

Global Warming and Climategate: An Excerpt from *Sustainability: Higher Education's New Fundamentalism*

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Published online: 4 November 2017
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Editors' Note: The following is excerpted from *Sustainability: Higher Education's New Fundamentalism*, a 2015 National Association of Scholars report by Rachelle Peterson and Peter Wood (<https://www.nas.org/images/documents/NAS-Sustainability-Digital.pdf>) and is part of “Unsettled Science,” a special feature in the Winter 2017 issue of *Academic Questions*. The excerpt evenhandedly presents both sides of the climate debate, followed by a discussion of the Climategate scandal.

Global Warming: Yes

Sustainability derives its force primarily from two issues: global warming and economic inequality.

Global warming is seen as an imminent, non-reversible, potentially lethal threat to humans and animals. Even mild warming endangers the steadily rising quality of life that people across the globe have been enjoying. According to the Intergovernmental Panel on Climate Change, an increase of anything more than 2 degrees Celsius will prove catastrophic. To keep countries on target, the IPCC created a “carbon budget” of one trillion tons that humans may burn before

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triggering a net 2-degree rise. If fossil fuel use continues at its present rate, that budget will be expended within thirty years.¹

The effects of climate change manifest themselves in various ways. Warmer temperatures cause heat stroke and heat exhaustion. Shrinking glaciers dump water into increasingly full oceans, swallowing up acres of shoreline and the communities that live along them.

Warmer air holds more water than cold air, upping the ante on hurricanes and typhoons. Sandy, the category 3 hurricane in October 2012 that hit New York and New Jersey, wrecked Manhattan's Financial District and coastal areas of Queens and Brooklyn. Typhoon Haiyan in November 2013, with its 195 mile-per-hour winds, swept the Philippines even as UN climate change representatives convened in Warsaw. Haiyan left more than six thousand Filipinos dead and another four million homeless or displaced. The Philippines' climate negotiator, Yeb Saño, delivered an impassioned speech to the delegates at Warsaw: "What my country is going through as a result of this extreme event is madness. ... To anyone outside who continues to deny and ignore the realities of climate change, I dare them, I dare them to get off their ivory towers and away from the comfort of their armchairs. I dare them to go to the islands of the Pacific."²

The increasing water density of the air also makes for snowier winters. And by evaporating more water from the earth's surface, the warming strains desert flora and fauna. The resulting forest fires in the American southwest eat up historic mountain preserves and people's homes. Droughts in Africa lead to famines.

The problems intensify, though, when the accumulated effects of climate change trigger runaway global warming. Climate scientists warn that the earth is at the edge of three tipping points. The first involves melting snow and ice, which alter the earth's albedo effect, or the ability of the earth's surface to reflect sunlight. White snow bounces much of the sun's light back to space, but green, blue, and brown absorb the sun's rays, leading to more warming, to more ice melting, and to more heat absorption.

The second is arctic methane gas fifty times more potent than CO₂, currently frozen into the Tundra. As the ice melts, the gas is released, triggering more warming and more atmospheric methane.

Ocean acidification, the third danger point, involves the health of the seas. As carbon dioxide sinks into the ocean and the water acidifies, plankton, the basis of the marine food chain, die and endanger all other aquatic life. These

¹"Understanding the IPCC Reports," World Resources Institute, <http://www.wri.org/ipcc-infographics>.

²*Democracy Now!* "Stop This Madness": Filipino Climate Chief Yeb Saño Begins Hunger Fast to Protest Global Inaction," Transcript, *Democracy Now! Daily Show*, November 12, 2013, https://www.democracynow.org/2013/11/12/stop_this_madness_filipino_climate_chief.

problems operate exponentially, and because the natural system features time lags, the full effects of today's decisions will not be felt for years to come.

Bill McKibben, one of the leaders of the environmental movement and founder of the advocacy group 350.org, broke down the data in his 2012 *Rolling Stone* article, "Global Warming's Terrifying New Math," which went viral and sparked a student campaign against the fossil fuel industry:

Meteorologists reported that this spring was the warmest ever recorded for our nation—in fact, it crushed the old record by so much that it represented the "largest temperature departure from average of any season on record." The same week, Saudi authorities reported that it had rained in Mecca despite a temperature of 109 degrees, the hottest downpour in the planet's history.

...So far, we've raised the average temperature of the planet just under 0.8 degrees Celsius, and that has caused far more damage than most scientists expected. (A third of summer sea ice in the Arctic is gone, the oceans are 30 percent more acidic, and since warm air holds more water vapor than cold, the atmosphere over the oceans is a shocking five percent wetter, loading the dice for devastating floods.) Given those impacts, in fact, many scientists have come to think that two degrees is far too lenient a target. "Any number much above one degree involves a gamble," writes Kerry Emanuel of MIT, a leading authority on hurricanes, "and the odds become less and less favorable as the temperature goes up." Thomas Lovejoy, once the World Bank's chief biodiversity adviser, puts it like this: "If we're seeing what we're seeing today at 0.8 degrees Celsius, two degrees is simply too much." NASA scientist James Hansen, the planet's most prominent climatologist, is even blunter: "The target that has been talked about in international negotiations for two degrees of warming is actually a prescription for long-term disaster." At the Copenhagen summit, a spokesman for small island nations warned that many would not survive a two-degree rise: "Some countries will flat-out disappear." When delegates from developing nations were warned that two degrees would represent a "suicide pact" for drought-stricken Africa, many of them started chanting, "One degree, one Africa."...The official position of planet Earth at the moment is that we can't raise the temperature more than two degrees Celsius—it's become the bottomest of bottom lines. Two degrees.³

³Bill McKibben, "Global Warming's Terrifying New Math," *Rolling Stone*, July 19, 2012, <http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719>.

Since McKibben wrote his piece—which has become a touchpoint for many in the movement—scientists have concluded that 2014 has surpassed previous records as the hottest year. With the ten warmest recorded years all occurring since 1997, this latest data point indicates a growing trend.⁴ The *New York Times*, reporting on the rising temperature, put the news in historical context:

February 1985 was the last time global surface temperatures fell below the 20th-century average for a given month, meaning that no one younger than 30 has ever lived through a below-average month. The last full year that was colder than the 20th-century average was 1976.⁵

The cause of such warming is largely attributed to greenhouse gas emissions. Pennsylvania State University climate scientist Michael Mann, quoted by the *Times*, noted that

It is exceptionally unlikely that we would be witnessing a record year of warmth, during a record-warm decade, during a several decades-long period of warmth that appears to be unrivaled for more than a thousand years, were it not for the rising levels of planet-warming gases produced by the burning of fossil fuels.⁶

Global warming caused by increases in atmospheric carbon dioxide has happened before in the geologic history of Earth. Therefore it can happen again. Recently, for example, geologists concluded that a major increase in CO₂ was responsible for Paleocene-Eocene thermal maximum: “About 55.5 million years ago, a burst of carbon dioxide raised Earth’s temperature 5°C to 8°C, which had major impacts on numerous species of plants and wildlife.”⁷

In addition to threatening human life and well-being in general, global warming also harms specific communities more than it harms others. Climate

⁴“NASA, NOAA Find 2014 Warmest Year in Modern Record,” National Aeronautics and Space Administration, January 16, 2015, <https://www.nasa.gov/press/2015/january/nasa-determines-2014-warmest-year-in-modern-record>.

⁵Justin Gillis, “2014 Breaks Heat Record, Challenging Global Warming Skeptics,” *New York Times*, January 16, 2015, http://www.nytimes.com/2015/01/17/science/earth/2014-was-hottest-year-on-record-surpassing-2010.html?_r=0.

⁶Ibid.

⁷Tim Wogan, “Greenhouse Emissions Similar to Today’s May Have Triggered Massive Temperature Rise in Earth’s Past,” *Science*, December 15, 2014, http://news.sciencemag.org/climate/2014/12/greenhouse-emissions-similar-today-s-may-have-triggered-massive-temperature-rise?utm_campaign=email-news-latest&utm_source=eloqua.

change is seen as exacerbating economic inequality by disproportionately visiting the injuries on the poorest, least-prepared.

Global warming caused primarily by Western industrialism and consumerism leads to flooding in Pacific islands already beset by weak economies. Droughts, famines, and heat waves hit Africa especially hard, adding insult to colonial injury. Poor neighborhoods (often black and Hispanic) in the United States are more likely to be situated near landfills and trash collection centers, or plants and factories that spew toxins. Minorities are more likely to work dirty, dangerous jobs such as coal mining. And when natural disasters strike, they're least likely to receive aid and to recover quickly; when Sandy hit New York, Wall Street was drained, rebuilt, and fortified within a few weeks, while more than two years after the storm, Queens and Brooklyn residents are still resetting their lives.

Because those with lower socio-economic statuses have less mobility, they can't relocate to better areas. And because they have little capital and few political connections, they have a more difficult time altering government policy. In times like these, the people have no option left but to take to the streets, as they did in September worldwide at the People's Climate March. The Natural Resources Defense Council explains,

Championed primarily by African-Americans, Latinos, Asians and Pacific Islanders and Native Americans, the environmental justice movement addresses a statistical fact: people who live, work and play in America's most polluted environments are commonly people of color and the poor. Environmental justice advocates have shown that this is no accident. Communities of color, which are often poor, are routinely targeted to host facilities that have negative environmental impacts—say, a landfill, dirty industrial plant or truck depot. The statistics provide clear evidence of what the movement rightly calls “environmental racism.” Communities of color have been battling this injustice for decades.⁸

The solution, then, is to implement environmental justice. The EPA defines the term as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”⁹ An environmentally just world not only stops climate change and protects natural resources. It also ensures that those

⁸Renee Skelton and Vernice Miller, “The Environmental Justice Movement,” Natural Resources Defense Council, October 12, 2006, <http://www.nrdc.org/ej/history/hej.asp>.

⁹“Environmental Justice,” Environmental Protection Agency, <https://www.epa.gov/environmentaljustice>.

resources are distributed evenly among all people, that political systems do not privilege the well-educated and well-connected, and that entrenched social customs do not hold back certain identity groups. Ideally, natural resources are used in a sustainable way—that is, by using only what nature can replenish. But economic resources, too, are rationed and distributed equally, so that no one can hoard wealth or prevent the lowest rungs of society from climbing the economic ladder.

As a result of sustainable resources use and a sustainable economic system, social systems should also emerge in a manner that sustains human dignity and establishes the equality of human beings. To get to this better world, policies that uplift underprivileged groups such as women, racial minorities, the disabled, and those who identify as gay, lesbian, or bisexual require special consideration. Contraception, abortion, policies to close wage gaps, the legal recognition of gay marriage, affirmative action, and other social measures are thus linked with social sustainability. Social repression, it suggests, mimics environmental repression.

The International Society of Sustainability Professionals publishes a short guide, “Confused about Social Sustainability?” that spells out the basics of social sustainability initiatives in developed countries. Among its recommendations are curbing use of minerals and resources (such as many involved in cell phones and other electronics) that are associated with guerrilla conflicts in places like the Congo; holding businesses responsible for the outcomes associated with their products (i.e., rejecting the National Rifle Association’s slogan that it’s people, not guns, that kill); awarding jobs on the basis of social justice criteria to prioritize, for instance, the homeless; and offering free on-site day care to employees’ children.¹⁰

Anthony Cortese, former president of Second Nature, spelled out what this ideal of sustainability might look like:

Imagine a society in which all present and future humans are healthy and have their basic needs met. What if everyone had fair and equitable access to the Earth’s resources, a decent quality of life, and celebrated cultural diversity?¹¹

¹⁰Darcy Hitchcock and Marsha Willard, “Confused about Social Sustainability? What It Means for Organizations in Developed Countries,” International Society of Sustainability Professionals, https://www.sustainabilityprofessionals.org/sites/default/files/Confused%20about%20social%20sustainability_0.pdf.

¹¹Anthony D. Cortese, “The Critical Role of Higher Education in Creating a Sustainable Future,” *Planning for Higher Education* 31, no. 3 (March–May 2003): 15, <https://www.scup.org/sustainability/telecast-resources/cortese.pdf>.

Thus old-school conservation, technology-based solutions to global warming, and individual choices to consume less are insufficient to achieve sustainability. A sustainable world involves social and economic shifts as well.

Global Warming: No

Others are not so sure—that global warming is happening, that man is causing it, that the warming is significant enough to be dangerous, that social and economic woes are causatively linked to environmental ones, or that sustainability is the right agenda for higher education. Our critique in this book focuses on the last two. But in fair-mindedness, here is the case against dangerous anthropogenic global warming.

There are many distinct cases against the existence of global warming, man's role in causing it, and the need to urgently stop it. In general, the skeptics hesitate to extrapolate long-term predictions from inherently volatile weather conditions. The earth's global mean temperature has defied the projections that the IPCC has set down in its periodic assessment reports, and in its most recent report, the IPCC was forced to quietly lower its predictions. In the release of its Fifth Assessment Report in 2013, the IPCC predicted a temperature increase of 0.3 to 4.8 degrees Celsius, down from 1.1 to 6.4 degrees Celsius in the Fourth Assessment Report (2007).

Still, surface temperatures have registered below even the lower bound of the IPCC's 2013 projection. Nor is it clear that recent temperatures have been skyrocketing or that 2014 was exceptionally hot. Many data sets indicate temperatures stabilizing and flattening since 1998. Three main research centers compile the global average surface temperature in real time: NOAA, the UK Met Office Hadley Centre, and NASA's Goddard Institute for Space Studies.¹² All three show 2014 temperatures very close to those in 2010, the warmest year on record. The differences are small enough that they are not statistically significant. NASA's dataset shows 2014 as 0.02 degrees Fahrenheit warmer than 2010—well within the margin of error of plus or minus 1 degree Fahrenheit.¹³

Other research groups measure the temperature of the lower atmosphere, rather than the earth's surface, in an attempt to get a more even record

¹²Two other groups also compile surface temperature data, but one, the Berkeley Earth group, does not update in real time and so does not have data to tell whether 2014 is hottest or not. And the other, developed by Kevin Cowtan and Robert Way from the University of York, uses a contested method to "fill in" missing data.

¹³David Whitehouse, "2014 Global Temperature Stalls Another Year," Global Warming Policy Foundation, January 16, 2015, <http://www.thegwpcf.com/2014-global-temperature-stalls-another-year/>.

undisturbed by the urban heat island effect. Data from atmospheric readings indicate that the earth is several tenths of a degree cooler than 1998, the hottest year on record since these measurements began in 1979. In December 2014, both the Remote Sensing Systems and the University of Alabama–Huntsville datasets showed 2014 in line to rank among the top five warmest years, but not as the warmest one of all.¹⁴

So where's the missing heat? Pro-global warming scientists have come up with a lengthy series of theories to explain the recent decline in temperatures, but none has been conclusive. The current theory physicists are flirting with is the idea that the Atlantic Ocean is holding the heat and preventing it from warming up the surface of the land.¹⁵ Eventually the oceans will get too hot, though, and the rest of the globe will start warming again. Before that theory took hold, scientists thought it might be the Pacific harboring the heat, but that turned out to be false.¹⁶ Other theories blame China's increased use of coal¹⁷ and the recent rise in volcanoes,¹⁸ both of which emit sulfur dioxide into the atmosphere that bounces back the sun's rays; the success of the 1988 Montreal Protocol in banning chlorofluorocarbons, which deplete the ozone layer;¹⁹ and declines in atmospheric water vapor, which acts in tangent with greenhouse gases to trap heat.²⁰

There are other problems. The data is sketchy, and there are historical gaps in the records. Often climatologists have to piece together records from thermometer readings and proxy measures, such as samples of ice cores and tree rings, or else simply guess, in order to produce historical temperature

¹⁴Paul C. "Chip" Knappenberger and Patrick J. Michaels, "Current Wisdom: Record Global Temperature—Conflicting Reports, Contrasting Implications," *Cato at Liberty*, December 10, 2014, <http://www.cato.org/blog/current-wisdom-record-global-temperature-conflicting-reports-contrasting-implications>.

¹⁵Jane J. Lee, "Has the Atlantic Ocean Stalled Global Warming?" *National Geographic*, August 21, 2014, <http://news.nationalgeographic.com/news/2014/08/140821-global-warming-hiatus-climate-change-ocean-science/>.

¹⁶Ben Jervey, "Where Global Warming Went: Into the Pacific," *National Geographic*, February 11, 2014, <http://news.nationalgeographic.com/news/2014/02/140211-global-warming-pause-trade-winds-pacific-science-climate/>.

¹⁷Richard Black, "Global Warming Lull Down to China's Coal Growth," *BBC*, July 5, 2011, <http://www.bbc.co.uk/news/science-environment-14002264>.

¹⁸"Volcanic Aerosols, Not Pollutants, Tamped Down Recent Earth Warming, Says CU Study," *Be Boulder*, March 1, 2013, <http://www.colorado.edu/news/releases/2013/03/01/volcanic-aerosols-not-pollutants-tamped-down-recent-earth-warming-says-cu>.

¹⁹Francisco Estrada, Pierre Perron, and Benjamín Martínez-López, "Statistically Derived Contributions of Diverse Human Influences to Twentieth-Century Temperature Changes," *Nature Geoscience* 6 (2013): 1050–55, <http://www.nature.com/ngео/journal/v6/n12/full/ngео1999.html>.

²⁰Susan Solomon et al., "Contributions of Stratospheric Water Vapor to Decadal Changes in the Rate of Global Warming," *Science* 327, no. 5970 (March 5, 2010): 1219–23, abstract, <http://www.sciencemag.org/content/327/5970/1219.abstract>.

records. And the means of recording current temperatures are often unreliable. Anthony Watts, a veteran broadcast meteorologist, found during a 2009 examination of temperature stations across the country that 89 percent were poorly situated—often next to exhaust fans of air conditioning units or amidst dark asphalt parking lots—and failed the National Weather Service’s siting requirements. The margin of error on their temperature readings, calculated by the U.S. government, was between 2 and 5 degrees Celsius. The average surface warming that the IPCC had calculated, in part on the basis of these stations, was 0.7 degrees Celsius over the prior fifty years—significantly less than the margin of error.²¹

The widely circulated figure that 97 percent of all scientists believe global warming is dangerous and man-made also has been discredited. The survey that produced that statistic misclassified some global warming skeptics as proponents by wrongly labeling some of their research. It also counted those who believe that at least “some” global warming comes from human influence as supporters of the view that man-made global warming is dangerous.²² In fact, a number of scientists recognize mild global warming and attribute it to the increased human use of carbon-based fuels, but consider the current warming a net benefit rather than precursor to a greater harm.

While it is true that today’s global surface temperature and lower atmospheric temperature are both slightly warmer than they were fifty years ago, the increase is mild and unlikely to continue much further. The Earth experiences climate cycles regularly. For instance, the Medieval Warm Period, from about 950 to 1300 AD, dramatically warmed the earth—so much so that there are records of thriving lush farms in Greenland.

In fact, moderate warming may actually benefit the earth. Warmer temperatures and increased concentrations of carbon stimulate lush plant growth, while mild weather (as opposed to historically frigid eras) benefits human well-being. Bjørn Lomborg, the Danish environmental economist and founder of the Copenhagen Consensus, recognizes the existence of global warming but discounts its harms. He calculates that globally warmer temperatures could actually save as many as 1.4 million lives per year.²³ Princeton physicist and former director of energy

²¹Anthony Watts, *Is the U.S. Surface Temperature Record Reliable?* (Chicago: The Heartland Institute, 2009), https://www.heartland.org/_template-assets/documents/publications/SurfaceStations.pdf.

²²James Taylor, “Global Warming Alarmists Caught Doctoring ‘97-Percent Consensus’ Claims,” *Forbes*, May 30, 2013, <http://www.forbes.com/sites/jamestaylor/2013/05/30/global-warming-alarmists-caught-doctoring-97-percent-consensus-claims/>.

²³Bjørn Lomborg, “Global Warming Will Save Millions of Lives,” *Telegraph*, March 12, 2009, <http://www.telegraph.co.uk/comment/personal-view/4981028/Global-warming-will-save-millions-of-lives.html>.

research at the Department of Energy Will Happer testified to Congress in 2009, “I believe that the increase of CO₂ is not a cause for alarm and will be good for mankind,” for among other reasons because of its beneficial effects on plant growth.²⁴ Happer wrote in the *Wall Street Journal* in March 2012,

CO₂ is not a pollutant. Life on earth flourished for hundreds of millions of years at much higher CO₂ levels than we see today. Increasing CO₂ levels will be a net benefit because cultivated plants grow better and are more resistant to drought at higher CO₂ levels, and because warming and other supposedly harmful effects of CO₂ have been greatly exaggerated. Nations with affordable energy from fossil fuels are more prosperous and healthy than those without.

The direct warming due to doubling CO₂ levels in the atmosphere can be calculated to cause a warming of about one degree Celsius. The IPCC computer models predict a much larger warming, three degrees Celsius or even more, because they assume changes in water vapor or clouds that supposedly amplify the direct warming from CO₂. Many lines of observational evidence suggest that this “positive feedback” also has been greatly exaggerated.²⁵

It’s also unclear how much warming is due to human influence. Richard S. Lindzen, an MIT professor of meteorology, commented in the *Wall Street Journal*,

The main statement publicized after the last IPCC Scientific Assessment two years ago was that it was likely that most of the warming since 1957 (a point of anomalous cold) was due to man. This claim was based on the weak argument that the current models used by the IPCC couldn’t reproduce the warming from about 1978 to 1998 without some forcing, and that the only forcing that they could think of was man. Even this argument assumes that these models adequately deal with natural internal variability—that is, such naturally occurring

²⁴William Happer, “Climate Change: Statement of William Happer, Cyrus Fogg Brackett Professor of Physics, Princeton University, Before the U.S. Senate Environment and Public Works Committee, Senator Barbara Boxer, Chair,” U.S. Senate Environment and Public Works Committee, February 25, 2009, https://www.epw.senate.gov/public/index.cfm/hearings?Id=864D3319-802A-23AD-46A0-15D3B819178D&Statement_id=A5F5FB2F-0960-4954-8365-2E4650450D96.

²⁵William Happer, “Global Warming Models Are Wrong Again,” *Wall Street Journal*, March 27, 2012, <http://online.wsj.com/articles/SB10001424052702304636404577291352882984274>.

cycles as El Niño, the Pacific Decadal Oscillation, the Atlantic Multidecadal Oscillation, etc.

Yet articles from major modeling centers acknowledged that the failure of these models to anticipate the absence of warming for the past dozen years was due to the failure of these models to account for this natural internal variability. Thus even the basis for the weak IPCC argument for anthropogenic climate change was shown to be false.²⁶

The historical records show many periods of warming and cooling, many of them so ancient that it is unlikely man even had the technological capacity at the time to be responsible for them. And there is evidence that global temperature swings are caused by sun spots, changes in the sun's electromagnetic activity because of variations in the intensity of solar wind, and the power of El Niño, which suppresses the cold upwelling off of South America. Indeed, 1998, one of the warmest years on record, saw one of the largest El Niños in recent history. Even if the earth may be warming, it's not certain that the warming will continue, or that it will become dangerous.

Climategate

One cause for skepticism of anthropogenic global warming is because of high-profile scandals in the field of climatology. One of the best known, "Climategate," implicated some of the world's top climate scientists in a plan to keep out of the IPCC's publications any article skeptical of global warming, "even if we have to re-define what the peer-review literature is!"²⁷ They also worked together to selectively cull data that told the right story and modify or leave out data that did not. One of the most famous graphs implicated in Climategate was the "hockey stick" developed by University of Virginia climatologist Michael Mann that showed centuries of flat temperatures followed by rapidly increasing temperatures in the twentieth century.

On November 19, 2009, just prior to the UN Climate Conference in Copenhagen, and again on November 22, 2011, before the UN Climate Conference in Durban, South Africa, several thousand e-mails involving top climate scientists from the United States and United Kingdom were

²⁶Richard S. Lindzen, "The Climate Science Isn't Settled," *Wall Street Journal*, November 30, 2009, <https://www.wsj.com/articles/SB10001424052748703939404574567423917025400>.

²⁷James Delingpole, "Climategate 2.0," *Wall Street Journal*, November 28, 2011, <https://www.wsj.com/articles/SB10001424052970204452104577059830626002226>.

posted online (whether they were leaked or hacked is still unknown). The e-mail threads involved Mann and UK-based researchers at the Climatic Research Unit at East Anglia University who wrote the core of the IPCC's reports. When their independent research showed conflicting temperature graphs, they struggled with how to present their data. In a 1999 e-mail, Mann wrote to his colleagues,

Keith's series...differs in large part in exactly the opposite direction that Phil's does from ours. This is the problem we all picked up on (everyone in the room at IPCC was in agreement that this was a problem and a potential distraction/detraction from the reasonably consensus viewpoint we'd like to show w/ the Jones et al and Mann et al series.²⁸

Keith Briffa, the climatologist at the Climatic Research Unit whose tree-ring data showed declining temperatures since 1960, wrote,

I know there is pressure to present a nice tidy story as regards "apparent unprecedented warming in a thousand years or more in the proxy data" but in reality the situation is not quite so simple.²⁹

In the end they omitted some of the tree-ring proxy data showing temperature declines, and inflated other dissenting data. They also suppressed the Medieval Warm Period, the well-documented period of warm temperatures from about 900 to 1300 AD. Phil Jones, the director of the Climatic Research Unit, wrote to Mann and several others about his successful massaging of his data to reflect the "consensus" temperature charts:

I've just completed Mike's [Mann] Nature trick of adding in the real temps to each series for the last 20 years (ie from 1981 onwards) and [sic] from 1961 for Keith's to hide the decline.³⁰

Michael Mann's "trick" was to substitute thermometer data for proxy data and vice versa as necessary to produce the hockey stick-shaped graph, without noting these substitutions.

²⁸E-mail from Michael Mann to Keith Briffa, Chris Folland, and Phil Jones, September 22, 1999, <http://www.assassinationscience.com/climategate/1/FOIA/mail/0938018124.txt>.

²⁹E-mail from Keith Briffa to undisclosed recipients, September 22, 1999, <http://www.assassinationscience.com/climategate/1/FOIA/mail/0938018124.txt>.

³⁰E-mail from Phil Jones to Ray Bradley, Michael Mann, and Malcolm Hughes, November 16, 1999, <http://lrak.net/emails.html>.

The Climategate e-mails followed and confirmed earlier doubts about Mann's data. As early as 2003, Canadian economist Ross McKittrick and mining executive Stephen McIntyre began requesting original surface temperature data from Mann and his colleagues at the Climatic Research Unit and scrutinizing the numbers they found. The results of their examination, published in the journal *Environment and Energy*, found "collation errors, unjustifiable truncation or extrapolation of source data, obsolete data, geographical location errors, incorrect calculation of principal components and other quality control defects."³¹ Reversing Mann's errors and updating his data, they found that the temperature of the fifteenth century (at the end of the Medieval Warm Period) was warmer than any period in the twentieth century.

McIntyre and McKittrick found that Mann's computing model that synthesized different data series gave more weight to the handful of series that showed hockey stick shapes and depressed the weight of those that did not. The weighting of Mann's model was so strong that when McIntyre and McKittrick experimented with feeding random data into his model, they found the result was still the flat hockey stick handle followed by a sharply rising paddle.³²

In response, Mann argued that McIntyre and McKittrick had used a faulty version of his data and had failed to replicate his computer modeling system. Mann supplied McIntyre and McKittrick with a corrected version of his climate data, which they found to be nearly identical to the first set. He declined to release his full computer model.

In response to the Climategate scandal, the Climatic Research Unit announced that it no longer had the original data.³³ The University of East Anglia appointed two investigations. One, a Scientific Appraisal Panel of six university academics and chaired by Lord Ronald Oxburgh, investigated for three weeks and then released a five-page report. It cleared the Climatic Research Unit of any charges of "deliberate scientific malpractice" but acknowledged the Unit was "slightly disorganised" and that it would benefit from "close collaboration with professional statisticians."³⁴ A second UEA

³¹Stephen McIntyre and Ross McKittrick, "Corrections to the Mann et. al. (1998) Proxy Data Base and Northern Hemisphere Average Temperature Series," *Environment and Energy* 14, no. 6 (2003): 751, <http://www.uoguelph.ca/~rmckitri/research/MM03.pdf>.

³²Ross McKittrick, "What Is the 'Hockey Stick' Debate About?" Presentation at the APEC Study Group, Australia, April 4, 2005, <http://www.uoguelph.ca/~rmckitri/research/APEC-hockey.pdf>.

³³Steve Goreham, *The Mad, Mad, Mad World of Climatism* (Ashland, OH: New Lenox Books, 2012), 162.

³⁴"Report of the International Panel Set Up by the University of East Anglia to Examine the Research of the Climatic Research Unit," April 12, 2010, <http://www.uea.ac.uk/mac/comm/media/press/CRUstatements/SAP>.

report, the Independent Climate Change E-mails Review of five panelists under Sir Muir Russell, released a longer, 160-page report that found a “consistent pattern of failing to display the proper degree of openness” but no reason to doubt the scientists’ “rigor and honesty” or to “undermine the conclusions of the IPCC assessments.”

The House of Commons reviewed the incident as well. After five weeks it announced,

In the context of the sharing of data and methodologies, we consider that Professor Jones’ actions were in line with common practice in the climate science community....We are content that the phrases such as “trick” or “hiding the decline” were colloquial terms used in private e-mails and the balance of evidence that we have seen does not suggest that Professor Jones was trying to subvert the peer review process.³⁵

Mann is now embroiled in a lawsuit with his critics Mark Steyn, *National Review*, and the Competitive Enterprise Institute—though he is not the defendant but the accuser, charging them with libel. Mann is also suing in Canada skeptical scientist Tim Ball for alleged libel.

³⁵“The Disclosure of Climate Data from the Climatic Research Unit at the University of East Anglia,” House of Commons Science and Technology Committee, March 24, 2010, 163, <http://www.publications.parliament.uk/pa/cm200910/cmselect/cmsctech/387/387i.pdf>.