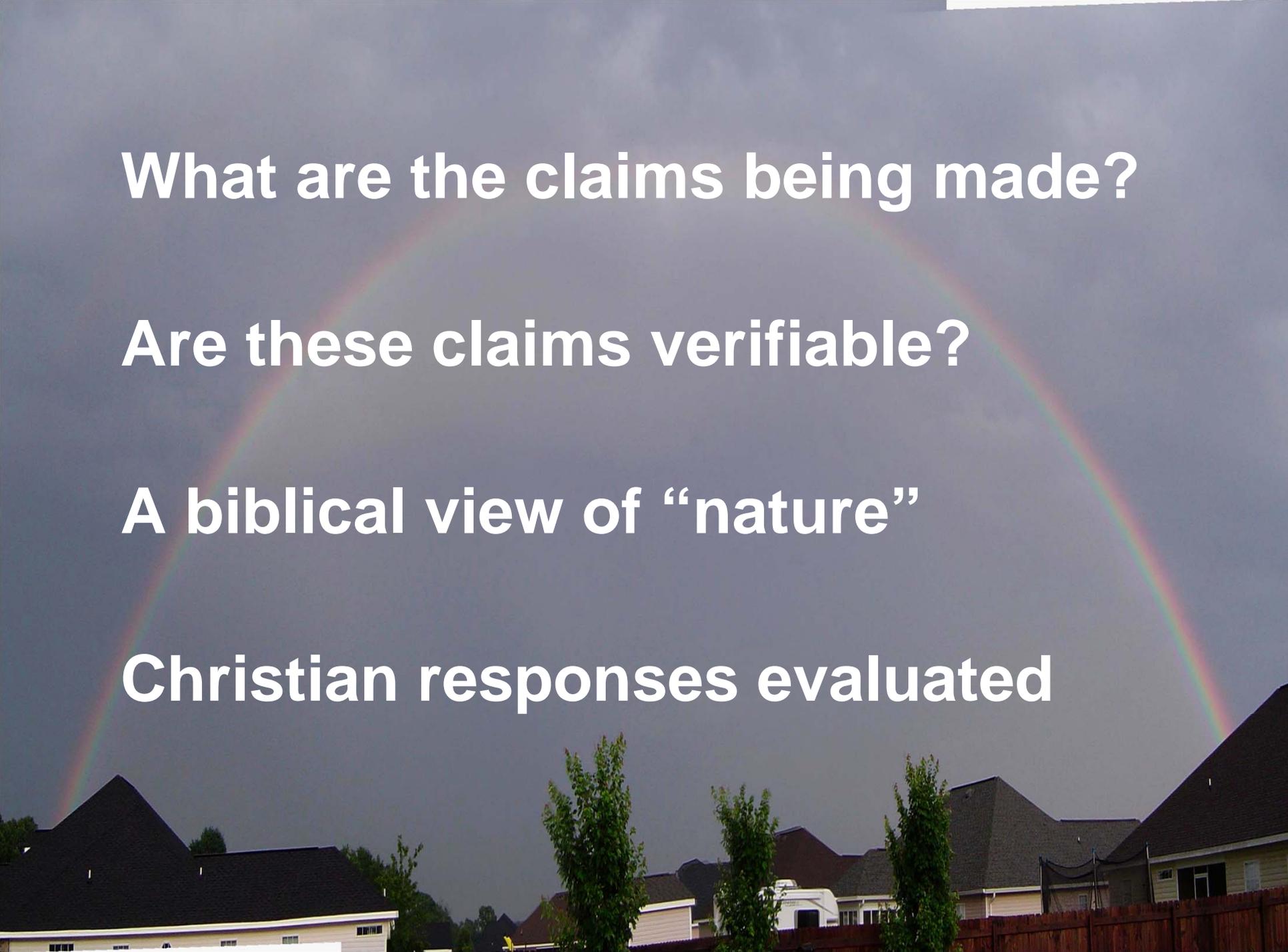
A double rainbow is visible against a dark, overcast sky. The rainbows are positioned symmetrically, arching from the left and right sides of the frame towards the center. Below the rainbows, the tops of several houses with dark roofs and some green trees are visible, suggesting a suburban neighborhood. The overall mood is dramatic and atmospheric.

Thinking About “Global Warming” Biblically

Charles A. Clough

10 April 2008



What are the claims being made?

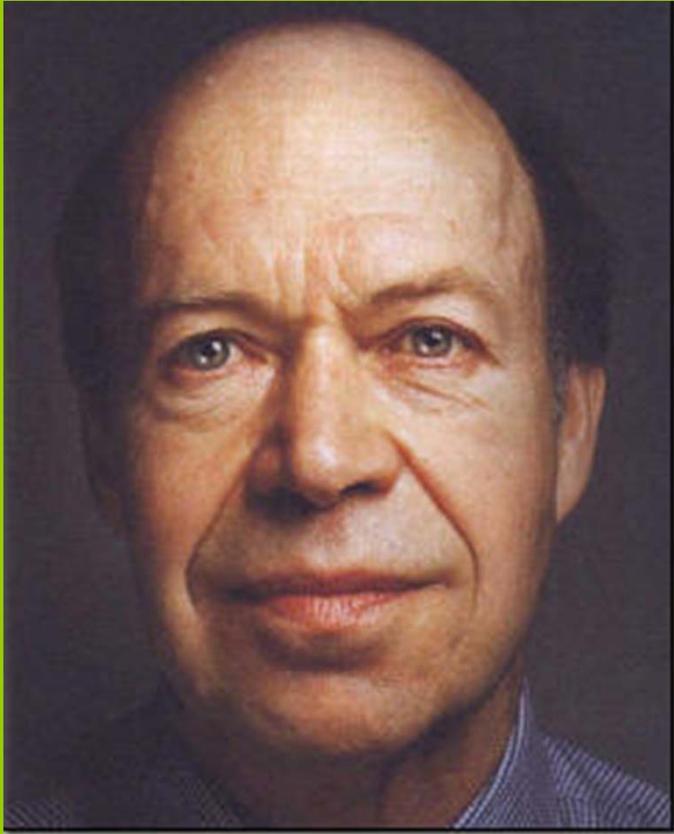
Are these claims verifiable?

A biblical view of “nature”

Christian responses evaluated

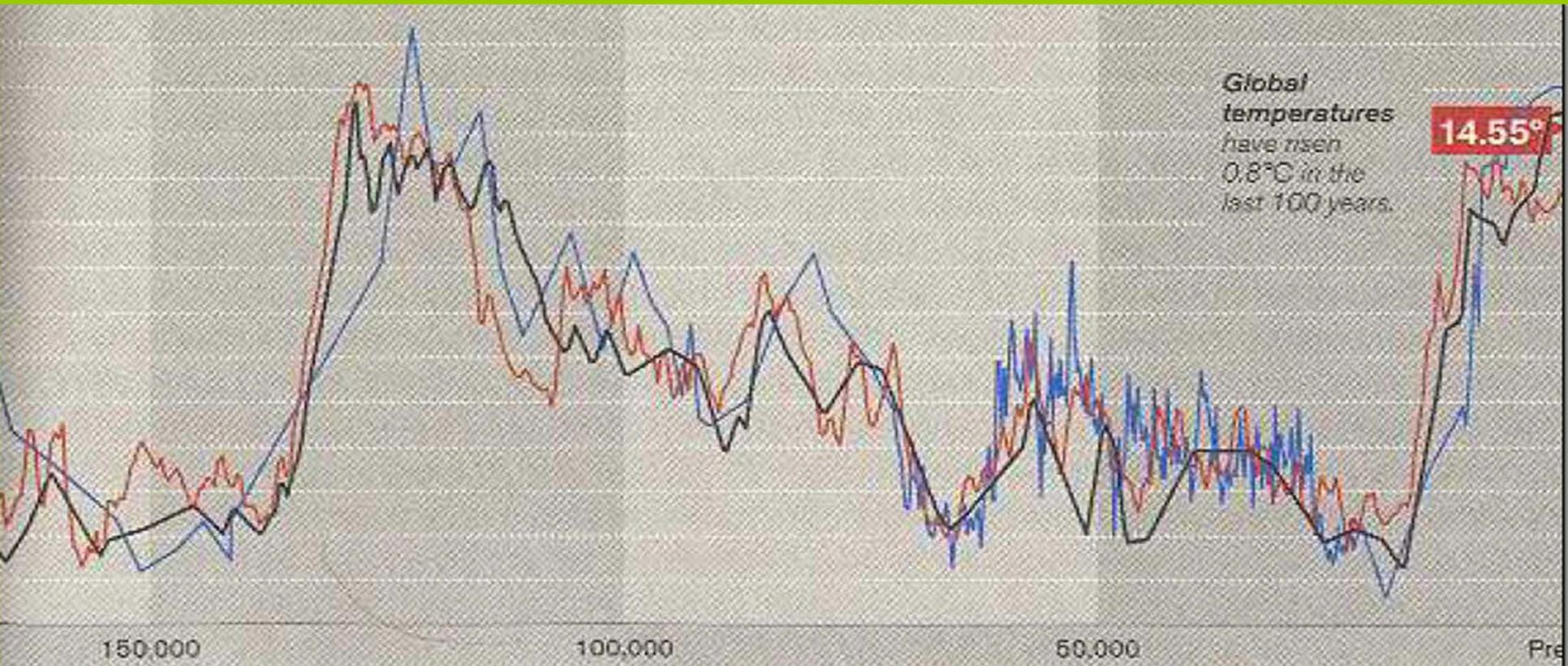
Hansen's "Tipping Point" Theory

*James Hansen, Director of NASA's
Goddard Institute for Space Studies*



Global warming is approaching a tipping point beyond which catastrophic climate change and sea level rises will occur

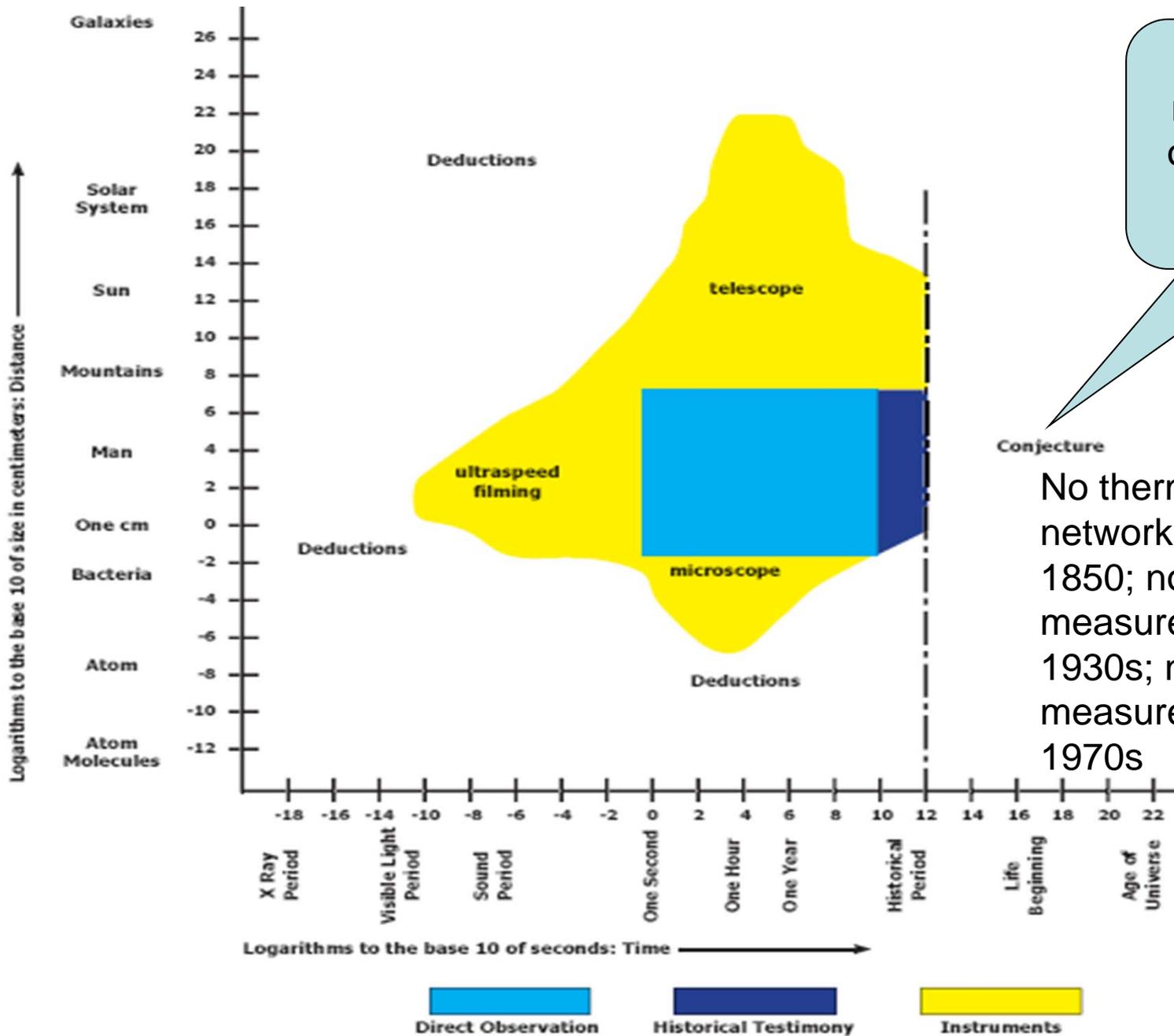
Hansen's "Tipping Point" Theory



Blue = sea level (decameters relative to present sea level)

Black = CO₂ (ppm)

Red = average earth surface temperature

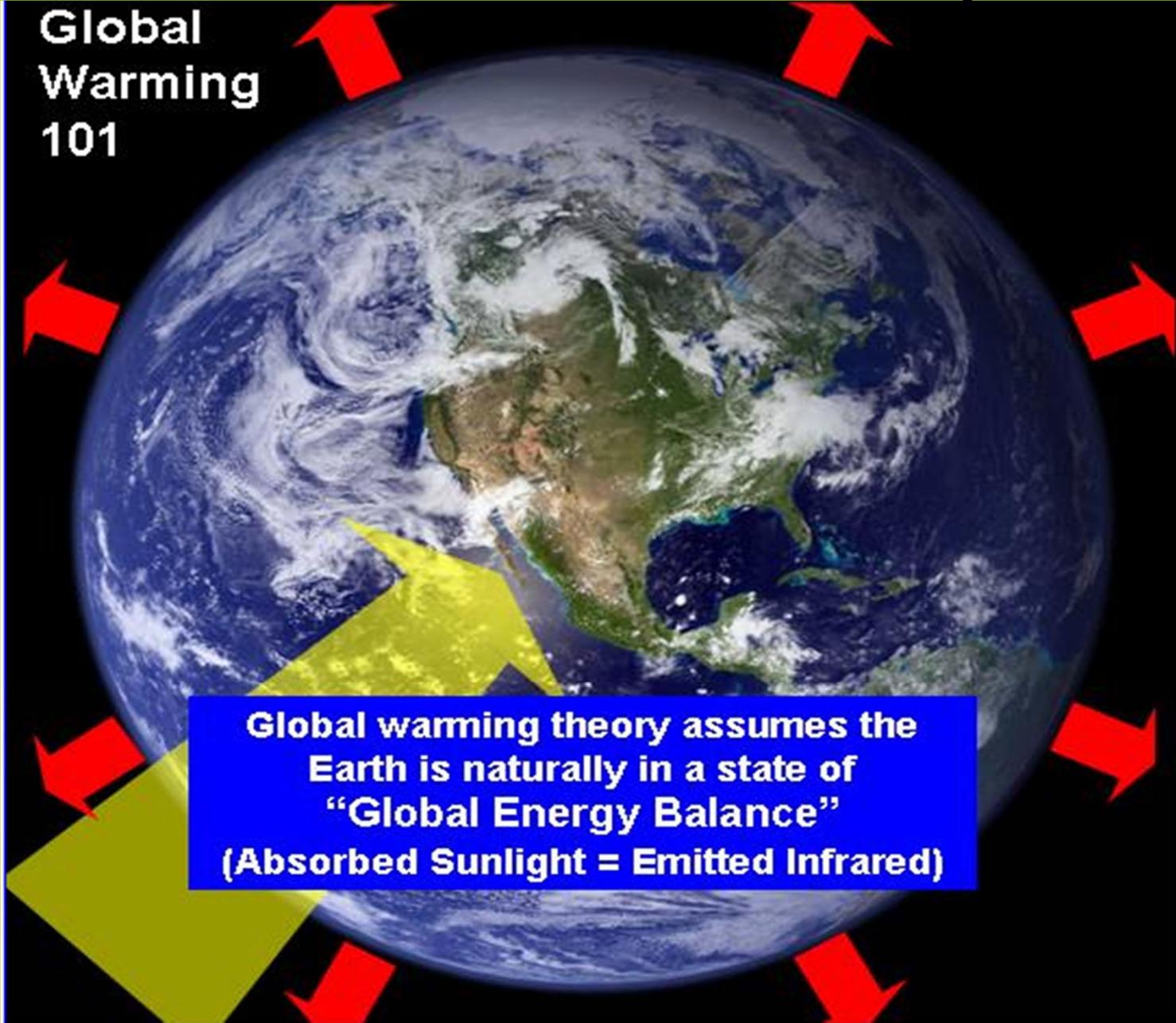


No human measurements or observations available

Conjecture
No thermometer networks before ca. 1850; no upper-air measurements before 1930s; no satellite measurements before 1970s

“Greenhouse Theory”

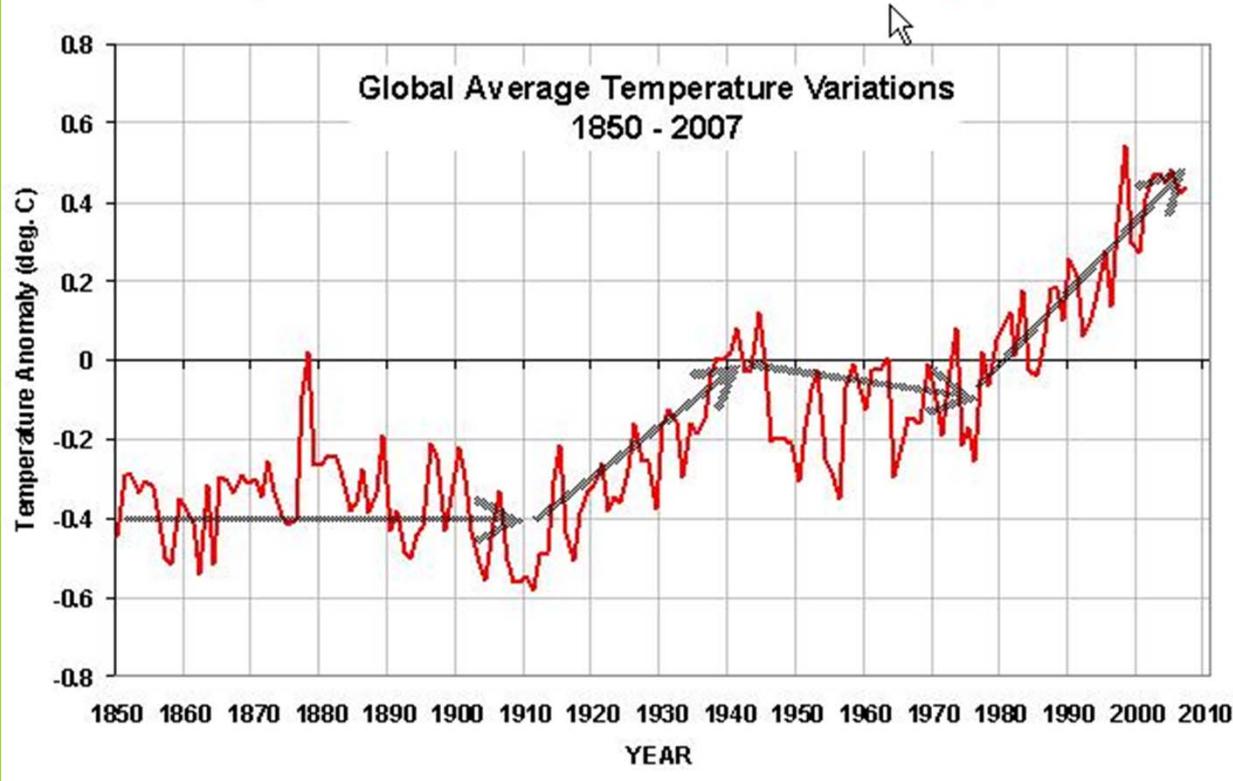
**Global
Warming
101**



Global warming theory assumes the Earth is naturally in a state of “Global Energy Balance” (Absorbed Sunlight = Emitted Infrared)

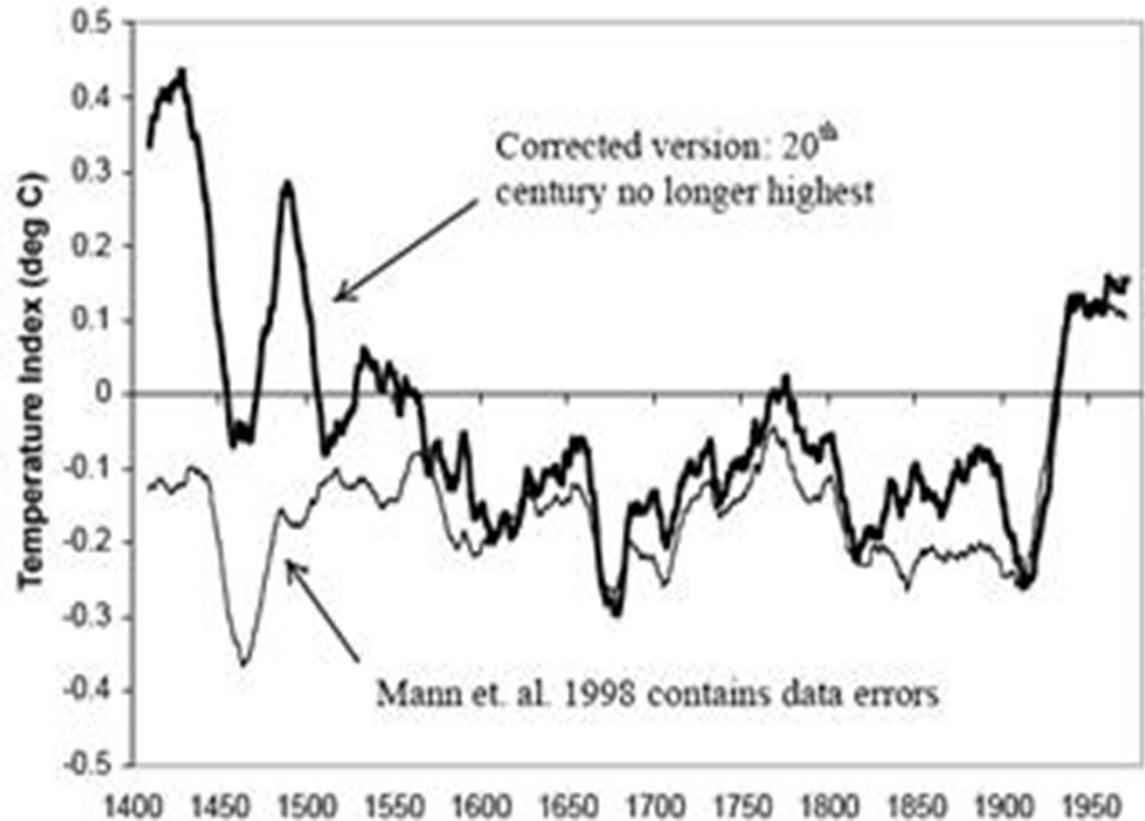
Directly-measured temperature

Fig. 1 Globally averaged temperature variations between 1850 and 2007 show the emergence from the "Little Ice Age" in the early 1900's, slight cooling from the 1940's to the 1970's, and then warming again since the 1970's. (HadCRUT3 temperature dataset from the UK Met Office and Univ. of E. Anglia)



Indirectly-measured temperature (inferred)

Fig. 2. The Mann et al. (1998) proxy (mostly tree ring) reconstruction of global temperature over the last 1,000 years is believed to have erroneously minimized the warmth of the Medieval Warm Period (MWP).



David Deming
College of Geosciences, University of
Oklahoma

Norman, OK 73019

“The surest sign of the warming climate in Europe was the settlement of Greenland by Vikings from Iceland. The Greenland settlements reached a height of prosperity in the 12th and 13th centuries when 3,000 colonists occupied 280 farms. The settlements came under duress in the late 14th century due to the onset of Little Ice Age cooling; they finally perished in the 15th century.”

David Deming
College of Geosciences, University of
Oklahoma

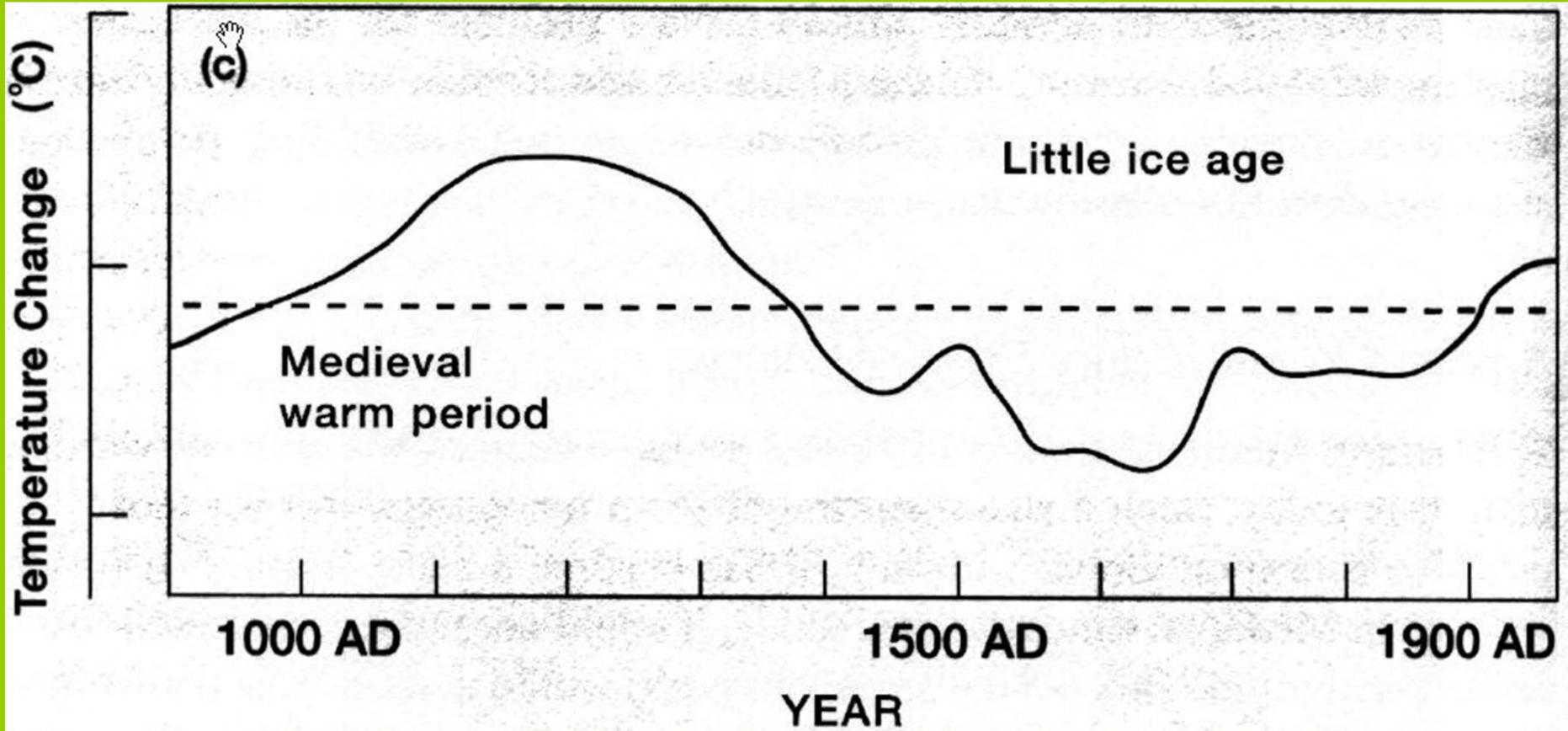
Norman, OK 73019

“The Medieval Warm Period (MWP) was a time of unusually warm weather that began around 1000 AD and persisted until a cold period known as the "Little Ice Age" took hold in the 14th and 15th centuries. Warmer climate brought a remarkable flowering of prosperity, knowledge, and art to Europe. As the temperature increased, so did agricultural yields. Marshes and swamps dried up, removing the breeding grounds of mosquitoes that spread malaria. Former wetlands were converted to productive farmland. Infant mortality fell, and the population grew. From 1100 to 1300 AD, the population of Europe increased from about 40 to 60 million.”

David Deming, cont'd

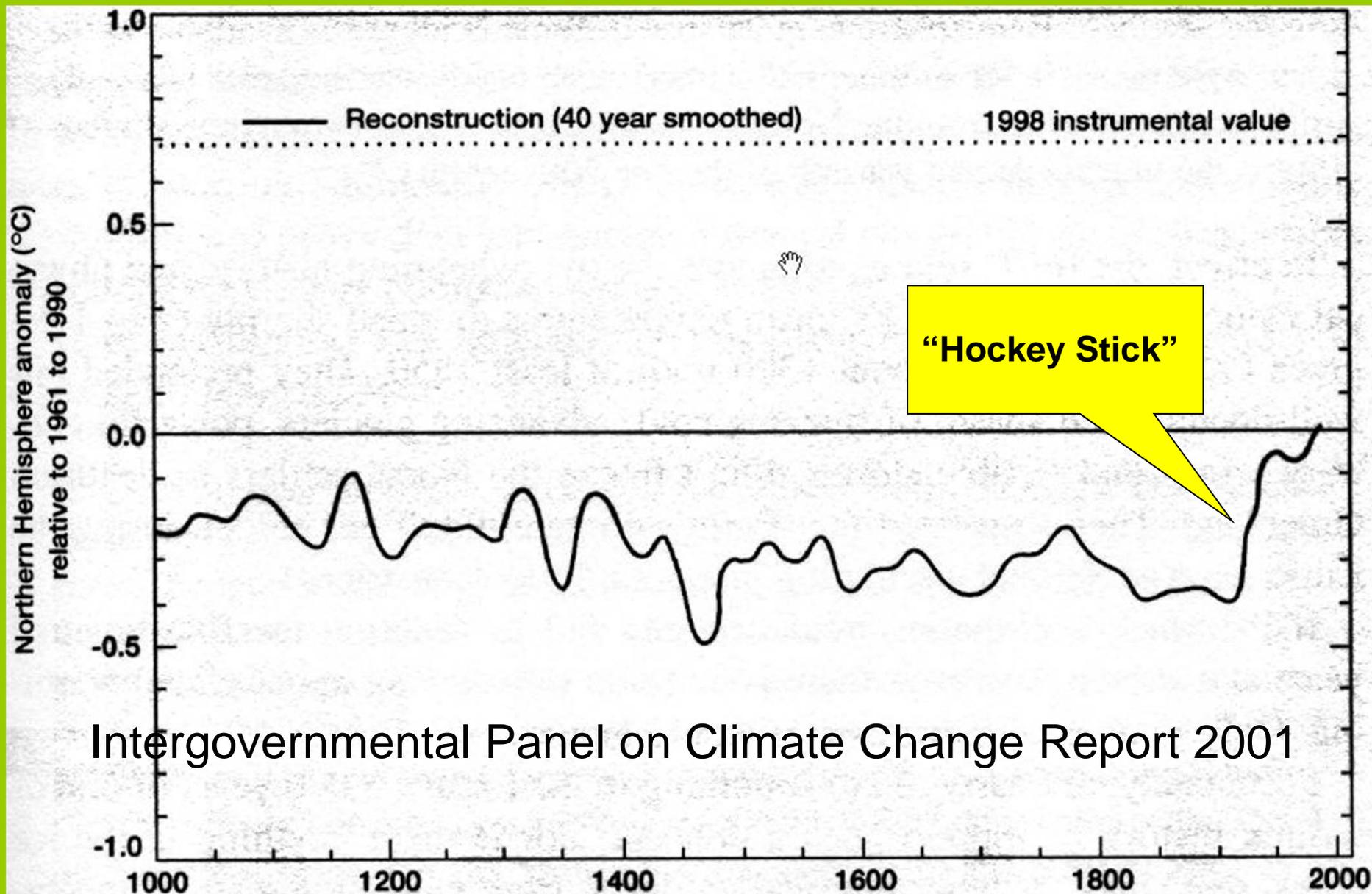
“The existence of the MWP was recognized in the climate textbooks for decades. But now it was a major embarrassment to those maintaining that the 20th century warming was truly anomalous. . . . With the publication of the article in Science, I gained significant credibility in the community of scientists working on climate change. They thought I was one of them, someone who would pervert science in the service of social and political causes. So one of them let his guard down. A major person working in the area of climate change and global warming sent me an astonishing email that said ‘We have to get rid of the Medieval Warm Period.’”

How they got rid of the MWP- 1



Intergovernmental Panel on Climate Change Report 1995

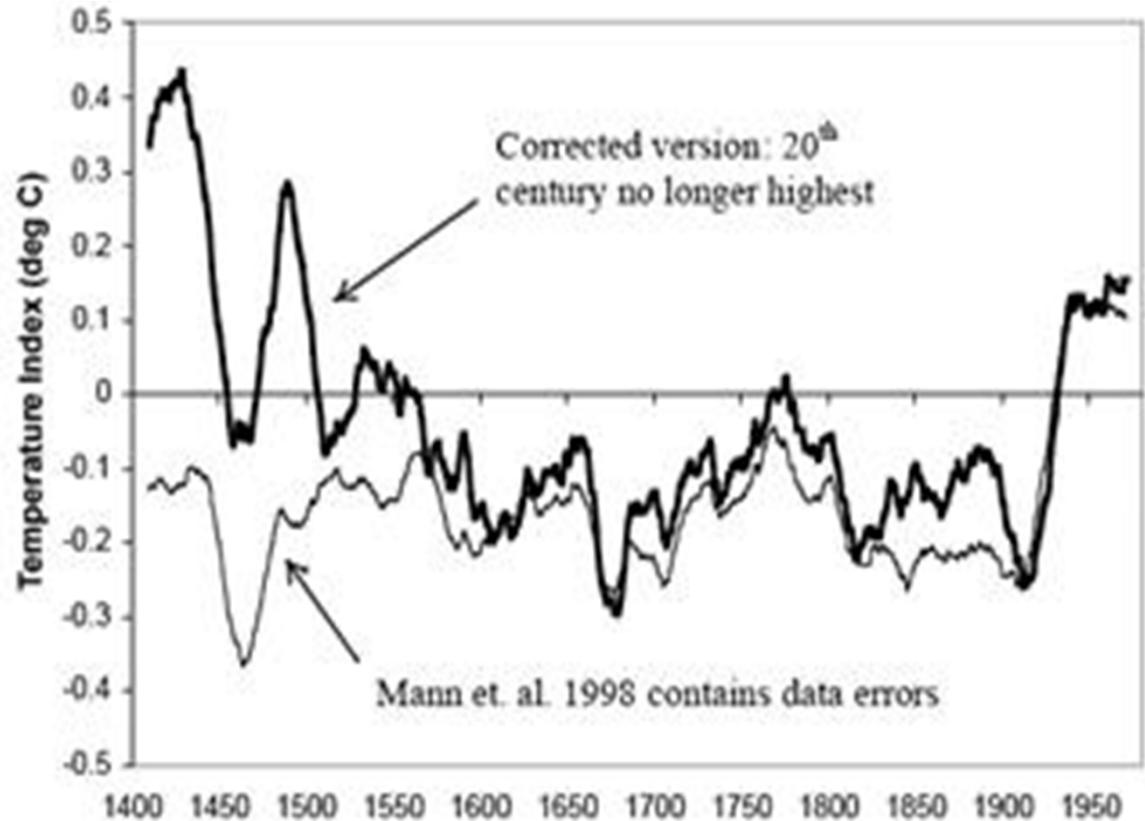
How they got rid of the MWP- 2



Intergovernmental Panel on Climate Change Report 2001

Indirectly-measured temperature (inferred)

Fig. 2. The Mann et al. (1998) proxy (mostly tree ring) reconstruction of global temperature over the last 1,000 years is believed to have erroneously minimized the warmth of the Medieval Warm Period (MWP).



The Major Historical Unknown— what is “normal”?

What is a global average temperature mean? . . .and. . . .

What are the normal (pre-industrial age) variations in this mean?

Cannot specify any human-caused effect on the global temperature unless you know the answer to this question!!

THE PSYCHOLOGY BEHIND GLOBAL WARMING

Exploitation of “bad news sells” (& generates funding !)

“To capture the public imagination, we have to offer up scary scenarios, make simplified dramatic statements, and make little mention of any doubts we may have. Each of us has to decide what the right balance is between being effective and being honest.”

A leading proponent of global warming, Steven Schneider of Stanford, in *Discover* magazine (1989)



AL GORE



EARTH
IN THE
BALANCE

34%
off





Vice President Al Gore
Earth in the Balance

“While [global warming] is only one of several strategic threats, it has become a powerful symbol of the larger crisis and a focus for the public debate about whether there really is a crisis at all.”

David Deming, cont'd

“He asked me, did I really mean to say that? Did I really intend to imply that the warming in North America may have been due to natural variability? Without hesitation, I said ‘yes’. He replied, ‘Well then, I guess we have no story. That's not what people are interested in. People are only interested if the warming is due to human activities. Goodbye.’ And he hung up on me. It was my first realization that the media intentionally filter the information the public receives.”

Richard S. Lindzen

Alfred P. Sloan Professor of Atmospheric Sciences
Massachusetts Institute of Technology, March 16, 2007

- **Even the UN's Intergovernmental Panel on Climate Change acknowledges that greenhouse forcing is currently about three quarters of what one would expect from a doubling of CO₂, and yet we have seen much less warming at the surface than the models project - even with models that have oceans which are supposed to delay the response.**
- **There is general agreement that the famous 'blanket' picture of the greenhouse effect that Gore likes to present is, in fact, misleadingly wrong. Rather, the real greenhouse climate effect requires most warming to occur in the middle of the tropical troposphere (cooling at the surface is mainly by motion systems, with the heat deposited in the middle of the troposphere where it is then radiated to space), and as a recent report of the National Research Council notes, warming trends at this level in the tropics appears to actually be even smaller than at the surface.**

(Dr. Lindzen was a contributor to the IPCC report prior to the recent one.)

Yuri Izrael

Academician of the Russian Academy of Sciences

Head of Institute of Global Climate and Ecology

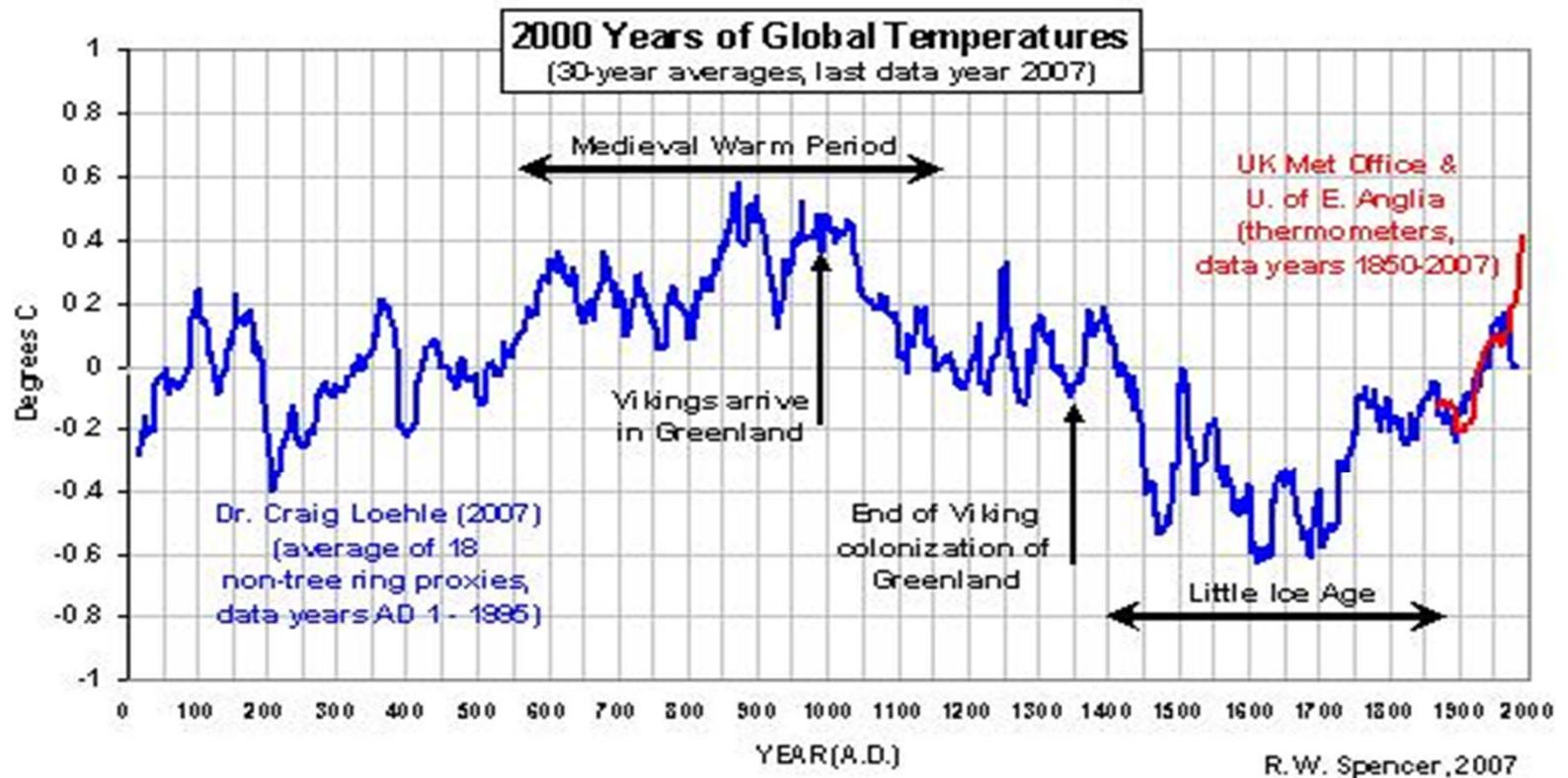
April 18, 2007

- **"I think the panic over global warming is totally unjustified. There is no serious threat to the climate."**

(Dr. Izrael is one of three vice-chairmen of the IPCC, the international body whose reports have claimed that human-induced global warming is a scientific certainty).

The “Best Guess” on GT History

Fig. 3. Global average temperature reconstruction based upon 18 temperature proxies for the period 1 A.D. to 1995, combined with the thermometer-based dataset from the UK Met Office and University of East Anglia, covering the period 1850 to 2007. Note that for both datasets each data point represents a 30-year average.

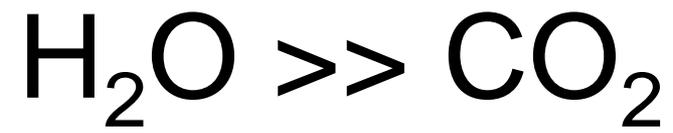


Two Great “Unknowns” in Climate Modeling

Are “feedback” atmospheric & oceanic processes collectively “positive” or “negative”?

(If “positive”, then $\Delta W_{\text{net}} > \Delta W_{\text{CO}_2}$; if “negative”, then $\Delta W_{\text{net}} < \Delta W_{\text{CO}_2}$)

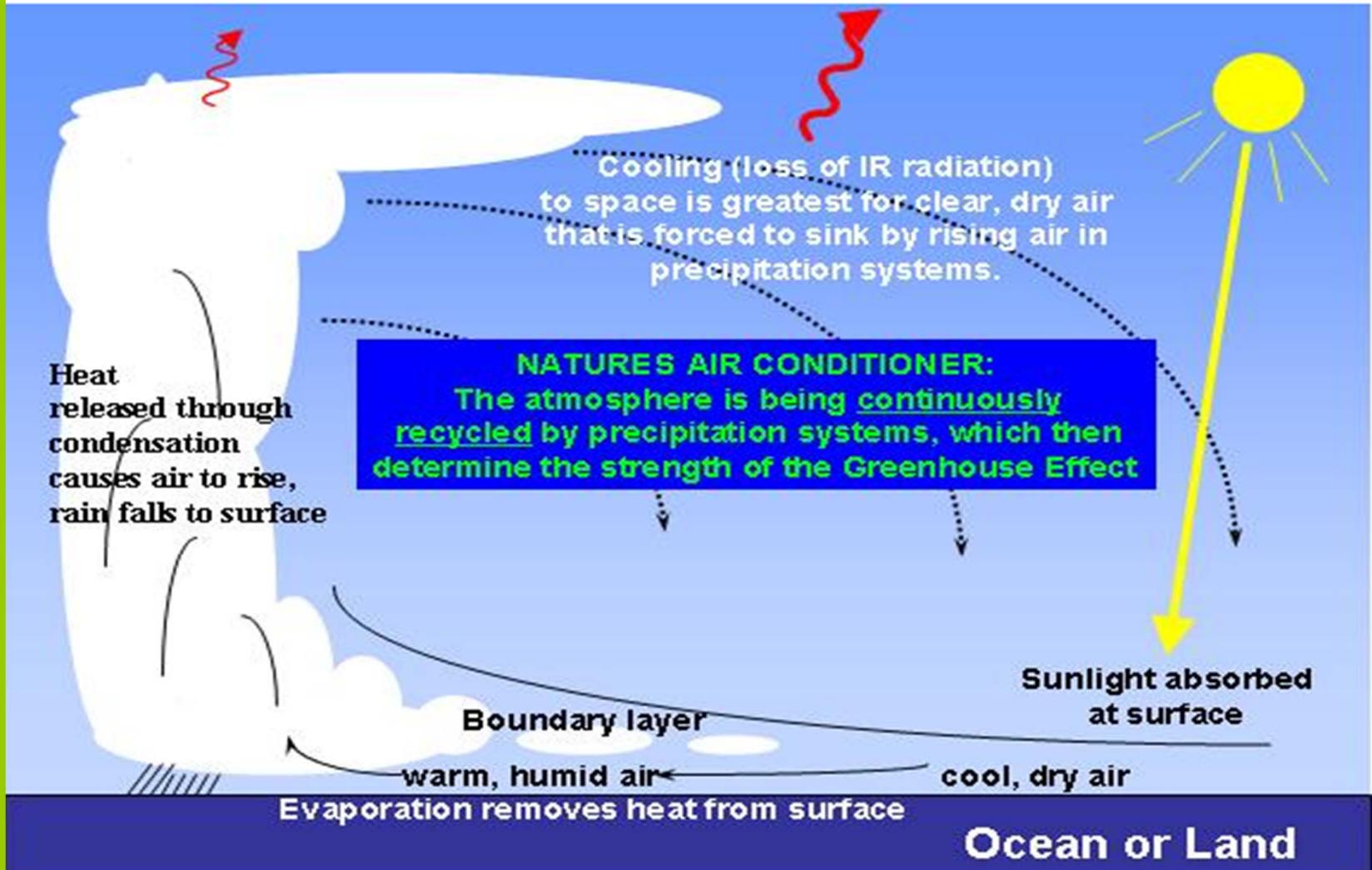
**Are there “positive” feedbacks to variations in solar energy output?
(e.g., solar wind / cosmic rays / cloud nuclei)**



A rain shower removing Earth's primary greenhouse gas – water vapor.

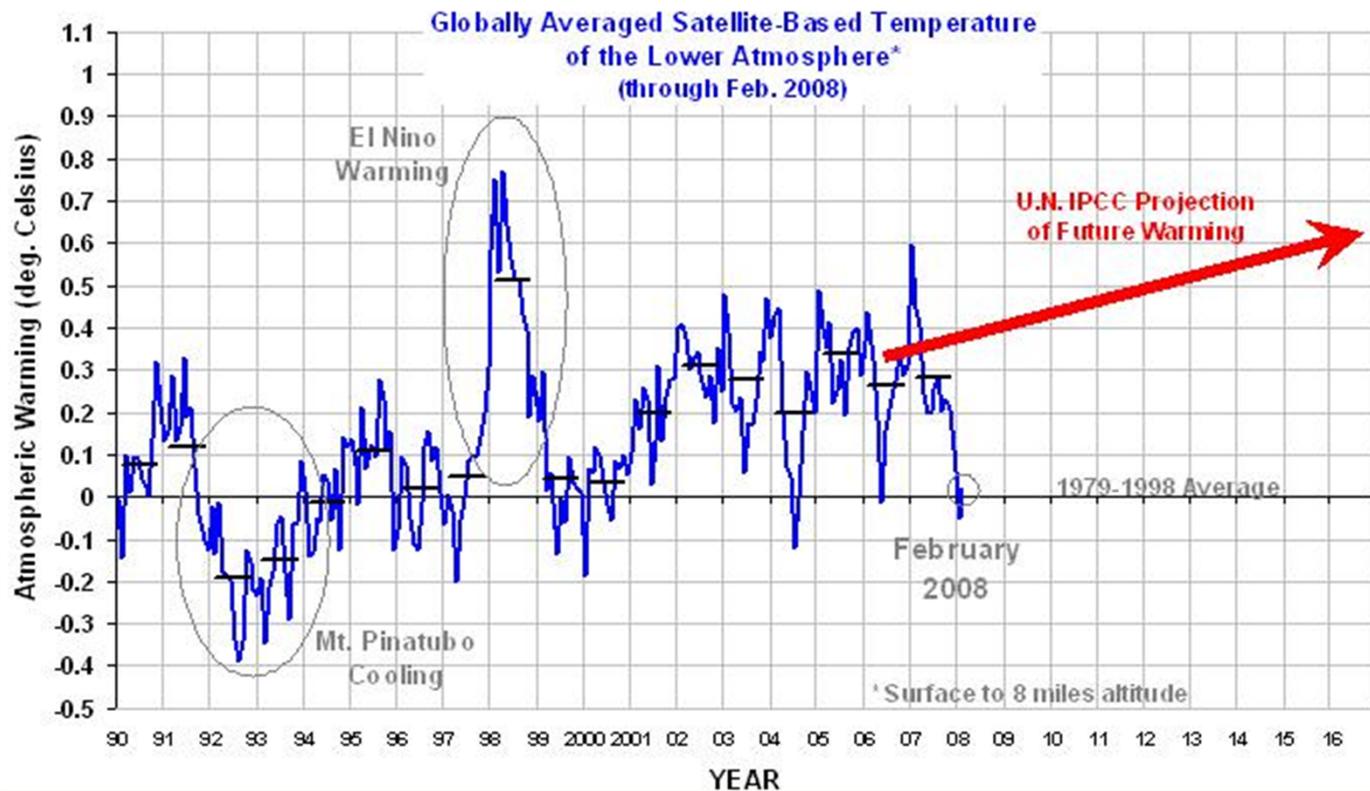
Precipitation Systems Alter H₂O, Redistribute Both H₂O and Heat

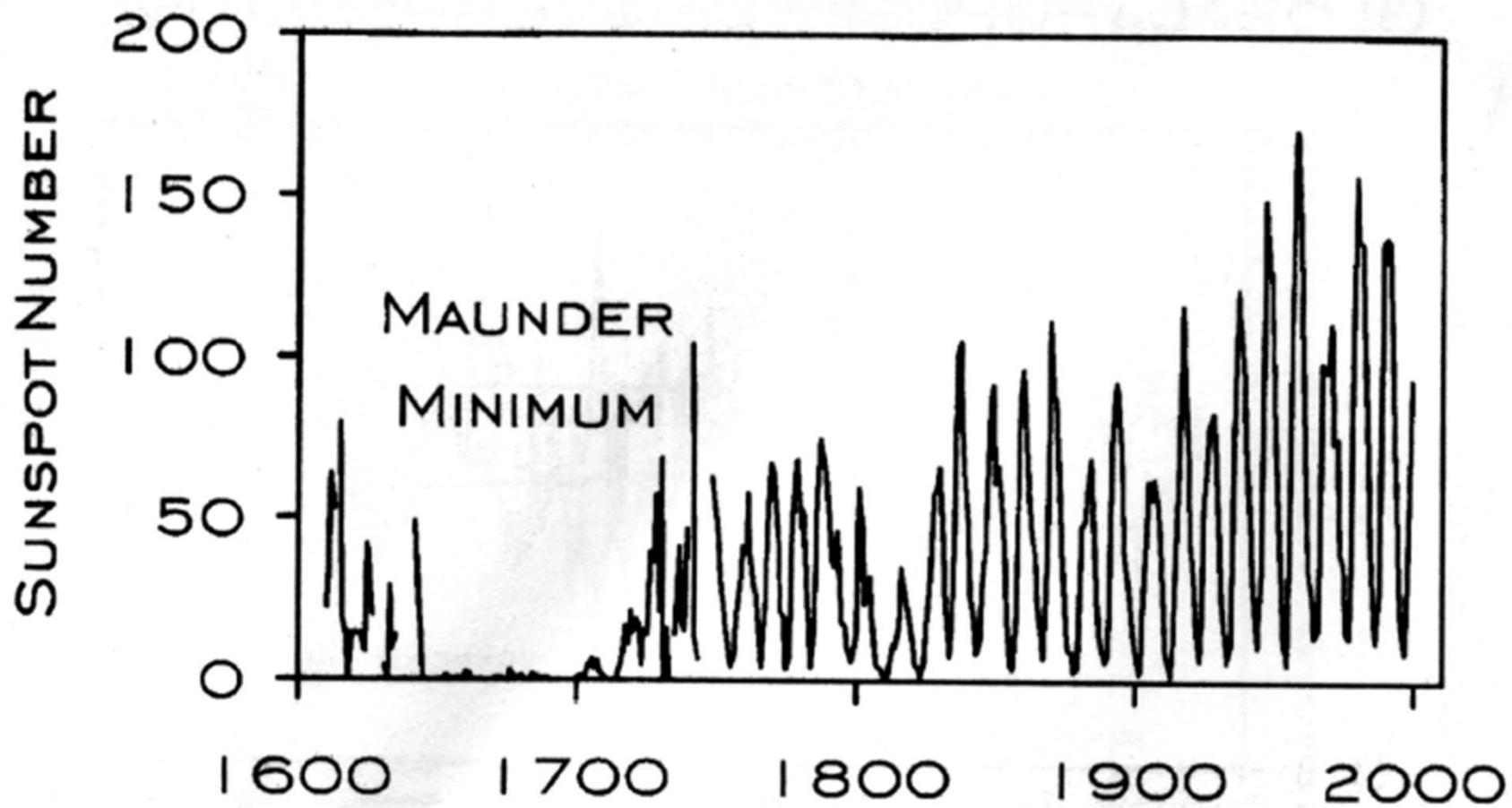
Fig. 7. Atmospheric air gets continuously recycled through precipitation systems, which then directly or indirectly control the water vapor and cloud properties, and thus the Earth's natural greenhouse effect.



Recent Global Temperature

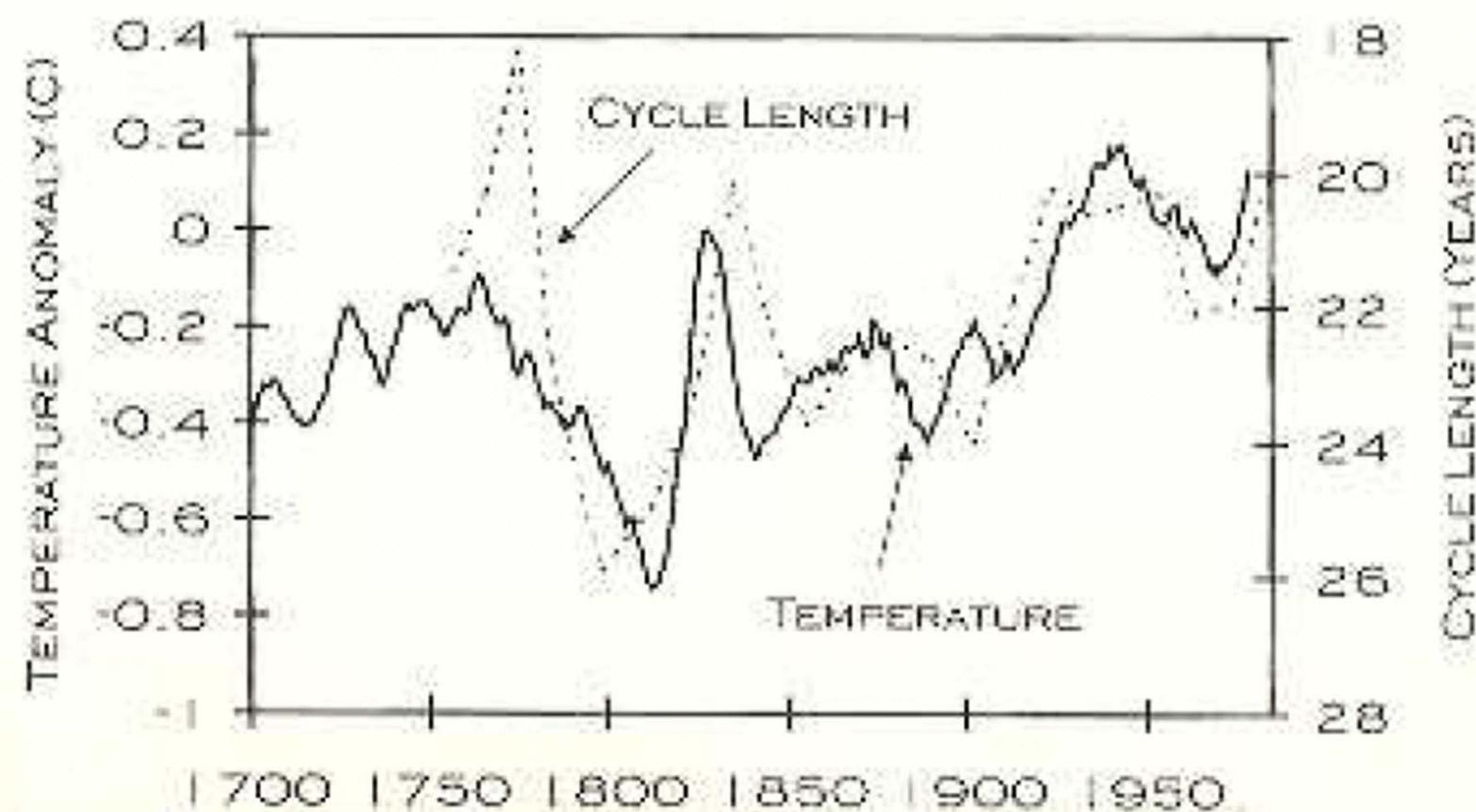
Fig. 9. Satellite-measured monthly globally averaged lower atmospheric temperature variations since 1990. When one considers that the cooling from the 1991 eruption of Mt. Pinatubo and the warming from the 1997-98 El Nino were not part of any underlying trend, one can imagine a period of roughly steady temperatures from 1990 to 2000, then warming until 2002, then roughly steady temperatures again from 2002 through 2007.



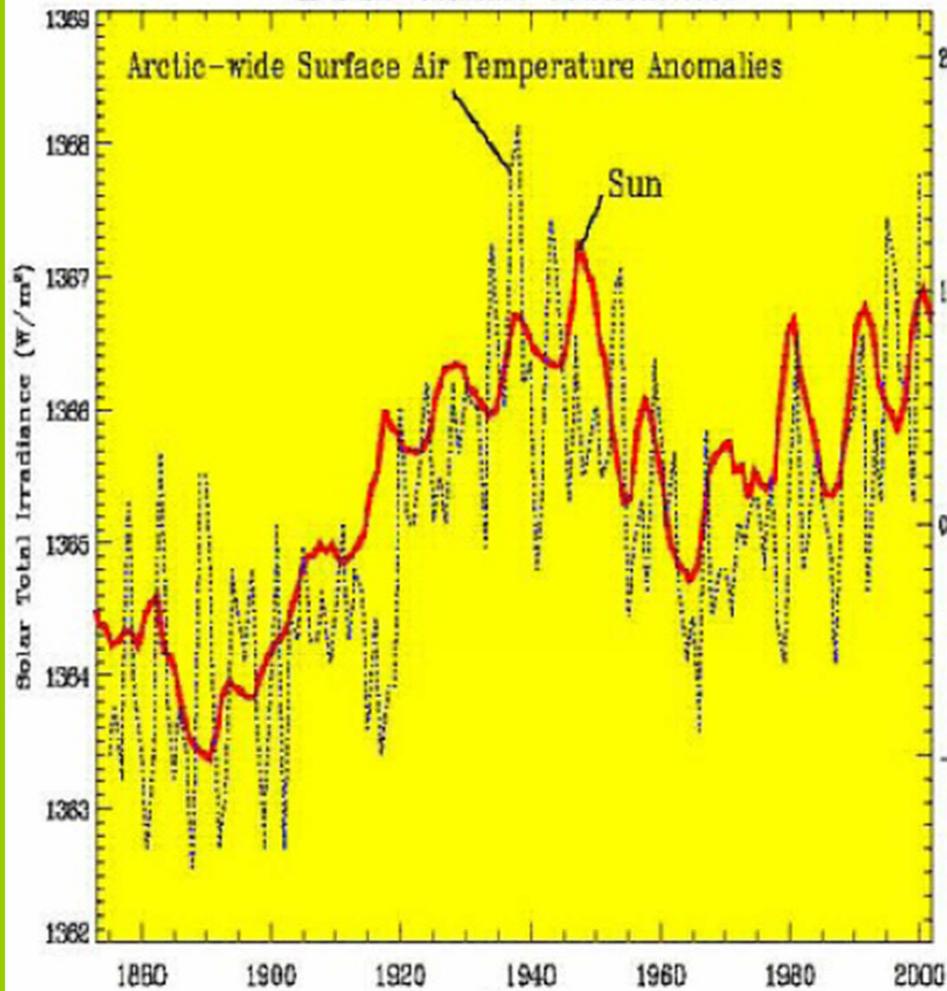


A SUN-CLIMATE LINK?

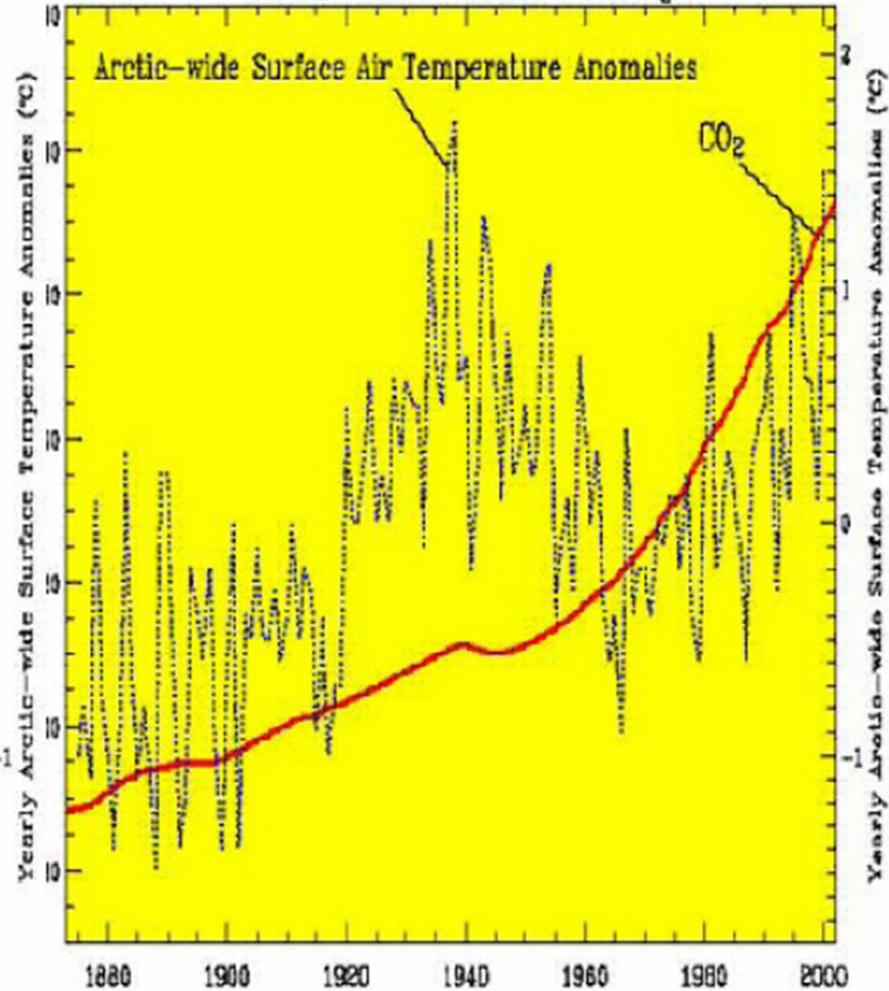
NORTHERN HEMISPHERE LAND TEMPERATURE AND SOLAR CYCLE



A Sun-Climate Coincidence?



A CO_2 -Caused Arctic Warming?



A Biblical View of Nature

Dominion covenant with man and nature
(Gen. 1,2,8,9)

Man is steward of nature

His “naming” requires revelation to guide it

Fall & Flood

Two of the three greatest ecological acts in history

Christ as 2nd Adam will complete the
dominion mandate for man and nature

Christian Responses Evaluated

Evangelical Environmental Network

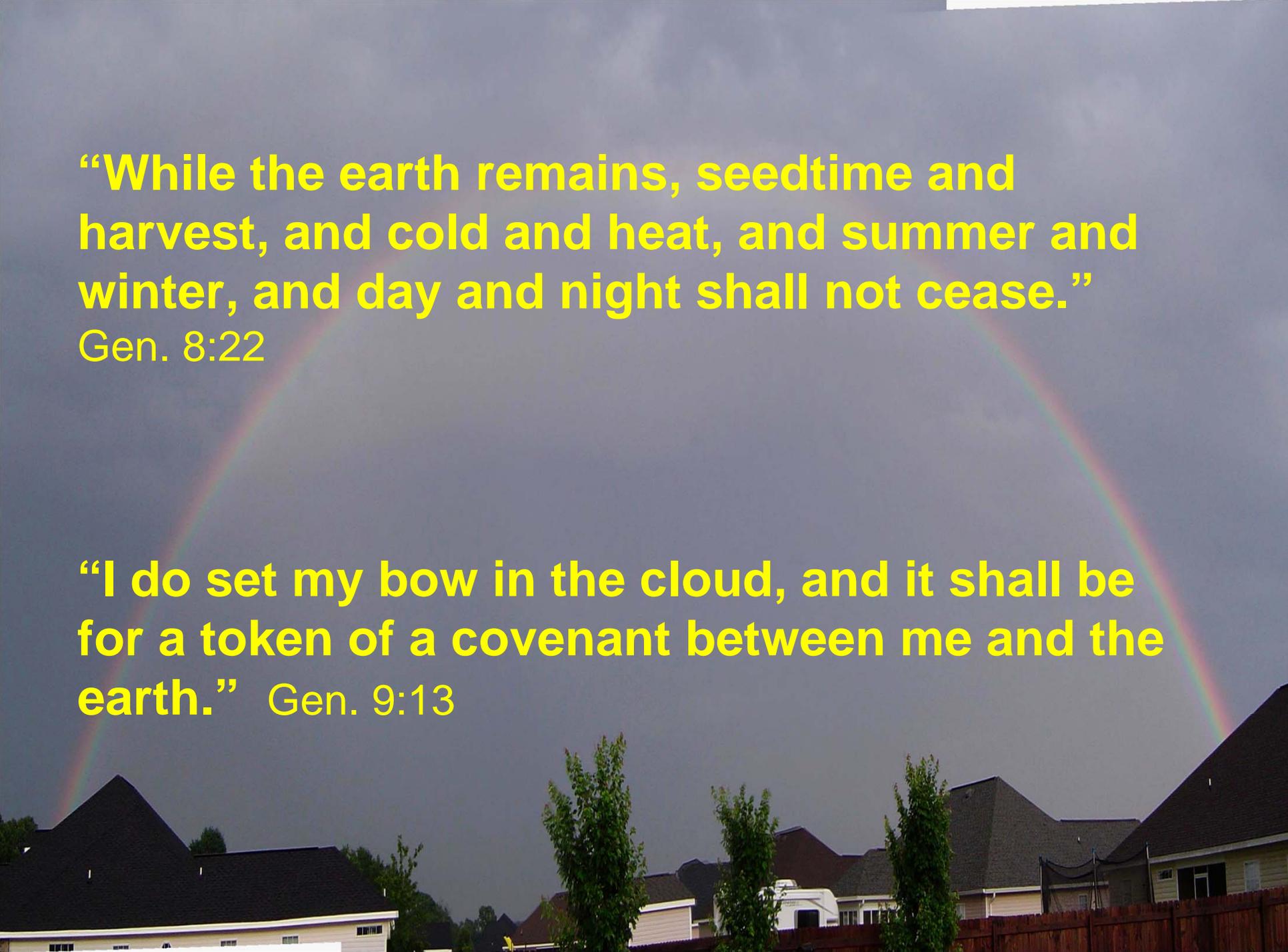
Dr. (Rev.) Jim Ball

Remediate policies

Cornwall Alliance for the Stewardship of Creation

Dr. E. Calvin Beisner

Accommodate policies



“While the earth remains, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease.”

Gen. 8:22

“I do set my bow in the cloud, and it shall be for a token of a covenant between me and the earth.” Gen. 9:13