

# Specific Comments on Menendez Climate Change Amendment Findings

Prepared by

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*Finding (1) Evidence continues to build that increases in atmospheric concentrations of man-made greenhouse gases are contributing to global climate change.*

This statement is pure assertion. It supplies no evidence that “evidence continues to build.”

Finding (1) also seems to say more than it does. What matters from a public policy standpoint is not whether the “balance of evidence suggests ... a discernible human influence of global climate” (as the IPCC said in its 1996 report), but whether there is **any evidence at all** that man-made greenhouse gases are causing, or are likely to cause, a climate catastrophe, and whether the benefits of energy-rationing schemes like the Kyoto Protocol would be in any reasonable proportion to their costs. As discussed below, a modest 21<sup>st</sup> century warming would likely enhance global food security and biodiversity, and Kyoto would be all economic pain for no environmental gain. Mere detection of a human influence on climate would not justify adopting the kinds of policies the Menendez amendment advocates.

Although Finding (1) does not specify the “evidence” to which it refers, it more than likely alludes to the IPCC’s Third Assessment Report, particularly Chapter 12, “Detection of Climate Change and Summary of Causes.” Chapter 12 argues that the 0.4-0.8 degree C warming during the 20<sup>th</sup> century was “very unlikely” to be due “entirely” to natural causes. The chapter offers two main kinds of evidence: temperature records and computer model simulations.

## Temperature records:

According to the IPCC, in new reconstructions of the surface temperature record, the 20<sup>th</sup> century was the warmest of the past 1,000 years. In addition, claims the IPCC, three of the past five years (1995, 1996 and 1998) added to the instrumental record since the previous IPCC report were the warmest ever. Thus, the IPCC concludes, the 20<sup>th</sup> century warming, especially since the 1970s, is “very unlikely” to be “entirely” the result of natural variability.

However, a recently published study by researchers at Harvard and the University of Delaware calls into question the IPCC’s view that the 20<sup>th</sup> century’s warming was “unusual” and, therefore, at least partly man-made. The researchers find that **many parts of the world were warmer during the period 800-1200 A.D. than today**. From about 1300 to 1900 A.D. average global temperatures tended to drop, with the 15th-16th centuries possibly the coldest period of the prior 10,000 years. The researchers conclude that the 20<sup>th</sup> century warming, including the decade of the 1990s, was well within the range of natural climate variability. The study, funded in part by AFSOR, NASA and NOAA examined the results of more than 240 scientific reports, most published within the last 5 years. [Soon, W., Baliunas, S., Idso, C., Idso, S., and Legates, D. R. 2003: Reconstructing climatic and environmental changes of the past 1,000 years: A Reappraisal.” *Energy & Environment*, 14, 233-296, 2003]

Another recent study casts doubt on the ability of scientists to find a greenhouse warming “signal” in 20<sup>th</sup> century surface temperature data. The IPCC believes scientists have largely succeeded in factoring out the heat effects of urbanization from the surface record. However, a satellite study of Houston, TX suggests that the “urban heat island (UHI) effect” is larger than scientists previously assumed.

In the words of the researcher, “over the course of 12 years, between 1987 and 1999, the mean nighttime surface temperature heat island of Houston increased  $0.82 \pm 0.10$  [°C].” In contrast, the mean rural temperature at the end of the study period was “virtually identical” to what it was at the beginning. The researcher also found that, “the growth of the UHI, both in magnitude and spatial extent, scales roughly with the increase in population, at approximately 30%.” [Streuker, D. R., 2003: “Satellite-measured growth of the urban heat island of Houston, Texas,” *Remote Sensing of Environment*, 85: 282-289] The study demonstrates that the UHI effect is huge. As climate scientists Craig and Keith Idso explain:

In just 12 years, the UHI of Houston grew by more than the IPCC calculates the mean surface air temperature of the earth rose *over the entire past century*, over which period the earth’s population rose by some 280% or *nearly an order of magnitude more* than the 12-year population growth experienced by Houston.

The Idso’s continue:

Given these *facts*, it is presumptuous in the extreme to believe that the global surface air temperature record of the last two decades of the 20th century -- when world population rose by over 35% -- could ever be accurately enough

"massaged" to provide a realistic assessment of what the planet's non-urban-affected surface air temperature really did over that period. Hence, like it or not, we are essentially *forced* to rely on the satellite record when it comes to evaluating contemporary global climate change; and that record suggests that the warming of that period -- if there truly was any at all -- was a far cry from the "unprecedented" status that climate alarmists are fond of attaching to it. [<http://www.co2science.org/journal/2003/v6n15c1.htm>]

### **Model simulations:**

As noted, the IPCC also claims that computer model simulations of climate provide new and stronger evidence of global warming from man-made greenhouse gases. More specifically, the IPCC claims the models are in reasonable agreement with observed surface temperature changes. But, this assumes that climate modelers have adequately screened out the UHI effect—a questionable assumption, as we have seen.

In addition, model simulations of global surface temperature are “realistic” only when they assume a significant net cooling influence from sulfate aerosol emissions. Sulfates supposedly counteract or “mask” the warming effects of CO<sub>2</sub>. A recent study casts doubt on that assumption. It shows that one type of aerosol, black carbon, is a strong warming agent and may “nearly balance” the cooling effects of other aerosols. [Jacobson, M. 2001. "Strong radiative heating due to the mixing state of black carbon in atmospheric aerosols," *Nature*, 409:695-697] Consequently, the net cooling effect of aerosols may be too small to explain why models run without the sulfate “masking” hypothesis project significantly more warming in the 20th century than was actually observed.

Finally, as the IPCC admits, the models cannot account for the almost total lack of warming in the lower troposphere, the layer of air from two to eight kilometers up. According to the models, the troposphere, where greenhouse gases are well mixed, should warm faster than the surface. Indeed, the surface warming is supposedly partly a consequence of the warming troposphere. The computer models say that the troposphere should have warmed by +0.5 C in the last two decades. However, both NASA satellites and weather balloons show virtually no troposphere warming.

A new paper by Santer et al. attempts to debunk the satellite record. They claim that a satellite dataset produced by Remote Sensing Systems (RSS) in Santa Rosa, California, is more accurate than the dataset produced by climatologists Roy Spencer and John Christy at the University of Alabama in Huntsville (UAH). Why is the RSS dataset more accurate, according to Santer et al.? It conforms more closely to climate models. But data is supposed to confirm models, not the other way around. The UAH dataset agrees with a totally independent troposphere temperature record—weather balloon observations, which show about 0.08 degrees C of warming trend (see Figure 1) during the past two decades even when one includes the large warming contributed by the 1997-1998 El Niño event. The UAH results are plotted side-by-side with two independent determinations of global temperature of the lower troposphere in Figure 1. Note the near-perfect agreement (with correlation coefficients greater than 0.94 and 1 being perfect correlation) between the UAH satellite record and (a) balloon results from the U.K. Meteorological Office (marked HadRT) and (b) the assimilated global lower

tropospheric temperature deduced by the U.S. National Centers for Environmental Prediction (marked NCEP). The latest UAH effort in confirming the accuracy of the satellite temperature record and its error estimates are published in the May 2003 issue of the Journal of Atmospheric and Oceanic Technology (vol. 20, 613-629).

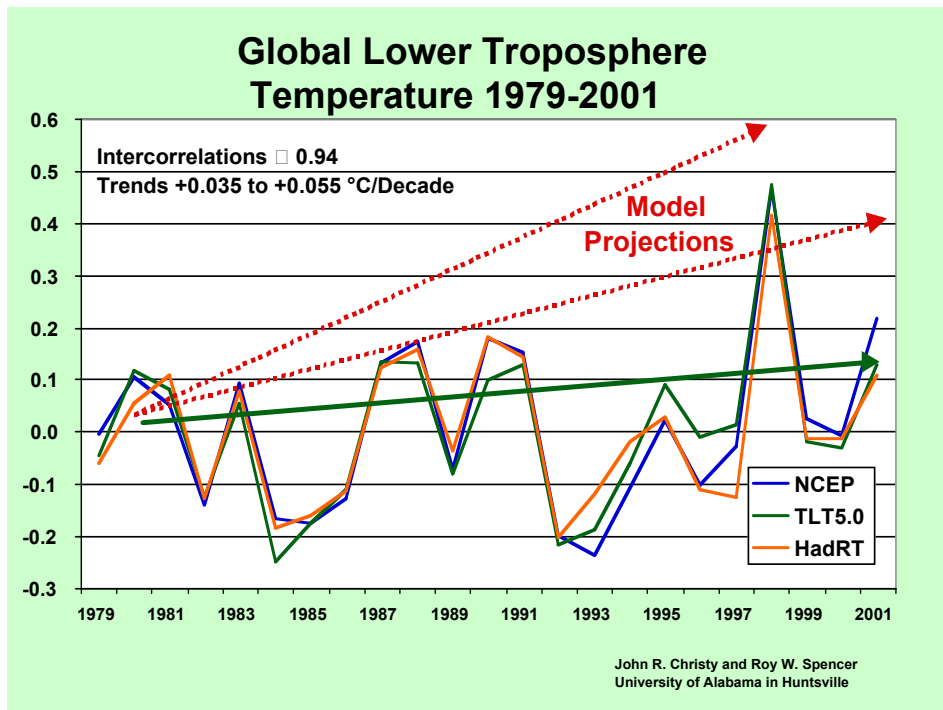


Fig. 1 --- Near perfect agreement between the UAH satellite-retrieved global temperature of the lower troposphere (marked TLT 5.0) and two independent records (marked NCEP and HadRT). All three records yield a temperature trend of about 0.035 to 0.055 C per decade (marked by thin green trend line). Climate models projected greater warming of the lower troposphere, contrary to the observations.

Besides the heat island effect, what else might cause the surface warming, especially in the early 20th century when greenhouse gases from human activities had not significantly increased in concentration in the atmosphere? **The 20th century temperature pattern shows a strong correlation to energy output of the sun.** Although the causes of the changing sun's particle, magnetic and energy outputs are uncertain, as are the responses of the climate to the sun's various changes, the correlation is pronounced. **It explains especially well the early 20th century warming trend, which cannot have much human contribution.**

# A SUN-CLIMATE LINK?

NORTHERN HEMISPHERE LAND TEMPERATURE AND SOLAR CYCLE

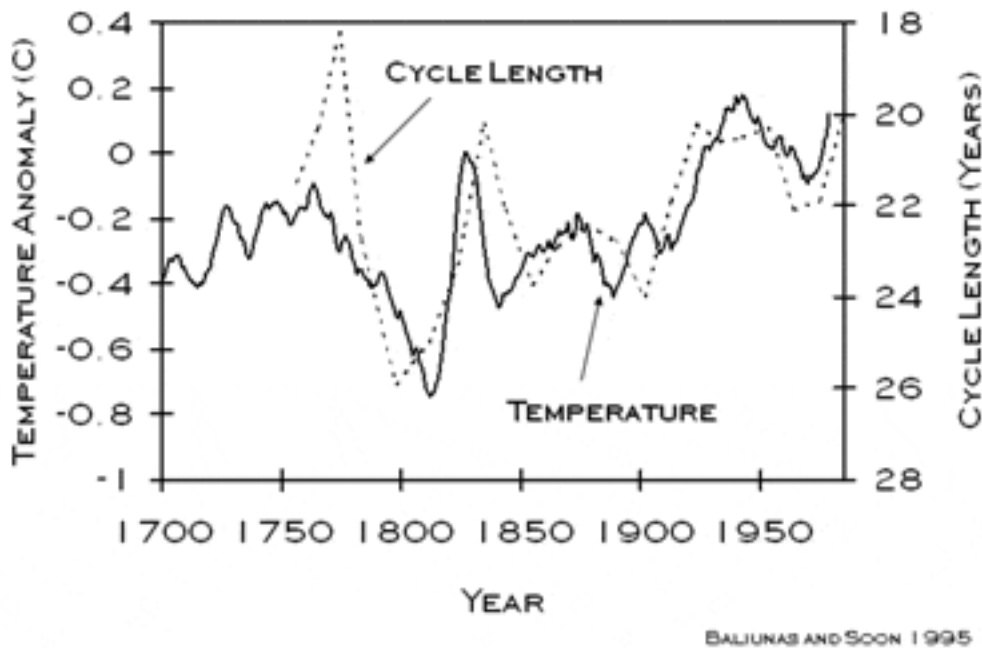


Fig. 2 -- Changes in the sun's magnetism (as evidenced by the changing length of the 22-year, or Hale Polarity Cycle, dotted line) and changes in Northern Hemisphere land temperature (solid line) are closely correlated. The sun's shorter magnetic cycles are more intense, suggesting periods of a brighter sun, then a fainter sun during longer cycles. Lags or leads between the two curves that are shorter than twenty years are not significant, owing to the 22-year time frame of the proxy for brightness change. The record of reconstructed Northern Hemisphere land temperature substitutes for global temperature, which is unavailable back to 1700 (S. Baliunas and W. Soon, 1995, *Astrophysical Journal*, 450, 896).

*Finding (2) The [United Nations] Intergovernmental Panel on Climate Change (in this section referred to as the "IPCC") has concluded that "there is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities" and that the Earth's average temperature can be expected to rise between 2.5 and 10.4 degrees Fahrenheit in this century.*

The claim of "new and stronger evidence" has already been discussed (see comments on Finding (1), above). Let's then turn to the meat of the issue—whether there is any evidence of an impending climate catastrophe.

Finding (2)'s claim that, according to the IPCC, "Earth's average temperature can be expected to rise between 2.5 and 10.4 degrees Fahrenheit in this century," is

misleading. The IPCC produced some 40 modeling scenarios, one of which projects a global temperature increase of 10.4 degrees F. However, the IPCC is careful to note that the 40 scenarios are not predictions. Moreover, the IPCC explicitly declines to assign probabilities to any of the scenarios. Therefore, it is misleading to say or imply that the IPCC “expects” the world to warm as much as 10.4 degrees F.

In any event, the IPCC’s high-end warming scenarios rest on questionable assumptions. Wigley and Raper, for example, show that the IPCC produced larger warming projections than previously not because of new scientific findings but because IPCC modelers assumed more aggressive efforts worldwide to reduce sulfate aerosol emissions. [Wigley, T.M, and Raper, S.B.C., 2002: “Reasons for Larger Warming Projections in the IPCC Third Assessment Report,” *Journal of Climate*, 15:2945-2952]. However, as already noted, recent research casts doubt on the assumption that aerosols are a strong net coolant. Therefore, greater reductions in aerosols should not cause the additional warming that some IPCC scenarios project.

Richard Lindzen of MIT and two NASA colleagues have discovered a more fundamental weakness in the IPCC models’ physics. In almost all climate models, the direct warming effect of a doubling of CO2 concentrations over pre-industrial levels is only about 1 degree C. Significant global warming supposedly results from “positive feedbacks” to the heat energy from CO2. For example, the small warming from CO2 supposedly increases evaporation, which increases concentrations of water vapor, the atmosphere’s main greenhouse gas.

The Lindzen team’s satellite study discovers instead a negative water vapor feedback effect—a mechanism strong enough to cancel out most positive feedbacks in most models. Their research indicates that as heat builds in the atmosphere, **cloud properties adjust much as a thermostat would, allowing more heat to escape into space, damping the warming effects of greenhouse gases.** [Lindzen et al., “Does the Earth Have an adaptive Infrared Iris?” *Bulletin of the American Meteorological Society*, March 2001, 82:417-32]

**Other researchers have found that the IPCC’s warming projections, especially the high-end estimates, are based on flawed economic assumptions.** They find that the IPCC’s Special Report on Emission Scenarios (SRES) assume unrealistic levels of economic growth, especially in developing countries. Inflated growth projections lead to unrealistic emission scenarios, which in turn, lead to unrealistic warming projections. [*Economist*, Feb. 13<sup>th</sup>, 2003; Letter of Ian Castles to Dr. Rajendra Pachauri, Chairman, IPCC, August 6, 2002.]

Michaels et al. found that when the IPCC’s main climate model is run with more realistic inputs (the finding that black carbon is a strong warming agent, Lindzen’s tropical cloud thermostat, and the assumption—based on the past 25 years of history—that CO2 levels will increase at a constant rather than exponential rate), the projected 21<sup>st</sup> century warming drops from 2.0 to 4.5 degrees C to 1.0 to 1.6 degrees C. [Michaels, P.J., et al. 2002. “Revised 21<sup>st</sup>-century temperature projections. *Climate Research*, 23: 1-9]

A warming of 1.0-1.6 degree C warming would likely have net benefits for the United States, according to many experts, such as Professor Robert Mendelsohn of the Yale University School of Forestry and Environmental Studies.

*Finding (3) The National Academy of Sciences confirmed the findings of the IPCC, stating that "the IPCC's [Summary for Policy Makers] conclusion that most of the observed warming of the last 50 years is likely to have been due to the increase of greenhouse gas concentrations accurately reflects the current thinking of the scientific community on this issue" and that "there is general agreement that the observed warming is real and particularly strong within the past twenty years". The National Academy of Sciences also noted that "because there is considerable uncertainty in current understanding of how the climate system varies naturally and reacts to emissions of greenhouse gases and aerosols, current estimates of the magnitude of future warming should be regarded as tentative and subject to future adjustments upward or downward".*

**The UN IPCC Summary for Policymakers was not approved by the scientists who wrote the report. The summary is a political consensus made by policy makers.** The resulting document has a strong tendency to disguise uncertainty, and conjures up some scary scenarios (computer generated) for which there is no empirical evidence (see above, Findings 1 & 2).

The NAS panel herein alluded to broadly hinted that the IPCC's Summary for Policymakers does not provide suitable guidance for the U.S. government. The panel cautioned:

Confidence limits and probabilistic information, with their basis, should always be considered as an integral part of the information that climate scientists provide to policy and decision makers. Without them, the IPCC SPM [Summary for Policymakers] could give an impression that the science of global warming is "settled," even though many uncertainties still remain. The emission scenarios used by the IPCC provide a good example." [NAS, *Climate Change Science: An Analysis of Some Key Questions* (2001), p. 22.]

The statement in Finding (3) that observed warming is "real and particularly strong within the past twenty years" is misleading and only holds for selective data sets. **Temperature records from both satellite and upper-air balloon measuring devices indicate virtually no significant troposphere warming over the past twenty years.** Additionally, several proxy temperature records suggest that the present surface warmth is not greater in magnitude than the earlier Medieval Warm Period some 800-1200 years ago.

*Finding (4) The IPCC has stated that in the last 40 years, the global average sea level has risen, ocean heat content has increased, and snow cover and ice extent have decreased, which threatens to inundate low-lying island nations and coastal regions throughout the world.*

### **Sea level rise:**

Sea levels rise naturally in the “interglacial” periods between ice ages. At the end of the previous interglacial (about 125,000 years ago) sea level was about 16 feet higher than it is today. In all likelihood, sea levels will keep rising until the next ice age. However, empirical data do not support the claim that man-made emissions of CO<sub>2</sub> are accelerating sea level rise. As the IPCC reports: “**There is no evidence** for any acceleration of sea level rise in data from the 20<sup>th</sup> century alone.” [IPCC, *Climate Change 2001: The Scientific Basis*, p. 663, emphasis added.]

Also, in a recent study of the mass balance of the Greenland and Antarctic ice sheets researchers at the Max Planck Institute for Meteorology in Hamburg, Germany used both an older GCM (General Circulation Model) and the newer ECHAM4 GCM. Running both models with present-day and doubled atmospheric CO<sub>2</sub> concentrations, they found the older model projected a sea level rise from polar ice sheet melting under a doubling of the air's CO<sub>2</sub> content, while the newer model actually projected a sea level decline simply because of net accumulation of ice at the polar caps. [Wild, M. and Ohmura, A. 2000. “Change in mass balance of polar ice sheets and sea level from high-resolution GCM simulations of greenhouse warming.” *Annals of Glaciology* 30: 197-203.]

### **Ocean Heat Content:**

Levitus et al. conducted a detailed analysis of the vast array of oceanic temperatures. [Levitus, S., Antonov, J.I., Boyer, T.P. and Stephens, C. 2000. “Warming of the world ocean.” *Science* 287: 2225-2229.] They find a significant increase in ocean heat content in the layer from 300- to 1000-meters during the past 50 years, and opine that their research supports the hypothesis of global warming from greenhouse gas emissions. However, “the increase in ocean heat content [in the subsurface layer] preceded the observed warming of sea surface temperature,” and the authors acknowledge that it “may seem implausible that subsurface ocean warming preceded the observed global mean warming of surface air and sea surface temperature.” Indeed it does—if one assumes that greenhouse gases are warming the ocean. The researchers also acknowledge that ocean temperature changes cannot be partitioned into a man-made component or one of natural variability. More importantly, their data shows that ocean warming is not a continuous trend over 50 years. Rather, the ocean warmed during the period 1920 to 1940, then cooled for several decades, and then warmed abruptly in the mid-1970s. This step-like increase, known as the “1976 Pacific Climate Shift,” is very likely natural. One thing is certain: climate models cannot explain it.



### **Snow and ice cover:**

Scientific observational evidence indicates that the Greenland ice sheet appears to be in balance and the Antarctic ice sheet is accumulating mass. Contrary to Finding (4), model scenarios suggest that slight to moderate global warming would actually lead to a greater accumulation and positive balance of the Antarctic ice sheet from increased snowfall. **Observational data indicate Antarctic sea ice has increased over the past three decades** [Joughin, I., and Tulaczyk, S., 2002: "Positive Mass Balance of the Ross Ice Streams, West Antarctica, *Science*, 295, 451-452], **and temperatures have been dropping over the continent as a whole for the past 50 years** [Doran, P., et al., 2002: "Antarctic climate cooling and terrestrial ecosystem response," *Nature*, 415: 517-520.]

*Finding (5) In October 2000, a United States Government report found that global climate change might harm the United States by altering crop yields, accelerating sea-level rise, and increasing the spread of tropical infectious diseases.*

This is a reference is to the Clinton-Gore Administration's discredited "National Assessment of Climate Change Impacts on the United States" (USNA). The Bush Administration has stated that the USNA climate impact assessments "do not represent government policy" and are not "policy positions or statements of the U.S. Government." [See, e.g., Testimony of Thomas Karl, Director National Climate Data Center, Subcommittee on Oversight and Investigations, House Energy and Commerce Committee, July 25, 2002, p. 1.]. During past testimony before the House Oversight & Investigations Committee, one of the co-chairs of the report confirmed Virginia State Climatologist Patrick Michaels's finding that the USNA models could not reproduce past U.S. temperatures better than could a table of random numbers.

### **Crop Yields:**

This finding promotes the speculative thesis that rising levels of atmospheric CO<sub>2</sub> will warm the planet and generally impact earth's weather patterns in such a way as to depress crop yields and agricultural production.

Once again, this scenario is based on climate model predictions that fail to adequately describe the many agricultural benefits, based on experimental observations and real-world greenhouse production practices, likely to be derived from the aerial fertilization effect of the ongoing rise in the air's CO<sub>2</sub> content. A wealth of data demonstrates that atmospheric CO<sub>2</sub> enrichment actually helps plants compensate for changes in temperature and water availability. For the future, therefore, a modest increase in both temperature and atmospheric CO<sub>2</sub> would most likely be a welcomed global subsidy for agriculture, freely enhancing the bounty of the global harvest.

Global crop productivity, the well being of people and livestock, the growth of forests, and the productivity of rangelands are all currently far more limited by cold than by warmth in both the Northern and Southern Hemispheres. Modest warming, therefore, would be an asset, not a hindrance, to the global economy. Indeed, there is virtually no

place on earth too hot or too humid to grow sweet potatoes, cassava, or plantains; while corn, soybeans, rice and many other crops are successfully grown from the equator to 45 degrees latitude north and south.

### **Sea Level Rise:**

See (4) above.

### **Infectious Diseases:**

The alarm over spread of infectious diseases, such as malaria, is due to exceptionally flawed computer models that use only one or two climate variables. The authors of a recent study considering 5 climate variables explicitly stated that their model "contradicts prevailing forecasts of global malaria expansion." One of their scenarios even predicted nearly a one percent decrease in malarial exposure [Rogers, D.J. and Randolph, S.E. 2000. The global spread of malaria in a future, warmer world. *Science* 289: 1763-1766].

Empirical studies find no evidence of a link between malaria and climate change. For example, Hay et al. examined long-term meteorological trends of high-altitude sites in East Africa, where a resurgence of malaria over the past two decades has been widely reported. The authors found no significant change in temperature, rainfall, vapor pressure, or the number of months suitable for malaria transmission, either "during the past century or during the period of reported malaria resurgence." Factors contributing to the resurgence included resistance to anti-malarial drugs, population migration, and breakdown in insect control operations. The authors conclude: "Economic, social, and political factors can therefore explain recent resurgences in malaria and other mosquito-borne diseases with no need to invoke climate change." [Hay, S. L., et al. 2002: "Climate change and the resurgence of malaria in the East African highlands," *Nature*, 21, 905-909.]

According to Paul Reiter, one of the world's foremost experts on vector-borne disease, claims that malaria resurgence would occur due to CO<sub>2</sub>-induced global warming ignore other important factors and disregard history. If malaria is a "tropical" disease, a disease of climate rather than of poverty, then why, in the 19<sup>th</sup> century, was malaria widespread in North Dakota, Montana, Finland, Poland, and Russia? Why was malaria prevalent in Europe in some of the coldest centuries of the past millennium? And why have we only recently witnessed malaria's widespread decline at a time when temperatures have been warming? Clearly, there must be other factors that are more important than temperature. And there are, as Reiter points out, including the quality of public health services, irrigation and agricultural activities, land use practices, civil strife, natural disasters, ecological change, population change, use of insecticides, and the movement of people [Reiter, P. 2001. "Climate change and mosquito-borne disease", *Environmental Health Perspectives* 109: 141-161]. Hence, it is clear that the role of temperature in the spread of malaria is insignificant in comparison to the roles played by other factors.

*Finding (10) Any future, binding treaty on climate change must not result in serious harm to the United States economy, and should not cause the United States to abandon its shared responsibility to help reduce the risks of climate change and its impacts. Future international efforts in this regard should focus on recognizing the equitable responsibilities for addressing climate change by all nations, including commitments by the largest developing country emitters in a future, binding climate change treaty.*

The Kyoto Protocol would do serious harm to the U.S. economy, costing \$77 billion to \$338 billion per year, according to the Energy Information Administration. Yet, according to the climate models, Kyoto would merely postpone by a few years any projected end-of-century warming from greenhouse gas emissions. For example, according to the National Center for Atmospheric Research's climate model, Kyoto would avert only 14/100<sup>th</sup> of a degree C of warming by 2100. [Wigley, T., 1998: "The Kyoto Protocol: CO<sub>2</sub>, CH<sub>4</sub>, and Climate Implications," *Geophysical Research Letter*, 25: 2285-88.] That difference is too small for scientists to detect, and would be of no benefit. It would take energy rationing schemes far more draconian than Kyoto to begin to stabilize atmospheric concentrations of greenhouse gases in the coming decades. Such schemes would be a prescription for global poverty and economic collapse. **Under current and foreseeable technologies and energy infrastructure, Finding (10) implicitly asks for the impossible: a climate treaty that can significantly reduce greenhouse gas concentrations without putting the U.S. and other economies at serious risk.**

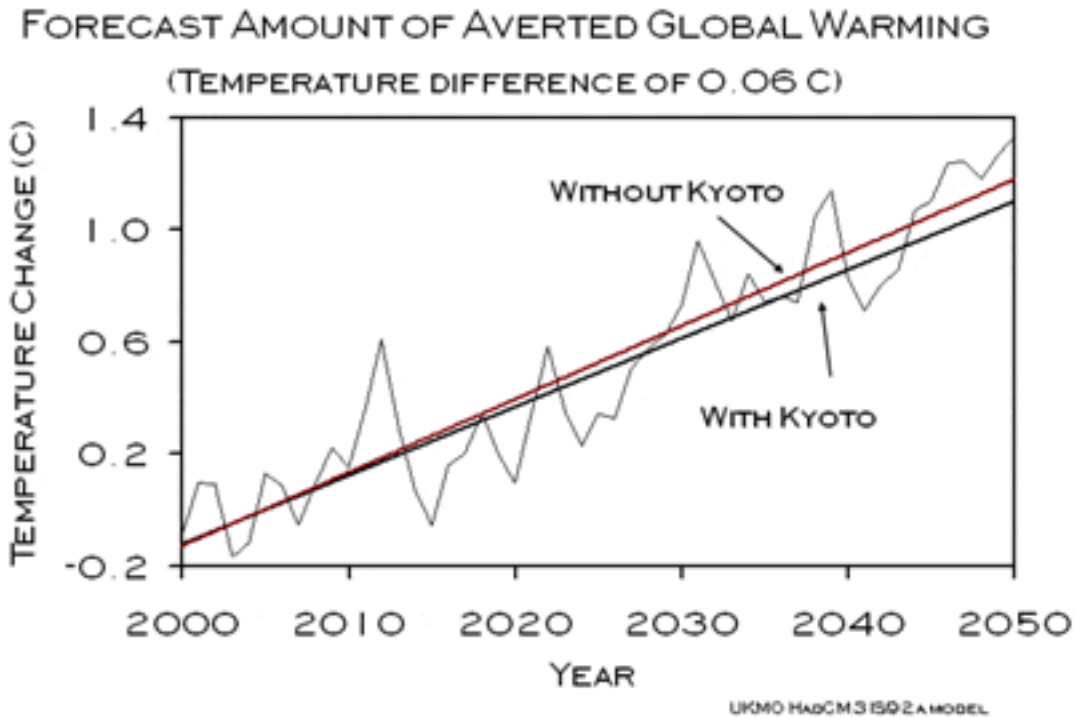


Fig 3. -- Forecast of year-to-year temperature rise from years 2000 to 2050 C.E. (thin line) assuming an increase in the air's greenhouse gas concentration from human activities, based on the Hadley Center's model (UKMO HADCM3 IS92A version). The upper line (labeled "Without Kyoto") is the linear trend fit to the model's forecast temperature rise, without implementation of the Kyoto Protocol. The lower line is the estimate of the impact on temperature with the implementation of the Kyoto Protocol. By the year 2050, around 0.06 C global warming is averted by the implementation of the Kyoto Protocol. This is the equivalent of about 3 years delay in reaching the same projected global average surface temperature.

*Finding (12) American businesses need to know how governments worldwide will address the risks of climate change.*

President Bush issued his climate policy on February 14, 2002 with a challenge to every sector of the economy to develop its approach to the 18% greenhouse gas intensity improvement over the next ten years. The Administration has defined its goals. The United States will not ratify the Kyoto Protocol and will not adopt an energy-rationing scheme by capping CO<sub>2</sub>. President Bush has announced a number of bilateral agreements that have engaged both developing nations (China, India) and also friends and allies among the developed countries (Australia, Japan, Italy).

*Finding (13) The United States benefits from investments in the research, development and deployment of a range of clean energy and efficiency technologies that can reduce the risks of climate change and its impacts and that can make the United States economy more productive, bolster energy security, create jobs, and protect the environment.*

Investments in “clean energy and efficiency technologies,” if driven by political mandates rather than market forces, are likely to generate more cost than benefit. For example, the Energy Information Administration (EIA) modeled a “multi-pollutant” strategy for reducing emissions of sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and CO<sub>2</sub> from electric power plants. Here’s what EIA found.

Reducing NO<sub>x</sub> and SO<sub>2</sub> emissions 75 percent would cost power generators and consumers \$6 billion. Reducing CO<sub>2</sub> emissions 7 percent below 1990 levels – the U.S. Kyoto target – would cost \$77 billion. If the three requirements are “integrated,” the total cost is \$77 billion -- \$5 billion less than if the emission reduction targets were imposed one at a time, with no coordination. [EIA, *Analysis of Strategies for Reducing Multiple Emissions from Power Plants: Sulfur Dioxide, Nitrogen Oxides, and Carbon Dioxide*, Dec. 2000, p. 9.] That \$5 billion “savings” is due to the “co-benefits” of “integrated” air quality management – the fact that CO<sub>2</sub> reductions entail ancillary NO<sub>x</sub> and SO<sub>2</sub> reductions. But, if your goal is cleaner air, then you haven’t saved any money at all. Rather, you have spent \$77 billion to achieve \$6 billion worth of SO<sub>2</sub> and NO<sub>x</sub> reductions. In other words, forcing power producers to invest in low-carbon and non-carbon energy technologies wastes \$71 billion – wealth no longer available to meet other consumer or environmental priorities.

Coal is the most carbon-intensive fossil fuel. Consequently, as is widely known, Kyoto-style policies would restrict the use of coal, America’s most abundant fuel and the source of over half of all U.S. electricity. Less well appreciated are the health benefits of low-cost electricity from coal and, conversely, the mortality effects of anti-coal regulation. A new study finds that regulatory restrictions on coal-fired power would lead to significant increases in mortality rates, especially among the poor. The study, *Mortality Reductions from Use of Low-Cost Coal-Fired Power: An Analytical Framework*, by Daniel E. Klein of Twenty-First Strategies and Ralph Keeney of Fuqua School of Business at Duke University, notes that, “wealthier individuals are more likely to live safer, healthier, and longer lives.” Drawing on a robust literature, the study estimates that regulatory costs in the range of \$6.8-\$18.5 million induce one additional adult death by reducing disposable income.

The study finds that fully replacing coal-fired power in the U.S. would reduce total household income by \$125-225 billion in 2010, the peak impact year, and could lead to 14,000 to 25,000 additional adult deaths. An obvious implication of the study is that Kyoto-style policies, although providing few if any environmental benefits, can be literally lethal in their effects on American households.

## **Specific Comments on Menendez Climate Change Amendment Sense of Congress**

*(b) SENSE OF CONGRESS- It is the sense of the United States Congress that the United States should demonstrate international leadership and responsibility in reducing the health, environmental, and economic risks posed by climate change by--*

*(1) taking responsible action to ensure significant and meaningful reductions in emissions of greenhouse gases from all sectors;*

The President has already laid out a goal to reduce the greenhouse gas intensity of the U.S. economy by 18% by 2012. The President's policy will measure progress based on improvements in the energy efficiency of the economy, not by absolute caps on emissions. The President's policy allows the economy to grow and encourages new investment in technology and processes.

President Bush's budget calls for a significant increase in climate change research, and the U.S. already spends more on climate science than all other countries combined. Although some of that research is "political" science (such as the U.S. National Assessment), the United States is the unrivaled world leader in global climate research.

*(2) creating flexible international and domestic mechanisms, including joint implementation, technology deployment, tradable credits for emissions reductions and carbon sequestration projects that will reduce, avoid, and sequester greenhouse gas emissions; and*

These are elements of the rejected Kyoto Protocol. Tradable credits attain full market value only with a cap on emissions, because although many companies would like to sell CO2 credits, none will buy credits unless constrained to do so to meet a cap. A cap on emissions, however, requires energy rationing across the entire economy.

*(3) participating in international negotiations, including putting forth a proposal to the Conference of the Parties, with the objective of securing United States participation in a future binding climate change Treaty in a manner that is consistent with the environmental objectives of the UNFCCC, that protects the economic interests of the United States, and recognizes the shared international responsibility for addressing climate change, including developing country participation.*

This climate amendment does not update the Byrd-Hagel resolution; it overturns Byrd-Hagel by affirming the Kyoto vision of an impending climate apocalypse, endorsing Kyoto-style policies, and urging the United States to rejoin the Kyoto negotiations.