

Climate Change and what we should do about it A Christian perspective

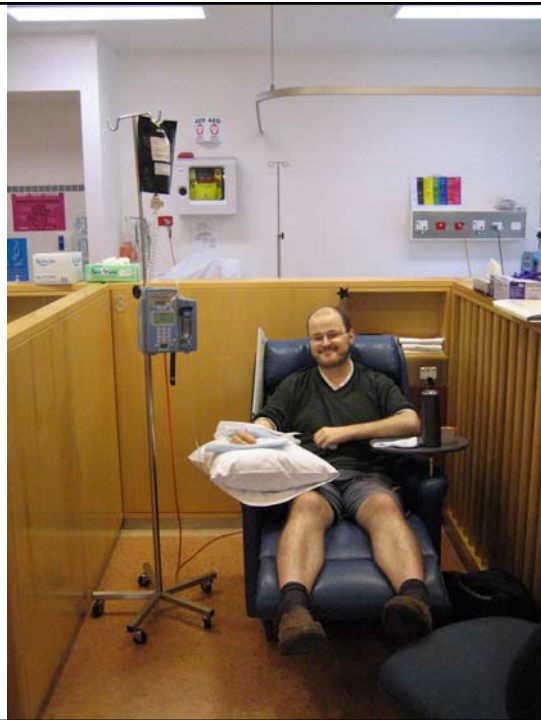
Byron Smith 2014
bg@thesmiths.id.au

The water in which we swim

- Some realities can be so ubiquitous and close to us that we no longer see them

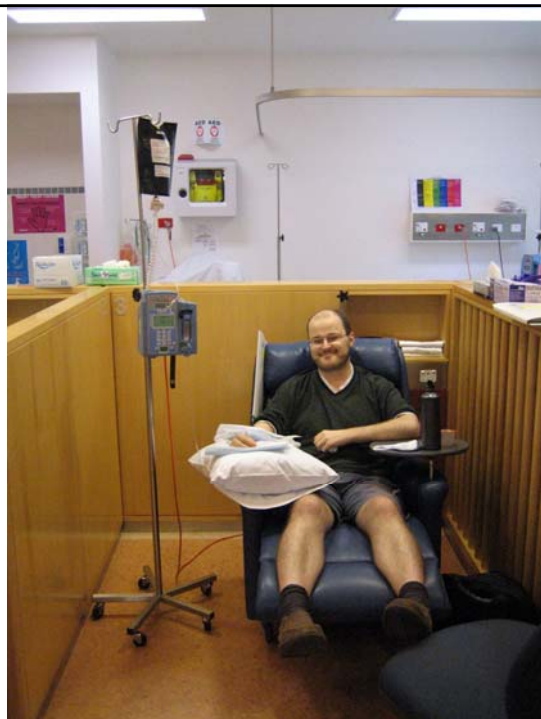
The water in which we swim

- Some realities can be so ubiquitous & close to us that we no longer see them
- Example: good health.



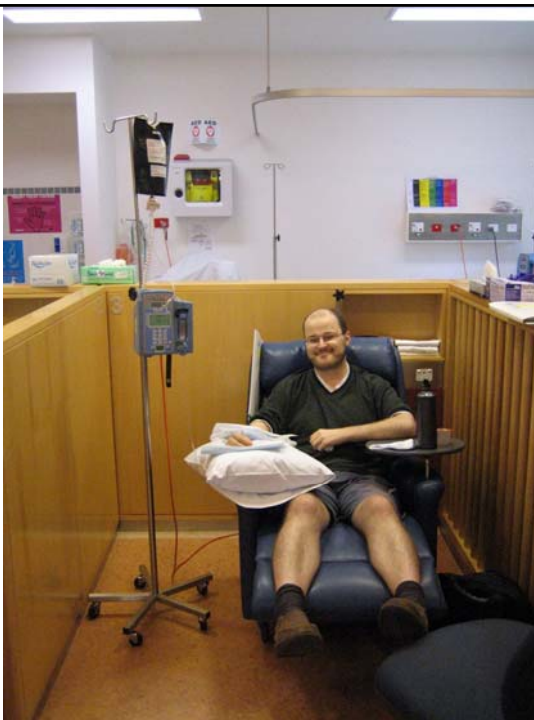
The water in which we swim

- Do I trust doctors?



The water in which we swim

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- Faced with a new reality, new decisions were required.



The water in which we swim

- Do I trust doctors?
- Faced with a new reality, new decisions were required.
- Not simply a medical problem, also a spiritual challenge.



What are the top environmental problems?

“I used to think the top environmental problems were biodiversity loss, ecosystem collapse and climate change. I thought that with thirty years of good science we could address those problems. But I was wrong. The top environmental problems are selfishness, greed and apathy, and to deal with those we need a spiritual and cultural transformation - and we scientists don't know how to do that.”

— Gus Speth, Professor of Forestry and Environmental Studies, Yale University, October 2013.

“Do not be conformed to this world,
but be transformed by the renewing of your minds.”
- Romans 12.2



Followers of Jesus have no reason to fear the truth, wherever it leads.
Followers of Jesus are used to facing uncomfortable realities.

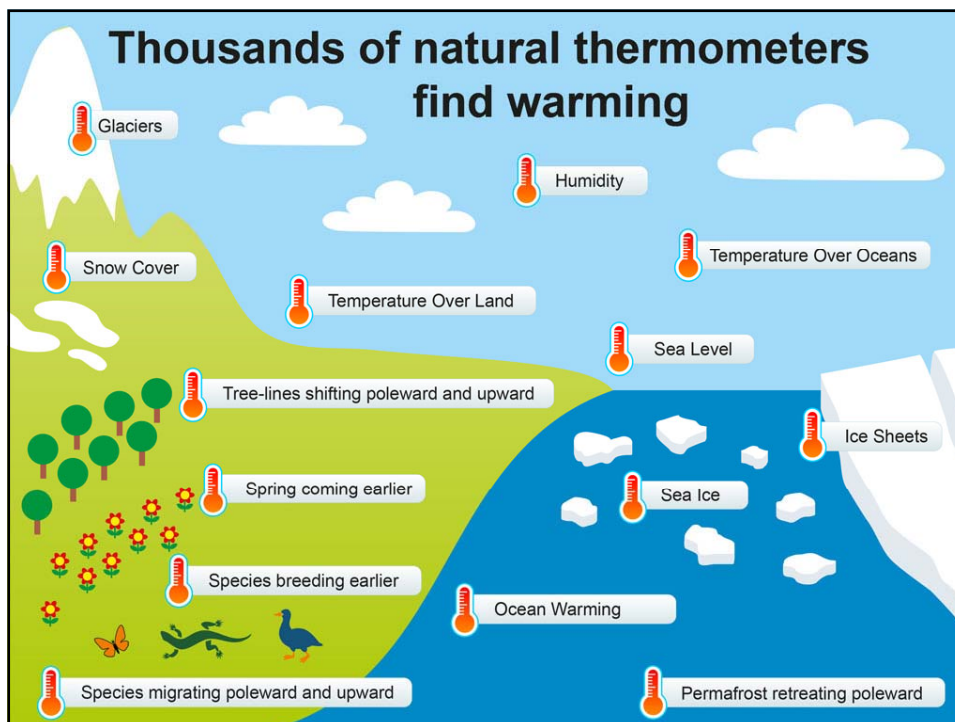
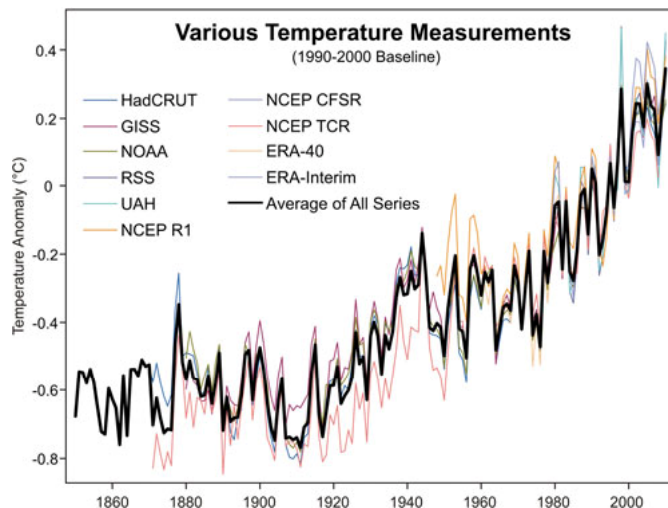
Climate change: four questions

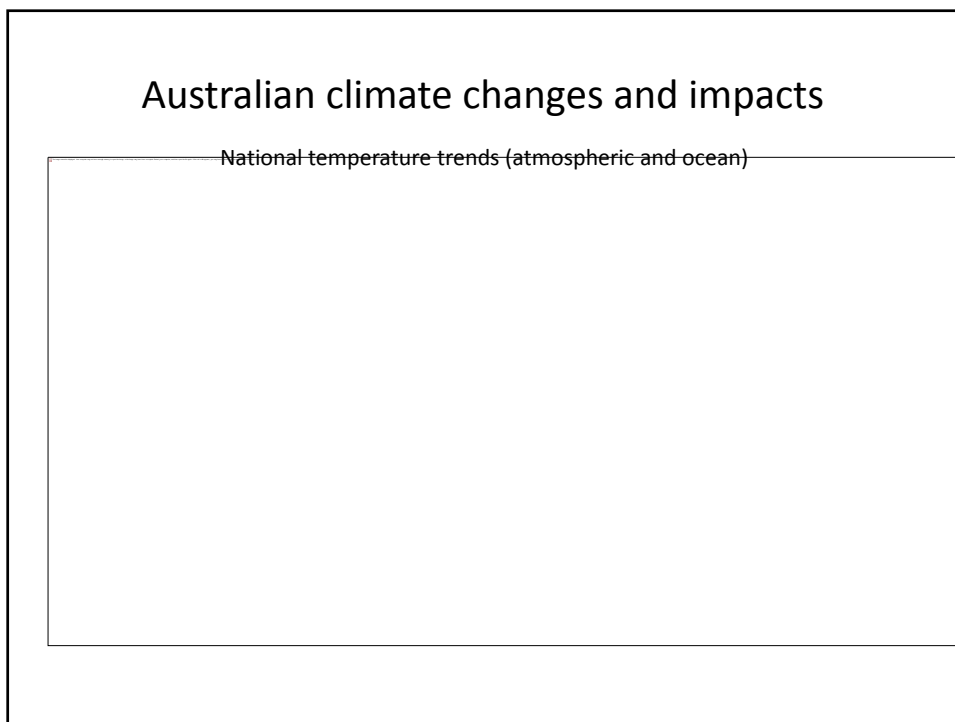
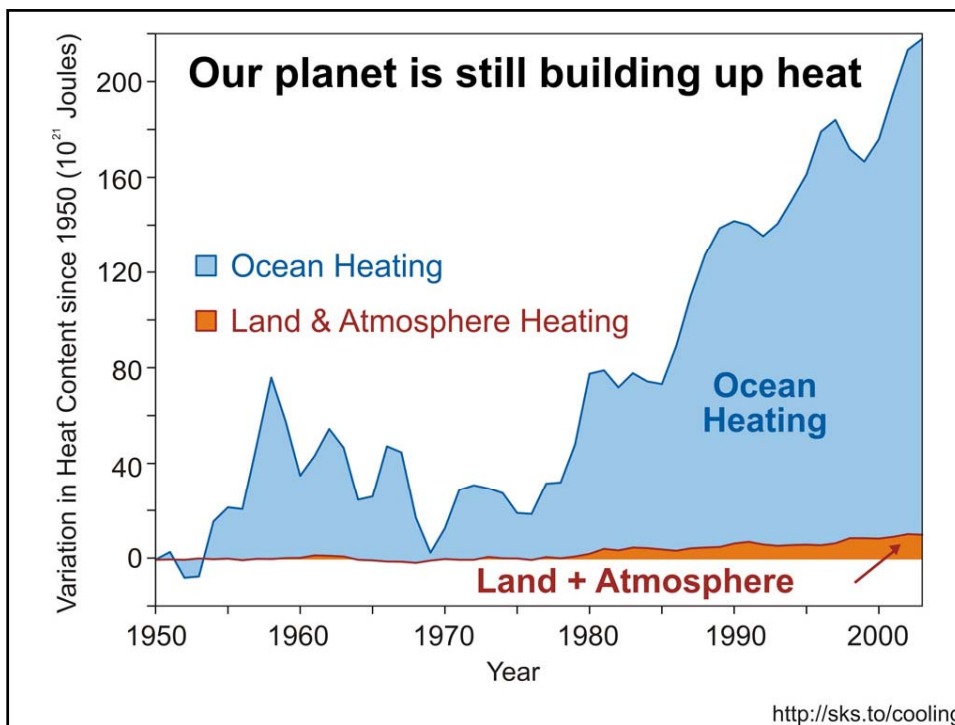
- Is it happening?
- Is it us?
- Is it bad?
- Can we do anything?

Anecdote vs Long-term Global Data

- Weather vs climate
- Local climate vs global climate
- Global climate change vs global warming

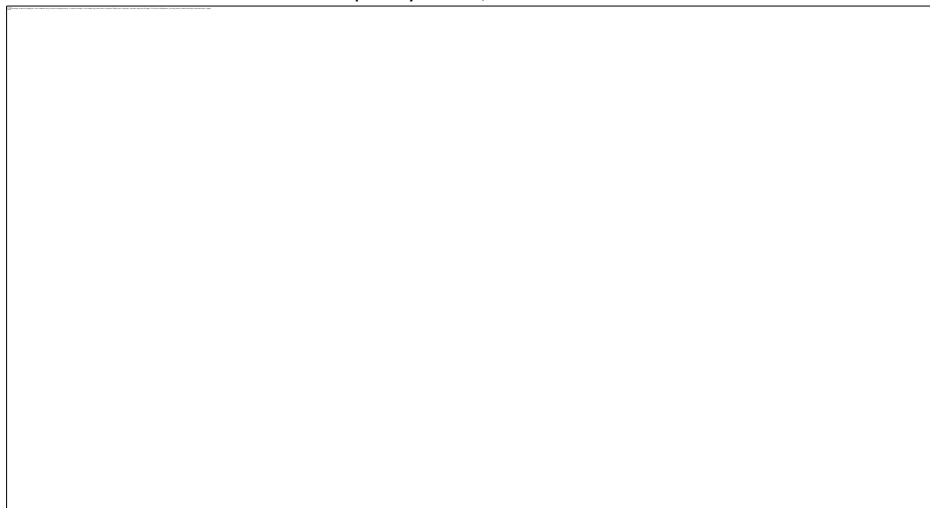
Global average surface temperature since 1850





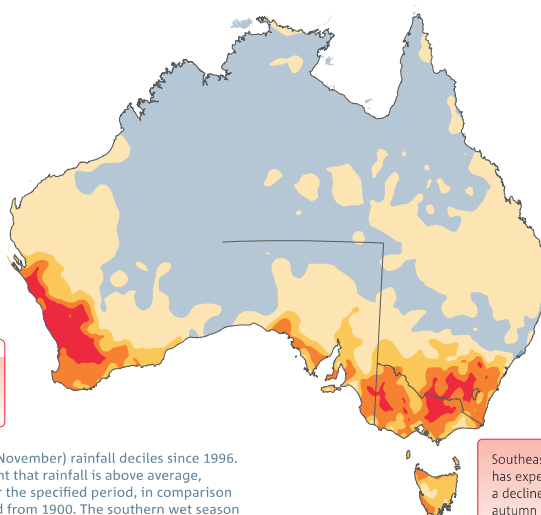
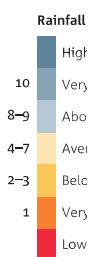
Australian climate changes and impacts

Frequency of hot/cold months



Australian climate changes and impacts

Apr-N



Rainfall in the southwest of Western Australia has been very much below average to lowest on record.

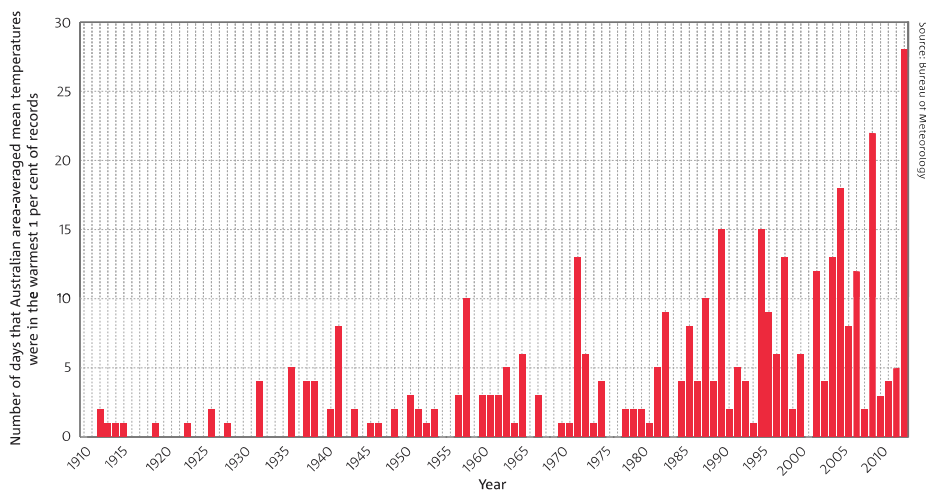
Southern wet season (April–November) rainfall deciles since 1996. A decile map shows the extent that rainfall is above average, average or below average for the specified period, in comparison with the entire rainfall record from 1900. The southern wet season is defined as April to November by the Bureau of Meteorology.

Southeast Australia has experienced a decline in late autumn and early winter rainfall since the mid-1990s.

Source: Bureau of Meteorology

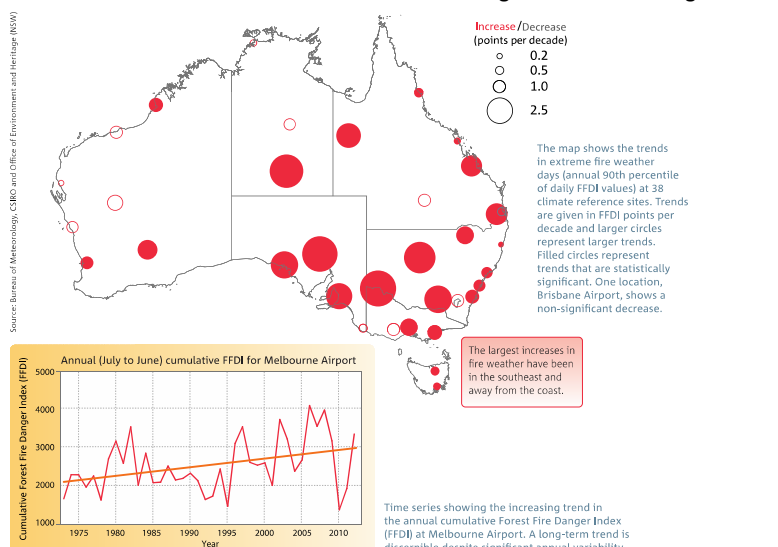
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Frequency of very hot days (top 1%)



Australian climate changes and impacts

Changes to bushfire danger index



Is it us?

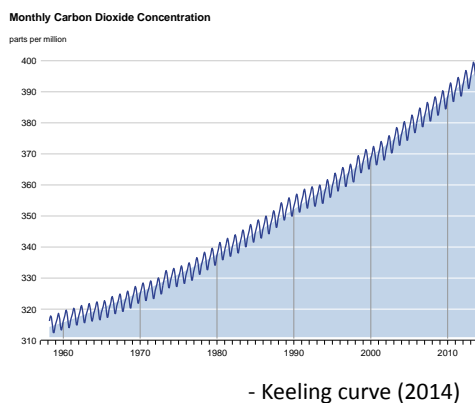
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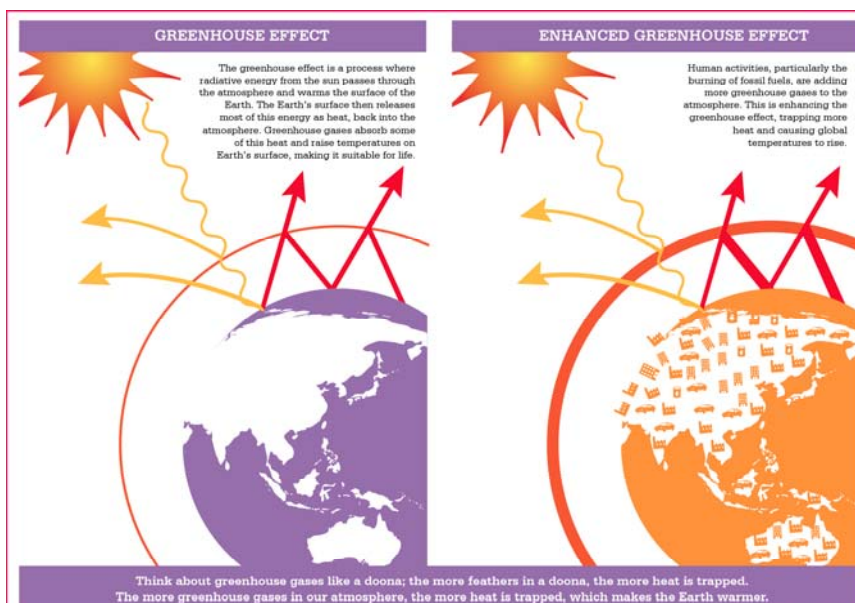
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Is it us? The Greenhouse Effect



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- We have known for 150 years that GHGs trap incoming solar radiation like a blanket and for 60 years that our emissions are increasing atmosphere concentrations of carbon dioxide (CO₂).
- We understand and have been carefully measuring the other major contributors to planetary energy balance: solar variation, orbital cycles, volcanoes and aerosols.

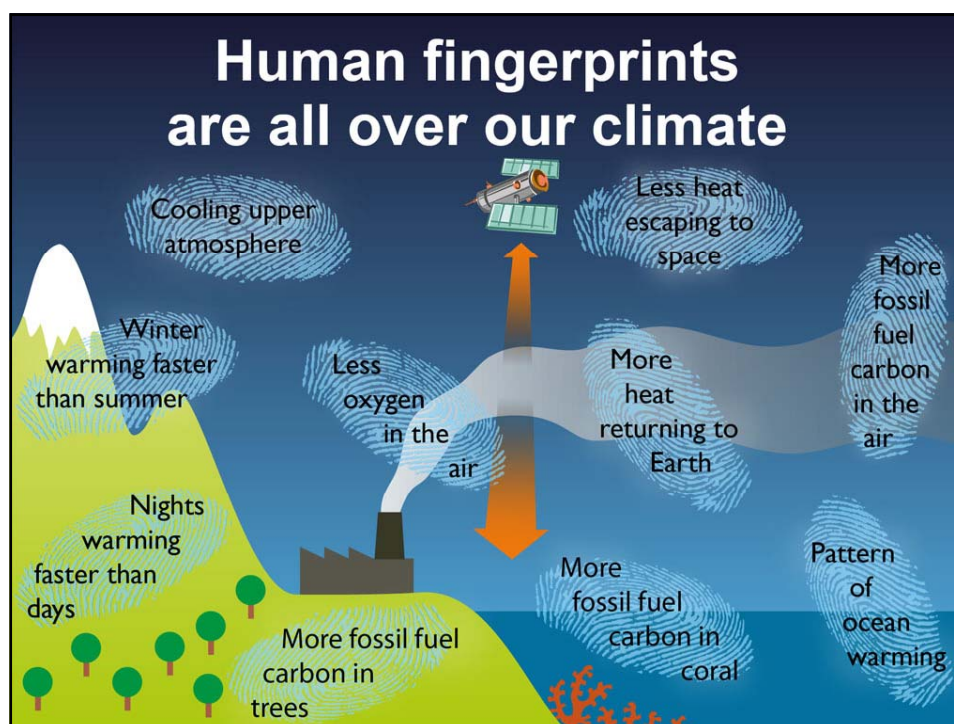
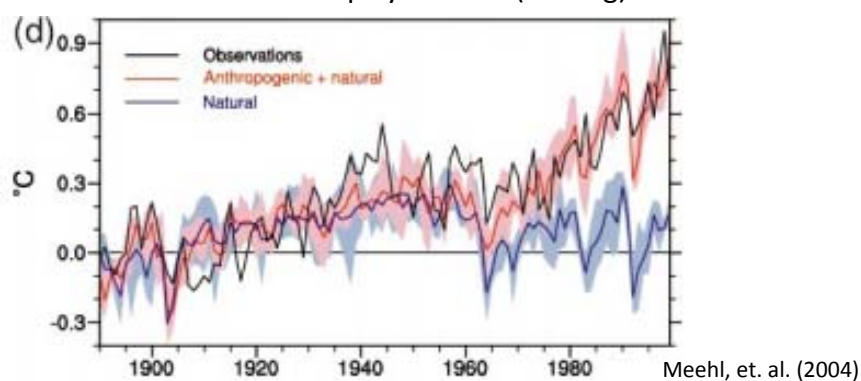
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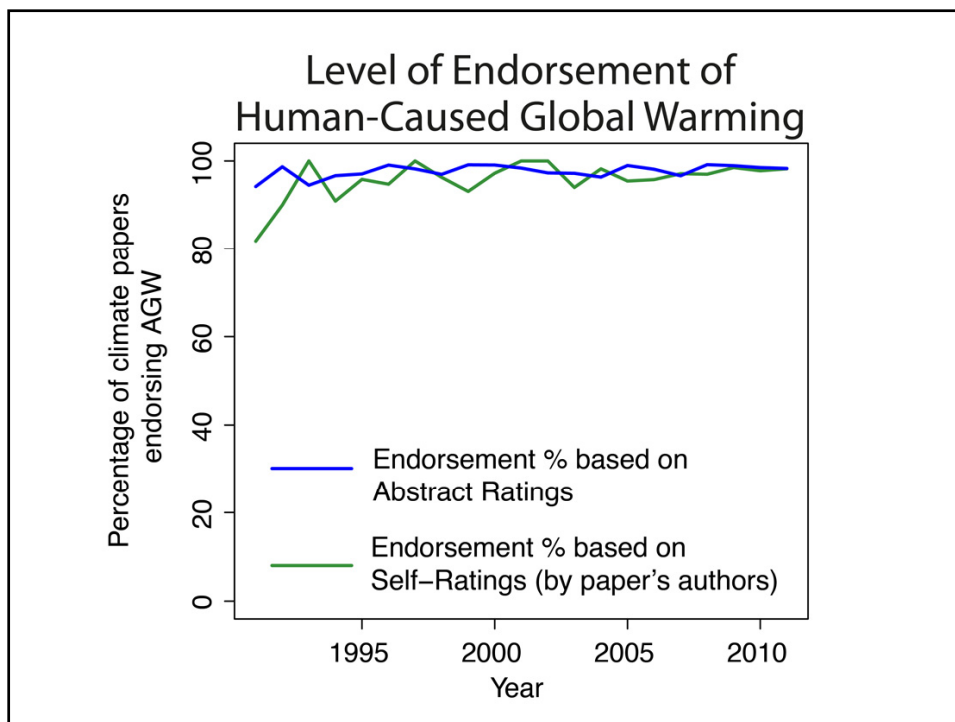
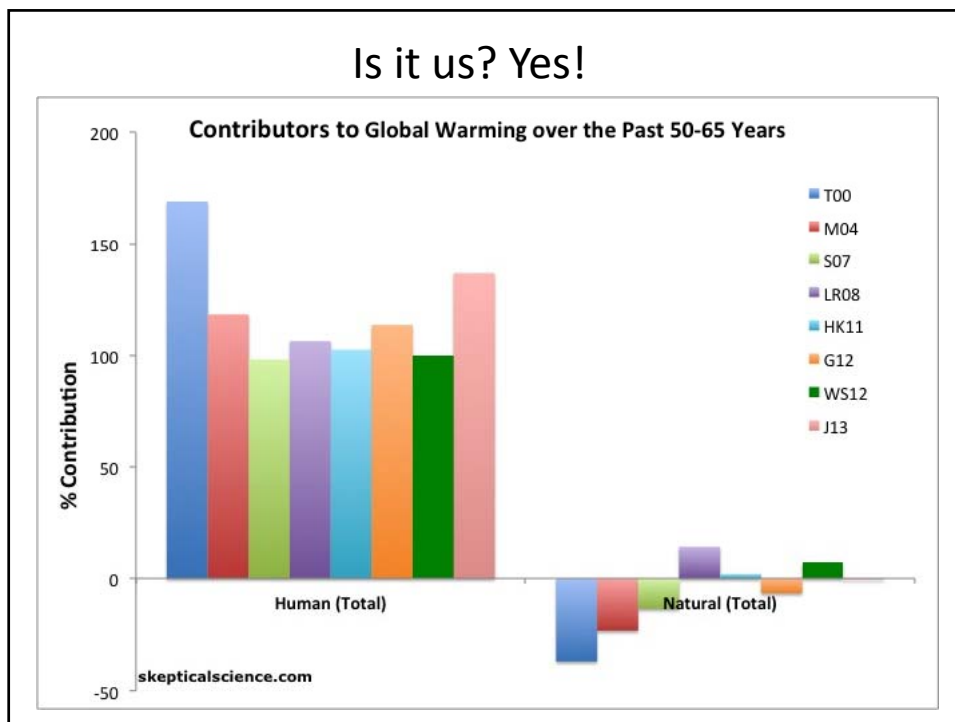
- All other suggested causes of recently observed warming are insufficient to explain observed warming.

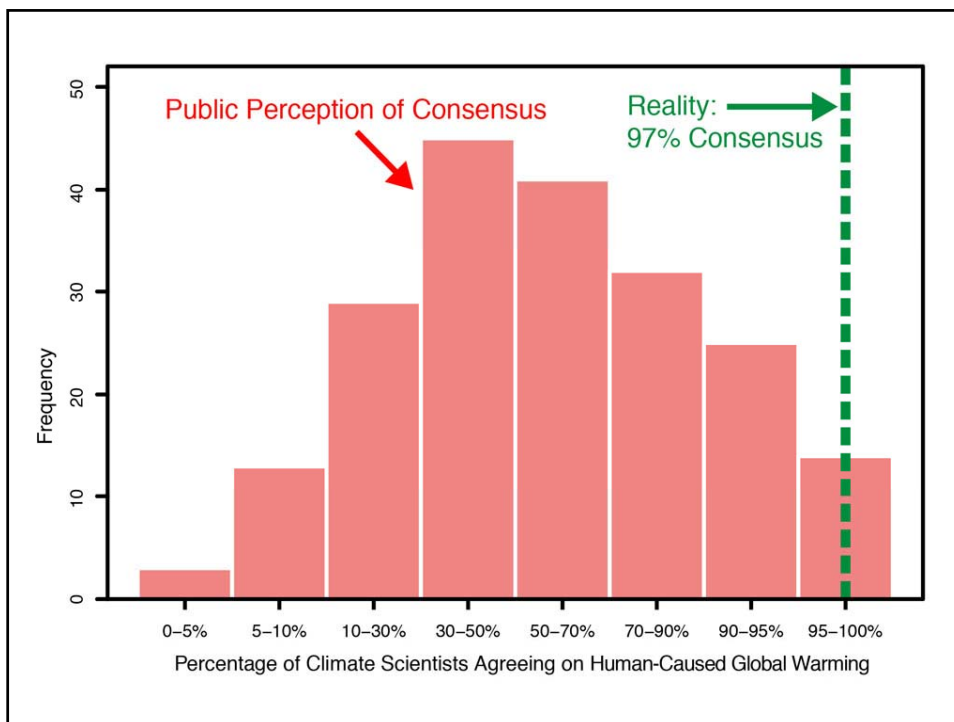
Meehl, et. al. (2004)

Is it us?

- All other suggested causes of recently observed warming are insufficient to explain observed warming.
- Only when we include human emissions of GHGs do models match observed warming (and other patterns in the data). Natural variation has continued to play a minor (cooling) role.







HELP CLOSE THE CONSENSUS GAP

THE PUBLIC PERCEPTION

45%

THINK THERE IS
SCIENTIFIC AGREEMENT
ON AGW

THE SCIENTIFIC AGREEMENT

97%

OF CLIMATE SCIENTISTS
ACTUALLY AGREE
ON AGW

When people don't realize there's a scientific consensus, they're less likely to support climate action. This underscores the importance of closing the consensus gap.

TheConsensusProject.com

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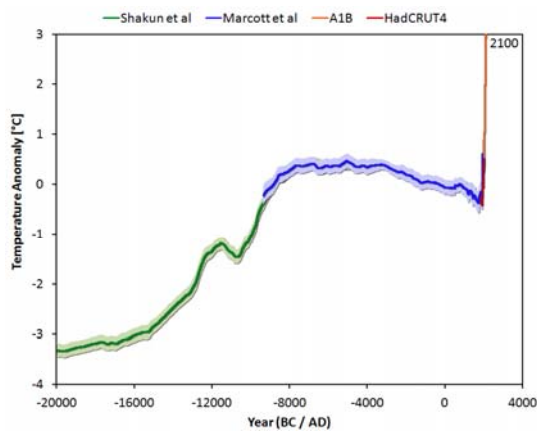
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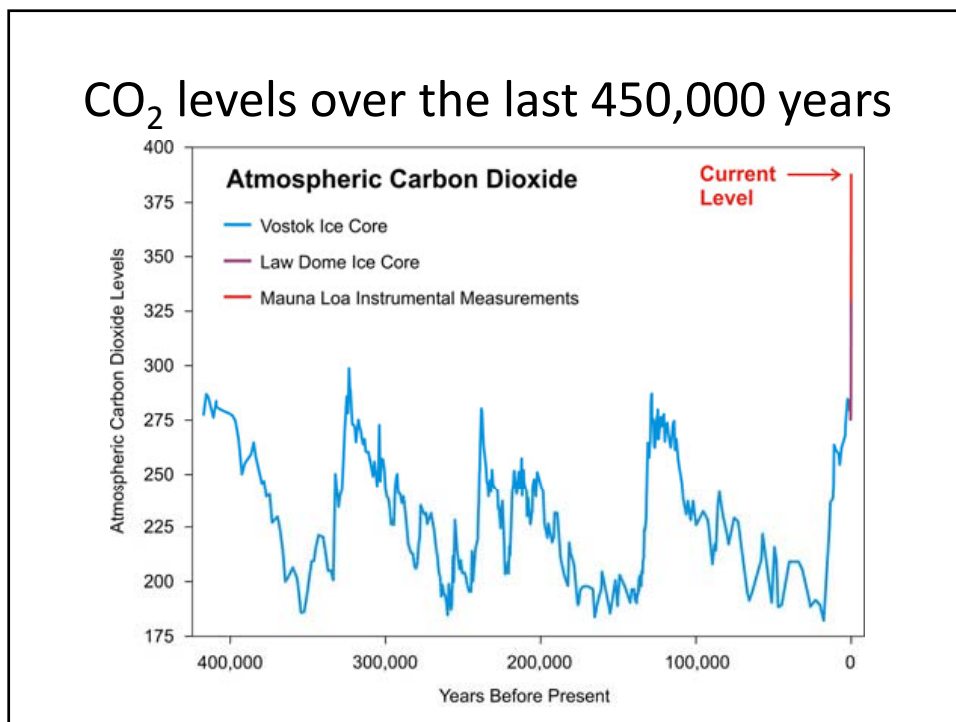
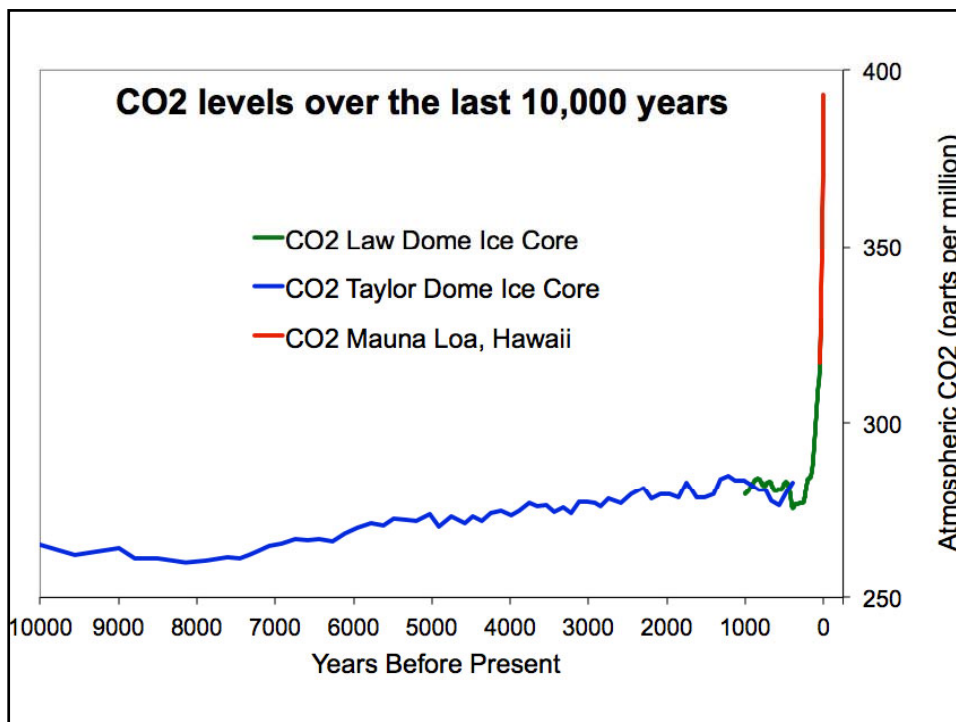
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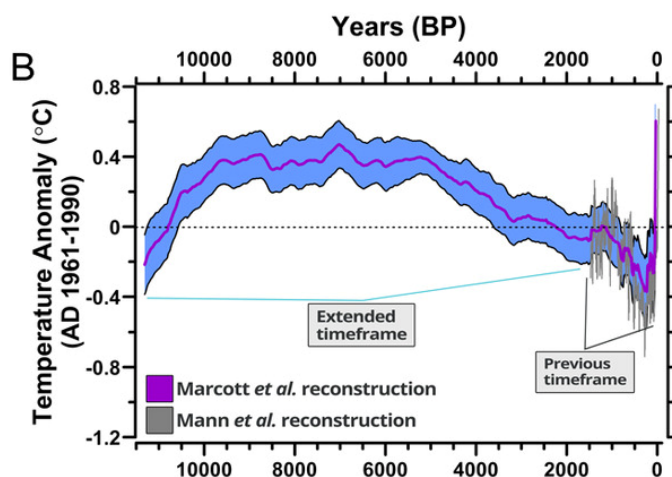
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Global average surface temperatures over the last 22,000 years





Global average surface temperatures over the last 10,000 years



Is it bad? Climate futures: impacts

Physical impacts:

- Heatwaves
- Hydrological cycle intensification: Drought and floods
- Cryosphere decline: Permafrost thaw, glacial melt, sea ice decline, ice sheet decline

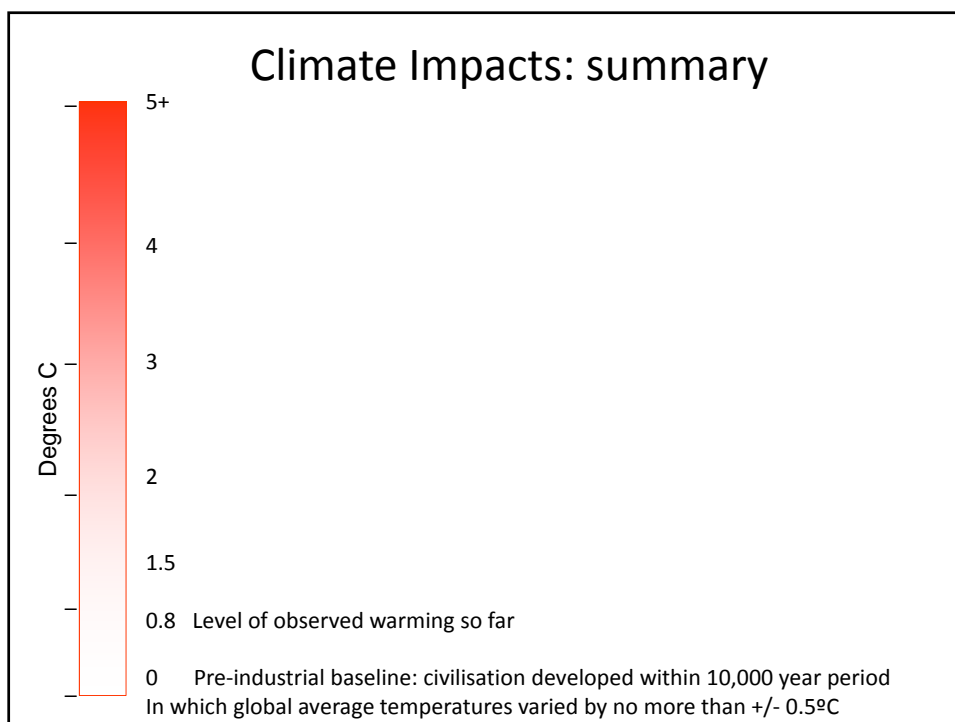
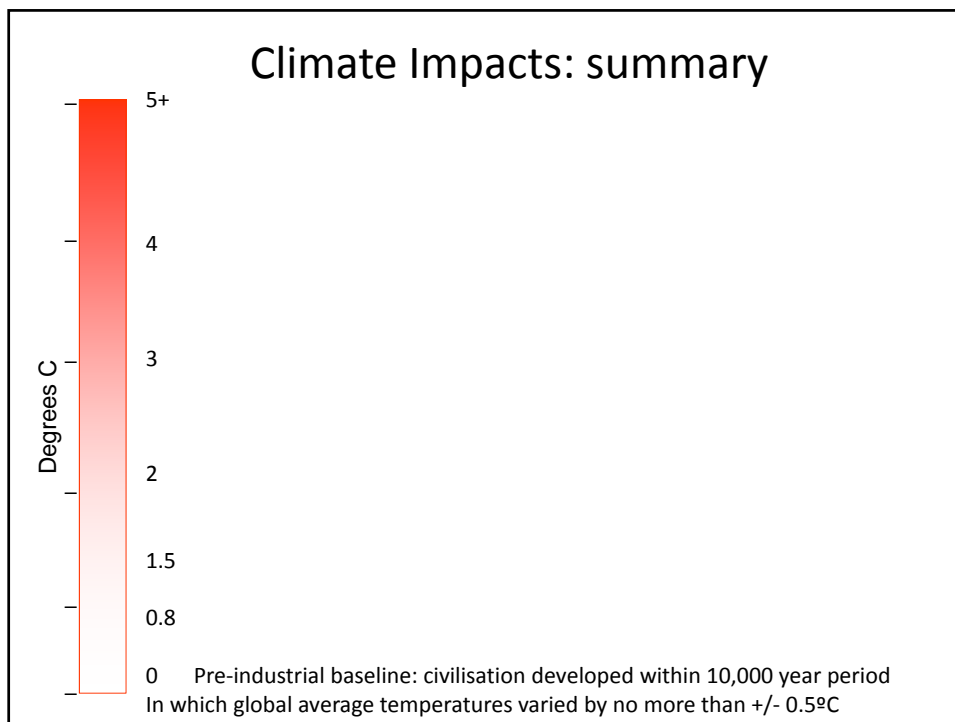
- Sea level rise

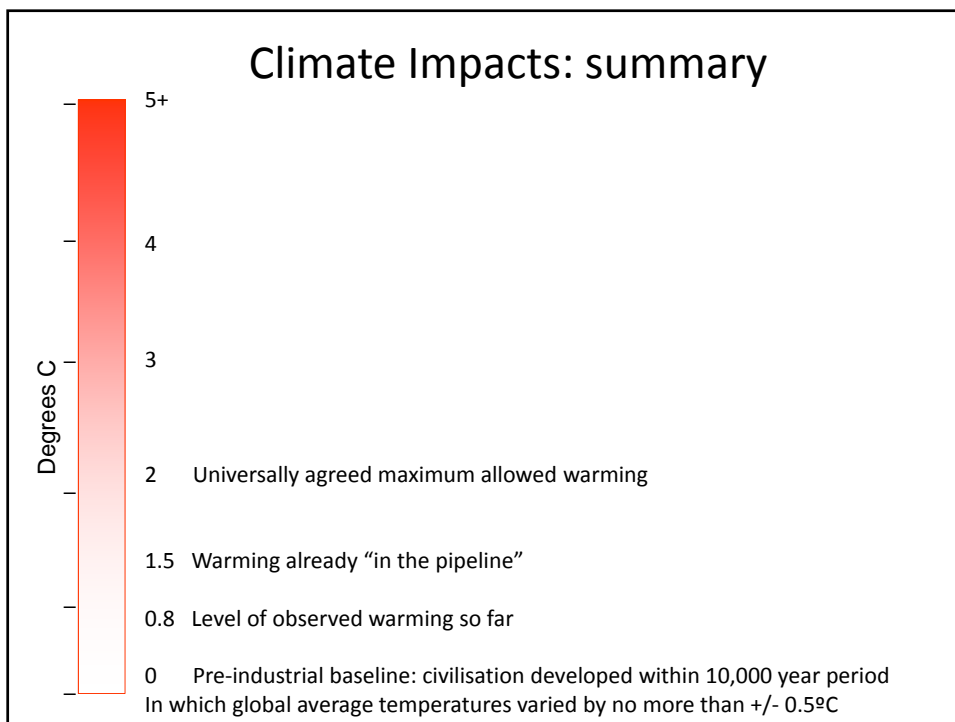
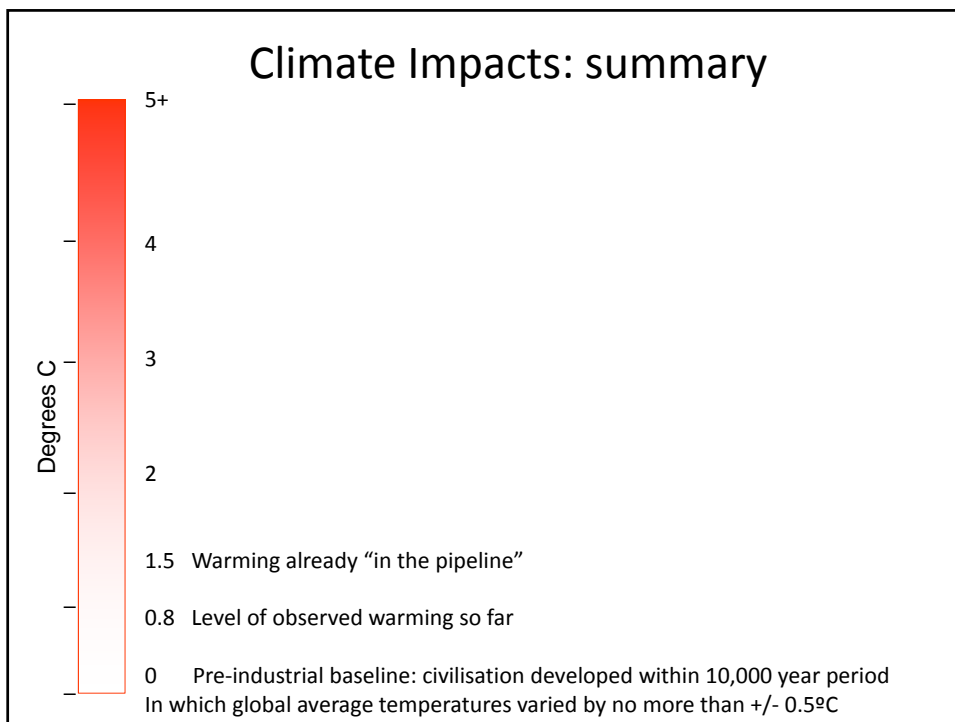
Social impacts:

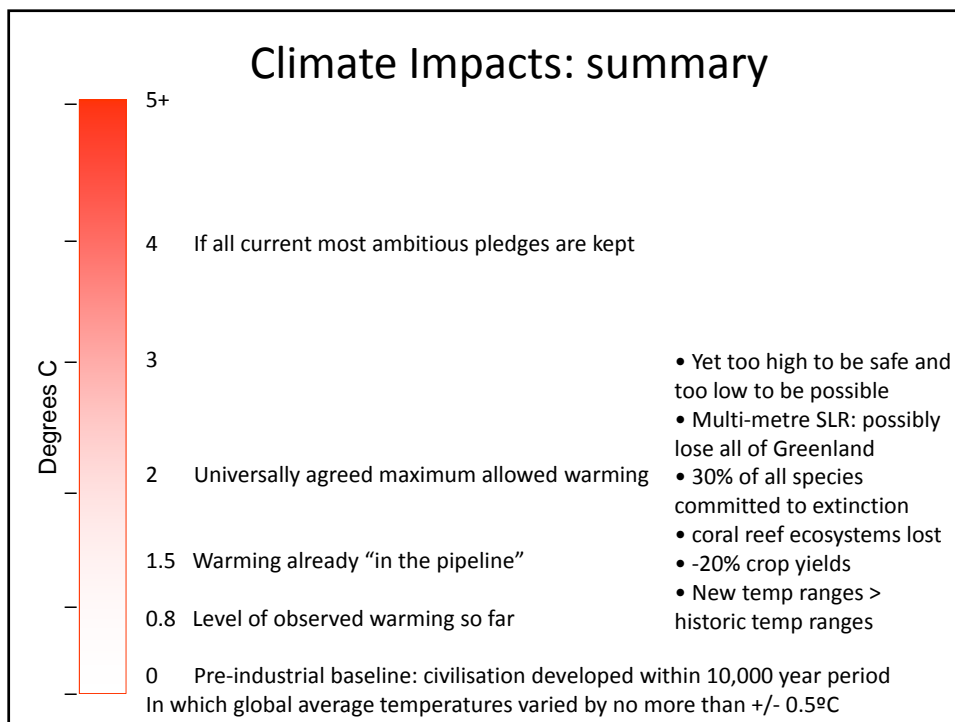
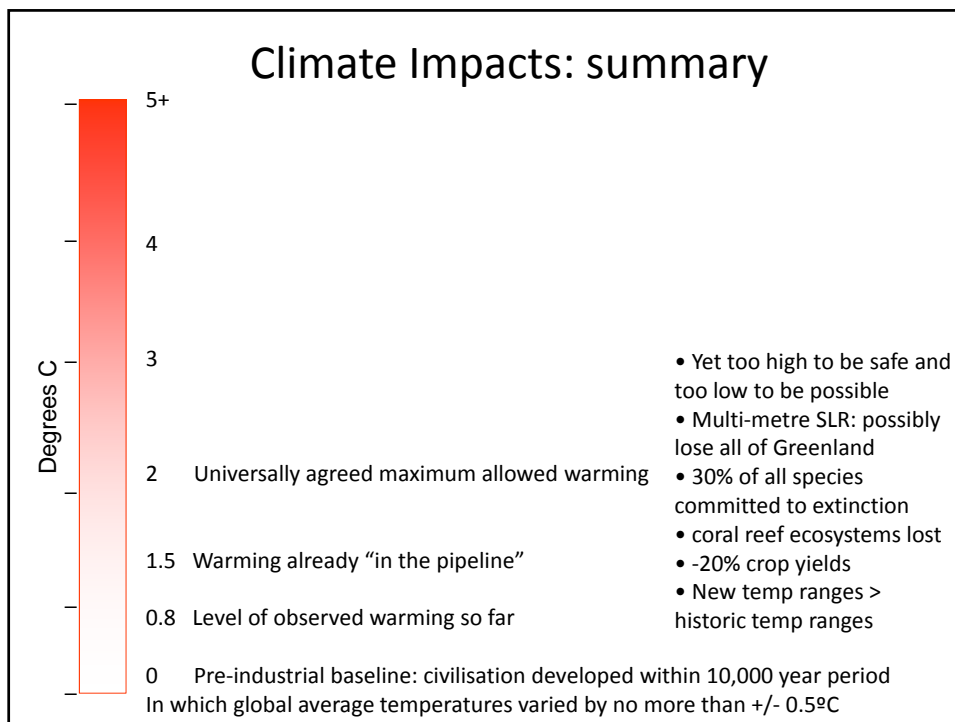
- Agricultural systems: heat tolerance, water availability, pest/disease vectors
- Economic impacts: infrastructure vulnerability, ecosystem service losses, disaster costs, productivity losses
- Public health impacts
- Cultural impacts (low lying islands)
- Geopolitical impacts (migration; Arab Spring)

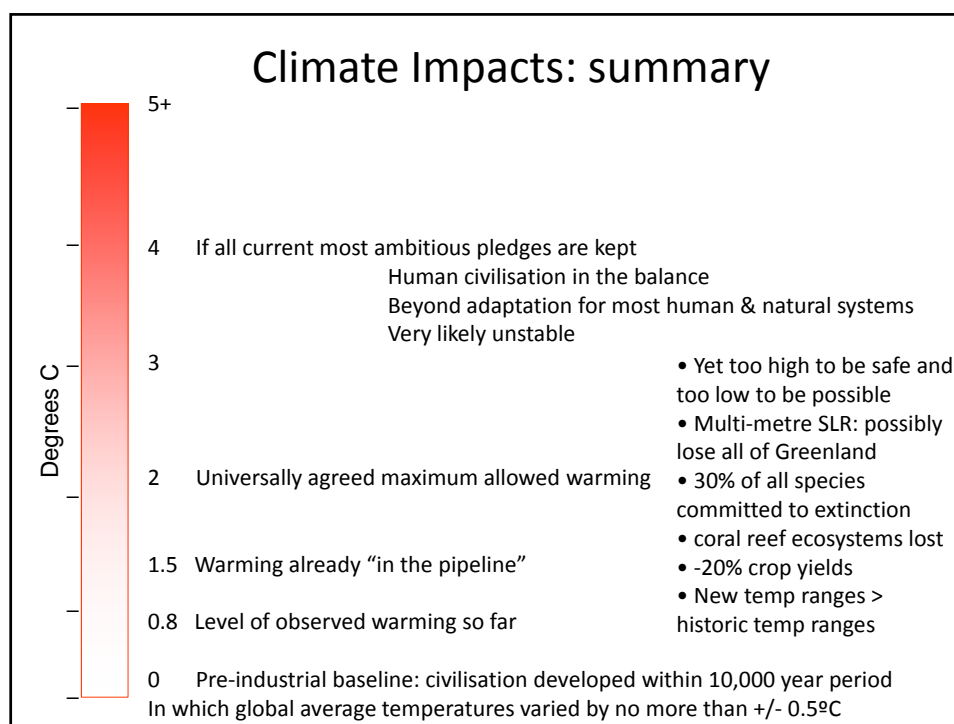
Ecosystem impacts:

- Ecosystem change
- Biodiversity decline
- Abrupt and/or non-linear changes: thresholds, feedbacks and tipping points









Four degrees?

"A 4 degrees C future is incompatible with an organized global community, is likely to be beyond 'adaptation', is devastating to the majority of ecosystems, and has a high probability of not being stable."

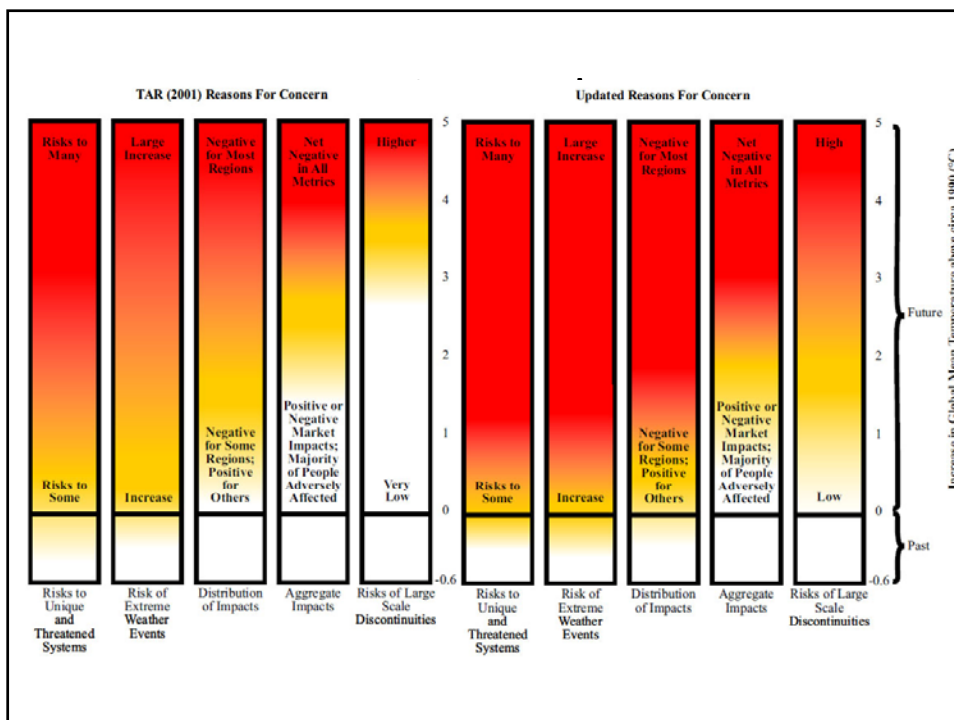
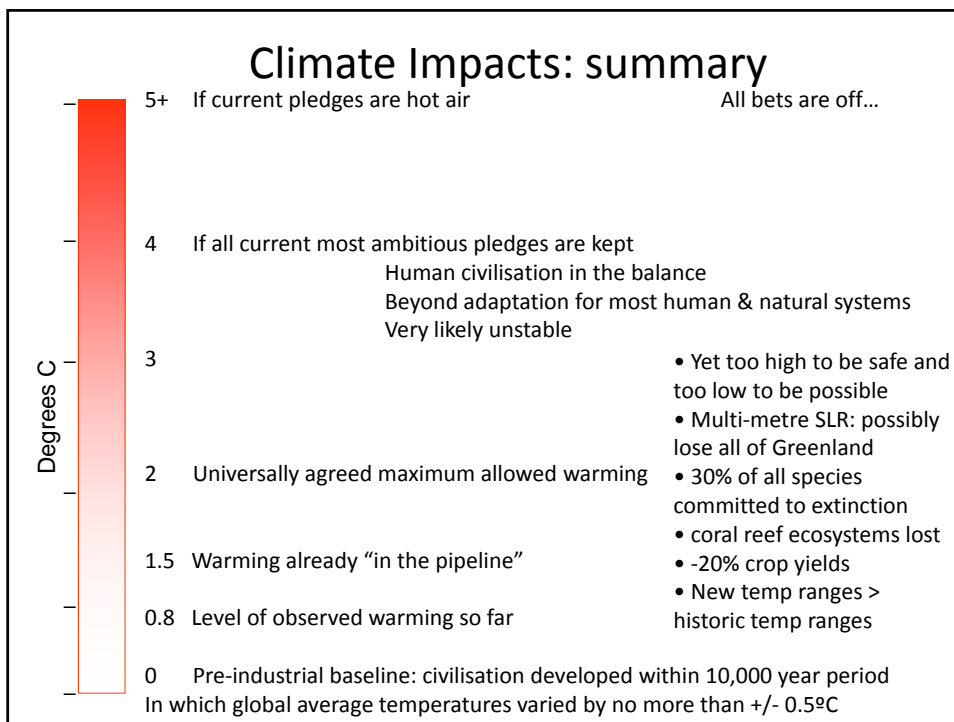
- Professor Kevin Anderson, until recently the director of the U.K.'s leading climate research institution, the Tyndall Energy Program, 2011

"What is the difference between two degrees [of temperature increase] and four degrees? The difference, is human civilisation. [...] On a four degree world The planet's carrying capacity estimates [are] below one billion people."

- Professor Hans Joachim Schellnhuber, Chair of the German Scientific Advisory Council, advisor to the German Chancellor Angela Merkel and Director of the Potsdam Institute for Climate Impact Research, 2009

"The impacts of the extreme heat waves projected for a 4°C world have not been evaluated, but they could be expected to vastly exceed the consequences experienced to date and potentially exceed the adaptive capacities of many societies and natural Systems. [...] Thus, given that uncertainty remains about the full nature and scale of impacts, there is also no certainty that adaptation to a 4°C world is possible."

- World Bank, "Turn Down the Heat: Why a +4°C World Must Be Avoided" 2013



Can we do anything?

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- Key: Leaving most (>80%) fossil fuel reserves in the ground, which will require cutting our carbon footprint by >90% in a matter of decades at most.
- Two problems:
 - Where will our energy come from? Technical
 - How can we change? Political, economic, cultural, ethical, spiritual

Can we do anything?

- Large changes required at cultural, economic, infrastructural, behavioural and political levels.

Can we do anything?

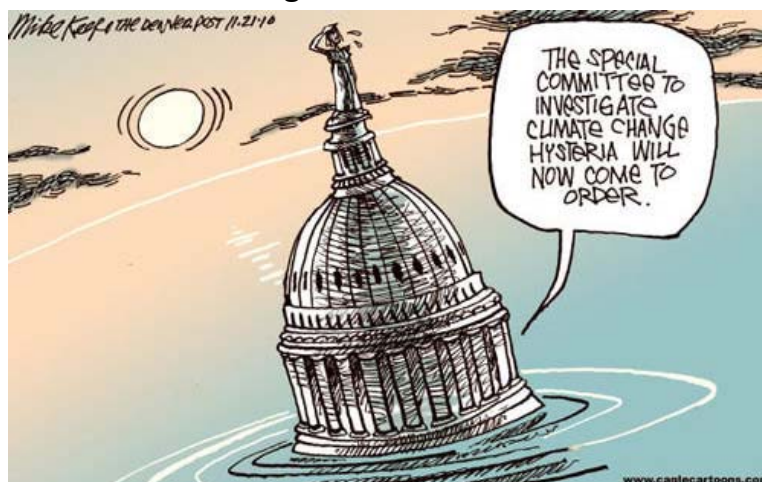
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- Technically feasible: alternative, clean smart energy sources exist for everyone to live a flourishing life. For example, the sunlight falling on the earth each hour is the equivalent of total annual human energy demand.

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- Adapting to smaller, slower changes is possible.

Can we do anything? Yes

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- General population largely confused and apathetic
- Huge political, economic and infrastructural inertia

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- Changes are inevitable: which will we choose?

There are now no non-radical options

“It's common, among certain of our allies, to try to avoid seeming like radicals by reassuring people that a sustainable world won't be all that different from the world we live in now. It's time for us to stop saying that.

“It's time for us to stop saying that because it's not true: the kind of world we will be building will have to include what are, from today's perspective, some truly massive changes. We won't be living the same way in a couple decades, either because we've undergone some relatively profound transformations, or because the consequences of failing to change our ways will be coming home to roost in a series of utterly predictable disasters.”

- Alex Steffen, founding editor of Worldchanging.com

Can we do anything? Yes

- Good news: Repentance is possible
- Many co-benefits
- Historical analogy: WWII-scale mobilisation
- Changes are inevitable: which will we choose?
- The true radicals: why I am a climate conservative

Climate change: four questions

- Is it happening?
- Is it us?
- Is it bad?
- Can we do anything?

Climate change: four answers

- Is it happening? Yes
- Is it us? Yes
- Is it bad? Yes
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BGS1

Australia's oversized role: no bit player

- Highest per capita carbon footprint in the OECD
(excluding exports)
- 5th largest extractor of fossil fuels (not per capita) – behind China, USA, Russia and Saudi Arabia.
- Australia is the Saudi Arabia of coal: CO₂ from current coal exports double domestic emissions
- Plans to double fossil carbon extraction in coming decades
- Least ambitious 2020 emissions reduction target of all developed nations: - 0.5% from 1990. New government indicated this is a soft target and independent analyses expect current policy to fail by a wide margin.

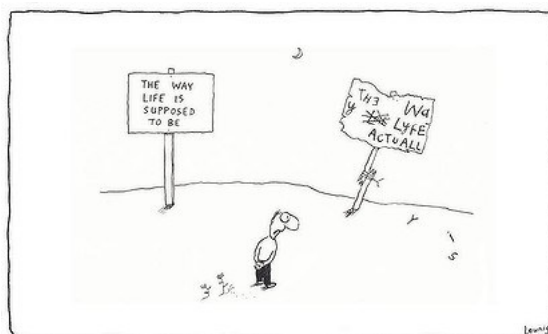
Yet Australia could lead

- Wealthy
- Huge renewable resources (image of land area required to power world with solar)
- A future beyond digging holes

Common emotional responses

- Fear/anxiety
- Guilt
- Anger
- Sadness
- Helplessness

Grief



Maladaptive Coping Strategies vs Good Grief

- Denial: identity-protective cognition
- Disavowal: accept facts, deny implications
- Disengagement: apathy is the mask
of unresolved grief
- Distraction: blame shifting; tokenism; other
good things
- Desperation: survivalism; techno-fix; eco-terrorism
- Despair: paralysis

Good grief

“We do not grieve as those who have no hope”

→ Delight and gratitude: the ground of good grieving

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→ Honesty: with ourselves and one another
– the truth will set us free

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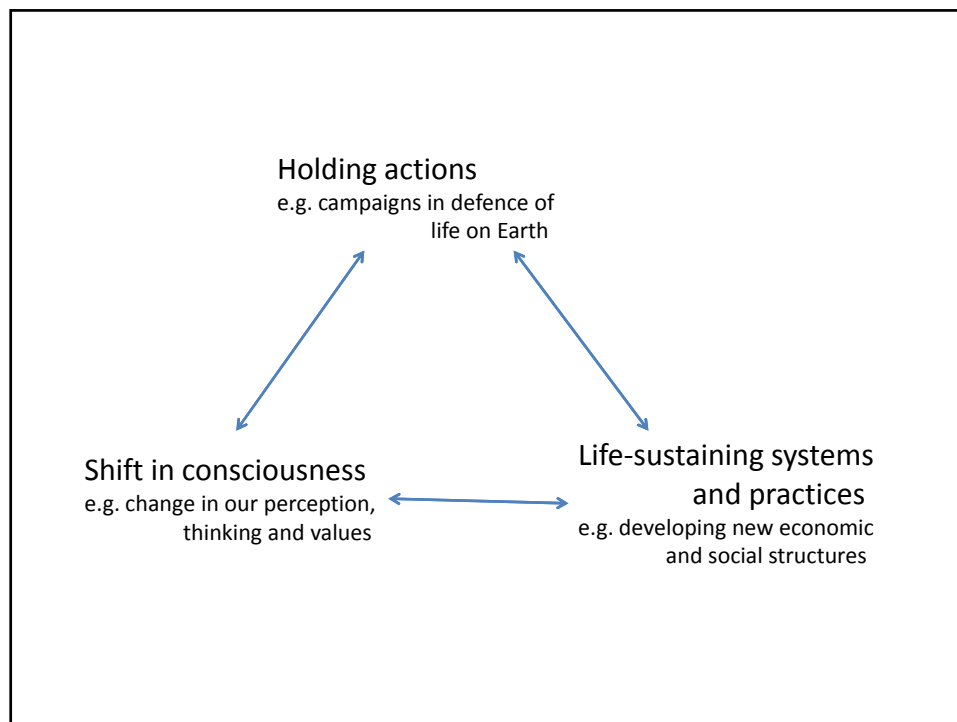
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- Hope: the promise of new life in the deadliest of ends

Christians and climate

- Loving the Creator or participating in de-creation?

Christians and climate

- Loving the Creator or participating in de-creation?
- Loving our neighbour
 - More neighbours than ever before
 - Those most vulnerable have done little or nothing to contribute:
 - a. Global poor
 - b. Future generations
 - c. Other species



Challenging dominant cultural narratives

Climate crisis as a teachable moment amidst cultural narratives in jeopardy

- Identity in consumerism
- Justice through endless growth
- Freedom of benevolent greed
- Security through pursuit of national interest
- Hope in the myth of progress

Challenging dominant cultural narratives

Gospel alternatives

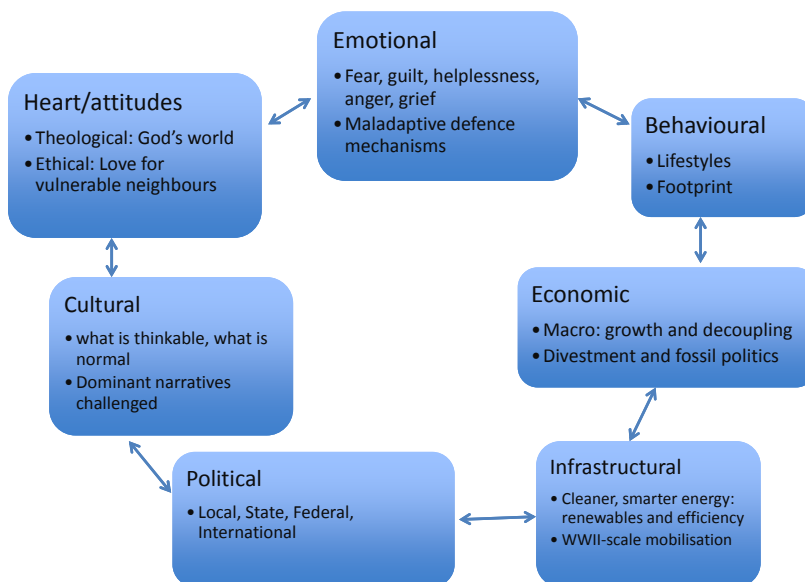
- Identity through faith in crucified Lord
- Justice in the cross
- Freedom in loving service
- Security in promised resurrection
- Hope in a renewal of all things

Three steps

- Learn: find reputable sources
- Simplify: good for the planet and for your soul
- Divest: why profit from destruction?



Responding to our Climate Predicament



Weather vs Climate

- "It's hot/cold outside. That proves/disproves global warming."

Weather vs Climate

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Weather vs Climate

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- Climate = long term (30+ yr) averages

Climate change: weather on steroids

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- Same with weather and climate. Our steroids are greenhouse gases.

Why do maladaptive responses proliferate?

- Invisible, abstract, distant, impersonal, highly complex threat: perfectly designed to fly under our radar.
- Misinformation campaign from powerful vested interests: *Merchants of Doubt*.
- A political system that is corrupted by vested interests and political/business systems that are systemically myopic.
- The changes strike at the heart of some of the most powerful stories we tell ourselves. We don't want to have to give them up.
- Scale of the problem can make our efforts seem insignificant. We like to feel in control. But here, we are firmly all in the hands of one another at a global level.

Common Christian excuses

- God won't let it get too bad. But Western Roman Empire.
- God will end the world, not us. But we're not talking about the end of the world, just the end of the world as we know it.
- God is going to destroy the world anyway. But our hope is for the renewal of all things and the resurrection of the body.
- Humans are too puny; it is arrogance to think we can change a planet. But it is arrogant to think we understand our own capacities to effect change without looking at the evidence; true humility means paying attention to how things actually are, not how we'd like them to be.
- This will distract us from the gospel. But paying attention to these issues takes us into the heart of faith in a good Creator, love for our neighbours and hope in the face of dark days ahead.
- Dominion as domination – creation entirely subordinated to human projects. But the one whose rule we are to image was a servant king; and our dominion comes from within a broader picture of solidarity as a member of the community of creation.