



FORECAST THE FACTS

FACT CHECK

“The myth of ‘settled science’” by Charles Krauthammer

1. **KRAUTHAMMER:** “‘The debate is settled,’ asserted propagandist in chief Barack Obama in his latest State of the Union address. ‘Climate change is a fact.’ Really? There is nothing more anti-scientific than the very idea that science is settled, static, impervious to challenge.”

FACT: 97% of climate scientists agree that the earth is warming and human activity is the cause.¹²³⁴ 97% of peer-reviewed papers published between 1991 and 2011 that made a claim on global warming supported the science of manmade climate change. Of the peer-reviewed papers that also made a claim on global warming, published instead between 1993 and 2003, not one rejected that global warming is caused by human activity.⁵ Furthermore, there are no national or major scientific institutions anywhere in the world that dispute the theory of anthropogenic climate change.⁶ In fact, most of the leading scientific organizations (nearly 200 worldwide)⁷ have issued public statements emphasizing that the scientific evidence of climate change is clear and the threats are significant. Below is a selection of their statements.

The Intergovernmental Panel on Climate Change (IPCC): “Scientific evidence for warming of the climate system is unequivocal.”⁸

The U.S. National Academy of Sciences (NAS): “Climate change is occurring, is caused largely by human activities, and poses significant risks for — and in many cases is already affecting — a broad range of human

¹ W. R. L. Anderegg, “Expert Credibility in Climate Change,” Proceedings of the National Academy of Sciences Vol. 107 No. 27, 12107-12109 (21 June 2010); DOI: 10.1073/pnas.1003187107.

² P. T. Doran & M. K. Zimmerman, “Examining the Scientific Consensus on Climate Change,” Eos Transactions American Geophysical Union Vol. 90 Issue 3 (2009), 22; DOI: 10.1029/2009EO030002.

³ N. Oreskes, “Beyond the Ivory Tower: The Scientific Consensus on Climate Change,” Science Vol. 306 no. 5702, p. 1686 (3 December 2004); DOI: 10.1126/science.1103618.

⁴ “Is there a scientific consensus on global warming?” Skeptical Science, <http://www.skepticalscience.com/global-warming-scientific-consensus.htm>

⁵ “Is there a scientific consensus on global warming?” Skeptical Science, <http://www.skepticalscience.com/global-warming-scientific-consensus.htm>

⁶ “Is there a scientific consensus on global warming?” Skeptical Science, <http://www.skepticalscience.com/global-warming-scientific-consensus.htm>

⁷ “List of Worldwide Scientific Organizations,” The Governor’s Office of Planning & Research, http://opr.ca.gov/s_listoforganizations.php

⁸ “Climate Change 2007: Synthesis Report,” IPCC, https://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf

and natural systems.”⁹

The American Association for the Advancement of Science (AAAS): “The scientific evidence is clear: global climate change caused by human activities is occurring now, and it is a growing threat to society.”¹⁰

The American Meteorological Society (AMS): “It is clear from extensive scientific evidence that the dominant cause of the rapid change in climate of the past half century is human-induced increases in the amount of atmospheric greenhouse gases, including carbon dioxide (CO₂), chlorofluorocarbons, methane, and nitrous oxide.”¹¹

2. KRAUTHAMMER: “If climate science is settled, why do its predictions keep changing? And how is it that the great physicist Freeman Dyson, who did some climate research in the late 1970s, thinks today’s climate-change Cassandras are hopelessly mistaken?”

FACT: Regardless of Dyson’s predictions, over 97% of climate scientists predict that greenhouse gas emissions will continue to warm the climate (see “FACT” section 1). What’s more, Freeman Dyson is a physicist, not a climate scientist, and Dyson—though he argues that the costs of carbon pollution may be overblown and laments that most scientists hold climate deniers in contempt—does not deny man-made climate change.¹²¹³

3. KRAUTHAMMER: “Not surprisingly, these models have been ‘consistently and spectacularly wrong’ in their predictions, write atmospheric scientists Richard McNider and John Christy — and always, amazingly, in the same direction.”

FACT: Once again, 97% of scientists disagree with the fringe opinions Krauthammer has chosen to highlight. In addition, Richard McNider and John Christy’s relevant *Wall Street Journal* op-ed was riddled with factual inaccuracies on global warming. The claim of Christy’s that Krauthammer specifically uses to

⁹ “Strong Evidence on Climate Change Underscores Need for Actions to Reduce Emissions and Begin Adapting to Impacts,” The U.S. National Academy of Sciences, 5-19-2010, <http://www8.nationalacademies.org/onpinews/newsitem.aspx%3FRecordID=05192010>

¹⁰ “AAAS Reaffirms Statements on Climate Change and Integrity,” The American Association for the Advancement of Science, 12-4-2009, <http://www.aaas.org/news/aaas-reaffirms-statements-climate-change-and-integrity>

¹¹ “2012 AMS Information Statement on Climate Change,” American Meteorological Society, 8-20-2012, <https://www.ametsoc.org/policy/2012climatechange.html>

¹² “The Question of Global Warming,” The New York Review of Books, 6-12-2008, <http://www.nybooks.com/articles/archives/2008/jun/12/the-question-of-global-warming/>

¹³ “Freeman Dyson’s selective vision,” Real Climate, 5-24-2008, http://www.realclimate.org/index.php/archives/2008/05/freeman-dysons-selective-vision/comment-page-2/?wpmw_switcher=mobile

support his own argument—that climate models have been “consistently and spectacularly wrong” on temperature increases—misleadingly compares Christy’s own predictions with the calculations of others as evidence of modelers’ “failures of...predictions.”¹⁴ Also noteworthy is that Christy notoriously made serious errors in running satellite climate data that supported global warming skepticism.¹⁵

4. KRAUTHAMMER: “Settled? Even Britain’s national weather service concedes there’s been no change — delicately called a ‘pause’ — in global temperature in 15 years. If even the raw data is recalcitrant, let alone the assumptions and underlying models, how settled is the science?”

FACT: The world has been warming rapidly and without pause, but the warming temperatures continue to manifest in different ways.¹⁶ Most likely due to natural factors, increases in air temperatures have indeed slowed in recent years, but over 90% of the earth’s warming is absorbed by our oceans.¹⁷ Considering this increase in ocean temperatures in the context of forty-year trends, climate scientists have shown definitively that our climate system has continually accumulated heat.^{18,19} Krauthammer himself cites a page by Britain’s national weather service that exists specifically to explain how “the recent pause in warming” does *not* contradict global warming. The page introduces three papers, each of which offers a potential explanation for why surface temperatures have been relatively flat in the last 15 years, and all of which uphold the scientific consensus that the greenhouse gas-fueled heating of the planet continues. The first paper indicates that there is a wide range of climate indicators beyond surface temperature that demonstrate global warming continues to occur; the second explains the earth is still warming regardless of surface temperatures, pointing to rises in ocean temperature; and the third argues that the recent flat line in surface temperatures does not “invalidate the fundamental physics of global warming, the scientific basis of climate models and their estimates of climate sensitivity.”²⁰

¹⁴ “Why Kerry Is Flat Wrong on Climate Change,” Wall Street Journal, 2-19-2014,

<http://online.wsj.com/news/articles/SB10001424052702303945704579391611041331266>

¹⁵ “Scurvy Story: Why You Should Believe 97% of Scientists, Not Long-Wrong John Christy,” Think Progress, 2-21-2014, <http://thinkprogress.org/climate/2014/02/21/3314301/scurvy-wrong-john-christy-climate/>

¹⁶ “Global Warming ‘Pause’ Isn’t What Climate Change Skeptics Say It Is,” The Weather Channel, 1-13-2014, <http://www.weather.com/news/science/environment/no-hiatus-pause-global-warming-climate-change-heres-why-20140109>

¹⁷ “Where is global warming going?” Skeptical Science, <http://www.skepticalscience.com/graphics.php?g=12>

¹⁸ “The Escalator,” Skeptical Science, <http://www.skepticalscience.com/graphics.php?g=47>

¹⁹ “Human activity continues to warm the planet over the past 16 years,” Skeptical Science, <http://www.skepticalscience.com/no-warming-in-16-years-advanced.htm>

²⁰ “The recent pause in warming,” Met Office, 9-30-2013, <http://www.metoffice.gov.uk/research/news/recent-pause-in-warming>

5. KRAUTHAMMER: “Hurricane Sandy was made the poster child for the alleged increased frequency and strength of ‘extreme weather events’ like hurricanes. Nonsense.”

FACT: In reality, Sandy was “an unprecedented storm meteorologically,” in the words of climate scientist Michael Mann, and global warming did contribute to the damage.²¹ Sandy’s storm-force winds covered a larger area—one-fifth the size of the contiguous United States—than any tropical storm since 1988, and than any hurricane ever recorded.²² As a result of the rise in global sea level caused by global warming, the storm surge was roughly a foot higher than it would have otherwise been. Other impacts of global warming, warmer oceans and more moisture in the air, fueled a stronger hurricane and more flooding, respectively.²³

6. KRAUTHAMMER: “Similarly tornadoes. Every time one hits, the climate-change commentary begins. Yet last year saw the fewest in a quarter-century. And the last 30 years — of presumed global warming — has seen a 30 percent *decrease* in extreme tornado activity (F3 and above) versus the previous 30 years.”

FACT: Though Krauthammer claims tornado activity has decreased, tornado experts have emphasized that the data does not reflect a consistent record of tornados and cannot be used to conclude any trend in tornado activity.²⁴ In the absence of consistent records, reliable conclusions also can’t be made on the effect of global warming on tornados.

²¹ “The connection between Hurricane Sandy and global warming,” Skeptical Science, <http://www.skepticalscience.com/print.php?r=434>

²² “Hurricane Sandy’s huge size: freak of nature or climate change?” Wunderground, 11-13-2012, <http://www.wunderground.com/blog/JeffMasters/hurricane-sandys-huge-size-freak-of-nature-or-climate-change>

²³ “The connection between Hurricane Sandy and global warming,” Skeptical Science, <http://www.skepticalscience.com/print.php?r=434>

²⁴ “Global Warming and Tornado Intensity,” The New York Times, 12-5-2013, <http://www.nytimes.com/2013/12/06/opinion/global-warming-and-tornado-intensity.html>