#### **Big Questions - Any Answers?**

Giving a Christian perspective on topical science issues



NorthEast

CALL TO ACTION
on global poverty and climate change

(Make Poverty History North East)



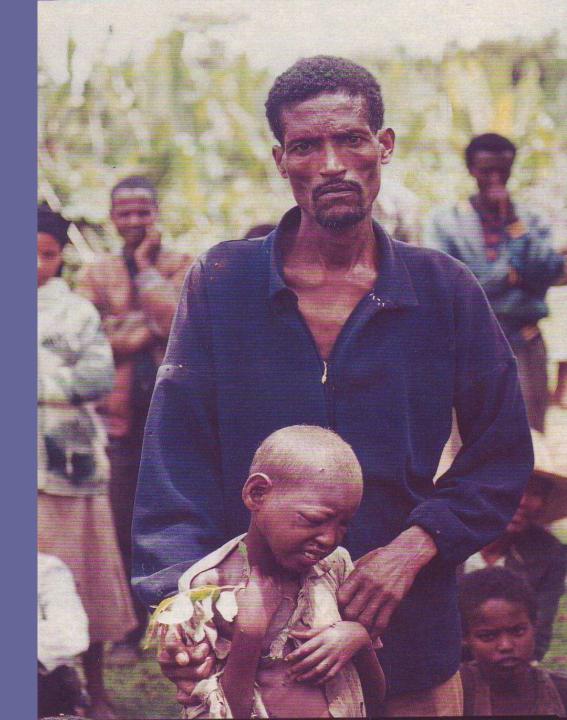
# "Climate Change – Is it real? And does it matter?"

Dr David Golding CBE
Associate, Institute for Sustainability
Newcastle University





Zewdie Tamirat attempts a smile for the cameraman.



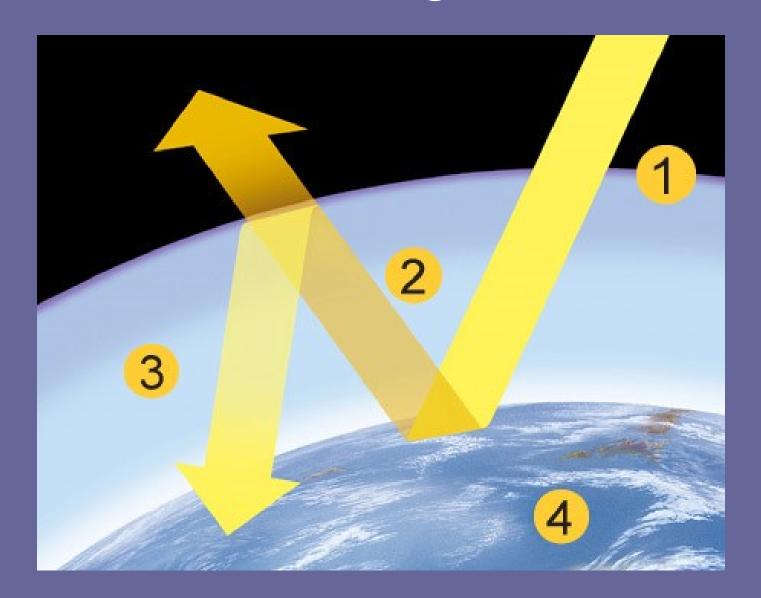
# "Climate Change – Is it real? And does it matter?"

# a) The strength of the scientific consensus

# "Climate Change — Is it real? And does it matter?"

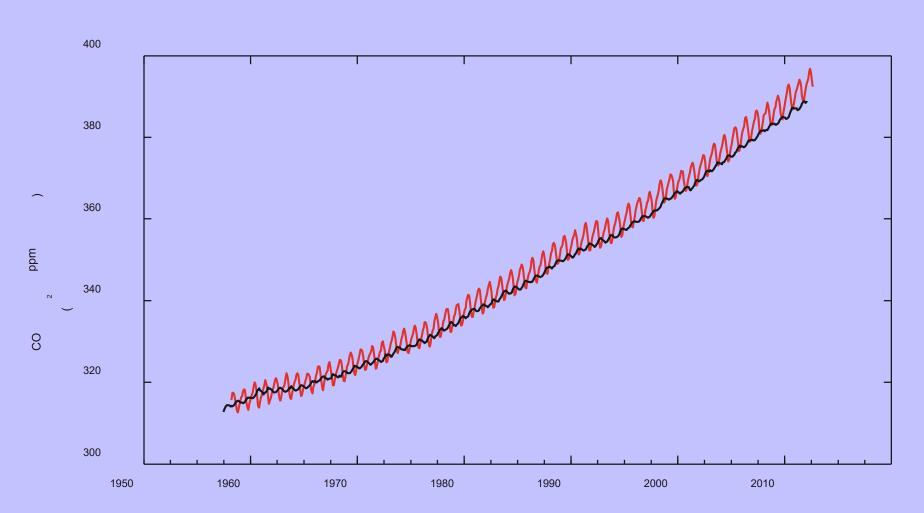
b) The basis for the consensus"

## Greenhouse gas effect

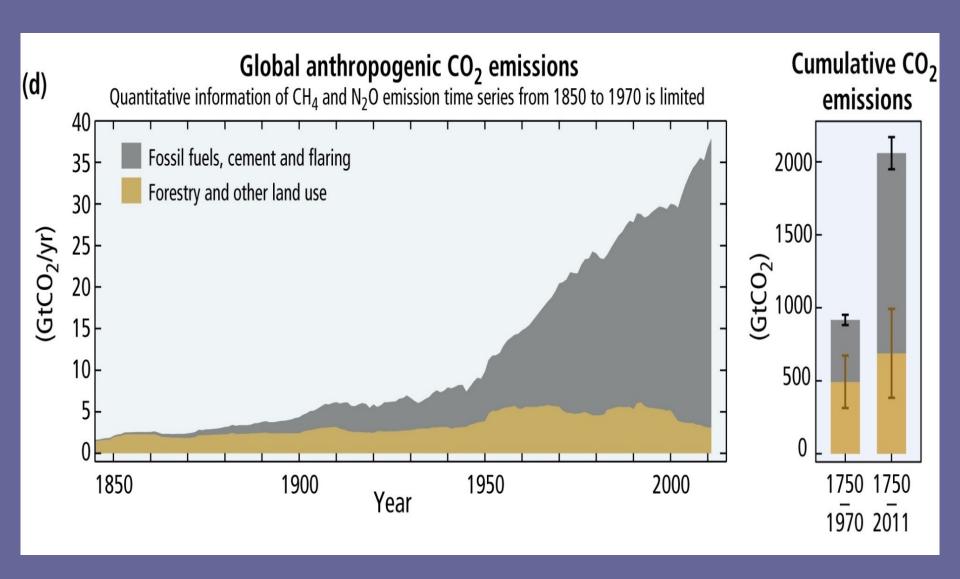


# Rise in atmospheric CO<sub>2</sub> concentration (ppm)

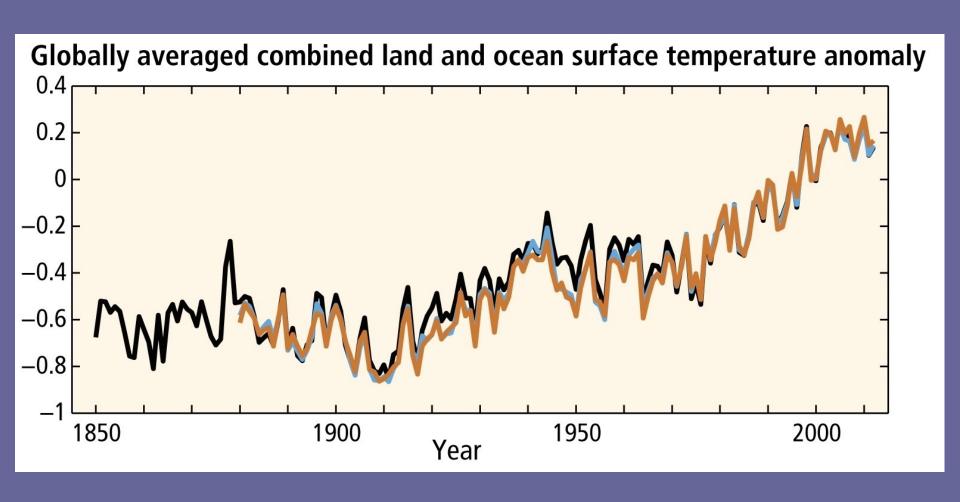
- from <320 in 1958 to >390 in 2014



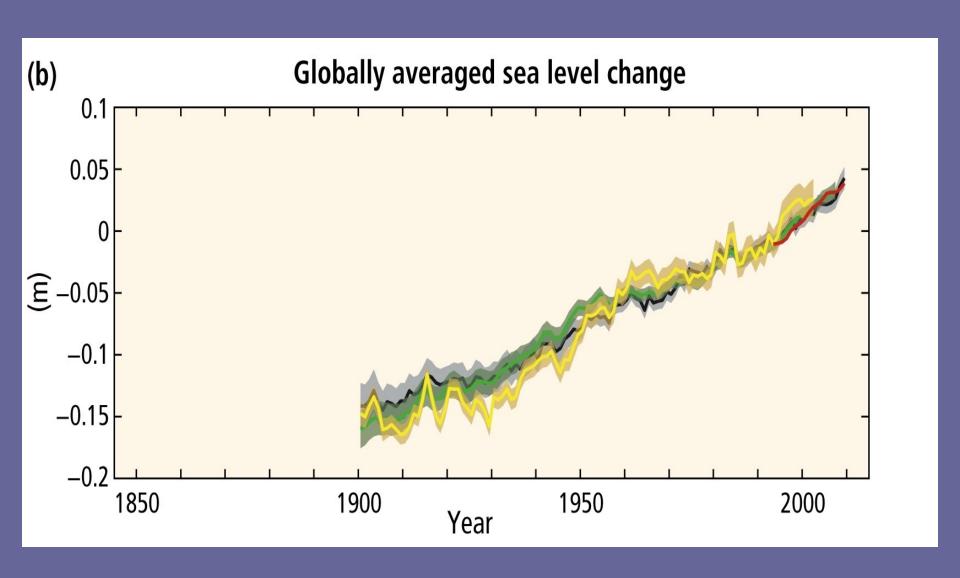
#### Rise in CO<sub>2</sub> emissions since 1950



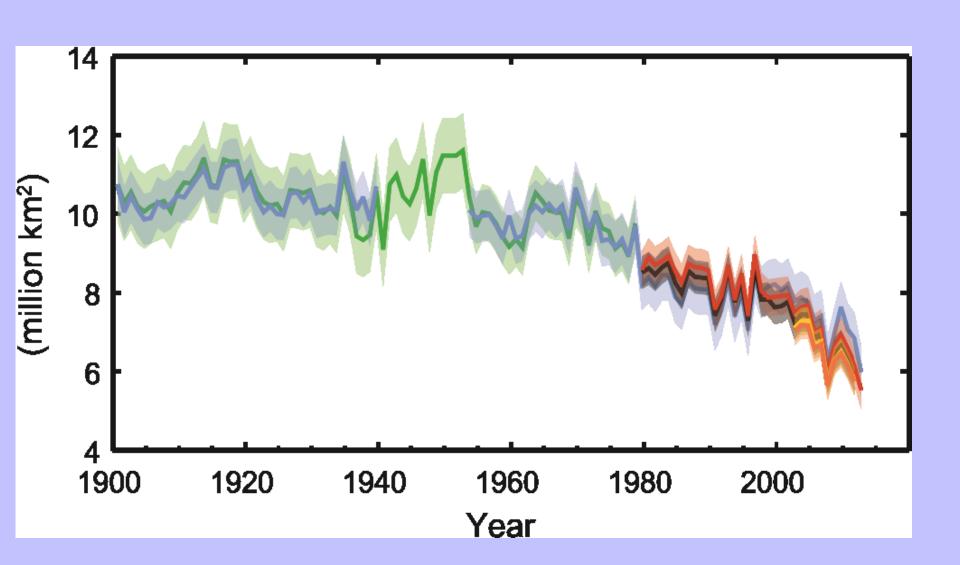
### Rise in global temperatures



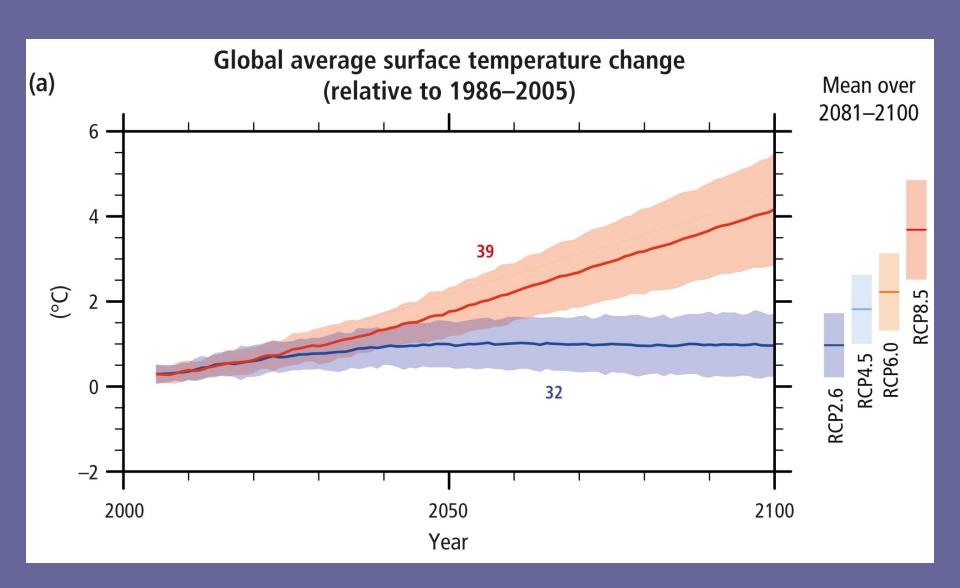
### Rise in sea levels



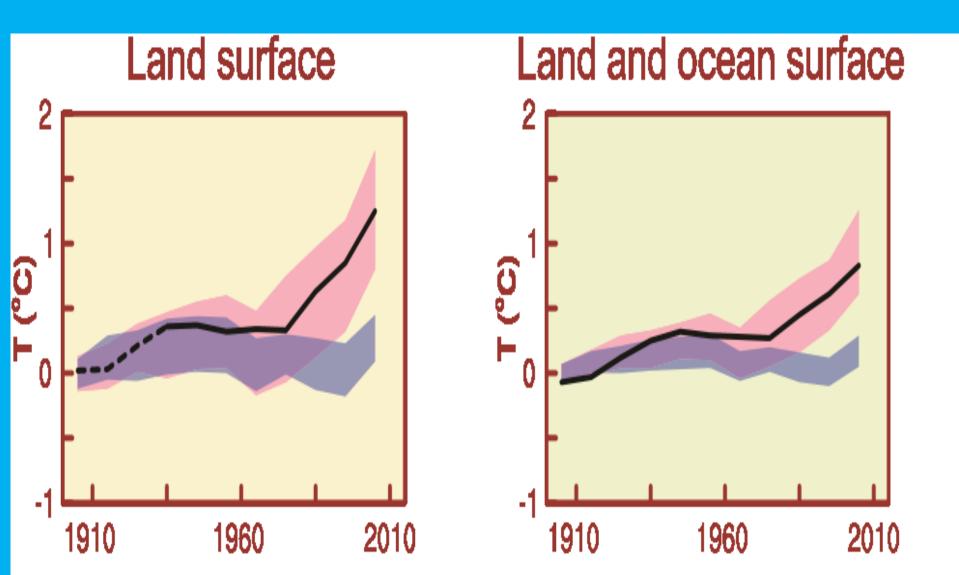
#### Loss of arctic sea ice



### Predicted global warming



## CO<sub>2</sub> – a crucial ingredient!

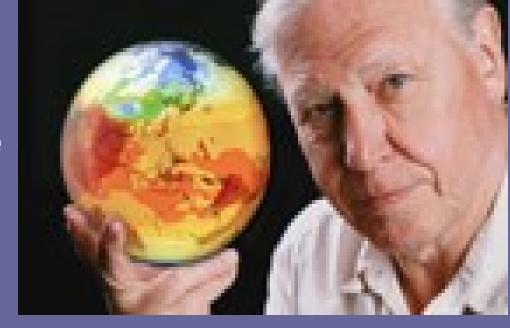


# "Climate Change — Is it real? And does it matter?"

c) Climate scepticism

#### **Conclusion:**

Only the greenhouse gas effect accounts for global warming



Sir David Attenborough's reaction when these results first came out?

"I used to be sceptical – I am sceptical no longer. I no longer have any doubt at all."

Note: the greenhouse gas effect of CO<sub>2</sub> has been clearly demonstrated in laboratory experiments going back to the 19<sup>th</sup> century – it's a 'property of matter'.

## 'Climate scepticism'

## "What's this Intergovernmental Panel on Climate Change, anyway?!"

- The 5<sup>th</sup> Report of the IPCC consisted of three parts. The first part, published in 2013, included approximately 2,500 pages of text and drew on millions of observations;
- Over 9,200 bona fide scientific publications were cited; it
  was produced by 259 authors and review editors, who
  received the help of 600 contributing authors and received
  comments from many hundreds of expert reviewers;
- The Report was signed off by all the world's governments!

That's what – nothing much!

### 'Climate scepticism'

"Many recent assaults on climate science... by climate change deniers are typically driven by special interests or dogma, not by an honest effort to provide an alternative theory that credibly satisfies the evidence"

(Statement by 255 members of the National Academy of Sciences USA, all with relevant scientific expertise, including 11 Nobel Prize winners, 2010).



# "Climate Change — Is it real? And does it matter?"

d) Climate change – does it matter?

#### Global warming – Global warning

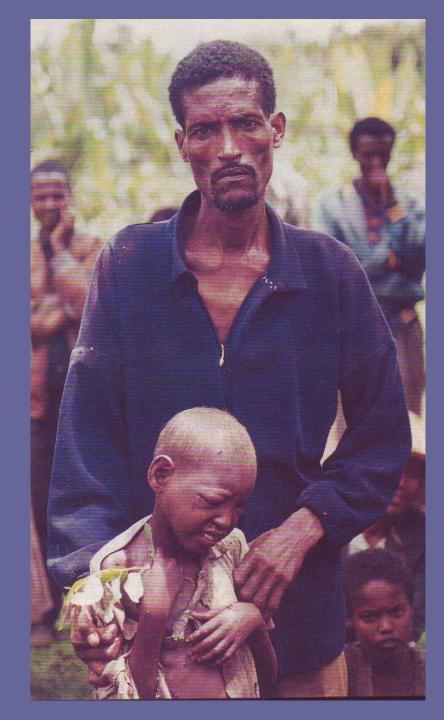
- "Never have we faced a graver threat" (Lord Robert May, President of the Royal Society, 2005).
- We will be facing "massive rises in sea level, whole areas devastated by hurricanes and others turned into uninhabitable desert, forcing billions of [the poorest and most vulnerable] people to leave their homelands" (Lord Nicholas Stern, 2009).
- Without urgent action, there's a "high to very high risk of severe, widespread, and irreversible impacts globally." (IPCC 2014)

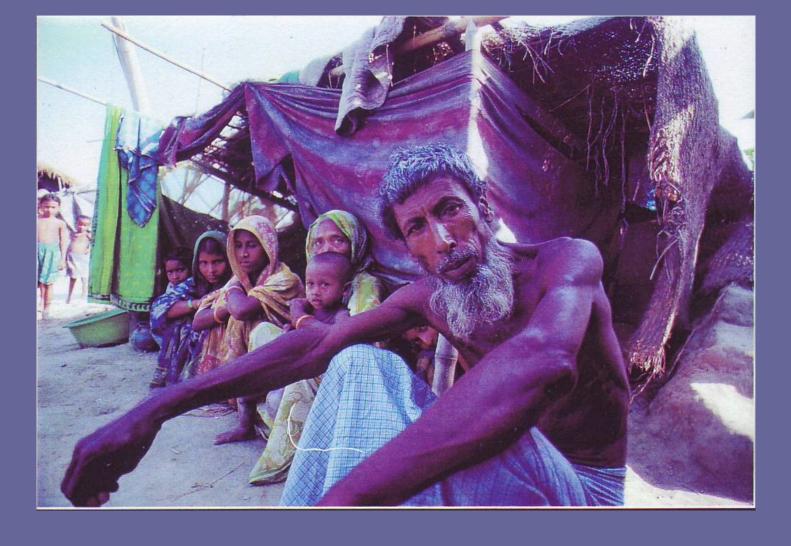
#### Global warming – Global warning

"I urge government, development and environmental organisations to work together to find sustainable solutions to avert a catastrophe that will exacerbate human suffering to a magnitude that perhaps the world has not yet seen." (Archbishop Desmond Tutu)

"Zewdie Tamirat's eyes were swollen shut through malnutrition and her delicate skin was no longer able to mask the skeleton beneath...

Pitiably, she attempted a smile for the cameraman."





Nur Mohammed and family: Rising sea levels have twice washed away his fragile home in Bangladesh "How could I look my grandchildren in the eye and say I knew about this and did nothing?"

(Sir David Attenborough)



# "Climate Change — Is it real? And does it matter?"

d) Climate change – does it matter to the Christian Church?

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