

1 – This is God’s earth

man was put on earth and placed in a position of stewardship for the planet. This gives us an obligation to care for the world, not to destroy it.

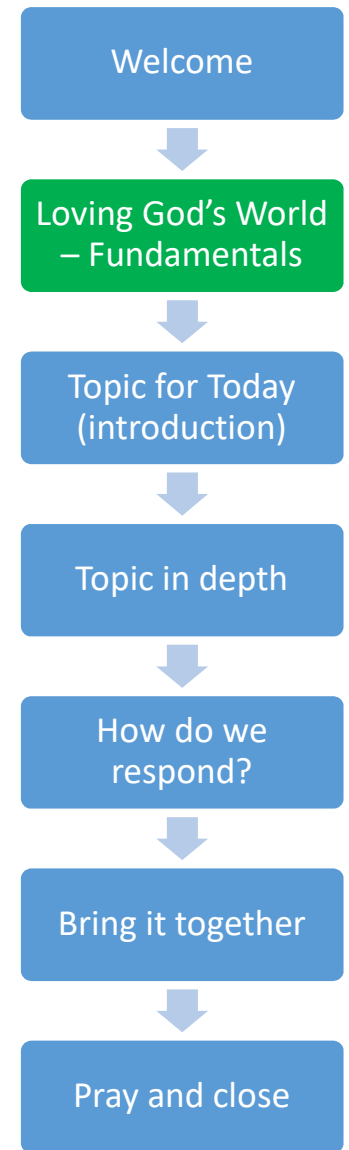
Genesis 2:15 (KJV)

“And the LORD God took the man, and put him into the garden of Eden to dress it and to keep it.”

2 – Thy shalt love thy neighbour as thyself

Matthew 22:39 (KJV)

We live in a one planet ecosystem, where our actions have consequences for people around the world. Climate change has negative consequences felt by all citizens.



1 - Con or Crisis? – exploring the science behind the headlines

Questions

1 - Climate change is there any doubt?

2 - What was agreed at Paris?

3 - Is the world behind the agreement?

4 - Have other countries left after the US dropped out?

5 - Where did 1.5 degrees come from?

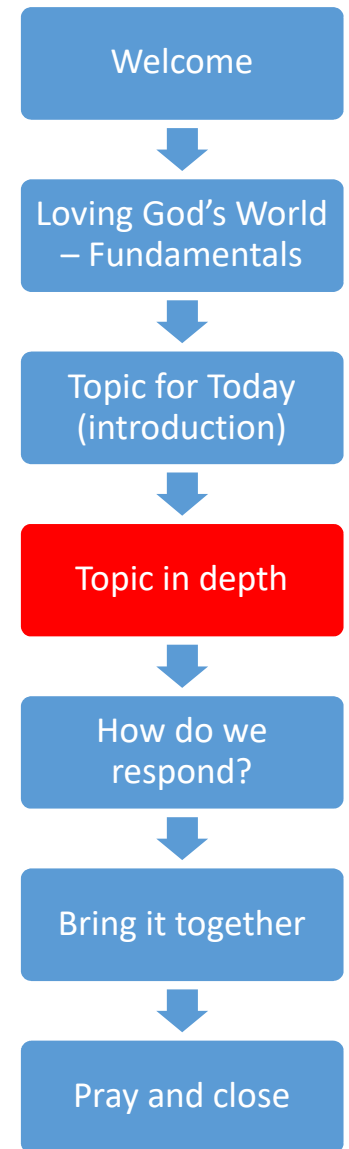
1 - Multiple studies published in peer-reviewed scientific journals¹ show that 97 percent or more of actively publishing climate scientists agree^{*}: Climate-warming trends over the past century are extremely likely due to human activities. (NASA)

2 - To keep global temperatures "well below" 2.0C (3.6F) above pre-industrial times and "endeavour to limit" them even more, to 1.5C (BBC)

3 - There are only 2 countries outside the Paris agreement now, the USA and Syria. In Nov 2017 Nicaragua joined. (Previously they had stayed outside because they were campaigning for something more radical). At least 1/3 of US citizens are included within the agreement as their states have joined in defiance of Trump.

4 - No

5 - 1.5 degrees is a safer limit than 2 degrees, was promoted strongly by the Pacific island nations in Paris.



Questions (cont.)

6 - Let's see the graphs for decarbonisation – 350PPM and temperature rise now.

Welcome



The following graph shows atmospheric CO₂ levels from ice core data for CO₂ levels before 1950. For values from 1950 onwards, measurements from Mauna Loa, Hawaii were used.

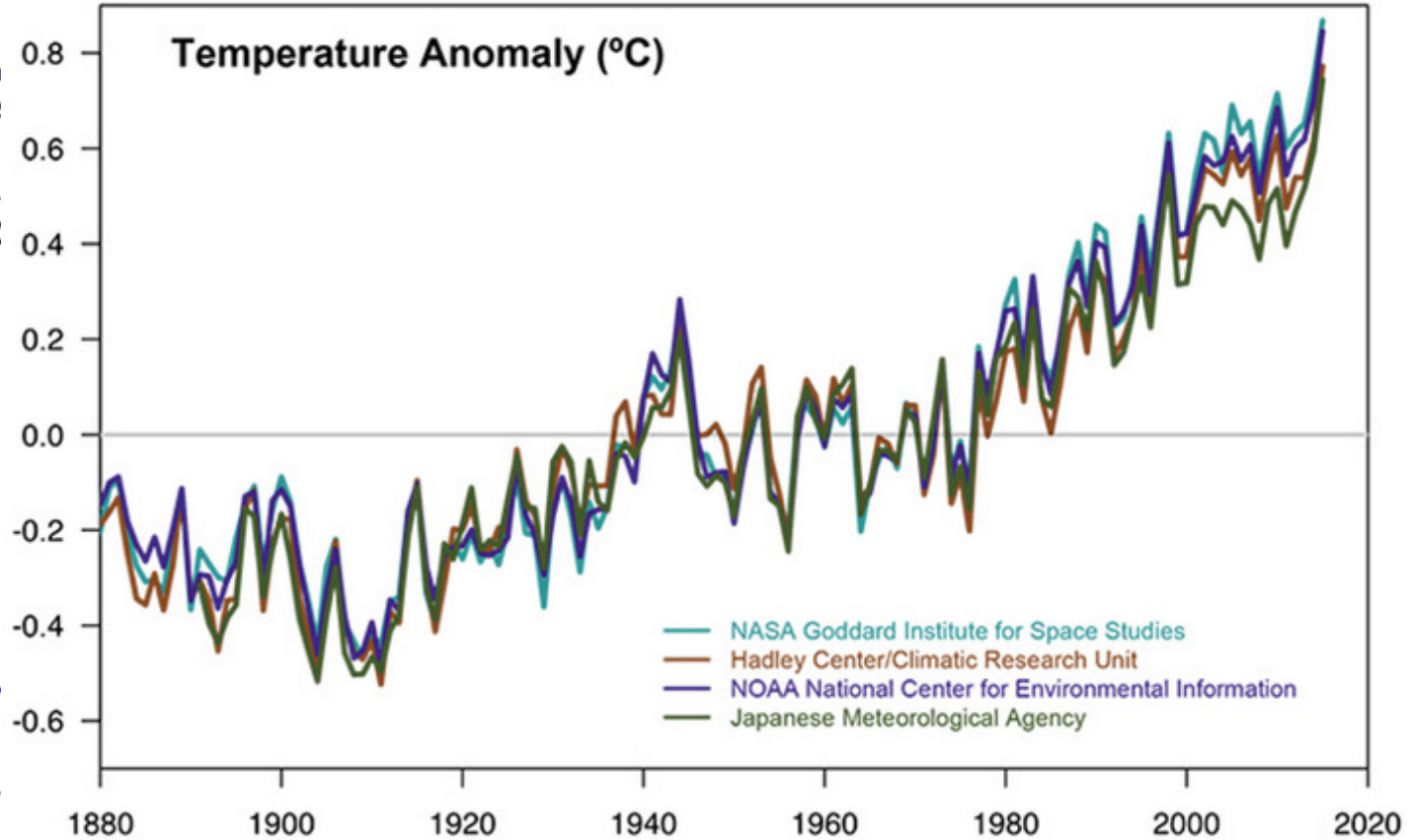
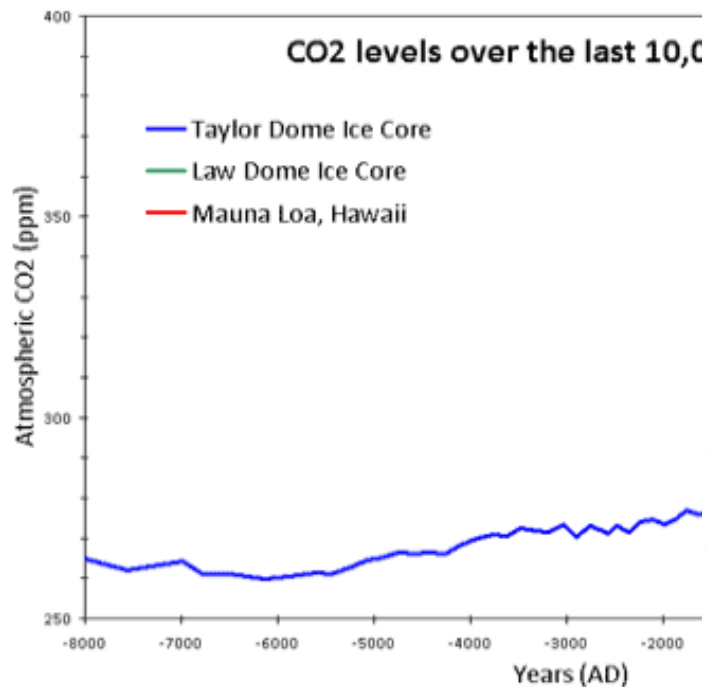


Figure 1: CO₂ levels (parts per million) over the past 10,000 years. Blue line from Taylor Dome ice cores (NOAA). Green line from Law Dome ice cores (NOAA). Red line from Mauna Loa, Hawaii (NOAA).

Temperature data from four international science institutions. All show rapid warming in the past few decades and that the last decade has been the warmest on record. Data sources: NASA's Goddard Institute for Space Studies, NOAA National Climatic Data Center, Met Office Hadley Centre/Climatic Research Unit and the Japanese Meteorological Agency.

Questions (cont.)

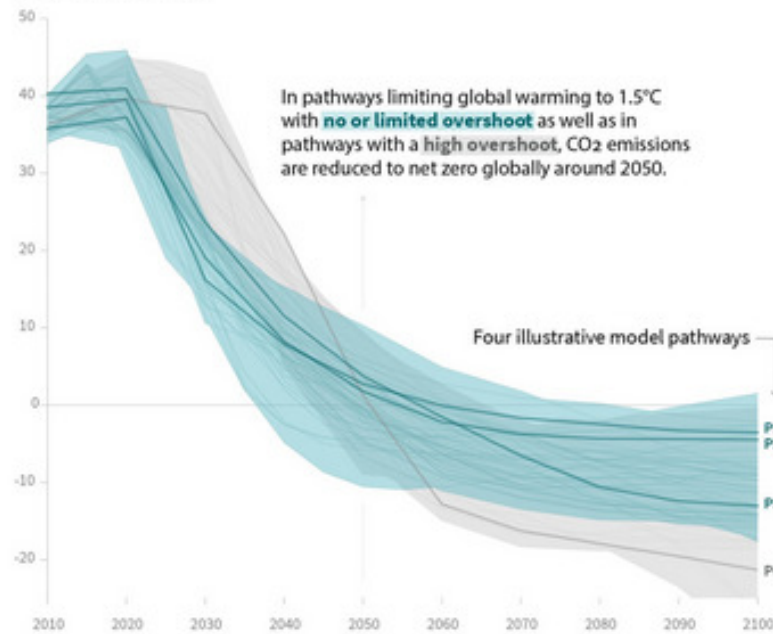
7 - What about Negative Emissions Technologies?

Global emissions pathway characteristics

General characteristics of the evolution of anthropogenic net emissions of CO₂, and total emissions of methane, black carbon, and nitrous oxide in model pathways that limit global warming to 1.5°C with no or limited overshoot. Net emissions are defined as anthropogenic emissions reduced by anthropogenic removals. Reductions in net emissions can be achieved through different portfolios of mitigation measures illustrated in Figure SPM3B.

Global total net CO₂ emissions

Billion tonnes of CO₂/yr



Timing of net zero CO₂
Line widths depict the 5-95th percentile and the 25-75th percentile of scenarios

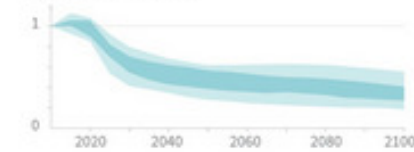
— Pathways limiting global warming to 1.5°C with **no or low overshoot**
— Pathways with **high overshoot**
— Pathways limiting global warming below 2°C (Not shown above)

Source: IPCC Special Report on Global Warming of 1.5°C

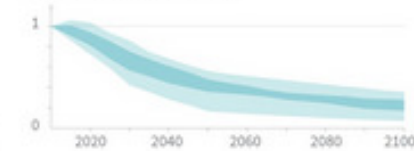
Non-CO₂ emissions relative to 2010

Emissions of non-CO₂ forcers are also reduced or limited in pathways limiting global warming to 1.5°C with **no or limited overshoot**, but they do not reach zero globally.

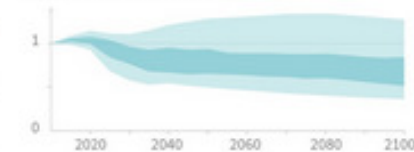
Methane emissions



Black carbon emissions



Nitrous oxide emissions



Welcome



Loving God's World
– Fundamentals



Topic for Today
(introduction)



Topic in depth



How do we
respond?



Bring it together



Pray and close



CLIMATE RISKS: 1.5°C VS 2°C GLOBAL WARMING

EXTREME WEATHER

100% increase in flood risk. VS 170% increase in flood risk.

SPECIES

6% of insects, 8% of plants and 4% of vertebrates will be affected. VS 18% of insects, 16% of plants and 8% of vertebrates will be affected.

WATER AVAILABILITY

350 million urban residents exposed to severe drought by 2100. VS 410 million urban residents exposed to severe drought by 2100.

ARCTIC SEA ICE

Ice-free summers in the Arctic at least once every 100 years. VS Ice-free summers in the Arctic at least once every 10 years.

PEOPLE

9% of the world's population (700 million people) will be exposed to extreme heat waves at least once every 20 years. VS 28% of the world's population (2 billion people) will be exposed to extreme heat waves at least once every 20 years.

SEA-LEVEL RISE

46 million people impacted by sea-level rise of 48cm by 2100. VS 49 million people impacted by sea-level rise of 56cm by 2100.

OCEANS

Lower risks to marine biodiversity, ecosystems and their ecological functions and services at 1.5°C compared to 2°C.

CORAL BLEACHING

70% of world's coral reefs are lost by 2100. VS Virtually all coral reefs are lost by 2100.

COSTS

Lower economic growth at 2°C than at 1.5°C for many countries, particularly low-income countries.

FOOD

Every half degree warming will consistently lead to lower yields and lower nutritional content in tropical regions.

Welcome

Loving God's World – Fundamentals

Topic for Today (introduction)

Topic in depth

How do we respond?

Bring it together

Pray and close

Questions for Discussion

- Climate Change – is this a subject for religion or science and technology?
- What levels of action are needed?
International/national/regional/community/church/
individual?
- Is there anything more I need to find out before I'm ready to act on this?
- What can Thornbury Baptist Church do?

