

**United States Senate
Environment and Public Works Committee**

Minority Report

Critical Thinking on Climate Change



***Questions to Consider Before Taking Regulatory
Action and Implementing Economic Policies***

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INTRODUCTION

The climate has always and will always be changing, and that is unquestionable. What is in question is the amount of influence human activity has on climate patterns, and this report is intended to provide an opportunity to think critically and review some of the more important global warming predictions made over the last several decades.

For more than thirty years, a litany of predictions and claims have been made about what impact anthropogenic (human-caused) greenhouse gases (GHGs) would be on the earth's climate, and on plant and animal life directly. Much of the concern that has been raised—and which continues to be raised—focuses on carbon dioxide (CO₂) emissions, an otherwise naturally occurring gas that makes the process of photosynthesis and life on earth possible. Over nearly four decades, numerous predictions have had adequate time to come to fruition, providing an opportunity to analyze and compare them to today's statistics.

There is little doubt that affordable reliable energy is one of the greatest equalizers in our society. Our use of fossil energy has established a standard of living in the United States that provides families of any income level the ability to heat and cool their home, drive to work or their children to school, or even visit far away family members. In fact, the National Academy of Engineering dubbed electrification “the greatest engineering achievement of the 20th Century.”¹ Inevitably, the use and production of this energy releases some CO₂ into our atmosphere.

The use of fossil energy has increased and expanded internationally, and GHG emissions are anticipated to continue to grow in developing nations such as China and India. This report posits that as the developing world has greatly expanded its use of fossil energy and CO₂ emissions have increased, then the predictions and claims regarding human influence on climate patterns should be apparent and easily proven. It is important to keep in mind that many of the predictions and claims analyzed in this report were made prior to China surpassing the United States in 2011 as the largest global GHG emitter. Accordingly, if things are “worse than predicted” as many climate activists and politicians have recently asserted, impacts should prove themselves out as worse than the predictions and claims reviewed in this report.

*“In questions of science, the authority of a thousand is not worth the humble reasoning of a single individual.”*² - Galileo Galilei, Italian physicist, mathematician, astronomer, and philosopher

*“The truth may be puzzling. It may take some work to grapple with. It may be counterintuitive. It may contradict deeply held prejudices. It may not be consonant with what we desperately want to be true. But our preferences do not determine what's true.”*³
- Carl Sagan, American astronomer and scientist

¹ *The Greatest Achievements of the 20th Century*, NAT'L ACADEMY OF ENGINEERING, (Dec. 3, 2004), <http://www.mae.ncsu.edu/eischen/courses/mae415/docs/GreatestEngineeringAchievements.pdf>.

² FRANCOIS ARAGO, BIOGRAPHIES OF DISTINGUISHED SCIENTIFIC MEN 365 (Baden Powell, Robert Grant, and William Fairbairn trans.) (1859).

³ Carl Sagan, *Wonder and Skepticism*, 19 SKEPTICAL ENQUIRER 1 (Jan.-Feb. 1995).

I. CLIMATE MODELS: THE 15-YEAR HIATUS IN WARMING

*“An experiment is a question which science poses to Nature and a measurement is the recording of Nature's answer.”*⁴ Max Planck, German physicist

Predictions:

“Most of the climate models...now project that average global temperatures will rise somewhere from 3 to 8 degrees Fahrenheit toward the middle of next century.... A range as high as 14.4 degrees and 18 degrees cannot be ruled out.”⁵ *New York Times*, January 17, 1989

"Using computer models, researchers concluded that global warming would raise average annual temperatures nationwide two degrees by 2010.”⁶ *Associated Press*, May 15, 1989.

“Children just aren't going to know what snow is.”⁷ Dr. David Viner, senior research scientist at the climatic research unit (CRU) of the University of East Anglia, interviewed by the *UK Independent*, March 20, 2000.

“The entire north polar ice cap will be gone in 5 years.”⁸ Former Vice President Al Gore, December 13, 2008.

Claims:

“The climate is heating up far faster than scientists had predicted, spurred by sharp increases in greenhouse gas emissions from developing countries like China and India.”⁹ *Reuters*, February 14, 2009

“The temperature around the globe is increasing faster than was predicted even 10 years ago.”¹⁰ President Barack Obama, November 14, 2012

⁴ MAX PLANCK, *SCIENTIFIC AUTOBIOGRAPHY AND OTHER PAPERS* (1968).

⁵ Philip Shabecoff, *Global Warming: Experts Ponder Bewildering Feedback Effects*, N.Y. TIMES, Jan. 17, 1989, <http://www.nytimes.com/1989/01/17/science/global-warming-experts-ponder-bewildering-feedback-effects.html?pagewanted=all&src=pm>.

⁶ Kirk Myers, *Arctic Ocean warming, icebergs growing scarce*, *Washington Post reports*, THE EXAMINER, Mar. 2, 2010, <http://www.examiner.com/article/arctic-ocean-warming-icebergs-growing-scarce-washington-post-reports> (quoting Associated Press).

⁷ Charles Onians, *Snowfalls are now just a thing of the past*, THE INDEPENDENT, Mar. 20, 2000, <http://www.independent.co.uk/environment/snowfalls-are-now-just-a-thing-of-the-past-724017.html>.

⁸ Charles J. Hanley, *Gore: Polar Ice May Vanish in 5 Years*, HUFFINGTON POST, Dec. 14, 2009, http://www.huffingtonpost.com/2009/12/14/gore-polar-ice-may-vanish_n_391632.html.

⁹ Julie Steenhuysen, *Global warming seen worse than predicted*, REUTERS, Feb. 14, 2009, <http://www.reuters.com/article/2009/02/14/us-climate-idUSTRE51D29E20090214>.

¹⁰ *Transcript of President Obama's News Conference*, N.Y. TIMES, Nov. 14, 2012, <http://www.nytimes.com/2012/11/14/us/politics/running-transcript-of-president-obamas-press-conference.html?pagewanted=all&r=2&src=twr>.

The Latest Science:

The predictions seem unlikely to come true, and the claims contradict the data, as noted by entities generally supportive of the Administration's climate change policies. For instance, *The Economist* recently explained that "temperatures have not really risen over the past ten years"¹¹ and that "[o]ver the past 15 years air temperatures at the Earth's surface have been flat."¹² Last month, *BBC News* reported, "Since 1998, there has been an unexplained 'standstill' in the heating of the Earth's atmosphere."¹³

Furthering the concern that past climate models have not proven true, Professor Judith Curry, chair of the School of Earth and Atmospheric Sciences at Georgia Institute of Technology in Atlanta, stated on June 14, 2013, "Attention in the public debate seems to be moving away from the 15-17 year 'pause' to the cooling since 2002."¹⁴ She further stated, "This period since 2002 is scientifically interesting, since it coincides with the 'climate shift' circa 2001/2002 posited by Tsonis and others."¹⁵ This shift and the subsequent slight cooling trend provide a rationale for inferring a slight cooling trend over the next decade or so, rather than a flat trend from the 15 year 'pause.'¹⁶

Importantly, the U.S. Environmental Protection Agency (EPA) has essentially ignored Members of Congress who asked for EPA data supporting the President's claims about global temperature predictions. For example, on December 4, 2012, Senator Sessions wrote former Administrator Jackson:

The actual temperature data show no significant change in global temperatures over the past decade and certainly less warming than the climate change models predicted. At an August 1, 2012, hearing before the Senate Committee on Environment and Public Works...climatologist Dr. John Christy of the University of Alabama-Huntsville offered testimony demonstrating that the IPCC climate models, which have been relied upon by alarmists, vastly over-stated the degree of warming in comparison to actual temperature data observed by advanced satellites. Dr. Christy's chart...demonstrates that the IPCC models, on average, predicted a significant amount of warming that has not actually occurred. In fact, contrary to the President's assertion, the chart shows that global average temperatures have not increased at all over the past decade, and certainly less than was predicted 10 years ago.

The President's assertion also conflicts with the views of many other scientists and experts. In an editorial published earlier this year in the *Wall Street Journal*, scientists and engineers from MIT, Princeton, Cambridge, and other leading

¹¹ *Apocalypse perhaps a little later*, *ECONOMIST*, Mar. 30, 2013, <http://www.economist.com/news/leaders/21574490-climate-change-may-be-happening-more-slowly-scientists-thought-world-still-needs>.

¹² *Climate Science: A Sensitive Matter*, *ECONOMIST*, Mar. 30, 2013, <http://www.economist.com/news/science-and-technology/21574461-climate-may-be-heating-up-less-response-greenhouse-gas-emissions>.

¹³ Matt McGrath, *Climate slowdown means extreme rates of warming 'not as likely'*, *BBC NEWS*, (May 19, 2013, 1: 31 PM), <http://www.bbc.co.uk/news/science-environment-22567023>.

¹⁴ Judith Curry, *Week in Review*, *CLIMATE ETC.*, (June 14, 2013), <http://judithcurry.com/2013/06/14/week-in-review-3/>.

¹⁵ Bill Osmulski, *UW-Milwaukee Professor Predicts 50 Years of Global Cooling*, *MACIVER INSTITUTE* (Jan. 13, 2010, 2:59 PM), <http://www.maciverinstitute.com/2010/01/uw-milwaukee-professor-predicts-50-years-of-global-cooling/>.

¹⁶ *Id.*

institutions explained that ‘perhaps the most inconvenient fact is the lack of global warming for well over 10 years now’ and that there has been a ‘smaller-than-predicted warming over the 22 years since the U.N.’s Intergovernmental Panel on Climate Change (IPCC) began issuing projections.’ Additionally, the lead author of the 2007 IPCC climate report stated in an email that ‘we can’t account for the lack of warming at the moment...’

As policymakers consider proposals aimed at addressing concerns about rising temperatures predicted by the IPCC climate models, a critical question is whether the planet is warming to the extent predicted by these models. The data suggest to me that the planet is not warming to the extent predicted 10 years ago.¹⁷

To shed light on this issue, Senator Sessions asked EPA to “provide the best available data that EPA would rely upon to support the President’s assertion,”¹⁸ along with an EPA-prepared chart comparing “actual global average temperature increases since 1979 (when satellite temperature data became available) versus the latest IPCC predictions...”¹⁹

Gina McCarthy, nominee to be EPA Administrator, responded to Senator Sessions in a letter dated February 14, 2013, by asserting that “there are multiple lines of evidence that clearly demonstrate that average global temperatures are rising,”²⁰ yet she did not provide any of the requested data relating to average global temperatures. Instead, the letter seems to dodge Senator Sessions’ data request by claiming that “only looking at 10 years of a single dataset cannot provide a full picture of climate change trends, and should also not be the sole test by which to judge the usefulness of climate models in either simulating past climates or projecting further climate change.”²¹

The lack of responsiveness on these points was raised at McCarthy’s April 11, 2013 nomination hearing when Senator Sessions presented the following chart which demonstrates global temperatures have not increased over the last decade and certainly not to the extent predicted by the climate models:

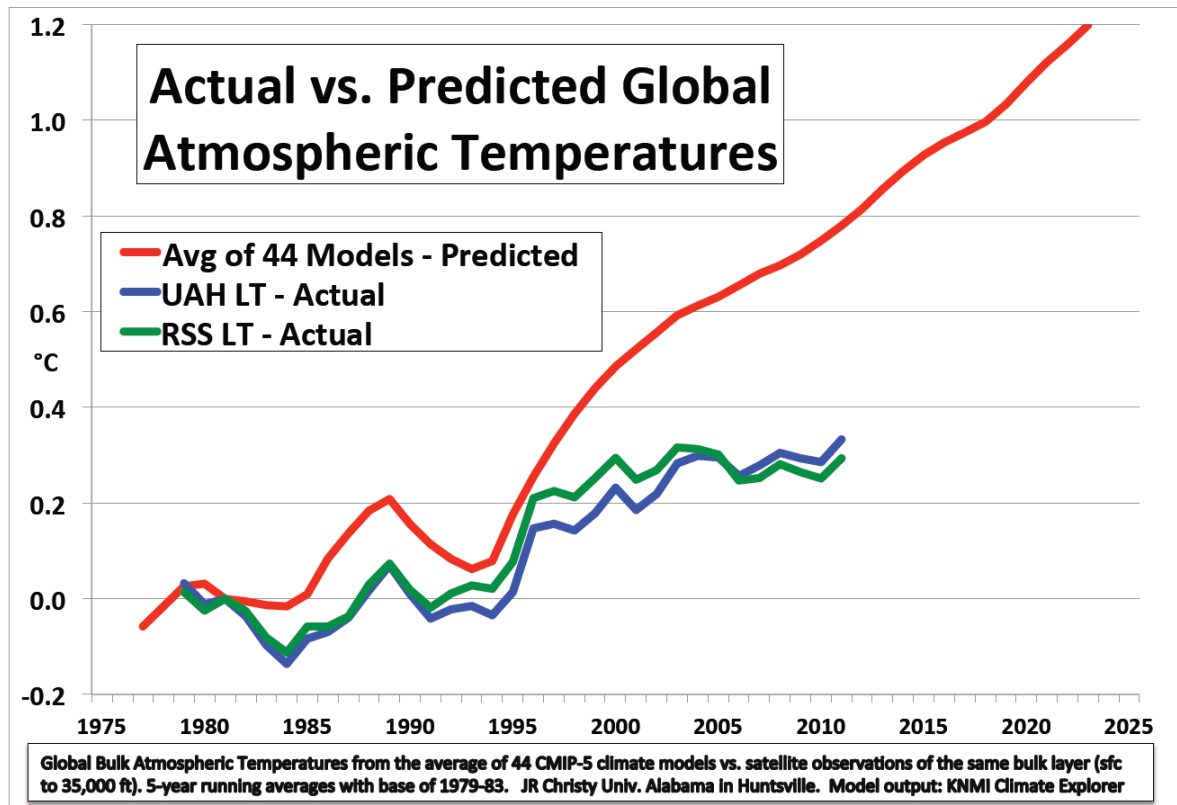
¹⁷ Letter from Sen. Jeff Sessions to Lisa Jackson, EPA Adm’r, (Dec. 4, 2012) (on file with author).

¹⁸ Letter from Sen. Jeff Sessions et al. to Gina McCarthy, EPA Asst. Adm’r Office of Air & Radiation, (June 24, 2013) (on file with author).

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.*



In his questions for the record, Senator Sessions once again requested the data from McCarthy: “Will you provide me with data showing actual global average temperatures since 1979 versus IPCC predictions, as was requested in my letter?”²²

On April 30, 2013, the EPA responded to Senator Sessions. Yet, instead of providing the requested analysis including a chart showing official predictions versus actual global temperatures, the Agency simply stated that “EPA has not produced its own analysis, but we expect a definitive comparison in the forthcoming [International Panel on Climate Change] Fifth Assessment Report.”²³ Unlike EPA, the IPCC is an international body outside the jurisdiction and oversight of the United States Congress. Moreover, EPA is the entity of the United States government that is seeking sweeping regulations on the basis that GHGs are increasing global temperatures. EPA’s reliance on the IPCC is not only a violation of the Data Quality Act,²⁴ but also violates the Agency’s own internal policy.²⁵

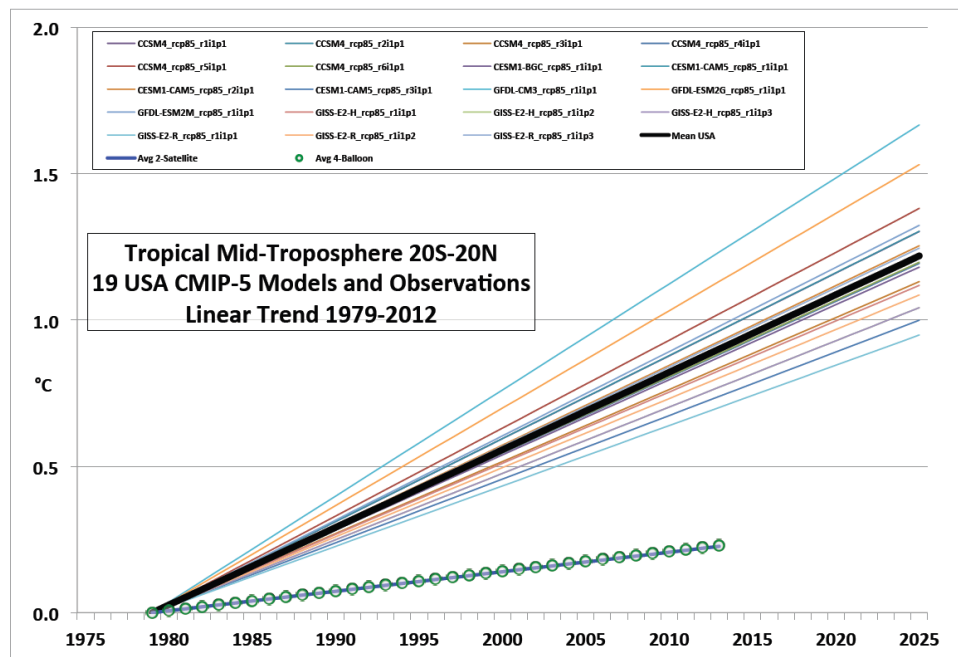
²² *Hearing on the Nomination of Gina McCarthy to be Administrator of the U.S. Environmental Protection Agency*, 113th Cong. (2013), http://www.epw.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=d71fd4b6-ce77-3a98-46a0-fb02b0cae0ed.

²³ *Id.*

²⁴ The DQA directs the Office of Management and Budget (OMB) to issue government-wide guidelines that “provide policy and procedural guidance to Federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies.” See Data Quality Act §515, 42 U.S.C. §502-504.

²⁵ Peer Review Advisory Grp., *Addendum to: Guidance for Evaluating the Quality of Scientific and Technical Information*, EPA’s SCI. AND TECH. POLICY COUNCIL (Dec. 2012), <http://www.epa.gov/spc/pdfs/assess3.pdf>.

To support the President's claim that the temperature around the globe is increasing faster than was predicted even 10 years ago, EPA referred to a short paper by Stefan Rahmstorf²⁶ published in an online journal whose editor-in-chief also happens to be the "coordinating lead author"²⁷ for the IPCC—during the time the IPCC published the climate models vastly over-predicting global temperature increases. It is remarkable that EPA—without first conducting its own analysis—would endorse that paper's finding that "global temperature continues to increase in good agreement with the best estimates of the IPCC,"²⁸ a view that appears to be contrary to the actual current data and facts. This is shown by a comprehensive comparison of climate models used by the IPCC, which is reflected in the following chart:²⁹



The American public should be deeply troubled to learn that EPA is actively working to increase energy prices based on predicted global temperature increases without first undertaking efforts to determine if temperatures are actually increasing to the extent predicted by the climate models they are using. This refusal to provide reasonable data requested by Members of Congress comes on the heels of the EPA Inspector General's highly critical report investigating EPA's review of external data for the GHGs endangerment finding.³⁰

²⁶ Stefan Rahmstorf et al., *Comparing climate projections to observations up to 2011*, 7 ENVTL. RES. LETTERS 044035 (2012), available at http://iopscience.iop.org/1748-9326/7/4/044035/pdf/1748-9326_7_4_044035.pdf. It is also noteworthy that this paper was published on November 27, 2012—almost two weeks after the President stated that “the temperature around the globe is increasing faster than was predicted even 10 years ago.” *Transcript of President Obama's News Conference*, N.Y. TIMES, Nov. 14, 2012, <http://www.nytimes.com/2012/11/14/us/politics/running-transcript-of-president-obamas-press-conference.html?pagewanted=10&r=2&src=twr>.

²⁷ Dr. Daniel M. Kammen's Personal Website, BERKELEY.EDU, <http://kammen.berkeley.edu/> (last visited July 16, 2013).

²⁸ Stefan Rahmstorf et al., *Comparing climate projections to observations up to 2011*, 7 ENVTL. RES. LETTERS 044035 (2012), available at http://iopscience.iop.org/1748-9326/7/4/044035/pdf/1748-9326_7_4_044035.pdf.

²⁹ Dr. John Christy, *Tropical Mid-Troposphere 20S-20N*, (June 4, 2013), <http://www.drroyspencer.com/wp-content/uploads/CMIP5-19-USA-models-vs-obs-20N-20S-MT.png>.

³⁰ ENVTL. PROT. AGENCY, OFFICE OF INSPECTOR GEN., REPORT NO. 11-P-0702, PROCEDURAL REVIEW OF EPA'S GREENHOUSE GASES ENDANGERMENT FINDING DATA QUALITY PROCESSES (2011), available at <http://www.epa.gov/oig/reports/2011/20110926-11-P-0702.pdf>.

Congress continues to wait for the federal agency's supporting data and analysis the President cited which shows actual global average temperatures since 1979 versus IPCC predictions, as was requested in Senator Sessions' December 2012 letter and again during McCarthy's nomination hearing to lead the Agency.

Questions for Critical Thinking:

1. If the computer models and predictions have been inaccurate, why is our federal government relying on these models to take unilateral action?
2. If global warming has been "worse than predicted," why won't the federal government provide the data supporting this claim?
3. As it continues to be recognized that the Earth has not warmed for the past 15 years, will we see the term "global warming" abandoned and replaced in its entirety by "climate change?"
4. Given that many of these models predicted warming trends well before China surpassed the United States as the largest GHG emitter, and given the fact that emissions continue to grow at a pace beyond what was originally incorporated into the models, shouldn't the warming be far worse than what was predicted in the worst case scenarios rather than well below predictions?

II. SEA LEVEL RISE: IT'S MEASURED IN MILLIMETERS, NOT FEET

"Science is built up of facts, as a house is built of stones; but an accumulation of facts is no more science than a heap of stones a house." Jules Henri Poincaré, French mathematician, theoretical physicist, engineer, and philosopher of science

Predictions:

In 1989, Noel Brown, then-Director of the United Nations Environment Program (UNEP) New York office, warned of a "10-year window of opportunity to solve" global warming. "A senior U.N. environmental official says entire nations could be wiped off the face of the Earth by rising sea levels if the global warming trend is not reversed by the year 2000. Coastal flooding and crop failures would create an exodus of 'eco-refugees,' threatening political chaos."³¹ *Miami Herald*, July 5, 1989

By the year 2100 "global mean sea level will rise 15 to 95 centimeters."³² *New York Times*, December 1, 1997

³¹ *Gore's Really Inconvenient Timing- 'Consensus' On Man-Made Global Warming Collapses in 2008*, REPUBLICAN ENV'T AND PUB WORKS COMM., July 18, 2008, http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.Blogs&ContentRecord_id=37ae6e96-802a-23ad-4c8a-edf6d8150789.

³² *Id.*

“Rising sea levels, desertification and shrinking freshwater supplies will create up to 50 million environmental refugees by the end of the decade, experts warn today.”³³ *UK Guardian*, October 11, 2005

“The last time the world was three degrees warmer than today – which is what we expect later this century – sea levels were 25m higher (75 feet). So that is what we can look forward to if we don’t act soon. None of the current climate and ice models predict this. But I prefer the evidence from the Earth’s history and my own eyes. I think sea-level rise is going to be the big issue soon, more even than warming itself.”³⁴ James Hansen, climate activist and adjunct professor at Columbia University, February 17, 2006

Claims:

“The newer analyses that have been done since the IPCC report came out, indicate that the upper limit for the year 2100 is probably between 1 and 2 meters, and those are the numbers that I now quote, because they are the latest science.”³⁵ John Holdren, White House Science Advisor, February 12, 2009

“Sea level could rise more than six feet by the end of the century,” and “could continue rising a foot each decade after that.”³⁶ Jeff Goodell for *Rolling Stone*, June 20, 2013

The Latest Science:

Both the predictions and claims are highly inconsistent with the latest science. In fact, the United Nations has already made their 2005 prediction disappear.³⁷ According to the National Oceanic and Atmospheric Administration (NOAA), data indicates that sea levels rose only 1.1 - 1.3 mm/year from 2005-2012.³⁸ Citing NOAA directly, the “numbers represent the globally averaged changes in sea level and have magnitudes on the order of millimeters per year.”³⁹ Accordingly, at the current rate of sea level rise, it would take approximately 25,000 years (around the year 27013) for the oceans to reach Hansen’s 2006 prediction levels rather than something “we expect” to reach by the year 2100.⁴⁰

During his 2009 confirmation hearing, Dr. John Holdren, the present White House science advisor, retracted from his prior claim that sea levels could rise “13 feet” and instead revised

³³ David Adam, *50m environmental refugees by end of decade, UN warns*, THE GUARDIAN, Oct. 11, 2005, <http://www.guardian.co.uk/environment/2005/oct/12/naturaldisasters.climatechange1>.

³⁴ Jim Hansen, *Climate change: On the edge*, THE INDEPENDENT, Feb. 17, 2006, <http://www.independent.co.uk/environment/climate-change-on-the-edge-466818.html>.

³⁵ *Hearing before the Comm. On Commerce, Science, and Trans.*, 111th Cong., (2009) (statement of John Holdren, White House Science Advisor).

³⁶ Jeff Goodell, *Goodbye, Miami*, ROLLING STONE, June 20, 2013, <http://www.rollingstone.com/politics/news/why-the-city-of-miami-is-doomed-to-drown-20130620>.

³⁷ Anthony Watts, *The UN “disappears” 50 million climate refugees, then botches the disappointing attempt*, WATTSUPWITHTHAT BLOG (Apr. 15, 2011), <http://wattsupwiththat.com/2011/04/15/the-un-disappears-50-million-climate-refugees-then-botches-the-disappearing-attempt/>.

³⁸ U.S. DEP’T OF COMMERCE, NAT’L OCEANIC AND ATMOSPHERIC ADMIN. THE BUDGET OF RECENT GLOBAL SEA LEVEL RISE 2005-2012 (2012).

³⁹ *Id.*

⁴⁰ *Id.*

down his own predictions to match the lower numbers from the IPCC 2007 report. The following is an excerpt from the February 12, 2009, hearing:

Senator Vitter: Final question: In 2006, obviously pretty recently, in an article, “The War on Hot Air,” you suggested that global sea levels could rise by 13 feet by the end of this century. And in contrast to that, the IPCC’s 2007 report put their estimate at between 7 and 25 inches. So their top line was 25 inches, about 2 feet. What explains the disparity?

Dr. Holdren: My statement was based on articles in the journals *Science* and *Nature*, peer reviewed publications by some of the world’s leading specialists in studying ice, who had concluded that twice in the last 19,000 years, in natural warming periods of similar pace to the warming period that we’re experiencing now, in large part because of human activities, sea level went up by as much as 2 to 5 meters per century.

Senator Vitter: The bottom line: Do you think the better worst-case estimate is 25 inches or 13 feet?

Dr. Holdren: The newer analyses that have been done since the IPCC report came out indicate that the upper limit for the year 2100 is probably between 1 and 2 meters, and those are the numbers that I now quote, because they are the latest science.⁴¹

A further review of the science shows that the rate of sea level change has been found to be larger in the early part of last century (2.03 ± 0.35 mm/yr 1904–1953), in comparison with the latter part (1.45 ± 0.34 mm/yr 1954–2003).⁴² When compared to NOAA’s data on sea level rise from 2005–2012, the 1.1 – 1.3 mm/year rate is below the rate from 1954–2003, indicating that the rate of sea level rise continues to decline. Analysis from a recent peer-reviewed study had findings consistent with the following:⁴³

Although the mean rate of change of global mean sea level is found to be greater in the first half of the twentieth century, the two rates are consistent with being the same at the 95% confidence level, given their individual standard errors. However, a greater rate of rise in the early part of the record is consistent with previous analyses of tide gauge records which suggested a general deceleration in sea level rise during the 20th century [Woodworth, 1990; Douglas, 1992; Jevrejeva *et al.*, 2006]. A twentieth century deceleration is consistent with the work of Church and White [2006] who, although finding evidence for a post-1870 acceleration based on an EOF reconstruction of global sea level, found that much of the overall acceleration occurred in the first half of the 20th century. Church and White [2006] suggested that the greater rate of sea level rise observed in the first half of last century was due to reduced volcanic emissions (and hence also lower variability in sea level) during the 1930s to 1960s. This idea is supported by results from the HadCM3 model which suggest that the simulated global

⁴¹ Hearing before the Comm. On Commerce, Science, and Trans., 111th Cong., (2009) (statement of John Holdren, White House Science Advisor).

⁴² S.J. Holgate, *On the decadal rates of sea level change during the twentieth century*, 34 GEOPHYSICAL. RES. LETTERS L01602 (2007), available at <http://onlinelibrary.wiley.com/doi/10.1029/2006GL028492/abstract>.

⁴³ *Id.*

mean sea level did not accelerate through the twentieth century due to the offsetting of anthropogenic warming by reduced natural forcing [Gregory *et al.*, 2006].⁴⁴

In short, the peer-reviewed scientific evidence can be summed up as follows:

- Sea level rise was greater in the first half of the twentieth century;
- There has been a decline in sea level rise in the latter half of the twentieth century; and
- NOAA's latest data indicates that the rate of sea level rise is less than half that predicted by the IPCC.

Questions for Critical Thinking:

1. If the present rate of sea level rise would put the world on pace to see an increase of less than 7 inches by the end of the century, then where are the data sets the IPCC and other advocates use to come up with estimates that are in feet and/or meters?
2. What science did Al Gore use to come to the conclusion that the oceans would rise 20 feet or more?
3. What exactly is meant by the statement in the scientific literature "is consistent with previous analyses of tide gauge records which suggested a general deceleration in sea level rise during the 20th century?"⁴⁵
4. If empirical evidence indicates that the rate of sea level rise is decreasing, how does the IPCC claim that there definitively is a strong correlation between sea level rise and CO₂ concentrations in the atmosphere? Doesn't the science tend to indicate that there is a lack of correlation?

III. EXTREME WEATHER: HURRICANES, DROUGHTS, HEAT WAVES, AND WILDFIRES

*"When the number of factors coming into play in a phenomenological complex is too large scientific method in most cases fails. One need only think of the weather, in which case the prediction even for a few days ahead is impossible."*⁴⁶ Albert Einstein, German physicist

⁴⁴ *Id.*

⁴⁵ S.J. Holgate, *On the decadal rates of sea level change during the twentieth century*, 34 GEOPHYSICAL. RES. LETTERS L01602 (2007), available at <http://onlinelibrary.wiley.com/doi/10.1029/2006GL028492/abstract>.

⁴⁶ *Science, Philosophy and Religion, A Symposium*, published by the Conference on Science, Philosophy and Religion in Their Relation to the Democratic Way of Life, Inc., New York (1941); later published in *Out of My Later Years* (1950).

Predictions:

“Increasingly, it is being recognized that other climatic factors, including changes in rainfall patterns and the frequency and intensity of hurricanes, cyclones and wildfire, may have far greater consequences than a rise in temperature.”⁴⁷ *New York Times*, August 17, 1993

“Global warming is likely to produce a significant increase in the intensity and rainfall of hurricanes in coming decades, according to the most comprehensive computer analysis done so far.”⁴⁸ *New York Times*, September 30, 2004

“From heat waves to storms to floods to fires to massive glacial melts, the global climate seems to be crashing around us.”⁴⁹ *TIME*, March 26, 2006

Claims:

“At the same time, we must be very clear. Hurricane Sandy is a wake-up call for all Americans that we must act to reverse global warming. While scientists do not attribute this storm or any single weather disturbance to global warming, it is increasingly clear that global warming is fueling more extreme weather disturbances.”⁵⁰ Senator Bernie Sanders, November 1, 2012

“Heat waves, droughts, wildfires, and floods – all are now more frequent and intense.”⁵¹ President Obama, February 12, 2013

“The effects of climate change, driven by carbon pollution, hit Americans harder each year. Extreme weather events like hurricanes, wildfires and droughts are growing ever more frequent and severe.”⁵² Senator Sheldon Whitehouse, June 19, 2013

The Latest Science:

Wildfires have not increased:

“Historical analysis of wildfires around the world shows that since 1950 their numbers have decreased globally by 15%. Estimates published in the Proceedings of the National Academy of Sciences show that even with global warming proceeding uninterrupted, the level of wildfires will continue to decline until around midcentury and won't resume on the level of 1950—the worst for fire—before the end of the century.”⁵³

⁴⁷ *Dangers to Forests Seen From Warming*, N.Y. TIMES, Aug. 17, 1993, <http://www.nytimes.com/1993/08/17/science/dangers-to-forests-seen-from-warming.html>.

⁴⁸ Andrew C. Revkin, *Global Warming is Expected to Raise Hurricane Intensity*, N.Y. TIMES, Sept. 30, 2004, http://www.nytimes.com/learning/students/pop/articles/30hurricane_LN.html.

⁴⁹ Jeffrey Kluger, *Earth at the Tipping Point: Global Warming Heats Up*, TIME, Mar. 26, 2006, <http://www.time.com/time/magazine/article/0,9171,1176980,00.html>.

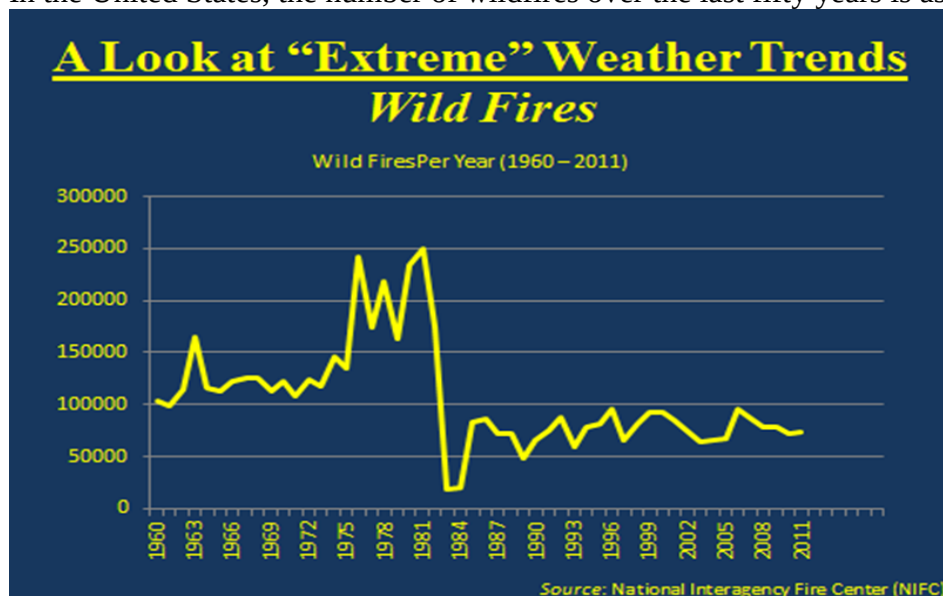
⁵⁰ Press Release, Office of Sen. Bernie Sanders, Global Warming and Hurricane Sandy (Nov. 1, 2012), <http://www.sanders.senate.gov/newsroom/news/?id=ad66348a-d6cc-4d43-8241-c5f2bffa6333>.

⁵¹ President Barack Obama, State of the Union Address (Feb. 12, 2013).

⁵² Sen. Sheldon Whitehouse, *The Price of Ignoring Climate Change*, REUTERS, June 19, 2013.

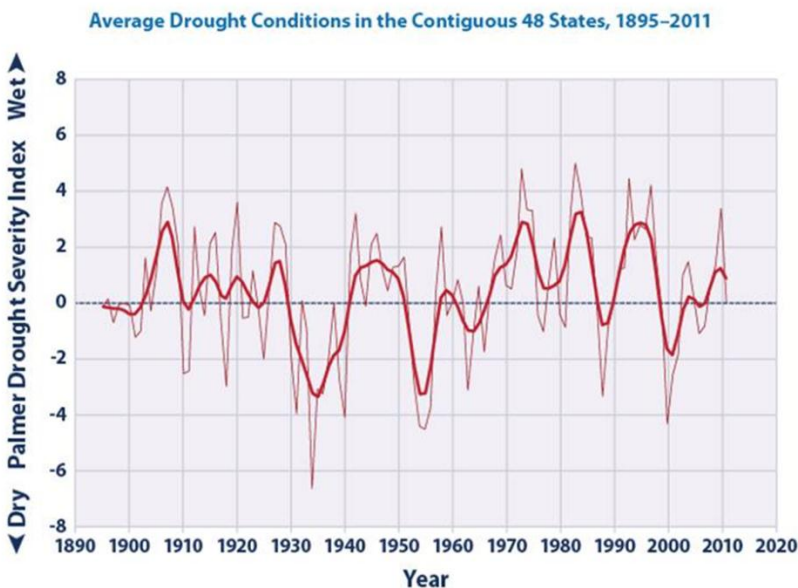
⁵³ Bjorn Lomborg, *Climate-Change Misdirection*, WALL STREET J., Jan. 23, 2013, <http://online.wsj.com/article/SB10001424127887323485704578258172660564886.html>.

In the United States, the number of wildfires over the last fifty years is as follows:



Droughts have not increased:

“The world has not seen a general increase in drought. A study published in *Nature* in November shows globally that ‘there has been little change in drought over the past 60 years.’ The U.N. Climate Panel in 2012 concluded: ‘Some regions of the world have experienced more intense and longer droughts, in particular in southern Europe and West Africa, but in some regions droughts have become less frequent, less intense, or shorter, for example, in central North America and northwestern Australia.’”⁵⁴



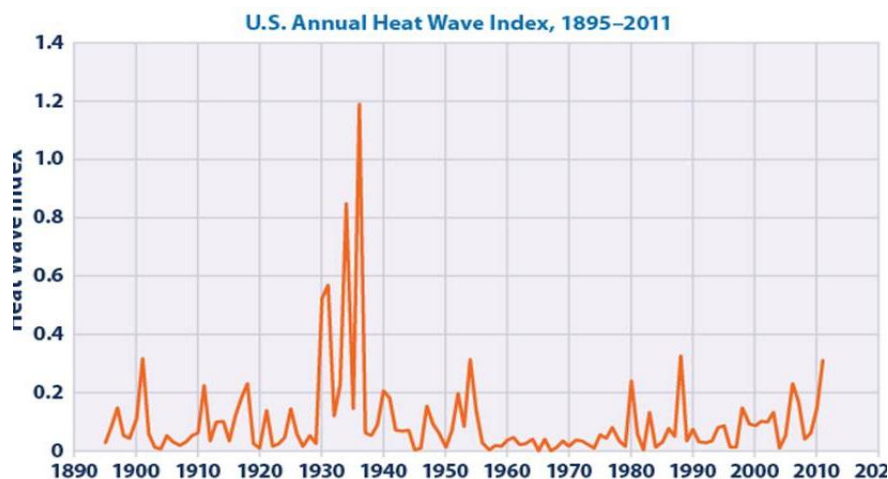
Data source: NOAA (National Oceanic and Atmospheric Administration). 2012. National Climatic Data Center. Accessed January 2012. www.ncdc.noaa.gov/oa/ncdc.html.

For more information, visit U.S. EPA's "Climate Change Indicators in the United States" at www.epa.gov/climatechange/indicators.

⁵⁴ *Id.*

Heat waves have not increased:

“The "Dust Bowl" years of 1930-36 brought some of the hottest summers on record to the United States, especially across the Plains, Upper Midwest and Great Lake States. For the Upper Mississippi River Valley, the first few weeks of July 1936 provided the hottest temperatures of that period, including many all-time record highs. The string of hot, dry days was also deadly. Nationally, around 5000 deaths were associated with the heat wave. In La Crosse, WI, there were 14 consecutive days (July 5th-18th) where the high temperature was 90 degrees or greater, and 9 days that were at or above 100. Six record July temperatures set during this time still stand, including the hottest day on record with 108 on the 14th. The average high temperature for La Crosse during this stretch of extreme heat was 101.”⁵⁵



Hurricane activity has not increased:

According to Dr. Bjorn Lomborg, Director of Copenhagen Consensus Center and Adjunct Professor at Copenhagen Business School, “As for one of the favorites of alarmism, hurricanes in recent years don't indicate that storms are getting worse. Measured by total energy (Accumulated Cyclone Energy), hurricane activity is at a low not encountered since the 1970s. The U.S. is currently experiencing the longest absence of severe landfall hurricanes in over a century—the last Category 3 or stronger storm was Wilma, more than seven years ago.”⁵⁶

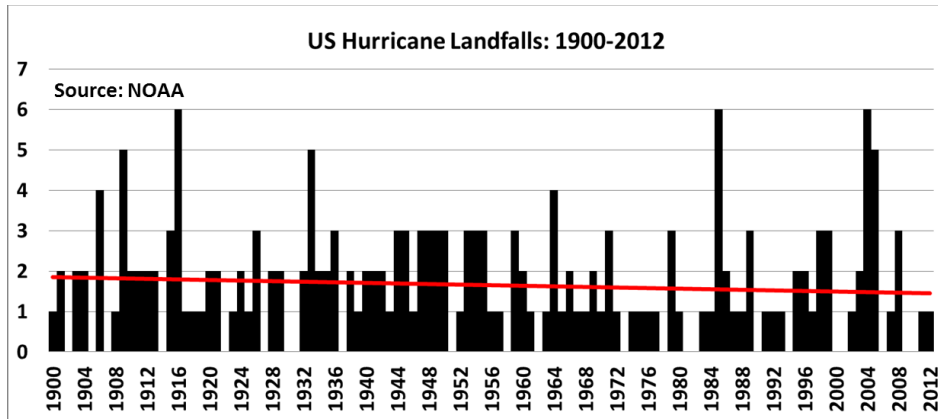
“While it's hardly mentioned in the media, the U.S. is currently in an extended and intense hurricane ‘drought.’”⁵⁷

The source of the following three graphs is Professor Roger Pielke, Jr., in his July 18, 2013, testimony before the Senate EPW Committee:

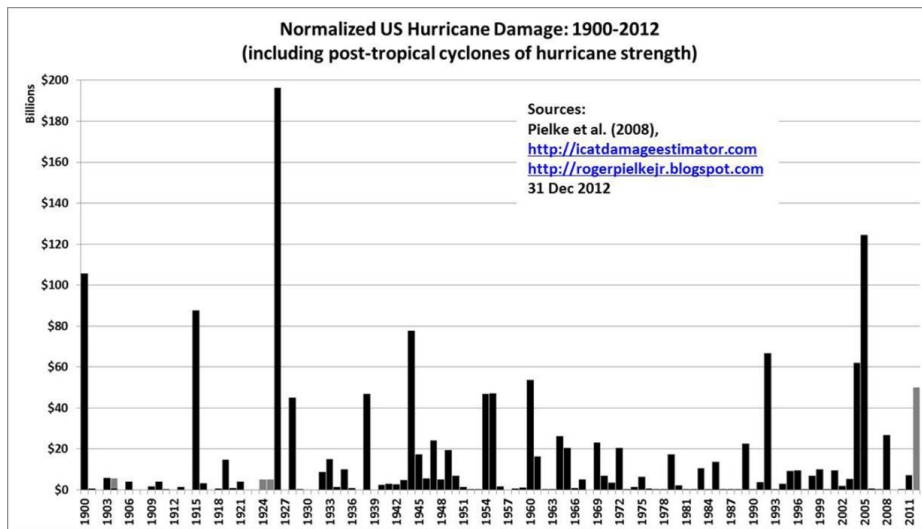
⁵⁵ *The Heatwave of July 1936*, Nat'l Oceanic & Atmospheric Admin. Nat'l Weather Serv. Weather Forecast Office, <http://www.crh.noaa.gov/arx/events/heatwave36.php>.

⁵⁶ Bjorn Lomborg, *Climate-Change Misdirection*, WALL STREET J., Jan. 23, 2013, <http://online.wsj.com/article/SB10001424127887323485704578258172660564886.html>.

⁵⁷ Roger Pielke, *Hurricanes and Human Choice*, WALL STREET J., Oct. 31, 2012, <http://online.wsj.com/article/SB10001424052970204840504578089413659452702.html>.



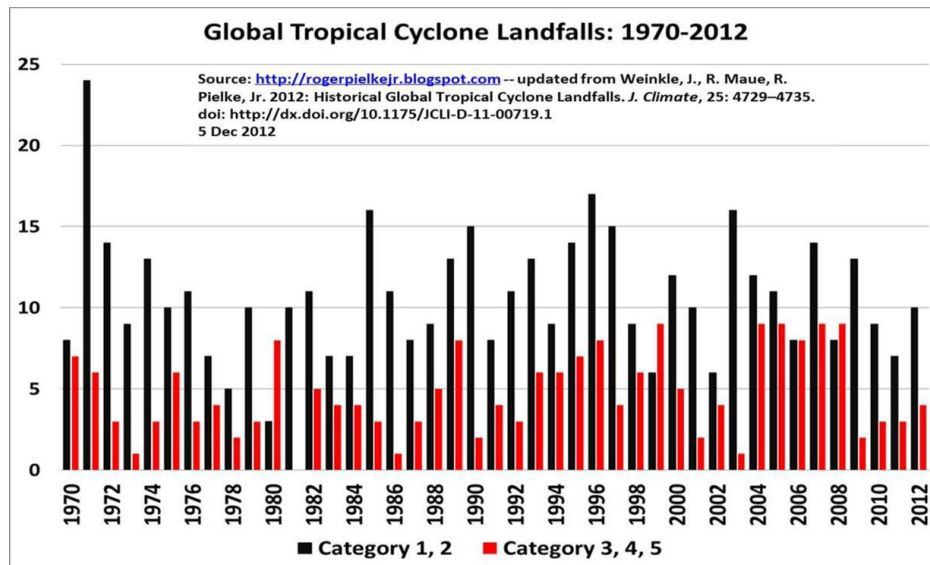
Number of landfalling U.S. hurricanes from 1900-2012. The red line shows the linear trend, exhibiting a decrease from about 2 to 1.5 landfalls per year since 1900. Source: NOAA.⁵⁸



Normalized U.S. hurricane damage 1900-2012, estimated total damage if each past hurricane season occurred with 2012 levels of development. After Pielke et al. 2008.⁵⁹ Note that the figure includes “Superstorm” Sandy (2012) in gray and placeholders for the three other post-tropical cyclones of hurricanes which made landfall in 1904, 1924 and 1925.

⁵⁸ Chronological List of All Hurricanes: 1851-2012, Nat'l Oceanic & Atmospheric Admin. Hurricane Research Div., http://www.aoml.noaa.gov/hrd/hurdat/All_U.S._Hurricanes.html.

⁵⁹ Roger A. Pielke, Jr. et al., *Normalized Hurricane Damages in the United States: 1900-2005*, 9(1) Natural Hazards Rev. 29-42 (2008). The data is updated to 2012 values using the ICAT Damage Estimator. ICAT Damage Estimator, <http://www.icatdamageestimator.com>.



Global tropical cyclone (called hurricanes in the North Atlantic) landfalls, 1970-2012, after Weinkle et al. 2012.⁶⁰

Questions for Critical Thinking:

1. When we are unable to predict extreme weather events, and empirical evidence does not show that extreme weather events are increasing, why would some scientists/activists claim that extreme weather events are the product of human activity?
2. Did extreme weather events begin with the advent of the internal combustion engine, or does historical and geological evidence exist indicating extreme weather events have been occurring for hundreds, thousands, or even millions of years?
3. What is the level of confidence that extreme weather events won't decrease in a warming climate? Is there evidence that colder climates can be harsher?

IV. CLIMATE REGULATION: WHAT IS IT REALLY ABOUT?

"If you once forfeit the confidence of your fellow citizens, you can never regain their respect and esteem. It is true that you may fool all of the people some of the time; you can even fool some of the people all of the time; but you can't fool all of the people all of the time." Abraham Lincoln, 16th President of the United States⁶¹

The following is a list of claims made by key activists and political officials in the climate science community:

⁶⁰ Jessica Weinkle et al., *Historical Global Tropical Cyclone Landfalls*, 25 J. CLIMATE 4729-4735 (2012), available at <http://journals.ametsoc.org/doi/abs/10.1175/JCLI-D-11-00719.1>.

⁶¹ President Abraham Lincoln, Speech at Clinton, IL (Sept. 8, 1854).

- Stephen Schneider, who authored *The Genesis Strategy*, a 1976 book warning that global cooling risks posed a threat to humanity, later changed that view 180 degrees when he served as a lead author for important parts of three sequential IPCC reports. In an article published in *Discover*, he said: “On the one hand, as scientists we are ethically bound to the scientific method, on the other hand, we are not just scientists, but human beings as well. And like most people, we’d like to see the world a better place, which in this context translates into our working to reduce the risk of potentially disastrous climatic change. To do that, we need to get some broad-based support, to capture the public’s imagination. That, of course, entails getting loads of media coverage. So we have to offer up scary scenarios, make simplified, dramatic statements, and make little mention of the doubts we might have. Each of us has to decide what the right balance is between being effective and being honest.”⁶²
- In 1988, the former Canadian Minister of the Environment told editors and reporters of the *Calgary Herald*, “No matter if the science of global warming is all phony...climate change [provides] the greatest opportunity to bring about justice and equality in the world.”⁶³
- Maurice Strong, who organized the first U.N. Earth Climate Summit (1992) in Rio de Janeiro, Brazil, expressed his true position on climate issues: “We may get to the point where the only way of saving the world will be for industrialized civilization to collapse.”⁶⁴
- Former U.S. Senator Timothy Wirth (D-CO), and former U.S. Undersecretary of State for global issues, likely agreed with Maurice Strong at the same Rio Climate Summit when he stated: “We have got to ride the global warming issue. Even if the theory of global warming is wrong, we will be doing the right thing in terms of economic policy and environmental policy.”⁶⁵
- Also at the Rio conference, then-Deputy Assistant of State Richard Benedick, who headed the policy divisions of the U.S. State Department, stated: “A global warming treaty [such as the Kyoto Protocol] must be implemented even if there is no scientific evidence to back the [enhanced] greenhouse effect.”⁶⁶
- Speaking at the 2000 U.N. Conference on Climate Change in the Hague, former President Jacques Chirac of France explained why the IPCC’s climate initiative supported a key Western European Kyoto Protocol objective: “For the first time, humanity is instituting a genuine instrument of global governance, one that should find a place within the World Environmental Organization which France and the European Union would like to see established.”⁶⁷

⁶² STEPHEN H. SCHNEIDER & LYNNE E. MESIROW, *THE GENESIS STRATEGY: CLIMATE AND GLOBAL SURVIVAL* (1976).

⁶³ Larry Bell, *Global Warming Alarmism: When Science IS Fiction*, FORBES, May 29, 2012, <http://www.forbes.com/sites/larrybell/2012/05/29/global-warming-alarmism-when-science-is-fiction/2/>.

⁶⁴ LARRY BELL, CLIMATE OF CORRUPTION: POLITICS AND POWER BEHIND THE GLOBAL WARMING HOAX 226 (2011).

⁶⁵ Larry Bell, *In Their Own Words: Climate Alarmists Debunk Their ‘Science’*, FORBES, Feb. 5, 2013, <http://www.forbes.com/sites/larrybell/2013/02/05/in-their-own-words-climate-alarmists-debunk-their-science/>.

⁶⁶ *Id.*

⁶⁷ *Id.*

- On November 14, 2010, Ottmar Edenhofer, a U.N. IPCC Official, stated, "First of all, developed countries have basically expropriated the atmosphere of the world community. But one must say clearly that we redistribute de facto the world's wealth by climate policy. Obviously, the owners of coal and oil will not be enthusiastic about this. One has to free oneself from the illusion that international climate policy is environmental policy. This has almost nothing to do with environmental policy anymore...."⁶⁸

Just something to ponder:

- As Greenpeace co-founder Patrick Moore observed on Fox Business News in January 2011, "We do not have any scientific proof that we are the cause of the global warming that has occurred in the last 200 years....The alarmism is driving us through scare tactics to adopt energy policies that are going to create a huge amount of energy poverty among the poor people. It's not good for people and it's not good for the environment.... In a warmer world we can produce more food."⁶⁹
- "The World Bank board of directors could today endorse a sweeping new energy policy that for the first time restricts financing for new coal plants in poor countries, bank officials confirmed." Lisa Friedman, *E&E* reporter, July 16, 2013⁷⁰

V. THE SCIENCE IS SETTLED: THE GOVERNMENT CAN'T CONTROL CLIMATE

"Any physical theory is always provisional, in the sense that it is only a hypothesis: you can never prove it. No matter how many times the results of experiments agree with some theory, you can never be sure that the next time the result will not contradict the theory. On the other hand, you can disprove a theory by finding even a single observation that disagrees with the predictions of the theory." Stephen Hawking, English theoretical physicist, cosmologist, author and Director of Research at the Centre for Theoretical Cosmology within the University of Cambridge⁷¹

Claim:

"Humanity is sitting on a time bomb. If the vast majority of the world's scientists are right, we have just ten years to avert a major catastrophe that could send our entire planet's climate system into a tail-spin of epic destruction involving extreme weather, floods, droughts, epidemics and killer heat waves beyond anything we have ever experienced—a catastrophe of our own making." Al Gore⁷²

⁶⁸ *The Science is Settled: U.N. Official Admits Climate Policy is About Wealth Redistribution and Not Global Warming*, MOTOR CITY TIMES, Nov. 18, 2010.

⁶⁹ Larry Bell, *In Their Own Words: Climate Alarmists Debunk Their 'Science'*, FORBES, Feb. 5, 2013, <http://www.forbes.com/sites/larrybell/2013/02/05/in-their-own-words-climate-alarmists-debunk-their-science/>.

⁷⁰ Lisa Friedman, *World Bank Approves Landmark Coal Restrictions*, E & E PUBL'G, July 17, 2013.

⁷¹ STEPHEN HAWKING, *A BRIEF HISTORY OF TIME: FROM THE BIG BANG TO BLACK HOLES* 10 (1988).

⁷² Documentary, *AN INCONVENIENT TRUTH* (2006).

Can our government and the U.N. control these factors:

- Solar Radiation: “Variations in the amount of solar radiation reaching the Earth are thought to influence climate, but the extent of this influence on timescales of millennia to decades is unclear. A number of climate records show correlations between solar cycles and climate, but the absolute changes in solar intensity over the range of decades to millennia are small and the influence of solar flux on climate is not well established.”⁷³
- Cosmic Rays: “The second type of mechanisms is indirect, through the solar modulation of the cosmic ray flux and the effect that the latter may have on the climate. Cosmic rays are high energy particles (primarily protons) which appear to originate from supernova remnants (the leftovers from the explosive death of massive stars). A possible climatic link through cosmic rays was first suggested by Edward Ney already in 1959. It was well known that the solar wind decreases the flux of these high energy particles and that these particles are the primary source of ionization in the troposphere (which is the lower part of the atmosphere). Ney proposed that the changing levels of ionization can play some climatic role.”⁷⁴
- Supernovae: “The hypothesis that a high GCR flux should coincide with cold conditions on the Earth is borne out by comparing the general geological record of climate over the past 510 million years with the fluctuating local SN rates. Surprisingly a simple combination of tectonics (long-term changes in sea level) and astrophysical activity (SN rates) largely accounts for the observed variations in marine biodiversity over the past 510 Myr.”⁷⁵
- Ocean Currents: “Understanding the processes that drive sea-ice formation and advancement can help scientists predict the future extent of Arctic ice coverage — an essential factor in detecting climate fluctuations and change. But existing models vary in their predictions for how sea ice will evolve.”⁷⁶

Summary Thought:

- Given the dynamic nature of our climate and the factors well outside of human control (many of which are not listed above), including lack of technology to govern these factors, is it possible to control and stop climate change through government regulations?

⁷³ U. Neff, et al., *Strong Coherence between Solar Variability and the Monsoon in Oman between 9 and 6 kyr ago*, 411 NATURE J. 290-293 (2001).

⁷⁴ Nir Shaviv, *20th Century Global Warming "There is Nothing New Under the Sun"*, Racah Inst. of Physics, Hebrew Univ. of Jerusalem (June 2010), available at <http://www.sciencebits.com/NothingNewUnderTheSun-I>.

⁷⁵ Henrik Svensmark, *Evidence of Nearby Supernovae Affecting Life on Earth*, 423 MONTHLY NOTICES OF ROYAL ASTRONOMICAL SOC'Y 1234-1253 (Apr. 2012).

⁷⁶ Jennifer Chu, *Ocean Currents Play a Role in Predicting Extent of Arctic Sea Ice*, Mass. Inst. of Tech. News, Nov. 21, 2012, <http://web.mit.edu/newsoffice/2012/ocean-currents-and-sea-ice-1121.html>.

VI. SUMMARY: POINTS ON U.S. UNILATERAL REGULATION

- On December 7, 2009, the EPA expanded its regulation over air quality through an endangerment finding, determining that GHGs harm public health. This has become a cornerstone of the Obama Administration's regulatory agenda.
- However, EPA's Inspector General released a report in September 2011, "Procedural Review of EPA's Greenhouse Gases Endangerment Finding Data Quality Processes,"⁷⁷ revealing that the scientific assessment underpinning the EPA's endangerment finding for GHGs was inadequate and in violation of the Agency's own peer review procedures.
- According to the EPA's own website, total GHG emissions have only risen 1% in the U.S. since 2005,⁷⁸ while levels in China, India, and Russia have combined to rise more than 6%.⁷⁹ China is responsible for two-thirds of that number.
- China has surpassed the United States as the world's largest producer of CO₂.⁸⁰ They emit more CO₂ than the U.S. and Canada combined, and India is now the world's third biggest emitter of CO₂ - pushing Russia into fourth place. Simultaneously, U.S. CO₂ levels have been steadily declining.⁸¹
- According to a recent report from the World Resources Institute, there are plans to build nearly 1,200 coal-fired power plants in 59 different countries, totaling over 1.4 million megawatts. China and India alone account for 76 % of the proposals.⁸² China now burns more coal than all countries combined, and India will surpass the United States as the world's second-largest consumer of coal by 2017.⁸³
- Future emissions will come overwhelmingly from the developing world, and the most significant emitters (China, India, and Russia) do not ascribe to international GHG reduction agreements. Regardless, the Obama Administration maintains that it is in our best interest to regulate CO₂ domestically.
- Senator Joe Manchin (D-WV) had this to say about EPA's approach to climate and energy: "You know my concerns about the EPA not having an all-in energy policy. If we're talking about climate change and we're talking about the world consuming 8 billion

⁷⁷ ENVTL. PROT. AGENCY, OFFICE OF INSPECTOR GEN., REPORT NO. 11-P-0702, PROCEDURAL REVIEW OF EPA'S GREENHOUSE GASES ENDANGERMENT FINDING DATA QUALITY PROCESSES (2011), available at <http://www.epa.gov/oig/reports/2011/20110926-11-P-0702.pdf>.

⁷⁸ *Global Greenhouse Gas Emissions Data*, U.S. Env'tl. Prot. Agency, <http://www.epa.gov/climatechange/ghgemissions/global.html>.

⁷⁹ *Canada's Emissions Trends*, Env't Canada (2011) <http://www.ec.gc.ca/doc/publications/cc/COM1374/ec-com1374-en-es.htm>.

⁸⁰ *World Carbon Dioxide Emissions Data by Country: China Speeds Ahead of the Rest*, THE GUARDIAN DATA BLOG, <http://www.guardian.co.uk/news/datablog/2011/jan/31/world-carbon-dioxide-emissions-country-data-co2>.

⁸¹ *Id.*

⁸² Ailun Yang & Yiyun Cui, *Global Coal Risk Assessment: Data Analysis and Market Research*, (World Res. Inst., Working Paper, Nov. 2012), available at http://pdf.wri.org/global_coal_risk_assessment.pdf.

⁸³ Brad Plumer, *China Now Burning as much Coal as the Rest of the World*, WASH. POST, (Jan. 29, 2013), <http://www.washingtonpost.com/blogs/wonkblog/wp/2013/01/29/china-is-burning-nearly-as-much-coal-as-the-rest-of-the-world-combined/>.

tons of coal and the United States of America consuming less than 1 billion tons of coal, what's their proposal for cleaning up the environment on a global market?"⁸⁴

- Even former EPA Administrator Lisa Jackson confirms that only having the United States regulate carbon will not have any impact on worldwide carbon levels. She testified at the July 7, 2009, EPW hearing, "Moving America toward a Clean Energy Economy and Reducing Global Warming Pollution: Legislative Tools," "I believe the central parts of the [EPA] chart are that U.S. action alone will not impact world CO₂ levels."⁸⁵
- Regardless of her admission, EPA perseveres in moving forward with regulations targeting GHG emissions while justifying these rules as being beneficial to the economy, as well as public health and welfare. However, in February 2013, the U.S. Chamber of Commerce released a study examining dozens of air pollution rules dating from the 1990s. It reveals flawed analyses that do not take into account economy-wide impacts or negative impacts of the rules, raising significant concerns with the underlying economic modeling EPA utilizes.⁸⁶
- President Obama's "green jobs" movement represents the epitome of failed government based on the false belief that U.S action alone is sound policy. Estimates from the National Renewable Energy Laboratory show that the government spent about \$9 billion on green jobs and created just 910 new, long-term jobs. This means taxpayers spent \$9.8 million per job.⁸⁷
- The EU Emissions Trading Scheme (ETS) has cost their consumers \$287 billion for "almost zero impact" on cutting carbon emissions, according to a 2011 UBS study.⁸⁸
- Imposing a carbon tax on corporations and private business, which ultimately impacts consumers, is no wiser than unilateral regulation. In November 2012, the Congressional Budget Office released a study noting a carbon tax would "impose a larger burden, relative to income, on low-income households than on high-income households."⁸⁹ Furthermore, there exists zero evidence that carbon trading schemes in the EU, much less the United States, are having any impact on climate nor are they resulting in positive economic impacts or job creation in those regions.
- In late February 2013, the National Association of Manufacturers (NAM) released a study demonstrating the devastating effects a carbon tax would have on the economy,

⁸⁴ Jason Plautz, *Former McCarthy Skeptic Signals 2nd-round Battle over Nomination*, ENV'T & ENERGY DAILY, March 5, 2013, <http://www.eenews.net/EEDaily/2013/03/05/1>.

⁸⁵ Hearing before the S. Comm. on Env't & Public Works, 111th Cong. (2009) (statement of Lisa Jackson, former EPA Administrator).

⁸⁶ See generally IMPACTS OF REGULATIONS ON EMPLOYMENT: EXAMINING EPA'S OFT-REPEATED CLAIMS THAT REGULATIONS CREATE JOBS, U.S. CHAMBER OF COMMERCE (Feb. 2013), available at http://www.uschamber.com/sites/default/files/reports/020360_ETRA_Briefing_NERA_Study_final.pdf.

⁸⁷ David Horowitz & Jacob Laksin, *Obama's Green Jobs Bust*, THE DAILY CALLER, July 10, 2012, <http://dailycaller.com/2012/07/10/obamas-green-jobs-bust/>.

⁸⁸ Sid Maher, *Europe's \$287bn Carbon 'Waste': UBS Report*, THE AUSTRALIAN, Nov. 23, 2011, <http://www.theaustralian.com.au/national-affairs/europes-287bn-carbon-waste-ubs-report/story-fn59niix-1226203068972>.

⁸⁹ Terry Dinan, *Offsetting a Carbon Tax's Costs on Low-Income Households* (Cong. Budget Office, Working Paper No. 16, 2012), available at <http://www.cbo.gov/sites/default/files/cbofiles/attachments/11-13LowIncomeOptions.pdf>.

including manufacturing output falling up to 15 percent, millions of jobs lost, and approximately a \$1 trillion reduction in economic growth.⁹⁰ Unilateral regulatory action by the EPA is set to similarly undermine our national economy.

*“The energy of the mind is the essence of life.”*⁹¹ Aristotle, Greek philosopher and polymath, a student of Plato and teacher of Alexander the Great

⁹⁰ ECONOMIC OUTCOME OF A U.S. CARBON TAX, NERA ECONOMIC CONSULTING (Feb. 26, 2013)
http://www.nam.org/~media/64FDD87B13C44C3E8E95CC805E4E5952.ashx?utm_source=nam&utm_medium=alias&utm_campaign=CarbonTax+Full+Report.

⁹¹ See *The Power of the Mind: Quotes to Get You Thinking*, PSYCHOLOGY TODAY (Jan. 4, 2012)
<http://www.psychologytoday.com/blog/high-octane-women/201201/the-power-the-mind-quotes-get-you-thinking>.