OH, OKAY, I SEE YOUR POINT. BUT YOU HAVE TO BALANCE THAT AGAINST THE CONVENIENCES OF MY LIFESTYLE.

GLOBAL WARMING
Job 38: God speaks to Job

Then the LORD answered Job out of the storm. He said:

Do you know the laws of the heavens? Can you set up God's dominion over the earth?
Can you raise your voice to the clouds and cover yourself with a flood of water?
Do you send the lightning bolts on their way? Do they report to you, 'Here we are'?
Who endowed the heart with wisdom or gave understanding to the mind?
Who has the wisdom to count the clouds? Who can tip over the water jars of the heavens when the dust becomes hard and the clods of earth stick together?

(Verses 33 – 38)
The era of procrastination, of half measures, of soothing and baffling expedients, of delays, is coming to its close. In its place we are entering a period of consequences.

Winston Churchill, 1936
Global Warming: Scientific Basis and Christian Responses

Tom Ackerman
University of Washington
Part 1: Global Climate Change

- Climate change is happening
  - “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.” – IPCC AR4 Summary for Policy Makers

- Do we understand why?
  - “Most of the observed increase in globally averaged temperatures since the mid-20th century is very likely (>90% probability) due to the observed increase in anthropogenic greenhouse gas concentrations.” – same reference

- What does the future look like?
Blue line is 10-year running mean; Green bar is 2006 (provisional value)
Longer term trends

Northern Hemisphere

Temperature Anomaly (deg.C)

Moberg et al. - Mann & Jones - HADCRU - Ave.
Global Climate Change

- Climate is changing
- Human activity is responsible
  - Greenhouse gases warm the planet
  - We are increasing the greenhouse gas concentration
Ground

Atmosphere
(Absorbers are Gases -- CO$_2$, water vapor, and ozone -- and Clouds)

Thermal radiation from the atmosphere

Thermal energy lost to space; must balance absorbed solar energy

Solar energy in

Ground

Greenhouse effect
Annual Average CO2 Concentration
Mauna Loa, HI (Elevation: 12,000 ft.)

Concentration (ppm)

Year
Antarctic Ice Core Data

Year

$\text{CO}_2$ Concentration, ppm

Mauna Loa Data
Growth Rates (per year)

Fossil fuel emissions:
- 1980s: 19.8 GtCO₂ /yr
- 1990s: 23.5 GtCO₂ /yr
- 2000-2005: 26.4 GtCO₂ /yr

Land Use Change flux:
- 1980s: 5.1 GtCO₂ /yr
- 1990s: 5.9 GtCO₂ /yr

Atmospheric CO₂ growth rate:
- 1960 – 2005: 1.4 ppm /yr
- 1995 – 2005: 1.9 ppm /yr
## Top 20 (1999 total CO₂ emissions)

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Percentage of World Emissions

Per Capita Metric Tons of Carbon
Simulated Temperature change (IPCC)

Attribution of current change
Multi-model Averages and Assessed Ranges for Surface Warming

Scenarios

Projected warming

Global surface warming (°C)

Year

1900 2000 2100

IPCC: Summary for Policy Makers, Figure 5
Updated 13 Feb 2007
AOGCM Projections of Surface Temperatures

IPCC: Summary for Policy Makers, Figure 6
Updated 13 Feb 2007
Part 2
Christian Responses to Global Warming
Factors Affecting Attitudes and Approaches to Environmental Problems

I. Eschatology

II. Integration

III. Responsibility (Theology, more broadly)
Eschatological views (sampler)

- **Calvinism**
  - World was created good
  - Humans and nature fell from the sin of Adam and Eve
  - The whole world is redeemed through the work of Christ
  - God’s plan will be fulfilled in the second coming of Christ
  - We don’t know (can’t fathom) the life hereafter due to our own limitations

- **Quaker**
  - Humans are basically good
  - Some level of perfection of society is possible
  - Grace is universal
  - Here and now is the place of God’s redemptive activity
  - Humankind is responsible to establish God’s kingdom on earth
Eschatological views (sampler)

- **Dispensational beliefs**
  - No continuity between the present earth and the future earth after the return of Christ
  - Increasing violence and natural disasters are signs to mark the coming of Christ
  - The earth is a backdrop for the actions of God in saving humans
Dominant American Evangelical World View

- Home-grown Christian Dispensationalism / Fundamentalism
- Includes a strong anti-communist / socialist ideology
- Both shapes and reflects the larger American individualistic ideology
- Resulting world view includes
  - Utilitarian views of nature
  - Support for individual property rights
  - Anti-government sentiments
  - Belief in the free market
Integration

- View of relationship between God, humans and nature

Courtesy of Janel Curry
So how does this play out in Christian responses?
The Naïve Optimist

- God is good
- God provides for a believer’s needs in they follow His commandments
- Therefore, God will never let the earth suffer global environmental degradation
The Naïve Optimist

- From *America’s Providential History*
  A secular society lacks faith in God’s Providence, and consequently men find fewer natural resources. The secular or socialist has a limited-resource mentality and views the world as a pie (there is only so much) that needs to be cut up so that everyone can have a piece. In contrast, the Christian knows that the potential in God is unlimited and that there is no shortage of resources in God’s earth.

- From the Seattle PI, Sunday, May 6, 2007 (Mark Trabant column)
  If you believe in literal truth -- and the absolute, personal power of a Creator -- then it doesn't really matter if we humans have fouled our own nest. We'll be taken care of later. That is a harsh way of dismissing the teaching of science, experimenting with stem cells or global warming.
Rapture theology (1)

- Not to worry – the world is going to end anyway and caring for it is not our problem

- From the web site raptureready.com:
  The main job of a Christian leader is to guide lost souls to redemption. ... In my view, any preacher who decides to get involved in environmental issues is like a heart surgeon who suddenly leaves an operation to fix a clogged toilet
Rapture theology (2)

- Environmentalism leads to a “world government”, which is allied with the anti-Christ
- From the web site raptureready.com

From the web site raptureready.com

The true goal of the environmental movement is to draw the world into a central body that would set the rules. This plan is part of the devil’s master scheme to recreate the type of control he had during the time of the Babylonian Empire. The only way to get back to Babylon is to push for world unity. The environmental movement is a perfect disguise because it asks nations to surrender their sovereignty for a cause seemingly beneficial to all nations.
Denialists

The general arguments:
- Climate change science is suspect – not taking into account all the evidence
- Climate scientists are all part of a big conspiracy
- Climate change is due to natural causes

Senator James Inhofe on the floor of the Senate
With all of the hysteria, all of the fear, all of the phony science, could it be that man-made global warming is the greatest hoax ever perpetrated on the American people? It sure sounds like it.
... the best science and economics indicate that

- current warming is within the range of natural variability
- human emissions of CO2 are a minor cause of global warming, but they enhance plant growth and so contribute to feeding the human population and all other species
- global warming is unlikely to become catastrophic in the foreseeable future
- no achievable reductions in CO2 emissions would reduce future temperature detectably, let alone enough to avert catastrophe
Origins of “denialism”?

- A general distrust of science and scientists
  - Arises from issues such as the age of the earth and evolutionary biology
  - Scientists are godless left-wingers who are intent on destroying the faith community

- Confusion about climate science deliberately raised by certain sectors in our society
  - Allows the denialists to cloak their arguments in a sort of pseudo-science
  - Raise the specter of “uncertainty” – we shouldn’t do anything until we are “sure”
Origins of “denialism”? 

- **American evangelical world view**
  - God’s wise design made a resilient earth which is able to heal itself – more CO2 will be good for the earth
  - God promised not to destroy the earth again so catastrophes cannot happen
  - Utilitarian view of nature – dominion of humans - population growth not a problem
  - Anti-government, anti-regulation
  - Free-market capitalism has been good to us, should be good for everybody - environmental concerns and resulting actions will hurt the poor of the world
Creation Care

- This is my Father’s world
- Climate change due to human activity is real and its consequences are potentially severe
- Christians are called to action because we are stewards of God’s world
Creation Care – Example 1

- The large organization – Evangelical Climate Initiative
  Christians must care about climate change because we love God the Creator and Jesus our Lord, through whom and for whom the creation was made. This is God's world, and any damage that we do to God's world is an offense against God Himself (Gen. 1; Ps. 24; Col. 1:16)

- Mission is to organize within the evangelical community and interact with the political sphere
Creation Care – Example 2

- The small organization – Restoring Eden
  Mission statement:
  Restoring Eden makes hearts bigger, hands dirtier, and voices stronger learning to love, serve, and protect God’s creation. Restoring Eden lives out the biblical mandate to “speak out for those who cannot speak for themselves” (Proverbs 31:8) as grassroots activists advocating for natural habitats, wild species and indigenous cultures.

- Mission is more personal and individual
God’s calling to the Christian now, and to the Christian community, in the area of nature—just as in the area of personal Christian living in true spirituality—is that we should exhibit a substantial healing here and now between man and nature and nature and itself, as far as Christians can bring it to pass . . . . So man has dominion over nature, but he uses it wrongly. The Christian is called upon to exhibit this dominion, but exhibit it rightly: treating the thing as having value in itself, exercising dominion without being destructive. The Church should always have taught and done this, but she has generally failed to do so. And we need to confess our failure.
Micah 6:8 – The Biblical call

He has showed you, O man, what is good.

And what does the LORD require of you?
To act justly and to love mercy and to walk humbly with your God.
Social Justice

- Social justice demands that we consider the consequences of our environmental actions for
  - The poor in our generation
  - Future generations

- The Evangelical Climate Initiative

  Christians must care about climate change because we are called to love our neighbors, to do unto others as we would have them do unto us, and to protect and care for the least of these as though each was Jesus Christ himself (Mt. 22:34-40; Mt. 7:12; Mt. 25:31-46)
Social Justice Issues

• Climate change is both a development and global environmental issue, which undermines:
  • environmental sustainability
  • poverty alleviation and the livelihoods of the poor
  • human health
  • personal, national and regional security
  • Climate change is an inter- and intra-generational equity issue:
    • developing countries and poor people in developing countries are the most vulnerable
    • the actions of today will affect future generations because of the long life-times of the greenhouse gases and the inertia within the climate system
Responsibility

- Individual morality
  - Draws on theologies with a pietistic tradition

- Structural sin
  - Draws on theologies with a covenant tradition

- Dictates solution approaches
  - Role of the individual
  - Role of government
  - Regulation vs. individual choices
My position

- Climate change is real and the science is robust.
- Projected changes are potentially devastating to our world.
- We bear major responsibility for this problem.
- There are solutions, but we must act now.
- We Christians, commanded to love our neighbors, should take a major role in:
  - Articulating ethical standards
  - Determining technical solutions
  - Demanding political action
Thanks for your attention!