A pair of hands, one from the left and one from the right, are shown holding a small, realistic globe of the Earth. The hands are positioned as if cradling the globe, with fingers gently gripping it. The globe shows the Americas, with North and South America visible in green and yellow, surrounded by blue oceans and white clouds. The background is solid black, making the hands and globe stand out prominently.

# **Global Warming and Climate Change**

**Primates' Conference 2009  
Alexandria, Egypt**

1. Evidence and Effects of Global Warming and Climate Change
2. A Biblical Imperative
3. The Christian Moral Climate
4. What can the Church do?

# 1. Evidence and Effects of Global Warming and Climate Change.



# What climate is & what climate-change means

Climate is the pattern of weather, meaning averages, extremes, timing, spatial distribution of...

- hot & cold
- cloudy & clear
- humid & dry
- drizzles & downpours
- snowfall, snowpack, & snowmelt
- zephyrs, blizzards, tornadoes, & typhoons

When climate changes, the patterns change.

Global average temperature is just an index of the state of the global climate as expressed in these patterns.  
Small changes in the index → big changes in the patterns.

# What climate change puts at risk

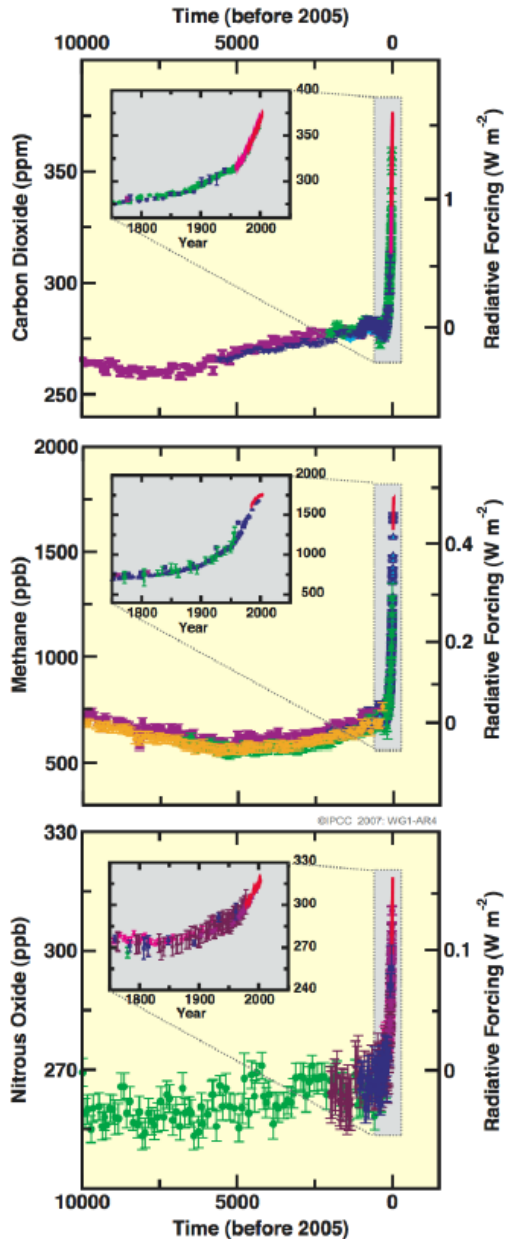
## Climate governs ...

- availability of water
- productivity of farms, forests, & fisheries
- prevalence of oppressive heat & humidity
  - geography of disease
- damages from storms, floods, droughts, wildfires
  - property losses from sea-level rise
- expenditures on engineered environments
  - distribution & abundance of species



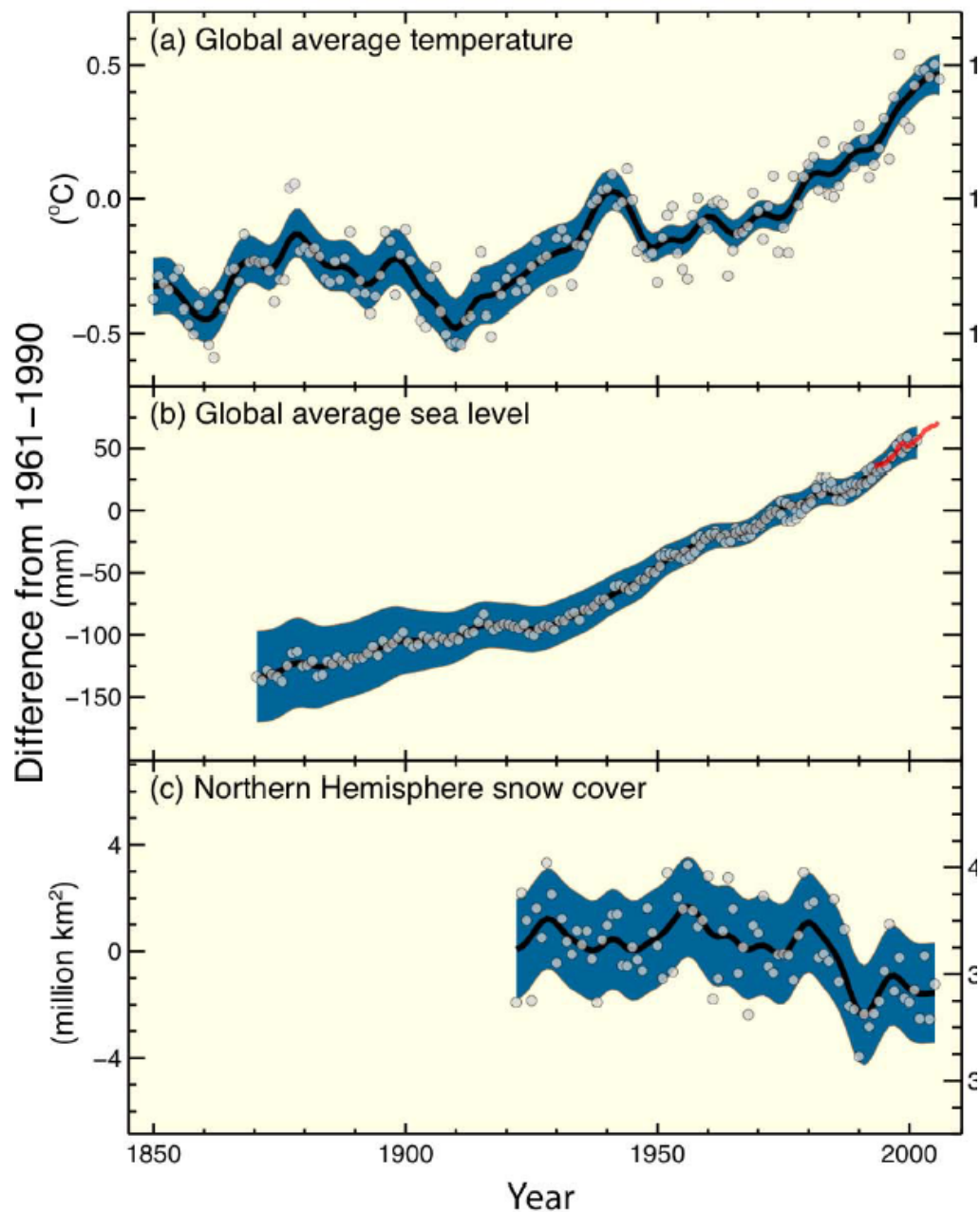


## Changes in Greenhouse Gases from ice-Core and Modern Data



Global atmospheric concentrations of carbon dioxide, methane and nitrous oxide have increased markedly as a result of human activities since 1750 and now far exceed pre-industrial values determined from ice cores spanning many thousands of years. The global increases in carbon dioxide concentration are due primarily to fossil fuel use and land-use change, while those of methane and nitrous oxide are primarily due to agriculture.

## Changes in Temperature, Sea Level and Northern Hemisphere Snow Cover



Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level

# Sea-level transgression scenarios for Bangladesh



Adapted from Milliman *et al.* (1989).





# Nadi, Fiji. January 2009





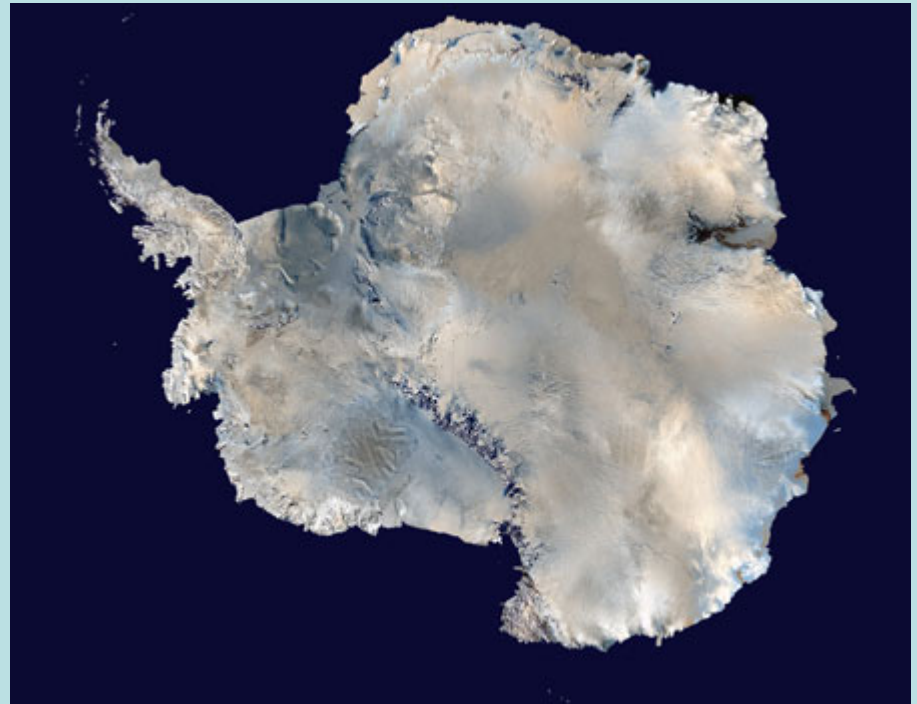
# Flooding brought down this bridge in Sigatoka, Fiji





**At continental, regional, and ocean basin scales, numerous long-term changes in climate have been observed. These include changes in Arctic temperatures and ice, widespread changes in precipitation amounts, ocean salinity, wind patterns and aspects of extreme weather including droughts, heavy precipitation, heat waves and the intensity of tropical cyclones**

Paleoclimate information supports the interpretation that the warmth of the last half century is unusual in at least the previous 1300 years. The last time the polar regions were significantly warmer than present for an extended period (about 125,000 years ago), reductions in polar ice volume led to 4 to 6 metres of sea level rise.

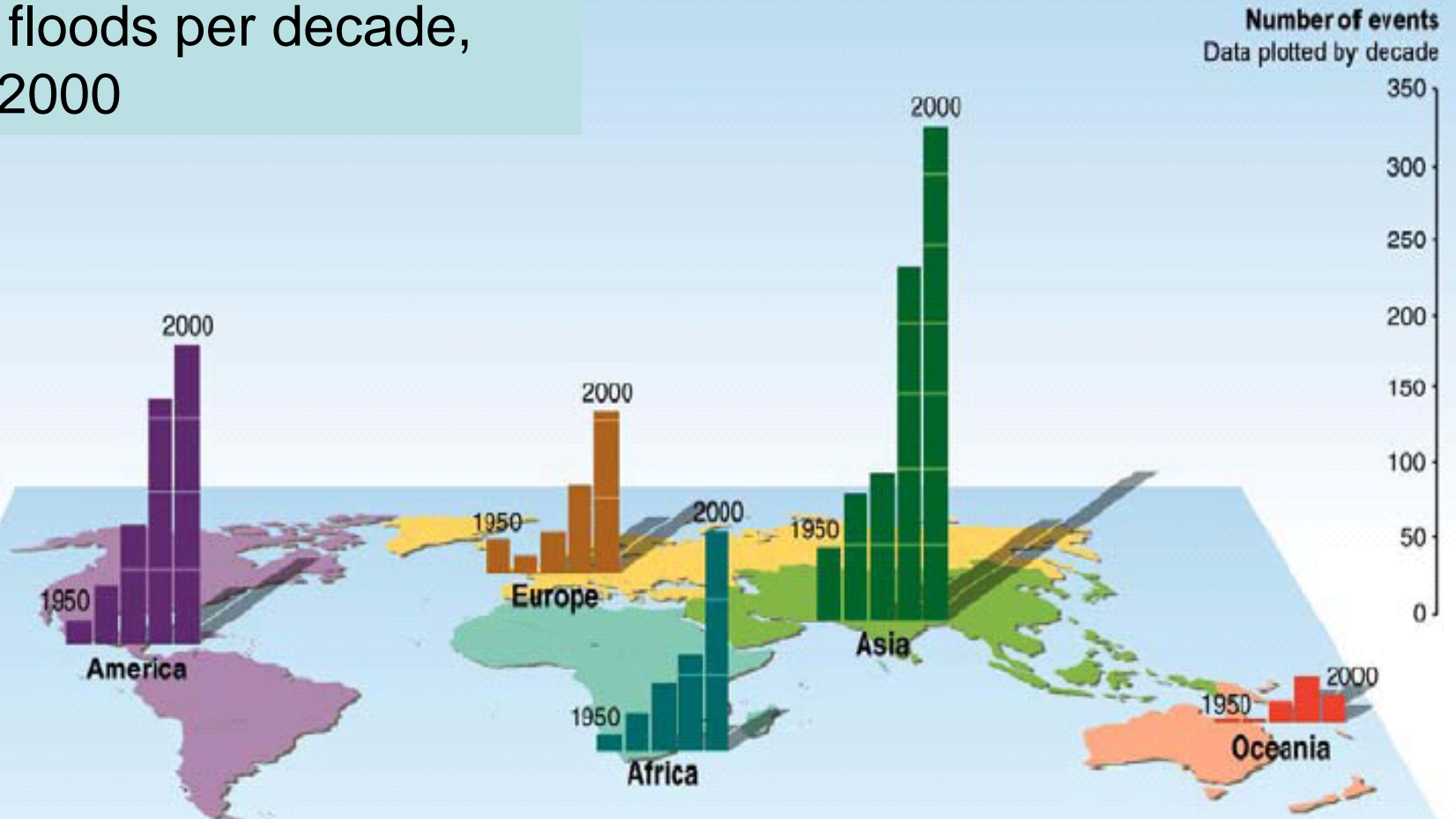


*From Intergovernmental Panel on Climate Change (IPCC),  
"Climate Change 2007: The Physical Science Basis"*



# Changes in climate are already causing harm

Major floods per decade,  
1950-2000



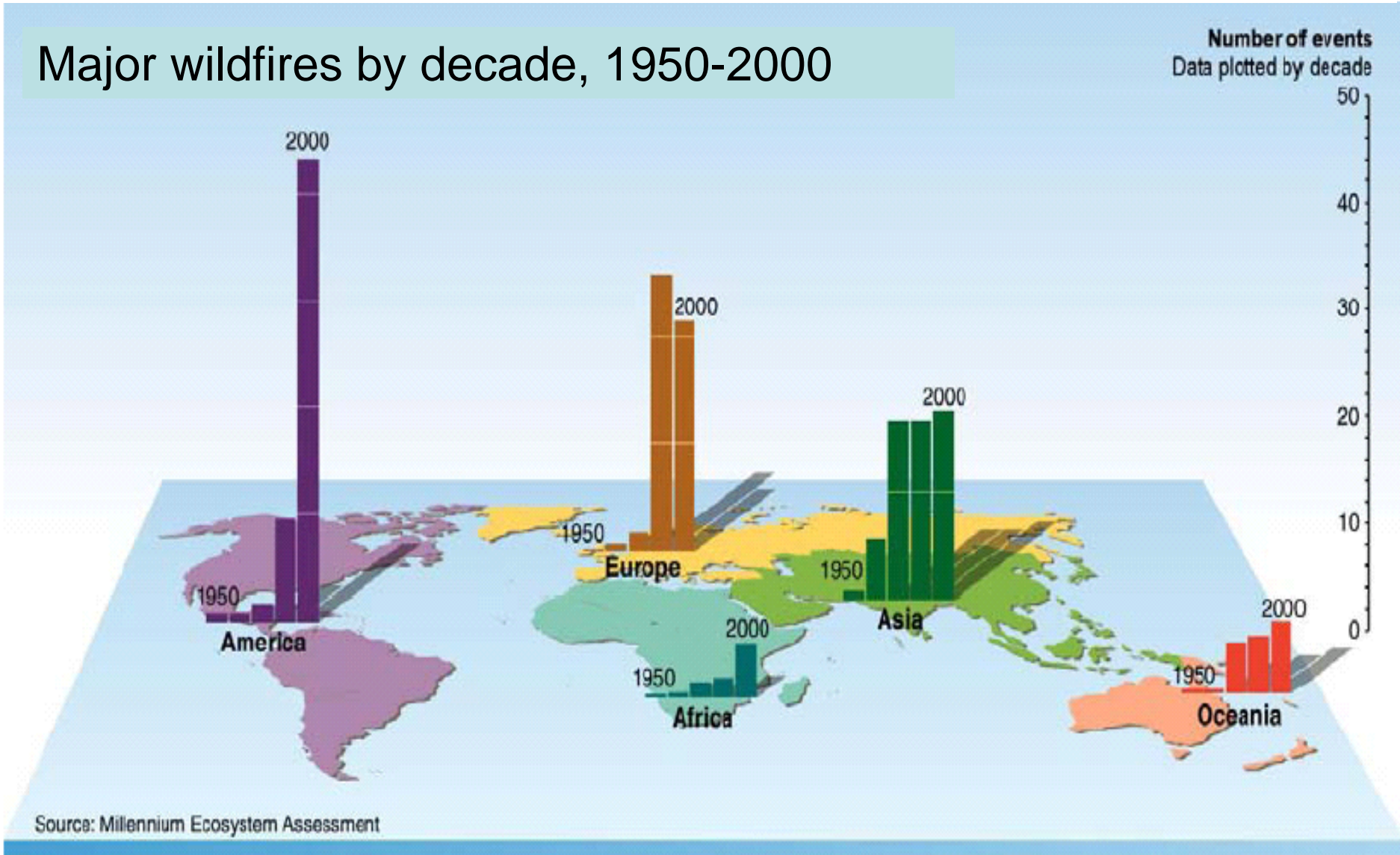
Source: Millennium Ecosystem Assessment

There's a consistent 50-year upward trend in every region except Oceania.



# Harm is already occurring (continued)

## Major wildfires by decade, 1950-2000

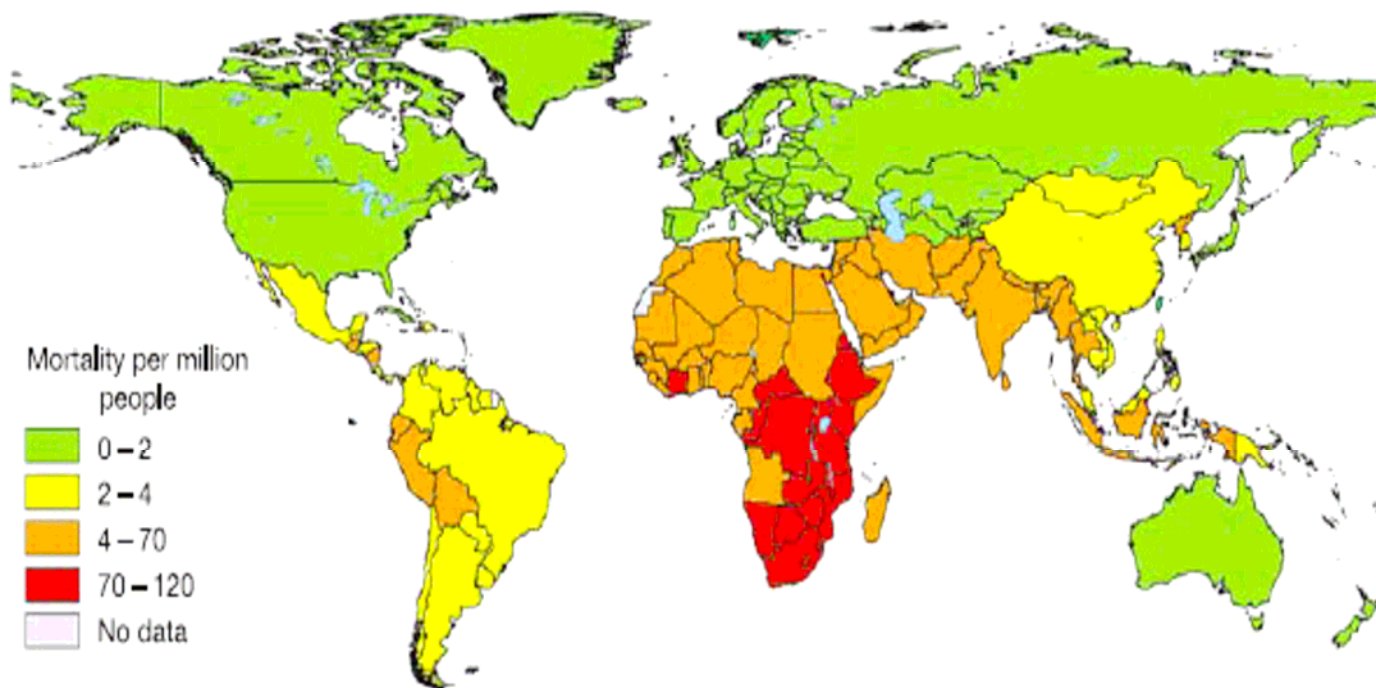


The trend has been sharply upward everywhere.



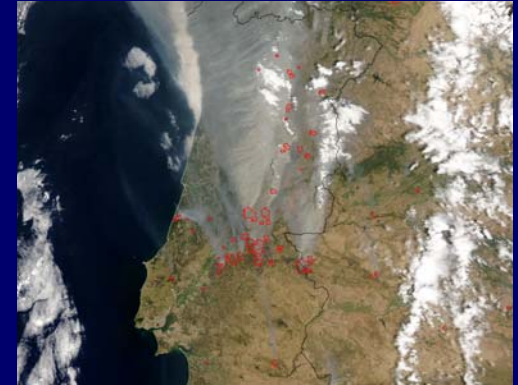
## Harm is already occurring (concluded)

WHO estimates climate change already causing  $\geq 150,000$  premature deaths/yr in 2000





# The climate is changing



## 2. A Biblical Imperative



# A Biblical Worldview

- Creation
- Fall
- Redemption



# For God's sake ...

## A Wonderful World ...

- God makes it from nothing  
*Genesis 1 & 2; John 1*
- God declares it good  
*Genesis 1:4 - 31; Psalm 148*
- God sustains it in love  
*Psalm 104; Job 38*

# For God's sake ...

## A Groaning Creation ...

- The spiritual roots of the ecological crisis  
*Genesis 3:17 "Cursed is the ground ..."*
- The environmental results of sin  
*The land 'mourns' (Hosea 4:1-3), 'suffers' (Jer. 12:4) and "vomits" (Lev. 18:25-28)*
- Creation's longing for redemption  
*Romans 8:19-22 "eager longing" and "groaning in pain"*

# For God's sake ...

## God's redemptive action...

- God's promises to creation  
*Genesis 9:9-17 "My covenant with the earth."*
- Jesus - the centre of the earth  
*Colossians 1.15-17*
- Jesus - the Saviour of the world  
*Romans 8.21 "creation set free ..."*  
*Colossians 1:20 "all things reconciled to God"*
- All things made new in Christ Jesus  
*Ephesians 1:10 "All things under Christ"*  
*Revelation 21:5 "Lo, I make all things new."*

# For God's sake ...

Humans beings

*understanding our rightful place as guests, servants and stewards*

- **A carbon-based life-form**  
*Genesis 2:7 "from the dust of the earth"*
- **In God's image (Genesis 1.26)**  
*Psalms 8 "A little lower than the angels."*
- **Servant Kings**  
*Genesis 1:26-28*  
*dominion not domination*
- **Stewards of Creation**  
*Genesis 2:15 "to serve and preserve"*  
*Leviticus 25 "A sabbath of rest for the land"*



# Psalm 104

Bless the Lord, O my soul. O Lord my God, you  
are very great. You are clothed with honor and  
majesty,  
wrapped in light as with a garment. You stretch out  
the heavens like a tent,  
you set the beams of your chambers on the  
waters, you make the clouds your chariot, you  
ride on the wings of the wind,  
you make the winds your messengers, fire and  
flame your ministers.  
You set the earth on its foundations, so that it shall  
never be shaken.



You cover it with the deep as with a garment; the waters stood above the mountains.

At your rebuke they flee; at the sound of your thunder they take to flight.

They rose up to the mountains, ran down to the valleys to the place that you appointed for them.

You set a boundary that they may not pass, so that they might not again cover the earth.

You make springs gush forth in the valleys; they flow between the hills,

giving drink to every wild animal; the wild asses quench their thirst.

By the streams the birds of the air have their habitation; they sing among the branches.

From your lofty abode you water the mountains; the earth is satisfied with the fruit of your work.

You cause the grass to grow for the cattle, and plants for people to use, to bring forth food from the earth,

and wine to gladden the human heart, oil to make the face shine, and bread to strengthen the human heart.

The trees of the Lord are watered abundantly, the cedars of Lebanon that he planted.

In them the birds build their nests; the stork has its home in the fir trees.

The high mountains are for the wild goats; the rocks are a refuge for the coneys.

You have made the moon to mark the seasons; the sun knows its time for setting.

You make darkness, and it is night, when all the animals of the forest come creeping out.

The young lions roar for their prey, seeking their food from God.

When the sun rises, they withdraw and lie down in their dens.

People go out to their work and to their labor until the evening.

O Lord, how manifold are your works! In wisdom you have made them all; the earth is full of your creatures.

Yonder is the sea, great and wide, creeping things innumerable are there, living things both small and great.

There go the ships, and Leviathan that you formed  
to sport in it.

These all look to you to give them their food in due  
season;

when you give to them, they gather it up; when you  
open your hand, they are filled with good things.

When you hide your face, they are dismayed;  
when you take away their breath, they die and  
return to their dust.

When you send forth your spirit, they are created;  
and you renew the face of the ground.

May the glory of the Lord endure forever; may the  
Lord rejoice in his works—

who looks on the earth and it trembles, who touches the mountains and they smoke.

I will sing to the Lord as long as I live; I will sing praise to my God while I have being.

May my meditation be pleasing to him, for I rejoice in the Lord.

Let sinners be consumed from the earth, and let the wicked be no more. Bless the Lord, O my soul. Praise the Lord!



# A Biblical Imperative

Climate change reflects the denial of social justice. Climate change is occurring because people in rich countries are consuming resources and generating waste (particularly CO<sub>2</sub>) at a rate that is overwhelming the processes that sustain the biosphere. We consume resources at a rate that would require 3-4 earths if everyone on earth consumed at the same rate. Jeremiah connected ecological collapse, injustice, and neglect of the moral order, with neglect of the true worship (Jer.5:22-28) Unrestrained consumption is inherently unjust and is not a option for disciples of Christ.

*From the article "Global Warming" written by Dr Graeme Finlay, lecturer at Auckland University Medical School in December 2008 intended to be published in Daystar Magazine.*

### 3. The Christian Moral Climate



# A Clear Moral Vision

Because God is just and righteous and Lord of all the earth, of all that lives and breathes, Christians have a responsibility for:

- The justice of God to future generations
- The justice of God to all on the earth at this moment.

# The Christian Moral Climate

By concentrating on the second things, the first things are likely to be lost. In prioritising as first the trappings of civilisation – higher living standards, for instance – there was a danger of losing civilisation itself. Jesus put over the same principle when he said ‘Seek first the kingdom of God and his righteousness and all these things (food, drink, clothing) will be added on to you’. (Matthew 6:33). In facing climate change, putting selfish interests ahead of the common good will likely lead to loss of both.



# Justice and Christian Ethics

This earth is one of many gifts of God spread abroad for all to share. Hoarding to protect from one another merely privileges one over another and it is these sorts of activities that God judges.

The strongest moral case for mitigating global warming is that it is already life threatening to those who are least able to defend themselves, and have no responsibility for its causation. Although they suffer the worst consequences of climate change, and they will be responsible for two thirds of the projected increase in production of greenhouse gases in the present century, the inhabitants of the Southern hemisphere, whose growing numbers are often decried by environmentalists and scientists are not those who place the greatest burden on the planet's atmosphere, and its other life-supporting systems. Instead it is the far smaller numbers of European and Americans who produce carbon dioxide and other greenhouse gases at rates so much higher than their Southern planetary neighbours.

*From Michael Northcott, A Moral Climate*

Thomas Aquinas: excess wealth accumulation as theft in his reflection on the eight commandment.

They who spend too much are robbers.

If rich people take possessions of something which was common property for their own use, and in such a way as to exclude others from using it, they steal common goods from others and therefore sin.

Where wealth accrues to some such that this sustenance is denied to others then this is theft.

Purloining of the commons of the atmosphere as a sink for the excessive emissions of the rich is a form of theft because it directly impedes the bodily sustenance of those in drought or flood-prone regions. That the poor are the rightful claimants to excess wealth makes the injustice of global warming all the more immoral, given the cause of the problem is not subsistence emissions of the poor but the luxury emissions of the wealthy.

*From Michael Northcott, A Moral Climate*

## 4. What can the Church do?





# What the Church can do

People will need to recover a sense of spiritual significance of treasuring and guarding their own local ecosystems.



*From Michael Northcott, A Moral Climate*



# Role of the Church

To express solidarity with the victims of climate change and with the earth itself.

The Christian vision of politics as radically participative and grounded in an ethic of care and compassion.

The kinds of politics which are required will need to engage every citizen, household, corporation, and organisation.

Christian congregations are just the kind of communities which can bring facts, scripture and morality together with the people who can make a difference.

Many of these local groups are already making strenuous efforts to address climate impacts of their activities and of the lifestyles of their members.

A partnership is required, to allow the solutions which lie in our human capabilities to be seen and activated. Moral leadership is at the centre of this to ensure problems created by humans are solved by humans.

*From Lambeth Daily Plenary, Friday 25 July 2008*

# Renewed Relationships with ...

- **God** ... living as if it's God's world, not ours
- **People** ... seeing how our lifestyles affect the world's poor
- **Planet** ... recognising our interdependence, and rejoicing in creation's beauty & bounty



# Practical Steps ...

## • Individually

- commit to simpler lifestyles ([www.livinglightly24-1.org.uk](http://www.livinglightly24-1.org.uk))
- offset polluting travel ([www.climatestewards.org.uk](http://www.climatestewards.org.uk))
- get involved with A Rocha ([www.arocha.org.uk](http://www.arocha.org.uk))

## • Locally

- become an Eco-Congregation! ([www.ecocongregation.org](http://www.ecocongregation.org))
- start a local project to care for creation

## • Globally

- support organisations who are working to conserve creation & to help the poor
- campaign to Stop Climate Chaos ([www.icount.org.uk](http://www.icount.org.uk))

Acting rightly with respect to the earth is a source of hope, for those who so act give expression to the Christian belief that it is God's intention to redeem the earth, and her oppressed creatures, from sinful subjection to the oppressive domination of prideful wealth and imperial power. Such actions witness to the truth that the history of global warming has gradually unfolded; that those poor or voiceless human and nonhuman beings whose prospects climate change is threatening are *neighbours* through the climate system to the powerful and wealthy. And Christ's command in these circumstances is as relevant as ever: 'love your neighbour as yourself'.

*From Michael Northcott, A Moral Climate*



**A ROCHA**

Your Kingdom come,  
your will be done  
**ON EARTH**  
as in heaven.



# Questions for thought

- Reflection on presentation
- What role has the church already played in the care of God's creation in your region?
- What role does the church need to now carry out, that it has never attempted before in your region?

# Resources & Websites

- Church of England's "Shrinking the footprint" website [www.shrinkingthefootprint.cofe.anglican.org](http://www.shrinkingthefootprint.cofe.anglican.org)
- An Inconvenient Truth <http://www.climatecrisis.net/>. See "Take action" link
- Michael Northcott, A Moral Climate: the ethics of global warming, 2007
- Intergovernmental Panel on Climate Change, Climate Change 2007: The Physical Science Basis Summary for Policy Makers
- Millennium Ecosystem Assessment, <http://www.millenniumassessment.org>