End of the scare

monckton@mail.com

Grand Hyatt Hotel, Washington DC

24 March 2017
Make America Great Again
Dude!

Unholy dreadlocks
Climate extremism is part of the totalitarians’ attack on democracy.
Anti-democracy demonstration November 2016
Anti-democracy violence
November 2016
Violence at the ‘University’ of California at Berkeley

February 2017

Invited speaker turned away
Fireworks detonated
Opponents intimidated
Fires started
‘Sanctuary for immigrants’
<table>
<thead>
<tr>
<th>Issue</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support Brexit</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>Stronger defense</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>Less immigration</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>Less climate hype</td>
<td>&lt;5%</td>
</tr>
</tbody>
</table>

‘Does Trump have a point?’

Politics Society debate, King’s College, Cambridge

October 2016
Origin of the vicious ideological monoculture of totalitarianism
There is no truth beyond the Party Line
Ion Mihai Pacepa
UN Copenhagen Climate Summit, 2009
Why one should doubt the climate-Communist Party Line
0.3% consensus, not 97.1%

The scientific consensus that human activity is very likely causing most of the current GW (anthropogenic global warming, or AGW)

Cook et al. (2013)

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>11944</td>
<td>Abstracts reviewed by Cook et al. (2013)</td>
<td>100%</td>
</tr>
<tr>
<td>7930</td>
<td>were excluded for expressing no opinion about warming</td>
<td>66.4%</td>
</tr>
<tr>
<td>3896</td>
<td>were marked as agreeing we cause some global warming</td>
<td>32.6%</td>
</tr>
<tr>
<td>64</td>
<td>were marked as stating we cause most global warming</td>
<td>0.5%</td>
</tr>
<tr>
<td>41</td>
<td>actually stated that we cause most global warming</td>
<td>0.3%</td>
</tr>
<tr>
<td>0</td>
<td>were marked as endorsing manmade catastrophe</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
Official misrepresentation by IPCC

How IPCC made the rate of global warming seem to accelerate

IPCC (2007, FAQ 3.1, Fig. 1)

<table>
<thead>
<tr>
<th>Period Years</th>
<th>Rate °C per decade</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>0.177±0.052</td>
</tr>
<tr>
<td>50</td>
<td>0.128±0.026</td>
</tr>
<tr>
<td>100</td>
<td>0.074±0.018</td>
</tr>
<tr>
<td>150</td>
<td>0.045±0.012</td>
</tr>
</tbody>
</table>

- Annual mean
- Smoothed series
- 5-95% decadal error bars

+0.4°C
+0.2
+0.0
–0.2
–0.4
Why this graph is a misrepresentation

Two earlier periods had the same warming rate, so no acceleration

IPCC (2007, FAQ 3.1, Fig. 1)
A sine wave has a zero trend (green) by definition ...

This is a sine wave

Zero trend
IPCC misrepresentation applied to a sine wave

A sine wave has a zero trend (green) by definition ...

... but using the IPCC fiddle soon changes all that
Even IPCC admits its models run hot... and failed...
Global warming from 1990-2016

- 0.75 [0.53, 1.13] °C – IPCC
- 0.51 °C – NASA GISS
- 0.48 °C – NCEI / NCDC
- 0.47 °C – HadCRUT4
- 0.36 °C – RSS satellite
- 0.32 °C – UAH satellite

IPCC (1990) predictions vs. observed warming

What IPCC predicted for 1990-2016

What happened
IPCC has all but halved its medium-term predictions

The scare was based on this prediction:

IPCC (1990): 0.19-0.43 °C/decade

IPCC (2013): 0.10-0.23 °C/decade

Observed: 0.16 °C/decade

Mean of GISS, HadCRUT4, NCEI, UAH, RSS

IPCC 1990 & 2013 predictions vs. observations, 1990-2016
Whom must we convince that global warming is no problem?
‘Some politicians even want to shut down the EPA’s ability to regulate carbon. I would like to strap their mouth to an exhaust pipe of a truck, turn on the engine and let’s see how long it would take them to tap out.’

Arnold Schwarzenegger

https://www.youtube.com/watch?v=98zm-AGmckE
Can we convince even the extreme extremes?
There is a way to compel the assent of all parties in the climate debate.
∀ \( n > 2 \), \( \exists p, q \in \mathbb{P}, 2n = p + q \)

Every composite is the mean of two primes

\[ \Phi \approx 0.618 \]

... and a conjecture about a conjecture

Monckton of Brenchley (2017)
“In a personal interview with James A. Garfield, Member of Congress from Ohio, we were shown the following demonstration of the [Theorem of Pythagoras], which he had hit upon in some mathematical amusements and discussions with other M.C.’s. We do not remember to have seen it before, …”
\[(a + b)^2 = \frac{2ab + c^2}{2}\]

\[\Rightarrow a^2 + b^2 = c^2\]

James Garfield’s demonstration (1876)
Aryabhata’s demonstration

c. 500 A.D.
Thabit ibn Qurra’s demonstration c. 860 A.D.
Monckton’s demonstration by inclusion

1989 A.D.
“...we think it something on which the members of both houses can unite without distinction of party.”
IT'S THE SUN: changes in solar radiance striking the ground explain recent temperature changes. Formal demonstration of material errors in official climate physics.
If substantial errors in the determination of climate sensitivity are demonstrable –

1. The ‘consensus’ notion will be busted
2. Warming will be small and beneficial
3. The ‘social cost of CO\textsubscript{2}’ will be tiny
Equilibrium sensitivity
Roe (2009, eq. 5): \( K \)

Radiative forcing
AR3 (p. 358): \( W \ m^{-2} \)

Reference sensitivity parameter
AR4 (p. 631 fn.): \( K \ W^{-1} m^{2} \)

Temperature feedback sum
AR5 (fig. 9.43a): \( W \ m^{-2} K^{-1} \)

\[
\Delta T = \Delta F_0 \lambda_0 (1 - \lambda_0 c) - 1
\]

\[
\Delta F_0 = k \ln \frac{C}{C_0} = 5.35 \ln(2) = 3.708 \ W \ m^{-2}
\]

\[
\lambda_0 = \frac{\Delta T_s}{\Delta F_0} = \frac{T_s}{4F_0} = \frac{288}{4(238.2)} = 0.311 \ K \ W^{-1} m^{2}
\]

\[
\Delta T_0 = 1.15 \ K
\]

Final gain factor
AR4 (p. 631 fn.); Roe (2009): Unitless

Feedback factor
Roe (2009): Unitless

Reference or pre-feedback climate sensitivity
AR3, p. 354, eq. (6.1): \( K \)
HJ Schellnhuber (2017):

“... we will end up with a planet warming by 4, 5, 6 or even 12°C. It would be the end of the world as we know it.”
Feedbacks in AR4 & AR5
IPCC (2013, fig. 9.43a)
AR5 feedback sum $c = \sum_i c_i$ on 1.53 [1.00, 2.25] W m$^{-2}$ K$^{-1}$

IPCC AR5, Fig. 9.43a (detail)

$\sum_i c_i$ (W m$^{-2}$ K$^{-1}$) $\Delta T$ (K)

1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3 2.4
1.7 1.8 1.9 2.0 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4.0 4.1 4.2 4.3 4.4 4.5 4.6
Calibrating Their equation

$$\Delta T = \Delta F \lambda_0 (1 - \lambda_0 c)^{-1}$$

<table>
<thead>
<tr>
<th>Source</th>
<th>$\Delta T_0$</th>
<th>$f_{\text{min}}$</th>
<th>$f_{\text{mid}}$</th>
<th>$f_{\text{max}}$</th>
<th>Derivation</th>
<th>$\Delta T_{\text{min}}$</th>
<th>$\Delta T_{\text{mid}}$</th>
<th>$\Delta T_{\text{max}}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIP5 models</td>
<td>1.41 K</td>
<td>0.313</td>
<td>0.485</td>
<td>0.703</td>
<td>From eq.</td>
<td>2.0 K</td>
<td>2.7 K</td>
<td>4.7 K</td>
</tr>
<tr>
<td>Vial+ (2013)</td>
<td>0.287</td>
<td>0.478</td>
<td>0.669</td>
<td></td>
<td>$f_{\text{mid}} \pm 40%$</td>
<td>2.0 K</td>
<td>2.7 K</td>
<td>4.2 K</td>
</tr>
<tr>
<td>Andrews et al. (2013)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.1 K</td>
<td>3.4 K</td>
<td>4.7 K</td>
</tr>
<tr>
<td>IPCC AR5, table 9.5, p. 818</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.9 K</td>
<td>3.2 K</td>
<td>4.5 K</td>
</tr>
</tbody>
</table>
Demonstration that CO$_2$ forcing is exaggerated by 40%
Normalized line shapes: \[ \int_0^\infty G_{eg} \, dv = 1 \]

A Lorentzian line shape:

\[ G_{eg} = \frac{\mu_{eg}}{\pi} \frac{1}{\mu_{eg}^2 + (v - \nu_{eg})^2} \]

\( \mu_{eg} \) = broadening; \( v \) = frequency; \( \nu_{eg} \) = resonance

A Voigt line shape:

\[ G_{eg} = \frac{\mu_{eg}}{\pi} \sqrt{\frac{m}{2\pi kT}} \int_{-\infty}^{\infty} \frac{e^{-mv^2/2kT}}{\mu_{eg}^2 + \left[v - \nu_{eg} \left(1 + \frac{u}{c}\right)\right]^2} \, dv \]

Happer (2015)
Tangent height

Hartmann et al. (2008)
Climate sensitivity (Celsius degrees)

The Happer effect

Temperature feedbacks
Demonstration that the high-end effect of feedbacks is excessive.
“A change of water vapour, sky radiation and temperature is corrected by a change of cloudiness and atmospheric circulation, the former increasing the reflection loss [albedo] and thus reducing the effective sun heat”
Variance from 810,000-year mean $T_s$ is only ±3.3 K

Based on Jouzel et al. (2007) adjusted for polar amplification

Late Holocene temperature

Marine Isotope Stages

T_1 2 3 4 5.1 5.2 5.3 5.4 5.5

T_II

T_III 7.1 7.2 7.3 7.4 7.5 9.3 10.1 11.1 11.2 11.3

T_IV

T_V 11.3

T_VI 13.1 13.2 14.2 14.3 15.1 15.2 15.3 15.4 15.5

T_VII 16.2 16.3 16.4

T_VIII 17.3 18.3 18.2

T IX 18.3
How temperature responds to the feedback factor $f$

**IPCC**

Extremist papers

Climate sensitivity

Process engineers' limit

 Likely

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Feedback Factor $f$</th>
</tr>
</thead>
<tbody>
<tr>
<td>-10 K</td>
<td>-1</td>
</tr>
<tr>
<td>-5 K</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>+2</td>
</tr>
<tr>
<td>+5 K</td>
<td>+3</td>
</tr>
</tbody>
</table>
Temperature feedbacks are officially very uncertain. 1 standard deviation is 20% of the central estimate \( C_{\text{mid}} \) of the feedback sum \( C \).

Vial et al. (2013, Fig. 3, detail)

### Table 3
Vertically-integrated (up to tropopause), global and annual mean of feedbacks parameters (in \( W m^{-2} K^{-1} \)) estimated using both the GFDL and NCAR models’ radiative kernels, and their multi-model mean and inter-model standard deviation. Also shown for each model, with the same units, is the difference in feedbacks’ strength between the two models’ kernels.
Uncertainty in temperature response $\Delta T$

Uncertainty in feedback response $f$
Network Analysis and Feedback Amplifier Design

By

HENDRIK W. BODE, Ph.D.,
Research Mathematician,
Bell Telephone Laboratories, Inc.

TENTH PRINTING

First Published September 1945
Reprinted January 1946, February 1947,
October 1947, April 1949, October 1950,
September 1951, July 1952, December 1953,
January 1955
Input and output voltages are absolute values

- generic symbol for voltage
- node voltages
- output voltage
- impressed voltage in mesh \( i, i = 1, 2, \ldots, n \)
- response voltage on node \( i, i = 1, 2, \ldots, n \)
- input voltage
- output voltage, of the “returned” voltage

\( \mathbf{E} \)
\( \mathbf{E}_R \)
\( \mathbf{E}_i \)
\( \mathbf{E}_0 \)
\( \mathbf{E}_1 \)
\( \mathbf{E}_\beta \)
\( \mathbf{E}_\mu \)
\( \mathbf{F} \)
\( \mathbf{F}(k) \)
\( \mathbf{F}_k(W) \)

Bode (1955, p. vii)
In all feedback analysis, the input and output voltages are *absolute* values.

**ABSOLUTE**

input voltage $E_0$

output voltage $E_R$

---

**Fig. 3.1**

Bode (1955, p. 31)
Based on Bode (1955, ch. 3)

**ABSOLUTE input temperature**

\[ T_0 \]

**ABSOLUTE output temperature**

\[ T \]

\[ \beta = T_1 / T \]

\[ \mu = \frac{T_0 + \Delta T_0}{T_0} \]

\[ A = \frac{\mu}{1 - \mu \beta} \]

\[ T_1 = \beta T = T_0 \left( \frac{A}{\mu} - 1 \right) \]

\[ T = \mu (T_0 + T_1) = T_0 \frac{\mu}{1 - \mu \beta} \]
\[ T = \mu(T_0 + T_1) \land T_1 = \beta T \]

\[ \Rightarrow T = \mu(T_0 + \beta T) = \mu T_0 + \mu \beta T \]

\[ \Rightarrow T(1 - \mu \beta) = \mu T_0 \]

\[ \Rightarrow T = T_0 A = T_0 \frac{\mu}{1 - \mu \beta} \]

Based on Bode (1955, ch. 3)
In a correct climate feedback analysis, input & output temperatures are **absolute**

\[ T_+ = T_0 + \Delta T_0 \]
\[ = 255.382 \text{ K} + 1.159 \text{ K} \]
\[ = 256.541 \text{ K} \]

\[ A = \frac{1}{1 - \beta} \]
\[ = 1.00425 \]

\[ T_1 = T_+ (A - 1) = \beta T \]
\[ = 1.091 \text{ K} \]

\[ \Delta T = T - T_0 \]
\[ = 2.250 \text{ K} \]
In 40 years’ erroneous climate feedback analysis, input and output temperatures are **deltas**

\[
\Delta T_0 = 5.35 \ln(2) \lambda_0 = 3.708 \times 0.313 = 1.159 \text{ K}
\]

\[
T_1 = f \Delta T = \Delta T_0 (G - 1) = 1.091 \text{ K}
\]

\[
f = \frac{T_1}{\Delta T} = 0.485
\]

\[
G = (1 - f)^{-1} = 1.942
\]

\[
\Delta T = \Delta T_0 + T_1 = \Delta T_0 G = 2.25 \text{ K}
\]
\[ T = (T_0 + \Delta T_0)(1 - \beta)^{-1} \]

\[ = (255.38 + 1.15)(1 - 0.0043)^{-1} \]

\[ = 257.63 \text{ K} \]

\[ \Delta T = T - T_0 = 2.25 \text{ K} \]
\[ \Delta T = \Delta T_0 (1 - f) - 1 \]

Equilibrium sensitivity

Reference sensitivity

Temperature feedback factor

Roe (2009, eq. 5): K

AR3, p. 354, eq. (6.1): K

Unitless

Roe (2009): Unitless

\[ K = 1.15 (1 - 0.49) - 1 = 2.25 \text{ K} \]
Climate sensitivity

<table>
<thead>
<tr>
<th>Likely</th>
<th>Process engineers’ limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 K</td>
<td></td>
</tr>
<tr>
<td>10 K</td>
<td></td>
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</table>

**IPCC**

Extremist papers

How temperature responds to the feedback factor $f$

How temperature responds to the feedback factor $f$
Climate sensitivity

10 K

Process engineers’ limit

5 K

Likely

IPCC
Climate sensitivities

\( f_{\text{mid}} \pm 2 \sigma \ | \ 2 \sigma = 0.4 f_{\text{mid}} \)
**Climate sensitivity (Celsius degrees)**

- **IPCC**: Low sensitivity
- **EXTREMIST PAPERS**: High sensitivity

- *Happer*
- *Happer + Monckton*

**Proven maximum sensitivity 1.9 K**

- **CO₂ Temperature feedbacks**
<table>
<thead>
<tr>
<th></th>
<th>IPCC:</th>
<th>Happer:</th>
<th>M of B:</th>
<th>Both:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate sensitivity to doubled CO$_2$:</td>
<td>1.5 K</td>
<td>3.0 K</td>
<td>4.5 K</td>
<td></td>
</tr>
<tr>
<td>m of B:</td>
<td>1.1 K</td>
<td>2.1 K</td>
<td>3.2 K</td>
<td></td>
</tr>
<tr>
<td>M of B:</td>
<td>1.8 K</td>
<td>2.3 K</td>
<td>2.7 K</td>
<td></td>
</tr>
<tr>
<td>Both:</td>
<td>1.3 K</td>
<td>1.6 K</td>
<td>1.9 K</td>
<td></td>
</tr>
</tbody>
</table>
IT'S THE SUN: changes in solar radiance striking the ground explain recent temperature changes.
Positive feedback analysis apparatus
‘Experiments with the positive-feedback analysis apparatus … to verify those of the methods and conclusions of Monckton’s Constraint paper that are rooted in electronic network analysis confirm that use of the correct methodology … reduces the upper bound of projected global warming compared with the previously published projections.’

John Whitfield
‘It’s too long!’

Professor William Happer
‘I like this paper!’

Professor William Happer
‘The paper has a strong logic’

Professor Ray Bates
Consequences of low sensitivity for the ‘social cost of carbon’
What is present value?

Present value is the value to us of future dollars at today’s prices.

The bird-in-the-hand rule

A dollar today is worth more to us than a dollar 100 years hence.
Inter-temporal discount rate (Stern)

‘The most straightforward and defensible interpretation (as argued in the Review) of [the utility discount factor] $\delta$ is the probability of existence of the world.

‘In the Review, we took as our base case $\delta = 0.1\%/\text{year}$, which gives roughly a one-in-ten chance of the planet not seeing out this century.

... 

‘[Per-capita consumption growth] $g$ is on average $\sim 1.3\%$ in a world without climate change, giving an average consumption or social discount rate across the entire period of $1.4\%$ [or less].

Dietz et al. (2007)
Inter-temporal discount rate (Klaus)

“By assuming a very low (near-zero) discount rate, the proponents of the global-warming doctrine neglect the issues of time and of alternative opportunities. Using a low discount rate in global-warming models means harming current generations vis-à-vis future generations.

“Undermining current economic development harms future generations as well.”

President Dr. Vaclav Klaus, Cambridge, May 2011
The market discount rate

“Economists representing very different schools of thought, from Nordhaus (2008) to Murphy (2008), tell us convincingly that the discount rate – indispensable for any inter-temporal calculations – should be around **the market rate of 5%**, and that it should be close to the real rate of return on capital, because only that rate represents the opportunity cost of climate mitigation.”

President Dr. Vaclav Klaus, Cambridge, May 2011
Welfare losses from climate inaction

Stern’s inaction costs $Z_n$ if discount rate is the 5% market rate, not 1.4%

$$Z_{n,\text{adj}} = Z_n \frac{\sum_{a=1}^{100} \left( 1 + \frac{|g - d_m|}{100} \right)^a \text{sgn}(g-d_m)}{\sum_{a=1}^{100} \left( 1 + \frac{|g - d_s|}{100} \right)^a \text{sgn}(g-d_s)}$$

<table>
<thead>
<tr>
<th></th>
<th>Year no.</th>
<th>1-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>$a$</td>
<td></td>
<td>1-100</td>
</tr>
<tr>
<td>$g$</td>
<td>Mean annual GDP growth rate</td>
<td>3%</td>
</tr>
<tr>
<td>$d_s$</td>
<td>Stern’s discount rate</td>
<td>1.4%</td>
</tr>
<tr>
<td>$d_m$</td>
<td>Minimum market discount rate</td>
<td>5%</td>
</tr>
<tr>
<td>$Z_{1-3}$</td>
<td>Stern’s 21st-century inaction cost</td>
<td>3.0, 5.0, 20.0% of GDP</td>
</tr>
<tr>
<td>$Z_{1-3,\text{adj}}$</td>
<td>Adjusted 21st-century inaction cost</td>
<td>0.5, 0.9, 3.5% of GDP</td>
</tr>
</tbody>
</table>
Climate Change
Reconsidered III
Your courage and persistence have won the war for the truth.
MILES IGNOTVS

ANTONINVS VATES

IACOBVS DELINQVENS
The scare is over