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**Title:** Unstoppable Global Warming  
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**Organization:**

Part I: The 1,500 Year Climate Cycle  
Part II: Predicting Future Climates  
Part III: Baseless Fears about Global Warming  
Part IV: Responding to Global Warming

**Background:**

The global warming debate does not center on a single argument; instead, it is a much larger series of debates about a number of separate but related issues. These debates can be summarized as follows:

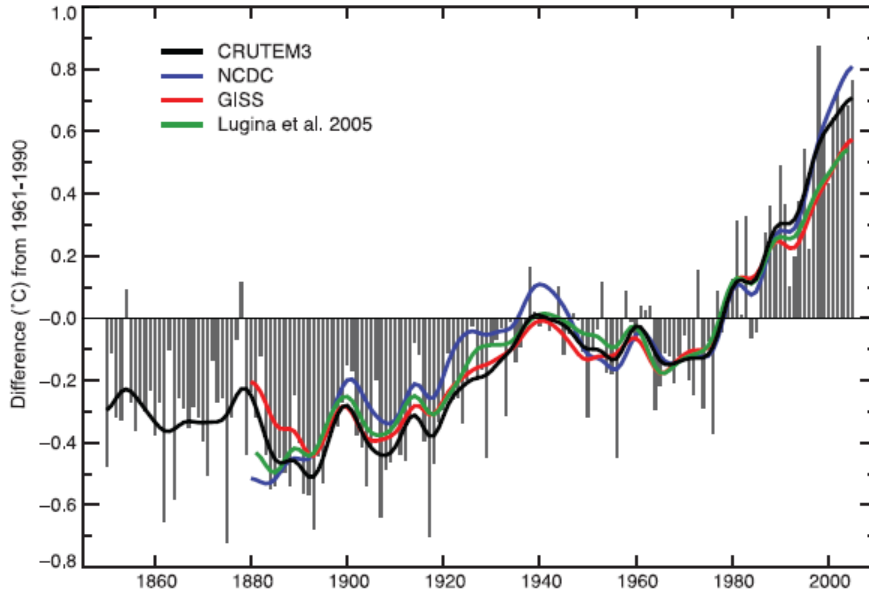
- i) What is the real long-term global temperature trend?
- ii) How much of the observed temperature trend is natural verses anthropogenic?
- iii) What is the impact of global warming (if indeed it is occurring)?
- iv) What can, and should, mankind do to prevent global warming?

Like most debates, the two sides of the issue disagree on the answers to all four questions.

To answer the first question, scientists have compiled surface data from all over the world (Fig 1). The United Nations 2007 Intergovernmental Panel on Climate Change (IPCC) uses these plots as the primary evidence of global warming. The IPCC also show plots of sea surface temperatures that have increased very similarly to the land temperature plots. Most agree that temperatures increased from 1900-1940, decreased from 1940-1970, and increased again from 1970 to present. However, skeptics question recent land surface data by citing many problems with the surface weather stations, with many stations being placed too close to trees, buildings or in urban areas that generally are much warmer than open countryside (e.g., see <http://wattsupwiththat.com/>). Skeptics also point to other temperature observations, such as those measured by satellite (Fig. 2). Satellite data thus far has shown little to no warming since the beginning of the satellite record in 1979. Overall, the data show conflicting conclusions, although some recent warming seems to have occurred.

The IPCC states that the warming between 1900 and 1940 and the cooling trend between 1940 and 1970 can be explained by natural variability. These trends can be reproduced

by global climate models (GCMs) without the addition of greenhouse gases. However, the warming observed since 1970 apparently can be reproduced by GCMs only by adding additional “man-made” greenhouse gases to the models; then the models replicate the observed temperatures very well. Skeptics cite many of the limitations inherent to GCMs, and processes that are not understood or included by current models (e.g., such as the difficulty in modeling clouds and cosmic ray ionization as discussed in the book).



**Figure 3.1.** Annual anomalies of global land-surface air temperature ( $^{\circ}\text{C}$ ), 1850 to 2005, relative to the 1961 to 1990 mean for CRUTEM3 updated from Brohan et al. (2006). The smooth curves show decadal variations (see Appendix 3.A). The black curve from CRUTEM3 is compared with those from NCDC (Smith and Reynolds, 2005; blue), GISS (Hansen et al., 2001; red) and Lugina et al. (2005; green).

Figure 1: Global temperature records as observed by surface weather stations as cited by the U.N. IPCC report.

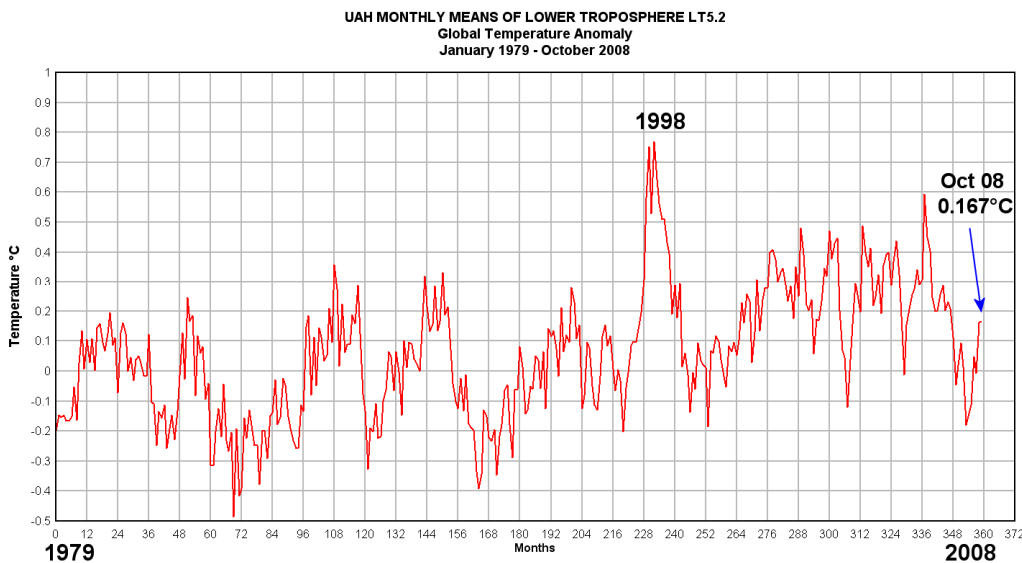


Figure 2: Global temperature record as observed by satellite. The year 1998 was warm because of El Nino (period warming of the South Pacific Ocean)

Future predictions of global warming are based primarily on the output from GCMs, and yet model predictions have changed a great deal since the first IPCC report. Perhaps the greatest debate in favor of the global warming skeptic is the question of whether or not global warming will be good or bad for mankind. As this book does an excellent job in highlighting, global warming has been very good to man historically.

What follows is a chapter-by-chapter review, highlighting some of the critical points of the global warming debate and relevant strengths and weaknesses of the book.

## **Part I: The 1,500 Year Climate Cycle**

### **Chapter 1: How did we find the earth's 1,500 year climate cycle?**

Chapter 1 explains the discovery and cause of a 1,470 year climate cycle. The sun has two solar cycles – an 87-year cycle and a 210-year cycle. When these two cycles are superimposed (approximately every 1,470 years), the results appear to lead to rapid warming on earth. This discovery answers a long-sought after but often ignored problem in climatology – explaining the cause of rapid warming periods evident in ice core records.

The existence of this cycle is well-documented from Greenland ice cores and is irrefutable, but skeptics still question the cause of the cycle and its geographic extent. As detailed in the text, evidence appears to be mounting that the same cycle is observed from proxy data worldwide, thereby indicating a global impact. Furthermore, evidence of some type of external forcing, such as the sun causing this, also appears logical, as no known internal climate cycles are capable of shifting global climate so dramatically and with such regularity.

Unfortunately, the authors are vague on exactly when this last cycle was recorded or when the next warming should have begun as predicted by the 1,470 year cycle. The last warming period discussed started only about 1,100 years ago, and so by the author's own theory the current warming is too early.

### **Chapter 2: The Sun-Climate Connection**

Chapter 2 explains how the variations in solar cycles lead to climate change. Typically, the earth is bombarded by cosmic rays. These rays create minute particles around which cloud droplets form, primarily over the ocean. (Dust provides the cloud droplets over land.) The more clouds that form, the more the sun's energy is reflected back to space. During strong solar cycles, a strong solar wind blows across the earth, shielding the earth from these cosmic rays. Thus, fewer cosmic rays lead to fewer clouds; fewer clouds on earth, and the earth heats up.

The IPCC cites this theory but states the theory is still “controversial”. The IPCC report goes on to say “While there have been advances...there remain large uncertainties. The level of scientific understanding is...very low for cosmic ray influences.”

### Chapter 3: Warming and cooling in history

Chapter 3 details historical periods of warm and cold climates recorded since the Roman Empire. These climatic periods are well documented, but one overlooked point in today’s global warming debate is the benefits of warm weather for society, and the very bad consequences of cold. This is probably the strongest argument against costly mitigation for stopping global warming.

### Chapter 4: The earth tells its own story of past climate cycles

Chapter 4 details many of the proxy data used worldwide to document historical climate periods. Much of this data reflect the Medieval Warming and Little Ice Age, but is not necessarily indicative of a 1,500 year cycle.

## **Part II: Predicting Future Climates**

### Chapter 5 Shattered glass in the greenhouse

The authors list eight reasons why the greenhouse theory fails (italicized below). Some of these are legitimate questions while others are red herrings:

- 1) *CO<sub>2</sub> does not account for recent previous ice ages and climatic shifts.*  
The IPCC agrees with this statement. Volcanic eruptions and solar cycles are readily known to have caused many recent climatic shifts, and these have been modeled with GCMs. There are many reasons why climates change.
- 2) *Greenhouse theory does not explain recent temperature changes.*  
Actually, GCMs can only reproduce 20<sup>th</sup> century temperature changes by including anthropogenic greenhouse gases. So this reason is simply wrong.
- 3) *Rapid CO<sub>2</sub> increase has not resulted in rapid predicted warming yet.*  
The IPCC would say that the warming observed thus far is consistent with GCM predictions.
- 4) *Polar regions should warm first; this hasn’t happened.*  
According to the IPCC, the north polar region is the fastest warming region globally, so in some sense, this is being observed. However, it is also true that Antarctica is getting colder, and this is inconsistent with what is expected.
- 5) *Weather stations are biased because of heat island effects.*  
The IPCC has re-evaluated their temperature records by removing those weather stations near cities, and that supposedly had little impact on the final record.

(My belief is that tree growth, poor station siting, and urban influences do impact these records, to some significant degree.)

- 6) *Warming should begin higher in the atmosphere first.*
- 7) *CO2 is a lagging indicator.*
- 8) *Greenhouse theory requires greater water vapor storage in the atmosphere.*

#### Chapter 6: Fraud and deceit in selling man-made global warming

The authors provide an excellent summary of the deceit (implicit or otherwise) related to the writing of the IPCC reports. Some of these types of errors continue. Several independent watchdog groups include: <http://wattsupwiththat.com/> and <http://www.climateaudit.org/>.

#### Chapter 7: How far can we trust global climate models?

The authors detail some of the uncertainty associated with GCMs. Fortunately, the IPCC also recognizes these uncertainties in their report.

The majority of this chapter deals with the uncertainties associated with the observations. These are questions that should require much more attention from the IPCC. (This is the stronger section of the chapter, and yet I'm not sure why this discussion is included here – the topic doesn't match the chapter title.)

### **Part III: Baseless Fears about Global Warming**

#### Chapter 8: Rising sea levels

An excellent summary of the expected rise in sea levels. The details of the 2007 IPCC report do not directly state global warming as the cause of 20<sup>th</sup> century sea level rises although the report summary states that global warming is the likely cause. Sea level heights appeared to have stopped increasing and have remained nearly constant since 2002.

#### Chapter 9: Species extinction

An excellent summary of the problems associated with global warming and species extinction. Only a few paragraphs of the IPCC report are devoted to discussing species extinction; little if any evidence exists linking species extinction to global warming, although examples exist of some species moving poleward.

#### Chapter 10: Famine and drought

Clear evidence exists that rainfall has increased worldwide during the past century, and there is some evidence that suggests that some parts of the world have seen increased drought (e.g., Africa). However, there's no evidence directly linking this to global warming. In fact, the evidence suggests (as the book states) that these cycles of increased drought are caused by natural phenomena such as El Nino.

#### Chapter 11: More violent weather

There is absolutely no evidence from observations that severe weather has increased due to global warming, and any insinuation that a link exists is outright fraud. This is one of Al Gore's greatest lies.

#### Chapter 12: Human deaths

An excellent summary of the problems associated with global warming on human health. The IPCC intentionally minimizes any discussion of the benefits of global warming on human health; such omissions raise questions about the IPCC report as a nonbiased scientific document.

### **Part IV: Responding to Global Warming**

#### Chapter 13: The Kyoto Protocol; Chapter 14: Alternative energy

These chapters are well-documented and do a good job of summarizing the problems associated with mitigation efforts. The global warming community fails to prioritize the problem of climate change in light of arguably much more serious problems to man. The political clout associated with global warming is clearly much greater than that of most other issues – malaria, hunger, etc.

#### Chapter 15: Conclusion

The authors provide an excellent review of the problem, even admitting that “it seems prudent to assume that humans have exacerbated the current warming to some small degree”.

### **Overall Summary:**

*Unstoppable Global Warming* is a well-documented examination of the global warming problem. Sections 1 and 2 contain some rather weak arguments; evidence for a 1,500 year cycle is not convincing and the text does a poor job linking this cycle to present day warming. Nevertheless, the science behind the theory is sound. The authors fail to show or discuss in detail the long-term global surface temperature trends as shown in the IPCC report, and this is a significant weakness in the book. Nevertheless, Sections 3 and 4 (together with Chapter 6) are excellent.

The book is written with an agenda as a counter-argument to the anthropogenic global warming theory, but I've been unable to find any discussion on the web that methodically refutes the specific arguments presented in this book. In summary, the science in this book is generally sound and overall is a good synopsis of some of the problems related to global warming theory and politics.

Several good on-line book reviews:

<http://www.friesian.com/crichton.htm>

<http://spectator.org/archives/2007/01/23/the-global-warming-two-step>

Other related on-line sources:

<http://www.sciencebits.com/CO2orSolar>

<http://www.sciencebits.com/CosmicRaysClimate>

<http://wattsupwiththat.com/>

<http://www.climateaudit.org/>