

Politics and Science: Is Science Politicized?

By William O'Keefe, President, and Jeff Kueter, Executive Director

Serious charges alleging the misuse of science by the Bush Administration have captured public and political attention recently. The allegations assert that the Bush Administration has "suppressed or distorted scientific analyses . . . to bring these results in line with Administration policy" and that "the scope of manipulation, suppression and misrepresentation . . . is unprecedented."¹ A member of Congress leveled similar charges late last year.² These are very serious claims deserving careful evaluation. However, there are reasons for skepticism.

Politics and Science: A Permanently Politicized Relationship

The recent reports create the impression that the Bush Administration's use of science in the policy process is somewhat unique and beyond reasonable bounds. The George C. Marshall Institute and the Hoover Institute recently published a book, *Politicizing Science: The Alchemy of Policy Making*, in which we document that politicizing science is bipartisan rather than the product of one side of the political spectrum.³

Politics and science are intrinsically related and are simply part of the modern world. Politics, the art and practice of governing, involves striking balances that are generally in line with the views and values of groups that together constitute a majority. In the real world, politicians are inclined to focus on scientific results that support their policy preferences. Similarly, some scientists tailor their research and slant interpretations as a way to curry favor, gain funding, and enhance recognition of their work.

The media, which now plays a larger role in shaping public opinion on public policy issues, often uses work that has circumvented the scientific peer review and replication process to feed political expediency. Both scientists and politicians regularly use the media to frame public policy issues in ways that are favorable to their preferred positions. While some see this as informing the public, it often is nothing more than clear manipulation. This tactic is effective because of what the late historian Daniel Boorstin saw as a growing gap between what an informed citizen can know and should know.⁴ Over reliance on the media and sound bites have led to a situation where citizens are losing their capacity for skepticism, which results in their willingness to accept what the media says without question. Reality often is now measured against created images instead of the reverse.

The report from the Union of Concerned Scientists (UCS) looks like a case in point. It has the appearance of a thoroughly investigated document, accompanied by a statement signed by a number of prominent scientists. However, we are struck by a number of troubling points. Much of the support for the allegations is rumor, unnamed sources, and anecdote. This is far from the kind of rigor that should be expected from a group attempting to defend the integrity of science. In addition, while the scientists who signed the statement are prominent in their respective fields, we wonder how many, if any, are knowledgeable about the long list of issues cited by the

The Marshall Institute Policy Outlook series will periodically examine important issues affecting science and public policy. Particularly focused on the use of scientific information in formulating policy decisions, Policy Outlooks will aim to provide clarity and objectivity to policy-relevant discussions.

UCS? If they are not that familiar with these issues and the science, analysis and policy options associated with them, on what basis did they sign the statement? Most importantly, much of what the UCS and others claim is the ‘misuse’ of science is really disagreement over the interpretation of risk in the policy-making process.

Examining the Claims About Climate Change

The Marshall Institute follows a number of policy issues for which science is an important contributor. And yet, for a number of the issues cited, we do not have a basis for objectively judging all of the allegations. And, the UCS report certainly does not provide one.

We are very familiar, however, with the climate change issue. Here the UCS report is severely flawed. It distorts and manipulates facts and the state of knowledge to indict the Bush Administration. It states,

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“Despite the widespread agreement in the scientific community that human activity is contributing to global climate change, as demonstrated by the consensus of international experts on the IPCC, the Bush administration has sought to exaggerate uncertainty by relying on disreputable and fringe science reports and preventing informed discussion on the issue.”⁵

While this view is often repeated by the media, it is at odds with the scientific finding by the International Panel on Climate Change (IPCC) and the National Academies of Science (NAS). Both the UCS and Waxman reports rely heavily on the IPCC and NAS to support claims that the debate over the science of climate change is settled and that there is a consensus.

Unfortunately, that is a selective reading of

both reports. The IPCC and NAS reports make clear that it is not yet possible to distinguish natural variability from human influence and that many uncertainties require resolution to establish a solid understanding of the climate system and provide a reasonable basis for the computer models used to project future climate.⁶ Statements that suggest a greater degree of certainty than in fact exists are either ill informed or intentionally misleading.

Statements that greenhouse gases are accumulating in the atmosphere as a result of human activity, that they contribute to warming, that the temperature has increased in the past 50 and 100 years and that humans influence climate only tell us the obvious. How

these statements of fact are used in advocacy and news stories tell us a lot about the agenda and motivation of the groups and organizations using them. The plain facts are that we do not know how much human activity is influencing the climate and cannot know what temperature or climate will be 50 or

100 years from now. Most things which are that far in the future are essentially unknowable.

Both the UCS and Waxman reports cite White House efforts to edit sections dealing with climate change in an Environmental Protection Agency (EPA) document as evidence of politically-motivated intervention.⁷ They reference an ‘internal EPA memo,’ the author of which remains unknown, detailing the editorial changes sought by the Administration. The crux of the changes was the insertion of statements and qualifiers that the memo’s author felt “no longer accurately reflects scientific consensus on climate change.”⁸

What the consensus “is” is no longer that clear. In addressing ‘the effect of human activities,’ a National Research Council (NRC) review revealed the numerous qualifications and

assumptions one must accept before reaching this so-called consensus.

Because of the large and still uncertain level of natural variability inherent in the climate record and the uncertainties in the time histories of the various forcing agents (and particularly aerosols), a causal linkage between the buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established. The fact that the magnitude of the observed warming is large in comparison to natural variability as simulated in climate models is *suggestive* of such a linkage, but it does not *constitute proof* of one because the model simulations could be deficient in natural variability on the decadal to century time scale (emphasis added).⁹

Earlier in the document, the expert panel assembled to review the state of science used highly qualified language in describing the so-called 'consensus' view.

The changes observed over the last several decades are likely mostly due to human activities, but we cannot rule out that some significant part of these changes is also a reflection of natural variability . . . Because there is considerable uncertainty in current understanding of how the climate system varies naturally and reacts to emissions of greenhouse gases and aerosols, current estimates of the magnitude of future warming should be regarded as tentative and subject to future adjustments (either upward or downward).¹⁰

If anything, the prevailing view appears to be that we are not able to answer many significant questions about climate change and, at this point, the evidence available is

"suggestive" but does not "constitute proof." Yet, the UCS, the Waxman report, and numerous other critics are sharply critical of the Administration because they agreed with this interpretation rather than one preferred by the congressman and the UCS.

At the same time, critics are eager to ignore the tangible steps taken to reduce the uncertainties in the science and build the knowledge base. Revisions to the Climate Change Science Strategic Plan begun by the Administration in 2003 "made genuine overtures" to the research community and "indicate a strong interest on the part of the CCSP in developing a plan that is consistent with current scientific thinking and is responsive to the nation's needs for information on climate and associated global changes," according to an NRC review.¹¹ The goals of the CCSP are to:

- Improve knowledge of the Earth's past and present climate and environment, including its natural variability.
- Improve quantification of the forces bringing about changes in the Earth's climate and related systems.
- Reduce uncertainty and projections of how the Earth's climate and related systems may change in the future.
- Understand the sensitivity and adaptability of different natural and managed ecosystems and human systems to climate; and
- Explore the uses and identify the limits of evolving knowledge to manage risks and opportunities to climate variability.

This commitment is more than rhetoric. Federal expenditures on CCSP activities amount to nearly \$2 billion in the FY 2005 budget request by the President, which one respected analysis called "well above the funding levels of previous years."¹² Combined with that is a \$3 billion request for technology development aimed at reducing greenhouse gas intensity.¹³

The UCS also accuses the Bush Administration of attempting to insert “a reference to a discredited study of temperature records funded in part by the American Petroleum Institute.”¹⁴ The so-called “discredited” report was published in a peer-reviewed journal and was funded primarily by the U.S. Air Force, NASA, and NOAA.¹⁵ It was a review paper of over 200 reports of climate history and challenges an analysis relied on by the IPCC which concluded that the 20th century climate was unusual and was preceded by 1,000 years of relative stability.

One of the authors of the report is on the Marshall Board of Directors and we have published a summary of the report and a response to the attacks on it.¹⁶ A subsequent and independent analysis validated that the 20th century climate was not unusual and that claims of climate stability were based on inadequate and misused data.¹⁷

If these reviews of climate science and policy deliberations are so poor and inaccurate on the principal environmental issue of our time, how can any credibility be given to the other examples cited? It cannot. These studies are not analyses; they are propaganda to promote political agendas.

Improving the Value of Science

Preserving the integrity of science in the public policy process is an important goal. But it would be unrealistic to think that politicization is avoidable. The science on public policy issues is rarely, if ever, definitive. There will always be uncertainties that need to be addressed and matters that require judgment in translating science into policy options and analyzing them and their implications.

In the case of climate change, major

uncertainties include natural variability, water vapor, solar influence, aerosols, cloud formation, ocean currents and climate feedback. Without good measurement data on each of these and a better understanding of their physical processes, it is not possible to construct models that provide a sound basis for policy analysis. In fact, none of the models that are used to project the future has been scientifically validated and none can replicate past temperature without adjustments and guesses about some input data.

Given the inherent uncertainties in policy planning and the value judgments that are inherent in the policy process, there is no way to avoid “politicizing” science. What can be

done are improvements in policy planning and analysis that can improve the quality and value of science used by policy makers.

The Marshall Institute identified several such actions in our book and identified others in comments on the Administration’s Climate Change Science Strategic Plan and in comments filed jointly with

the George Mason University with the Office of Management and Budget on the “peer review” guidelines.¹⁸ These are reviewed below:

- **Promote transparency.** Models, data and assumptions used in formulating policies should be available for interested parties to review and critique. This would improve the understanding of the validity of the models and how various assumptions affect outcomes.
- **Peer review is an important step if done properly.** A third party should choose reviewers and their comments should be published but not necessarily their names. Beyond standard peer review, someone or some organization should be able to

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replicate the analysis, especially analyses that can have significant economic and regulatory impacts.

- **Discontinue consensus documents.** The push for consensus on important science policy issues can mask important differences among scientists. Policy makers are better served knowing where there is widespread agreement and where there are important disagreements. The ability to publish dissenting views in policy documents and NAS reports should be encouraged.
- **Establish a “devil’s advocate” process.** For major issues like climate change and reports like the IPCC Summary for Policy Makers, some small group should be charged with challenging conventional wisdom that when repeated often enough is treated as fact. If this were being done routinely on climate change matters, it would not be possible to assert that the science is settled, that humans are primarily responsible for the warming in recent decades or that models are reliable for projecting or predicting climate 100 years from now.
- **Distinguish between science and analysis.** Much of the recent criticism of the Bush Administration is about the inferences it draws from science and analysis of options drawn from science. Policy and risk assessments are not science and it is inappropriate to use disagreement about policy to claim that the integrity of science is being violated.

In addressing climate change, the inferred motivations and sources of support have been used to attack individual scientists, while avoiding dispassionate discussion of the merits of the argument. This is unfortunate as well as dangerous. The more important concern is whether the findings stand up to critical examination. Are they reproducible? Can they be verified or falsified?

Ted Koppel best summarized the situation and the goal in 1994 when he said:

“The issues of global warming and ozone depletion are undeniably important. The future of mankind may depend on how this generation deals with them. But the issues have to be debated and settled on scientific grounds, not politics. There is nothing new about major institutions seeking to influence science to their own ends. The church did it, ruling families have done it, the communists did it, and so have others, in the name of anti communism. But it has always been a corrupting influence, and it always will be. The measure of good science is neither the politics of the scientist nor the people with whom the scientist associates. It is the immersion of hypotheses into the acid of truth. That’s the hard way to do it, but it’s the only way that works.”¹⁹

Notes

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 8. House Gov't Reform Minority Report (2003): 18; UCS (2004): 6; UCS (2004): Appendix A; and *New York Times.* (2003). "Report by EPA Leaves Out Data on Climate Change." (June 19, 2003).
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