



Great is the power of steady misrepresentation*

Ian G. Enting

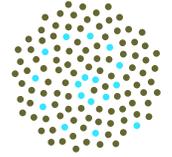
The University of Melbourne

MASCOS

(ARC Centre of Excellence for Mathematics
and Statistics of Complex Systems)

* Darwin – in *The Origin of Species* ...

Summary



- **Climate science:**
greenhouse gases act like insulation;
insulating effect amplified by water vapour;
- **Reaction:**
public campaign of misrepresenting the science;
attempt to discredit comprehensive assessments by
Intergovernmental Panel on Climate Change
- *Heaven + Earth* by Ian Plimer
presented as a scrupulous and scholarly analysis –
2311 footnotes – extensive fabrication

Greenhouse effect

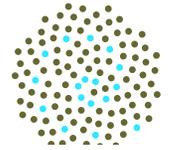
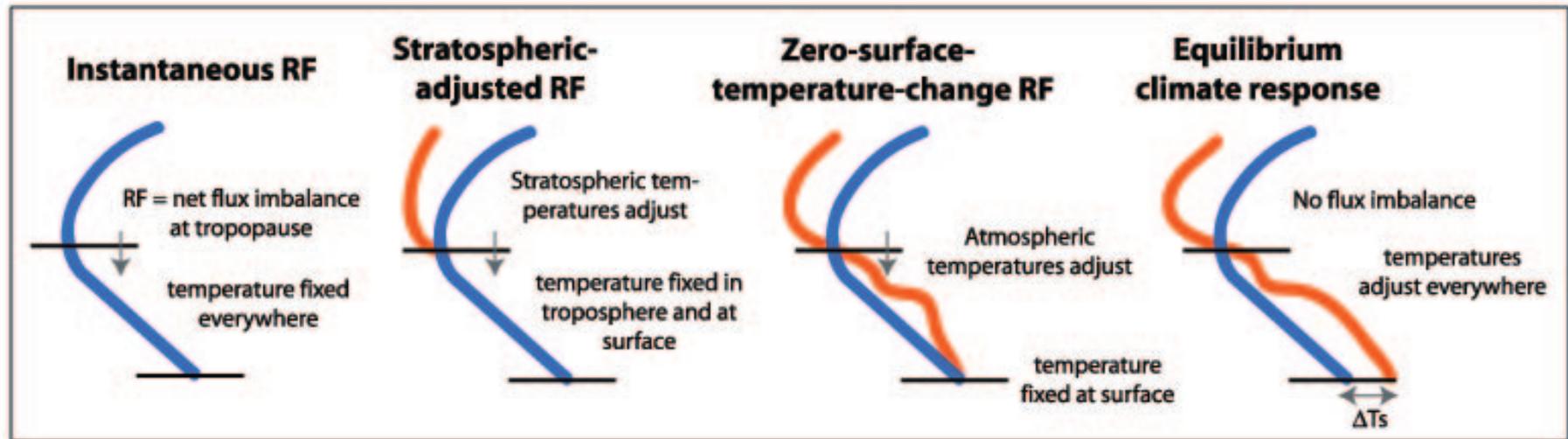


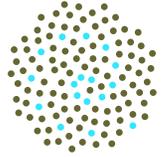
Fig 2.2 from IPCC AR4 (WG1), 2007.



Greenhouse gases act like insulation: outgoing infra-red is absorbed and re-radiated in all directions, slowing energy transport and reducing stratospheric temperatures.

Final loss of heat from earth system is from higher colder regions and so less energy loss ($\propto T^4$)

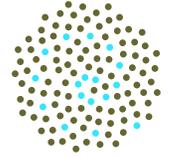
Science and Scepticism



... Popper has encouraged us to speculate boldly, but to be fiercely critical; it is true that we usually manage the latter only for other people's ideas, and not for our own, but since science is a social activity, that suffices.

John Maynard Smith, *Popper's World*
(review of *The Open Universe*, reprinted in *Did Darwin Get It Right?*).

Poles Apart



Morgan assembled panels:

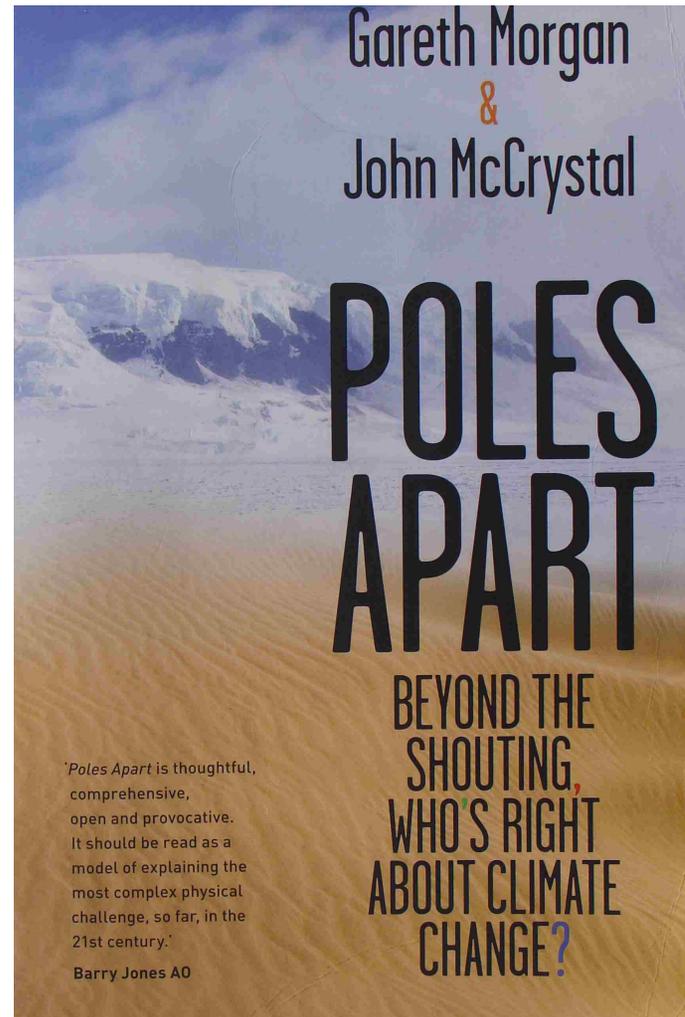
'sceptics'

F. Singer, R. Carter,
R. Lindzen, D. Avery,
C. Monckton, K. Green;

'alarmists'

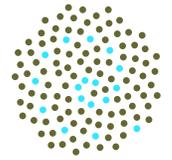
D. Lowe, L. Carter,
P. Barrett, D. Etheridge,
J. Renwick, A. Resinger,
W. Allen. R. Keeling,
J. Severinghaus, D. Fahey,
C. Shuman.

Hit them with questions over
18 months and wrote book.



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What evidence would it take?



[to make you change your mind] from *Poles Apart*)

So-called alarmists:

- (There is no sceptics' case to answer)
- Flaw in the Arrhenius argument

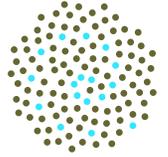
My response

- end of vertical trends (empirical failure of Arrhenius)
- if model refinement gave qualitative change
- new process identified (eg. iris)
- something entirely new (c.f. magnetic stripes)

So-called sceptics:

- (There is nothing to explain – all natural)
- Better correlation of temperature and CO₂
- Proof of validity of climate models

Belief



Most of us work with networks of trust – including childhood indoctrination (Dawkins)

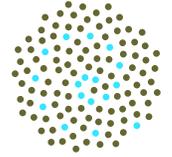
Also network of distrust – liars and their supporters;

– note that none of the so-called sceptics have criticised Plimer's fabrications.

Scientific trust networks built on:

- * being able to get answers;
- * those showing untrustworthy behaviour get dropped like hot potatoes

How not to construct belief



Deduce science from theology

— poor track record

Deduce moral truths from natural world

— God shows inordinate fondness for beetles (Haldane)

— Dawkins at pains to deny social implication of “selfish genes”

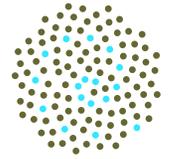
— (note US creationism as moral repulsion to social Darwinism - Gould)

Deduce science from economics?

— markets are the ideal – any science that implies market failure must be wrong

And ... if CSIRO management believe in Global Warming it must be wrong

Reaction



Great Global Warming Swindle

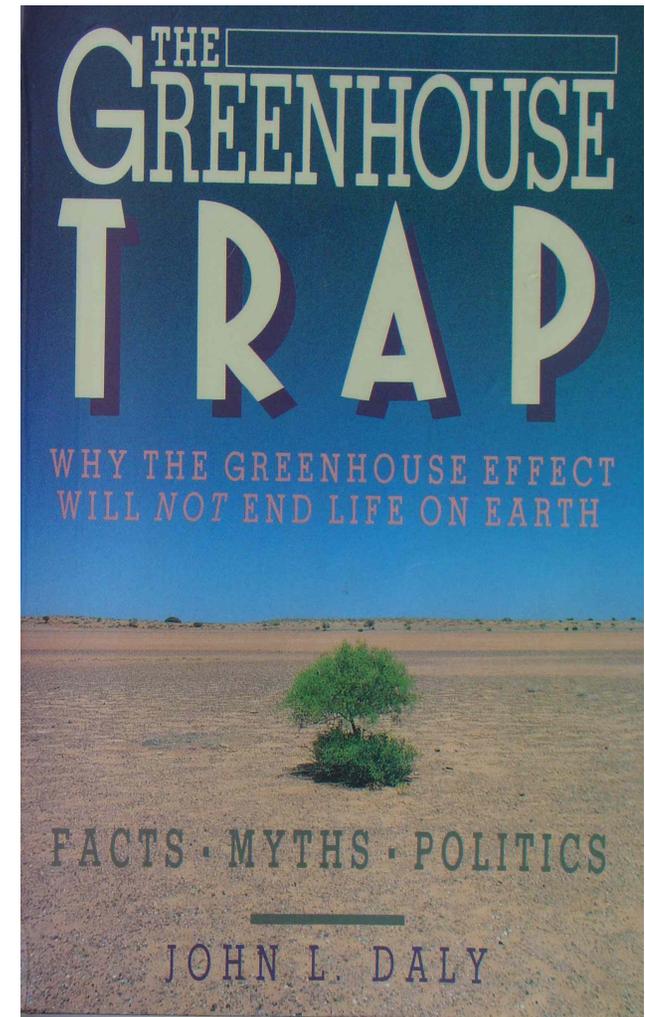
TV and DVD — it's all a conspiracy by Margaret Thatcher in alliance with neo-Marxists

Organisations: Lavoisier Group, ACSC, Heartland Institute (US), Friends of Science (Canada)

Sceptic tanks (Clive Hamilton's term)

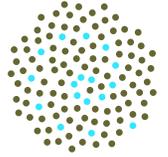
Pseudo-journal - *Energy and Environment*

Books



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Language



alarmists

doomsayers

carbonistas

warmists

VS

sceptics (self-styled — cf DDR as democratic)

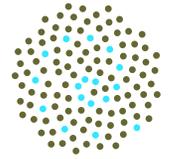
— in “sceptic tanks” (Clive Hamilton)

pseudo-sceptic

deniers

contrarians

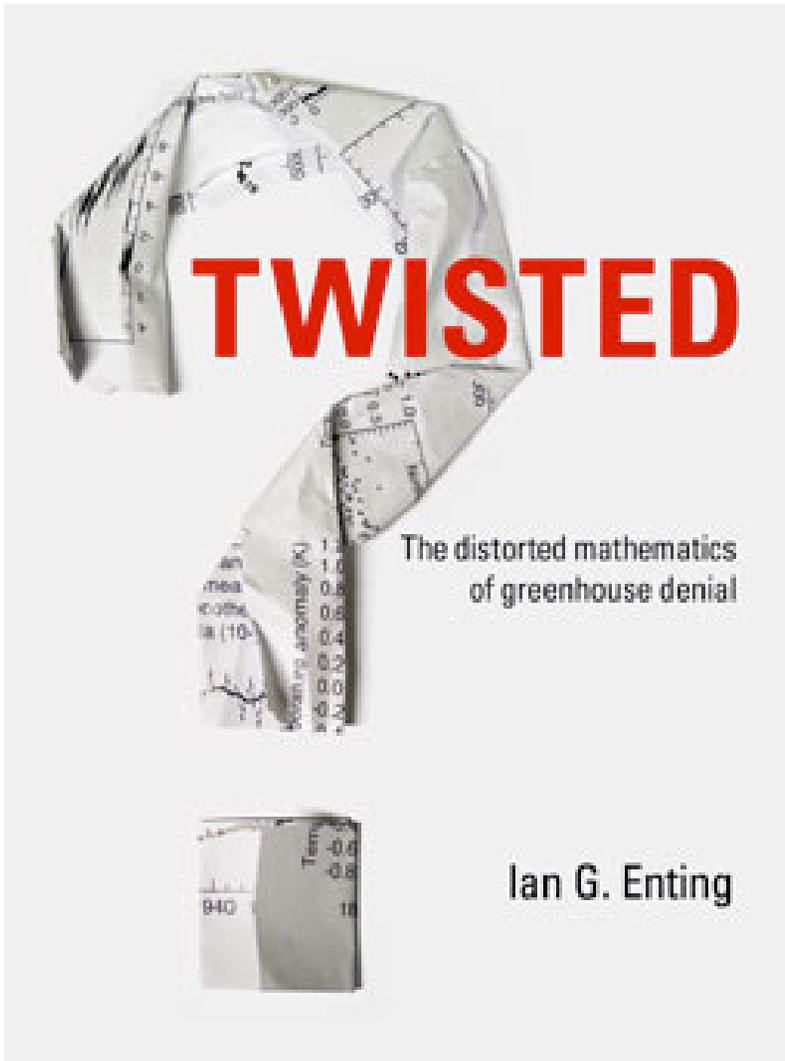
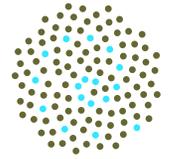
Characterising denialism



- i Claiming conspiracies
- ii Use of fake experts — often complemented by denigration of established experts
- iii Selectivity of citations
- iv Creation of impossible expectations
- v Misrepresentation and logical fallacies

Pascal Diethelm and Martin McKee:
“Denialism: What is it and how should scientists respond” (*European Journal of Public Health*, **19**, 2–4, 2009).

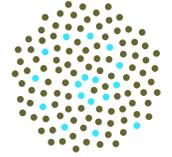
TWISTED:



Publication October, 2007,
sponsored by Australian
Mathematical Sciences
Institute,

- Contradictions by
'greenhouse sceptics'
- Distortions by
greenhouse sceptics
- New calculations of
emission targets
- (also notes genuinely
alarmist claims)

Twisted 2



Theme:

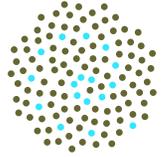
The contrarian claims have too much inconsistency to represent a scientific alternative to mainstream climate science.

There is a tendency to shift the story depending on the perceived gullibility of the target audience.

Detailed analysis of the alleged 'evidence' shows many examples of mathematically unacceptable argument.

(The various flaws identified in *Twisted* are exhibited more blatantly in *Heaven + Earth*).

Asymmetric warfare



Denialists are waging asymmetric warfare against climate science (Michael Mann 2010).

Flood media (especially internet) with junk.

Target individuals

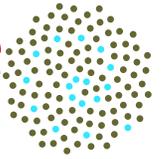
- James Hansen
- Michael Mann — ‘hockey stick’
- Ben Santer — over ‘discernible human influence’
- Phil Jones — hacked/leaked e-mails

Abuse of congressional committees

Vexatious FoI

Threats of prosecution

The Australian's war on science



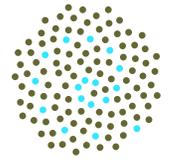
A series in the *Deltoid* blog by Tim Lambert:
Started July 2006, now up to entry 49.

Extensive hyping of Plimer's *Heaven + Earth*

Regular publishing of fringe claims

e.g. recent false claim that IPCC discussion of threats to Amazon rainforest did not reflect peer-reviewed science.

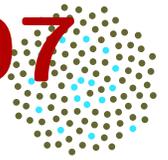
Pope's Peace Day Message



It is important for assessments in this regard to be carried out prudently, in dialogue with experts and people of wisdom, uninhibited by ideological pressure to draw hasty conclusions, and above all with the aim of reaching agreement on a model of sustainable development capable of ensuring the well-being of all while respecting environmental balances. If the protection of the environment involves costs, they should be justly distributed, taking due account of the different levels of development of various countries and the need for solidarity with future generations. Prudence does not mean failing to accept responsibilities and postponing decisions; it means being committed to making joint decisions after pondering responsibly the road to be taken,

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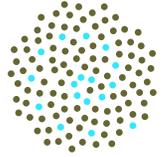
Weekend Australian: 29-30/12/07



He warned that “any solutions to global warming must be based on firm evidence not dubious ideology. . . **Fears over man-made emissions melting ice-caps and causing a wave on unprecedented disaster are nothing more than scaremongering. While some concerns may be valid it is vitally that the international community bases its policies in science rather than the dogma of the environmentalist movement. . . .** Humanity today is rightly concerned about the ecological balance of tomorrow, It is important for assessments in this regard to be carried out prudently, in dialogue with experts and people of wisdom, uninhibited by ideological pressure to draw hasty conclusions.”

C. Pearson: **Pope rejects ideology for its own sake.**

Comparisons



Arguments, tactics and campaigns similar to those used in other publicly contested science – sometimes involving the same people and organisations.

Evolution: — Roy Spencer, Fielding

Ozone: – Sallie Balianas

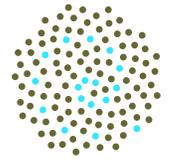
Tobacco (“doubt is our product”):

— Heartland Institute

— also Singer, Lindzen

More: in *Merchants of Doubt* by Oreskes and Conway.

Shifting stories

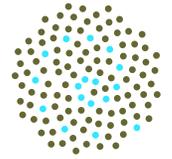


A far better estimate of future warming comes by reconciling climate model projections of the future with real-life data — that is, with the known historical behaviour of climate as greenhouse gases have increased. This is because models are more plausible when they are in agreement with actual observations. As is shown below, the expected warming from such increases then becomes 1.8° C for this century, which is clearly below the low end of the National Assessment's range.

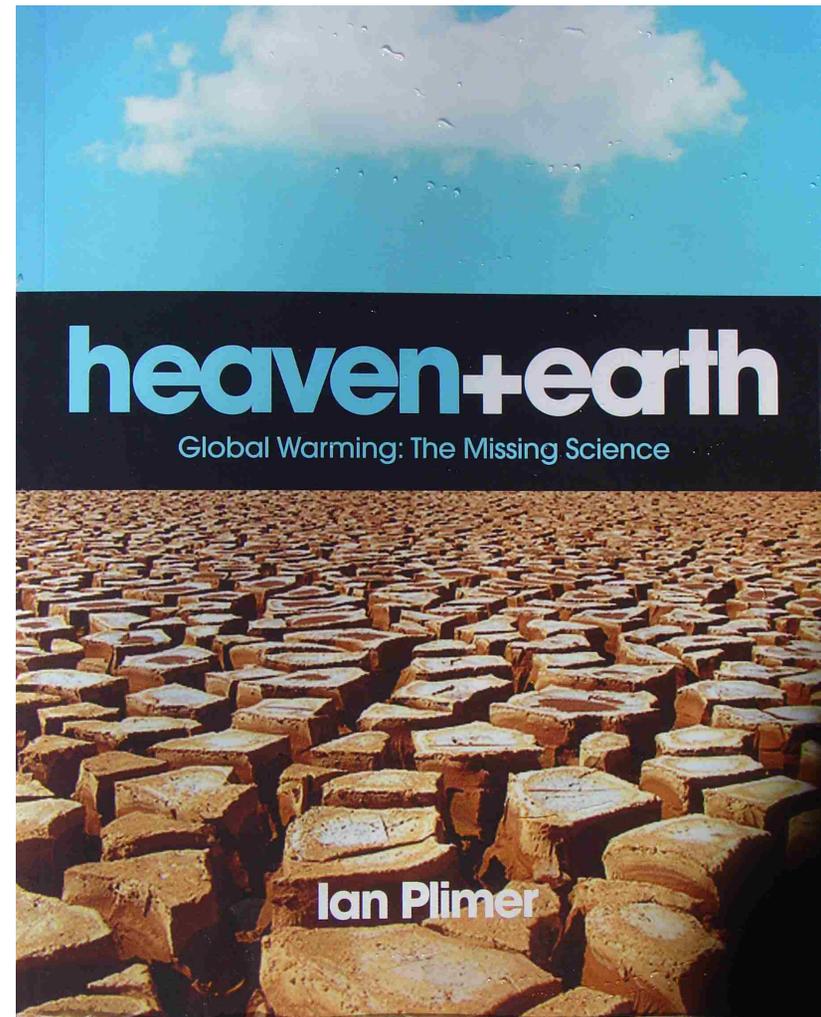
In *Amici Curiae* (friends of court) brief to US Supreme Court in Massachusetts v EPA, by S. Balianas, John R. Christy, C.de Freitas, D. Legates, A. Lupo, P. Michaels, J. Schwartz and R.W. Spencer, with counsel from Competitive Enterprise Institute.

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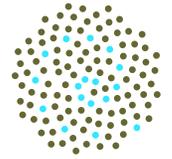
Heaven + Earth



- * Extensive inconsistency;
- * At least 28 falsified references;
- * Misrepresents: models, UK court case, astronomy, data records and laws of arithmetic;
- * Misrepresents IPCC:
 - process, authors, content;
- * Graphics flawed, fabricated and unattributed;
- * (and at least a sprinkling of plagiarism).



Hyping Heaven + Earth



High profile launches:

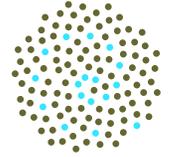
- Senators Joyce and Boswell in QLD;
- Sir Arvi Parbo, Melbourne;
- Christopher Pearson (speech-writer for John Howard and advisor to Tony Abbott) MC at Adelaide launch;

Extensive promotion, many copies given away:
events, schools.

Extensive media coverage – hyped by *The Australian*,
largely ignored by Fairfax media.

Extensive speaking tour, especially in regional Australia.

Techniques of denial



Create “facts”: “100 of the last 150 years show cooling” (H+E p 484) – actually 78 cooling,

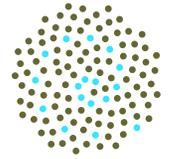
Misquote facts:

Heaven + Earth has at least 28 cases of misrepresenting the content of cited sources.

Claim facts show the opposite:

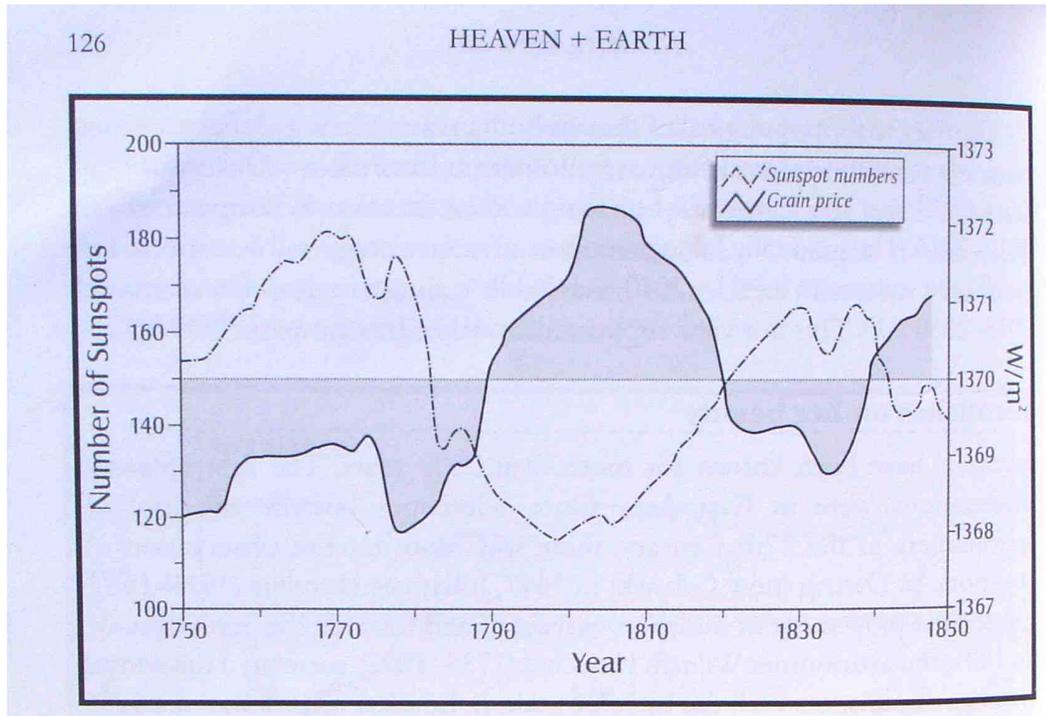
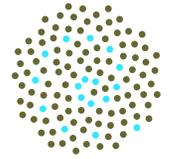
- greater night-time warming actually confirms Arrhenius mechanism
- temperature/CO₂ relations in ice-cores confirm CO₂ can amplify small radiative forcing

Falsified references



- *Mt Pinatubo ... released 20 millions tonnes of sulphur dioxide and very large quantities of chlorofluorocarbons...¹⁰⁷⁵. Ref. 1075 is modelling study, reports no observations, compares chemical effects of Pinatubo emissions to effect of CFCs.*
- *New Orleans sunk rapidly by about 1 metre in the three years before Katrina struck²⁰⁵⁶. Ref. 2056 reports a three-year average change of -5.6 ± 2.5 mm/year, with maximum of -29 mm/year.*
- *In fact, satellites and radiosondes show that there is no global warming.¹⁹¹⁰. Ref. 1910 states: The big news [is] ... the collapse of the climate critics' last real bastion, namely that satellites and radiosondes show no significant warming ...*

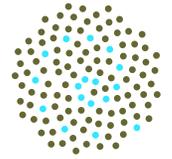
Graphic



Caption: Figure 14.
Times of high sunspot number are times of prosperity with excess grain and relatively low grain prices ...

Note grain prices in watts per square metre. Original graph (not attributed, but in ref. 505) was Sonneneinstrahlung (W/m^2) vs Getreidpreise (Mariancegroschne pro 100 kg) – not sunspots.

Inconsistencies



Value of climate sensitivity: 0.35, 0.5, over 1.5, implicitly 1.6;

Duration of ENSO: 'lasts a month or so' cf 'lasts 1 to 2 years'

Alleged abrupt end of Medieval warming inconsistent with fig 11

Attributes 18K warming to CO₂ yet claims 98% of (natural) greenhouse effect is H₂O.

Also says warming from human CO₂ is 0.1% of total — implies 'starting point' for total is below absolute zero.

Emission rates claimed for undersea volcanoes imply average sediment age of 300,000 years.

Scams – change of scale

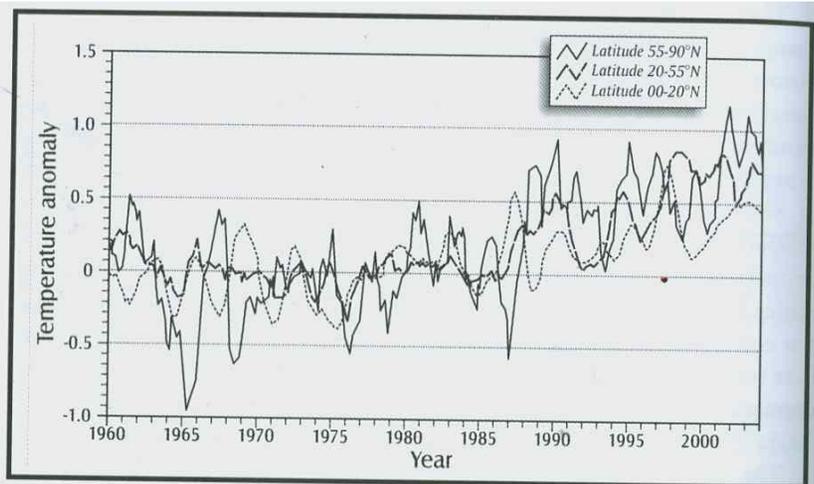
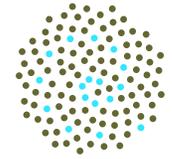


Figure 38: Sea surface temperature anomalies using annual averages. This shows cyclical changes at all latitudes and an increase in sea surface temperature since 1985.

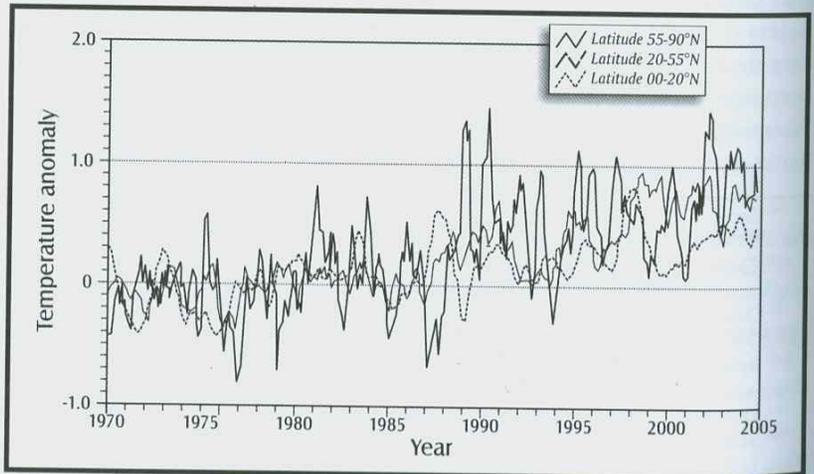


Figure 39: Sea surface temperature anomalies using 5-month averages. This shows cyclical changes at all

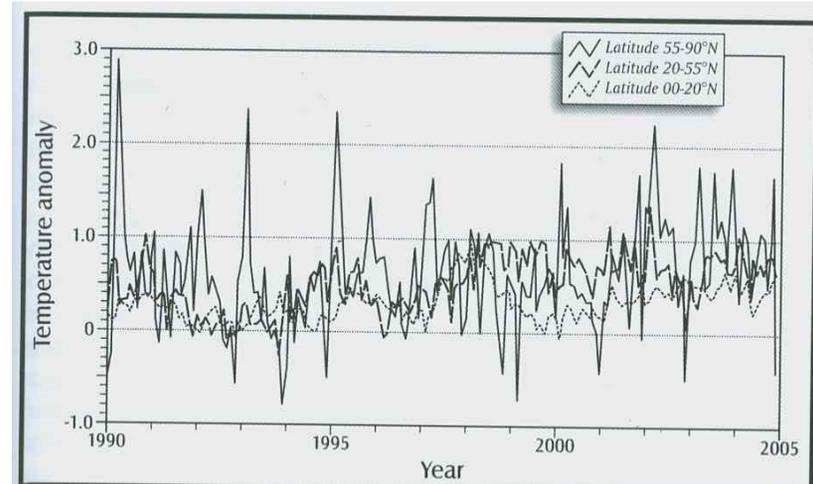
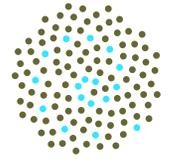


Figure 40: Sea surface temperature anomalies using monthly averages. This shows cyclical changes at all latitudes and no increase in sea surface temperature. These three diagrams show that data can easily be manipulated to create a desired outcome.

“If annual, five-month or monthly averages are used different conclusions can be made. Annual averages show sea surface temperature rises whereas monthly averages do not.”

IPCC



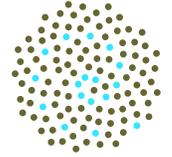
THE IPCC is the International **PANEL** of government appointees.

The chapters of IPCC Assessments are written by teams of working scientists.

These groups have different roles — deliberately misrepresenting the roles is used as basis for claiming malpractice.

Detailed analysis over 3 years has found **ONE** unjustified claim in 3000 pages of Fourth Assessment Report.

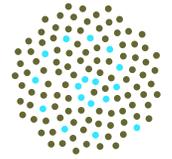
Final word on Heaven + Earth



Heaven + Earth is not a work of science

Kurt Lambeck (then president of the Australian Academy of Science) on *Ockham's Razor* (ABC). Broadcast 7 June 2009.

Back to Darwin

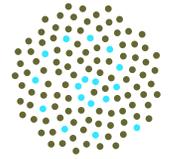


Great is the power of steady misrepresentation
but the history of science shows that
fortunately this power does not long endure.
Charles Darwin – *On the Origin of Species* ...
– added in 6th edition.

Where from here?

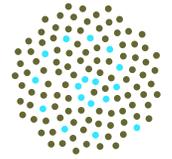
- the misrepresentation has endured long enough to cause harm
- much harm can still be avoided (or risks reduced)

Acknowledgment



The Centre of Excellence for Mathematics and Statistics of Complex Systems (MASCOS) is funded by the Australian Research Council (ARC).

Further information



Analysis of Plimer:

http://www.complex.org.au/tiki-download_file.php?fileId=91

Poles Apart: Beyond the shouting who's right about climate change G. Morgan and J. McCrystal. Scribe. 2009.

Merchants of Doubt: How a handful of scientists obscured truth on issues from tobacco smoke to global warming. N. Oreskes and E. Conway. Bloomsbury Press. 2010.