Combatting disinformation: Why bother?

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Politicized Science

Science gets politicized when scientific results appear to impact vested political, ethical or moral interests

(It doesn't matter if they really do or not)

- Global warming
- Evolutionary biology
- Forestry
- Embryonic stem cells
'Scientized' Politics

Politics get 'scientized' when advocates appear to debate the science in order to avoid debating the values that underly their positions

- Bacterial flagellum
- 15th century tree rings
- Medieval English vineyards

Generally has nothing to do with the real scientific debate. Looks similar but does not follow the same rules. 'Science' is used to make a 'case', not find the truth.
- Cherry-picking, strawmen, red herrings common
Junk in the trunk

Mediocre and bad papers appear in the literature all the time:
- There is almost never a paper so bad that it can't get published somewhere!
- Most are (rightly) ignored; get no citations

Some however get a lot of attention:
- Schwatrz (2007)
- de Laat and Maurelis (2004, 2006)
- McKitrick and Michaels (2006)
- Baliunas and Soon (2003)

Why? and what can (should?) be done?
What | Difficulty | Impact
---|---|---
Discuss over coffee: easy, very little impact
Talk to journalists: not difficult, very little impact
Blog: straightforward, some immediate impact
Write an official comment: hard, no immediate impact, but long term importance?

RealClimate
Climate science from climate scientists

Research Article
Consistency of modelled and observed temperature trends in the tropical troposphere
B. D. Santer\textsuperscript{1,} 1, P. W. Thorne\textsuperscript{2}, L. Haimberger\textsuperscript{3}, K. E. Taylor\textsuperscript{4}, T. M. L. Wigley\textsuperscript{4}, J. R. Lanzante\textsuperscript{5}, S. Solomon\textsuperscript{6}, M. Free\textsuperscript{7}, P. J. Gleckler\textsuperscript{8}, P. D. Jones\textsuperscript{9}, T. R. Karl\textsuperscript{9}, S. A. Klein\textsuperscript{10}, C. Mears\textsuperscript{10}, D. Nychka\textsuperscript{4}, G. A. Schmidt\textsuperscript{11}, S. C. Sherwood\textsuperscript{12}, F. J. Wentz\textsuperscript{10}

12 December 2007
Tropical tropospheric trends
Filied under: instrumental record, Climate modeling, Greenhouse gases, Climate science

Once more unto the breach, dear friends, once more!

Some old-timers will remember a series of "bombshell" papers back in 2004 which were going to "knock the stuffing out" of the consensus position on climate change science (see here for example). Needless to say, nothing of the sort happened. The issue in two of those papers was whether satellite and radiosonde data were globally consistent with model simulations over the same time. Those papers claimed that they weren't, but they did so based on a great deal of over-confidence in observational data accuracy (see here or here, for how that turned out) and an insufficient appreciation of the statistics of trends over short time periods.

Online publication date: 5 Dec 2007
Press release: 6 Dec 2007
RC response: 12 Dec 2007
Submission of comment: 25 Mar 2008
Online publication: 10 October 2008

Original figure

What it should have shown

de Laat & Maurellis (2006)

Original figure

What it should have shown

Schmidt (in press)
Schwartz (2007)

Using assumption of 0-layer energy balance + AR1 noise to imply climate sensitivity ~ 1.1°C

Turns out method doesn't work for GCMs, 0-layer energy balance models, or fit real world data (Foster et al, 2008)

Schwartz (2008) comes up with a new method to get ~1.9°C (which also doesn't for GCMs, 0-layer energy balance models, or fit real world data).... etc.
So what have I learned?

- Where there is a politicised push on bad science, there needs to be a fast response (if not, the damage is done)

- When this is in the mainstream literature, there needs to be a counterpoint in the literature (blog posts are not really citable)

- This can move the science forward (i.e. it is not just reactive)

- Some extra publications, a large sink of time, can be confrontational, but is a necessary 'community service'.

- I don't need to do it every time though!