Ethnographic Exploration: The Human Faces of Climate Skepticism

Myanna Lahsen
Earth System Science Center,
Brazilian Institute for Space Research (INPE)
Brazil
myannal@gmail.com

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ciência para sustentabilidade

Workshop Question

- What and how do different theoretical approaches and methodologies contribute to understanding national climate debates, including the multiplicity of reasons why some challenge “the climate consensus”?

Ethnography

- Reveals the **human faces** of climate skepticism;
- Reveals skepticism as an outcome of socio-cultural **experiences & inter-relational dynamics**
- Interviews and on-the-ground ethnographic methods **identify skepticism** where it otherwise may be overlooked – **nuances, differences**

- What implications and importance for the politics?

Premises & Argument

- (1) Status quo: stalemated polarization & policy gridlock
- This - & Climategate - beg reexamination of strategies
- (2) Polarization could perhaps be reduced by understanding of the human faces & nuances of positions: modify "boundary-work" (dominant framings - popular & academic)
- (3) **alienation is driver** of tensions among scientists, underpinning backlash engagements & modest skeptics
- (4) worth considering a **cultural** and **dialogic** approach, rather than the "boundary-work approach"
  - understanding & recognition of the heterogeneity (**scepticism)** within the scientific mainstream
  - openness - **avoiding "old conversations**" (discursive traps*)

*Kathleen Regan (2007) A role for dialogue in communication about climate change. In: Moser SC, Dilling L (eds) Creating a climate for change: Communicating climate change and facilitating social change, University of Cambridge, Cambridge, pp 213-222.

The Argument, cont.

Contrarians (lost cause), mainstream “skeptics” are not;

When failing to show respect and tolerance for divergent views, environmentally concerned analysts fail to find common ground with informed, mainstream skeptics, thereby making unnecessary enemies and diminishing the size and strength of their coalition.

Understanding values & reasoning behind scepticism
-> less vilification
-> less polarization
-> weaker anti-environmental movement;
broader environmental agenda & coalition
-> resilience through diversity; possible broadening science and policy agenda beyond a narrow climate focus

The Boundary Work Approach (BWA)

‘*the climate question is settled and no longer contested among credible scientists*’

- **discredits all scepticism**
- **obscures any skepticism that exists within mainstream;**
- self-servingly (politicized) narrow definition of expertise
- assumes “strong front strategy” is necessary for policy action
- **idealizes** and avoids critical analysis of **mainstream** scientists, including the IPCC

Tenets of BWA

- “scientists have understood that global warming was going to happen for a long time”;
- “scientists have been understanding the basic premises of the science” since the late 1970s and there has been “no question among climate scientists, oceanographers and atmospheric physicists that [*anthropogenic*?] global warming is in fact happening.”
- Scepticism is created by ’a coordinated, lavishly funded campaign by a vested political and economic interests supported by a mere handful of contrarian scientists
- “denialists” and “denialism”

:

- Critics: politics, money, self-interest;
- Mainstream scientists: lofty pursuits, truth (are not ”environmental community” or motivated by environmental (extra-scientific) values
- contrarians’ skeptical arguments are “not about science” but, rather, are “politics camouflaged as science”; they are guided by criteria that is “not purely scientific”

Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern

Bruno Latour

Wars. So many wars. Wars outside and wars inside. Cultural wars, science wars, and wars against terrorism. Wars against poverty and wars against the poor. Wars against ignorance and wars out of ignorance. My question is simple: Should we be at war, too, we, the scholars, the intellectuals? Is it really our duty to add fresh ruins to fields of ruins? Is it really the task of the humanities to add deconstruction to destruction? More iconoclasm to iconoclasm? What has become of the critical spirit? Has it run out of steam?

Quite simply, my worry is that it might not be aiming at the right target. To remain in the metaphorical atmosphere of the time, military experts constantly revise their strategic doctrines, their contingency plans, the size, direction, and technology of their projectiles, their smart bombs, their mis-

Critical Inquiry 30 (Winter 2004)

STS

- Tradition of vigilance against technocracy, but the bigger enemy is the backlash machinery

- Symmetry principle as biased balance

The Fieldwork
1994-2000 (and ongoing)

Discovering the human faces

& the socio-cultural dynamics of the mainstream and their (interactions with) critics

Experiencing the Scientific Mainstream

- Understanding where some of the skeptics' criticisms come from

- Hearing of modelers' resistance to critical input from empiricists – psychological investment in models that causes 'fortress mentality'

Modeler F: There will always be a tension there. Look at it this way: I spent ten years building a model and then somebody will come in and say 'well, that's wrong and that's wrong and that's wrong'. Well, fine! And then they say, 'well, fix it!' [And my response to them is:] '*you* fix it! [*laughs*] I mean, if I knew how to fix it, I would have done it right in the first place!!! [*Laughs*] And what is more, I don't like you anymore – all you do is you come in and tell me what is wrong with my model! Go away!' [*laughter*]. I mean, this is the field.

Modeler D: There are many ways to use models, and some of them I don't approve of. [*Pause*] It is easy to get a bad name as a modeler, among both theoreticians and observational people, by running experiments and seeing something in the model and publishing the result. And pretending to believe what your model gives – or, even, *really believing* it! [*small laugh*] – is the first major mistake. If you don't keep the attitude that it's just a model, and that it's not reality . . . I mean, *mostly people that are involved in this field really have that, they have the overtone that it is.*

And perceiving the role of differences in interactional styles (subcultures)

A Combative Style

- “The desired presentation of self can be characterized as competitive, haughty, and superficially nonconformist [...] One group leader said that to convince others of the validity of one’s work one had to have great confidence and be very “aggressive”; he added that one needed a certain “son-of-a-bitchiness” (Traweek 1988:87-8).

Fieldnotes

- Nierenberg: did I ‘remembered enough of my math to know that the logarithm of an exponential is linear?’ “well, this is very simple mathematics.”

- Seitz: questioned me on my foreign language skills and was obviously surprised and pushed a bit off-balance when hearing that I am fluent in Danish and French besides English.

NIERENBERG: [some people] really tried to block the publication of [Wigley's] paper.

LAHSEN: So how do you explain that?

NIERENBERG: I don't know, *you* explain it! That is *your* job. I'm giving you the facts!

LAHSEN: all right, but I am just interested in...

NIERENBERG: No! You explain it. You explain it. And if you can't, there is *no point* to the whole thing! I think it is quite obvious, but if you don't think it is obvious, you can forget it!

Polarization as Reflection of U.S. Cultural Styles

- Found many more "believers" in the U.S. than in Denmark. Noted that Danish culture tends to instill a good amount of skepticism, the value of the golden middle ground. "The education Danes get is built on skepticism. If there is fanaticism in Denmark, it tends to remain among real missionaries."
- "I sometimes admire the kind of fervor I finds in people in the U..S. but I cannot bring myself to act that way myself – and I really don't find it very helpful most of the time to do as they do over here, where one person might get up to the podium to tear down someone else, who then gets up after him and in turn tears the first guy up."
    - Source: Older generation Danish physicist

Experiences of the Climate Paradigm; Centrality & Meanings of the GCMs

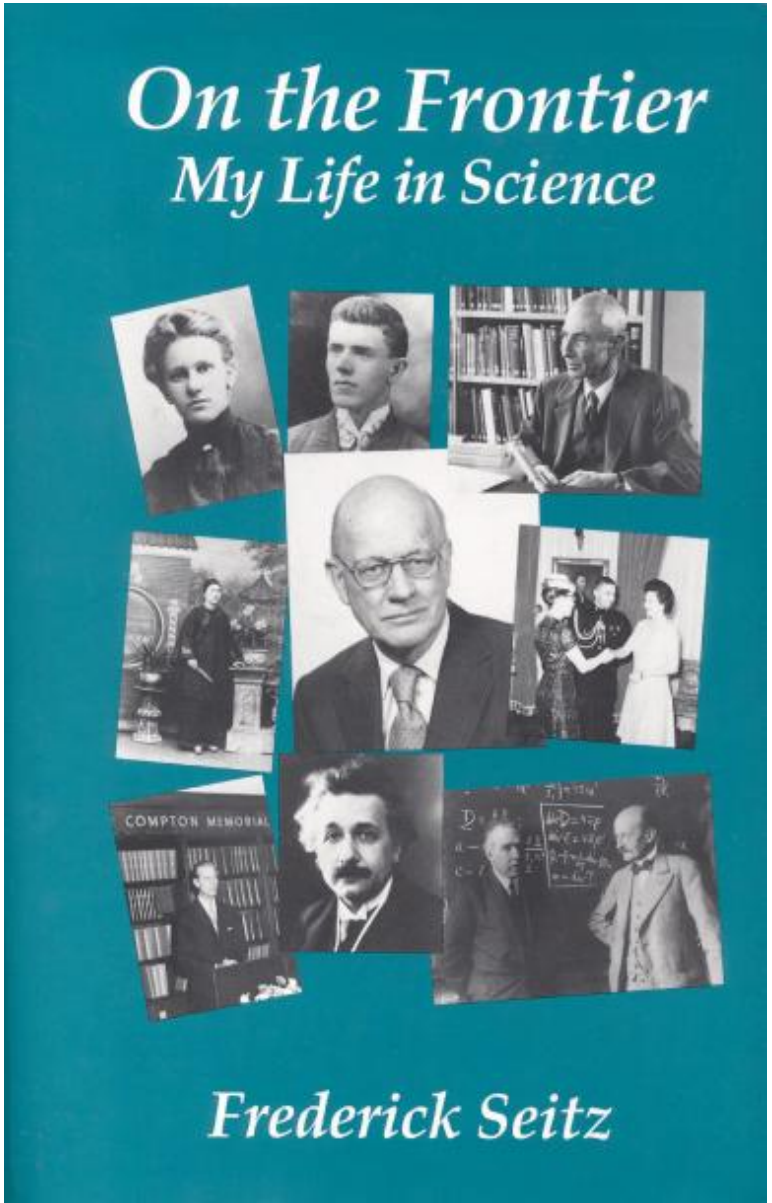
- Oreskes & Conway:
    - “Nierenberg, despite his intellect, really didn’t seem to understand that by participating in this set of attacks on Ben Santer, he was attacking the entire active community of climate modelers.”

Frederick Seitz

- Schneider as a ”computer operator”
- ”ingenious experiments with computers” ”not tied necessarily to observations out there, in the real world.” versus
- ”traditional attitude towards science [according to which] ultimately you have to use observations as your base, then combine it with speculation and theory” before drawing any conclusions.
  - LAHSEN: Okay so again, the science that is being done right now, you say that it is not good science because it is not based enough on observations, right?
  - SEITZ: That’s right
  - LAHSEN: So, inherently about models, you would say that it is not a very scientific method?
  - SEITZ: Yes.

- **“Being old-fashioned, I find computational approaches less elegant”**
  S. Fred Singer, “My Adventures in the Magnetosphere”
- **Reductionism; Generalists**
  (“..an incomparable group of scientific leaders, the generalists …”)

  - “Now a whole new generation has taken over the operation [of science], and many of them are not of the quality… ; they are not as wetted to the scientific traditions in the sense that the older generations were. […] And I would guess that that is where our trouble is”



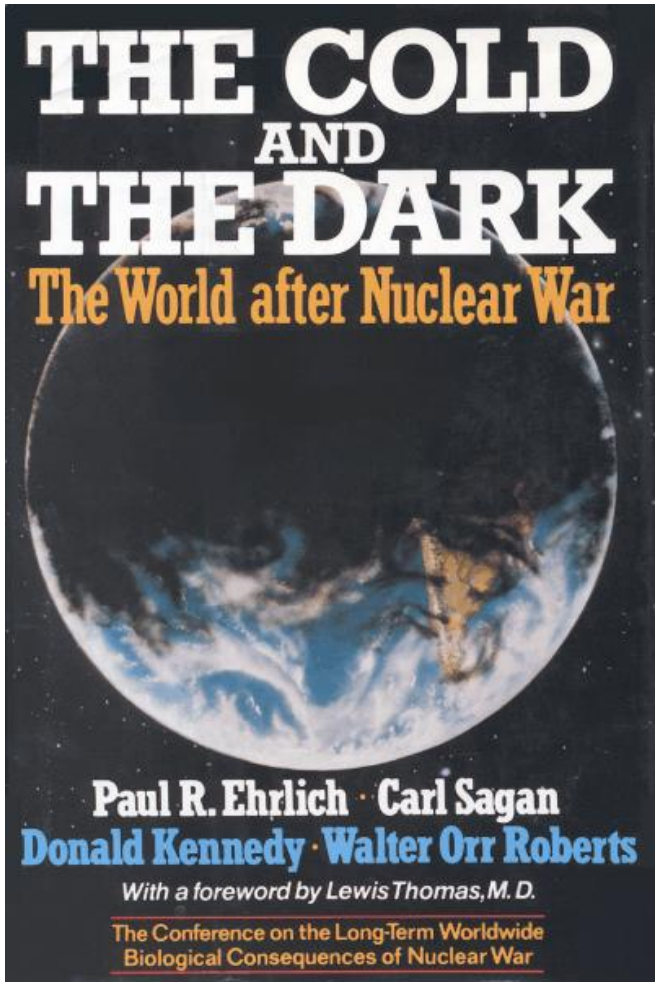
The Marshall Institute Physicists:
An alienated, demoted old scientific elite

- Relative social demotion (and retirement) of the "self-perpetuating clique" of nuclear scientists who "dominated the science-government interface in the US for most of the 20th century"

  Charles Schwartz "Political structuring of the institutions of science" In *Naked Science,* ed L. Nader

- Nierenberg: "You can take [Frederick Seitz, an] extraordinarily distinguished, almost—maybe the most distinguished living scientist we have. You see the names they call him because of his position. Absolutely extraordinary man!"

Atmospheric models and “nuclear winter” – conditioning of attitudes & role of timing



- **Computer simulation of the effects of nuclear war**
- **1983 TTAPS model’s conclusion: --> ~35º C. temperature drop**
  - Carl Sagan: “I do not think that our results are dependent on some quirk internal to the computer program” (*The Cold and the Dark*, p.36)
  - Paul Ehrlich: “I have a great deal of confidence in these results... If they change significantly – which seems *extremely* unlikely – then that is the way science goes.” (p.70)
- **Modification of projections:** 3rd generation dynamic model -> “nuclear fall” (**1986-88**)
- **1988: Hansen’s testimony about global warming**

- The extreme U.S. contrarians Seitz et al. articulate(d) most strongly a critique the elements of which are also found within the scientific mainstream (the differential: their conservatism)

- Discursive resonance especially with members of an older generation climatologists, who have subcultural overlap with weather forecasters

Table 1. Differences in *Tendencies* Between Mainstream Scientists, Skeptics, and Contrarians

	Mainstream scientists	Mainstream skeptics	Contrarians
Question evidence of anthropogenic climate change	Only parts, at the most, not the theory as a whole	Moderately so, yes, including the theory as a whole	Strongly, categorically
Skeptical of many other issues of environmental concern (planetary limits, pollution, etc.)	No	No	Yes
Work in official scientific institutions (accredited universities/federal research laboratories)	Yes	Yes	In some cases/ partly
Primary venue for writings/publications	Peer-reviewed scientific journals	Peer-reviewed scientific journals	Non-peer-reviewed outlets (newspapers, reports, blogs, etc.)
Material and discursive ties to conservative factions	No	No/rarely	Yes, always
Political values	Liberal	Liberal	Conservative

Myanna Lahsen. "Anatomy of Dissent: A Cultural Analysis of Climate Skepticism" *American Behavioral Scientist* published online 10 January 2013. DOI: 10.1177/0002764212469799

- 3 broad groups of skeptically inclined scientists:
    - Dynamicists, physicists (theoreticians)
    - Climatologists, experimentalists (observationalists)
    - Weather forecasters

Weather forecasters

- Findings from 2010 survey of nearly 600 broadcast meteorologists:
  - only about 50% of them believe that global warming is happening.
  - Only smaller subset yet believes it is anthropogenic.
  - High public opinion impact

Sources: Homans, 2010; National Public Radio, 2010; Wilson, 2009

- William Gray, research meteorologist

  The Coloradoan, Dec. 2010 (circulated on EANTH-list+):

  – ’global circulation **models**’ representation of hydrolic dynamics is **greatly flawed** and causes them to simulate grossly **unrealistic high warming numbers**’

  – “**Thousands** of our country’s **older** and more experienced **meteorologists** have **similar opinions** as mine ...knowledgeable specialists whose opinions **have yet to be included in ”broad, open and honest scientific debate**”

- *Reginald Newell, MIT, empirical meteorologist*:
  - "I don't know why they take models seriously."
-

Climatologists (synopticians)

- Not politically and culturally conservative;
- Environmentally concerned (less *climate* concerned)
- Aesthetics and ethics of Mode 1
- **Alienation & consternation**

  - We have been working 40 years in the field.[We] really know the atmosphere ... We have looked at weather maps, we have been forecasters, we have done research with observations, we have thought a lot about this. Many of these global modelers ... are so involved with running their models that they haven't put the time in thinking how the atmosphere works.

  - "What I resent most is that they say there is a consensus of scientists. There is not. Not at all"

  - "Nobody loves me anymore and nobody knows the real atmosphere"

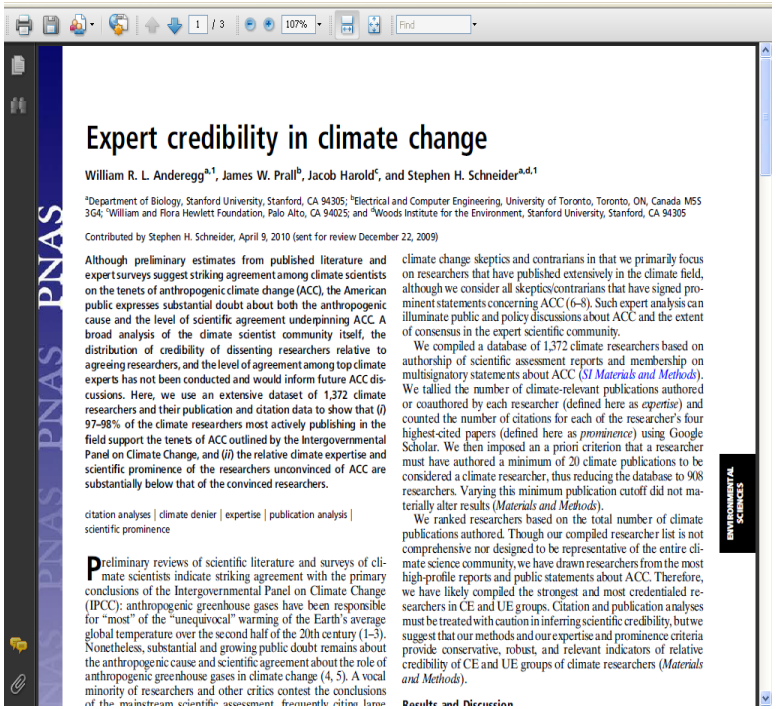
Quiet Discomfort with IPCC as involving a new mode of operation

- "There's a blurring between [how the IPCC operates] and the traditional role of science; in science you have to make a hypothesis, then everyone tries to seek out its soft points. Yet with the IPCC, it doesn't go like that. [I asked whether he meant that the IPCC doesn't aggressively seek to disprove its own hypothesis, and he said "exactly."] The thrust of the IPCC is to look for the social and political consensus. I find that really troubling. It's really different…"

- "Particularly troubling is that the consensus/IPCC serves to mute the scientific debate. Those who are skeptical are reluctant to express that because they don't want to go against the IPCC, against the consensus, and are concerned that they will be accused of being "in the pocket in the coal industry. The result is that a large segment within the scientific community feels differently from what is expressed by the IPCC yet don't speak out. They are afraid of getting tainted [CLEAN] and so don't engage in debate about the issue.

Reactions to BWA

William Anderegg's "black list"



PNAS

Expert credibility in climate change

William R. L. Anderegg[a,1], James W. Prall[b], Jacob Harold[c], and Stephen H. Schneider[a,d,1]

[a]Department of Biology, Stanford University, Stanford, CA 94305; [b]Electrical and Computer Engineering, University of Toronto, Toronto, ON, Canada M5S 3G4; [c]William and Flora Hewlett Foundation, Palo Alto, CA 94025; and [d]Woods Institute for the Environment, Stanford University, Stanford, CA 94305

Contributed by Stephen H. Schneider, April 9, 2010 (sent for review December 22, 2009)

Although preliminary estimates from published literature and expert surveys suggest striking agreement among climate scientists on the tenets of anthropogenic climate change (ACC), the American public expresses substantial doubt about both the anthropogenic cause and the level of scientific agreement underpinning ACC. A broad analysis of the climate scientist community itself, the distribution of credibility of dissenting researchers relative to agreeing researchers, and the level of agreement among top climate experts has not been conducted and would inform future ACC discussions. Here, we use an extensive dataset of 1,372 climate researchers and their publication and citation data to show that (*i*) 97–98% of the climate researchers most actively publishing in the field support the tenets of ACC outlined by the Intergovernmental Panel on Climate Change, and (*ii*) the relative climate expertise and scientific prominence of the researchers unconvinced of ACC are substantially below that of the convinced researchers.

citation analyses | climate denier | expertise | publication analysis | scientific prominence

Preliminary reviews of scientific literature and surveys of climate scientists indicate striking agreement with the primary conclusions of the Intergovernmental Panel on Climate Change (IPCC): anthropogenic greenhouse gases have been responsible for "most" of the "unequivocal" warming of the Earth's average global temperature over the second half of the 20th century (1–3). Nonetheless, substantial and growing public doubt remains about the anthropogenic cause and scientific agreement about the role of anthropogenic greenhouse gases in climate change (4, 5). A vocal minority of researchers and other critics contest the conclusions of the mainstream scientific assessment frequently citing large climate change skeptics and contrarians in that we primarily focus on researchers that have published extensively in the climate field, although we consider all skeptics/contrarians that have signed prominent statements concerning ACC (6–8). Such expert analysis can illuminate public and policy discussions about ACC and the extent of consensus in the expert scientific community.

We compiled a database of 1,372 climate researchers based on authorship of scientific assessment reports and membership on multisignatory statements about ACC (*SI Materials and Methods*). We tallied the number of climate-relevant publications authored or coauthored by each researcher (defined here as *expertise*) and counted the number of citations for each of the researcher's four highest-cited papers (defined here as *prominence*) using Google Scholar. We then imposed an a priori criterion that a researcher must have authored a minimum of 20 climate publications to be considered a climate researcher, thus reducing the database to 908 researchers. Varying this minimum publication cutoff did not materially alter results (*Materials and Methods*).

We ranked researchers based on the total number of climate publications authored. Though our compiled researcher list is not comprehensive nor designed to be representative of the entire climate science community, we have drawn researchers from the most high-profile reports and public statements about ACC. Therefore, we have likely compiled the strongest and most credentialed researchers in CE and UE groups. Citation and publication analyses must be treated with caution in inferring scientific credibility, but we suggest that our methods and our expertise and prominence criteria provide conservative, robust, and relevant indicators of relative credibility of CE and UE groups of climate researchers (*Materials and Methods*).

ENVIRONMENTAL SCIENCES

Results and Discussion

–"the relative climate expertise and scientific prominence of the researchers unconvinced of ACC are substantially below that of the convinced researchers."

Skeptical Authors on Climate Science

W3C HTML 4.01 My blog 'Green Herring' back to Most-Cited Authors on Climate Science start page

This table lists all the names I've found who have signed any of the open letters or declarations expressing skepticism of the IPCC's findings, of climate science generally, of the "consensus" on human-induced warming, and/or arguing against any need for cuts to greenhouse gas emissions.

Next to each person's name is their standing in the overall list of climate authors, in the same sort order as this table.

The article Expert Credibility in Climate Change in PNAS (Anderegg, Prall, Harold & Schneider, DOI 10.1073/pnas.1003187107) used data gathered in the course of building this website.

Signed	Lists	Name (homepage)	NAT.	PhD year	IPCC	GS queries	most cites	2nd most	3rd most	4th most	Climate total	Wikipedia?	Areas of research
SEPP92	JIMM08	68: Roger A Pielke Sr, FAGU		1973		All PAPS CLIM	991	940	380	354	460	WP? W.P?	modeling, land cover, hydological cycle
APS09		81: Arie Bodek		—		All PAPS CLIM	847	776	448	331	0	WP? W.P?	quarks
3 CA06 UN07 MHND	LSDeniers JIMM08	93: Freeman Dyson, MNAS		1947 MSc		All PAPS CLIM	749	480	404	318	23	WP? W.P?	particle physics (not climate related)
92 LZ95 CA02 CA03 A06 TGGWS UN07 Cato09 CCC09	LSDeniers JIMM08	136: Richard Lindzen, FAGU		1964		All PAPS CLIM	372	335	295	274	140	WP? W.P?	QBO, maritime clouds, iris effect?
APS09		153: John E Rhoads		—		All PAPS CLIM	785	752	529	256	0	WP? W.P?	astrophysics, gamma ray bursts
to09 APS09 CCC09	JIMM08	157: William Happer, MNAS		1964		All PAPS CLIM	541	421	327	255	1	WP? W.P?	particle physics (not climate related)
N07 MHND Cato09	LSDeniers JIMM08	164: Antonio Zichichi		PhD		All PAPS CLIM	680	674	580	249	6	WP? W.P?	particle physics (not climate related)
APS09		170: Lowell S Brown		—		All PAPS CLIM	532	424	335	244	1	WP? W.P?	quantum field theory
Cato09 NIPCC09		175: J Scott Armstrong		1968		All PAPS CLIM	2899	538	271	238	10	WP? W.P?	market research, surveys, advertising
CA02 CA06	JIMM08	190: Sallie L Baliunas		1980		All PAPS CLIM	626	506	334	230	31	WP? W.P?	solar variability
Z95 UN07 MHND		197: David R				All							precipitation

“This paper is yet another example of the attempt to marginalize and ‘bin’ scientists who differ from the IPCC perspective…”

Scientist on the list - Roger Pielke Sr. - on blog

http://pielkeclimatesci.wordpress.com/2010/06/21/comments-on-the-pnas-article-expert-credibility-in-climate-change-by-anderegg-et-al-2010/

- *Geographer, prof. UCLA:*
  - “the most despicable thing they do is to call skeptics ‘deniers’”
- *Freeman Dyson*:
  - I’m reacting against “the way [climate advocates] behave and the kind of intolerance to criticism that a lot of them have”

- Trend: skeptics -> contrarians

Conclusion

- Ethnographic methods' stretching effects
- Reveal the experiences of modernity that underpin the U.S. climate science politics
- Are the skeptics dying off???

- Boundary-Work Approach:
  - Us versus them
  - Ignores/erases mainstream heterogeneity
  - Alienates potential allies, polarizes climate politics
  - Climategate shows: it engenders vulnerability
- Cultural Dialogic Approach
  - Seeks to avoid old conversations & discursive traps
  - Seeks resilience through diversity;
  - Broadens environmental agenda & coalition

Editorial Commentary

Climategate and the virtue of the scientific community: an editorial commentary on the Maibach et al. and Grundmann opinion articles

How to cite this article:
WIREs Clim Change 2012, 3:279–280. doi: 10.1002/wcc.170

The controversy dubbed 'Climategate' erupted in late 2009 exactly as diplomats around the world were preparing their positions for the negotiations at the especially high-profile 15th Conference of the Parties under the United Nations Framework Convention on Climate Change (UNFCCC). This meeting was deemed by many commentators as especially crucial for the definition of an international agreement about post-2012 measures to limit greenhouse gas emission reduction; the incident served them by intensifying critical questioning of the legitimacy of climate science underpinning the negotiations. However, Maibach et al. argue that the incident also had positive effects because it stimulated efforts at greater transparency and improvements in scientists' communication of climate science to society, including decision makers.

Grundmann focuses on social scientists' analy-

Climatic Change
DOI 10.1007/s10584-013-0711-x

ESSAY

Climategate: the role of the social sciences

Myanna Lahsen

Received: 11 January 2012 / Accepted: 29 January 2013

Abstract As has been widely documented, lavishly funded media campaigns by political and financial elites and corporations with vested interests against climate policy are a central instigator of the climate backlash and a threat to democratic processes. However, it would behoove the environmental coalition, including sympathizing academics, to reflect on how they help create conditions that enable and magnify the impact of the backlash campaigns and incidents such as Climategate. This editorial argues that prevalent idealized understandings of science increase public vulnerability to backlash campaigns, and that academic analysts reinforce these understandings when they avoid to perform critical analyses of the science and scientists promoting concern about climate change.