

Outside Counsel Issues of Proof In Climate Change Litigation

Expert Analysis

Charles Dickens famously wrote of the years just before the French Revolution, “It was the best of times, it was the worst of times.” That would be an apt description of the state of climate change litigation today.

In 2001, the Third Assessment Report (TAR) from the UN’s Intergovernmental Panel on Climate Change (IPCC) claimed to find unprecedented warming of global temperatures and that human carbon dioxide (CO₂) emissions were the likely cause. In the wake of that report, plaintiffs, including the states of New York, New Jersey and Connecticut, and New York City in 2004 launched litigation in New York seeking to prove the causal connection and obtain injunctions against major CO₂ emitters. Property owners in Mississippi brought similar litigation against other CO₂ emitters, alleging a connection between atmospheric CO₂ and Hurricane Katrina.

Both cases were quickly dismissed on political question grounds, but proceeded to languish in the respective courts of appeals for several years. Finally in the past few months, the U.S. Court of Appeals for the Second and Fifth circuits have issued their opinions, reversing the lower court dismissals and remanding for discovery and trial. Unless the appeals courts reverse themselves on petitions for rehearing or the Supreme Court steps in, plaintiffs will now get their long-awaited chance to prove in court that major emitters of carbon dioxide are causing harm to the climate.

But much has happened in the intervening years. The principal proof of unprecedented warming relied on by the New York/New Jersey/Connecticut complaint—which derived from the IPCC’s 2001 TAR—has since been proven flawed or erroneous. Temperatures have ceased their rise and

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have even declined. And on Nov. 19, 2009—subsequent even to the Second and Fifth circuit rulings—a large leak of e-mails and computer code from the UN’s principal source of temperature data showed the key UN authors engaged in unsavory conduct including data manipulation and obstruction of FOIA requests that had sought their raw data and computer codes.

Plaintiffs have been given the go-ahead to use evidence to prove the alleged fact of human-caused or ‘anthropogenic’ global warming.

On April 17, 2009, the Environmental Protection Agency (EPA) issued a proposed finding that so-called greenhouse gases in the atmosphere, principally CO₂, endanger human health through global warming. On Aug. 25, 2009, the U.S. Chamber of Commerce then called for the EPA to hold a trial to prove its assertion. The EPA did not respond, and on Dec. 7, 2009, issued its final endangerment finding without any trial having been held.

Thus, the current state of play is that numerous states, New York City, Mississippi property owners and environmental groups have been given the go-ahead by the appeals courts to use IPCC-derived evidence to prove the alleged fact of human-caused or “anthropogenic” global warming (AGW). But meanwhile, the IPCC’s evidence itself has

been called into serious question, and the EPA actively resists having a trial where that evidence can be examined. This article summarizes the Second and Fifth circuit decisions and the status of the IPCC’s principal evidence of alleged AGW.

Two Decisions

The Second Circuit decision came in *Connecticut v. American Electric Power Co., et al.*, 582 F.3d 309 (2d Cir. 2009). There the various states and New York City, claiming common law nuisance, had sued major coal-using utilities including American Electric Power, Tennessee Valley Authority, Southern Company, Xcel Energy and Cinergy. Environmental groups brought a companion case.

In September 2005, Judge Loretta Preska of the Southern District of New York dismissed the cases as raising non-justiciable political questions.¹ The Second Circuit appeal was argued before Judges Peter Hall, Joseph McLaughlin and Sonia Sotomayor on June 7, 2006, and then not heard from for over three years. Judge Hall’s Sept. 21, 2009 ruling reversed Judge Preska’s holding of non-justiciability, found claims of federal common law of nuisance adequately pled, and found adequate basis for standing both for the governmental and environmental plaintiffs.

The Fifth Circuit decision, *Comer v. Murphy Oil USA, et al.*, 585 F.3d 855 (5th Cir. 2009), arose out of claims by Mississippi landowners for damage due to Hurricane Katrina, this time blaming the damage on AGW arising from carbon emissions from a long list of U.S.-based oil and coal producers, chemical companies, and coal-using utilities. The District Court for the Southern District of Mississippi (Judge Louis Guirola) had dismissed in an unpublished opinion, also on grounds of non-justiciable political question. Plaintiffs filed their appeal in 2007, again to see it wait without decision for several years. The opinion of Judge James Dennis was issued on Oct. 16, 2009.

Like the Second Circuit in *Connecticut*, the Fifth Circuit reversed on the political question issue, and held that plaintiffs had pleaded adequate facts to support standing for their claims of nuisance, trespass, and negligence. The Fifth Circuit left it to the District Court

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to determine whether the state common law claims had been adequately pled.

Neither the Second nor the Fifth circuit decision had a dissent, but that has not prevented appellees in the two cases from seeking rehearing. Appellees filed a petition in the Second Circuit on Nov. 5. Those appellees may also seek Supreme Court review.

Temperature Data

Assuming that plaintiffs will now get the chance to prove their case, what is it that they seek to prove? The states' complaint in *Connecticut*, filed in 2004, contains factual allegations setting forth in some detail the alleged scientific evidence for the AGW hypothesis. Attached to the complaint are exhibits showing millennial temperature reconstructions, a graph of the instrumental temperature record of the 20th century, and projections for the coming century, all in the iconic "Hockey Stick" form made famous by the Summary for Policy Makers of the IPCC's 2001 TAR.² The Hockey Stick derives its name from the shape of the graph, in which a long "handle" depicts essentially level temperatures for the 900 years from 1000 to 1900, followed by a "blade" of temperatures heading straight up in the era of human CO₂ emissions beginning in the 20th century.

The main portion of the hockey stick-shaped graph in the exhibits to the *Connecticut* complaint appears to be exactly the chart that appeared in the IPCC TAR, which many readers would also recognize from Al Gore's movie "An Inconvenient Truth." It derives from articles by Mann, Bradley and Hughes that appeared in the peer-reviewed scientific publications *Nature* in 1998³ and *Geophysical Research Letters* in 1999,⁴ articles that had concluded based on the reconstruction that the 1990s were the "hottest decade" and 1998 "the hottest year of the millennium."

The Hockey Stick reconstruction first came under serious attack in a 2003 article published in another peer-reviewed scientific publication, *Energy and Environment*,⁵ by two Canadians, Stephen McIntyre and Ross McKittrick, and followed by another article by the same authors in 2005 in *Geophysical Research Letters*.⁶ McIntyre and McKittrick claimed that Mann et al. had achieved the hockey stick shape of their graph by flawed statistical methods, ultimately deriving a purported world temperature reconstruction by placing most of the weight on a few tree ring samples that could not be considered valid temperature proxies.

The controversy ultimately made its way to the U.S. House of Representatives, where the chairs of two committees in 2006 asked for a blue ribbon panel of statisticians to evaluate the conflicting claims of Mann et al. on the one hand and McIntyre and McKittrick on the other. The panel was chaired by Edward Wegman, past chair of the National Research Council's Committee on Applied and Theoretical

Statistics. Wegman et al. issued their report in 2006⁷—while the *Connecticut* case was already before the Second Circuit. The Wegman report concluded:

While the work of Michael Mann and colleagues presents what appears to be compelling evidence of global temperature change, the criticisms of McIntyre and McKittrick, as well as those of other authors mentioned are indeed valid.

Overall, our committee believes that Mann's assessments that the decade of the 1990s was the hottest decade of the millennium and that 1998 was the hottest year of the millennium cannot be supported by his analysis.

As the alleged science behind global warming claims has run into problems, the claim of consensus has become harder and harder to sustain.

Besides the Mann millennial temperature reconstruction, the *Connecticut* complaint contains two other key pieces of claimed scientific evidence: (1) a graph portion showing 20th century temperatures based on what are called "Global instrumental observations," with the graph showing rapid temperature increases in that time frame, and (2) temperature projections for the twenty-first century, based on what are called "Several models," showing projected world temperature increases from about 2 to 5 degrees Celsius by 2100.

Examining the Data

With regard to the 20th century instrumental record, the *Connecticut* complaint does not specify its source of the data, but there are two main sources of such information for that time frame, the Goddard Institute of Space Studies (GISS) (part of NASA, based at Columbia University in Manhattan), and the Climatic Research Unit (CRU) of the University of East Anglia in England. Both collect historical temperature data from ground-based thermometers around the world. Both sources have also been subject in the past two years to serious questions about the integrity and reliability of their data, leaving many wondering whether much or even all of the apparent temperature increase in the 20th century may in fact fall within the margin of error of the data.

While GISS collects data from around the world, its best and most comprehensive data comes from within the United States, with relatively few stations in such places as Africa or South America. In mid-2007—with the Second Circuit *Connecticut* appeal sub judice and in response to probing questions from the ubiquitous Steve McIntyre—GISS reluctantly admitted that it had made an error

in processing temperature records from U.S. stations, which error it attributed to Y2K issues.⁸ Correcting the error, GISS reported that in the United States, 1998 had been supplanted as the warmest year of the prior century by 1934, with third place now assumed by 1921.⁹ Those changes made it impossible any longer to draw a sharply upward-sloping 20th-century temperature graph for the United States. Nevertheless, both the *Connecticut* and *Comer* complaints seek relief based on harm from alleged dramatic 20th-century warming in or around the United States.

Meanwhile, the CRU data set purports to show even more sharply increasing temperatures than the GISS data. However, the guardians of the data, led by CRU head Phil Jones, have long notoriously refused to make their raw data available for examination by any independent entity, instead releasing data only in what they call "value added" form, subject to unspecified adjustments. Steve McIntyre began sending FOIA requests demanding the raw data and precise adjustments to Mr. Jones as early as 2007, and by 2009 Mr. Jones was getting peppered by FOIA requests from numerous sources. On Aug. 11, 2009, with its ability to delay responding to the requests running out, CRU released a statement¹⁰ claiming that "we were not able to keep" much of the original data on which its claims of rapid 20th century temperature increase were based:

Data storage availability in the 1980s meant that we were not able to keep the multiple sources for some sites, only the station series after adjustment for homogeneity issues. We, therefore, do not hold the original raw data but only the value-added (i.e. quality controlled and homogenized) data.

Then on Nov. 19, 2009, came the release by an apparent whistleblower at CRU of over 1,000 e-mails and many files of computer code constituting communications among the principal scientists controlling the UN IPCC process. Among other things, the e-mails contained the strong suggestion that rather than being somehow "not able to keep" information sought by FOIA requests, there had in fact been systematic deletion of documents.

One e-mail authored by Mr. Jones and dated Dec. 3, 2008—a time when FOIA requests were pending—discusses specifically how he was dealing with the FOIA requests, and contains the following quote: "About two months ago I deleted loads of emails, so have very little—if anything at all."¹¹ Other e-mails refer to manipulation of data for presentation in the UN reports. One frequently-quoted e-mail refers to use of a "trick" to "hide the decline" in the values of proxies used to estimate temperatures from hundreds of years ago, to avoid having to show that proxy values and modern temperatures had diverged significantly.¹² Some of the computer code contains routines for crude adjustments of

temperature data to lower temperatures in earlier years and raise temperatures in later years, with programmer comments labeling the adjustments as “artificial.”¹³ Although CRU representatives have admitted the authenticity of the leaked information, no one from CRU has yet come forward to offer any innocent explanation for why such code might exist.

Meanwhile, scientists investigating the adjustments added to raw data by the official keepers have begun reporting massive and unexplained upward adjustments in the later years at many stations. A particularly egregious example has been reported at Darwin, Australia.¹⁴

Projecting Increases

The final alleged scientific basis of the *Connecticut* claims consists of models purporting to project temperature increases of about 2 to 5 degrees Celsius by 2100 based on accumulating CO₂ in the atmosphere. The graph attached to the states’ complaint runs the projections from about the year 2000, with the projected line going nearly straight up and temperatures therefore having increased by 2010 by .2 to .5 degrees Celsius.

Since 1979, satellite measurements of world temperatures have become available, greatly enhancing the accuracy of information over the prior scattered thermometers, and providing a test of the models. Rather than following the sharp upward trajectory predicted by the models (and displayed in the *Connecticut* complaint), temperatures since 1998 as measured by the satellites have been flat or declining.

Satellite data released by the University of Alabama at Huntsville show that one month in 2008 had temperatures as low as a full degree Celsius below the 1998 peak, and the most recent month available, November 2009, was approximately .3 degrees Celsius below that peak.¹⁵ That left the models at least .5 degrees Celsius, and as much as 1.4 degrees Celsius, off their predictions after just ten years—compared to an entire reported 20th century warming of less than 1 degree Celsius, and even that only if one accepts the accuracy of the CRU data. Thus many are now questioning whether the models should be declared falsified.

Consensus Questioned

The ultimate claim of the states’ complaint is this: “There is a clear scientific consensus that global warming has begun and that most of the current global warming is caused by emissions of greenhouse gases, primarily carbon dioxide from fossil fuel combustion.” As the alleged science behind global warming claims has run into problems, the claim of consensus has become harder and harder to sustain.

For example, in March 2009, the U.S. Senate minority published a report citing more than 700 international scientists disagreeing with the “consensus.”¹⁶ In May 2009, in response to a request from 80 members, the American

Physical Society agreed to appoint an ad hoc committee to review and advise on whether it should change its position favorable to the AGW hypothesis.¹⁷ The Society proceeded to reaffirm its position without polling its members, but continues to face internal turmoil. On June 22, 2009, the American Chemical Society’s Chemical and Engineering News published an editorial by its editor-in-chief supporting the AGW hypothesis, only to be met by an outpouring of dozens of letters from members published in the July 27 issue castigating the editorial as everything from “filled with misinformation” to “unworthy of a scientific publication.”¹⁸

On Oct. 29, 2009 a group of five scientists sent an open letter to all U.S. Senators stating that “the claim of consensus is fake.”¹⁹ Most recently, since the Nov. 19 leak of CRU files, numerous scientists have stepped forward to say things such as that climate science has been “hijacked and corrupted” and that the e-mail leak constitutes the “death blow.”²⁰

On Oct. 24, 2009, Dr. Roy Spencer, the University of Alabama climatologist responsible for publishing the satellite temperature data, posted a blog post characterizing the AGW hypothesis as an “urban legend.”²¹

The plaintiffs in the *Connecticut* and *Comer* cases have been granted their wish of having the chance to put the AGW hypothesis on trial. But sometimes you have to be careful what you wish for. It may be the best of times for the climate change plaintiffs; or the worst of times.



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