

An aerial photograph of a coastline, showing green landmasses on the left and a large body of blue water on the right. The text is overlaid on this image.

Engage: Environmental Crisis

Slides from the talk by Dr. Amy Donovan
at the Engage session, Sunday 28th January 2024

Overview

- Introduction: Biblical principles on humans and the environment
 - Creator: Created
 - Stewardship
 - Justice
 - Confidence
- Scientific perspectives:
 - Working Group I report (Physical Science Basis) – Sixth Assessment report of the IPCC
 - 2023: A record year
 - Climate change and biodiversity: impacts on creation
- The uneven impacts of disasters (WGII)
 - Development issues and disaster risk reduction
- Environmental justice
- Implications
 - How we respond personally
 - What we might be able to do as society and as individual Christians

Biblical principles: What is creation?

- **Humans are not separate from creation; we are part of it** (Gen, Ps)
- **Creation teaches us about God and belongs to him** (Gen 1, Deut 10, Pss 24,50, 104, 145...)

*The heavens declare the glory of God;
the skies proclaim the work of his hands.*

*2 Day after day they pour forth speech;
night after night they reveal knowledge.*

*3 They have no speech, they use no words;
no sound is heard from them.*

*4 Yet their voice goes out into all the earth,
their words to the ends of the world.*

Biblical principles: Stewardship

- Humans have a particular responsibility before God to care for creation – we can use it, but we have to do so sustainably and respectfully (Gen 1,6; Ex 23; Lev 25...) – **the model of biblical ruling/kingship is caring and sacrificial**

26 Then God said, “Let us make mankind in our image, in our likeness, so that they may rule over the fish in the sea and the birds in the sky, over the livestock and all the wild animals, and over all the creatures that move along the ground.”

*27 So God created mankind in his own image,
in the image of God he created them;
male and female he created them.*

28 God blessed them and said to them, “Be fruitful and increase in number; 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.”

29 Then God said, “I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food. 30 And to all the beasts of the earth and all the birds in the sky and all the creatures that move along the ground—everything that has the breath of life in it—I give every green plant for food.” And it was so.

31 God saw all that he had made, and it was very good.

Biblical principles: Justice

- We also have **a responsibility to care for each other** – both as part of creation and as neighbours (e.g. Hos 4, Matt 22, Luke 10...)

³⁷ Jesus replied: “‘Love the Lord your God with all your heart and with all your soul and with all your mind.’ ³⁸ This is the first and greatest commandment. ³⁹ And the second is like it: ‘Love your neighbor as yourself.’ ⁴⁰ All the Law and the Prophets hang on these two commandments.”

- And we have **a responsibility to use knowledge wisely** (Ezek 33, Hos 4, Rom 1...)

But if the watchman sees the sword coming and does not blow the trumpet to warn the people and the sword comes and takes someone's life, that person's life will be taken because of their sin, but I will hold the watchman accountable for their blood.

Biblical principles: God's plan for creation

- **God cares deeply for his creation** (e.g. Ps 24)

*The earth is the LORD's, and everything in it,
the world, and all who live in it;
² for he founded it on the seas
and established it on the waters.*

- We should **expect creation to suffer because of sin** (Rom 8:20-22, Hos 4)

²⁰ For the creation was subjected to frustration, not by its own choice, but by the will of the one who subjected it, in hope ²¹ that the creation itself will be liberated from its bondage to decay and brought into the freedom and glory of the children of God.

²² We know that the whole creation has been groaning as in the pains of childbirth right up to the present time.

- ...and **we look forward to its renewal** (e.g. Rev 22)

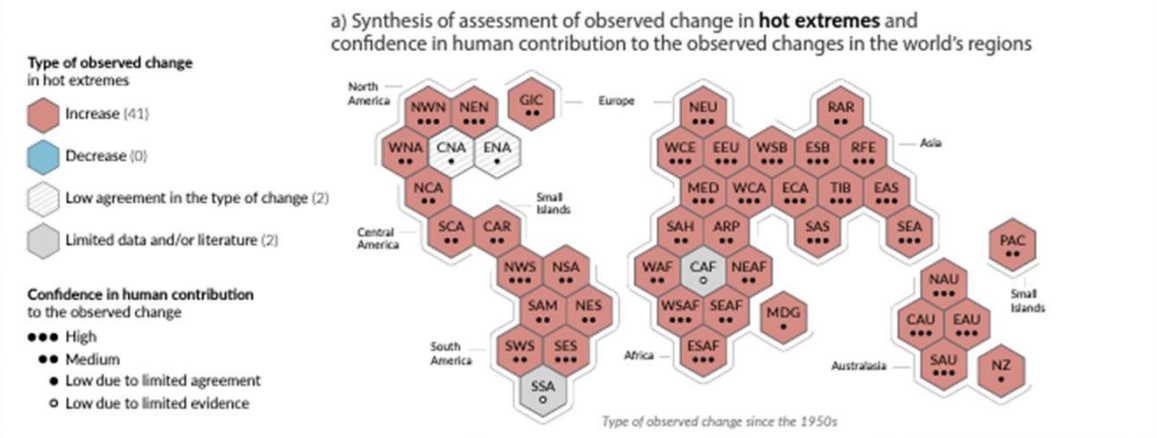
• Then the angel showed me the river of the water of life, as clear as crystal, flowing from the throne of God and of the Lamb ² down the middle of the great street of the city. On each side of the river stood the tree of life, bearing twelve crops of fruit, yielding its fruit every month. And the leaves of the tree are for the healing of the nations. ³ No longer will there be any curse.

IPCC Sixth Assessment Report, WGI



- IPCC surveys the literature and produces a *synthesis* of current knowledge
- Also estimates *confidence* in that knowledge (i.e. how much evidence and how good it is)
- And confidence in *human contribution* (i.e. how much change is due to human activity versus natural factors)

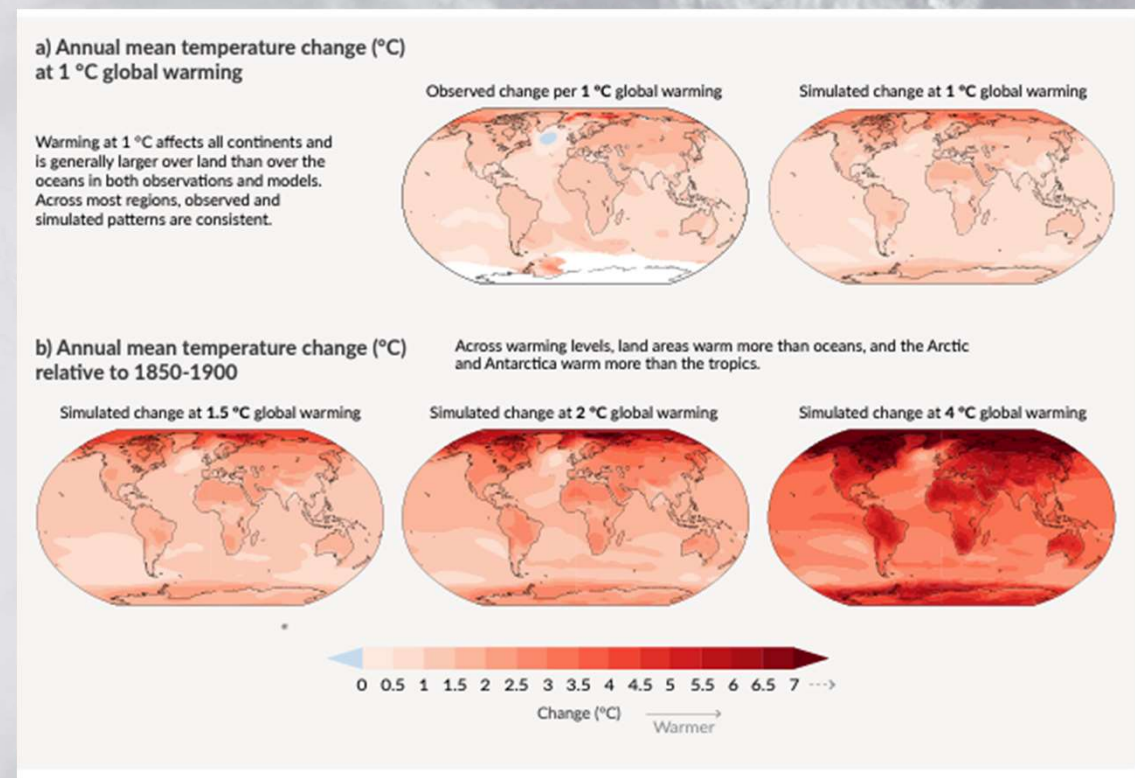
Climate change is already affecting every inhabited region across the globe with human influence contributing to many observed changes in weather and climate extremes



IPCC Sixth Assessment Report, WGI



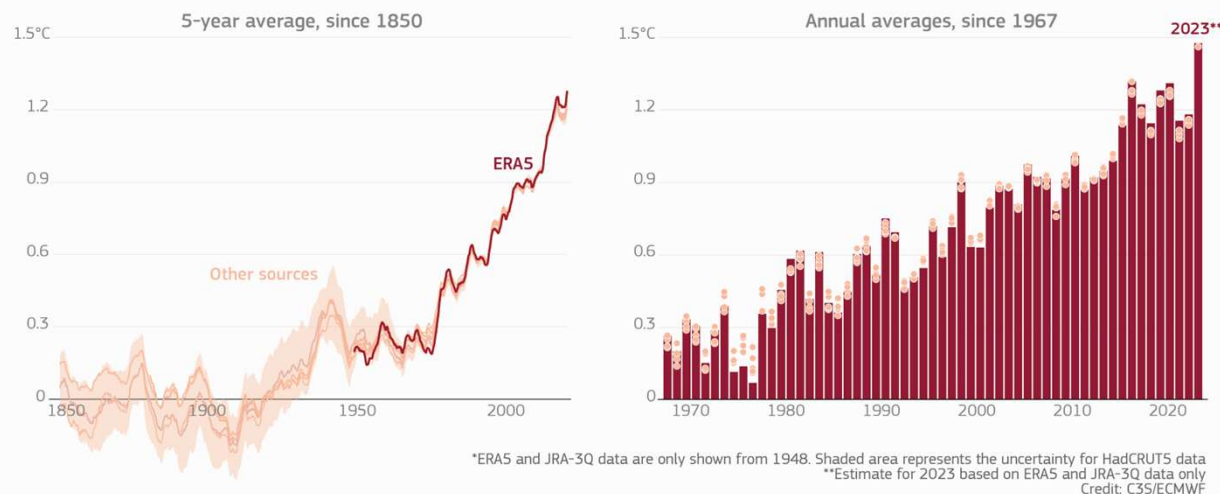
- Warming is not equally distributed and neither are impacts
- Now high confidence that warming is producing *more frequent and more intense* hazards and environmental degradation
 - Tropical cyclones (hurricanes, typhoons)
 - Floods
 - Landslides
 - Droughts
 - Heatwaves
 - Coastal erosion
 - Ocean acidification



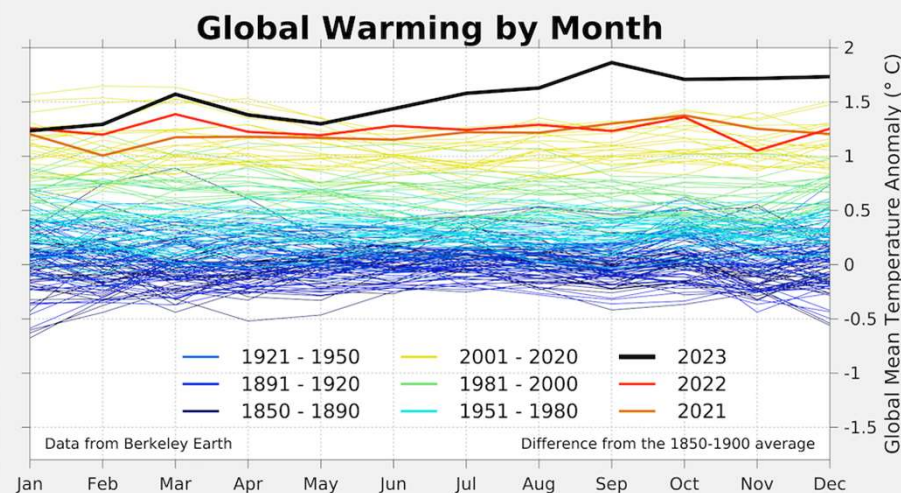
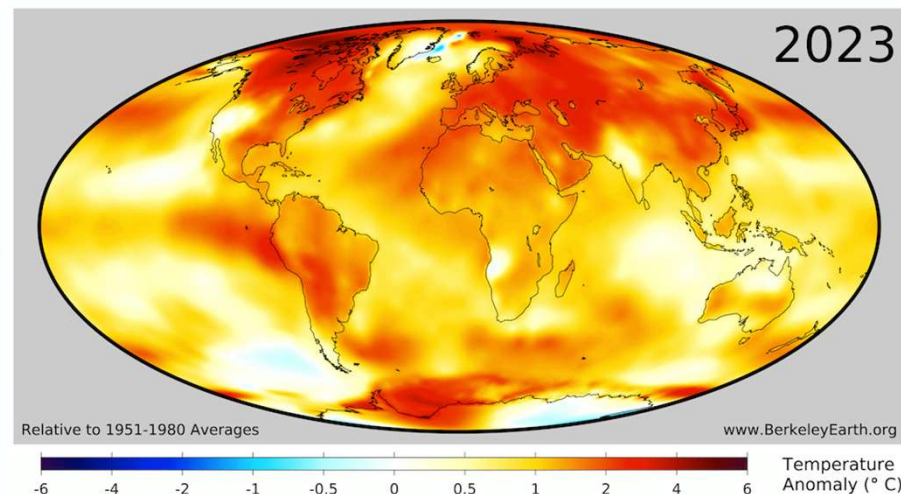
2023: temperature records

GLOBAL SURFACE TEMPERATURE: INCREASE ABOVE PRE-INDUSTRIAL LEVEL (1850-1900)

■ ERA5 data ■ Other sources* (including JRA-3Q, GISTEMPv4, NOAA GlobalTempv5, Berkeley Earth, HadCRUT5)

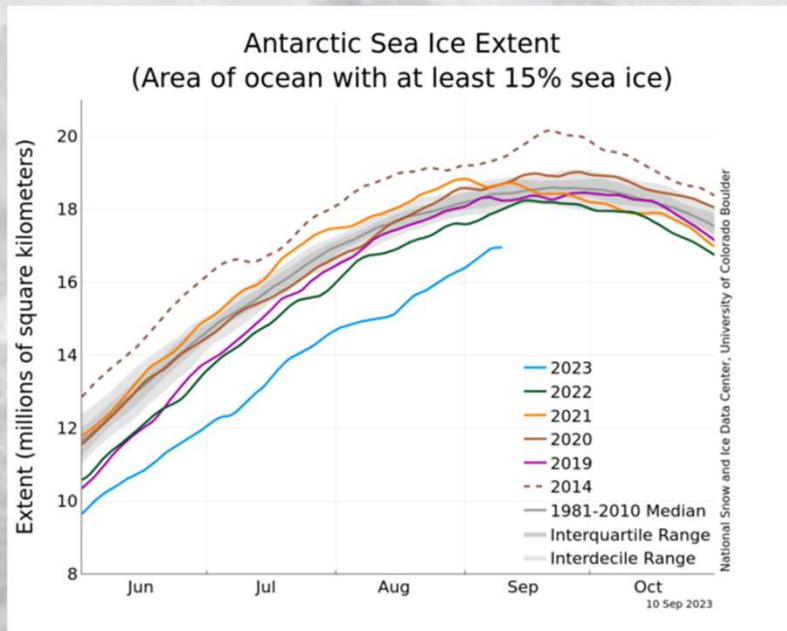
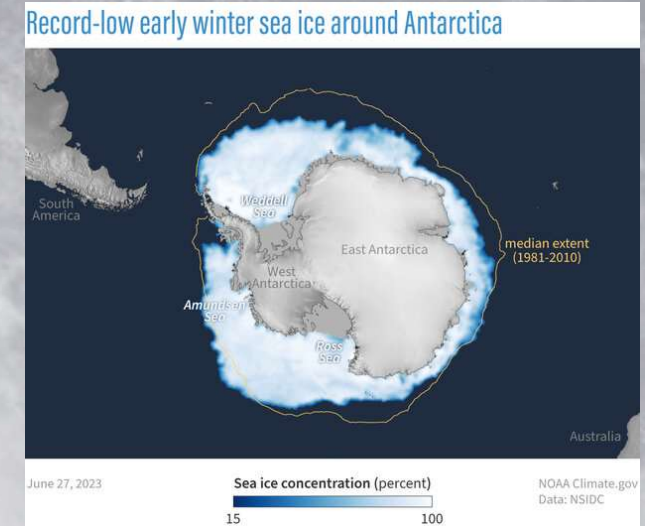


- “Six leading international datasets used for monitoring global temperatures and consolidated by WMO show that the annual average global temperature was 1.45 ± 0.12 °C above pre-industrial levels (1850-1900) in 2023.”



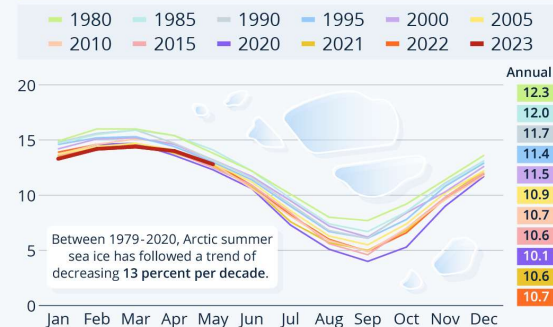
2023: The ice sheets

“This year marks a significant record low maximum in Antarctic sea ice extent (Figure 2). Since early April 2023, sea ice maintained record low ice growth. From early to mid-August, growth slowed considerably, maintaining a difference of nearly 1.5 million square kilometers (579,000 square miles) between 2023 and 1986, the second lowest year on satellite record. After that period, ice growth quickened and narrowed the gap to about 1 million square kilometers (386,000 square miles). This is the first time that sea ice extent has not surpassed 17 million square kilometers (6.56 million square miles).” NOAA



Arctic Sea Ice Cover Hits Record Lows in 2023

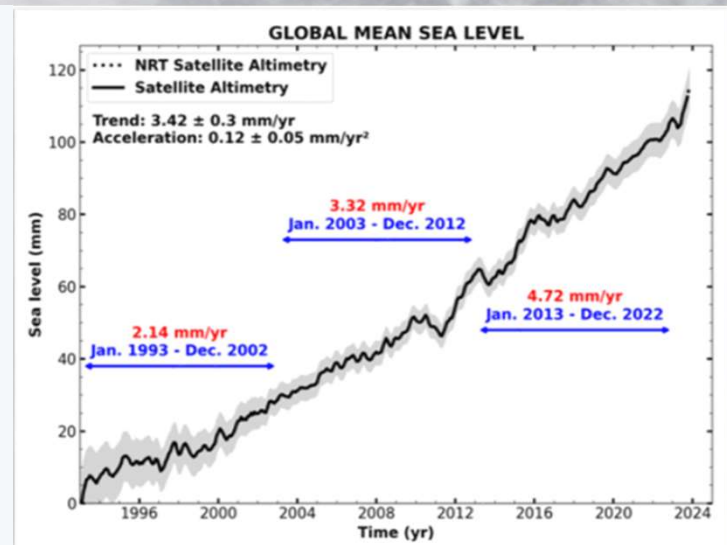
Northern Hemisphere sea ice extent per month (in million km²)



Source: Sea Ice Index, National Snow and Ice Data Center via Statista State of the Oceans 2023



statista



Data from National Snow and Ice Data Centre, and WMO

Sea-level rise impacts



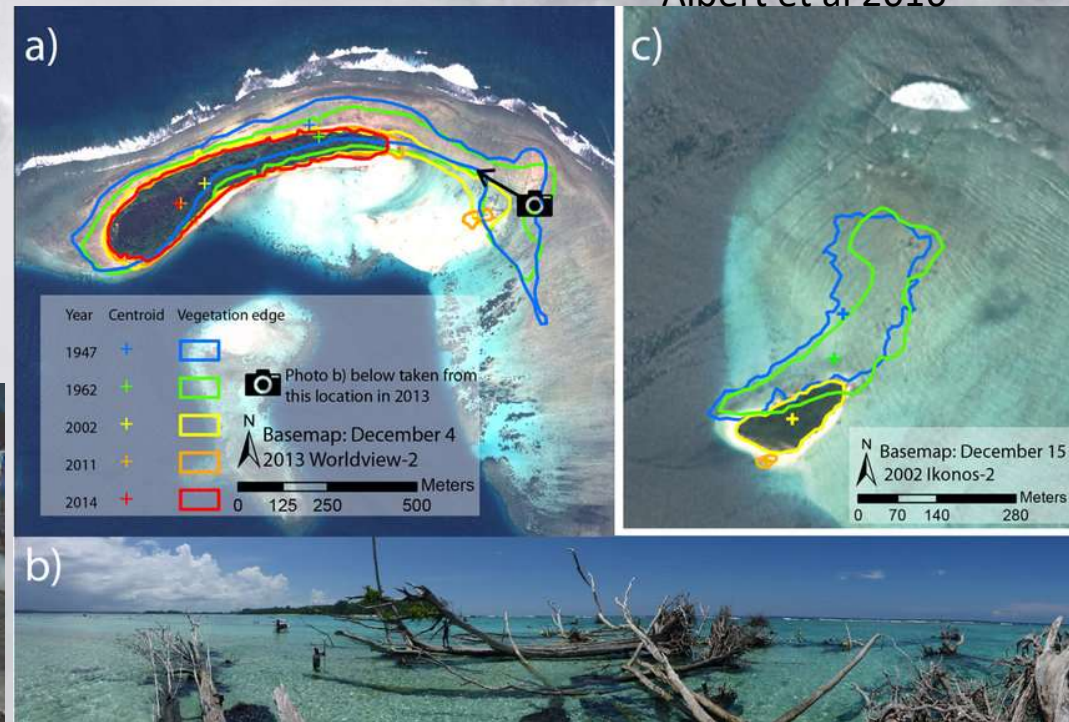
Tuvalu

Guardian



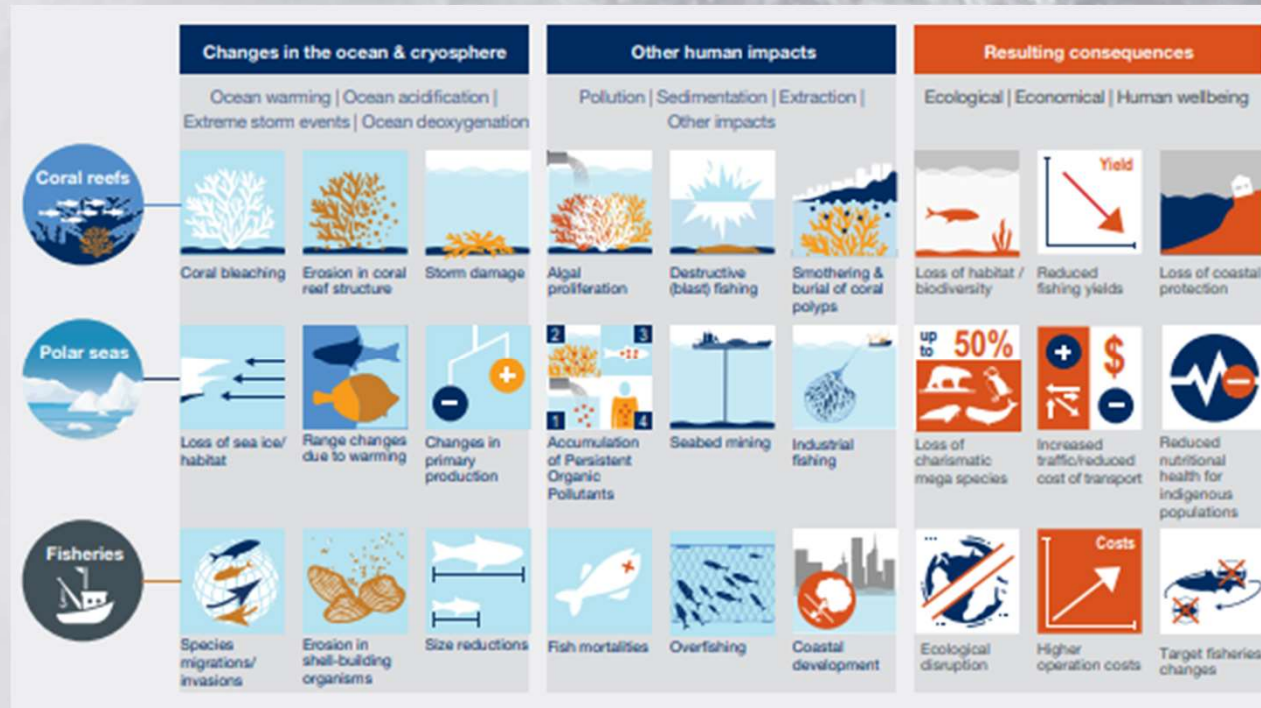
Solomon Islands

Albert et al 2016



Climate change and biodiversity

- Non-human creation is suffering too
 - Impacts of climate change (including warming oceans and ocean acidification)
 - Impacts of exploitation
- ...all of this is evidence of poor stewardship...



IPCC-IPBES Scientific outcome report 2021

2023: record-breaking year

In key climate indicators... and disasters

Malawi cyclone



NZ cyclone



DRC floods



Hawai'i wildfires



Italy floods



Libya storm



Myanmar cyclone

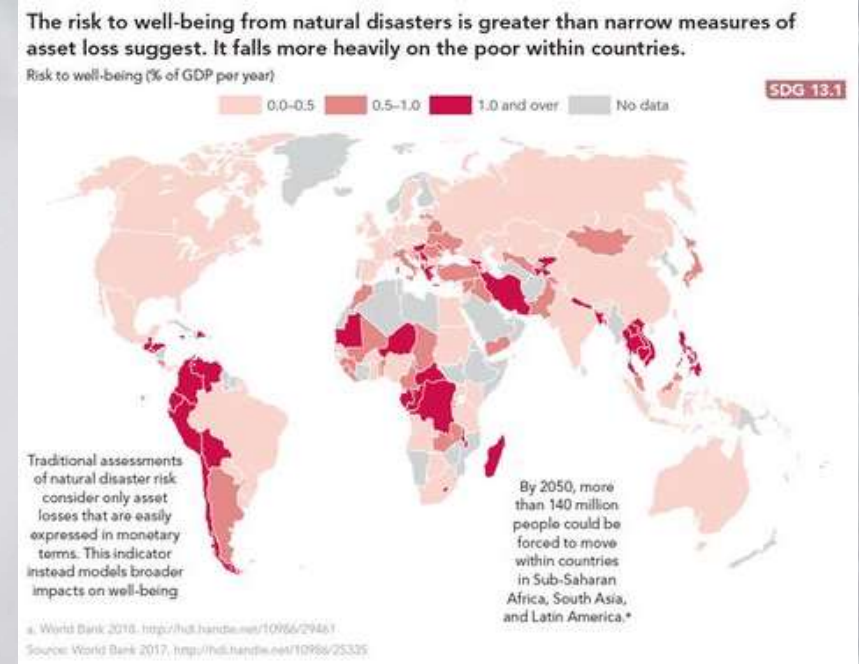
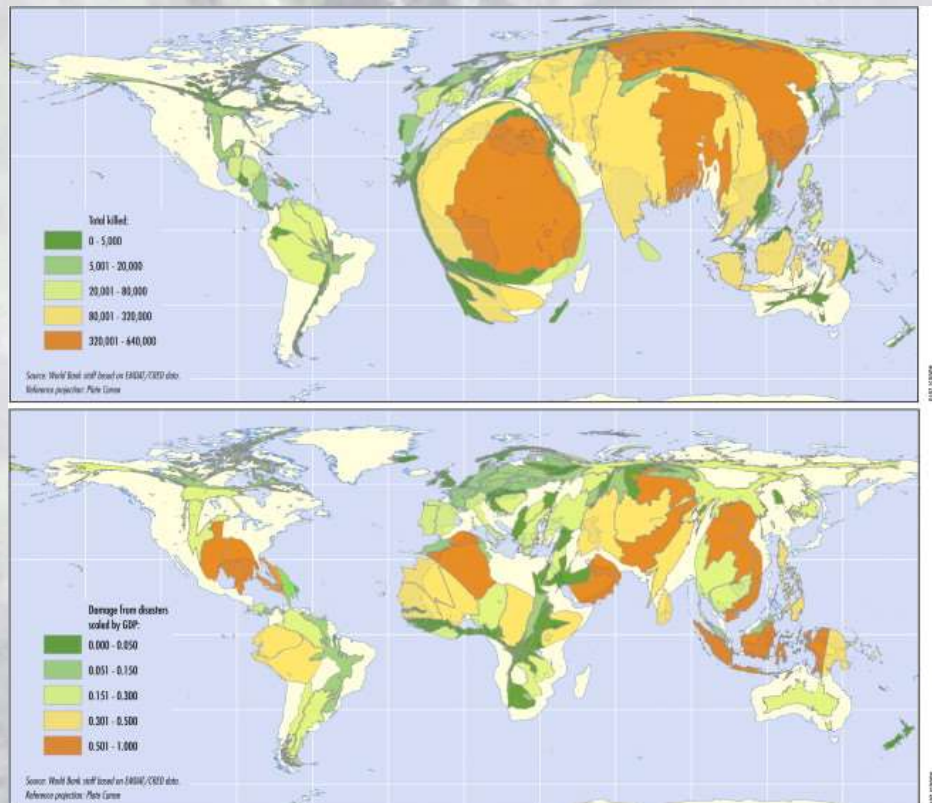


Chile wildfires



Brazil floods

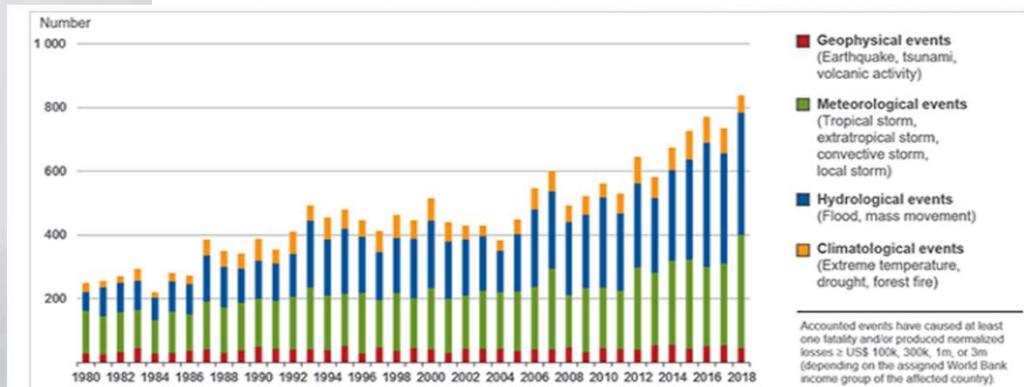
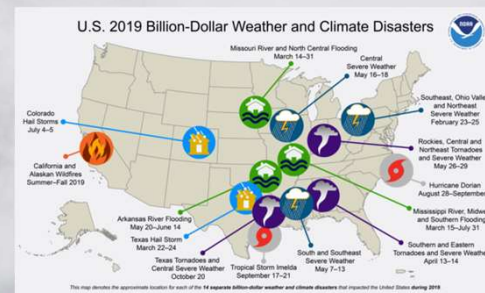
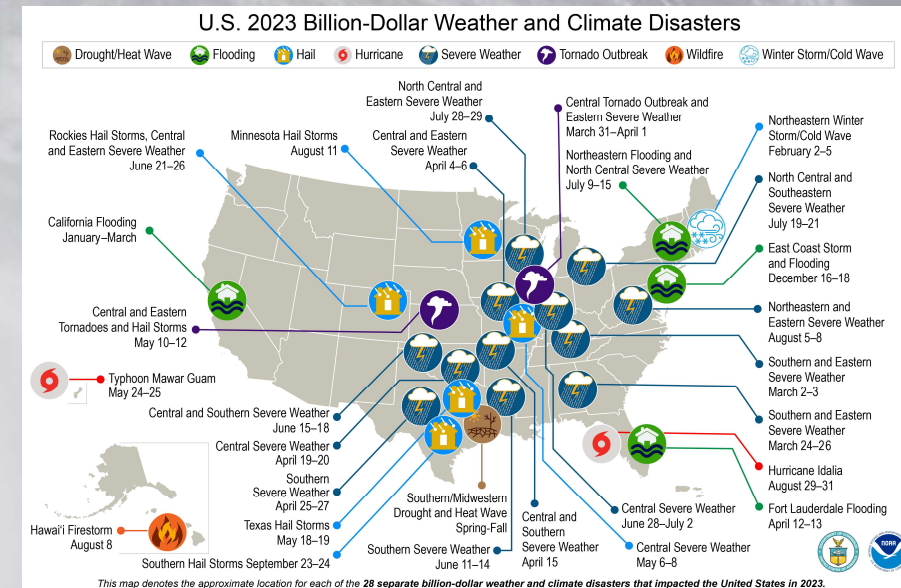
Uneven impacts of disasters



Mochizuki et al 2014

Disaster risk reduction

- The average long-term number of billion dollar disasters in the US is 7 per year. In 2023, it was 28. (CPI adjusted)
- ...we have technology for warnings, mitigation etc
- ...but we use it poorly and unequally...



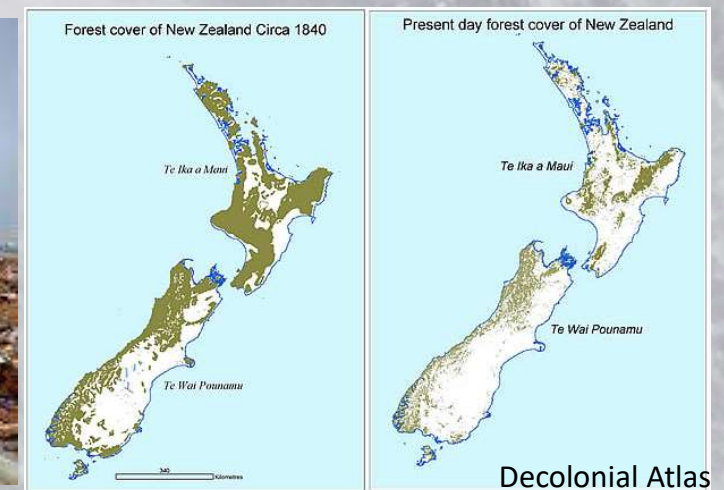
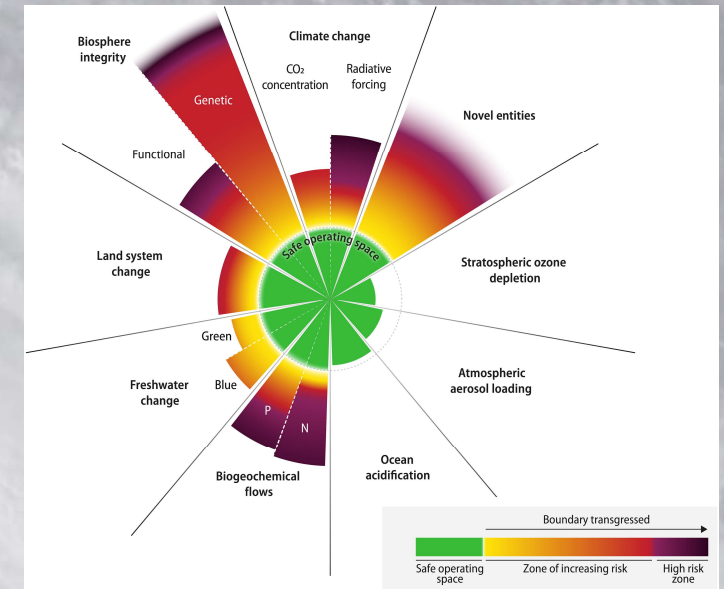
Source: © 2019 Munich Re, Geo Risks Research, NatCatSERVICE. As of March 2019.

NOAA

Complexity



- Climate change cannot be viewed separately from wider environmental issues – exploitation of resources, poor development planning, biodiversity loss...
- And it cannot be separated from legacies of colonialism, capitalism and exploitation – both of creation and of other people



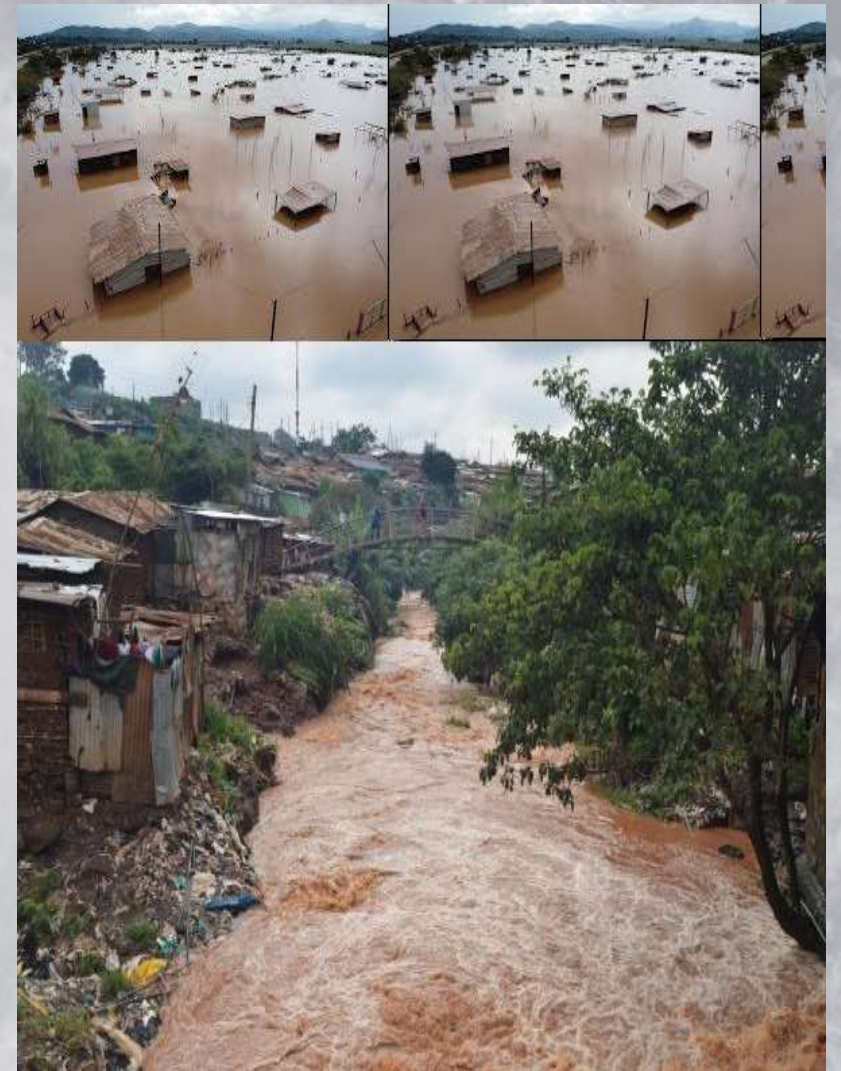
Environmental justice

- The impacts of environmental change are disproportionately impacting those who did not cause it
- The impacts of climate change mitigation – the exploitation of lithium, cobalt, rare earths – is also disproportionately impacting these societies.
- This is a huge issue of *justice*



Implications

- We are failing in our stewardship of creation and it is having significant impacts on our brothers and sisters elsewhere
 - Through disasters
 - Through exploitation of resources
 - ...
- ...climate change is one key example of that...
- ...it exacerbates economic and geopolitical inequalities...
- ...it is killing people and ecosystems...

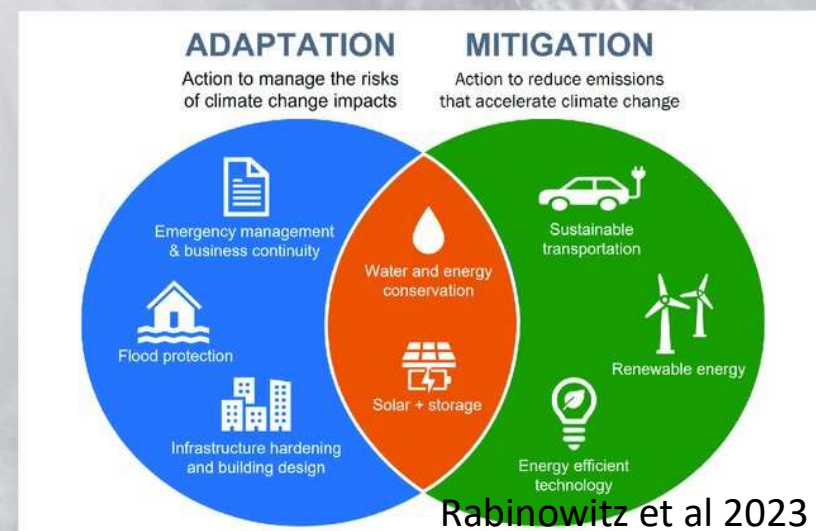


An aerial photograph of a forest fire. A large, dense plume of white smoke rises from a central point in the forest, spreading outwards. The surrounding forest is dark green, with some areas appearing lighter green, possibly due to the fire's progression or the image's color grading. The smoke plume is the central focus, with its base where the fire is occurring. The text "Talk to the person next to you about your response...." is overlaid on the left side of the image, in a black, sans-serif font.

Talk to the person next to you about your response....

What can we (as society) do?

- Two key elements – adaptation and mitigation
- Adaptation: managing the **impacts** of environmental change
- Mitigation: reducing the **causes** of environmental change
- Need both: impact of reducing emissions would be slow due to the inertia of the climate system...
- BUT capitalism much prefers mitigation...
 - Which is not enough!
- Some progress on loss and damage, though
 - Santiago Network etc (COP25, COP28).
 - **NOT CLOSE TO ENOUGH!**

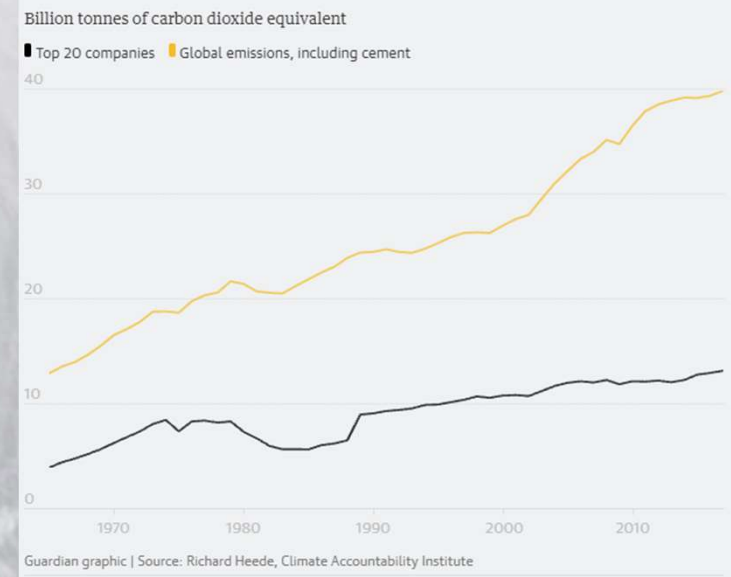


What can we (as individual Christians) do?

- Individual decisions are important...
 - About how we live – less meat, plastic etc.
 - About which companies we buy from
- But key problems are **systemic** – multinational companies, political interests etc – ultimately greed and selfish values and a resulting lack of regulation by powerful governments
 - **Think about who we vote for – and VOTE!**
 - **Lobby politicians and leaders**
 - **Give wisely (time and money)**
 - **BE INFORMED**



The top 20 companies have contributed to 35% of all carbon dioxide and methane since 1965



What can we (as individual Christians) do?

- Acknowledge the difficulties and tensions in our response
- Acknowledge the grief and the anxieties around us and be compassionate
 - Remember that God is in control and share the hope that we have in Christ
 - Remember that God is realistic about the impact of sin on creation – and has a plan!
- Get alongside people who are anxious and grieving – the Christian life inherently involves both suffering and pastoral care

*¹⁴ What good is it, my brothers and sisters, if someone claims to have faith but has no deeds? Can such faith save them? ¹⁵ Suppose a brother or a sister is without clothes and daily food. ¹⁶ If one of you says to them, "Go in peace; keep warm and well fed," but does nothing about their physical needs, what good is it? ¹⁷ In the same way, faith by itself, if it is not accompanied by action, is dead. **James 2:14-17***

*⁶ By these waters also the world of that time was deluged and destroyed. ⁷ By the same word the present heavens and earth are reserved for fire, being kept for the day of judgment and destruction of the ungodly. ⁸ But do not forget this one thing, dear friends: With the Lord a day is like a thousand years, and a thousand years are like a day. ⁹ The Lord is not slow in keeping his promise, as some understand slowness. Instead he is patient with you, not wanting anyone to perish, but everyone to come to repentance. **2 Peter 3:6-9***

What can we (as individual Christians) do?

- Pray!
 - For the people impacted – by disaster, exploitation, land degradation...
 - For forgiveness for injustices – historical and contemporary – in all of this
 - For clarity about where we can take meaningful actions in our lives
 - For good leaders and guidance for them
 - For confidence in the forgiveness we have in Christ and the hope of a New Creation
 - For a church that acknowledges all of the sin that underlies this – and that seeks to bring people to faith that saves them and motivates them to work for others first
- Be honest with those around us, and be ready to share with them