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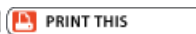
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CEI's Petition To EPA To Cease Dissemination Of Climate Action Report



by [Christopher C. Horner](#)

June 4, 2002

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Administrator Christie Todd Whitman
United States Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

**Re: Petition under Federal Data Quality Act
To Prohibit Further Dissemination of "Climate Action Report 2002"**

Dear Administrator Whitman,

For the reasons detailed herein, to the extent that the United States Environmental Protection Agency ("EPA") or any subdivision, branch, agency or office thereof cites, refers or links to, or otherwise disseminates the "Climate Action Report 2002" ("CAR") (<http://www.epa.gov/globalwarming/publications/car/index.html> or), a product of, *inter alia*, EPA, it is in violation of the Federal Data Quality Act ("FDQA"). **This is because CAR cites, relies on, and further disseminates data failing to meet FDQA's requirements (see esp. CAR "Chapter 6"), presently applicable to EPA (see 67 FR 370).** Specifically, CAR disseminates the first National Assessment on Climate Change ("National Assessment" or "NACC") (<http://www.usgcrp.gov/usgcrp/nacc/default.htm>), which is unacceptable under FDQA.

This petition formally requests that EPA immediately remove all electronic dissemination and cease other dissemination of the CAR.

Specifically, and as detailed below, FDQA prohibits – **and therefore, EPA must cease** -- dissemination of CAR given its reliance upon and dissemination of the findings of the National Assessment (NACC) on the basis of that document's failure to satisfy the data quality requirements of "**objectivity**" (whether the disseminated information is presented in an *accurate, clear, complete* and *unbiased* manner and is as a matter of substance *accurate, reliable* and *unbiased*), and "**utility**" (the *usefulness* of the information to the *intended users* (per the US Global Change Act of 1990, these are Congress and the Executive Branch). See 67 FR 370. As the statutorily designated steering document for policymaking, NACC qualifies as "influential scientific or statistical information", therefore it must meet a "reproducibility" standard, setting forth transparency regarding data and methods of analysis, "as a quality standard above and beyond some peer review quality standards."

The reasons, as detailed, *infra*, include NACC's and therefore CAR's inappropriate use of computer models and data. Further, in developing the published version of NACC which CAR further disseminates, the US Global Change Research Program (USGCRP) also failed to perform the necessary science underlying regional and sectoral analyses that, as Congress notified USGCRP at the time, was a condition precedent to the release of any National Assessment (even a draft). FDQA ratifies those objections, and is violated by continued dissemination of this product by any federal agency.

Additional rationale necessitating a prohibition on further CAR/NACC dissemination is provided by an extensive record obtained through the Freedom of Information Act (FOIA), that the purported internal "peer review" of the draft NACC did not in fact occur (this record also ratifies the inappropriate use of computer models, as also detailed). As the obtained documents demonstrate, commenting parties expressly informed USGCRP that they were rushed and as such were not given adequate time for substantive review or comment. USGCRP published and continues to disseminate the product nonetheless, as do all agencies such as EPA which reference, cite, link or otherwise disseminate NACC.

All of these failings ensure that dissemination of NACC/CAR violates FDQA's requirement, manifested in OMB's Guidelines and as necessarily manifested by EPA

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final guidelines, that data disseminated by Federal Agencies meet standards of quality as measured by specific tests for objectivity, utility and integrity.

As you are also aware and as reaffirmed by OMB in its FDQA Final Guidance, though EPA is only now developing agency-specific guidelines and mechanisms, for complaints invoking OMB's Guidelines in the interim EPA should already have in place requisite administrative mechanisms for applying OMB's standards.

I. FDQA Coverage of USGCRP, therefore its Product the NACC, and CAR

However and by whatever government agency NACC, and therefore CAR, are disseminated they are inescapably covered by FDQA when disseminated by a Federal Agency. First, it is noteworthy that, whatever the status of the governmental office produced NACC, as directed by the Executive Office of the President (EOP), the United States Global Change Research Program (USGCRP), producer of the National Assessment on Climate Change (NACC or Assessment) is subject to the Federal Data Quality Act (FDQA). FDQA covers the same entities as the Paperwork Reduction Act (44 U.S.C. Sections 3501 *et seq.*; see esp. 44 U.S.C. 3502(1)).

By statute the President serves as Chairman of the National Science and Technology Council ("NSTC"), operating under the White House Office of Science and Technology Policy ("OSTP"), and which has under its authority the Committee on Environment and Natural Resources ("CENR") (15 U.S.C. 2932 (originally "Committee on Earth and Environmental Sciences")). All of these offices are therefore EOP entities, subject to PWRA, thus FDQA.

Per 15 U.S.C. 2934 the President, as Chairman of the Council, shall develop and implement through CENR a US Global Change Research Program. The Program shall advise the President and Congress, through the NACC, on relevant considerations for climate policy. Though the composite USGCRP is an "interagency" effort staffed in great part by seconded employees from federal agencies, it remains under the direction of the President and is therefore a "covered agency" pursuant to 44 U.S.C. 3502(1).

Collectively and pursuant to statutory authority, under the direction of these Executive offices the USGCRP directed an effort statutorily dedicated in part to studying the state of the science and its uncertainties surrounding the theory of "global warming" or "climate change," producing a National Assessment on Climate Change ("NACC"). **Though originally produced prior to FDQA, the data asserted by the NACC (issued in final in December 2000; see <http://www.usgcrp.gov/usgcrp/nacc/default.htm>), as current or continued dissemination is subject to the requirements of the Federal Data Quality Act. That ineffective argument is not available as regards the CAR.**

II. Development of NACC

The Assessment was produced as follows:

1. Pursuant to and/or under the auspices of the Global Change Research Act of 1990, 15 U.S.C. 2921, *et seq.*, USGCRP is assigned the responsibility of producing a scientific assessment, particularly that which is at issue in this Petition, as follows:

"On a periodic basis (not less frequently than every 4 years), the Council, through the Committee, shall prepare and submit to the President and the Congress an assessment which –

- (1) integrates, evaluates, and interprets the findings of the [USGCR] Program and discusses the scientific uncertainties associated with such findings;
 - (2) analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and
 - (3) analyzes current trends in global change both human-induced (sic) and natural, and projects major trends for the subsequent 25 to 100 years." (15 U.S.C. 2934).
2. The document at issue in this Petition, the "First National Assessment on Climate Change," disseminates data rising to the requisite FDQA levels of "quality", as described herein.
 3. USGCRP's surge to release a flawed, partial, and partially unauthorized, report came despite requests of lawmakers and outside interests concerned with the issues at hand, to withhold releasing a such a document lacking particular required scientific foundations, in violation of several laws and public policy.

III. The Assessment violates the requirements of the FDQA in the following ways:

1. NACC Relies Upon and Promotes Improper Use of Computer Model Data

For the following reasons, NACC violates FDQA's "objectivity" and "utility" requirements. As "influential scientific or statistical information", NACC also fails for these reasons its "reproducibility" standard, setting forth transparency regarding data and methods of analysis, "a quality standard above and beyond some peer review quality standards."

First, on behalf of this petition, Patrick Michaels, Professor of Environmental Sciences at University of Virginia, excerpts from his review of the NACC dated and submitted to USGCRP August 11, 2000, detailing concerns noted above that place the NACC in violation of FDQA. Where appropriate, additional *explanatory text* is included. **USGCRP made no apparent alterations of the original text in response to these comments, therefore the comments apply to NACC as disseminated.**

"August 11, 2000..."

"The essential problem with the USNA [elsewhere cited in this Petition as the NACC] is that it is based largely on two climate models, neither one of which, when compared with the 10-year smoothed behavior of the lower 48 states (a very lenient comparison), reduces the residual variance below the raw variance of the data. The one that generates the most lurid warming scenarios—the Canadian Climate Centre (CCC) Model—produces much larger errors than are inherent in the natural noise of the data. That is a simple test of whether or not a model is valid...and both of those models fail. All implied effects, including the large temperature rise, are therefore based upon a multiple scientific failure. The USNA's continued use of those models and that approach is a willful choice to disregard the most fundamental of scientific rules. (And that they did not find and eliminate such an egregious error is testimony to grave bias). For that reason alone, the USNA should be withdrawn from the public sphere until it becomes scientifically based."

Explanatory text: *The basic rule of science is that hypotheses must be verified by observed data before they can be regarded as facts. Science that does not do this is "junk science", and at minimum is precisely what the FDQA is designed to bar from the policymaking process.*

The two climate models used in the NACC make predictions of U.S. climate change based upon human alterations of the atmosphere. Those alterations have been going on for well over 100 years. Do the changes those models "predicted" for U.S. climate in the last century resemble what actually occurred?

This can be determined by comparison of observed U.S. annual temperature departures from the 20th century average with those generated by both of these models. It is traditional to use moving averages of the data to smooth out year-to-year changes that cannot be anticipated by any climate model. This review used 10-year running averages to minimize interannual noise.

The predicted-minus-observed values for both models versus were then compared to the result that would obtain if one simply predicted the average temperature for the 20th century from year to year. In fact, both models did worse than that base case. Statistically speaking, that means that both models perform worse for the last 100 years than a table of random numbers applied to ten-year running mean U.S. temperatures.

There was no discernible alteration of the NACC text in response to this fatal flaw. However, the NACC Synthesis Team, co-chaired by Thomas Karl, Director of the National Climatic Data Center, took the result so seriously that they commissioned an independent replication of this test, only more inclusive, using 1-year, 5-year, 10-year and 25-year running means of the U.S. annual temperature. This analysis verified that in fact both models performed no better than a table of random numbers applied to the U.S. Climate Data. Mr. Karl was kind enough to send the results to this reviewer.

"...the problem of model selection. As shown in Figure 9.3 of the Third Assessment of the United Nations Intergovernmental Panel on Climate Change, the behavior of virtually every General Circulation Climate model (GCM) is the production of a linear warming, despite assumptions of exponential increases in greenhouse forcing. In fact, only one (out of, by my count, 26) GCMs produces a substantially exponential warming—the CCC model [one of the two used in the NACC]. Others may bend up a little, though not substantially, in the policy-relevant time frame. The USNA specifically chose the outlier with regard to the mathematical form of the output. No graduate student would be allowed to submit a thesis to his or her committee with such arrogant bias, and no national committee should be allowed to submit such a report to the American people.

Even worse, the CCC and Hadley data were decadal smoothed and then (!) subject to a parabolic fit, as the caption for the USNA's Figure 6 makes clear. That makes the CCC even appear warmer because of the very high last decadal average.

One of the two models chosen for use in the USNA, the Canadian Climate Center (CCC) model, predicts the most extreme temperature and precipitation changes of all the models considered for inclusion. The CCC model forecasts the average temperature in the United States to rise 8.1°F (4.5°C) by the year 2100, more than twice the rise of 3.6°F (2.0°C) forecast by the U.K. model (the second model used in the USNA). Compare this with what has actually occurred during the

past century. The CCC model predicted a warming of 2.7°F (1.5°C) in the United States over the course of the twentieth century, but the observations show that the increase was about 0.25°F (0.14°C) (Hansen, J.E., et al., 1999: GISS analysis of surface temperature change. *Journal of Geophysical Research*, **104**, 30,997–31,022), or about 10 times less than the forecast [Hansen has since revised this to 0.5°C, which makes the prediction three times greater than what has been observed] The CCC forecast of precipitation changes across the United States is equally extreme. Of all the models reviewed for inclusion in the USNA, the CCC model predicted more than twice the precipitation change than the second most extreme model, which interestingly, was the U.K. model [the other model used in the NACC]. The U.K. model itself forecast twice the change of the average of the remaining, unselected models. Therefore, along with the fact that GCMs in general cannot accurately forecast climate change at regional levels, the GCMs selected as the basis for the USNA conclusions do not even fairly represent the collection of available climate models.

Why deliberately select such an inappropriate model as the CCC? [Thomas Karl, co-Chair of the NACC synthesis team replied that] the reason the USNA chose the CCC model is that it provides diurnal temperatures; this is a remarkable criterion given its base performance....”

“The USNA’s high-end scenarios are driven by a model that 1) doesn’t work over the United States; 2) is at functional variance with virtually every other climate model. It is simply impossible to reconcile this skewed choice with the rather esoteric desire to include diurnal temperatures...”

Explanatory text: *It is clear that the NACC chose two extreme models out of a field of literally dozens that were available. This violates the FDQA requirements for “objectivity” detailed in the third paragraph of this Petition.*

Second, Dr. Michaels is clearly not alone in his assessment. Consider the comments of government reviewers, all received and possessed by USGCRP. For example, that styled “**Improper use of climate models**”, by William T. Pennell of Northwest National Laboratory, submitted through DOE (John Houghton) to Melissa Taylor at USGCRP:

“Although it is mentioned in several places, greater emphasis needs to be placed on the limitations that the climate change scenarios used in this assessment have on its results. First, except for some unidentified exceptions, only two models are used. Second, nearly every impact of importance is driven by what is liable to happen to the climate on the regional to local scale, but it is well known that current global-scale models have limited ability to simulate climate effects at this degree of spatial resolution. We have to use them, but I think we need to be candid about their limitations. Let’s take the West [cites example]... Every time we show maps that indicate detail beyond the resolution of the models we are misleading the reader.”

USGCRP received other comments by governmental “peer reviewers” affirming these modeling data transgressions:

“Also, the reliance on predictions from only two climate models is dangerous”. Steven J. Ghan, Staff Scientist, Atmospheric Sciences and Global Change, Pacific Northwest Laboratory.

“This report relies too much on the projections from only two climate models. Projections from other models should also be used in the assessment to more broadly sample the range of predicted responses.” Steven J. Ghan Staff Scientist, Atmospheric Sciences and Global Change, Pacific Northwest Laboratory.

“Comments on National Assessment. 1. The most critical shortcomings of the assessment are the attempt to extrapolate global-scale projections down to regional and sub-regional scales and to use two models which provide divergent projections for key climatic elements.” Mitchell Baer, US Department of Energy, Washington, DC.

“General comments: Bias of individual authors is evident. Climate variability not addressed...Why were the Hadley and Canadian GCMs used? Unanswered questions. Are these GCM’s [sic] sufficiently accurate to make regional projections? Nope”. Reviewer Stan Wullschlegel (12/17/99).

William T. Pennell, Manager, Atmospheric Sciences and Global Change, Pacific Northwest Laboratory, cites the that “only two models are used” as a “limitation” on the product.

The final NACC currently disseminated by Commerce/NOAA shows these admonitions went unheeded.

Stated simply, the climate models upon which NACC relies have struck out. Strike one: they can’t simulate the current climate. Strike two: they predict greater and more rapid warming in the atmosphere than at the surface. The opposite is happening (see e.g., http://www.ghcc.msfc.nasa.gov/MSU/hl_sat_accuracy.html). Strike three: they predict amplified warming at the poles, which are cooling instead

(see e.g., <http://www.washingtonpost.com/wp-dyn/articles/A40974-2002Jan13.html>). On top of this demonstrable lack of utility for their purported purpose, NACC knowingly misuses them.

2. Failure to Perform Requisite Scientific Review Violates FDQA

USGCRP's development of NACC drew congressional attention to particular shortcomings. Specifically, leaders in the United States House of Representatives repeatedly attempted to ensure USGCRP and its subsidiary bodies follow the scientific method regarding particular matters, specifically the regional and sectoral analyses. Indeed the concerns had become so acute that these leaders successfully promoted a restriction prohibiting relevant agencies from expending appropriated monies upon the matter at issue, consistent with the plain requirements of the GCRA of 1990, through language in the conference report accompanying Public Law 106-74:

"None of the funds made available in this Act may be used to publish or issue an assessment required under section 106 of the Global Change Research Act of 1990 unless (1) the supporting research has been subjected to peer review and, if not otherwise publicly available, posted electronically for public comment prior to

use in the assessment; and (2) the draft assessment has been published in the

Federal Register for a 60 day public comment period."^[1]

USGCRP did not perform the conditions precedent for valid science as cited in that language. Instead USGCRP produced and now disseminates a NACC knowingly and

expressly without the benefit of the supporting science which not only is substantively required but which Congress rightly insisted be performed and subject to peer review prior to releasing any such assessment.

These attempts to rectify certain NACC shortcomings were made in advance of USGCRP producing the NACC, but were never rectified. These failures justify Petitioners' request that USGCRP cease present and future NACC dissemination unless and until its violations of FDQA are corrected. In addition to NACC violating FDQA's "objectivity" and "utility" requirements, as "influential scientific or statistical information", NACC also fails its "reproducibility" standard, setting forth transparency regarding data and methods of analysis. Per OMB, this represents "a quality standard above and beyond some peer review quality standards."^[2]

Given USGCRP's refusal to wait for completion of the underlying science and their response to the relevant oversight chairmen, it is manifest that USGCRP ignored or rejected these lawmakers' requests, including by the relevant oversight Chairmen and produced a deeply flawed Assessment, knowingly and admittedly issuing a "final" Assessment without having complied with Congress's direction to incorporate the underlying science styled as "regional and sectoral analyses."^[3] while also admitting that the requisite scientific foundation would be completed imminently. For these same reasons dissemination presently violates FDQA.

3. NACC Not in Fact Peer Reviewed, Commenting Parties Make Clear

Finally, NACC suffers from having received no authentic peer review, in violation of FDQA's "objectivity" and "utility" requirements. As "influential scientific or statistical information", for these reasons NACC also fails the "reproducibility" standard, setting forth transparency regarding data and methods of analysis, "a quality standard above and beyond some peer review quality standards."

Once an advisory committee was chartered pursuant to the Federal Advisory Committee Act (FACA) in 1998, Dr. John Gibbons' communication of January 8, 1998 to the first Designated Federal Officer (DFO) Dr. Robert Corell indicates a sense of urgency was communicated to the panel by political officials. Further, statements in the record and major media outlets, including but in no way limited to those from certain anonymous if purportedly well placed sources, indicate a perception among involved scientists that political pressures drove the timing and even content of this draft document. This is manifested by the lack of opportunity to comment for parties whose comment was formally requested as part of a "peer review" of NACC.

This sense of urgency is reflected in, among other places, comments the Cooler Heads Coalition obtained via the Freedom of Information Act, made by parties from the National Laboratories asked by the Department of Energy to comment on the Draft. In addition to an emphasis on speed as opposed to deliberation, the report's emphasis on "possible calamities" to the detriment of balancing comments which were widely offered, and rampant criticism of the reliance on only two significantly divergent models for the pronouncements made, these comments are exemplified by the following samples from well over a dozen such complaints accessed through FOIA, **also received by and in the possession of USGCRP** :

- 1) "This review was constrained to be performed within a day and a half. This is not an adequate amount of time to perform the quality of review that should be performed on this size document" (Ronald N. Kickert, 12/08/99);

- 2) "During this time, I did not have time to review the two Foundation Document Chapters" (Kickert, 12/20/99);
- 3) "Given the deadline I have been given for these comments, I have not been able to read this chapter in its entirety" (William T. Pennell);
- 4) **"UNFORTUNATELY, THIS DOCUMENT IS NOT READY FOR RELEASE WITHOUT MAJOR CHANGES"** (CAPS and bold in original)(Jae Edmonds);
- 5) "This is not ready to go!" (William M. Putman).

These comments reflect an alarming implication of timing over substance, and of a product whose final content appears predetermined. Patrick Michaels' comments, and the absence of apparent change in response to his alarming findings, reinforces this troubling reality. Notably, the product was released and continues to be disseminated without offering an actual peer review or otherwise addressing the concerns expressed.

In conclusion, the National Assessment on Climate Change, and therefore the Climate Action Report 2002 fails to meet FDQA and/or OMB guidelines regarding Data Quality. **As a consequence, EPA must immediately cease electronic and other dissemination of the "Climate Action Report 2002", which relies in part on, cites, and further disseminates (see esp. "Chapter 6"), the unacceptable data provided by the National Assessment on climate Change, as defined by OMB and described, *supra*.**

I look forward to your timely response to this Petition.

Sincerely,

Christopher C. Horner
Counsel

[1] House Report 106-379, the conference report accompanying H.R. 2684, Department of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 2000 (Pub.L. 106-74), p. 137.

[2] Attachments "B" establish the record of Congress, detailing for USGCRP its more obvious scientific failures which now lead to NACC now violating FDQA, noting USGCRP's apparent failure to comply with such conditions and seeking assurance that such circumstances would be remedied. USGCRP via OSTP drafted a response to House Science Committee Chairman Sensenbrenner, evasively failing to specifically address the concerns raised by these Members. Chairmen Sensenbrenner and Calvert specifically took issue and/or disputed these non-responses in the July 20, 2000 letter, reiterating their request for compliance with the law's requirements. Nonetheless, the failings persist.

[3] See Attachments "B". This despite that the two principal NACC sections are "Regions," and "Sections." (see

