

DEPARTMENT OF ENVIRONMENTAL SCIENCES

CLARK HALL • UNIVERSITY OF VIRGINIA • CHARLOTTESVILLE • VIRGINIA • 22903
FAX # (804) 982-2137 (804) 924-7761

February 1, 1991

The Honorable George H. Bush
The White House
Washington, DC

Dear Mr. President:

In October 1990, thirty environmental scientists of national and international reputation met in Phoenix for a symposium sponsored by the Laboratory of Climatology at Arizona State University to address the problem of global climatic change. Together they produced a Research Agenda titled "Global Climatic Change: A New Vision for the 1990s."

While all of these scientists agree that the Earth will undergo some warming, they are concerned about the mounting and compelling evidence that the "popular vision" of apocalyptic climate change -- a global temperature rise of 4°C, disastrous sea level rise, and civil strife resulting from ecological chaos -- is dramatically distorted. Our concern becomes more urgent as calls for economically significant remedies become more strident.

The working hypothesis of this group of scientists is that the impact of future climatic change is likely to be much less detrimental than generally expected, perhaps even neutral or beneficial. The lines of evidence include:

- *The Magnitude of Observed Warming.* The historical record of observed temperature change suggests global warming for a doubling of carbon dioxide will be far below the 4.2°C that fuels the popular vision. The satellite record further indicates that even these historical records are overestimating what small warming has occurred. The disagreement may mean either that the climate models are not yet sufficiently reliable or that other processes, not portrayed in the models, mitigate the CO₂ impact.

- *The Timing of Observed and Projected Warming.* New generation climate models project most of their warming in high latitude winter, which partitions most warming into the night. This mitigates most of the deleterious effects that fuel the popular vision and in fact lengthens growing seasons. The warmth of 1990 was consistent with this projection as were last year's world-averaged record crop yields.

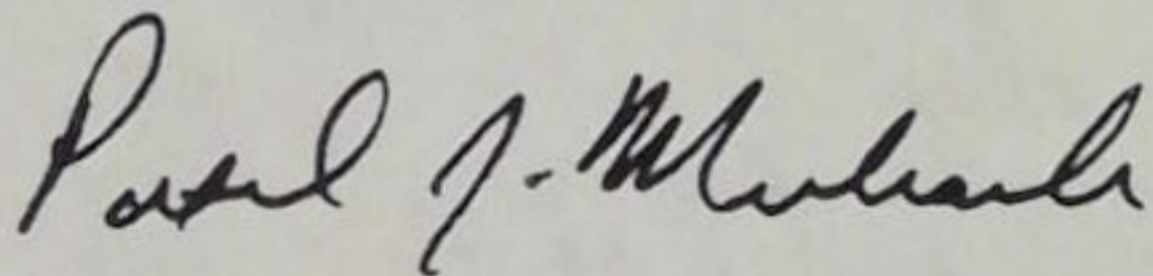
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- *The Growth Enhancement Caused by Carbon Dioxide.* Carbon dioxide is currently a limiting nutrient for plants, and a voluminous scientific literature demonstrates enhanced growth and water use efficiency as CO₂ concentration increases.

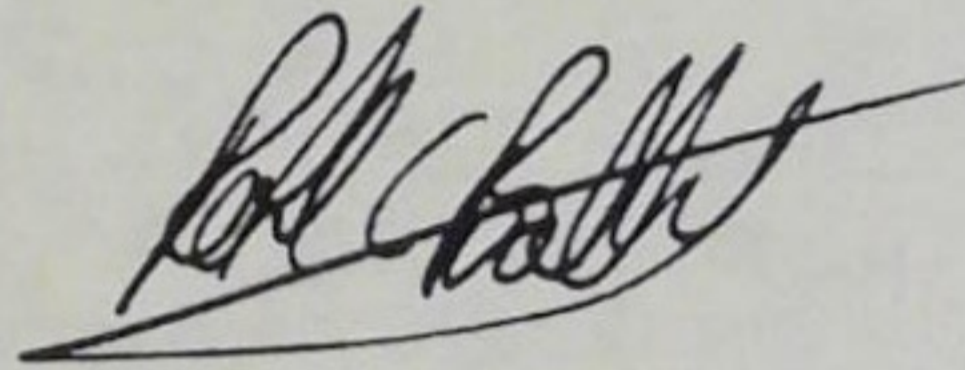
It is truly ironic that the highly politicized nature of the global warming problem tends to suppress support for research that may lead to a more balanced view of the future. Most "global change" programs have bloomed because of the specter of an apocalypse. They can not rationally be expected to be enthusiastic about research that compromises their "raison d'être."

We urge you to bring the enclosed research documents to the attention of appropriate federal research agencies as well as the private sector, which may be more disposed to support research that could lead to a balanced assessment of the issue. This is especially true when a premature attempt to deal with, what in fact may be, a misinterpreted problem could lead to precipitous economic dislocations.

Sincerely,



Patrick J. Michaels
University of Virginia



Robert C. Balling, Jr.
Arizona State University