



Good afternoon, and welcome to my presentation entitled “Climate Science, Religion and the Politics of Climate Change”.

My name is Johannes, and I’m a Senior Lecturer at CHC Higher Education, a Christian private higher ed provider here in Brisbane. Prior to joining CHC I was a Lecturer at the University of New South Wales (UNSW) in Sydney in the School of Social Sciences, where I also completed my Ph.D. in Environmental Policy and Management.

Presentation Title: Is Climate Science, Religion and the Politics of Climate Change

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Emmanuel Centre for the Study of Science, Religion and Society
An initiative of Emmanuel College within The University of Queensland
Thursday 9 March @ 12:00 pm - 2:00 pm
<http://www.emmanuel.uq.edu.au/centre/climate-science-religion-and-the-politics-of-climate-change/>

I have a Bachelor Degree in Christian Ministries, an MBA, and an interdisciplinary Doctorate, so I am similarly comfortable in interdisciplinary areas of Theology, Business, and Science.

These are perspectives that I will seek to combine and integrate in today’s presentation.

I was born in Germany, was raised in Sierra Leone West Africa and Switzerland, and then have spent extended periods of time overseas. In fact, the overwhelming majority of my life was spent overseas, perhaps that’s why climate change – as a global issue – has been so fascinating for me to study...

Acknowledgments

The author wishes to thank

John Merson, Eileen Pittaway
(Ph.D. supervision)

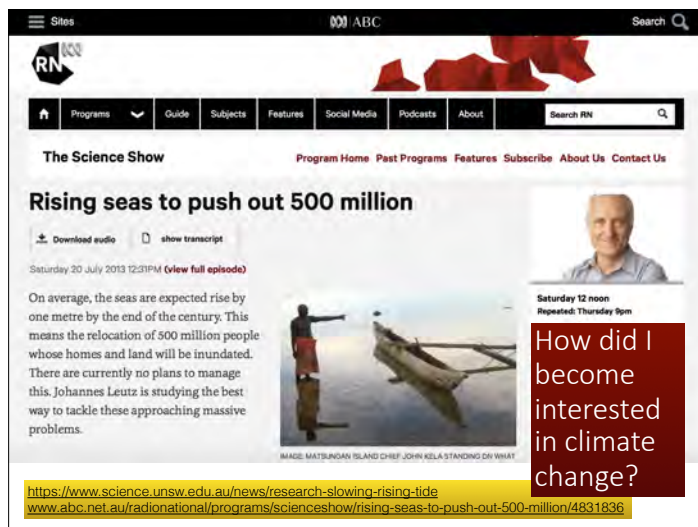
Richard Rumsey, Geoff Shepherd
(World Vision International)

Graham Buxton, Kurt Bangert, Mark Delaney
(Theological considerations)

Today I also want to present some personal perspectives from respondents I encountered during my field research in developing countries.

Before I commence my introduction, I would like to gratefully acknowledge colleagues in the fields of Academia and Science, Theology and the development community to whom I am indebted for insight, support and inspiration.

Let me tell you how I came to be interested in climate change - just how I told my story on ABC Radio National The Science Show a couple of years ago.



It is difficult to pinpoint with precision just where and when I made my decision to pursue a doctoral research degree. If forced to choose one particular moment in time, it would be in 2008 while meeting island chief John Kela on his small Pacific island of Matsungan near Bougainville, Papua New Guinea.

At the time, I was conducting research for World Vision's annual disaster report, Planet Prepare. I still vividly remember this meeting with the island chief.

There are no roads on Matsungan, no cars, no telephones, no electricity, no running water. If islanders want to traverse their island they cross it on foot, a journey that only takes 10 minutes.

The footpath is mostly moist or muddy, and leads between tin huts, water tanks, coconut trees and vegetable gardens where islanders grow everything they need, until the sudden appearance of a vast oceanic horizon on the other side. Accompanied by a throng of lively giggling children, Chief Kela walked me around his island where he had spent his entire life. As we went, he pointed out numerous areas that had already disappeared under the sea.



Everywhere we looked there were signs of severe erosion. It was obvious to him that the sea was encroaching on his island. What struck me was the imminence of the threat. Matsungan and most of the other islands in the vicinity typically protrude only a metre or two above sea level and are acutely vulnerable to even very small rises in sea level.

Given scientific sea level rise predictions on the order of one to two metres this century, it was easy to connect the dots. By the end of the century, several of these islands would simply no longer exist. In my mind such predictions made the planned relocation for many of these islands inescapable.

A year later I was talking with Professor Schellnhuber, senior adviser to the German government and one of the world's most distinguished physicists and climate scientists. In a publication he had made the following observation, saying,

"When we talk about a one-metre rise in global sea level we are also talking about 500 million people who are going to have to look for new homes, and so far we do not have any instruments to manage this."

Talking to Professor Schellnhuber and thinking about Chief John Kela and his small island community I immediately knew that I wanted to conduct research that would promote the well-being of affected climate migrants.

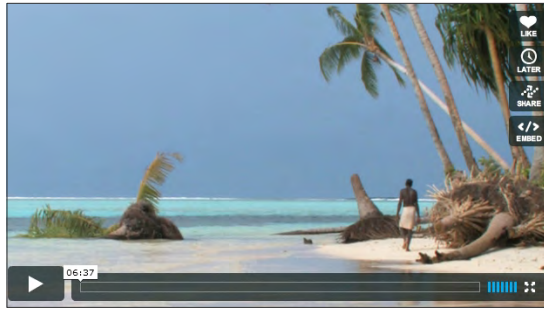
At the time I considered Australia a fitting place for such a PhD study. Australia has few people, much land, many cultures, and it is a major per capita contributor to the climate migration issue. I was sure the Australian people would have a soft spot for climate migrants.

And so in 2009 I came to Sydney from Berlin to commence work on my PhD at the University of New South Wales Institute of Environmental Studies. I quickly found I was not the only one researching climate migration in the world, and that there was a lively debate going on in the research community.



I started with a pilot study on the Tulun Atoll where a South Pacific island community is already in the process of evacuating their island and relocating due to unmanageable levels of sea level rise.

Sinking Paradise



<http://www.vimeo.com/4177527>

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The United Nations University produced a video on this atoll. I will skip this video but you can view it in your own time.

Chaco, Bolivia



Thereafter I also did other case studies.

In Bolivia, I studied drought and migration. On this slide, you can see the abandoned houses following months of unprecedented drought.



This video, which I will also skip, discusses my field research in Bolivia.



In Bangladesh and India, I studied cyclones and migration to slums. I produced a video documentary on my field research in Bangladesh, which I will skip in the interest of time.

the guardian

Climate change
Catastrophic Science

Climate refugees: the communities displaced by global warming - video

Source: UNSW

Thompson & August (2013) 15:13-16:17

1 metre

0:00 / 1:01

With climate change set to force millions of people from their homes due to more frequent extreme weather events and rising sea levels, one academic has been travelling the world to see how the people facing relocation feel. 'There's just no place like home' says University of New South Wales lecturer Johannes Lorenz. 'People want to stay where they are,' he explains, citing work in the Maldives to artificially raise islands. For others, forward planning and community education are just as important as addressing the 'protection gaps' prevalent at the international level.

More from Catastrophic Science

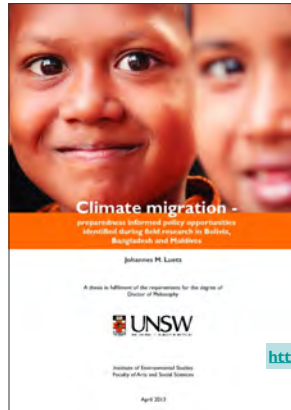
- Radioactive seas: how nuclear disasters help climate research
- Climate refugees: the communities displaced by global
- How climate change helps lessen the impact of storm surges on
- How the world's most at-risk are being studied to make
- The genetic-bombing frog: how to bring a species back
- Tsunami how a new discovery could reduce future

<http://gu.com/p/4ba7t/sbl> & <https://youtu.be/pPWvGNeFPEs>

In the Maldives I observed a small island state experiment with artificially raised concrete islands. Another video was produced, which I will also skip.



Finally, in the Philippines I studied resettlement villages for typhoon flood victims.



Field research:
Papua New Guinea
Bolivia
Bangladesh
India
Maldives
Philippines

<http://handle.unsw.edu.au/1959.4/52944>

The findings are fascinating. A number of things are quite clear.

First, climate migrants appear to want to stay in their countries if at all possible. This makes adaptation measures in their countries an urgent priority.

Second, some climate migration cannot be prevented by mitigation or adaptation, so it actually makes a lot of sense to tackle this issue before it evolves into a full-blown humanitarian disaster.

Third, proactive macro-managed migrations that meet the aspirations of affected people are inherently preferable to ad hoc displacements, as may be brought about by sudden floods and storms.

In short, disasters destroy development, preparedness protects progress.

Expressed in simple language, proactive policy preparedness is what my PhD thesis aims to promote.

Climate migration will certainly become an increasingly urgent issue as we move through the 21st century. My work seeks to help ease the pain for some of the millions of people who will inevitably be forced from their homes.

Contents

Three points


1. Consensus view of climate science
2. The politics and economics of climate change
3. A selection of Christian theological responses

Having provided you with an overview of how I came to climate change research, let me now cover the three areas announced for today's topic:

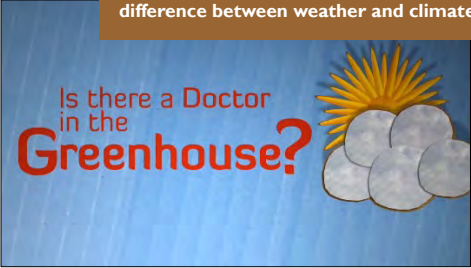
First, the consensus view of climate scientists regarding the future impact of man-made climate change.

Integrated into this discussion will be perspectives on the politics of climate change, including the role of commercial interests and the media.

I will then conclude by presenting some Christian responses to the findings of climate science and why these responses can be so different.

Weather ≠ Climate 

UNSW-produced video scripted for Leadership Networks for Climate Change (LNCC) highlights difference between weather and climate



<https://youtu.be/IJPbchgrF2U>
<http://tv.unsw.edu.au/04E68CE0-08D5-11E1-832C0050568336DC>

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In approaching climate science, it is important to note a few important points:


First, climate is different from weather.

Second, the climate system is subject to significant inertia.

Third, our Planet has a fever that will go up before it goes down.

To illustrate the first point, let me play a short clip that I co-scripted as a member of UNSW's Leadership Network for Climate Change.

Weather ≠ Climate 



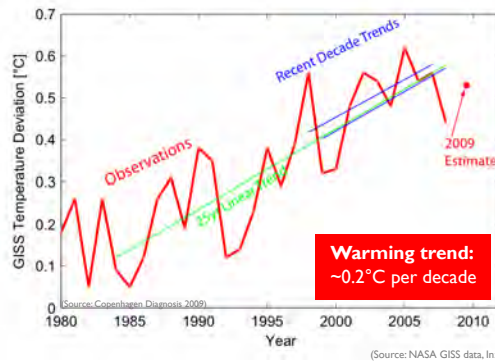
<https://youtu.be/IJPbchgrF2U>

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The video was subsequently animated by UNSW arts students.

Decadal Scale Warming

Global temperature change 1980-2009



The differentiation between climate and weather has important implications.

Importantly, climate scientists need 25-30 years of data to produce accurate trend lines.

This means that people cannot cherry pick and choose data points that suit their story or ideology.

You can see on this slide that cherry picking data points could produce different trend lines.

However, 25-30 years of data points taken together demonstrate incontrovertibly that the Earth is warming.

Stopping Distance

UNSW-produced video scripted for Leadership Networks for Climate Change (LNCC) explains that climate change cannot be stopped overnight; early action is therefore urgent.



<https://youtu.be/d0Je8ZkGYA8>

<http://tv.unsw.edu.au/video/hit-the-brakes>

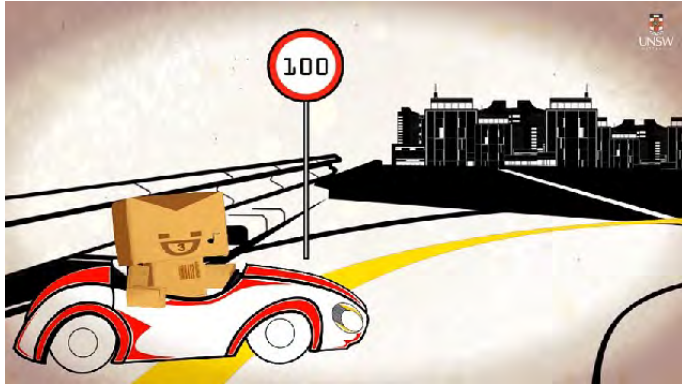
This brings me to the second science point: climate system inertia.

In my view the problem of inertia or Stopping Distance is vastly under appreciated in public discussion of climate change today.

To make this point I thought of another analogy that was also subsequently animated by UNSW arts students and published by UNSW-TV as a short video clip.

You can see the links here, however rather than play it I will share its analogy in my own words.

Stopping distance



Picture different modes of transportation: A car travelling at a speed of 100 kilometres an hour needs roughly 100 metres of “stopping distance” depending on weather and road conditions - from the time you hit the brakes - until it comes to a halt.

You cannot stop a car travelling at 100 ks per hour dead in its tracks.

Stopping distance



Now let’s apply stopping distance to a big ocean liner travelling on the high seas at cruising speed.

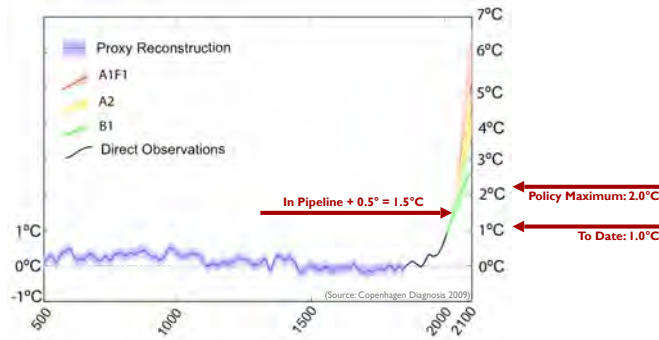
From the moment the captain “hits the brakes” until the vessel comes to complete standstill it will carry on for miles, and up to 15-30 minutes depending on speed and vessel.

You cannot stop a massive hunk of metal travelling at speeds dead in its tracks.

Remember the Titanic? Despite a last minute manoeuvre the ship was doomed as sufficient stopping distance had not been kept to avoid collision with the iceberg.

Climate System Inertia

Reconstructed, observed and future warming projections



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Now, let's apply stopping distance to the process of climate change.

Even if greenhouse gas emissions could be stopped tomorrow, it would take decades for temperature rises to slow down and peak.

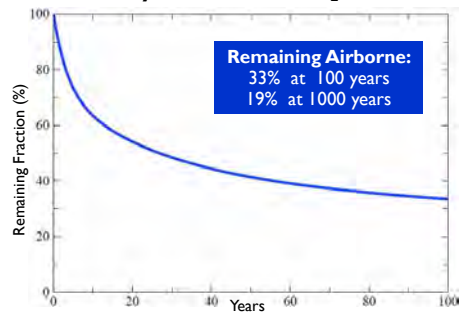
Since industrialisation global average temperatures have already risen about 1 degree celsius, however stopping distance implies that they cannot be stopped short of reaching approximately 1.5 degrees celsius.

This amount of future warming is already in the pipeline.

Given that scientists say that a 2 degree increase spells unacceptable danger, climate change is indeed an emergency.

Longevity of CO₂

Slow decay of fossil fuel CO₂ emissions



The fraction of CO₂ remaining in the air, after emission by fossil fuel burning, declines rapidly at first, but 1/3 remains in the air after a century and 1/5 after a millennium.

(Hansen, J., 2007, *Atmos. Chem. Phys.* 7, 2287-2312).

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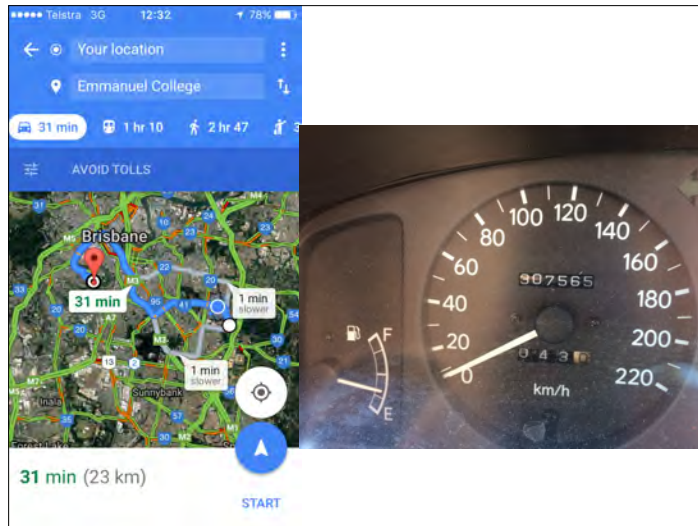
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The reasons for climate system inertia are based in science.

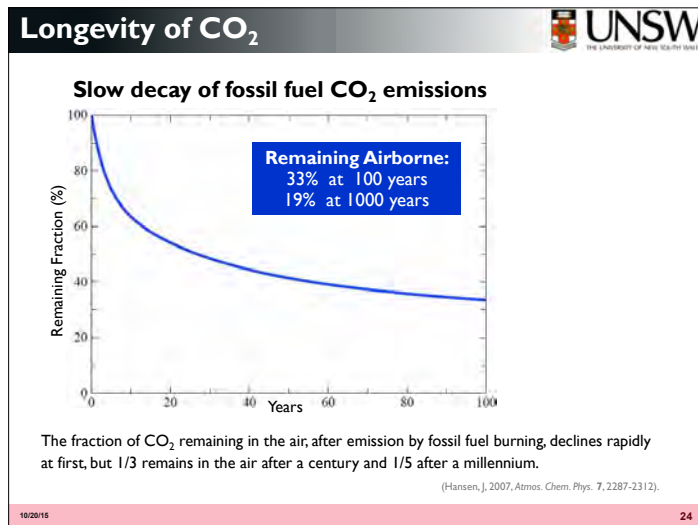
Don't let this next slide scare you. It is actually quite simple.

After emission by fossil fuel burning, carbon dioxide remains in the atmosphere for a very long time.

It decays very slowly: One-third remains in the atmosphere after a century, and one-fifth after a millennium.



An example makes the point clear. To come here today and present this talk about climate change I travelled by car. My round-trip journey of 43km total based on a recent trip saw approximately 5 kilograms of CO₂ emitted into the atmosphere.



As you can see, 30 years from now, 50% of the greenhouse gas emissions from today's car trip - or about 2.5 kg - will still be in the atmosphere, and 100 years from now, 1.7 kg will still remain airborne, contributing to future global warming, and 1,000 years from now, 1 kg will remain.

The Bad News

Global warming cannot be reversed due to the long life-time of CO_2 in the atmosphere. This is because CO_2 cannot be extracted from the atmosphere in massive amounts.

Climate system inertia has important implications.

The bad news is: global warming cannot be reversed due to the long life-time of CO_2 in the atmosphere because CO_2 cannot be extracted from the atmosphere in massive amounts.

The Good News

Global warming can be completely stopped. The temperature at which global warming will finally stop depends mainly on the total amount of CO_2 released into the atmosphere since industrialisation.

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The Task Ahead



The sooner emissions stop, the lower the final warming will be.



Zero Emissions?
Zero Regrets!

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The upshot is simple: The sooner emissions stop, the lower the final warming will be.

Until humanity decarbonises its global economy, we will essentially remain on an emissions trajectory that sees more and more cumulative historical emissions contribute to more and more warming, more and more quickly.

Historical Emissions



"Granny Maria" – 1958

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Historical emissions are an important consideration. A story about my grandmother Maria and her first car makes the point clear.

On this slide you can see my grandmother standing on the left sometime in 1958 in post World War 2 Germany. Her incredible account of survival as a refugee from what is Russia today is a story that is told in her book "Irgendwo liegt Sonntagsruh", which she wrote in her late 80s and 90s.

She passed away in her sleep last year at the good old age of 97.

Historical Emissions



Lloyd Alexander, 1958

40% of total emissions from granny's 1st car still airborne today (~ 5,200 kg CO₂) as "historical emissions"

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A few years ago Maria told me the story of her first car. Sometime during the year 1958 she participated in a lottery where she entered all her family members and - long story short - ended up winning this Lloyd Alexander car. You can see my mother standing here on the left.

Based on the longevity of Carbon Dioxide in the atmosphere after fossil fuel combustion, and based on conversations with Maria about how long the family had owned and driven the car, where to, and how often, I produced a simple calculation that estimates that approximately 40% of the total emissions from granny's 1st ever car - or about 5 tonnes of CO₂ - are still airborne today as so-called "historical emissions", still contributing to global warming.

Of course, this back-of-the-envelope calculation should be understood as roughly right rather than precisely wrong.

Historical Emissions

Cumulative CO₂ Emissions 1850-2006

Rank	Country	Mt CO ₂ e	% of World Total
1	United States of America	333,747.8	29.00%
2	European Union (27)	305,750.1	26.57%
3	China	99,204.2	8.62%
4	Russian Federation	93,081.6	8.09%
5	Germany	[80,377.0]	[6.99%]
6	United Kingdom	[68,235.8]	[5.93%]
7	Japan	44,535.2	3.87%
8	France	[32,278.6]	[2.81%]
9	India	27,433.6	2.38%
10	Canada	25,133.1	2.18%
Top 10	Cumulative Total	928,886	80.71%

CAIT/World Resources Institute
CAIT GHG data are derived from CDIAC, EDGAR, EIA, EPA, Houghton, IEA, and WB.

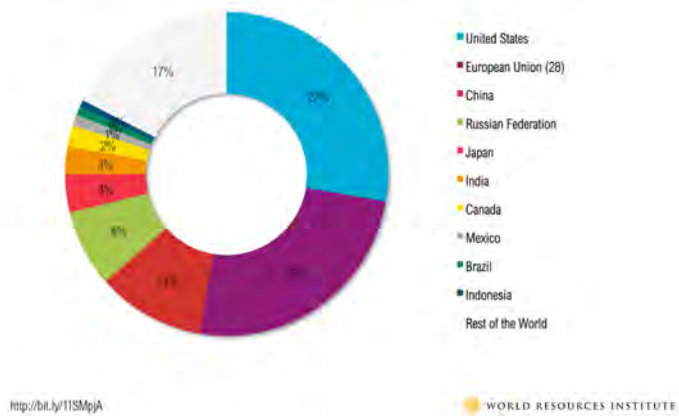
While industrialisation has been wonderful in terms of many coal-powered and fossil-fuel derived comforts it provided to industrialised countries, cumulative historical emissions still continue to contribute to climate change worldwide.

As you rightly imagine, a few industrialised countries are responsible for the lion share of the historical emissions greenhouse gas stock in the atmosphere today.

According to the World Resources Institute, the top ten historical emitters together are responsible for more than 80% of the global greenhouse gas stock.

Cumulative CO₂ Emissions 1850–2011 (% of World Total)

<http://www.wri.org/blog/2014/11/6-graphs-explain-world%E2%80%99s-top-10-emitters>



The U.S. alone is responsible for about one-third of historical emissions airborne today, and together with the European Union this rises to more than 50%.

Emissions Today



CO₂ Emissions Per Capita (2000 data)

Rank	Country	t CO ₂ e	World Average
1	Qatar	67.9	5.6
2	United Arab Emirates	36.1	5.6
3	Kuwait	31.6	5.6
4	Australia	25.6	5.6
5	Bahrain	24.8	5.6
6	United States	24.5	5.6
7	Canada	22.1	5.6
8	Brunai	21.7	5.6
9	Luxembourg	21.0	5.6
10	Trinidad & Tobago	19.3	5.6
Top 10 Cumulative Total		294.6	5.6

(http://pdf.wri.org/navigating_numbers.pdf)

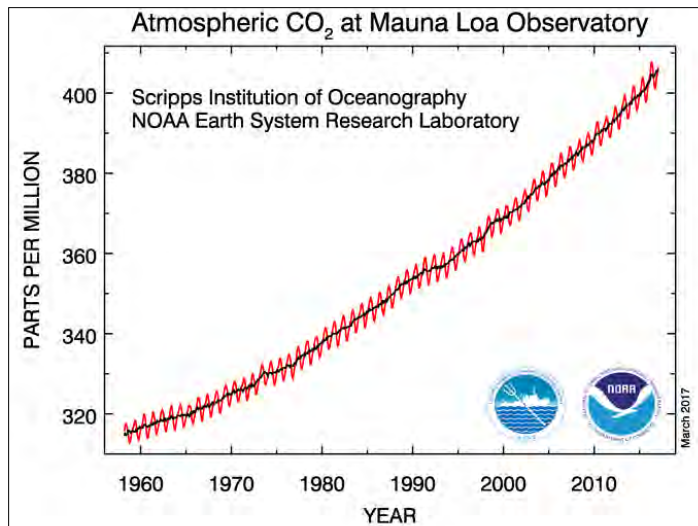
CAIT/World Resources Institute
http://pdf.wri.org/navigating_numbers_chapter2.pdf

However, focusing only on cumulative historical emissions only gives a partial understanding.

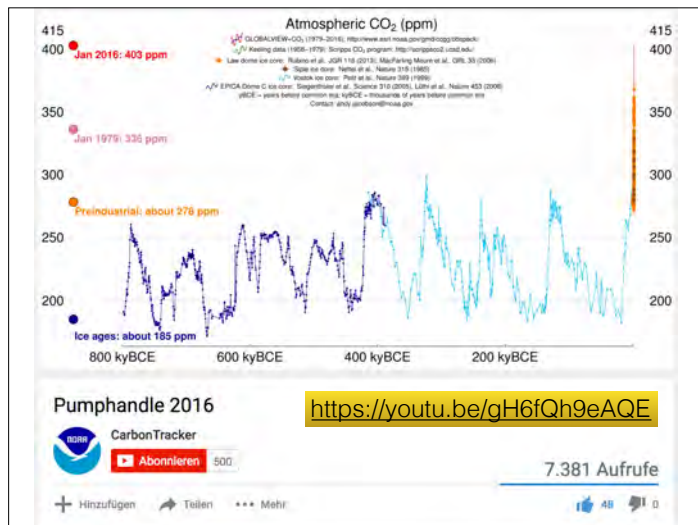
If we look at greenhouse gas emissions today per capita, an entirely different picture emerges.

In the year 2000, the top ten countries emitted multiple times the global average of 5.6 tonnes per capita.

According to a World Resources Institute report, Australia is number four in the world for per capita emissions, higher than any other OECD country in the world.



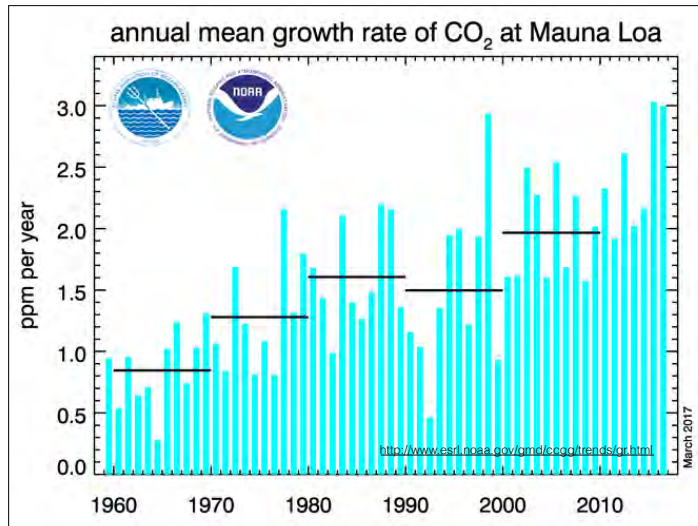
Based on cumulative greenhouse gas emissions (like mine today), CO₂ is increasing in the global atmosphere, rising at about 2 parts per million each year.



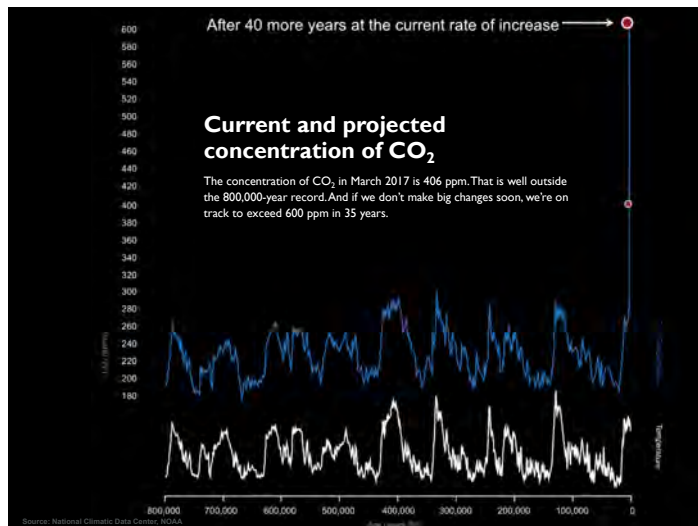
This video which I won't play in the interest of time shows the variability of CO₂ in the atmosphere going back 800,000 years.

We can see a number of ice ages. And importantly, we see the onset of industrialisation with an atmospheric CO₂ concentration of 278 parts per million.

Since industrialisation this concentration has risen to more than 400 parts per million, a level unprecedented in the history of modern humans, or homo sapiens.

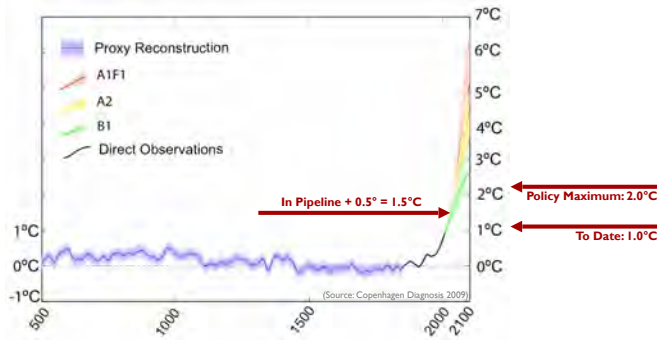


Worryingly, it is not only the concentration in the atmosphere that is increasing but also the growth rate itself.



Climate scientists are projecting that in the absence of a change in trends CO₂ concentrations could increase to 500 or 600 parts per million, and even higher in some scenarios.

Reconstructed, observed and future warming projections



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The result that we can already witness very clearly is that our planet has a fever.

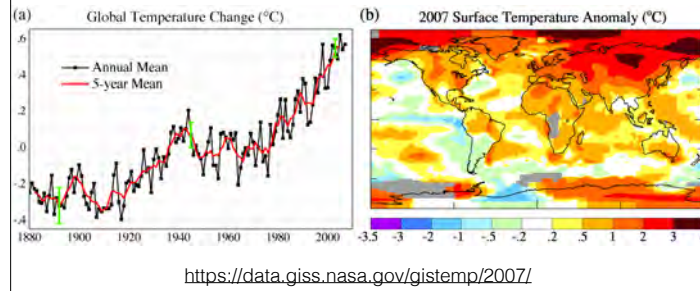
As mentioned, since industrialisation global average temperatures have already increased by about 1 degree Celsius.

And based on climate system inertia there is already another half a degree in the pipeline.

This means that the planet's fever will incontrovertibly go up before it goes down, implying more droughts, floods, storms, bush fires and sea level rises, including other signs of "planetary fever".

Our planet has a fever

Droughts, floods, downpours, storms, surges, sea level rise, ...



Importantly, scientists have warned that a two degree temperature increase would mean the progressive death of the "Planetary Patient".

This also means that the time to act is short.

Time fails me to fully show the fallout from the Earth's commencing fever. However, as we have already seen, droughts, floods, storms, bush fires and sea level rises are among some of the notable symptoms.

Psalm 24:1

"The earth is the Lord's, and everything in it, the world, and all who live in it."
(The Bible)

"Science without religion is lame, religion without science is blind."
(Albert Einstein)

Source: NASA

All this raises the question: If these things are so, how should we then live?

If "The earth is the Lord's, and everything in it, the world, and all who live in it." - how should Christians respond to the defacing of God's Creation?

First of all, in my mind there is no dichotomy between scientific truth and Biblical truth. As Albert Einstein has famously said:

"Science without religion is lame, religion without science is blind." (Albert Einstein)

In my mind scientific truth and Biblical truth can complement each other, rather than exclude each other.

Why should Christians care?

- **First: If God cares for the truth, then His followers should care for the truth, too**

"Then you will know the **truth**, and the **truth** will set you free." (John 8:32)

"God is spirit, and his worshipers must worship in the Spirit and in **truth**." (John 4:24)

"But when he, the Spirit of **truth**, comes, he will guide you into all the **truth**. He will not speak on his own; he will speak only what he hears, and he will tell you what is yet to come." (John 16:13)

So why should Christians care about climate change?

I will present 3 compelling reasons:

(1) First, if God is indeed a God of truth and cares for the truth, then His followers should care for the truth, too.

In the Bible, we read that truth is at the very heart and centre of freedom:

"Then you will know the truth, and the truth will set you free." (John 8:32)

We also read that there is no duplicity in honest worship, but that

"God is spirit, and his worshipers must worship in the Spirit and in truth." (John 4:24)

Finally, Christians understand that God by His Spirit is the "Spirit of truth":

"But when he, the Spirit of truth, comes, he will guide you into all the truth. He will not speak on his own; he will speak only what he hears, and he will tell you what is yet to come." (John 16:13)

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Quantifying the consensus on anthropogenic global warming in the scientific literature

John Cook^{1,2,3}, Dana Nuccitelli^{2,4}, Sarah A Green⁵, Mark Richardson⁶,
Bärbel Winkler², Rob Painting², Robert Way⁷, Peter Jacobs⁸ and
Andrew Skuce^{2,9}

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11,944 scientific lit.

"97.1% endorsed the consensus position that humans are causing global warming." (Cook et al 2013, p. 1)

In this very University, the University of Queensland, a world class research study was conducted recently where 11,944 pieces of peer reviewed scientific literature were compared in an attempt to quantify the scientific consensus on man-made climate change.

The paper, lead-authored by John Cook, is certainly worth studying carefully.

"97.1% endorsed the consensus position that humans are causing global warming." (Cook et al 2013, p. 1)

In short, if the best in available peer reviewed published science today overwhelmingly agrees that humans are chiefly to blame for the climate crisis now gathering momentum, in other words, if it is really true - then those who claim to be followers of the God of truth must stand on the side of "truth" also.

Countering misinformation, lies, deceit, and "untruth"

- "there is **no truth** in him (the devil). When he lies, he speaks his native language, because he is a liar and the father of lies." (John 8:44)

This also means that they must counter misinformation, lies, deceit.

According to the Bible, untruth comes from the devil of whom the Bible says:

"there is no truth in him (the devil). When he lies, he speaks his native language, because he is a liar and the father of lies." (John 8:44)

Countering misinformation, lies, deceit, and “untruth”

JOURNAL OF GEOSCIENCE EDUCATION 52, 296–306 (2014)

Raising Climate Literacy Through Addressing Misinformation: Case Studies in Agnotology-Based Learning

John Cook,^{1,2,a} Daniel Bedford,³ and Scott Mandia⁴

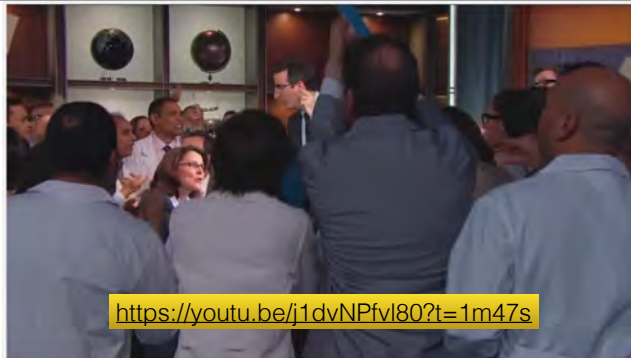
ABSTRACT

Agnotology is the study of how and why ignorance or misconceptions exist. While misconceptions are a challenge for educators, they also present an opportunity to improve climate literacy through agnotology-based learning. This involves the use of refutational lessons that challenge misconceptions while teaching scientific conceptions. We present three case studies in improving climate literacy through agnotology-based learning. Two case studies are classroom-based, applied in a community college and a four-year university. We outline the misinformation examined, how students are required to engage with the material and the results from this learning approach. The third case study is a public outreach targeting a climate misconception about scientific consensus. We outline how cognitive research guided the design of content, and the ways in which the material was disseminated through social media and mainstream media. These real-world examples provide effective ways to reduce misperceptions and improve climate literacy, consistent with twenty years of research demonstrating that refutational texts are among the most effective forms of reducing misperceptions. © 2014 National Association of Geoscience Teachers. [DOI: 10.5408/13-071.1]

Key words: agnotology, scientific consensus, climate change, misinformation

Countering misinformation is an important priority according to another world class study also lead-authored by John Cook right here at UQ.

In my mind those who self-profess to follow a “God of truth” have a God given mandate to lead the charge in advancing the truth.



<https://youtu.be/j1dyNPfvl80?t=1m47s>

John Oliver Climate Change Debate



MSB Science

Abonnieren 25

152.836 Aufrufe

Hinzufügen Teilen Mehr


807 30

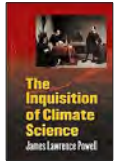
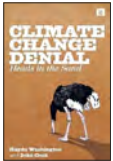
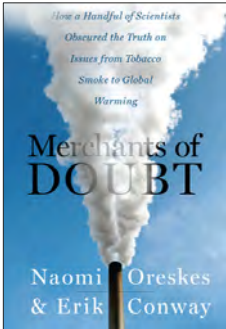


Hence the media often features opposing views for the sake of bringing so-called “balance”. This has the tendency to convince lay people that there is still a debate where there hasn’t been one for years.

If the media wanted to bring true “balance”, it should not give as much coverage to contrarians or denialists or special fossil fuel funded interest groups.

Commercial Doubt





<http://www.merchantsofdoubt.org/>

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It is also a well-known fact that the science of climate change has been wilfully suppressed by powerful commercial interests and the “merchants of doubt” that have very effectively created the impression in cross-sections of the public that the science is not settled enough to take action on climate change.



<http://climaterealityproject.org/video/doubters/>
<http://youtu.be/YhDacrl1aSA>

Multiple books have been written and videos made and can be accessed through links in this presentation for those interested to dig deeper.

Much more on this can and must be said, however time constrains me to move on to my second point about why Christians should care:

Why should Christians care?

- **Second: If God cares for His Creation, then His followers should care for Creation, too**
 “God saw all that he had made, and it was **very good**” (Gen. 1:31)
- **Knowing God through Creation**
 “For since the creation of the world God’s invisible qualities—his eternal power and divine nature—have been clearly seen, being **understood from what has been made**, so that people are without excuse.” (Rom. 1:20)

(2) If God cares for His Creation, His followers should care for Creation, too.

“God saw all that he had made, and it was very good” (Gen. 1:31)

This point has important implications. The Bible says in Romans 1:20 that God can be known through t/his “good” Creation:

“For since the creation of the world God’s invisible qualities—his eternal power and divine nature—have been clearly seen, being understood from what has been made, so that people are without excuse.” (Rom. 1:20)

Why should Christians care?

- **Implication:** If you want to know your Creator, learn about Creation.
- If God can be known through Creation, then Creation has inherent worth in and of itself (apart from utilitarian value to humans)

Implication: If you want to know your Creator, learn about Creation.

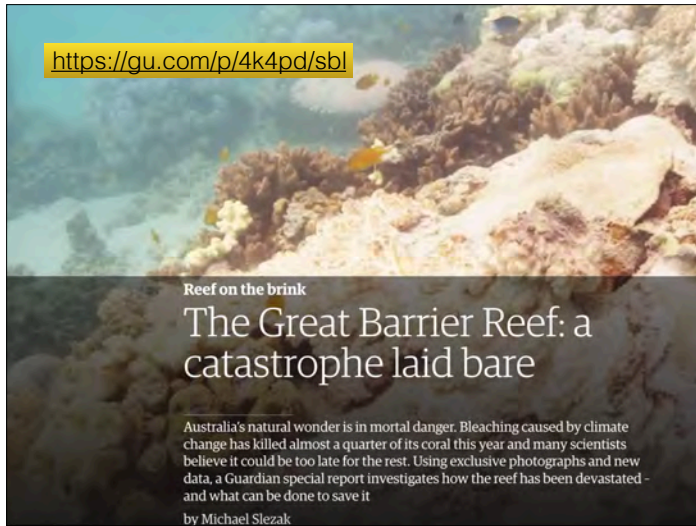
Expressed in simple language, if God can be known through Creation, then Creation has inherent worth in and of itself (apart from utilitarian value to humans).

Creation & God

- **If God can be “known” through what He has made, then “Creation Care” is an epistemological priority of the highest order.**
- Following this argument, epistemologically speaking, God becomes progressively less “knowable” from what He has made as the defacing and destruction of His Creation continues...)

Importantly, if God can be “known” through what He has made, then “Creation Care” is an epistemological priority of the highest order.

Following this argument, epistemologically speaking, God becomes progressively less “knowable” from what He has made as the defacing and careless destruction of His Creation continues.



A particularly sad and grievous example is the progressive destruction of one of the true marvels of God's Creation, the world's largest living structure - the Great Barrier Reef - as warming of the oceans and concurrent bleaching events grow worse and worse.

According to scientific studies the Reef is in acute danger of being lost forever.

Once again time constrains me to move on, but an important question still begs to be asked: Can God still be known through the Great Barrier Reef 10 years from now? 20 years from now? 50 years on?

Only God and time can tell. We are reminded of the Scripture in Romans 8:22 which has taken on new and grim meaning in the era of progressive climate change: "For we know that the whole creation groans and travails in pain together until now." (AKJV, Rom. 8:22)

Why should Christians care?

- *Third:* If God cares for "the poor", "the brokenhearted", "the neighbour", and "the very least of these", then His followers should care for these groups, too.

This brings me to my third and final point in this section of the discussion of why Christians should care.

(3) If God cares for "the poor", "the brokenhearted", the "neighbour", and the "very least of these", then those who claim to be on His side should also care for "the poor", "the brokenhearted", the "neighbour", and the "very least of these" too.

Why should Christians care?

- **Christ's mission was to "the poor":**

"The Spirit of the Lord is on me, because he has anointed me to proclaim good news to **the poor**." (Luke 4:18)

Christ's mission was to the poor:

"The Spirit of the Lord is on me, because he has anointed me to proclaim good news to the poor." (Lk. 4:18)

Why should Christians care?

- **God cares for "the brokenhearted":**

"He heals **the brokenhearted** and binds up their wounds." (Psalms 147:3)

God cares for the hurting, as it says in the Book of Psalms:

"He heals the brokenhearted and binds up their wounds." (Ps. 147:3)

Why should Christians care?

- **Your neighbour: Parable of the Good Samaritan**
“Love **your neighbour** as yourself.” (Luke 10:27)

Then Jesus told his disciples in the Parable of the Good Samaritan to

“Love your neighbor as yourself.” (Luke 10:27)

Why should Christians care?

- **Doing right by the “least of these”:**
“Truly I tell you, whatever you did not do for one of the least of these, you did not do for me.” (Matthew 25:45)

And further, God instructed his followers to care for the very least:

“Truly I tell you, whatever you did not do for one of the least of these, you did not do for me.” (Matthew 25:45)

What do these scriptures about caring for our poor and hurting neighbour mean for our climate change discussion?



Put very simply, those countries and communities who have contributed the least to the problem of climate change in terms of historical cumulative or current per capita global greenhouse gas emissions are the ones who are the most acutely suffering from the impacts.

Climate disasters can wipe out decades of development gains in mere minutes, and poor communities are often hit hardest. Expressed in simple language, being poor connotes being poorly protected and poorly insured.

Poverty is the overwhelming reason why millions of people cannot absorb the shocks of disaster events and thus cannot “build back better” like the resource rich.

home | environment | development | sustainable business | cities

Food security

Climate change could drive 122m more people into extreme poverty by 2030

UN report warns that without measures to halt and reverse climate change, food production could become impossible in large areas of the world

Global development is supported by **BILL & MELINDA GATES FOUNDATION**

About this content

This article is 5 months old

11,079

Claire Provost in Rome

@claireprovost

Monday 17 October 2016 12:32:48 BST

Up to 122 million more people worldwide could be living in extreme poverty by 2030 as a result of climate change and its impacts on small-scale farmers' incomes, a major UN report warned on Monday.

https://www.theguardian.com/global-development/2016/oct/17/climate-change-could-drive-122m-more-people-into-extreme-poverty-by-2030-united-nations-report?CMP=share_btn_link

Countless research reports suggest that climate change is poised to drive additional millions of people into extreme poverty.

A recent UN report has warned that without measures to halt and reverse climate change, food production could become impossible, driving additional millions into extreme poverty by 2030.

It follows that reducing poverty and the underlying causes of poverty - namely greenhouse gas emissions and related political and structural injustices - would be paramount in expressing Jesus concern for “the poor”, “the brokenhearted”, the “neighbour”, and the “very least of these”.

Why should Christians care?

1. **If God cares for “the truth”**, then His followers should care for the truth, too.
2. **If God cares for “His Creation”**, then His followers should care for His Creation, too.
3. **If God cares for “the poor”**, then His followers should care for the poor, too.

So why should Christians care?

I mentioned three compelling reasons:

- (1) If God cares for “the truth”, then His followers should care for the truth, too.
- (2) If God cares for “His Creation”, then His followers should care for His Creation, too.
- (3) If God cares for “the poor”, then His followers should care for the poor, too.

Why should Christians care?

- *In summary:* **If God is a God of justice, then those who profess to be His followers must be about the business of justice, too**
David & Nathan (2 Sam. 12)

To summarise, if God is a God of justice, then His followers should be about the business of justice, too.

Why should Christians care?

- *In Summary:* **Knowing the right thing to do, but not doing it, this is considered “sin”**
“17 If anyone, then, knows the good they ought to do and doesn't do it, it is sin for them.” (James 4:17)

Expressed in simple language, the Bible states that knowing the right thing to do, but not doing it, this is considered “sin” - We read this in the Book of James 4:17:

“17 If anyone, then, knows the good they ought to do and doesn't do it, it is sin for them.” (James 4:17)

Three eschatological models

- 
- (1) **Rainbow Model**
 - (2) **Apocalypse Model**
 - (3) **Nineveh Model**

I want to conclude this talk with a few short reflections about End Time Theology.

In particular, I want to present three eschatological models which I will call the “Rainbow Model”, the “Apocalypse Model”, and the “Nineveh Model”. I am indebted to Kurt Bangert for the conceptualisation of these three models.

These are presented on the basis that what Christians believe about the End Times may either empower or disempower action on climate change.

Three eschatological models

(1) Rainbow Model

- “Never again will I destroy all living creatures, as I have done. As long as the earth endures, seedtime and harvest, cold and heat, summer and winter, day and night will never cease.” (Gen. 8:21-22)

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(1) Firstly, the “Rainbow Model” is based on the promise in the Book of Genesis where God says after the flood:

“Never again will I destroy all living creatures, as I have done. As long as the earth endures, seedtime and harvest, cold and heat, summer and winter, day and night will never cease.” (Gen. 8:21-22)

According to this model, there is no need to take action on climate change because the Earth, all living creatures and climate will endure unharmed in perpetuity.

This model is alive and well in islands across the Pacific with many islanders considering themselves immune to the effects of climate change and cannot fathom a scenario that might see their island homes submerged by rising sea levels.

This model is also alive and well whenever politicians uphold and prolong the fossil fuelled status quo without doing justice to the renewable energy needs of the hour.

And this model is also alive and well whenever politicians and economists sacrifice the livability of the Planet for the short-lived interests of immediate selfish economic gratification of special interest groups, serving the needs of the few at the expense of the many.

Three eschatological models

(2) Apocalypse Model

- “For in the days before the flood, people were eating and drinking, marrying and giving in marriage, up to the day Noah entered the ark; and they knew nothing about what would happen until the flood came and took them all away. *That is how it will be at the coming of the Son of Man.*” (Mt 24:38-39)

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(2) Secondly, the “Apocalypse Model” is based on the idea that an apocalyptic future is predestined and that to fight climate change would be tantamount to fighting God’s ordained future order.

We read in the Book of Matthew:

“For in the days before the flood, people were eating and drinking, marrying and giving in marriage, up to the day Noah entered the ark; and they knew nothing about what would happen until the flood came and took them all away. That is how it will be at the coming of the Son of Man.” (Mt 24:38-39)

According to this model, there is no need to take action on climate change because the Earth is destined to be doomed, and all living creatures and climate will ultimately be terminated by inescapable end time disaster.

The energy trapped by man-made global warming pollution is now “...equivalent to exploding

400,000

Hiroshima atomic bombs per day 365 days per year.”

James Hansen
Former Director, NASA Goddard Institute for Space Studies

This model is alive and well, whenever politicians make light of the enormous damage our unmitigated greenhouse gas emissions are inflicting on God’s Creation.

The energy trapped by man-made global warming pollution is now - quote - “...equivalent to exploding 400,000 Hiroshima atomic bombs per day, 365 days per year.”

According to this model, it’s too late to save the Planet, too hard, and too futile to decarbonise the global economy, and perhaps even too “unspiritual” to take action on climate change, because the Apocalypse is the preordained “divine design”.

Three eschatological models

(3) Nineveh Model

- “Go to the great city of Nineveh and preach against it, because its wickedness has come up before me.” (Jonah 1:2; NIV)
- “Forty more days and Nineveh will be overthrown.” (Jonah 3:4; KJV)

(3) Thirdly, the “Nineveh Model” is based on the idea that the prophet Jonah was sent by God to

“Go to the great city of Nineveh and preach against it, because its wickedness has come up before me.” (Jonah 1:2; NIV)

We read of Jonah preaching to the Ninevites in much the same way climate scientists have been preaching to us for decades:

“Yet forty days and Nineveh will be destroyed and overthrown.” (Jonah 3:4; KJV)

Three eschatological models

(3) Nineveh Model

- “The Ninevites believed God. A fast was proclaimed, and all of them, from the greatest to the least, put on sackcloth and sat down in the dust” (v. 5) Even the king of the city “took off his royal robes, covered himself with sackcloth and sat down in the dust” (v. 6)
- “And God saw their works, that they turned from their evil way; and God repented of the evil that he said he would do unto them; and he did it not” (v. 10)

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And then, utterly unexpected by the prophet, an amazing thing happens:

“The Ninevites believed God. A fast was proclaimed, and all of them, from the greatest to the least, put on sackcloth and sat down in the dust” (v. 5) Even the king of the city “took off his royal robes, covered himself with sackcloth and sat down in the dust” (v. 6)

Amazingly, in this model, the people regret, the people reform, the people repent, and God relents:

“And God saw their works, that they turned from their evil way; and God repented of the evil that he said he would do unto them; and he did it not” (v. 10)



Fast forward to the Book of Revelation.

One important point needs to be made: Climate change disasters should not be attributed to God. Humans are bringing this upon themselves.

I want to conclude this talk with one quote, and one scripture.

Intergenerational equity

- “Those of us alive today are the first generation to know that we live in the Age of Global Warming. We may also be the last generation to have any chance of doing something about it. Our forebears had the excuse of ignorance. Our descendants will have the excuse of helplessness. We have no excuse.”

(William Antholis and Strobe Talbott (2010) *Fast Forward: Ethics and Politics in the Age of Global Warming*, The Brookings Institution)

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I will read the quote first:

“Those of us alive today are the first generation to know that we live in the Age of Global Warming. We may also be the last generation to have any chance of doing something about it. Our forebears had the excuse of ignorance. Our descendants will have the excuse of helplessness. We have no excuse.”

(William Antholis and Strobe Talbott (2010) *Fast Forward: Ethics and Politics in the Age of Global Warming*, The Brookings Institution)

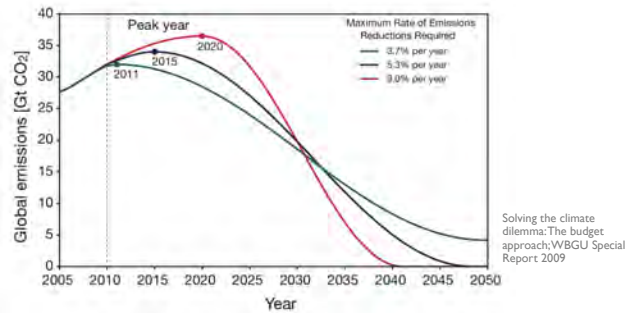
2 Chronicles 7:14

- “If my people, which are called by my name, shall humble themselves, and pray, and seek my face, and turn from their wicked ways; then will I hear from heaven, and will forgive their sin, and will heal their land.”

And this well-known Bible verse from 2 Chronicles 7:14 may be a good scripture to end on, and I quote:

“If my people, which are called by my name, shall humble themselves, and pray, and seek my face, and turn from their wicked ways; then will I hear from heaven, and will forgive their sin, and will heal their land.”

Exemplary emissions pathways which remain within 750Gt and leave a 67% chance of limiting global warming to 2°C



It's not too late. But it's close. May this talk be understood as an invitation for humanity to "turn" and bend down the emissions curve through actions such as:

What can you I/you/we do?

1. **Pray** — for God's Creation and your/our role in it
2. **Divest** — from fossil fuels; look at your super
3. **Decarbonise** — aim for "zero" emissions lifestyle

Prayer;
Divestment; and a
Commitment to decarbonisation

It may be that God will hear from heaven. It may be that He will forgive our sin. It may be that He will "heal our land", as the scripture from 2. Chronicles 7:14 suggests.

Thank you!
Q&A



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chc.edu.au

For the sake of His Creation, and His Kingdom, and in Jesus' name, Amen.

BACKUP SLIDES

Excellent free video resources online

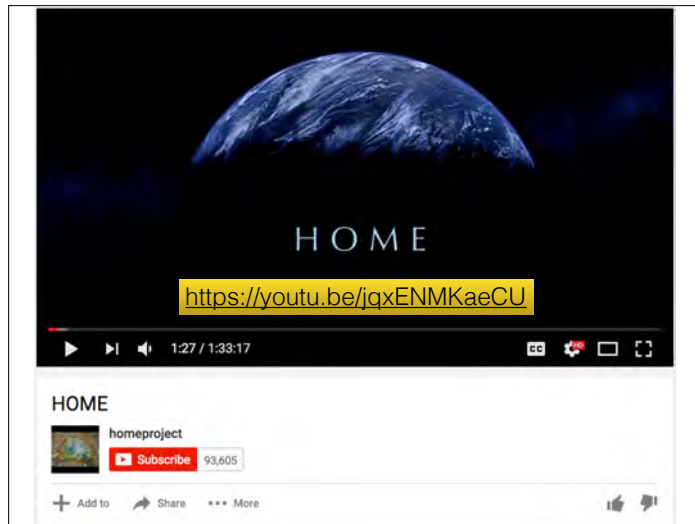


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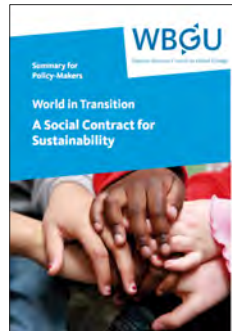
(Source: ppt
Stephan H. Schneider)



**World in Transition:
Social Contract for
Sustainability**

Flagship Report 2011

<http://www.wbgu.de/en/home>



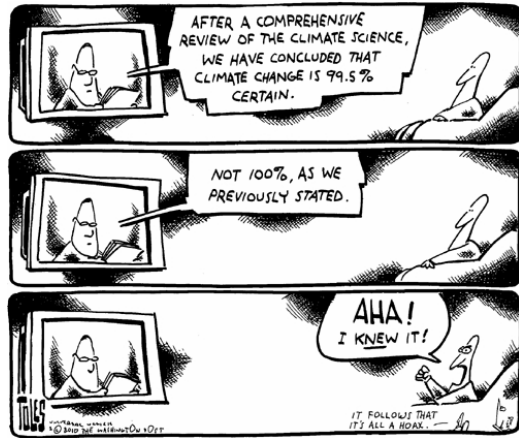
Can we do it?

**Annual per-capita CO₂
emissions below 1 ton**

**A decarbonised
global society with
near-zero emissions
of CO₂ needs to be
reached by 2050
(1 Person = 1 t CO₂)**



A decarbonised global society – with near-zero emissions of CO₂ and other long-lived greenhouse gases – needs to be reached well within this century. Global emissions must start to decline as soon as possible. Any delay will result in almost unachievable reduction requirements. Can we do it?



(Source: ppt
Stephen H. Schneider)

11/01/16

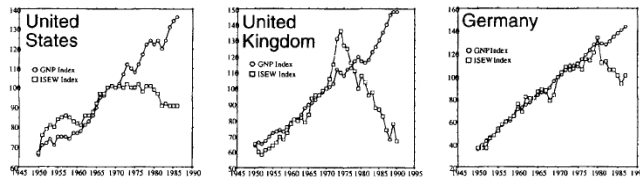
The Future

*“When it comes to the future,
there are three kinds of people:
those who let it happen, those who
make it happen, and those who
wonder what happened.”*

(John M. Richardson, Jr., American Academic, born 1938)

Economic growth and quality of life: A threshold hypothesis

"... for every society there seems to be a period in which economic growth (as conventionally measured) brings about an improvement in the quality of life, but only up to a point – the threshold point – beyond which, if there is more economic growth, quality of life may begin to deteriorate." (Max-Neef 1995; Genuine Progress Indicators GPI; Index of Sustainable Economic Welfare ISEW; Environment and Sustainable Development Indicators ESDI)



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Show field research video footage:

File name "Philippines 5":

20:30 (1min) – Typhoon belt shifted south

31:00 (1min) – Wealth accounting

File name "Philippines 8":

05:00 (1min) – Severe Tropical Storm Washi

NEWS

ONE-MINUTE WORLD NEWS

News Front Page

Page last updated at 08:35 GMT, Sunday, 27 September 2009 09:36 UK

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Filipinos swept up in river floods



At least 73 people have been killed and thousands more evacuated due to floods caused by heavy rain in the Philippines.

Philippines President Gloria Arroyo has appealed for donations of clothes, blankets, food and water.

This video begins with footage of people kept afloat by debris being swept along a river in Marikina.

MOST POPULAR VIDEO/AUDIO

EDITOR'S CHOICE

Improvements to the BBC News Website

<http://news.bbc.co.uk/2/hi/asia-pacific/8277069.stm>
<https://youtu.be/i8bUK07uJUY>



FRANCE 24

https://youtu.be/DJ_psz7d58U

“Sin problem” — “Gospel solution”

- Reconciliation requires repentance - *metanoia* - “turn-around” in attitude and behaviour (Mk 1:15)
- Repentance and reconciliation involve vertical and horizontal dimensions, i.e., God and Creation
- *Creatio ex nihilo* (looking back) — *Creatio continua* (looking ahead)

89

Creational Responsibility

- *Createes* — “wonderfully made” (Ps 139:13-14)
Creation — “very good” (Gen 1:31)
- Creational responsibility based on Gen 1:28
“Fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground.”
- God instructed to name animals (Gen 2:19-20):
Signifies paternal/maternal/parental relationship and responsibility (*pater/mater spiritualis*)

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