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SCIENCE: NASA's Hansen calls for severe CO2 cuts (06/24/2008)

<http://www.eenews.net/climatewire/2008/06/24/3/>

Lauren Morello, *ClimateWire* reporter

Stabilizing the world's climate will require cutting the level of carbon dioxide in the atmosphere to just 350 parts per million, 30 percent lower than the 450 ppm target at the base of the Senate's recent climate bill, NASA climatologist James Hansen said yesterday.

Speaking in Washington to commemorate the 20th anniversary of his declaration, during a Senate hearing, that global warming was already happening, Hansen said he is just as certain of his latest prediction.

"I have greater than 99 percent confidence -- 99.9 percent confidence -- that the dangerous level [of CO₂] is no higher than 350 ppm, and that means we've already passed it," Hansen said. "We're at 385."

Solving the climate problem will require swift action to limit emissions, he said, calling for a tax on carbon. "We have to go to a zero-carbon society," he said. "You can't talk about 20 percent reductions, 40 percent reductions, 60 percent reductions."

Under Hansen's plan, the tax would be applied to oil, gas, coal and other fossil fuels at the first point of sale. Proceeds from the tax would be distributed in dividend payments to individual citizens. Doing so would give Americans incentives to buy low-carbon cars and other products, and help ease tax-driven rises in consumer prices, Hansen said.

Once a tax is in place, "I think the marketplace should make most of the decisions," he said.

Hansen has been compared to Paul Revere, the Revolutionary War hero, by environmentalists for his courage in making early warnings about the effects of man-caused carbon dioxide emissions. He said his plan would also halt construction of coal plants without carbon capture and sequestration technology, with the eventual goal of ending emissions from coal plants worldwide by 2030.

That may be a tough sell at a time when gas prices are hovering at \$4 per gallon -- or higher -- and the White House and Congress are again tussling over proposals to open the nation's outer continental shelf to oil drilling.

Expanding U.S. oil production: 'exactly the wrong thing to do'

But Hansen said he believed trying to expand American oil production would result in small, short-term gains -- at the expense of long-term climate health. "It's exactly the wrong thing to do," he said. "It just extends your addiction slightly and guarantees we'll go past the tipping point" of irreversible climate change.

Hansen said he is already concerned about the effect warming temperatures are having on wildlife populations, marine life and the world's glaciers, ice sheets and sea ice.

"We have already reached one tipping point," he said. "We are going to lose all sea ice in the Arctic in the summer season."

Last year, scientists recorded the lowest level of sea ice cover in the Arctic since satellite measurements began in 1979. The ice that reformed this winter is thin and vulnerable, leading many scientists -- including Hansen -- to conclude that this year could bring a record or near-record low ice level.

"If we have the same weather this year as we had last year, we'll get less ice," Hansen said. "Over the next five to 10 years, we are almost certainly going to lose all that sea ice."

Hansen is one of a group of 150 scientists, politicians, business executives and environmental advocates who took out full-page ads in yesterday's *New York Times*, *Financial Times*, *International Herald Tribune* and Swedish daily papers supporting the 350-ppm carbon dioxide target.

"350: Remember this number for the rest of your life," reads the ad's headline.

The group -- backed by the Stockholm Environment Institute and the Tällberg Foundation -- is asking governments to adopt the 350 ppm target during negotiations on a treaty to succeed the Kyoto Protocol, the United Nations pact for fighting global warming that is scheduled to end in 2012.

Along with Hansen, signers of the ad include Robert Corell, director of the Heinz Center's Global Change Program; the European Union Environment Agency, ex-Swedish Prime Minister Göran Persson; and José María Figueres, the former president of Costa Rica.

Reporter Katie Howell contributed.

STATES: Utah sets emissions target for 2020 (06/24/2008)

<http://www.eenews.net/climatewire/2008/06/24/5/>

[SPPI Note: *If the entire state of Utah were shut down, with not a molecule of CO₂ emitted, just the increase in world emissions would replace all Utah "savings" in less than a single month.*]

Debra Kahn, *ClimateWire* reporter

All members of the Western Climate Initiative have now set emissions reduction goals, with Utah's announcement last week of a target of 2005 levels by 2020.

Setting an emissions reduction goal is one of WCI's requirements for member states. While the WCI-wide goal is more stringent, at 15 percent below 2005 levels, Utah's measures up in terms of business-as-usual and per capita reductions, as its population is projected to increase by about a third by 2020. According to Utah's analysis, its target represents a 28 percent reduction below business-as-usual levels by 2020 -- the equivalent of 27 million tons -- compared to a 33 percent reduction regionwide.

The goal assumes a price of \$25 per ton of CO₂, and makes no distinction between a federal or regional emissions cap.

The state emphasized that the target was a "goal" rather than a legal cap or mandate. "This is intended to be more of a guide path, a conceptual framework to build things rather than a specific map," state Department of Environmental Quality executive director Rick Sprott said in an interview.

Utah's goals are contingent on some policies that have not yet been implemented, including California's vehicular tailpipe standard and a cap-and-trade program. The target also relies on some existing measures, like the renewable energy standard of 20 percent by 2025 that passed earlier this year. Sprott said he envisioned the largest portion of reductions coming from the transportation sector. The goal assumes California's standards will be permitted to take effect by 2012.

Other areas ripe for reduction include agriculture, forestry and electricity demand, according to the goals.

Utah also foresees a role for carbon capture and sequestration, although not until 2022 at the earliest. While the state gets almost all of its electricity from coal, it's not banking on CCS to fulfill any part of the 2020 target, Sprott said. "We had inputs from some utilities who felt that [2022] was optimistic, and others felt that was too pessimistic," he said. "We tried to evaluate the best sources of information and pick a time frame and a quantity that seemed reasonable."

WCI, the seven-state, three-province alliance (Arizona, California, Montana, New Mexico, Oregon, Utah, Washington, British Columbia, Manitoba and Quebec), is aiming to reduce worldwide greenhouse gas emissions by 15 percent below 2005 levels by 2020, primarily through an economywide carbon trading system.

James Hansen - 20 years later

<http://motls.blogspot.com/2008/06/james-hansen-20-years-later.html>

Exactly twenty years ago, on June 23rd, 1988, James Hansen gave one of the most notorious speeches that have led to the current irrational and pseudoscientific global warming hysteria.

Today, 20 years later when it is already clear that his predictions have been bunk since the very beginning, James Hansen wants trials against oil firm chiefs who help to allow the people to understand that the predictions have been incorrect.

See [The Guardian](#), a left-wing British outlet

Search for "crime" in the [2008 Hansen's testimony](#) and/or listen to [Diane Rehm's somewhat senile interview with Hansen](#): "crimes against humanity" are discussed since 46:00

How does Hansen justify his plans?

"When you are in that kind of position, as the CEO of one the primary players who have been putting out misinformation even via organizations that affect what gets into school textbooks, then I think that's a crime."

Well, I doubt that outside North Korea, it is illegal to be an oil firm boss and to spread information about the climate. However, I think it is fraud and should be punished as such to fool



millions of people in the rich world and extract tens of billions of dollars for low-quality pseudoscientific research and hundreds of billions of dollars for carbon indulgences, a frantically expanding gray sector of the economy.

James Hansen should be given a legal supervision that would prevent him from doing the things he's doing. I realize that this opinion may sound comparably exaggerated to Hansen's own words but when you start to see fringe pseudoscientists who not only want to use their subjective, sensationalist, and mad visions and personal interests to unseat all inconvenient CEOs and Congressmen - another explicitly formulated desire of Mr Hansen - but you also see that they seem to have a clique of misinformed or equally evil collaborators who have been partially successful, I am telling you: This is a damn serious situation that should be solved unless you want to repeat some truly black pages from the history.

Andrew Revkin interviewed James Hansen a few days ago. It's impressive how superficially sane the insane person is able to sound. ;-)

Temperatures: comparisons

On June 23rd, 1988, the temperature in D.C. was [98 degrees](#) when James Hansen was giving his [infamous testimony in the U.S. Congress](#) (full text).

He was clearly selling a stock that was already overpriced in 1988. Today, the temperature in D.C. is predicted to be [85 degrees](#), 13 degrees below the figure 20 years ago. The temperature in D.C. shouldn't go above 92 degrees this week.

The global temperature has dropped, too. Because June 2008 is not yet over, let's talk about May. [The middle troposphere](#), where the greenhouse warming should be most obvious, had the following temperature anomalies: in May 1988, it was +0.08 °C while in May 2008, it was -0.29 °C i.e. 0.37 °C cooler than 20 years ago. Qualitatively similar conclusions may be obtained from other teams besides UAH, too.

In the past two decades, a significantly linear (or even worrisome) global warming trend hasn't materialized but the expansion of the global warming hysteria has exceeded all sensible expectations. Nature hasn't worked well for an average physicist called James Hansen but he has begun to realize that the current *political atmosphere* is much more friendly to his fringe theories than the actual *terrestrial atmosphere*. Why? There's simply a lot of dopes and self-serving pseudointellectuals and quasi-preachers in the media, in the Academia, and in politics, too.

Because Nature isn't willing or capable to confirm Hansen's far-reaching speculations about a dangerous global warming, Hansen hopes that the judges will be more "bullish" with respect to his stock and they will help him to exponentially escalate the harassment of everyone who dares to say - or think - that James Hansen as a scientist and his kind of science has been a failure driven by sensationalism and political goals rather than a careful, objective, or sophisticated evaluation of the cold hard (and usually boring) data and the patterns they exhibit.

If you open the [full text](#) of Hansen's 1988 testimony, the last page includes a graph that indicates that the warming between 1988 and 2008 should be around 1 °C (scenarios A,B). In reality, it was close to zero. If you think that this is not an example of a completely falsified prediction, I would like to know how a falsification of a hypothesis that is a priori worth talking about could look like.

In certain qualitative discussions, one can simply *see* the quality of predictions. Open this image of [James Hansen's predictions superimposed on UAH data](#). Would you say that the prediction back in 1988 was approximately correct or useful? Yes, Hansen is completely off the chart. I had to add a strip to the top of the original UAH chart. I don't think it's really essential to know whether his prediction overshoot the warming trend by 350%, 850%, or whether he got the sign wrong. What matters is that his science has clearly been completely

incompatible with reality.

Still, many people including politicians listen to this kibitzer. And I've concluded that it's not a scientific world. [Feynman 1974]

There are many things that haven't changed in the last 20 years and many things that have changed. The temperature hasn't really changed. But [Hansen's 2008 testimony](#) is slightly different than the 1988 testimony. The 1988 testimony contained at least some (low-quality) science and (wrong) graphs. The 2008 testimony doesn't: it is entirely dedicated to the hysteria, the prosecution of heretics, and to the methods to reverse of the industrial revolution.

James Hansen has become a more effective speaker than before but he has become a worse scientist than ever.

A Long-Term Record of Tropical Cyclones and Hurricanes of Louisiana, USA

<http://co2science.org/articles/V11/N26/C1.php>

Reference

Mock, C.J. 2008. Tropical cyclone variations in Louisiana, U.S.A., since the late eighteenth century. *Geochemistry, Geophysics, Geosystems* **9**: 10.1029/2007GC001846.

What was done

The author developed a "unique documentary reconstruction of tropical cyclones for Louisiana, U.S.A. that extends continuously back to 1799 for tropical cyclones, and to 1779 for hurricanes." This record -- which was derived from daily newspaper accounts, private diaries, plantation diaries, journals, letters and ship records, and which was augmented "with the North Atlantic hurricane database as it pertains to all Louisiana tropical cyclones up through 2007" -- is, in Mock's words, "the longest continuous tropical cyclone reconstruction conducted to date for the United States Gulf Coast."

What was learned

Mock reports that "the 1820s/early 1830s and the early 1860s are the most active periods for the entire record."

What it means

Once again quoting the University of South Carolina researcher, "the modern records which cover just a little over a hundred years is too short to provide a full spectrum of tropical cyclone variability, both in terms of frequency and magnitude." In addition, he states that "if a higher frequency of major hurricanes occurred in the near future in a similar manner as the early 1800s or in single years such as in 1812, 1831, and 1860, [they] would have devastating consequences for New Orleans, perhaps equaling or exceeding the impacts such as in hurricane Katrina in 2005." And, of course, the new record clearly indicates that the planet's current high levels of both air temperature and CO₂ concentration cannot be blamed for the 2005 Katrina catastrophe, as both parameters were much *lower* than they are currently when tropical cyclone and hurricane activity in that region were much *higher* than they are now back in the early to mid 1800s.

Reviewed 25 June 2008

River Discharge to the Global Ocean

<http://co2science.org/articles/V11/N26/C2.php>

Reference

Milliman, J.D., Farnsworth, K.L., Jones, P.D., Xu, K.H. and Smith, L.C. 2008. Climatic and anthropogenic factors affecting river discharge to the global ocean, 1951-2000. *Global and Planetary Change* **62**: 187-194.

Background

The authors write that global warming "could accelerate the hydrologic cycle (e.g., Trenberth, 1999; New *et al.*, 2001; Huntington, 2006) .. leading to increased river discharge."

What was done

To explore what may have happened in this regard over the last half of the 20th century, Milliman *et al.* computed temporal discharge trends for 137 rivers that provide what they call a "reasonable global representation," as their combined drainage basins represent about 55% of the land area draining into the global ocean.

What was learned

In the words of the five researchers, "between 1951 and 2000 cumulative discharge for the 137 rivers remained statistically unchanged." In addition, they report that "global on-land precipitation between 1951 and 2000 remained statistically unchanged."

What it means

In a simple and straightforward conclusion, Milliman *et al.* write that "neither discharge nor precipitation changed significantly over the last half of the 20th century, offering little support to a global intensification of the hydrological cycle," such as is generally claimed by climate alarmists to be a consequence of CO₂-induced global warming.

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Huntington, T.G. 2006. Evidence for intensification of the global water cycle: review and synthesis. *Journal of Hydrology* **319**: 83-95.

New, M., Todd, M., Hulme, M. and Jones, P. 2001. Precipitation measurements and trends in the twentieth century. *International Journal of Climatology* **21**: 1899-1922.

Trenberth, K.E. 1999. Conceptual framework for changes of extremes of the hydrological cycle with climate change. *Climatic Change* **42**: 327-339.

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Summer and Winter Deaths in Brisbane, Australia

<http://co2science.org/articles/V11/N26/B1.php>

Reference

Bi, P., Parton, K.A., Wang, J. and Donald, K. 2008. Temperature and direct effects on population health in Brisbane, 1986-1995. *Journal of Environmental Health* **70** (8): 48-53.

What was done

The authors used correlation and autoregressive integrated moving average regression analyses to

derive relationships between various aspects of weather and mortality in the general population and elderly (65 years of age and older) of Brisbane, Australia -- which they describe as having a subtropical climate -- over the period 1986-1995.

What was learned

Bi *et al.* report that "death rates were around 50-80 per 100,000 in June, July, and August [winter], while they were around 30-50 per 100,000 in the rest of the year, including the summer," and that "this finding applied both to the general population and to the elderly population, and to deaths from various causes."

What it means

In discussing the fact that "more deaths occurred in the winter than during other seasons of the year, although winter in Brisbane is very mild," the researchers further note that "it is understandable that more deaths would occur in winters in cold or temperate regions, but even in a subtropical region, as indicated in this study, a decrease in temperatures (in winters) may increase human mortality." Consequently, the evidence continues to grow that extremes of cold lead to the deaths of many more people than extremes of heat in both cold *and* warm climates. See, in this regard, the many other items we have archived under the heading of [Health Effects \(Temperature - Hot vs. Cold Weather\)](#) in our Subject Index.

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Snow (North America) -- Summary

<http://co2science.org/subject/s/summaries/snowna.php>

What can we learn about past -- and possibly future -- climate change from studies of snow? In this brief summary of pertinent research, we review this question on the basis of studies conducted in North America.

[Brown \(2000\)](#) employed data from Canada and the United States to reconstruct monthly snow cover properties over mid-latitude (40-60°N) regions of North America back to the early 1900s, finding evidence of what he described as "a general twentieth century increase in North American snow cover extent, with significant increases in winter (December-February) snow water equivalent averaging 3.9% per decade." Although this finding is consistent with climate model simulations that indicate increased precipitation in response to global warming, it covers too little time to tell us much about the *cause* of modern warming.

[Moore *et al.* \(2002\)](#) studied a longer period of time in their analysis of a 103-meter ice core retrieved from a high elevation site on Mount Logan -- Canada's highest mountain -- which is located in the heavily-glaciated Saint Elias region of the Yukon. From this deep core, as well as from some shallow coring and snow-pit sampling, they derived a snow accumulation record that extended over *three* centuries (from 1693 to 2000), which indicated that heavier snow accumulation at their study site was generally associated with warmer tropospheric temperatures over northwestern North America.

So what does their record reveal? Over its first half, there is no significant trend in the snow accumulation data. From 1850 onward, however, there is a positive trend that is significant at the 95% confidence level, which indicates that recovery from the cold conditions of the Little Ice Age began in the mid-1800s, *well before there was a large enough increase in the air's CO₂ concentration for that greenhouse gas to have been responsible for the first part of the century-and-a-half-long warming.* This finding is further strengthened by the temperature reconstruction of Esper *et al.* (2002), which places the start of modern warming at about the

same time as that suggested by Moore *et al.*'s snow data, contradicting the temperature record of Mann *et al.* (1998, 1999), which puts the beginning of the modern warming trend at about 1910.

The results of other snow studies raise even more unsettling questions about climate-alarmist contentions. [Cowles *et al.* \(2002\)](#), for example, analyzed *snow water equivalent* (SWE) data obtained from four different measuring systems -- snow courses, snow telemetry, aerial markers and airborne gamma radiation -- at more than 2000 sites in the eleven westernmost states of the conterminous USA over the period 1910-1998, finding that the long-term SWE trend of the region was *negative*, indicative of *declining* winter precipitation. In addition, they report that their results "reinforce more tenuous conclusions made by previous authors," citing Chagnon *et al.* (1993) and McCabe and Legates (1995), who studied snow course data from 1951-1985 and 1948-1987, respectively, at 275 and 311 sites, and who *also* found a decreasing trend in SWE at most sites in the Pacific Northwest.

Four years later, [Julander and Bricco \(2006\)](#) reported that snowpack data were being consistently used as indicators of global warming, and that it was thus *essential* that individuals doing so quantify, as best they could, all other influences imbedded in their data. That meeting this requirement is no trivial undertaking is indicated by their statement that "snow data may be impacted by site physical changes, vegetation changes, weather modification, pollution, sensor changes, changes in transportation or sampling date, comparisons of snow course to SNOTEL data, changes in measurement personnel or recreational and other factors," including sensors that "do not come back to zero at the end of the snow season." In an analysis of 134 sites (some having pertinent data stretching back to at least 1912), they thus selected fifteen long-term Utah snow courses representing complete elevational and geographic coverage of the dominant snowpacks within the state and adjusted them for the major known site conditions impacting the data, after which the adjusted data for the period 1990-2005 were "compared to earlier portions of the historic record to determine if there were statistically significant differences in snowpack characteristics, particularly those that could indicate the impacts of global warming."

Of the fifteen sites studied in greatest detail, the two researchers found that seven of them exhibited *increased* snowpack in recent years, while eight exhibited *decreased* snow accumulation. They also report that "six of the seven sites with increases have significant vegetative or physical conditions leading us to believe that the impacts associated with this analysis are overstated." The ultimate conclusion of Julander and Bricco, therefore, was that "any signature of global warming currently present in the snowpack data of Utah is not yet at a level of statistical significance ... and will likely be very difficult to isolate from other causes of snowpack decline."

Results that tell much the same type of story were obtained by [Bartlett *et al.* \(2005\)](#), who strove to determine what changes might have occurred in the mean onset date of snow and its yearly duration in North America over the period 1950-2002, based on data for the contiguous United States that come from the 1062 stations of the U.S. Historical Climatology Network, data for Canada that come from the 3785 stations of the Canadian Daily Climate Dataset, and data for Alaska that come from the 543 stations of the National Weather Service cooperative network in that state. As a result of their efforts, the three researchers found that "for the period 1961-1990 the mean snow onset date in North America [was] 15 December, with mean snow cover duration of 81 days." In addition, they report there were "no significant trends in either onset or duration from 1950 to 2002." Nevertheless, interannual variations of as much as 18 and 15 days in onset and duration, respectively, were present in the data; but for both parameters they report that "no net trend was observed."

We find it to be extremely interesting that from 1950 to 2002, during which time the air's CO₂ concentration rose by fully 20% (from approximately 311 to 373 ppm), there was *no net change* in either the mean *onset* or *duration* of snow cover for *the entire continent of North America*; and to provide some context for this 62-ppm increase in atmospheric CO₂ concentration, we note that it

is essentially *identical* to the mean difference between the highs and lows of the three *interglacials* and *glacials* reported by Siegenthaler *et al.* (2005) for the period prior to 430,000 years ago. Surely, one would expect that such a change should have made *some* impact on North American snow cover, unless, of course, atmospheric CO₂ enrichment has *far* less impact on climate than what climate alarmists claim it does.

In a somewhat different type of study, i.e., that of winter weather *variability*, which climate alarmists typically depict as becoming more extreme in response to global warming, [Woodhouse \(2003\)](#) generated a tree-ring based reconstruction of SWE for the Gunnison River basin of western Colorado that spans the period 1569-1999. This work revealed, in her words, that "the twentieth century is notable for several periods that *lack* [our italics] extreme years." Specifically, she reports that "the twentieth century is notable for several periods that contain few or no extreme years, for both low and high SWE extremes."

Also addressing the subject of extreme winter weather was [Lawson \(2003\)](#), who examined meteorological records for information pertaining to the occurrence and severity of blizzards within the Prairie Ecozone of western Canada. Over the period 1953-1997, no significant trends were found in central and eastern locations. However, there was a significant *downward* trend in blizzard frequency in the western prairies; and Lawson remarks that "this trend is consistent with results found by others that indicate a decrease in cyclone frequency over western Canada." He also notes that the blizzards that do occur there "exhibit no trend in the severity of their individual weather elements." These findings, in his words, "serve to illustrate that the changes in extreme weather events anticipated under Climate Change may not always be for the worse."

Likewise concentrating on blizzards were [Schwartz and Schmidlin \(2002\)](#), who examined past issues of *Storm Data* -- a publication of the U.S. National Weather Service (NWS) -- to compile a blizzard database for the years 1959-2000 for the conterminous United States. This effort resulted in a total of 438 blizzards being identified in the 41-year record, yielding an average of 10.7 blizzards per year; and linear regression analysis revealed a statistically significant increase in the annual number of blizzards during the 41-year period. However, the total *area* affected by blizzards each winter remained relatively constant; and if these observations are both correct, average blizzard size must have decreased over the four-decade period. On the other hand, as the researchers note, "it may also be that the NWS is recording smaller, weaker blizzards in recent years that went unrecorded earlier in the period, as occurred also in the official record of tornadoes in the United States."

Yet another blizzard study was conducted by [Changnon and Changnon \(2006\)](#), who analyzed the spatial and temporal distributions of damaging snowstorms and their economic losses by means of property-casualty insurance data pertaining to "highly damaging storm events, classed as catastrophes by the insurance industry, during the 1949-2000 period." This work indicated, as they describe it, that "the incidence of storms peaked in the 1976-1985 period," but that snowstorm incidence "exhibited no up or down trend during 1949-2000." The two researchers thus concluded their paper by stating that "the temporal frequency of damaging snowstorms during 1949-2000 in the United States does not display any increase over time, indicating that either no climate change effect on cyclonic activity has begun, or if it has begun, altered conditions have not influenced the incidence of snowstorms."

Last of all, [Gulev *et al.* \(2001\)](#) used sea level pressure taken from NCEP/NCAR reanalysis data for the period 1958-1999 to develop a Northern Hemispheric winter (January-March) climatology of cyclones (storms) that reached a sea level pressure of 1000 mb or lower. Linear trend estimates based on these data revealed a statistically significant (95% level) annual decline of 1.2 cyclones per year, suggesting that there were 50 *fewer* winter cyclones at the end of the study period than at its beginning. Additional analyses suggested that the Northern Hemisphere winter cyclones were intensifying at quicker rates and reaching greater maximum depths (lower sea level pressure) at the end of the record than they were at its beginning. However, the wintertime

cyclones were also experiencing shorter life cycles at the end of the 42-year period, dissipating more quickly than at its beginning.

Could these changes be the result of global warming? According to the three scientists, they are probably connected to large-scale features of atmospheric variability, such as the North Atlantic Oscillation and the North Pacific Oscillation. As for the large decrease reported in the annual number of Northern Hemisphere cyclones over the 42-year period, we note that this observation is in *direct opposition* to climate-alarmist predictions, which suggest that the frequency of such events will *increase* as a result of global warming. Once again, therefore, the results of climate model simulations appear to be diametrically opposed to the testimony of nature.

In conclusion, snow and snowstorm data from North America provide no support for the climate-alarmist claims that (1) modern global warming did not commence until after 1910, (2) this warming has been primarily driven by anthropogenic greenhouse gas emissions, and (3) its continuance will lead to more frequent and more extreme weather phenomena, including windstorms and precipitation, which in winter equate to *blizzards* and *snowfall*. Real-world data just don't support their contentions.

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