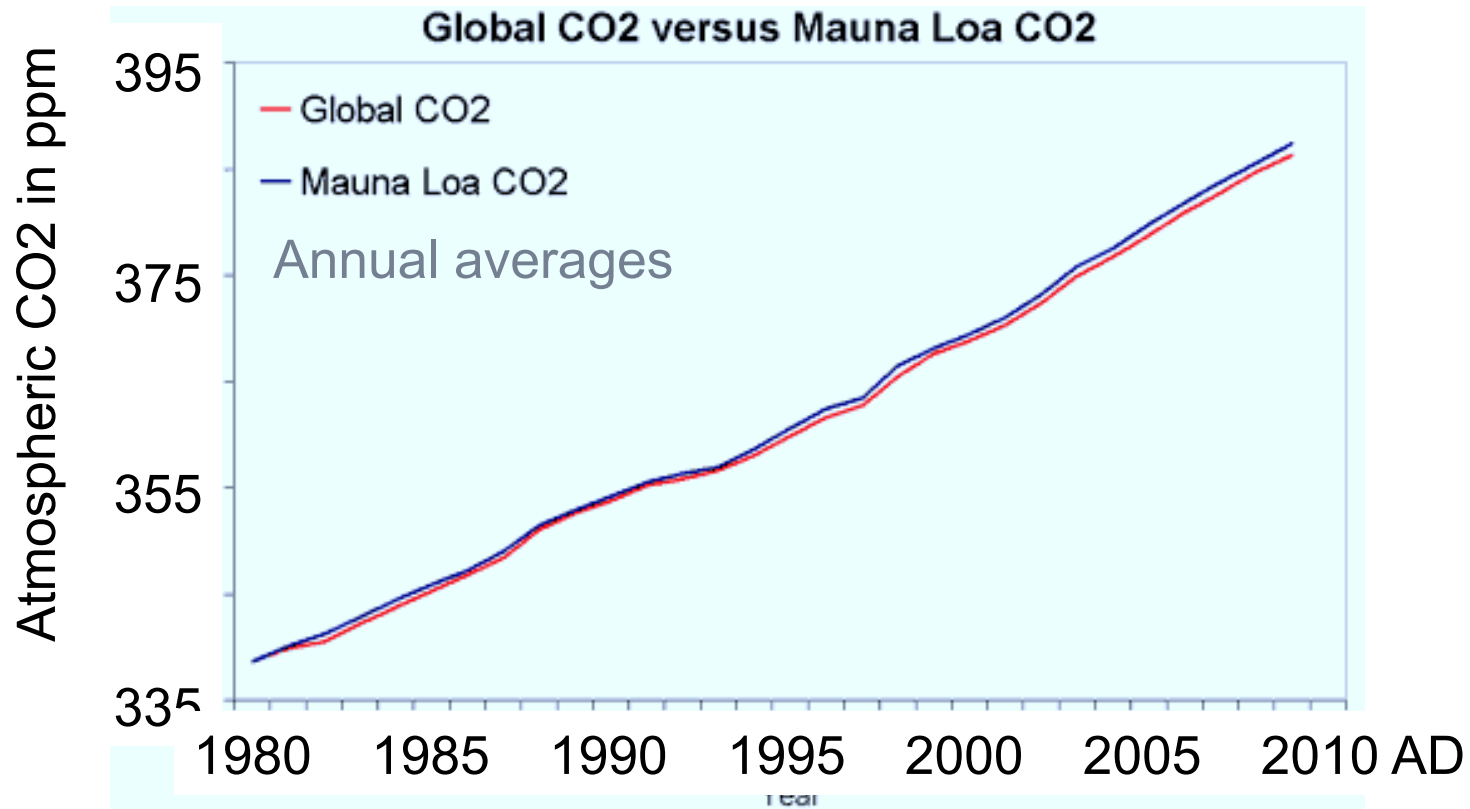
<http://www.skepticalscience.com> blog by John Cook



A comment by an unnamed person "Whoa, hold on a minute here. CO2 readings from ONE LOCATION prove we have an enormous GLOBAL spike in CO2 levels? You've got to be kidding me. This is science?"

"By the way, isn't Mauna Loa an active shield volcano? Hmmmm, you don't suppose that's where all that extra CO2 came from, do you? C'mon, people, wake up. I find it shameful that this obvious manipulation is allowed to pass as "proof". This is certainly NOT an unbiased scientific conclusion."

<http://www.skepticalscience.com> blog by John Cook



From another commenter: “The only way one could scientifically come to the conclusion that “CO2 mixes well throughout the atmosphere ... is to MEASURE CO2 throughout the world, introduce a significant increase in CO2 into one location, and then MEASURE the rate at which the marked increase in CO2 diffuses throughout the world.”

Typical skeptics arguments, some are tricky to debate

People breathe out CO₂ so how can we stop atmospheric CO₂ from rising?

- 70% a. Yes but the amount of CO₂ we breathe out each year is tiny compared to the amount that leaves our car's tailpipe, so we can ignore this contribution to the rise.
- 10% b. Yes but CO₂ that we breathe contains a heavy isotope of oxygen, so it is quickly taken up by the ocean and doesn't contribute to the long term rise in atmospheric CO₂.
- 6% c. Yes but when our lives are over, we take up the CO₂ we released by decomposing or by cremation, so we are carbon neutral.
- 12% d. Yes, but people also consume plants that take up CO₂, so we are carbon neutral, except for the energy to process the food.

Exhaling compared to Burning Fossil Fuels

0.450 liters of CO₂ is exhaled per person per minute
according to the National Lung Health Education Program

or 0.42 metric tons of CO₂ per year

The world average emissions of CO₂ from burning
fossil fuel is 4.6 tons years

Our breathing is not negligible in comparison.

But are they really comparable?

Typical skeptics arguments, plenty are easy to pick apart too

Why wasn't the last year the warmest year on record?

- 9% a) Global dimming from sunspots caused the decline in recent years.
- 0% b) Earth's orbital parameters are taking us into an ice age (right now)
- 84% c) Natural variability causes deviation from the long-term trend
- 4% d) Atmospheric methane is declining and methane is a more potent greenhouse gas than CO₂
- 2% e) Deforestation last year raised the surface albedo

Misunderstanding about the IPCC

The IPCC is ...?

- 3% a. Composed of "facts" that the authors select by vote
- 0% b. Written by anyone who shows up at the convention
- 40% c. A large organization with many paid staff that carries out research and reports on it
- 56% d. A science assessment written largely by thousands of scientists who are unpaid volunteers

Misunderstanding about the Evidence

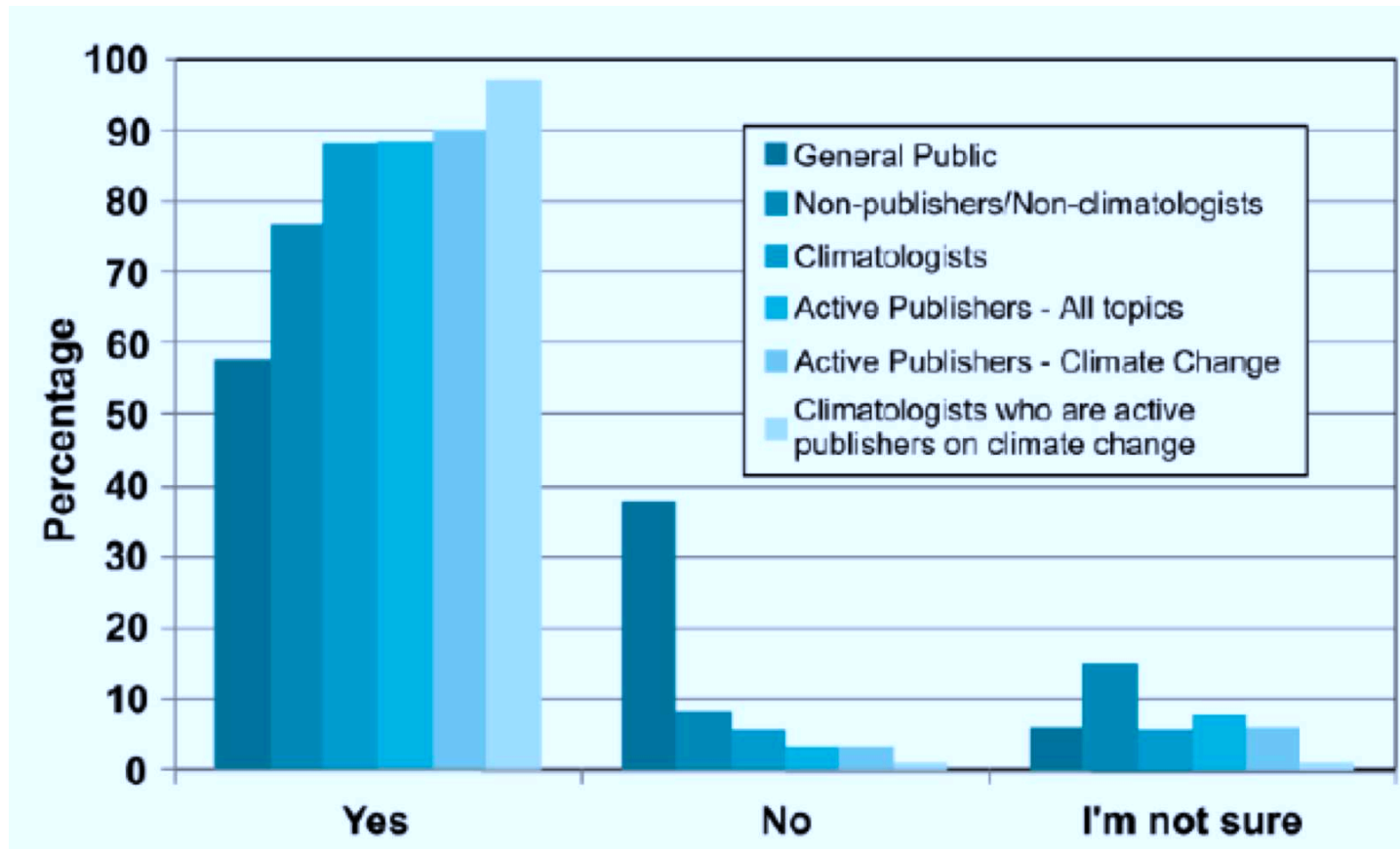
Evidence for global warming since preindustrial times rests entirely upon the "Hockey Stick" figure, which combines climate proxies with instrumental data to reconstruct mean temperatures.

- 51% a. True
- 47% b. False

What about rising sea levels, coral bleaching, glaciers melting, Arctic sea ice retreating, no more skating on Greenlake?

When asked, “Do you think human activity is a significant contributing factor in changing mean global temperatures?”

The best informed are most likely to say yes



From Examining the Scientific Consensus on Climate Change, by Doran and Zimmerman, 2009

Where does misinformation come from?



www.youtube.com/watch?v=xzSzltt6h-s
<http://www.youtube.com/watch?v=94dYedaSlkI>

The Great Global Warming Swindle premiered March 2007



Just who is being Swindled?

according to a statement by the British Antarctic Survey

"Any scientist found to have falsified data in the manner of the Channel 4 programme would be guilty of serious professional misconduct."

"A second issue was the claim that human emissions of CO₂ are small compared to natural emissions from volcanoes. This is untrue: current annual emissions from fossil fuel burning and cement production are estimated to be around 100 times greater than average annual volcanic emissions of CO₂."

Think Tanks

- What is your vision of a “Think Tank”?
- What might be a goal/philosophy for a “Think Tank”?

Actual “Think Tanks”

Type A builds knowledge, formulates policy scenarios and evaluates their implications based on scientific knowledge. Examples:

- Universities
- National Academy of Sciences (US and other countries)

Self-proclaimed “Think Tanks”

Type B exists to help entities achieve a desired social, financial or political outcome, based on a perceived threat or opportunity.

- Type B Think Tanks may use disinformation and/or scare tactics to achieve their ends
- Financing is often provided by the entities they serve.
- Examples in the Climate Arena:
 - Global Climate Coalition (supported by Oil and Coal Companies)
 - Competitive Enterprise Institute (CEI, supported by Oil and Coal Companies)
 - Cato Institute
 - George C. Marshall Institute (funded until 2009 by MobileExxon)

Global Climate Coalition (GCC)

- Started in 1989 by the US Association of Manufacturers
- Paid for by GM, Ford, BP, Shell and Exxon
- Financed commercials against Kyoto Protocol
- Departure of BP (1997), Shell and Ford (1999)
- Deactivated in 2001 after Pres. G. Bush (II) rejected Kyoto, stating the GCC "... has served its purpose by contributing to a new national approach to Global Warming"
- Exxon shifts its support to the CEI

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Competitive Enterprise Institute (CEI)

- Funded mainly by Exxon Mobile also, the American Petroleum Institute, Cigna Corporation, Dow Chemical, EBCO Corp, General Motors, and IBM
- The leading entity (along with Fox News) now providing propaganda and disinformation on the climate and the state of the climate science
- CEI Mission statement: “CEI is a non-profit public policy organization **dedicated to advancing the principles of free enterprise and limited government.** We believe that individuals are best helped not by government intervention, but by making their own choices in a free marketplace.”



Competitive Enterprise Institute (CEI)



Competitive
Enterprise
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Advancing Liberty - From the Economy to Ecology

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About CEI

The Competitive Enterprise Institute is a non-profit public policy organization dedicated to advancing the principles of free enterprise and limited government. We believe that individuals are best helped not by government intervention, but by making their own choices in a free marketplace. Since its founding in 1984, CEI has grown into a \$5,000,000 institution with a team of over 30 policy experts and other staff.

We are nationally recognized as a leading voice on a broad range of regulatory issues-from free market approaches to environmental policy, to antitrust and technology policy, to risk regulation. But CEI is not a traditional "think tank." We frequently produce groundbreaking research on regulatory issues, but our work does not stop there. It is not enough to simply identify and articulate solutions to public policy problems; it is also necessary to defend and promote those solutions at all phases of the public policy debate.

We reach out to the public and the media to ensure that our ideas are heard, work with policymakers to ensure that they are implemented, and, when necessary, take our arguments to court. This "full service approach" to public policy helps make us an effective and powerful force for economic freedom.

Here is what some of the nation's leading news media have to say about us:

"From its start in 1984, [CEI] has thumbed its nose at the traditional think tank model, instead adopting what it terms a 'full service' approach that begins with research, but doesn't end there, stretching instead to dogged issue advocacy." - *The Washington Post*


"The best environmental think tank in the country" - *The Wall Street Journal*

"One of Washington's feistiest think tanks" - *The Boston Globe*

"CEI is...one of the most influential Washington think tanks" - *Now with Bill Moyers*

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TV Appearances



[John Berlau on Direct Federal Investment in U.S. Banks](#)

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WPC has an annual budget of \$1.5 million and a full-time staff of 13 at its office in Seattle and satellite office in Olympia. Its work is regularly covered in the media and WPC analysts are routinely invited to testify before legislative committees. Washington Policy Center focuses on eight core areas of public policy:

1.Keep bureaucracy in check and ensuring fiscal responsibility.

2.Enhancing Washington's business climate.

3.Developing innovative ways to protect the environment.

etc.

in contrast...



The UW Program on Climate Change has 1 full time paid staff, 3 paid teaching faculty, and about ~30 other voluntary faculty (like me) by association who receive pay primarily for teaching you.

Goal: Coordinating and fostering collaboration in climate teaching, research and communication



www.youtube.com/watch?v=7sGKvDNdJNA

<http://www.factcheck.org/article395.html>



www.youtube.com/watch?v=Wq_Bj-av3g0&feature=related

<http://www.factcheck.org/article395.html>

Global Warming and Glaciers

- The CEI commercial claims glaciers are growing
 - The paper cited refers only to interior Greenland

Recent Ice-Sheet Growth in the Interior of Greenland

Ola M. Johannessen,^{1,2*} Kirill Khvorostovsky,³ Martin W. Miles,^{4,5}
Leonid P. Bobylev³

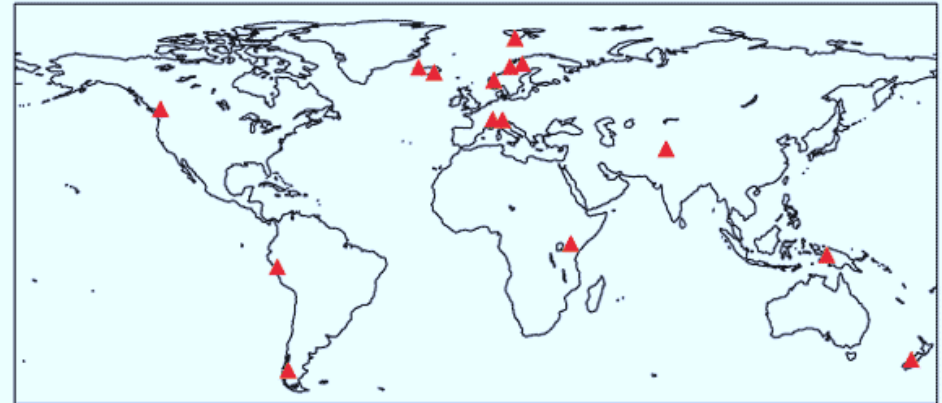
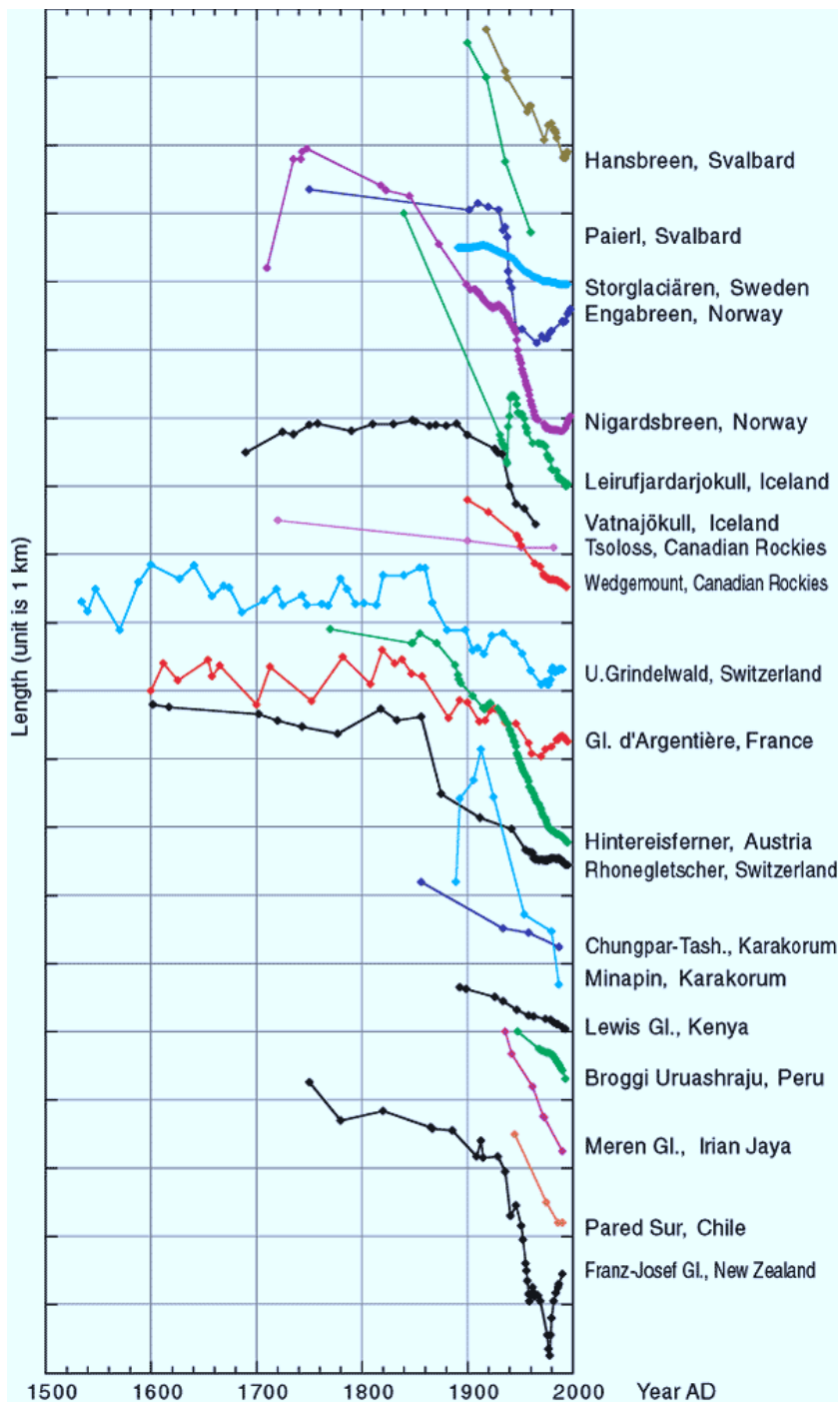
A continuous data set of Greenland Ice Sheet altimeter height from European Remote Sensing satellites (ERS-1 and ERS-2), 1992 to 2003, has been analyzed. An increase of 6.4 ± 0.2 centimeters per year (cm/year) is found in the vast interior areas above 1500 meters, in contrast to previous reports of high-elevation balance. Below 1500 meters, the elevation-change rate is -2.0 ± 0.9 cm/year, in qualitative agreement with reported thinning in the ice-sheet margins. Averaged over the study area, the increase is 5.4 ± 0.2 cm/year, or ~ 60 cm over 11 years, or ~ 54 cm when corrected for isostatic uplift. Winter elevation changes are shown to be linked to the North Atlantic Oscillation.

- Interior Greenland and Antarctica are accumulating more snow in the high interior where it is always well below freezing. This is expected as the earth warms: higher temperature -> more water vapor -> more snow
- These ice sheets are losing mass on the edges, where ice is flowing faster into the oceans, likely due to sea level rise.

Glaciers

The commercial states that “Global Warming Alarmists claim that the glaciers are melting because of the carbon dioxide from the fuels we use

- Sierra Club, Greenpeace, etc
- What does the IPCC conclude, in their summaries of the state of the science? Most of the glaciers in the world are melting, largely due to increased temperature.



Most glaciers in the world are receding due to increased temperature (which has been attributed to burning fossil fuels)

Central Antarctic is increasing in mass (also expected and projected due to global warming)

Other Organizations that present disinformation on climate change

- Greening Earth Society
 - Created by the Western Fuels Association: a not-for profit cooperative that supplies coal and transportation services to consumer-owned electric utility in the Great Plains, Rocky Mountain and Southwest regions.
 - Publishes Pat Michael's World Climate Report
- The Cato Institute
- The George C Marshall Institute (political conservative think tank)
 - Works to create a false public perception of scientific uncertainty over the negative effects of second-hand smoke, the carcinogenic nature of tobacco smoking, the evidence between CFCs and ozone depletion, and now the evidence on climate change in order to resist and delay regulation (Oreskes 2007)

The Cato, Marshal and Competitive Enterprise Institutes are supported by many of the same companies and foundations

Typical Tactics of the Skeptics

- “The Atmosphere isn’t warming”, or the data aren’t good enough to say it is warming
 - Not many in this camp anymore
- “The warming is real, but it is natural variability”
- “The theory is flawed: there is no link between human activity and carbon dioxide increase in the atmosphere/warming”
- “The models are uncertain, so we don’t have to act”
- “The projected changes are so small that it doesn’t matter”

Too expensive to solve (or cheaper to solve in the future)

- “The future warming will happen and the projected changes will have large impacts but it will be cheaper to clean it up in the future than to do something now”
 - A popular argument among skeptics (esp. those who fall into the category “have a lot to lose if we do something now”)
- We have a lot of problems (malnutrition, lack of clean water, malaria, HIV/AIDS). These problems are more important/ immediate than Global Warming
- It is too expensive to prevent Global Warming: A tax on emitting carbon would increase the cost of energy derived from fossil fuel (the major source of energy for the developed and developing world) and cripple the global economy

The Big Picture on the Science

- Errors exist and uncertainty exists, but the independent evidence from models observations is consistent with theory:
 - humans have increased major greenhouse gases via land use and burning of fossil fuel
 - Atmospheric CO₂ is the largest in at least 3M years
- The warming and other climate trends of the past 100 years is too large to be natural variability, and it is consistent with what is expected due to the observed increases in GH gases
- The changes in CO₂ and climate over the next 100 years are large compared to what happened in the past 150 years, or the past 10,000 years.
 - For example, it is likely the global annual average temperature will increase by between 2.4 and 6.4C by 2100, the subtropics drier.

Science and the Scientist

- Science:
 - Knowledge built through science is independent of societal or ethical mores
 - in the long run, knowledge built through the scientific process will be assimilated and accepted by the wider society
- *Scientists* offer knowledge through lectures, books, and reports, but have only an indirect role in deciding *what* should be done about global warming.
- Scientists do have a *special* place and an obligation to evaluate the ramifications of societies' choices -- past, present or future.

Many scientists view chasing skeptics arguments as nonproductive. But some devote are devoted to defend...



But the Earth was just as warm during the _____ period

Good sources of reasonable balanced information on the science

- IPCC: static updates www.ipcc.ch
- US Climate Change Science Program www.climatechange.gov
- Real Climate: real-time commentary on important or highly visible papers/events/statements, etc. Balanced and usually readable; run by active climate scientists www.realclimate.org



- New York Times
- Christian Science Monitor (infrequent articles, but usually good)

Sources of information on the science: usually but not always reliable

- The Guardian (UK)
- The Independent (UK)
- Science Magazine
- The journal “Nature”
- Scientific American

Sources of information on the science: almost always garbage

- The Wall Street Journal (editorial page)
- The Competitive Enterprise Institute (CEI)
- Cato & Marshall Institutes (Libertarian “think tank”)

Extremists: who are they?

- Potential losers with singular priorities (ie, of direct financial interests, or local in space, or immediate in time)
 - Examples:
 - Coal companies fear a carbon tax will make coal less attractive than renewables (e.g., solar, wind)
- People with priorities not directly related to human welfare, socially or economically
 - Examples: polar bear advocates, etc

Extremists: who are they?

The non-scientists

- Stakeholders who feel they have a lot to lose if mitigation strategies are invoked (oil companies, SUV manufacturers, coal industry, etc.)
- Non-scientists with political or ethical bents that are at odds with mitigation. Lots of examples:
 - Libertarian societies and orgs and their followers
 - A pop-culture example is Glenn Beck (Fox 'news'). Another is Michael Crichton, novelist and author of "State of Fear". A novel written w/ footnotes and graphs (to give a look like it was a story backed by science). Information grossly distorted (for a full science critique, see www.realclimate.org and references therein)

Extremists: who are they?

The scientists

- Scientists with no training or research experience in climate that distort the science for unknown reasons
 - A fair number in this category. For example, W. Soon and S. Baliunas, who contrary to the scientific evidence, inflate the solar insolation changes associated with sunspot cycles and claim 20th Century temperature trends are due to solar forcing.
- Climate scientists with political or ethical values that supercede the constraints levied by the ethics of science (testing hypotheses, ignoring the overwhelming evidence against a belief they hold)
 - A few in this category. For example, Roy Spencer (NASA), Prof. Patrick Michaels (Cato Institute) and Dr. John Christy (who with Spencer initially published the data using the bad algorithm for determining temperatures from satellite observations that was responsible for most of the apparent inconsistency between the surface and atmospheric temperature trends). [Christy is one of the authors of the report that concluded his calculations were in error and the surface and atmospheric trends both showed warming that is not inconsistent with what is expected from increasing GH gases. Nonetheless, he continues to claim there is an inconsistency, in public and to Congress.]

Extremists are almost always motivated by issues *not* related to (uncertainty in) the science

Claim: “Climate scientists promote global warming to make money”

- Facts (US):
 - There are many other interesting and reasonably well funded sciences. Climate change scientists could easily retool.
 - Republicans have been more generous in funding climate science than Democrats
 - Climate Change Research did much better under Bush I-III than under Clinton: “Think more, do nothing” because “Not enough is known” and “There is too much uncertainty”
 - Salary for university scientist is controlled by the University
 - Normal appointment is nine months; summer pay from grants
 - Most of the climate scientists in the ‘skeptics’ category are funded by oil and gas companies, or by entities that oil and gas supports.
 - For example, the American Petroleum Institute, the Competitive Enterprise Institute

My Funding as Principal Investigator (2010)

Short-term Arctic climate predictability	\$100,000
High-resolution climate modeling: The influence of weather and sea - NSF	65,000
How Will Arctic Sea Ice and the Greenland Ice Sheet Recover in a Geoengineered World (anonymous source)	70,000
Deciphering the Antarctic MSA-sea Ice Link with a Combined Regional Forecast and Atmospheric Chemistry Model - NSF	124,000
Deep ocean heat uptake and the influence of sea ice in the Southern Ocean- DOE	99,000
TOTAL	*458,000

*About ½ goes to university overhead, the rest supports 5 graduate students and a few months of faculty and staff salaries
About 30% of total funding is related to global warming

Misunderstandings about how science gets done

Climate scientists get pay raises for claiming global warming is caused by humans?

- 7% a. True
- 91% b. False

Misunderstandings about how science gets done

The majority of the salary of climate scientists who are university professors comes from research grants?

- 67% a. True
- 31% b. False

Misunderstandings about how science gets done

Research grants are not available to those who propose to disprove the global warming theory?

- 5% a. True
- 93% b. False

“ClimateGate”

- Thousands of emails between climate scientists (sent from 1996-2009) are stolen from the University of East Anglia
- Damning excerpts demonstrating a cover up?



<http://www.youtube.com/watch?v=DNbxYVa2VjA>

Late 2009



Damning Excerpts (?) from the Stolen Emails

From: Phil Jones. To: Many. March 11, 2003

"I will be emailing the journal to tell them I'm having nothing more to do with it until they rid themselves of this troublesome editor."

This was in response to a paper by Soon and Baliunas (2003) that was published in "Climate Research". The publisher did would not publish an editorial from the incoming editor stating the review process had failed and the paper had serious methodological problems in the paper that were raised by reviewers. As a result, four editorial board members resigned, and the paper lives in infamy because the methodological problems invalidated the results and conclusions of the paper.

From Phil Jones To: Michael Mann (Pennsylvania State University). July 8, 2004

"I can't see either of these papers being in the next IPCC report. Kevin and I will keep them out somehow — even if we have to redefine what the peer-review literature is!"

Nobody can redefine the peer-review processes. The only significant modification to the peer review process in the past 30 years has been to make the review process public (enabled by the www). This comment reflected Jones' distaste for two poor papers that were being considered for discussion in the IPCC AR4 report. In the end, both were referenced in the report.

Damning Excerpts (?) from the Stolen Emails

From: Kevin Trenberth (US National Center for Atmospheric Research). To: Michael Mann. Oct 12, 2009

"The fact is that we can't account for the lack of warming at the moment and it is a travesty that we can't... Our observing system is inadequate"

Trenberth is arguing for a better climate observing system so that short term (year to year) changes in climate and energy fluxes due to natural variability can be better distinguished from longer term (forced) changes.

From: Michael Mann. To: Phil Jones and Gabi Hegerl (University of Edinburgh). Date: Aug 10, 2004

"Phil and I are likely to have to respond to more crap criticisms from the idiots in the near future."

Mike Mann (lead author on the "hockey stick" temperature diagram reconstruction) is expressing frustration at being hounded by skeptics, including being called to testify in the senate, numerous requests for his data and models using the freedom of information act, etc.

Damning Excerpts (?) from the Stolen Emails

From: Phil Jones. To: Mike Mann

“Mike, Can you delete any emails you may have had with Keith re AR4? Keith will do likewise. He’s not in at the moment – minor family crisis. Can you also email Gene and get him to do the same? I don’t have his new email address. We will be getting Caspar to do likewise..”

This is claimed by skeptics to be in response to a request under the Freedom of Information Act to release email, although there is no discussion of what material should be deleted, or why. Deleting email to avoid a FOI request doesn’t make a lot of sense but if true this is wrong.

<http://www.washington.edu/itconnect/policy/>

“Communications resulting from University computers and equipment may be subject to disclosure under the Public Records Act, in litigation involving the University, or for audit purposes.”

“Upon receiving a request, the Director of Public Records and Open Public Meetings obtains the records from the office of origin, determines the records' status under the Public Disclosure Act, and makes the appropriate records available to the requester at the Office of Public Records and Open Public Meetings.”

“For employees, be aware that all email and other electronic information pertaining to UW business is "owned" by the university, regardless of where it is kept”

Summary of Content/Meaning of the Stolen Emails

- Thousands of emails sent & received from 1996-2009
- None of which change the state of the science in any way (e.g., the science presented in the 2001 and 2007 IPCC reports)
 - The instrumental temperature record for the 20th Century has been calculated independently by four different groups from US, UK and Japan: each uses a different analysis technique and each finds the same answers:
 - The global averaged surface temperature has increased by at least 0.7C
 - The 1000 year proxy record of northern hemisphere temperature (the hockey stick graph) has been calculated by 20 different groups and examined by the National Academy of Sciences
 - All find that the warmth of the 20th century is unique in the past 400 years and probably in the past 1000 years
 - These results are also consistent with other proxy data (e.g., borehole temperature measurements)

For a balanced scientific summary of the content of the stolen emails, see www.realclimate.org

Summary of Stolen Emails (cont)

- None of the emails demonstrate hidden agendas, or manipulation of data or results in inappropriate ways
 - For example, the ‘trick’ to ‘hide the decline’ in the tree data is described in the peer reviewed, published papers including in the IPCC AR4 report where the decline is prominently displayed in fig 6.10)
- Some of the emails reflect the frustration of these scientists for continuously being hounded by politicians (e.g., Inhofe), libertarian think tanks, and scientists who’s work is either poor or tainted by superceding non-science agendas (e.g., Michaels, Spencer, Ball, Baliunas, Soon, ...) and have deep pockets that have allow them to harass these climate scientists through endless roadblocks and distractions for almost a decade

For a balanced scientific summary of the content of the stolen emails, see www.realclimate.org

Summary of the Stolen Emails

- Why released? Copenhagen?

Fox News 30 Nov:

"... The leak muddied the climate change waters, leading one Republican, Sen. James Inhofe, to call for an investigation. The Heritage Foundation's Ben Lieberman said the e-mails serve to undercut the entire Denmark conference.

"This raises questions about some of the very U.N. science that forms the basis of what's going to be discussed in Copenhagen," he said. "There's a lot to be concerned about here. At the very least the president shouldn't agree to anything in Copenhagen until we get to the bottom of Climate-gate and find out just how much there is to global warming scientist that we can still trust."

Summary of the Stolen Emails

- Wall Street Journal 30 Nov:

“... The emails and documents leaked last week from some of the world's leading climatologists offer a rich trove of evidence that scientists were massaging the data and corrupting the scientific process to support their own preconceptions. But they also offer the beginnings of an explanation for why. In the words of another famous leaker, follow the money.

To keep this money flowing, climate scientists needed to keep the fear going. Anything that called into question their most dire predictions of climate catastrophe would put all that funding at risk. On the other hand, the bigger the climate calamity, the more willing governments became to fund global-warming research. Keeping the dissenters on the outside was not simply a matter of academic jealousy. It was in many cases a question of professional survival. ...”

[The logical conclusion to this argument is that climate scientist are not supportive of an agreement of any kind at Copenhagen.]

- Surprise! Being used as ‘evidence’ that scientists in other fields are covering up fundamental flaws in their science, etc. For example, Michael Egnor (Discovery Institute, 30 Nov):

“ClimateGate is the tip of the iceberg of the corrupt influence of our scientific elite on public policy, ranging from censorship of honest discussion of evolution in our schools to the 'Cap and Trade' boondoggle based on fabricated global warming science to the fraud and political power-play shaping up in Copenhagen to self-enriching pressure by scientists and industry to exempt human embryonic stem cell research from traditional ethical constraints on destroying human life.”