

# spotlight

No. 277 – January 18, 2006

## STATE CAN'T CHANGE THE WEATHER *Even Global CO<sub>2</sub> Reductions Have Little Impact*

**S U M M A R Y :** Dr. Thomas Wigley from the U.S. National Center for Scientific Research has calculated that if the Kyoto Protocol were implemented with 100% compliance it would reduce the increase in global temperatures by between 0.18° F and 0.37° F in 100 years. This amount would be undetectable by standard measuring devices. It is unreasonable therefore to expect that North Carolina, acting along or in consort with other states, could do anything to mitigate future global warming.

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There is very little surrounding the debate on global warming that is not controversial. Some scientists cite ground-level temperature data that shows more warming, while others cite satellite and weather balloon data that shows less. Some people focus on climate model forecasts that predict significant temperature change, while others, including AccuWeather.com meteorologist Joe Bastardi<sup>1</sup>, focus on historical climate records, which suggest that current warming trends are consistent with natural variation.

Nevertheless, one projection has gone completely undisputed and been accepted by scientists on both sides of the global warming divide. It is a projection made by climatologist Dr. Thomas Wigley at the U.S. National Center for Scientific Research. In a 1998 *Geophysical Research Letter* article, Wigley concluded that if all the countries that were party to the original United Nations Kyoto treaty on global warming — including the United States, which has since decided not to participate — were to comply fully with the treaty, the effects of that 100 percent compliance would be “small” and “undetectable for many decades.”<sup>2</sup>

What did Wigley mean by “small” and “undetectable”? Wigley calculated that average global temperatures by 2050 would only be 0.126° Fahrenheit (12.6 *hundredths* of a degree) cooler under full compliance with the global-warming treaty than they would be if nothing were done, “business as usual.” This amount of cooling is so small that it would be undetectable by any conventional temperature-measuring device.

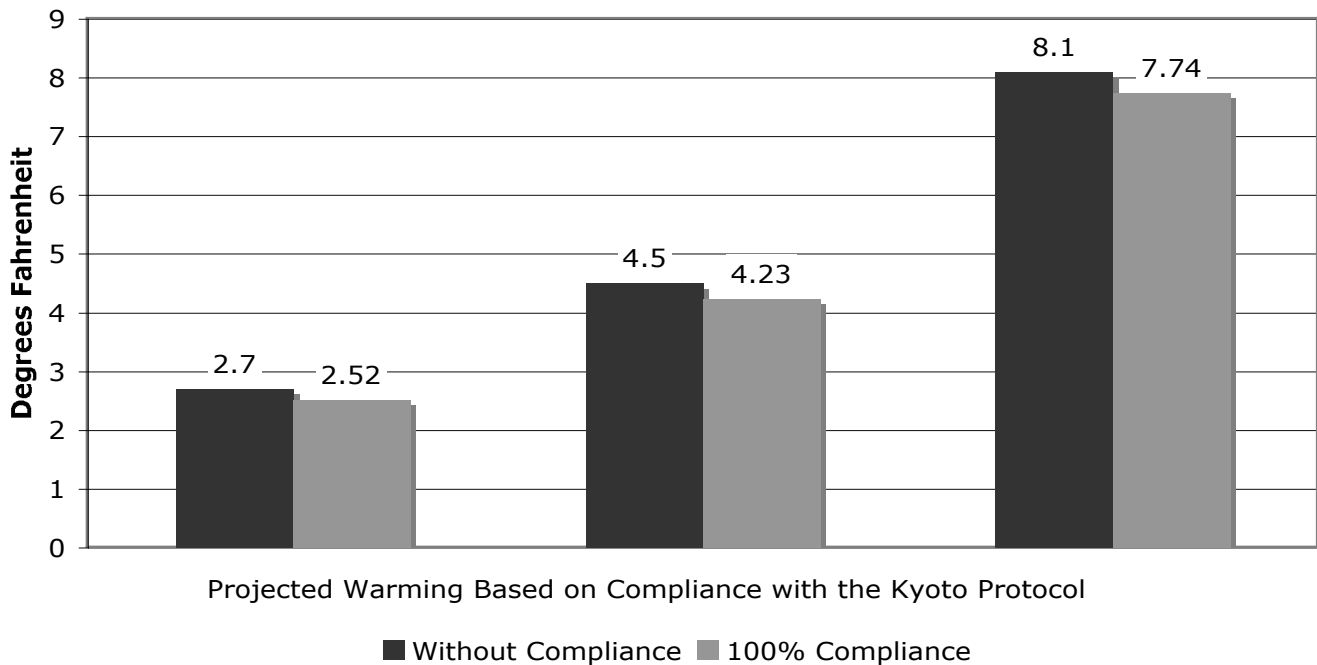
For 100 years out — that is, by the year 2100 — Wigley looked at scenarios involving three different projections (see the graph on the next page) that have been debated as possible results from a doubling of carbon dioxide (CO<sub>2</sub>) in

200 W. Morgan, #200  
Raleigh, NC 27601  
phone: 919-828-3876  
fax: 919-821-5117  
www.johnlocke.org

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## Kyoto Temperature Effects for the Year 2100: Three Warming Scenarios

This bar graph shows three projected climate scenarios for the year 2100. In each case the darker bar shows the amount of projected warming if nothing is done with respect to Kyoto (i.e., the “business as usual” scenario), and the lighter bar show Wigley’s estimates of the lesser warming that would occur if the Kyoto Protocol were implemented with 100% compliance by all the nations that were originally part of the treaty.<sup>3</sup>



the atmosphere. CO<sub>2</sub> is the greenhouse gas most frequently targeted by those who argue that global warming is human-induced and should be dealt with through public policies. It is also the gas targeted for reduction by the Kyoto Protocol. As shown in the accompanying graph, even in the most extreme of the projections — an 8.1° (F) increase in temperatures — 100 percent compliance with the Kyoto agreement would bring about only the slightest reduction in warming: 0.37° (F). In other words, the global temperature would increase by 7.74° (F) instead of by the 8.1° (F) it would otherwise do under a “business as usual” scenario.

For the more modest warming projections of 2.7° or 4.5° (F), the U.N. treaty would bring about a reduction of only 0.18° or 0.27° (F) from the “business as usual” scenario. Those amounts are so small that they would be undetectable with common measuring devices.

Wigley was quoted in the March 18, 2005 *Christian Science Monitor* as saying, “we can’t stop this so how do we live with it?”<sup>4</sup> It should be noted that Wigley is not a global warming optimist but is closely aligned with what might be called the alarmist position on climate change. He is a true believer in the notion that global warming will be dramatic and is mostly induced by human activity, as opposed to natural fluctuations in the climate.

### What This Research Means for the North Carolina Global Warming Commission

The reason why Wigley’s research is important for North Carolina is that a new commission has been formed by the General Assembly to examine whether the state should pursue policies that would result in a reduction in greenhouse gas emissions, primarily carbon dioxide. The foundational question that the North Carolina Legislative Commission on Global Climate Change is supposed to address relates directly to Wigley’s analysis. According to the establishing legislation, the commission is to pursue “an examination of the emissions of greenhouse gases from within the State and the extent to which reductions in the emissions of these gases in the State, region, nation, and worldwide

could be expected to affect global climate change.”<sup>5</sup>

By working back from Wigley’s estimates of the effects of the Kyoto Protocol, we can get a reasonably clear picture of the impact that greenhouse gas reductions from North Carolina would have on global climate. Greenhouse gas reductions from North Carolina wouldn’t have *any* detectable impact on the global climate.

Wigley’s conclusions address the last piece of the legislative mandate. It looks at the extent of the impact that the *worldwide reductions* in CO<sub>2</sub> required by the Kyoto Protocol would have on global climate. Again, they would be undetectable by common measuring devices — and those are after *worldwide* reductions.

Furthermore, the UN Treaty would require most industrialized countries to reduce CO<sub>2</sub> emissions to 5 percent below 1990 levels. It would have required the U.S., had we decided to participate, to reduce its emissions to 7 percent below 1990 levels. According to the U.S. Energy Information Agency (EIA), as of 2004 the United State was already about 16 percent above 1990 levels.<sup>6</sup> This means that we would need to reduce current CO<sub>2</sub> emissions by about 20 percent to comply with Kyoto.

Wigley estimates that even those dramatic reductions would have an imperceptible impact on global climate. The EIA, on the other hand, estimates that they would cost the U.S. about 4 percent in GDP and eliminate millions of jobs from the economy.<sup>7</sup> So although the benefits of the reductions would be imperceptible, the costs would be severe and painful.

## Conclusion

The implication of Wigley’s research is that there is nothing North Carolina can do, either acting alone or in consort with other states, to affect either the long- or the short-run trend in global temperatures.

If any policies proposed by the North Carolina Global Warming Commission are to be taken seriously, the commission must come to terms with Wigley’s research. Other aspects of the commission’s legislative responsibilities require it to show that the benefits of its policy proposals, in terms of global climate change, outweigh the costs. Unless the commission can show that Wigley’s calculations are incorrect, this second aspect of its analysis becomes moot.

*Dr. Roy Cordato is vice president for research and a resident scholar at the John Locke Foundation.*

## Notes

1. Joe Bastardi, “Put Global Warming in the Context of History,” Durham *Herald-Sun*, May 15, 2005, [http://www.johnlocke.org/acrobat/articles/bastardi,\\_herald-sun%5B1%5D.pdf](http://www.johnlocke.org/acrobat/articles/bastardi,_herald-sun%5B1%5D.pdf)
2. Thomas Wigley, “The Kyoto Protocol: CO<sub>2</sub>, CH<sub>4</sub> and Climate Implications,” *Geophysical Research Letters*, July 1, 1998
3. *Ibid.*
4. Peter N. Spotts, “How to prepare a planet for global warming,” *The Christian Science Monitor*, March 18, 2005, <http://www.csmonitor.com/2005/0318/p02s02-usgn.html>
5. S.B. 1134, “An Ac To Establish the Legislative Commission on Global Climate,” 2005, <http://www.ncga.state.nc.us/Sessions/2005/Bills/Senate/HTML/S1134v7.html>
6. “Emissions of Greenhouse Gasses 2004,” The U.S. Energy Information Agency, Office of Integrated Analysis and Forecasting, U.S. Department of Energy, Washington, DC 20585, [http://www.eia.doe.gov/oiaf/1605/ggrpt/cdemissions\\_tbls.html](http://www.eia.doe.gov/oiaf/1605/ggrpt/cdemissions_tbls.html)
7. “Impact of the Kyoto Protocol on U.S. Energy Markets and Economic Activity,” U.S. Department of Energy, prepared for the Committee on Science, U.S. House of Representatives, October 1998, <http://www.eia.doe.gov/oiaf/kyoto/kyotobtxt.html>