

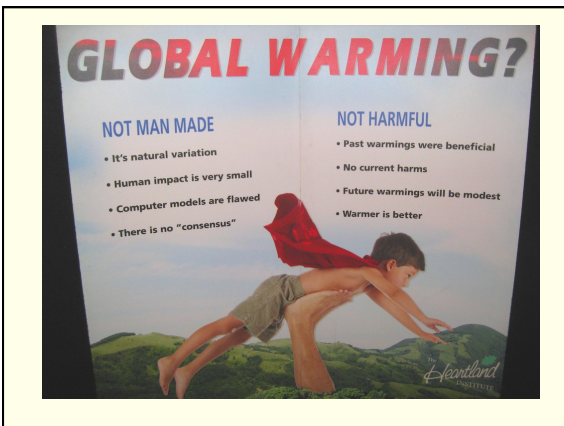


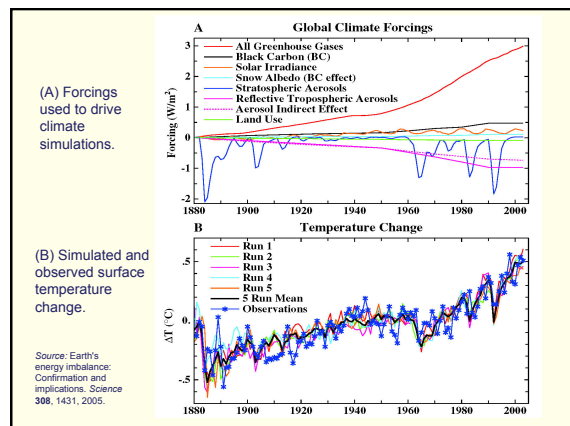
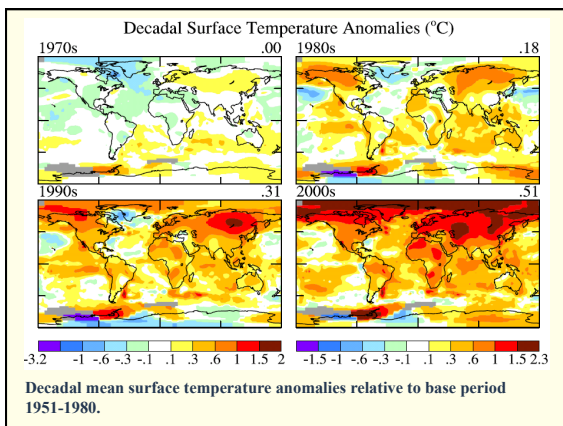
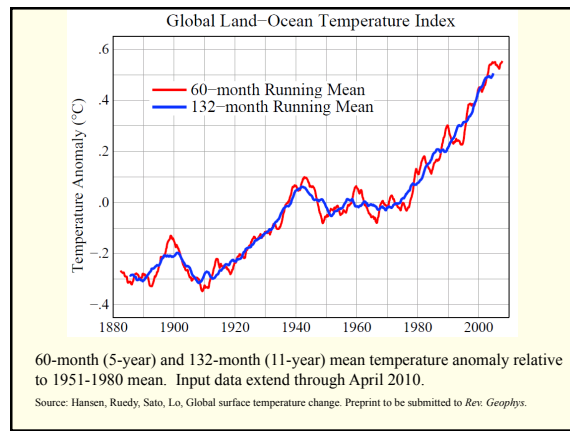
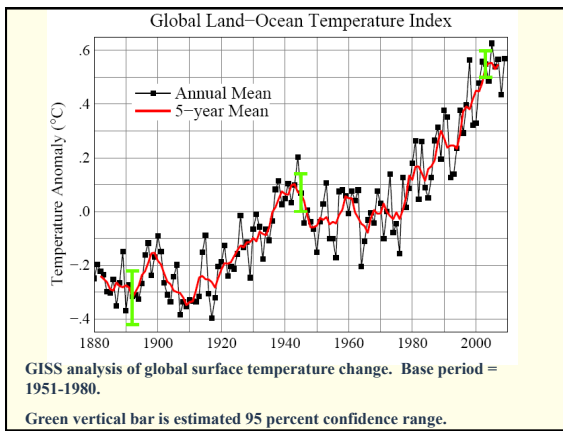
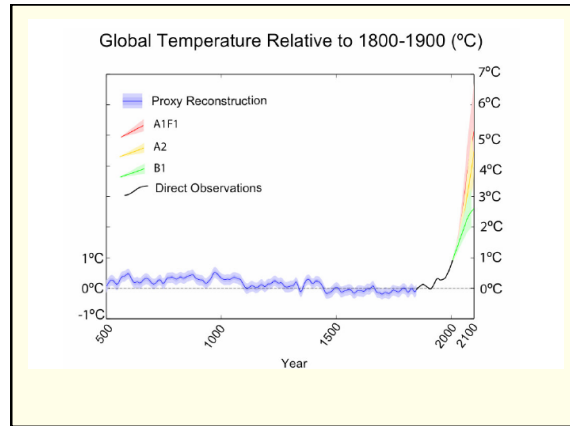
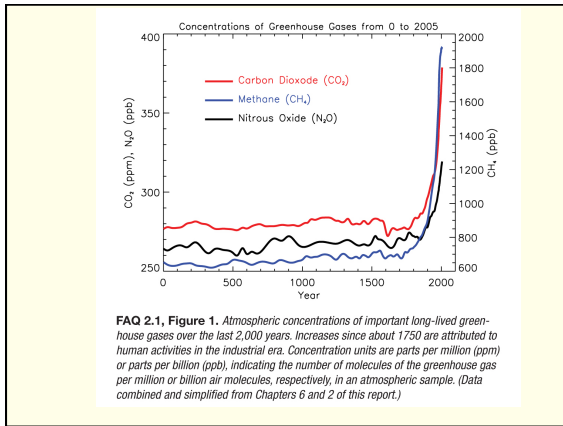
The Guardian November 20 2011

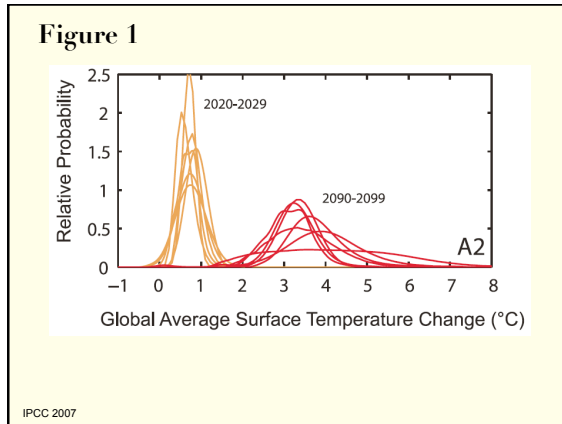
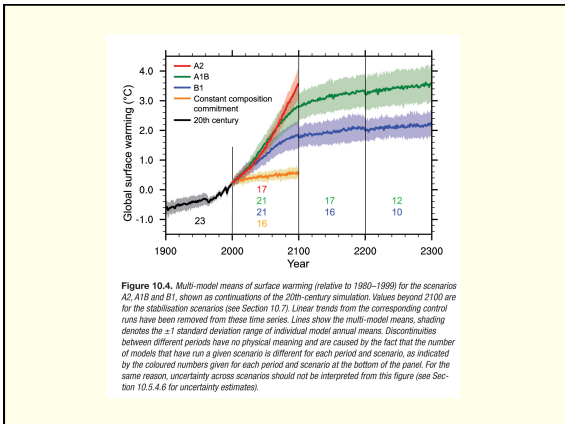
**Rich nations 'give up' on new climate treaty until 2020**  
 Ahead of critical talks and despite pledge for new treaty by 2012, biggest economies privately admit likelihood of long delay

**GENEVA, 21 November 2011 (WMO) –The amount of greenhouse gases in the atmosphere reached a new high in 2010 since pre-industrial time and the rate of increase has accelerated, according to the World Meteorological Organization’s Greenhouse Gas Bulletin. It focussed special attention on rising nitrous oxide concentrations.**

	CO <sub>2</sub> (ppm)	CH <sub>4</sub> (ppb)	N <sub>2</sub> O (ppb)
Global abundance in 2010	389.0	1808	323.2
2010 abundance relative to year 1750*	139%	258%	120%
2009–2010 absolute increase	2.3	5	0.8
2009–2010 relative increase	0.59%	0.28%	0.25%
Mean annual absolute increase during last 10 years	1.97	2.6	0.75

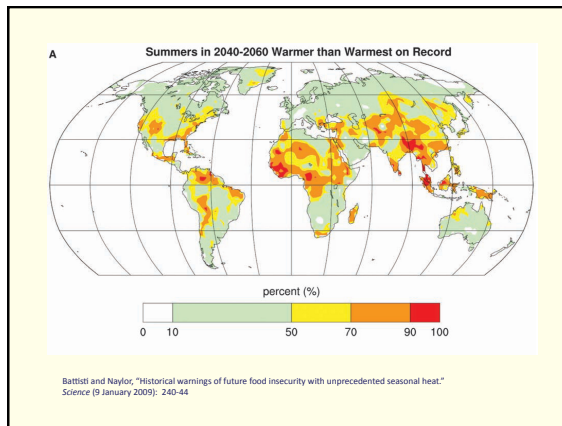
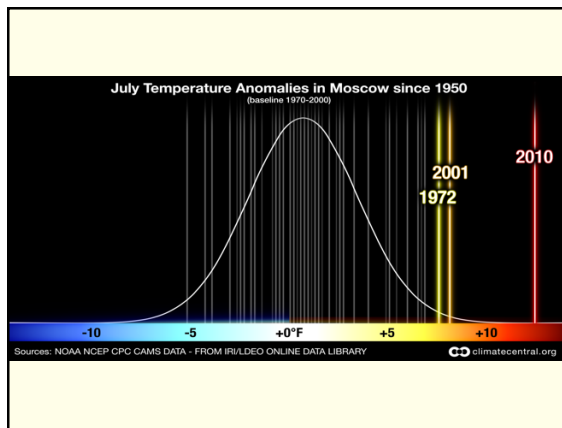


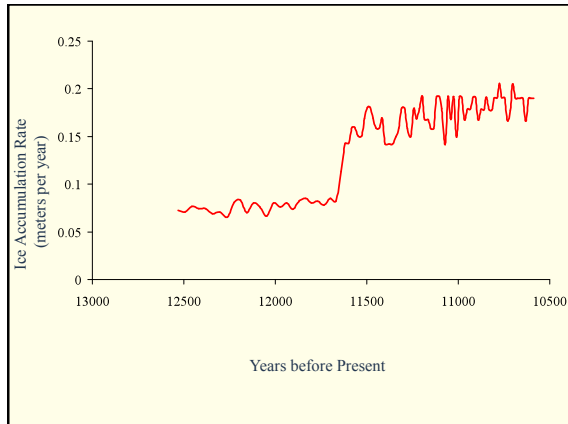
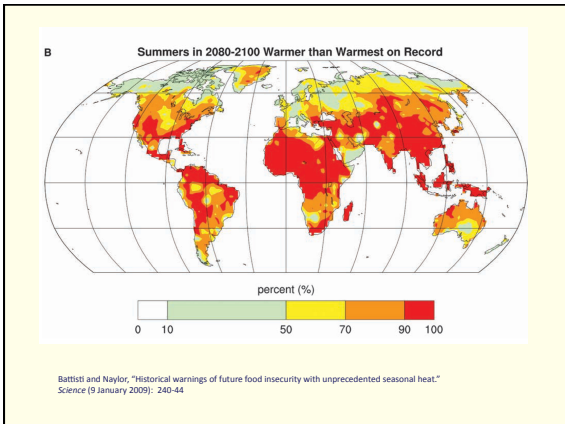




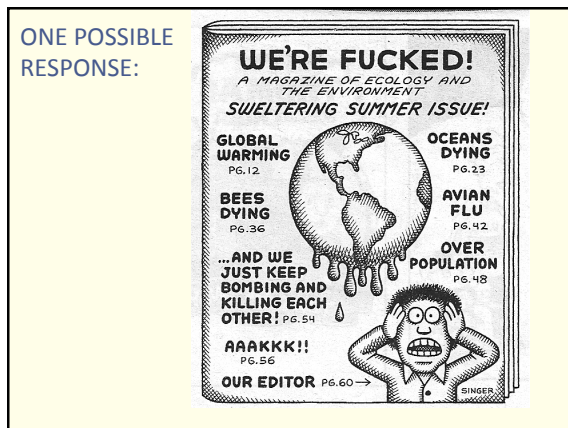
Later this century, we will see:

- Extreme droughts and floods
- Extensive die off of forests
- More and larger storms
- Rapidly rising seas
- Urban heat emergencies
- Declining food production
- Widespread water scarcity





In this new world, what should we do?



**Pascal's Wager: Making the Right Bet**

Do we bet that climate change isn't a serious problem, and invest our resources in other things?

*If we're right, we save some money now; but if we're wrong, the consequences could be catastrophic for our children.*

Or do we bet that climate change is a serious problem, and invest to prevent it?

*If we're right, we might prevent catastrophe for our children; but if we're wrong, we lose some money now.*

- We Can Cope with Carbon**  
Strategies from conventional to radical (assuming a significant carbon price)
- ✦ Efficiency and conservation
  - ✦ Renewables
  - ✦ Natural gas and coal with CCS and nuclear
  - ✦ Unconventional technologies (UCG, stratospheric windmills, enhanced geothermal)
  - ✦ Atmospheric carbon capture
  - ✦ Geoengineering

**GET READY FOR A GPT TRANSITION**  
**GPT = General Purpose Technology**

Railroads

Electricity

Internal combustion engine

Personal computer

“Green” energy technologies?

