Climate Change and the Weightier Matters

John Cook

Date: 3 August 2012
As for Science versus Religion, I'm issuing a restraining order. Religion must stay 500 yards from Science at all times.
### Global Warming & Climate Change Myths

Here is a summary of global warming and climate change myths, sorted by recent popularity vs what science says. Click the response for a more detailed response. You can also view them sorted by taxonomy, by popularity, in a print-friendly version, with short URLs or with fixed numbers you can use for permanent references.

<table>
<thead>
<tr>
<th>Climate Myth</th>
<th>What the Science Says</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 &quot;Climate’s changed before&quot;</td>
<td>Climate reacts to whatever forces it to change at the time; humans are now the dominant forcing.</td>
</tr>
<tr>
<td>2 &quot;It's the sun&quot;</td>
<td>In the last 35 years of global warming, sun and climate have been going in opposite directions</td>
</tr>
<tr>
<td>3 &quot;It's not bad&quot;</td>
<td>Negative impacts of global warming on agriculture, health &amp; environment far outweigh any positives.</td>
</tr>
<tr>
<td>4 &quot;There is no consensus&quot;</td>
<td>97% of climate experts agree humans are causing global warming.</td>
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<tr>
<td>5 &quot;It's cooling&quot;</td>
<td>The last decade 2000-2009 was the hottest on record.</td>
</tr>
<tr>
<td>6 &quot;Models are unreliable&quot;</td>
<td>Models successfully reproduce temperatures since 1900 globally, by land, in the air and the ocean.</td>
</tr>
<tr>
<td>7 &quot;Temp record is unreliable&quot;</td>
<td>The warming trend is the same in rural and urban areas, measured by thermometers and satellites.</td>
</tr>
<tr>
<td>8 &quot;Animals and plants can adapt&quot;</td>
<td>Global warming will cause mass extinctions of species.</td>
</tr>
</tbody>
</table>
It’s warming

We’re causing it

Impacts are serious

Scientists agree

We can fix it
Thousands of natural thermometers find warming:

- Glaciers
- Snow Cover
- Temperature Over Land
- Humidity
- Temperature Over Oceans
- Sea Level
- Ice Sheets
- Sea Ice
- Ocean Warming
- Permafrost retreating poleward
- Species migrating poleward and upward
- Species breeding earlier
- Spring coming earlier
- Tree-lines shifting poleward and upward
Thousands of natural thermometers find warming

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Human fingerprints are all over our climate

- Cooling upper atmosphere
- Winter warming faster than summer
- Nights warming faster than days
- More fossil fuel carbon in trees
- Less heat escaping to space
- More heat returning to Earth
- More fossil fuel carbon in the air
- Pattern of ocean warming
…direct experimental evidence for a significant increase in the Earth’s greenhouse effect.”

HARRIES ET AL 2001
Human fingerprints are all over our climate

- Cooling upper atmosphere
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- Pattern of ocean warming
- More fossil fuel carbon in coral
- Less oxygen in the air
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- More fossil fuel carbon in trees
“This experimental data should effectively end the argument by skeptics that no experimental evidence exists for the connection between greenhouse gas increases in the atmosphere and global warming.”

EVANS 2006
Impacts of Global Warming

- Stronger Cyclones
- Threatened Water Supply
- More Flooding
- Intensified Drought
- More Heat Waves
- Sea Level Inundation
- Species Extinction
- Island Nations Underwater
- Food Shortages
- Coral Reef Destruction
Change in water vapor % over global ocean
Earthquakes versus climatic disasters

Global Dry Areas (60S to 75N)

Dai et al 2011
Projected sea-level rise calculated from global temperature

Sea Level Change (cm)

Year

1950  2000  2050  2100

AR4

A1F

A2

B1

Sea Level Change
Sea level estimates:

<table>
<thead>
<tr>
<th>Probabilities of sea level exceeding</th>
<th>Kopp et al.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.6, 8.0, and 9.4 meters</td>
<td>95% 67% 33%</td>
</tr>
</tbody>
</table>

Possible Eemian sea level 9.4 meters higher than current

Likely Eemian sea level 5 meters higher than current

Current level
CO2 emissions per capita

High emissions

Low emissions

Those who contribute the least greenhouse gases will be most impacted by climate change

Vulnerability to climate change

High vulnerability

Low vulnerability

Samson et al 2011
5 Key Facts About Climate Change

- It’s warming
- We’re causing it
- Impacts are serious
- Scientists agree
97 out of 100 climate experts agree humans are causing global warming

Doran et al 2009, Anderegg et al 2010

http://sks.to/consensus
Academies of Science endorsing the consensus

- Australia
- Brazil
- Belgium
- Cameroon
- Canada
- China
- France
- Germany
- Ghana
- India
- Indonesia
- Ireland
- Italy
- Japan
- Kenya
- Madagascar
- Malaysia
- Mexico
- New Zealand
- Nigeria
- Poland
- Russia
- Sénégal
- South Africa
- Sudan
- Sweden
- Tanzania
- Turkey
- Uganda
- United Kingdom
- USA
- Zambia
- Zimbabwe
Consensus in the peer-reviewed literature

Oreskes 2007
5 Key Facts About Climate Change

- It’s warming
- We’re causing it
- Impacts are serious

- Scientists agree
- We can fix it
Climate Solutions: we have the technology!

- Hydroelectric
- Soil Carbon Capture
- Biofuels
- Energy Efficiency
- Solar PV
- Solar Thermal
- Public Transport
- Wind Farms
- Fuel Economy
The parable of the sheep and goats

Matthew 25:31-46
The Weightier Matters

“Woe to you, scribes and Pharisees, hypocrites! For you pay tithe of mint and anise and cummin, and have neglected the weightier matters of the law: justice and mercy and faith. These you ought to have done, without leaving the others undone.”

Matthew 23:23
“You trample the poor, stealing their grain through taxes and unfair rent... You oppress good people by taking bribes and deprive the poor of justice in the courts.”
Amos 5:11,12

“I hate all your show and pretense— the hypocrisy of your religious festivals and solemn assemblies... Away with your noisy hymns of praise! I will not listen to the music of your harps.”
Amos 5:21-23
Poor nations and poor individuals have fewer resources available to cope with major challenges and threats. The consequences of global warming will therefore hit the poor the hardest, in part because those areas likely to be significantly affected first are in the poorest regions of the world.

Christians must care about climate change because we are called to love our neighbors, to do unto others as we would have them do unto us, and to protect and care for the least of these as though each was Jesus Christ himself.
We believe such policies will harm the poor more than others because the poor spend a higher percentage of their income on energy and desperately need economic growth to rise out of poverty and overcome its miseries.
we conclude that

• human activity has negligible influence on global temperature,
• the influence is not dangerous
Belief that climate change is happening

- Conservative Liberal
- Tea Party
- Republican
- Independent
- Democrat

Percentage vs. Liberal vs. Conservative
Confirmation Bias
5 Techniques of Science Denial

1. Fake Experts
2. Cherry Picking
3. Logical fallacies
4. Impossible Expectations
5. Conspiracy Theories
And God blessed them. And God said to them, "Be fruitful and multiply; fill the earth and subdue it; have dominion over every living thing."

The Cornwall Alliance is a coalition of clergy, theologians, religious leaders, scientists, academics, and policy experts committed to bringing a balanced Biblical view of stewardship to the critical issues of environment and development. The Cornwall Alliance fully supports the principles espoused in the Cornwall Declaration on Environmental Stewardship, and is seeking to promote those principles in the discussion of various public policy issues including population and poverty, food, energy, water, endangered species, habitat, and other related topics.

**Press Releases**

**Leading Evangelicals Object to EPA Restrictions on Power Plant CO2 Emissions**

*Cornwall Alliance Counters Effort to Portray CO2 Emissions Regulations as "Pro-Life"*

(June 26, 2012, Washington, D.C.)—More than 100 leading evangelical scientists, economists, theologians, and pastors endorsed a formal comment sent Monday by The Cornwall Alliance for the Earth.”

**Focus on the Family Citizen Magazine Reports Fruitful Use of Resisting the Green Dragon in Churches**

“Many Christian leaders currently using the [Cornwall Alliance’s..."
Consensus
Consensus

Fake Experts
Fake Experts

“[Global warming alarmism] falsely claims overwhelming scientific consensus in favor of the hypothesis of dangerous manmade warming (ignoring tens of thousands of scientists who disagree) and then falsely claims that such consensus proves the hypothesis and justifies policies to fight it.”

Cornwall Alliance
99.9% of the OISM signatories are not climate scientists
Fake Experts

A technique perfected by the tobacco industry in the 1970s
Non Sequitor: “it does not follow”

“Recent global warming is one of many natural cycles of warming and cooling in geologic history.”
"The paleoclimate record shouts out to us that, far from being self-stabilizing, the Earth's climate system is an ornery beast which overreacts to even small nudges."

Wally Broecker
Climate changes when it’s given a nudge

- Northern Hemisphere Temperature Reconstruction
- Instrumental Temperature

We are giving it a big nudge

- Net Climate Forcing: solar + CO2 + aerosols

Moberg et al 2005, HadCRUT, Crowley 2000
http://sks.to/past
Impossible Expectations

![Graph showing observed Arctic sea ice extent vs IPCC projections. The graph displays data from 1900 to 2100, with observations and IPCC model predictions indicated.](image)
In a climate system with net positive feedback, climate response is likely to be greater than expected.
Impossible Expectations

“Predicting the future of the climate system is so complex a task that it might never be achieved. While it may be possible to adjust or fit a model to mimic past climatic conditions, this does not guarantee that the processes causing climate change are accurately portrayed.”

Cornwall Alliance
"There is no convincing scientific evidence that human contribution to greenhouse gases is causing dangerous global warming."

Cornwall Alliance
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Consensus
What are we going to do tonight, Brain?

...TRY AND TAKE OVER THE WORLD!

the same thing we do every night, Pinky...
“If scientists are promised a career of financial support to find evidence of manmade climate change, they will do their best to find it.”

Cornwall Alliance
Conspiracy Theory

Two distinctive traits of conspiracy theories:

1. Ascribe omnipotent power to the conspiracy
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Climategate
9 independent enquiries have found no evidence of wrongdoing

“...no evidence of any deliberate scientific malpractice in any of the work of the Climatic Research Unit.”
UNIVERSITY OF EAST ANGLIA IN CONSULTATION WITH THE ROYAL SOCIETY

“The scientists’ rigour and honesty are not in doubt.”
INDEPENDENT CLIMATE CHANGE EMAIL REVIEW

“There exists no credible evidence that Dr. Mann had or has ever engaged in, or participated in, directly or indirectly, any actions with an intent to suppress or to falsify data.”
PENN STATE UNIVERSITY

http://sks.to/climategate
Conspiracy Theory

Two distinctive traits of conspiracy theories:

1. Ascribe omnipotent power to the conspiracy
2. Evidence against the conspiracy is proof of the conspiracy
“I view my job a little like a legislator, supported by the taxpayer, to protect the interests of the taxpayer and to minimize the role of government.”
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"Many Christian leaders currently using the [Cornwall Alliance's
Why I care about climate change

Posted on 3 August 2010 by John Cook

There was a recent comment posted on Skeptical Science that questioned my motives, accused me of being politically leftist and wondered where my funding came from. The comment broke several rules in our Comments Policy so was deleted. However, I emailed the commenter, and answered all his questions. Through subsequent discussion, I think we came to understand each other a little better. So while I always try to keep the discussion focussed on science, I'm going to make a brief exception here and share my own personal reasons why I spend so much time reading and writing about climate science. I will note in advance that my motives are personal ones - I'm sure many of you come at this from completely different directions. This is just for the sake of anyone wondering what drives Skeptical Science.

Let me first say what doesn't drive Skeptical Science. For starters, it's not for this reason:

ARE YOU COMING TO BED?

I CAN'T. THIS IS IMPORTANT.

WHAT?

SOMEONE IS WRONG ON THE INTERNET.
We humans have an alarming habit of blaming the idea for our poor execution of it. There's nothing wrong with the tenets of Christianity. Cook demonstrates this: his faith seems to work the way faith is supposed to. His actions speak of considerable commitment, and the work continues unabated.
Conclusion

Climate change is an opportunity for the church to:

• Put our faith into action
• Be part of the solution, not part of the problem
• Guide our communities to the core Christian values of justice and mercy
John Cook
Global Change Institute, University of Queensland

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