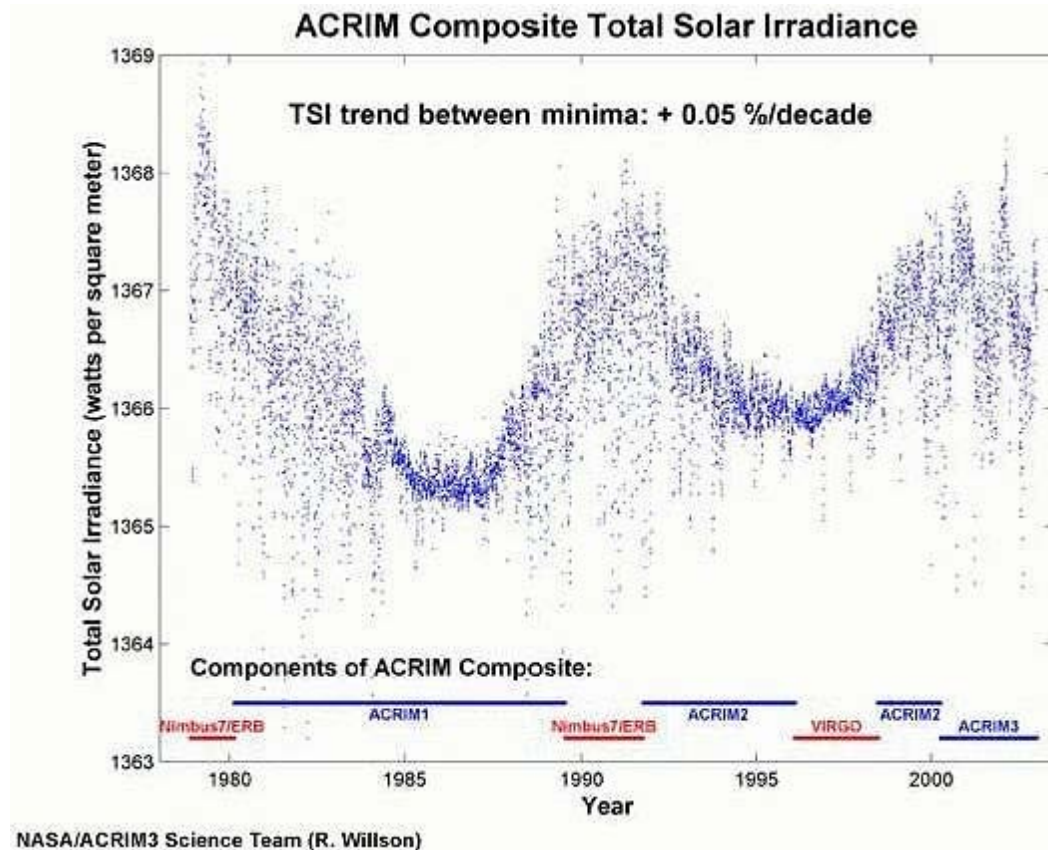


## The cause of recent global warming: Increased Solar Irradiance



The recent trend of a .05 percent per decade increase in Total Solar Irradiance (TSI) in watts per meter squared,[\*] or the amount of solar energy that falls upon a square meter outside the Earth's atmosphere. The trend was measured between successive solar minima that occur approximately every 11 years. At the bottom, the timeline of the many different datasets that contributed to this finding, from 1978 to present.

\* My note: The mathematically correct term is "Watts per square meter"; there is a difference and I am certain that Space.com meant Watts per square meter. "Watts per meter squared" is usually expressed as  $(W \cdot m)^2$  or  $(Wm)^2$  and the correct term, "Watts per square meter" is written as  $W \cdot m^2$  or  $Wm^2$  —WHS

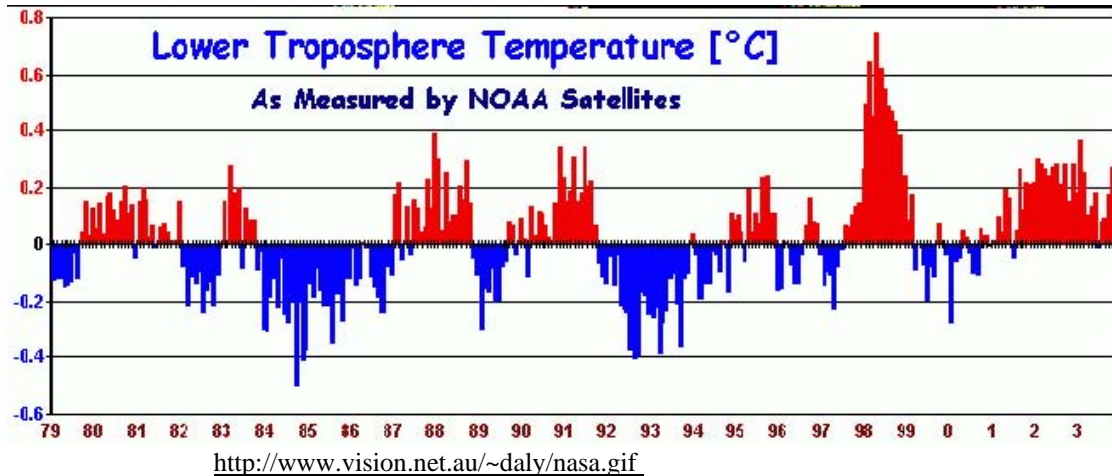
As per John L. Daly, at <http://www.vision.net.au/~daly/#hotter> ...:

According to Space.com, "the recent trend of a .05 percent per decade increase in Total Solar Irradiance (TSI) ... was measured between successive solar minima that occur approximately every 11 years." As the chart shows, the solar minimum of the mid-1990s was hotter than the previous minimum of the mid-1980s. Solar minima provide the opportunity for the Earth to 'cool off' after the enhanced radiation of a solar maximum; however, the strong radiation of the 1990s

minimum has kept earth's climate 'on the boil' so to speak.

How much warmth are we talking about here? The average energy shown above of 1,366  $\text{wm}^2$  results in a global average of 387  $\text{wm}^2$  absorbed by the planet after deduction for reflected radiation. An increase of 0.05% equates to an increase of 0.77  $\text{wm}^2$  in radiation absorbed by the earth (0.2% of 387  $\text{wm}^2$ ). The Stefan-Boltzmann Law which relates radiant energy to temperature gives a temperature increase without feedbacks of 0.1°C.

That doesn't sound like much, but the same time period is covered by the satellite temperature record of the lower troposphere.



This record shows a global warming over the same period of 0.076°C per decade. Since the record spans 25 years, this gives a total global warming over a full quarter-century, as measured by the satellites, of  $0.076 \times 2.5 = 0.19^\circ\text{C}$ .

That means that more than half the warming measured by satellites over the last 25 years is explainable exclusively by the sun (assuming no feedbacks), leaving only 0.09°C unexplained. If some positive feedbacks are assumed (as claimed by the IPCC), then the entire warming over the last quarter century is explainable by the sun alone.

If no feedbacks are assumed, then the small residual warming might or might not be attributable to greenhouse gases, but its magnitude suggests that even after 100 years, greenhouse warming will amount to little more than a few tenths of a degree, not the whole degrees claimed by the IPCC and the incompetent science it leads. With such trivial warmings on offer, there is absolutely no reason for countries to impoverish themselves with draconian energy rationing or desecrate whole landscapes and seascapes with ugly, inefficient windmills in a vain attempt to head off a big warming that simply won't happen.

We might also ask - what will happen to global climate when the sun inevitably goes into a cooler phase as it did 350 years ago during the Little Ice Age? Greenhouse gases will be but a feeble buffer to the resulting cooling.

It should be mentioned as well that the Global Circulation Models (GCM) used to produce the computer simulations (they bear little relationship to reality and to one another) that the climate alarmists like to use to support their projections of gloom and doom do not take into account the variability of the Earth's cloudiness that is a result of changes in solar radiation.

An active sun produces more solar wind that causes the Earth to receive less cosmic radiation. Less cosmic radiation causes there to be fewer condensation nuclei in the Earth's atmosphere. Fewer condensation nuclei will result in fewer clouds and generally drier conditions. Not only that, but that will cause more of the Sun's rays to reach the surface of the Earth.

A one-percent change in global cloud cover will have about as much impact on global temperature trends as a 100-percent change of the CO<sub>2</sub> content in the atmosphere has.

Those interactions are complex, but they are all driven by the Sun. There is an eleven-year cycle in the variations of solar irradiance. But there are more and longer cycles of differing lengths superimposed on the fundamental eleven-year cycle. They are hard, but not impossible to calculate and predict. They all have more or less pronounced effects on the intensity of solar irradiance. They quite nicely explain global warming and cooling such as: the Roman climate optimum; the global cooling that accompanied the fall of the Roman empire and brought about the dark ages; the medieval warming during which civilizations throughout the world thrived (that was when the Vikings settled Greenland); the Little Ice Age (during which the Viking colonies in Greenland perished and European agriculture experienced large-scale crop failures), and the subsequent global warming when the Little Ice Age came to an end in the second half of the 19<sup>th</sup> century.

Although the GCMs used by climate alarmists do not take the cycles of the solar variations into account at all, the evidence of the cyclical nature of the solar variability exists in many proxy records, obtainable and obtained by objective and honest scientists from all over the world.

More about the cyclical nature of solar variations, their cause (the oscillation of the Sun's centre of mass around the centre of mass of the solar system), and about the proxy record of solar variations is contained in the [global warming pages at Fathers for Life](#).

We cannot control the global climate. Climate trends are driven by the controlling influence of the sun. However, we now have far better and far more effective technology that permits the global population to adapt to climate variations. Unfortunately, the propaganda hype driven by the climate-alarmist ideology of the increasingly more disreputable science used by the Intergovernmental Panel on Climate Change diverts the public's attention and government funding away from what is a far more practical course of action than climate control that can never be brought to fruition no matter how much money we spend on it, and that is: adapting to climate trends.

However, the truth will always come out in the end, and the truth will win. More and more of the majority of climate scientists that have been trying for many years to bring their objective findings to the fore are receiving the attention they deserve to receive.

That will not affect the global climate trends in the least, no more than futile attempts at climate control will, but it has an increasingly more and more positive and powerful impact on the global politics of climate change. The latest developments pertaining to that are being described in a [Dec. 5, 2003 article by Lorne Gunter](#) from the Edmonton Journal. The article

opens with the statement, "The Kyoto accord is dead, accept it." It gets better after that and ends with, "If only Canada's politicians – even the opposition Canadian Alliance and Alberta's provincial government – could be as honest and brave about the Kyoto sham [as Russian President Vladimir Putin is], both economic and scientific."

Unfortunately, that is not too likely to happen. The Kyoto hype provides enormous opportunities for raising ever-new and escalating taxes. Few people put up effective opposition to having the life taxed out of them. After constantly being conditioned and indoctrinated through an all-out taxpayer-funded propaganda effort for many years, many people now feel that no sacrifice is too large when it comes to "saving the globe". Moreover, many of the new taxes are hidden taxes, such as escalating utility- and fuel prices. The governments will protect those windfall revenues at all and any costs, even if it should kill us, to satisfy their addiction to unchecked and cancerous growth.

Maybe no longer in the USSR, but in many nations of the "free" West now not the politicians but the government bureaucracy holds all of the political power. The bureaucracy is hungry, and government is the only institution that grows on account of its failures. There was hardly ever as glorious a failure as the governments' promotion of the Kyoto accord.

One hard and cold fact remains. No matter how much our governments rationalize throwing good money away to promote a bad and futile cause, it still remains wasted money. As Lorne Gunter said, "Kyoto is dead." Let's now go on to more important and productive solutions to problems that have been neglected for far too long.

What would it be like if we were to clean up our deteriorating health-care systems, or what if we were to do something to halt the deconstruction of our families and if we were to begin to restore our respect for them? Would we then not be all far more comfortable? No matter what we must do to adapt, with stronger families we would be far better able to cope with changes in climate trends.

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