

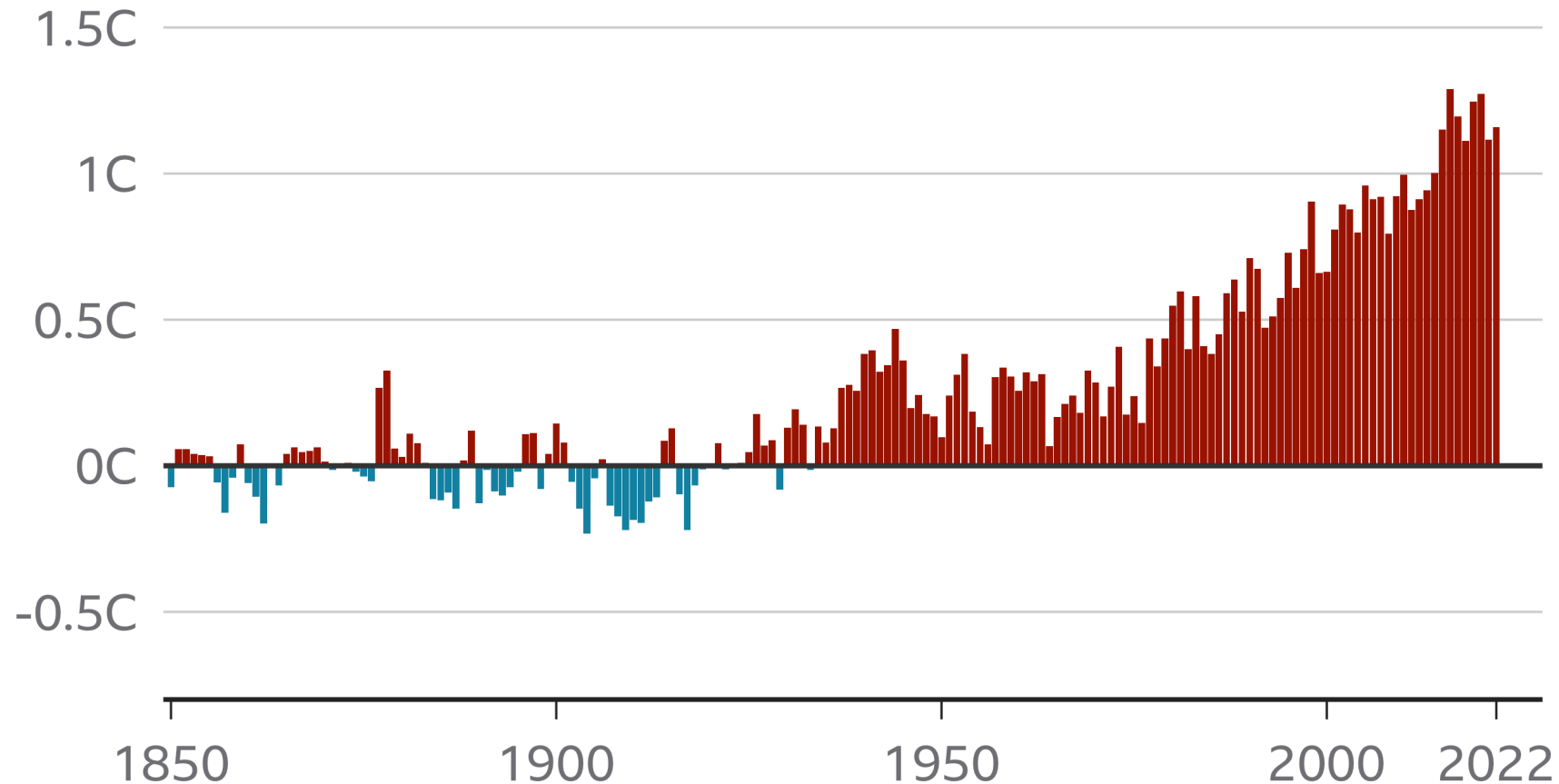
Strength in Truth Conference

# Climate Change A Christian Perspective

Malcolm Lee  
June 2023

# The world has been getting warmer

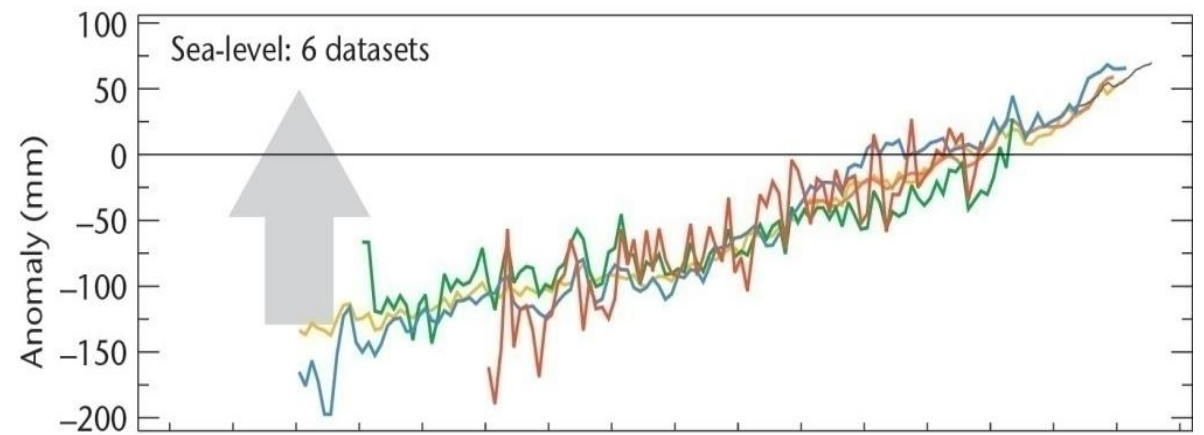
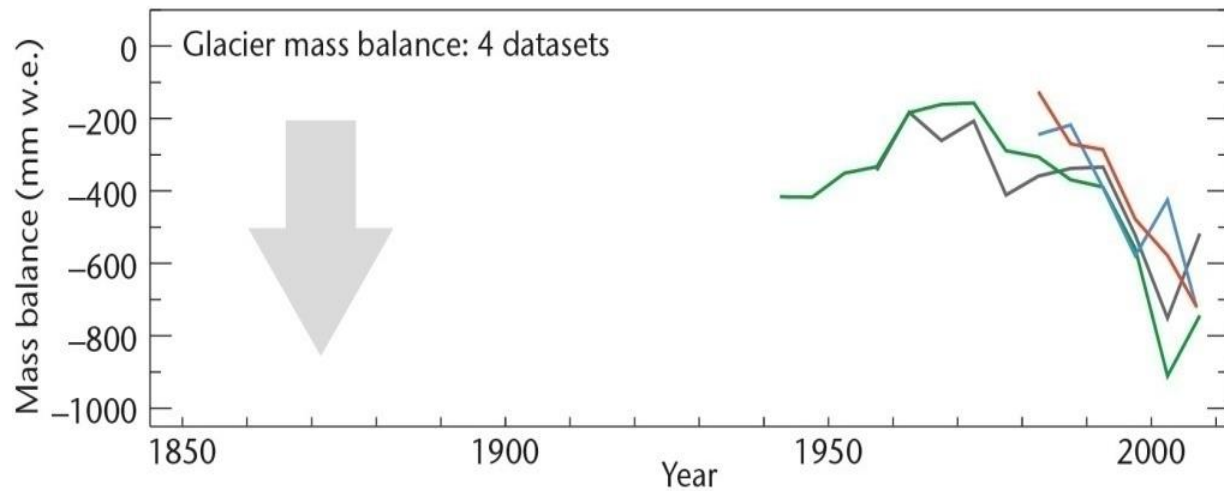
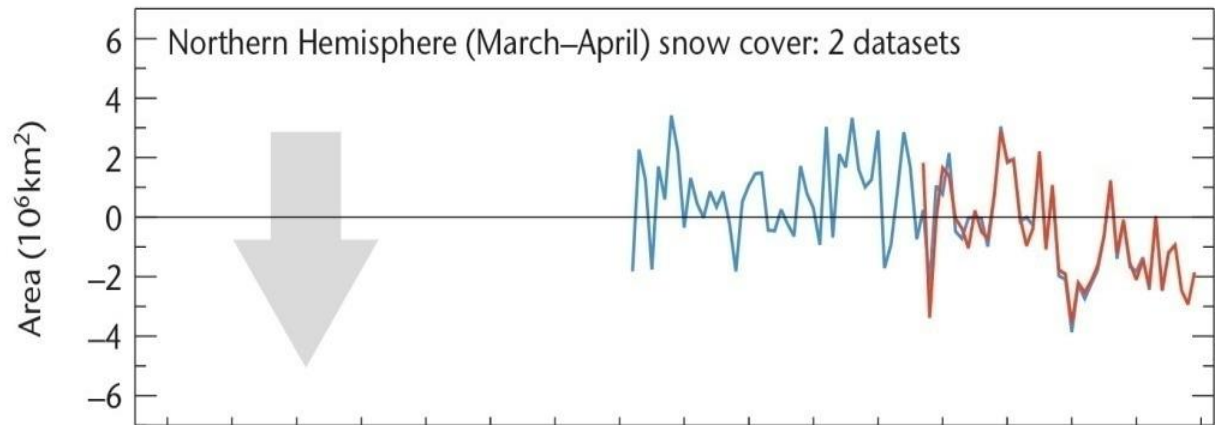
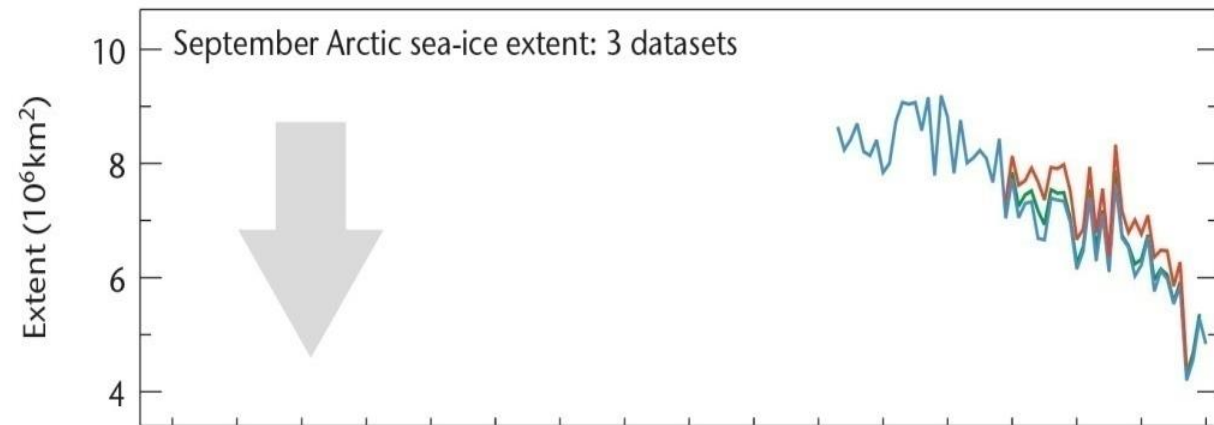
Change in annual average global temperature from pre-industrial levels (1850-1900) in degrees C



Note: Average calculated from HadCRUT5, NOAA GlobalTemp, GISTEMP, ERA5, JRA-55 and Berkeley Earth climate datasets

Source: Met Office

# Indicators of a warming world



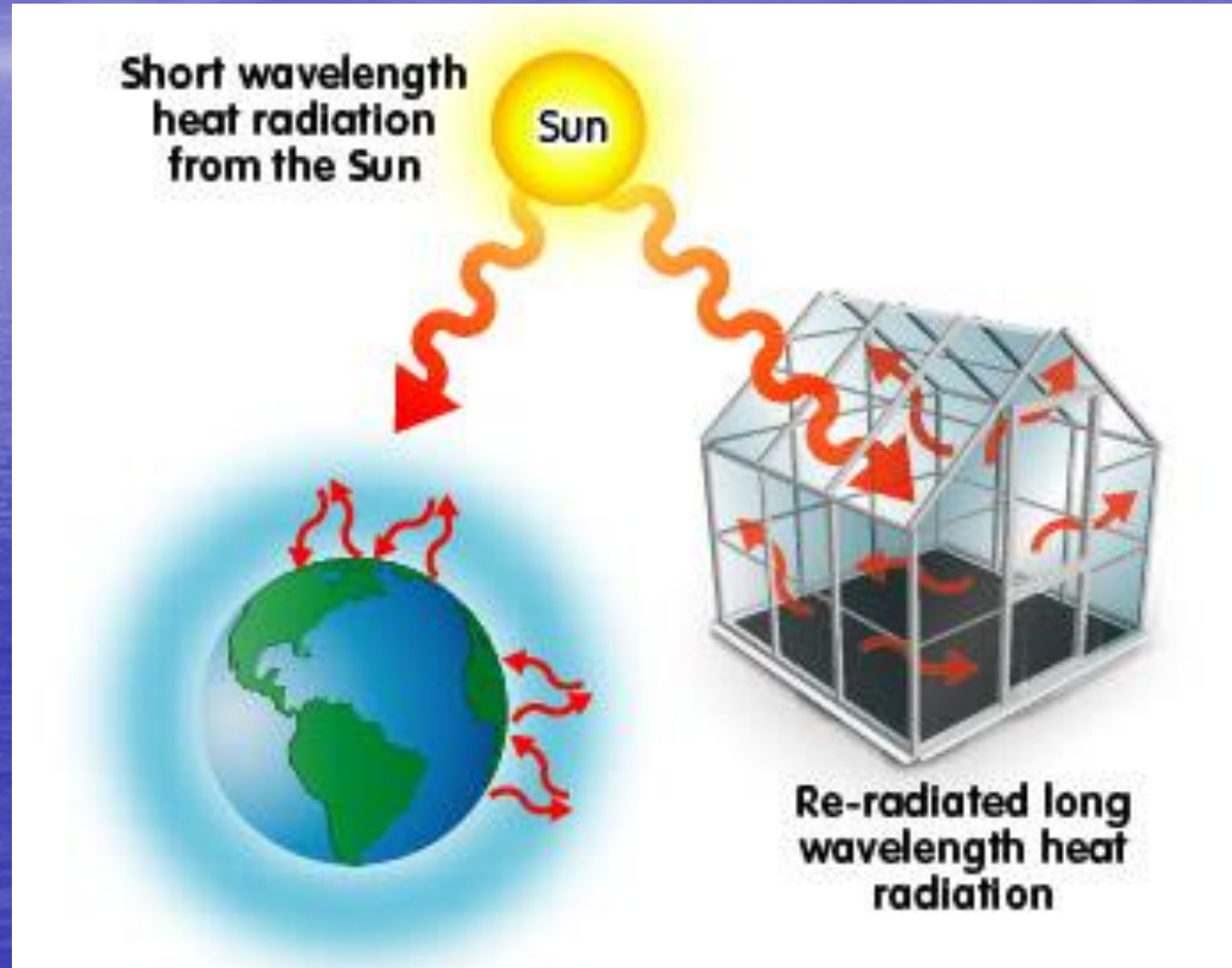
# Feedback

- Positive – Exacerbates the situation
  - Melting polar ice
- Negative – Counteracts a change
  - Increasing cloud and evaporation

# Damping

- The oceans

# Greenhouse Effect

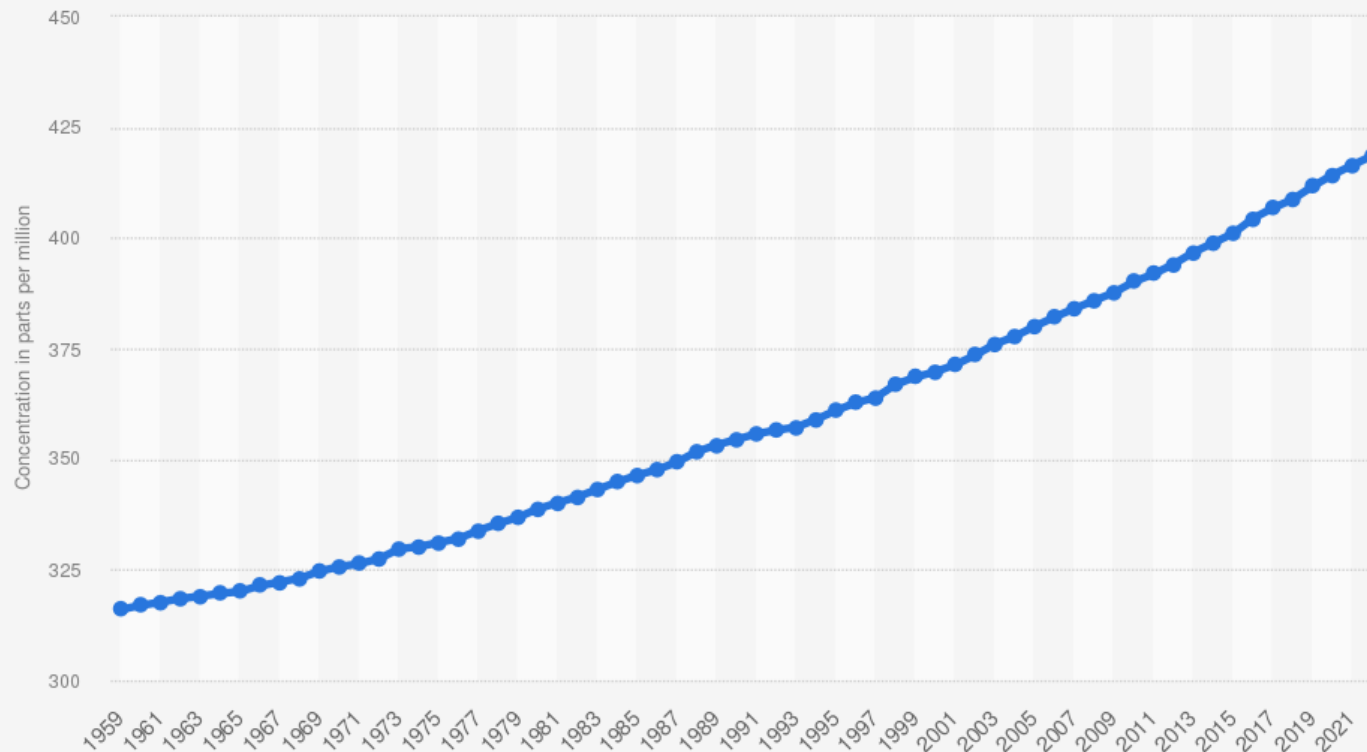


# Greenhouse Gases

- **Carbon dioxide – Fossil fuel burning**
  - Weak green house gas
  - 100 year residence time
- **Methane – Decay of vegetation**
  - Strong green house effect
  - 10 year residence time
- **Water vapour - Oceans**
  - Medium green house gas
  - Daily fluctuations: Increases with rising temperature
  - Makes clouds that reflect sunlight to space

# Atmospheric Carbon Dioxide

Average carbon dioxide (CO) levels in the atmosphere worldwide from 1959 to 2022  
(in parts per million)



0.04% of air

**Sources**

National Oceanic and Atmospheric Administration;  
ESRL

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**Additional Information:**

Worldwide

# Man-made causes of CO<sub>2</sub> Increase



Industrial Emissions



Transport



Coal/gas/oil power stations

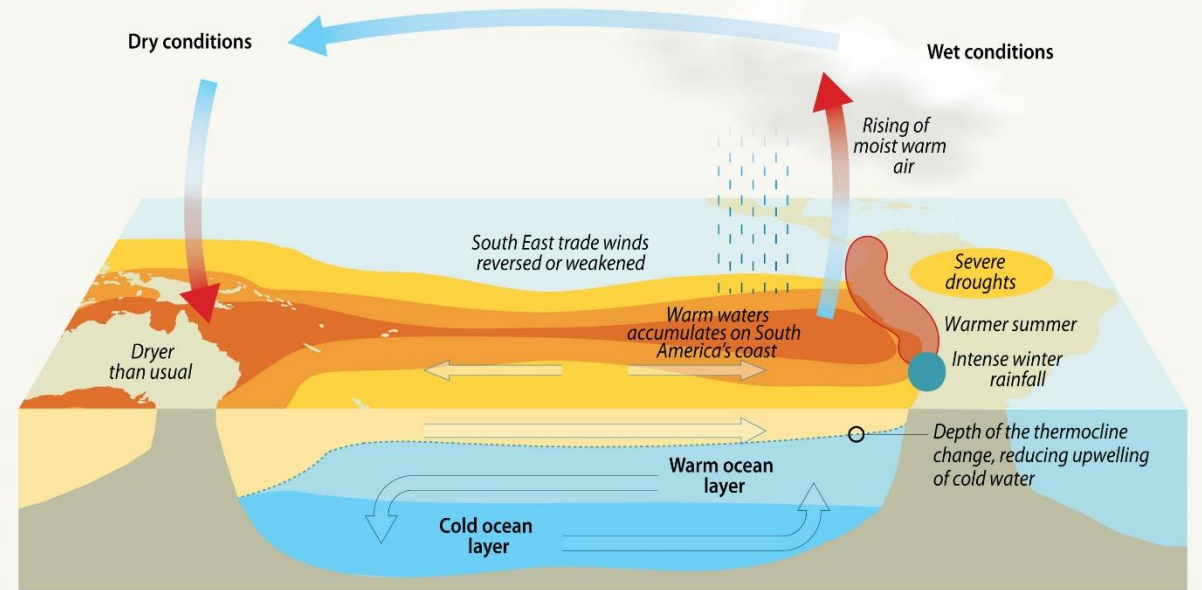


Rain forest destruction

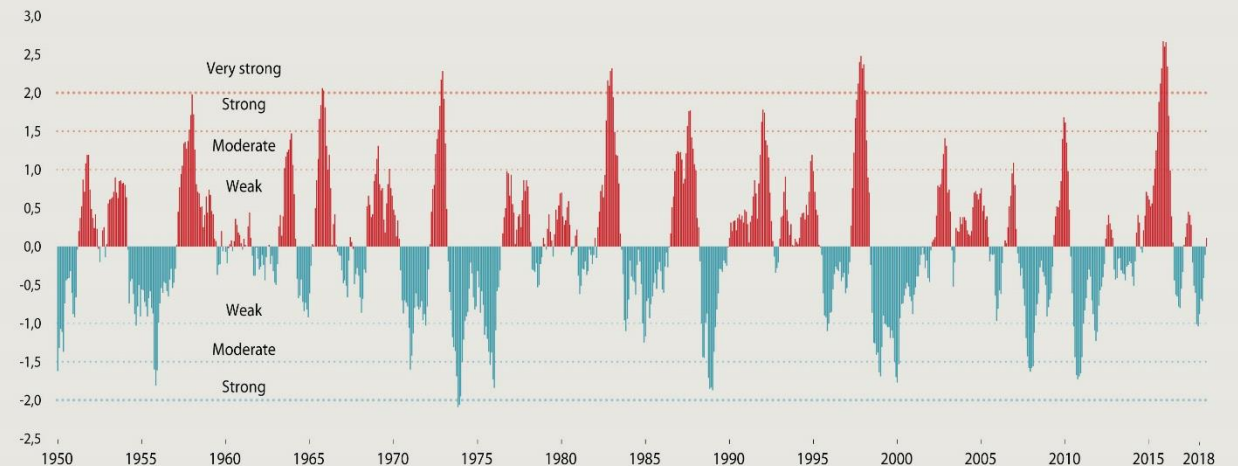


# Natural Variability – El Nino / La Nina Southern Oscillation

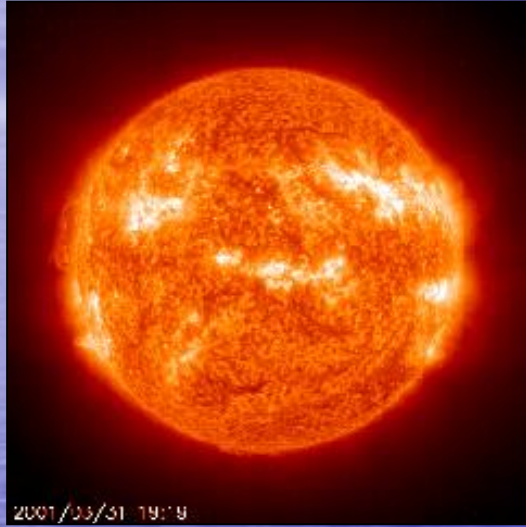
El Nino adds 0.1 to 0.3 dec C to  
warming in the following year



Cold and warm episodes  
Oceanic Niño Index



# Natural Variability – The Sun



- Sun output – Power output varies by about 0.1% during the 11 year cycle, which translates to about  $0.15^{\circ}\text{C}$  variation at the Earth's surface
- Other sun cycles? – Very quiet from 1650 to 1715, probably contributing to if not causing the little ice age when temperatures were depressed by about  $1^{\circ}\text{C}$

# Natural Variability – Volcanoes



- Volcanoes – Gases and aerosol cause cooling for a period of years after eruption
- “Global Dimming”
- Mount Pinatubo eruption made 1992 an abnormally cold year
- 1883 Krakatoa eruption caused 4 years of depressed temperatures

# Extreme Weather 2022



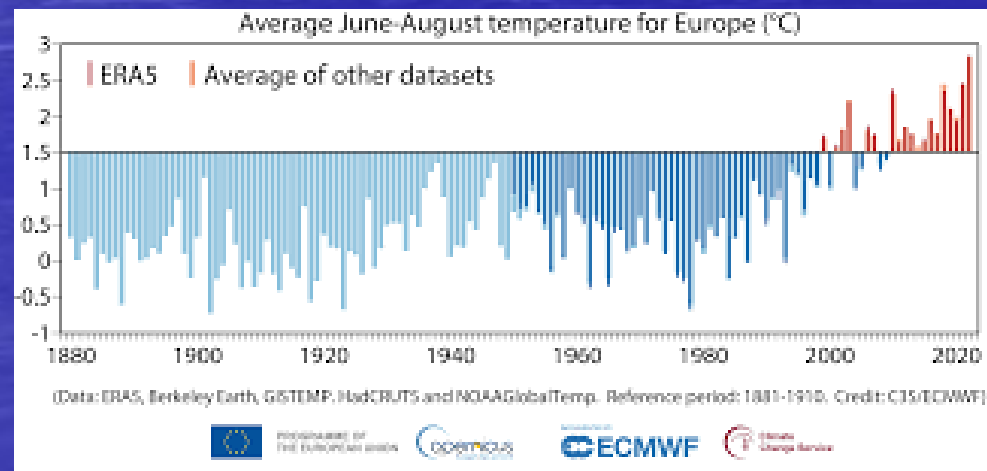
Pakistan floods Jun-Oct 2022



Spain/France wildfires Jul 2022  
Record April temperatures 2023



40.3 °C 19 July 2022 Lincs  
Joint hottest summer with 2018



# Impacts on UK Weather

- Warmer summers
- Summer thunderstorms
- Mild, wet, stormy winters

**UK is small**

0.05% of globe, 0.15% of land



# Sustainability

- Mitigation – Reduce global warming
- Adaptation – Live with the warming

Which One?

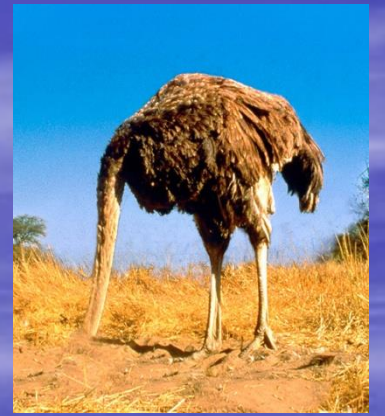


# “Old Earth” Worriers



- Earth's environment is delicate
- Millions of years in future to concern us
- Must preserve natural resources
- Change has never happened so fast before
- Unsustainable 'Western' lifestyle

# Climate Change Deniers



- Seen it all before – natural variability
- Global warming has peaked
- Questionable science – manipulated data
- 'Green' agenda hype
- Conspiracy to force unnecessary change



# Agnostic/Complacent

- God will make sure nothing nasty happens
- The Flood promises prevent it
- Worriers should have more faith
- The earth can cope
- It won't affect me if it does happen
- Wilfully ignorant
- I want to carry on pleasing myself



# Christian (middle) Way

## Interventionism

- Play up evidence
- Earth needs help
- Next million years
- Zealous
- Educated
- Easy – do it
- Prevent, ban
- One way, my way

## Fatalism

- Play down evidence
- Earth looks after itself
- Live for today
- Careless
- In the dark
- Hard – give up
- Profligacy, keep going
- No way

- Weigh up the evidence
- Man's custodianship
- Creation and destruction
- Caring
- Understand
- Do what we can
- Sensible Restraint
- GOD'S WAY

*“The earth has enough resources to satisfy everyone’s need, but not enough resources for anyone’s greed.”*

African church leaders (2008)

# What Should Christian's Do?

- Gratefully and sensibly use the natural resources God has provided. Psalm 8
- Be an example to others not to be profligate
- Heed advice about reducing pollution and energy use
- Love thy neighbour. Matt 19 v19
- Remember the poor. Gal 2 v10
- Then - Follow your conscience
- Don't forget that the Earth is getting old
- Don't worry – pray and not faint. Luke 18 v1

# Terms and Conventions

- Intergovernmental Panel on Climate Change (IPCC)
- UN Framework Convention on climate change (1994)
- Annual Conference of the parties (COP)
- Paris Agreement (2015) - 1.5 -2.0 degrees
- Carbon capture
- Carbon offset and trading
- Net zero / carbon neutral
- Climate models – What if? What next?

**Climate Emergency!**

**?**