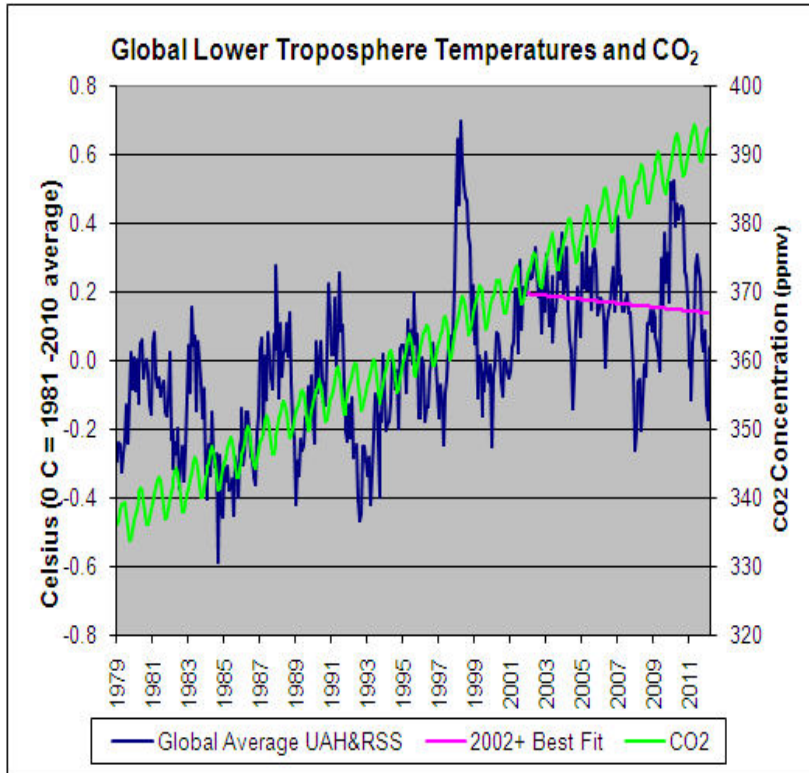


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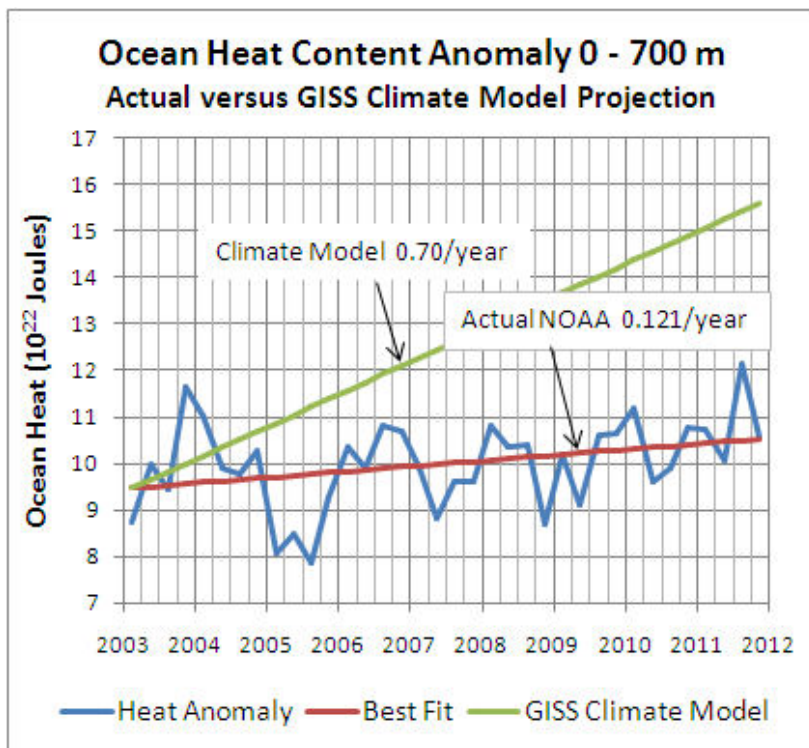
Providing insight into climate science

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The graph shows the temperature changes of the lower troposphere from the surface to 8 km as determined from the average of two analyses of satellite data.¹ The best-fit line from January 2002 to March 2012 indicates a decline of 0.06 Celsius/decade. The green line shows the CO₂ concentration in the atmosphere. There is no meaningful correlation between CO₂ and temperature. The effects of urban development contaminate surface temperature data. Climate has always changed. The Sun's magnetic flux has increased

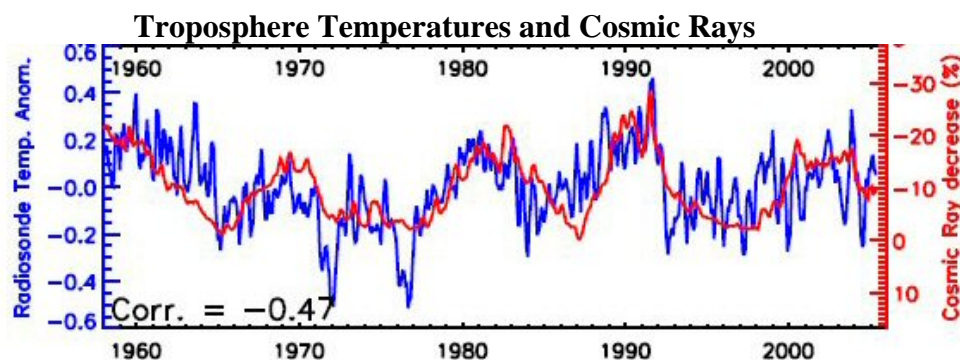
through most of the 20th century to a peak in 1992. The expected temperature response was delayed about 10 years to 2002 due to the large heat capacity of the oceans.



Most of the heat of the Earth's climate is contained in the oceans. The graph shows the change of ocean heat since accurate measurements have been taken starting in Q1 of 2003. The data from the National Oceanographic Data Center for the top 700 m of the world's oceans is compared to the GISS climate model projection. The projection trend is 5.8 times greater than the observations.

Consider:

- The Sun is the primary driver of climate change – not CO₂.
- An active Sun diverts cosmic rays from the atmosphere resulting in fewer low clouds and allowing more sunlight to warm the Earth's surface.²
- A correlation of the Sun's activity to temperature shows the Sun has caused at least 75% of the warming of the last century.³
- Black carbon from burning biomass and coal has caused about 45% of Arctic warming.⁴
- Correcting the surface temperature record for the effects of urban development would reduce the warming trend over land from 1980 by half.⁵
- The IPCC computer-modeled temperature trend of the mid-troposphere from 1979 to 2009 is about 4 times higher than observed.⁶
- An analysis of satellite data shows that clouds provide strong negative feedback to temperature change, opposite of the assumption of climate models.⁷
- Water vapour, the most important greenhouse gas, has declined 13% in the upper troposphere since 1950, offsetting most of the warming effect of CO₂.⁸
- A uniform 3% change in water vapour has the same greenhouse effect as a doubling of CO₂.⁹
- Ice core data shows that CO₂ changes follow temperatures changes by about 800 years, so CO₂ cannot be a significant cause of climate change.¹⁰
- Satellite measurements show that outgoing radiation to space increases when surface temperatures increase, which is the opposite of climate model predictions.¹¹
- CO₂ is plant food. A 300-ppm CO₂ increase would raise the forest's productivity by about 50%.¹²
- The climate model sea surface warming trend at the equator from 1981 is 6 times higher than that measured by satellites.¹³
- Global surface temperatures have been declining at 0.09 C°/decade from 2002.¹⁴



The graph shows a correlation of cosmic rays and global troposphere temperatures after removing the effects of El Nino, volcanic aerosols, NAO and a linear trend.¹⁵

Kyoto Nonsense:

- The Kyoto Protocol excludes developing countries. Canada withdrew from the Kyoto Protocol in December 2011 to avoid paying \$14 billion for no benefit. It had committed Canada to reduce greenhouse gas emissions to 94% of 1990 levels by 2012. World emissions have increased from 1990 to 2010 by 50%.
- The International Energy Agency estimates that halving CO₂ emissions by 2050 would cost \$45 Trillion. This would reduce global temperatures by about 0.18 C.
- Kyoto CO₂ trading schemes transfer wealth from growing, efficient economies to inefficient economies. Kyoto is a wasteful effort with no benefit. Our taxes should be spent to solve real problems.
- In Ontario, solar and wind generated electricity cost up to 12 and 3 times that of electricity from conventional sources, respectively.
- In the UK, windmills operate at 11% of their capacity when demand is the highest.
- Canada's economy would benefit enormously from a warming climate. Warming would extend the agricultural growing season and increase the productive area.
- CO₂ growth in the atmosphere boosts crop yields and forest growth, benefiting humans and animals.
- The world spent \$240 billion reducing CO₂ emissions in 2010 and more than \$1 trillion over the last ten years for no benefit while billions of people live in poverty, without electricity, proper sanitation or clean drinking water.

Bad Behaviour

The Climategate emails released from the Climate Research Unit show that some climate scientists:

- Delete their data rather than providing it to other researchers to verify results.
- Conspire to delete email and documents to avoid Freedom of Information laws.
- Delete data that contradicts their AGW theory.
- Fudge or adjust data without justification.
- Boycott scientific journals that publish results that contradict AGW theory.
- Collude to evict skeptical scientists from professional organizations.
- The 2007 IPCC report contains references to 5,587 non-peer-reviewed literatures, including newspaper articles and Greenpeace documents.

References:

See Climate Change Science Essay in the Our Position section of the Friends of Science home page: www.friendsofscience.org for a discussion of these issues.

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3. Based on “Phenomenological reconstructions of the solar signature in the Northern Hemisphere surface temperature records since 1600”, by N. Scafetta and B. J. West, November 2007, Journal of Geophysical Research, Volume 112, modified by substituting the surface temperatures since 1979 with the satellite lower troposphere temperatures to eliminate the effects of urban development.
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8. NOAA Earth System Research Laboratory, NCEP Reanalysis dataset, Specific humidity 400 mb level, about 8 km altitude, 1948 to 2010.
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11. "Determination of Climate Feedbacks from ERBE Data", R. Lindzen and Y. Choi, August 2009, Geophysical Research Letters, Vol. 36.
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13. IPCC 20C3M/SRES A1B Multi-model mean ocean surface temperature vs Reynolds OI.v2 SST.
14. HadCRUT3 temperature index.
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