

Climate Change and National Security: Are They Linked?

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In recent years, proponents of stringent emission reduction strategies to prevent “human caused climate change” have tried to tie the perceived threat to U.S. national security interests. They have been joined in this effort by some national security specialists and anti-oil advocates. A case in point is the Center for Naval Analyses (CNA), a federally funded think tank, which used a panel of distinguished generals and admirals to prepare a report concluding that climate change was a serious threat to our nation’s security. *National Security and the Threat of Climate Change* was released in 2007, and while it was neither the first nor is it the last effort to link the purported impact of rising temperatures to U.S. defense interests, the CNA study stands as an exemplary illustration of the logic and evidence used by other climate change advocacy groups and now, even, the U.S. government.

After reviewing the basis for CNA’s premise about climate change and its relationship with national security concerns, it is clear that the Center uncritically accepted the views of the climate change orthodoxy and used those views to make unrealistic assumptions about its impact on potential conflicts and U.S. projection of military power. That the effort is linked with the goal of emission reductions is clear – the report calls for the U.S. to “commit to a stronger national and international role to help stabilize climate change ...” The assumption that it is possible to stabilize climate, which it is not, shows clearly CNA’s acceptance of climate orthodoxy.

The clear inference of the CNA report is that failure to do so will make it necessary to enlarge our military forces and engage in innumerable foreign excursions.

“National Security” has many definitions. Selecting just one, the International Encyclopedia says that Walter Lippmann provided the first explicit definition of national security, “A nation has security when it does not have to sacrifice its legitimate interests to avoid war, and is able, if challenged to maintain them by war.”

In the end, national security means the ability to take actions that will preserve our constitutional system of government and economic well being. Economic security is the foundation for maintaining the U.S.’s ability to preserve its national interests and therefore actions that damage economic well being also weaken national security.

The major findings of the CNA report are:

- Projected climate change poses a serious threat to America's national security;
- Climate change acts as a threat multiplier for instability in some of the most volatile regions of the world;
- Projected climate change will add to tensions even in the most stable regions of the world;
- Climate change, national security, and energy dependence are a related set of global challenges.

Review of the Science Behind the Assumptions

Before addressing each of these findings, it is important to address the assumption that man-made emissions, mainly carbon dioxide -- CO₂ -- from consuming fossil energy are causing climate change, which, in turn, will seriously impact societies, especially those in the developing world. These impacts are claimed to be the results of extreme weather events, droughts, flooding, sea level rise, retreating glaciers, habitat shifts, and the increased spread of life-threatening diseases.

The basis of the conclusion that human activities are changing the climate and the effects will be extremely damaging is the research that is reviewed and reported by the Intergovernmental Panel on Climate Change (IPCC). The IPCC is a United Nations body with leaders appointed by governments. Those leaders clearly have accepted, and no longer question, the conclusion that fossil energy consumption will produce catastrophic climate changes. Although the IPCC and climate advocates claim that the IPCC process involves over 2000 of the world's leading scientists, it does not. Many of the scientists are reviewers, whose comments are not binding, and contributors to a chapter or section. The literature that is reviewed is selected by those controlling the IPCC process and rarely includes research that offers other explanations for temperature increases over the past century or the consequences of further warming. For example, it does not adequately treat research on ocean currents, cloud formation, and effects of solar activity. All have been shown to be important climate variables. The final IPCC report and its Summary for Policy Makers, which is what is read and cited, are controlled by lead authors and the IPCC chairman's leadership team.

The foundation for all reports claiming that greenhouse emissions will lead to dramatic temperature increases that will then cause a variety of climate impacts are global circulation models. None of the models have been scientifically validated. Although the models are incredibly complex, they are all based on a simple cause and effect hypothesis that can be described as follows. Carbon dioxide is a greenhouse gas which is long lasting in the atmosphere and increases in those emissions prevent solar radiation from being reflected back into space. The radiation that is trapped by greenhouse gases is reflected back to earth where it increases surface warming. Naturally occurring greenhouse gases keep the Earth's temperature moderate and conducive to human civilization. The addition of man-made greenhouse gases is upsetting this cycle by adding more heat-trapping gas to the atmosphere.

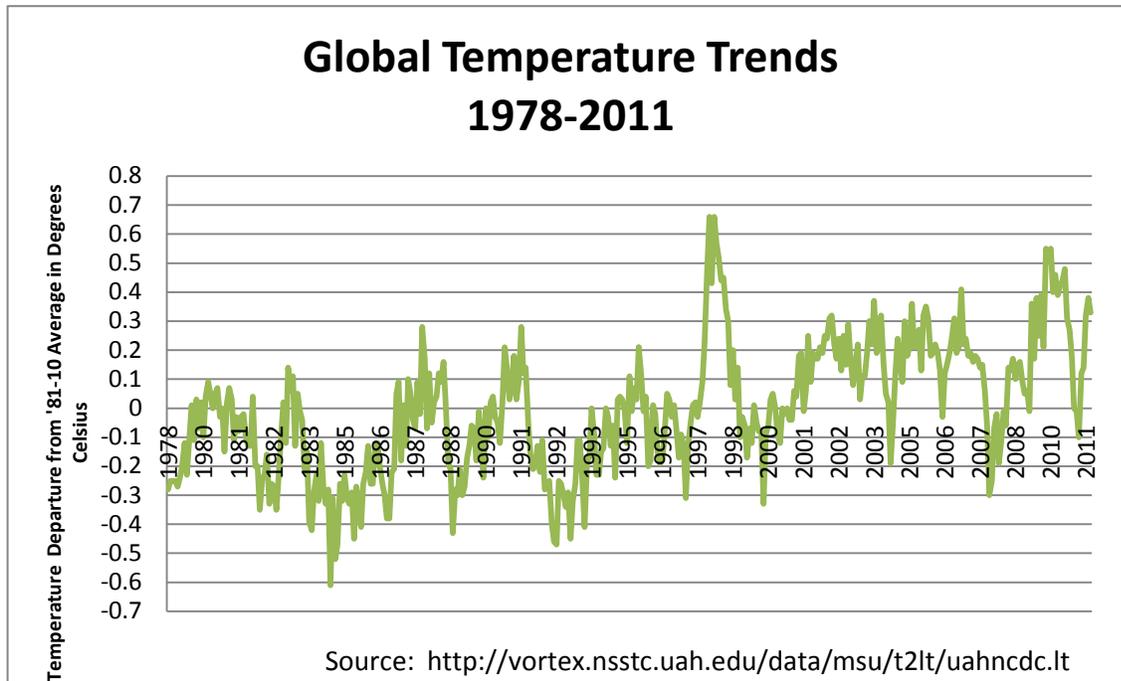
So, while global warming is a natural phenomenon, enhanced warming from human activities is viewed as a serious threat.

The global warming theory holds that as the earth warms, water vapor -- the most prevalent greenhouse gas -- in the atmosphere will increase from evaporation and this will further enhance the warming effect from consuming fossil energy. This is called positive feedback. Most scientists believe that without positive feedback, a doubling of CO₂ in the atmosphere would lead to about a 1-2 degree temperature increase, about the amount of warming that took place in the 20th century.

So, a basic question is, has atmospheric water vapor increased in recent decades? Dr. Roy Spencer from the University of Alabama at Huntsville believes that it has not. His conclusion is based on research addressing water vapor and cloud formation. His findings are consistent with those of MIT's Professor Richard Lindzen, who was one of the first to look at the natural system of cloud formation and atmospheric water vapor.

In addition, Dr. Spencer has also published research on the Pacific Decadal Oscillation (PDO) which is a climate switch between two circulation patterns that occurs every 30 years in the Pacific Ocean. One PDO phase tends to warm the land masses of the Northern Hemisphere; the other tends to cool. Dr. Spencer believes that a better understanding of the PDO is essential to understanding global warming because it affects clouds. His research demonstrates that the shift in the PDO in 1977 coincides with the latest period of warming that has caused such alarm among some scientists and politicians.

If Dr. Spencer's theory is correct, we should now be in the cooling phase of the PDO. Indeed, the last significant increase in global temperature, as measured by satellites, was in 1998. Since then, average annual temperatures have not shown any significant increase. The climate model results which CNA relies on use surface temperature measurements which have been shown to be seriously flawed and overstate the extent of temperature increases. The satellite temperature record is the only global temperature measurement system.

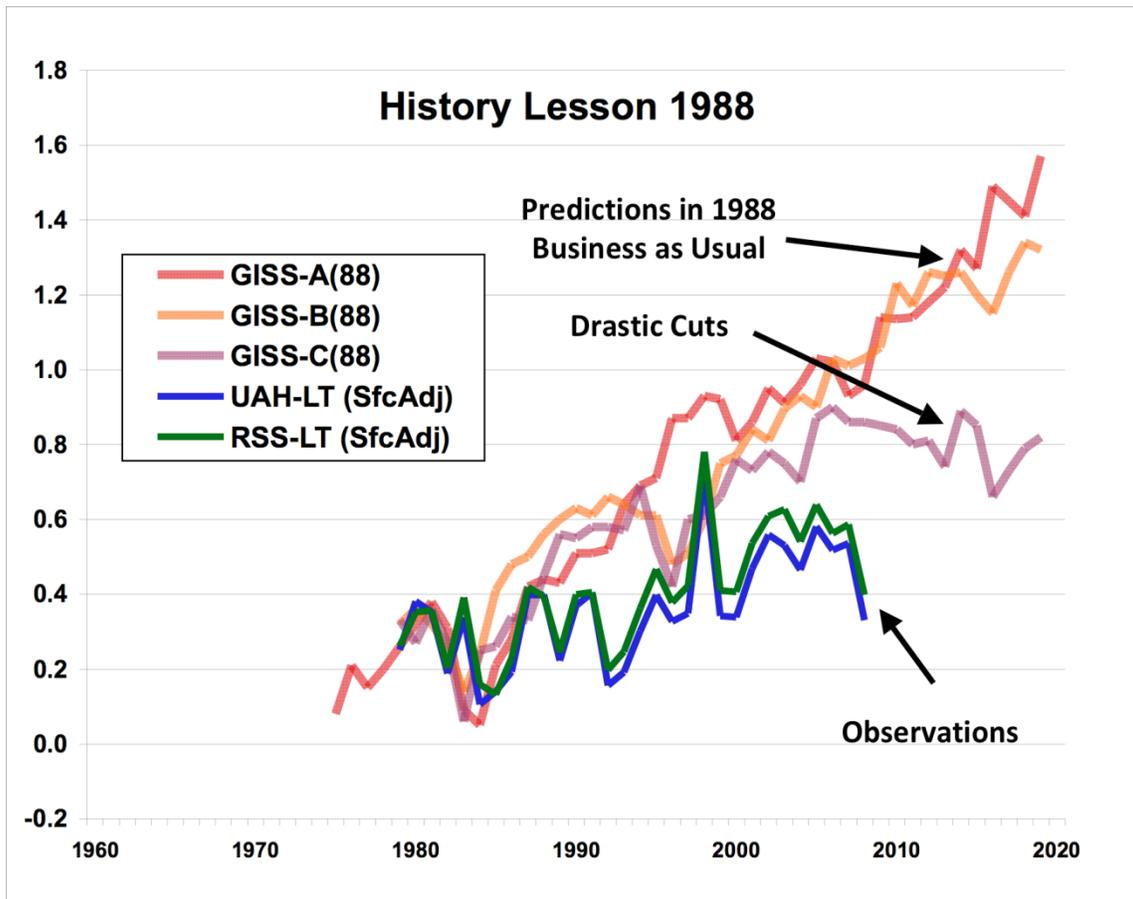


Temperature data, such as that presented in the figure, routinely is presented as differences from some mean or average temperature. Such an approach has technical utility for the climate scientist, but masks the magnitude of the changes where the differences are tenths of a degree Celsius. In a recent letter to the American Physical Society, Dr. Ivan Giaever, a Nobel laureate, makes the point: “The claim (how can you measure the average temperature of the whole earth for a whole year?) is that the temperature has changed from ~288.0 to ~288.8 degree Kelvin in about 150 years, which (if true) means to me is that the temperature has been amazingly stable, and both human health and happiness have definitely improved in this 'warming' period.”

A group of scientists in Denmark, led by Dr. Henrik Svensmark, have explored the relationship between cosmic ray, solar magnetism, aerosols, and cloud formation. When some scientists hypothesized about the impact of solar activity on climate in the 1990s, the IPCC rejected the notion out of hand. Over time it has given begrudging recognition to the idea but remained committed to its CO₂ dogma. Now, Dr. Svensmark’s theory has been at least partially validated by an experiment conducted by CERN, the European laboratory for particle physics. Additional research on the relationship between cosmic rays, aerosols, and cloud formation is needed to more fully understand the affect of solar activity on climate. But, the results of the Svensmark experiments and CERN’s demonstrate another deficiency in climate models as well as the limits of our understanding.

According to the work of the IPCC, average temperatures should be increasing at rates much greater than observed temperature actually is. The following graph clearly demonstrates that the IPCC projections greatly overstate the rate of warming. Further, the satellite plot clearly

shows that in the decade of the 1980s, temperatures were essentially flat. In the 1990s, the rise was about 0.2 degrees. Since then there has been no increase.



“GISS” A, B, and C are model projections of global surface temperature from James Hansen in Senate testimony in 1988. “A” and “B” are two “business-as- usual” model projections of temperature which assume emissions similar to what has happened (though in actuality these estimates were a bit less than occurred). “C” is a model projection in which drastic CO2 cuts are assumed. “UAH” and “RSS” are two independent global satellite atmospheric temperature measurements (1979-2008) from the University of Alabama in Huntsville and Remote Sensing Systems adjusted to mimic surface temperature variations for an apples to apples comparison with the model projections (factor of 1.2, CCSP SAP 1.1, note all datasets are based on the 1979-1983 reference period). All model projections show high sensitivity to CO2 while the actual atmosphere does not. It is noteworthy that the model projection for drastic CO2 cuts still overshoot the observations. This would be considered a failed hypothesis test for the models from 1988.

Source: Dr. John Christy, Written Testimony before the House Ways and Means Committee,

There are two conclusions that can be drawn from these data. First, CO₂ cannot be the major driver for temperature increase. Second, the climate system is too complex to be modeled by even the smartest group of scientists. Their assumptions about how different components-- clouds, oceans, the solar system, etc -- of the system operate are flawed. If climate models overstate the extent and magnitude of temperature change, they by definition overstate climate change impacts. A temperature increase over the course of this century comparable to that of the 20th century would not precipitate the disruptions predicted by CNA.

Assessing the Security Risks of Climate Change

The picture painted by CNA and advocates of catastrophic climate events is based mainly on conjecture. And, while discussing dire scenarios is appropriate for the national security community, recognition of the probabilities of those dire risks is essential for the public and policy makers to weigh the merit of these arguments. If projected temperatures increases which were to cause droughts, flooding, extreme weather events, etc. have not occurred, then the climate events that have taken place have other causes. Sea level rise over the past 50 years has been modest and partially due to subsidence. Floods, hurricanes, rainfall, and tornadoes have not been getting more frequent or extreme. The empirical evidence on climate and weather events developed over the past decade should be sufficient to at least cause a re-evaluation of the climate change orthodoxy before charting a national military response strategy.

The CNA military panel asserts that climate events that impact impoverished areas of the world will adversely affect U.S. national security and require the use of its military forces and capabilities. Implicit is an assumption that the U.S. must be the world's policeman. Droughts, famine, forced migrations, and even genocidal acts have failed to provoke U.S. intervention in recent years. As callous as it may sound, why would the U.S. uniquely begin intervening in these situations in the years to come?

CNA argues that instability generated by these environmentally-induced tragedies would impact U.S. interests in the Middle East or be exploited by non-state (i.e., terrorist) enemies of the U.S. Failed states are not a unique occurrence in geopolitics and "solving" the climate change problem would not address the root causes of why states fail. Instability will still exist and the U.S. will have to adapt or react to it.

Nowhere in the CNA report is a convincing case made of why events in the developing world necessarily require that military forces be used to protect U.S. citizens, our constitutional system, or our vital interests. Since the CNA report concentrates on events that cause instability, it should have considered alternatives to the use of military forces to either maintain or promote greater stability in impoverished countries and to promote democratic principles which can lead to long term political stability.

The impacts of weather events or climate change in the developing world are not caused by developed world carbon emissions. They are caused primarily by extreme poverty which is the result of exploitation by dictators, and the lack of economic and personal freedom, the rule of law, property rights, and access to commercial energy. Solving the problem of poverty in these countries would provide them the capacity and resilience to deal with whatever climate exists in the future.

Instead of investing more in military capabilities and forces to address environmental security threats, the U.S. should use soft diplomacy to help create conditions that would encourage private investment and the export of our energy technologies to these countries. There are almost 2 billion people in the world who lack access to affordable, modern energy supplies. These people live in conditions far worse than the most destitute in our country. They lack potable water, subsist on less than \$2 a day, and have extremely high disease and mortality rates. These are problems that we know how to solve. What is lacking is the will of the developed world to make solving them a high priority. In 2000, the United Nations set 8 goals to be achieved by 2015 through its Millennium Development Program. These goals were embraced by all UN members, but progress, especially to “eradicate extreme poverty and hunger” has been meager at best.

As we have seen in the Arab Spring, there is hunger for freedom and self determination. Among the factors that inject stability into the international systems is economic prosperity. There is an abundance of evidence relating to economic freedom and economic growth. Perhaps the two most dramatic examples are North and South Korea and East and West Germany. There is also an abundance of evidence that energy is the lifeblood of prosperous societies. The Baker Institute and International Energy Agency have observed, “access to energy services is a key component of alleviating poverty...and without access to modern, commercial energy, poor countries can be trapped in a vicious circle of poverty, social instability, and underdevelopment.”

This reality creates a cruel irony for the CNA authors. They support reducing emissions to stop climate change, which means seriously reducing fossil energy use. But, developing countries need fossil energy, primarily oil and natural gas because of their abundance and affordability, to grow and improve their standards of living. Pursuing the CNA agenda would exacerbate the very problem that they seek to avoid, while making us economically weaker. It is wealthy nations that have the resources to pursue advances in technology and mechanisms for adapting to climate changes, whatever their causes.

Helping developing countries become wealthier will provide them comparable capabilities over time and the capacity to utilize advances in technology as they are developed.