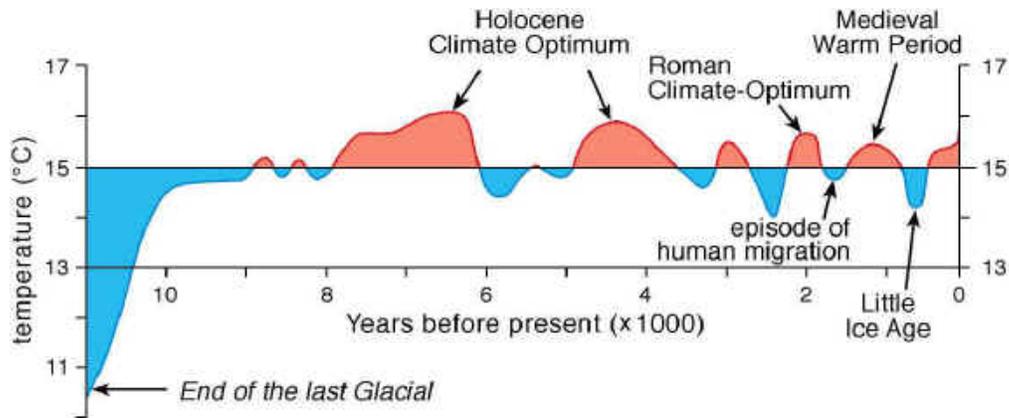


IS THE EARTH REALLY WARMING?

Environmentalists claim the Earth is warming. Is that really true? Yes, but we must understand it in the context of the Earth's recent history. First, we started a major warm-up period from the last Ice Age that ended some 20,000 years ago (Figure 2).



Average near-surface temperatures of the northern hemisphere during the past 11,000 years (after Dansgaard et al., 1969, and Schönwiese, 1995)

Figure 2.

You can see that the warming is neither a uniform nor a continuous activity. You should not be surprised at the cycles. (*Incidentally, man had nothing to do with this warming.*)

Let's flash forward to more modern times. The period from 800-1250 AD in Europe is referred to as the Little Climatic Optimum or Roman Climatic Optimum. During it, warmer weather prevailed and opened up Greenland to colonization by the Norse under Eric the Red. Greenland was quite fertile and the grazing of animals, as well as the planting of vineyards, sustained the colony until about 1400AD. During this period, the Vikings also came to Newfoundland.

Around 1400 AD, sudden cooling of the Earth resulted in a climatic change called the "Little Ice Age". The Thames River in London froze solid at least 10 times. This cooling became so severe that glaciers in Switzerland eventually made it impossible for silver miners to return to their mines in the spring, and only recently (2006) have they found these long forgotten mines (with all their tools inside). Greenland's glaciers grew during this period and today, are melting along the margins. The Greenland glaciers, on the whole, are also accumulating ice (Appendix E). The Little Ice Age wreaked havoc with the agriculture.

Smaller periods of "climate change" also occur. In 1986-87, an El Nino caused global warming as much as 0.6C (1.1F), whereas, as mentioned before, the eruptions of Pinatubo dropped average global temperatures as much as 2°F for a period of a few years. The results of the eruption of Mount Tambora were much more severe, but that occurred before global temperature measurement records were kept.

Global temperature measurements have only been made since 1850. During that time the total global temperature increase had been 1.8F from 1850 through 2006. (More about that, later!) In 1924, the New York Times reported signs of a new "ice age", then in 1933, they reported the longest warm spell since 1876 in which the temperature recorded a steady 25-year rise. In 1975-1978, the entire media was focused on why the global climate was changing and that major future cooling was considered to be inevitable. Yet in the late 1990's, the focus became that of a world-wide (global) warming climate change. *Can we, with any degree of confidence, based on the past history, project such a long-term trend?* Let's examine this!

Although temperature measurements were first made about 1850, reasonably accurate records of United States temperatures started in 1895.

Temperatures occurring before 1850 are now estimated by a number of measurements, such as the ratio of the concentration of oxygen isotopes

16 and 18, tree ring records, temperatures at which certain species live or die, etc. Some interesting temperature charts are shown below.

The **Northern Hemisphere** shows evidence of warming, based on weather stations and satellite data. Except for 1998, maximum temperature swings were $\pm 0.6\text{C}$ above or below the average temperature, however, the increases in the last decade fueled the cries of “global warming”, as temperatures for those 10 years were typically 0.4C (0.72F) above normal.

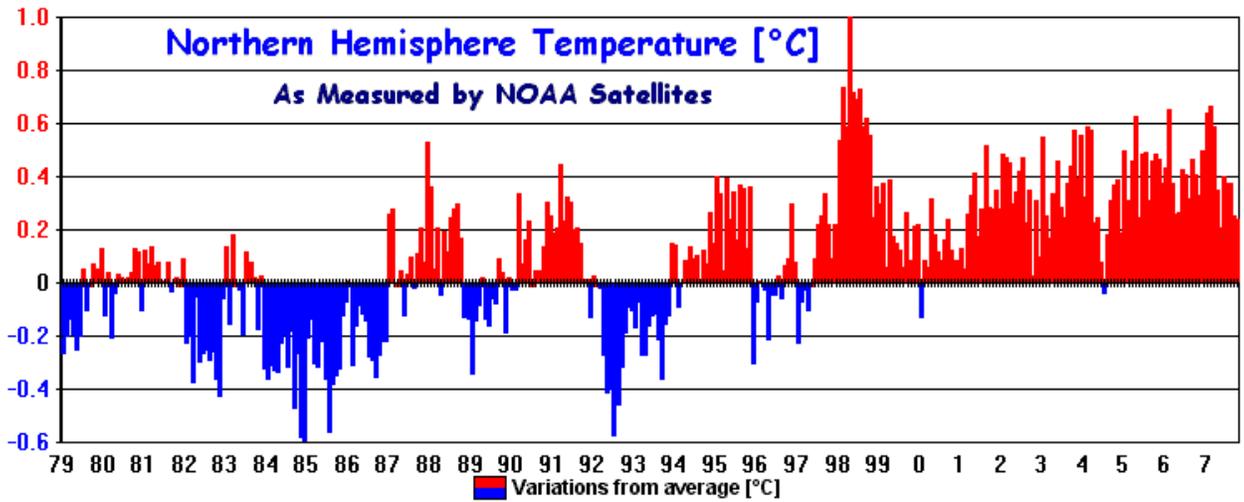


Figure 3. Monthly Average Satellite Temperatures in the Northern Hemisphere

How does one interpret these data? The pro-global warming crowd says it is proof that the global warming is bringing about a major climate change and it is accelerating! “Nonsense”, say other scientists. “Look at the peak in 1998. In 1999, temperatures have dropped significantly ($>0.6\text{C}$ or 1.1F) from those highs of 1998.” *The 8-year average temperature since 1999 appears to have remained essentially constant, but more about that later.* If you look at Figure 2 on page 17, you will see that a warming period can easily last 2000 years! In the last 11,000 years, we have had 2 major, 4 moderate, and 2 minor warming periods. The last decade isn’t even a warming period, but a mere blip. It’s simply not unusual.

The **Southern Hemisphere** since 1980 (satellite measurements) has shown less heating than the Northern Hemisphere over the last 30 years. Guess what? *The carbon dioxide levels in the Southern Hemisphere are identical to those in the Northern Hemisphere.* (See Internet Course “1-4: Atmospheric Composition, Carbon Dioxide”, Iowa State University.) Note, however, levels of carbon dioxide drift lower in the summer as plants grow

and creep higher in winter. Note also, the hemispheres have different peak growing seasons. December in the Southern Hemisphere is like June in the Northern Hemisphere.

The obvious question is, *“If the 1998-1999 years were so hot in both the Northern and Southern Hemispheres, how did they get so cold in the year 2000?” All the carbon dioxide didn’t disappear!!!*

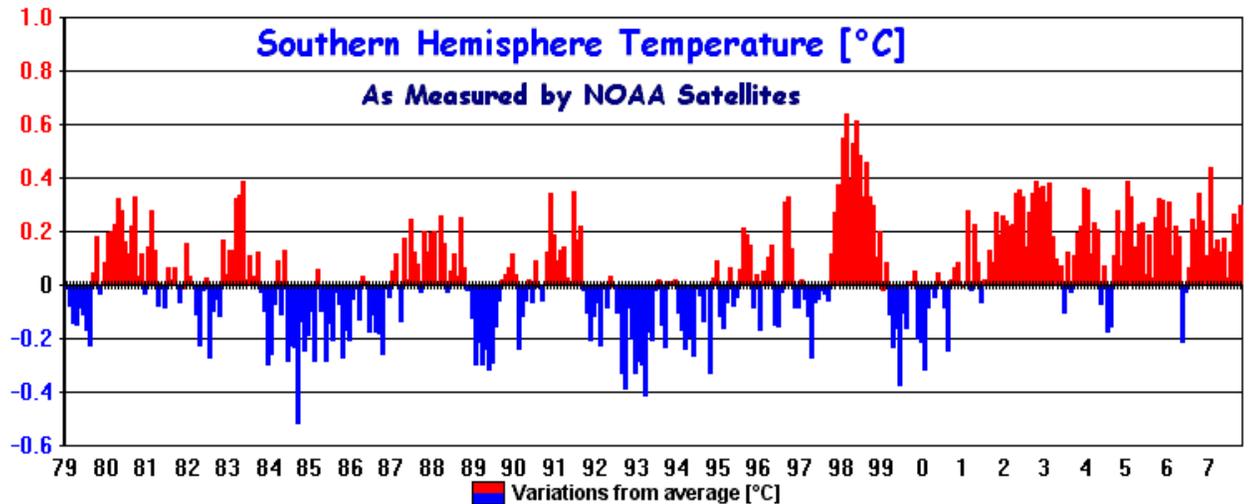


Figure 4. Monthly Average Satellite Temperatures in the Southern Hemisphere.

Other observations:

Antarctica (since 1980---satellite measurements)
No significant change in temperature.

Global Temperature Rise (Data from Hadley Research Center, England): 1.8F warmer in 156 years. (Through 2006)

The global temperature rise of 1.8F is based on Figure 5 on the next page, which covers temperature measurements since 1850. (Don’t be confused by the zero on the graph. This is not 0°C, but merely a reference line for an average temperature). In 1850, the temperature was -0.45C and in 2006, it was +0.55C from this reference line, for a total change of 1C or 1.8F.

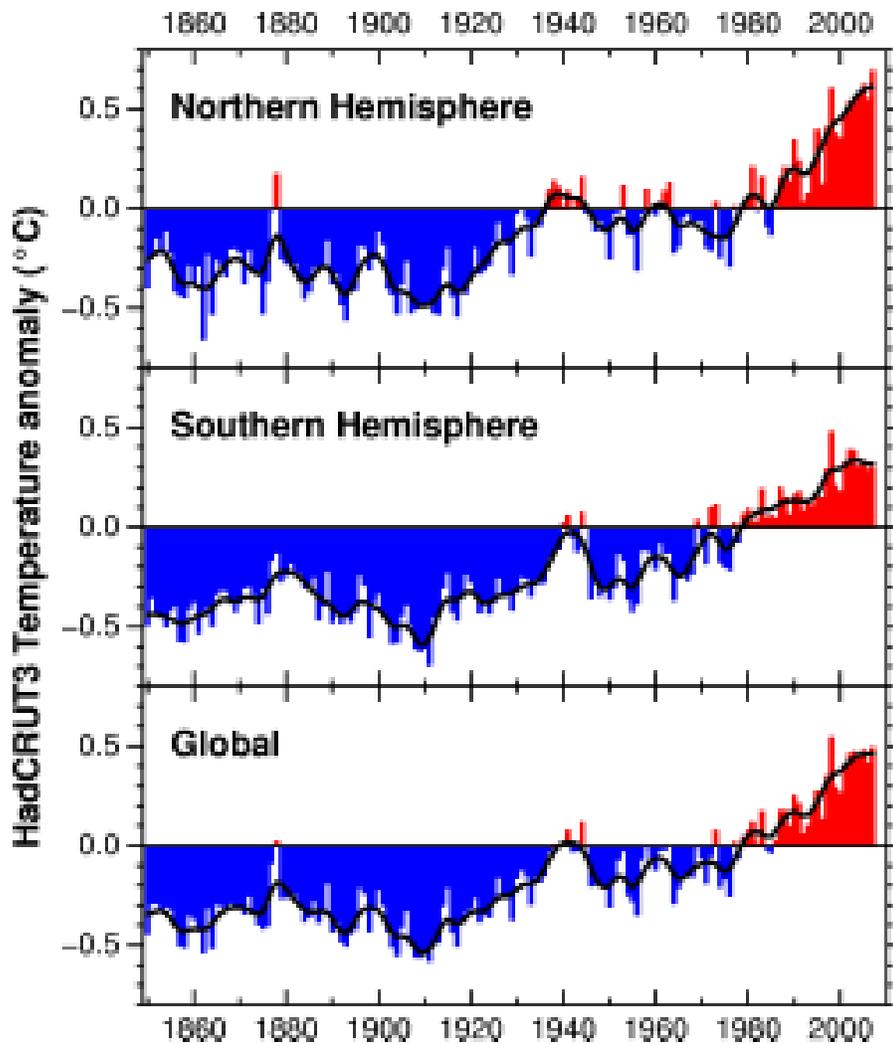


Figure 5. Temperatures from 1850--2004

But, wait! This doesn't end the story. Since the above data were available, a major cooling occurred in the world from January 2007 to January 2008 and may still be continuing in February 2008. There is a hint of this in Figure 3 (Northern Hemisphere, where the right hand readings are declining in 2007. Figure 6, just released from HadCRUT, shows that global temperatures have dropped by 0.595C (1.07F) between January 2007 and January 2008. This has been confirmed by the 3 other major temperature sources, NASA's GISS, UAH, and RSS.

Does this mean essentially no global warming has occurred in the past 158 years? No, not really! *It means that the global warming since 1850 is really 0.88F, not 1.8F!* It means that the "major global warming trend" seen in the last 30 years (1979-2008) may not be a trend, but simply the scatter of temperatures which occur naturally. *There appears to be no*

crisis! This 0.88F temperature rise will continue to change up or down at the end of each year.

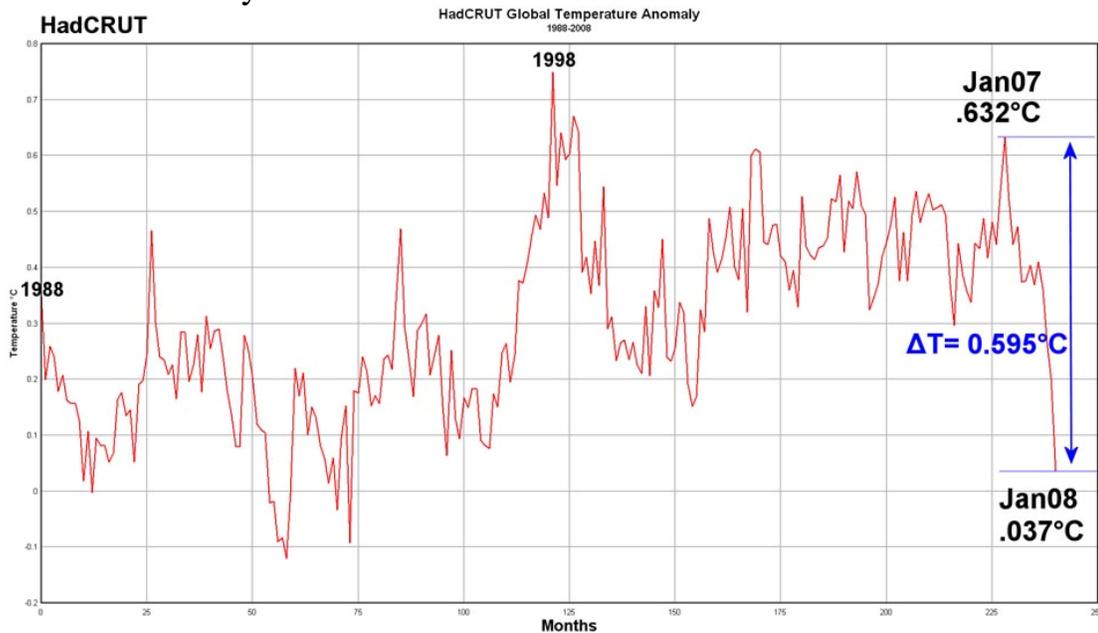


Figure 6. Latest Global Temperature Data - up to January 8, 2008

Cold winters are still with us! Let's review those years since 1979 when Figure 3 was initiated. In 1979, the Great Lakes were frozen shore-to-shore (Reference 2). *This was during the height of the media frenzy of a new, oncoming ice age.* In the severe winter of 1993-1994, the Great Lakes were almost frozen over. In February 1996, the feet of Polar bears in a Minnesota zoo froze to the ground. As the polar bears struggled to move, they left bloody footprints (Reference 2, page 208). Note that this was 6 years *after* IPCC's first global warming report. There have been reports from all over the world of extremely severe winters in recent years. Even during 2003, a relatively warm year, 742 official temperature measurements in US equaled or set new all-time lows.

(http://iceagenow.com/Record_Lows_2003.htm).

Although every few years we hear of reports of record cold winters somewhere on the Earth, the winter of 2008 has been extremely severe. A cold spell, starting on January 14, 2008, killed 60,000 cattle in Vietnam by February 17. *In China, the snowfall was so heavy that over 100,000 homes collapsed from the weight of the snow.* Icy temperatures stranded 180,000 people in south China and led to widespread power cuts. (Newsmax.com 2/26/2008). The London Daily Express stated that United States and Canada have been hit by some of the heaviest snowfalls in decades. Jerusalem,

Damascus, and northern Saudi Arabia report the heaviest snowfalls in years. Even Bagdad had a snowstorm, which few residents had ever seen before.

Notice, also, that the temperature changes depend on *when* and *where* you are on the globe. Satellite data in Figure 7, taken during the 1965-1995 years, show changes in winter temperatures (December-February). These indicate warming of Siberia and Alaska, cooling of most of Greenland, Western Australia, the Sahara Desert and the Mid-East.

The NCDC 2006 Annual Climate review (latest review available) states that the average temperature rise in the United States in the last 100 years is now approximately 1.0F, but this will probably be modified (lowered) because of the cooling in the 2007-2008 period that recently occurred.

Observed Surface Temperature Trends (C), 1965 to 1995
December to February Average

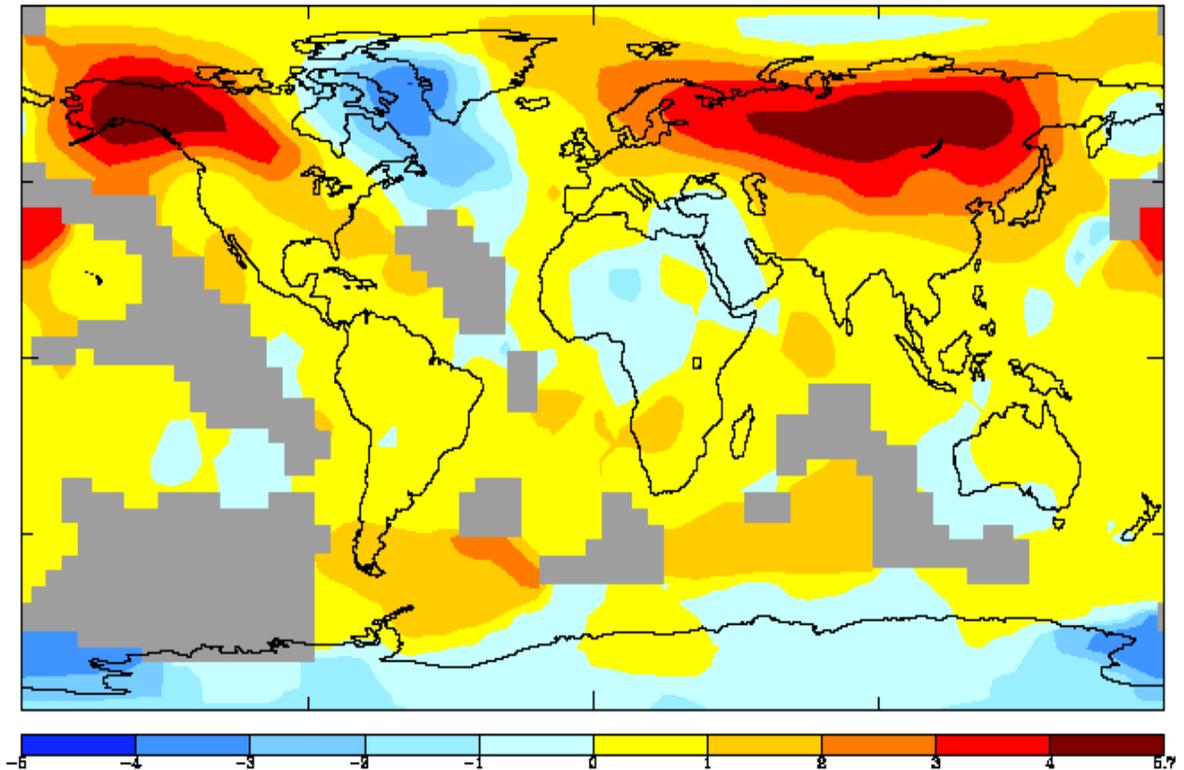


Figure 7. Satellite Map of Global Temperature Trends---1965-1995

Do you think the Russians in Siberia are unhappy about “global warming”? Nyet! Notice that equatorial regions show very little temperature changes. Obviously, the cooler the area, the more warming is possible. Hmm!! Warming tends to ameliorate major temperature swings. People

living on the Equator do not see the wide swings in temperature like the people in Minnesota experience.

Conclusion: The true extent of global warming now appears to be 0.88F over the last 158 years and is much smaller than that advertized by the IPCC. Severe winter weather still occurs on a regular basis throughout the world. Temperature changes do not occur uniformly around the world. Furthermore, the hot weather of the last decade suddenly seems to have disappeared.