

Perhach, William

From: Myron Ebell [mebell@cei.org]

Sent: Friday, June 24, 2005 5:47 PM

To: Myron Ebell

Subject: Letters from Barton and Whitfield, Energy and Commerce Committee, to Pachauri, NSF, Mann, Bradley, and Hughes

Letters from Rep. Joe Barton, Chairman , House Energy and Commerce Committee, and Rep. Ed Whitfield, Chairman, House Energy and Commerce Committee Subcommittee on Oversight and Investigations to Dr. Rajendra K. Pachauri, Chairman of the UN IPCC, Dr. Arden Bennett, Chairman of the National Science Foundation, and Mann, Bradley, and Hughes.

http://energycommerce.house.gov/108/Letters/06232005_1570.htm

June 23, 2005

Dr. Rajendra K. Pachauri

Chairman

Intergovernmental Panel on Climate Change

C/O IPCC Secretariat

World Meteorological Organization

7 bis Avenue de La Paix

C.P. 2300

Ch- 1211 Geneva 2 Switzerland

Dear Chairman Pachauri:

Questions have been raised, according to a February 14, 2005 article in *The Wall Street Journal*, about the significance of methodological flaws and data errors in studies by Dr. Michael Mann and co-authors of the historical record of temperatures and climate change. We understand that these studies of temperature proxies (tree rings, ice cores, corals, etc.) formed the basis for a new finding in the 2001 United Nation's Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report (TAR). This finding – that the increase in 20th century northern hemisphere temperatures is “likely to have been the largest of any century during the past 1,000 years” and that the “1990s was

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the warmest decade and 1998 the warmest year” – has since been referenced widely and has become a prominent feature of the public debate surrounding climate change policy.

However, in recent peer-reviewed articles in *Science*, *Geophysical Research Letters*, *Energy & Environment*, among others, researchers question the results of this work. As these researchers find, based on the available information, the conclusions concerning temperature histories – and hence whether warming in the 20th century is actually unprecedented – cannot be supported by the Mann *et. al.* studies. In addition, we understand from the February 14 *Journal* and these other reports that researchers have failed to replicate the findings of these studies, in part because of problems with the underlying data and the calculations used to reach the conclusions. Questions have also been raised concerning the sharing and dissemination of the data and methods used to perform the studies. For example, according to the January 2005 *Energy & Environment*, the information necessary to replicate the analyses in the studies has not been made fully available to researchers upon request.

Dr. Rajendra K. Pachauri

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The concerns surrounding these studies reflect upon the quality and transparency of federally funded research and of the IPCC review process – two matters of particular interest to the Committee. For example, one concern relates to whether IPCC review has been sufficiently robust and independent. We understand that Dr. Michael Mann, the lead author of the studies in question, was also a lead author of the IPCC chapter that assessed and reported this very same work, and that two co-authors of the studies were also contributing authors to the same chapter. Given the prominence these studies were accorded in the IPCC TAR, we seek to learn more about the facts and circumstances that led to acceptance and prominent use of this work in the IPCC TAR and to understand what this controversy indicates about the data quality of key IPCC studies.

In light of the Committee’s jurisdiction over energy policy and certain environmental issues

in the U.S. House of Representatives, the Committee must have full and accurate information when considering matters relating to climate change policy. We open this review because the dispute surrounding these studies bears directly on important questions about the federally funded work upon which climate studies rely and the quality and transparency of analyses used to support the IPCC assessment process. With the IPCC currently working to produce a fourth assessment report, addressing questions of quality and transparency in the underlying analyses supporting that assessment, both scientific and economic, are of utmost importance if Congress is eventually going to make policy decisions drawing from this work.

To assist us as we begin this review, and pursuant to Rules X and XI of the U.S. House of Representatives, please provide the following information requested below on or before July 11, 2005:

1. Explain the IPCC process for preparing and writing its assessment reports, including, but not limited to: (a) how referenced studies are reviewed and assessed by the relevant Working Group; (b) the steps taken by lead authors, reviewers, and others to ensure the data underlying the studies forming the basis for key findings – particularly proxy and temperature data – are accurate and up to date; and (c) the IPCC requirements governing the quality of data used in reports.
2. What specifically did IPCC do to check the quality of the Mann et. al. studies and underlying data, cited in the TAR? Did IPCC seek to ensure the studies could be replicated?
3. What is your position with regard to: (a) the recent challenges to the quality of the Mann et. al. data, (b) related questions surrounding the sharing of methods and research for others to test the validity of these studies, and (c) what this controversy indicates about the data quality of key IPCC studies?
4. What did IPCC do to ensure the quality of data for other prominent historical temperature

or proxy studies cited in the IPCC, including the Folland et. al. and Jones et. al. studies that were sources for the graphic accompanying the Mann et. al. graphic in the Summary for Policy Makers? Are the data and methodologies for such works complete and available for other researchers to test and replicate?

Dr. Rajendra K. Pachauri

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5. Explain (a) the facts and circumstances by which Dr. Michael Mann served as a lead author of the very chapter that prominently featured his work and (b) by which his work became a finding and graphical feature of the TAR Summary for Policymakers.
6. Explain (a) how IPCC ensures objectivity and independence among section contributors and reviewers, (b) how they are chosen, and (c) how the chapters, summaries, and the full report are approved and what any such approval signifies about the quality and acceptance of particular research therein.
7. Identify the people who wrote and reviewed the historical temperature-record portions of the TAR, particularly Section 2.3, "Is the Recent Warming Unusual?" and explain all their roles in the preparation of the TAR, including, but not limited to, the specific roles in the writing and review process.
8. Given the questions about Mann et. al. data, has the Working Group I or the IPCC made any changes to specific procedures or policies, including policies for checking the quality of data, for the forthcoming Fourth Assessment Report? If so, explain in detail any such changes, and why they were made.
9. Does the IPCC or Working Group I have policies or procedures regarding the disclosure and dissemination of scientific data referenced in the reports? If so, explain in detail any such policies and what happens when they are violated.

Thank you for your assistance. If you have any questions, please contact Peter Spencer of

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the Majority Committee staff at (202) 226-2424.

Sincerely,

Joe Barton Ed Whitfield

Chairman Chairman

Subcommittee on Oversight

and Investigations

cc: The Honorable John Dingell, Ranking Member

The Honorable Bart Stupak, Ranking Member,

Subcommittee on Oversight and Investigations

June 23, 2005

Dr. Arden L. Bement, Jr.

Director

National Science Foundation

4201 Wilson Blvd.

Arlington, Virginia 22230

Dear Dr. Bement:

Questions have been raised, according to a February 14, 2005 article in *The Wall Street Journal*, about the significance of methodological flaws and data errors in studies by Dr. Michael Mann and co-authors of the historical record of temperatures and climate change. We understand that these studies of temperature proxies (tree rings, ice cores, corals, etc.) formed the basis for a new finding in the 2001 United Nation's Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report (TAR). This finding – that the increase in 20th century northern hemisphere temperatures is

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“likely to have been the largest of any century during the past 1,000 years” and that the “1990s was the warmest decade and 1998 the warmest year” – has since been referenced widely and has become a prominent feature of the public debate surrounding climate change policy.

However, in recent peer-reviewed articles in *Science*, *Geophysical Research Letters*, *Energy & Environment*, among others, researchers question the results of this work. As these researchers find, based on the available information, the conclusions concerning temperature histories – and hence whether warming in the 20th century is actually unprecedented – cannot be supported by the Mann *et. al.* studies. In addition, we understand from the February 14 *Journal* and these other reports that researchers have failed to replicate the findings of these studies, in part because of problems with the underlying data and the calculations used to reach the conclusions. Questions have also been raised concerning the sharing and dissemination of the data and methods used to perform the studies. For example, according to the January 2005 *Energy & Environment*, the information necessary to replicate the analyses in the studies has not been made fully available to researchers upon request. According to the article, the authors’ requests for National Science Foundation assistance to obtain this information have been turned down.

Dr. Arden L. Bement, Jr.

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The concerns surrounding these studies reflect upon the quality and transparency of federally funded research and of the IPCC review process – two matters of particular interest to the Committee. For example, one concern relates to whether IPCC review has been sufficiently independent. We understand that Dr. Michael Mann, the lead author of the studies in question, was also a lead author of the IPCC chapter that assessed and reported this very same work, and that two co-authors of the studies were also contributing authors to the same chapter. Given the prominence these studies were accorded in the IPCC TAR, we seek to learn more about the facts

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and circumstances that led to acceptance and prominent use of this work in the IPCC TAR and to understand what this controversy indicates about the data quality of key IPCC studies.

As you know, sharing data and research results is a basic tenet of open scientific inquiry, providing a means to judge the reliability of scientific claims. The ability to replicate a study, as the National Research Council has noted, is typically the gold standard by which the reliability of claims is judged. Given the questions reported about data access surrounding these studies, we also seek to learn whether obligations concerning the sharing of information developed or disseminated with the support of your agency have been appropriately met.

In light of the Committee's jurisdiction over energy policy and certain environmental issues, the Committee must have full and accurate information when considering matters relating to climate change policy. We open this review because the dispute surrounding these studies bears directly on important questions about the federally funded work upon which climate studies rely and the quality and transparency of analyses used to support the IPCC assessment process. With the IPCC currently working to produce a fourth assessment report, addressing questions of quality and transparency in the underlying analyses supporting that assessment, both scientific and economic, are of utmost importance if Congress is eventually going to make policy decisions drawing from this work.

To assist us as we begin this review, and pursuant to Rules X and XI of the U.S. House of Representatives, please provide the following information requested below on or before July 11, 2005:

1. Explain in detail your policies and procedures regarding the disclosure and dissemination of scientific data obtained with federal funds and grants, including, but not limited to: (a) a copy of all such applicable policies and internal guidance relating to implementation of such policies, (b) the obligations of universities, individuals, and other funding recipients regarding these policies, (c) the agency departments and individuals charged with

ensuring such policies are implemented, and (d) the steps your agency takes to ensure these policies are implemented.

2. List all grants and all other funding awards given for research in the area of climate or paleoclimate research, including, but not limited to, the dates of the awards, the identity of the recipients, principal investigators, and whoever is contractually obligated to ensure provisions of the awards are met.

3. Explain how NSF ensures compliance with award provisions.

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4. In the area of climate or paleoclimate research, are you aware of any violation of requirements or obligations concerning the sharing and dissemination of data and research, pursuant to applicable agency and federal policies? If so, describe each violation.

5. Have you received any requests for access to the research or data in studies conducted by Mann *et. al.*, cited in the IPCC Third Assessment Report? If so, identify and provide all records relating to such requests.

6. Describe in detail how your agency has supported or disseminated the information developed in the Mann *et. al.* studies.

7. Does your agency consider the IPCC review and writing process for the TAR to be consistent with your agency's policies or guidelines relating to information or data quality? Explain where the review and writing process is consistent or inconsistent in this regard.

Please note that, for the purpose of responding to this request, the applicable time period is 1995 to present. The terms "records" and "relating" should be interpreted in accordance with the attachment to this letter.

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Thank you for your assistance. If you have any questions, please contact Peter Spencer of the Majority Committee staff at (202) 226-2424.

Sincerely,

Joe Barton Ed Whitfield

Chairman Chairman

Subcommittee on Oversight

and Investigations

cc: The Honorable John Dingell, Ranking Member

The Honorable Bart Stupak, Ranking Member,

Subcommittee on Oversight and Investigations

Attachment

Dr. Arden L. Bement, Jr.

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ATTACHMENT

1. The term "records" is to be construed in the broadest sense and shall mean any written or graphic material, however produced or reproduced, of any kind or description, consisting of the original and any non-identical copy (whether different from the original because of notes made on or attached to such copy or otherwise) and drafts and both sides thereof, whether printed or recorded electronically or magnetically or stored in any type of data bank, including, but not limited to, the following: correspondence, memoranda, records, summaries of personal conversations or interviews, minutes or records of meetings or conferences, opinions or reports of consultants, projections, statistical statements, drafts, contracts, agreements, purchase orders, invoices, confirmations, telegraphs, telexes, agendas, books, notes, pamphlets, periodicals, reports, studies, evaluations, opinions, logs, diaries, desk calendars, appointment books, tape recordings, video recordings, e-mails, voice mails,

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computer tapes, or other computer stored matter, magnetic tapes, microfilm, microfiche, punch cards, all other records kept by electronic, photographic, or mechanical means, charts, photographs, notebooks, drawings, plans, inter-office communications, intra-office and intradepartmental communications, transcripts, checks and canceled checks, bank statements, ledgers, books, records or statements of accounts, and papers and things similar to any of the foregoing, however denominated.

2. The terms "relating," "relate," or "regarding" as to any given subject means anything that constitutes, contains, embodies, identifies, deals with, or is in any manner whatsoever pertinent to that subject, including but not limited to records concerning the preparation of other records.

June 23, 2005

Dr. Michael Mann

Assistant Professor

Department of Environmental Sciences

University of Virginia

Charlottesville, VA 22904

Dear Dr. Mann:

Questions have been raised, according to a February 14, 2005 article in *The Wall Street Journal*, about the significance of methodological flaws and data errors in your studies of the historical record of temperatures and climate change. We understand that these studies of temperature proxy records (tree rings, ice cores, corals, etc.) formed the basis for a new finding in the 2001 United Nation's Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report (TAR). This finding – that the increase in 20th century northern hemisphere temperatures is

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“likely to have been the largest of any century during the past 1,000 years” and that the “1990s was the warmest decade and 1998 the warmest year” – has since been referenced widely and has become a prominent feature of the public debate surrounding climate change policy.

However, in recent peer-reviewed articles in *Science*, *Geophysical Research Letters*, and *Energy & Environment*, researchers question the results of this work. As these researchers find, based on the available information, the conclusions concerning temperature histories – and hence whether warming in the 20th century is actually unprecedented – cannot be supported by the Mann *et al.* studies cited in the TAR. In addition, we understand from the February 14 *Journal* and these other reports that researchers have failed to replicate the findings of these studies, in part because of problems with the underlying data and the calculations used to reach the conclusions. Questions have also been raised concerning the sharing and dissemination of the data and methods used to perform the studies. For example, according to the January 2005 *Energy & Environment*, such information necessary to replicate the analyses in the studies has not been made fully available to researchers upon request.

The concerns surrounding these studies reflect upon the quality and transparency of federally funded research and of the IPCC review process – two matters of particular interest to the Committee. For example, one concern relates to whether IPCC review has been sufficiently

Dr. Michael Mann

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independent. We understand that you were a lead author of the IPCC chapter that assessed and reported your own studies, and that two study co-authors were also contributing authors to this very same chapter. Given the prominence these studies were accorded in the IPCC TAR and your position and role in that process, we seek to learn more about the facts and circumstances that led to acceptance and prominent use of this work in the IPCC TAR and to understand what this controversy indicates about the data quality of key IPCC studies.

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As you know, sharing data and research results is a basic tenet of open scientific inquiry, providing a means to judge the reliability of scientific claims. The ability to replicate a study, as the National Research Council has noted, is typically the gold standard by which the reliability of claims is judged. Given the questions reported about data access surrounding these studies, we also seek to learn whether obligations concerning the sharing of information developed or disseminated with federal support have been appropriately met.

In light of the Committee's jurisdiction over energy policy and certain environmental issues, the Committee must have full and accurate information when considering matters relating to climate change policy. We open this review because this dispute surrounding your studies bears directly on important questions about the federally funded work upon which climate studies rely and the quality and transparency of analyses used to support the IPCC assessment process. With the IPCC currently working to produce a fourth assessment report, addressing questions of quality and transparency in the process and underlying analyses supporting that assessment, both scientific and economic, are of utmost importance if Congress is eventually going to make policy decisions drawing from this work.

To assist us as we begin this review, and pursuant to Rules X and XI of the U.S. House of Representatives, please provide the following information requested below on or before July 11, 2005:

1. Your *curriculum vitae*, including, but not limited to, a list of all studies relating to climate change research for which you were an author or co-author and the source of funding for those studies.
2. List all financial support you have received related to your research, including, but not limited to, all private, state, and federal assistance, grants, contracts (including subgrants or subcontracts), or other financial awards or honoraria.
3. Regarding all such work involving federal grants or funding support under which you

were a recipient of funding or principal investigator, provide all agreements relating to those underlying grants or funding, including, but not limited to, any provisions, adjustments, or exceptions made in the agreements relating to the dissemination and sharing of research results.

4. Provide the location of all data archives relating to each published study for which you were an author or co-author and indicate: (a) whether this information contains all the specific data you used and calculations you performed, including such supporting documentation as computer source code, validation information, and other ancillary

Dr. Michael Mann

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information, necessary for full evaluation and application of the data, particularly for another party to replicate your research results; (b) when this information was available to researchers; (c) where and when you first identified the location of this information; (d) what modifications, if any, you have made to this information since publication of the respective study; and (e) if necessary information is not fully available, provide a detailed narrative description of the steps somebody must take to acquire the necessary information to replicate your study results or assess the quality of the proxy data you used.

5. According to *The Wall Street Journal*, you have declined to release the exact computer code you used to generate your results. (a) Is this correct? (b) What policy on sharing research and methods do you follow? (c) What is the source of that policy? (d) Provide this exact computer code used to generate your results.

6. Regarding study data and related information that is not publicly archived, what requests have you or your co-authors received for data relating to the climate change studies, what was your response, and why?

7. The authors McIntyre and McKittrick (*Energy & Environment*, Vol. 16, No. 1, 2005)

report a number of errors and omissions in Mann *et. al.*, 1998. Provide a detailed narrative explanation of these alleged errors and how these may affect the underlying conclusions of the work, including, but not limited to answers to the following questions:

- a. Did you run calculations without the bristlecone pine series referenced in the article and, if so, what was the result?
 - b. Did you or your co-authors calculate temperature reconstructions using the referenced "archived Gaspé tree ring data," and what were the results?
 - c. Did you calculate the R² statistic for the temperature reconstruction, particularly for the 15th Century proxy record calculations and what were the results?
 - d. What validation statistics did you calculate for the reconstruction prior to 1820, and what were the results?
 - e. How did you choose particular proxies and proxy series?
8. Explain in detail your work for and on behalf of the Intergovernmental Panel on Climate Change, including, but not limited to: (a) your role in the Third Assessment Report; (b) the process for review of studies and other information, including the dates of key meetings, upon which you worked during the TAR writing and review process; (c) the steps taken by you, reviewers, and lead authors to ensure the data underlying the studies forming the basis for key findings of the report were sound and accurate; (d) requests you received for revisions to your written contribution; and (e) the identity of the people who wrote and reviewed the historical temperature-record portions of the report, particularly Section 2.3, "Is the Recent Warming Unusual?"

Dr. Michael Mann

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Thank you for your assistance. If you have any questions, please contact Peter Spencer of the Majority Committee staff at (202) 226-2424.

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Sincerely,

Joe Barton Ed Whitfield

Chairman Chairman

Subcommittee on Oversight

and Investigations

cc: The Honorable John Dingell, Ranking Member

The Honorable Bart Stupak, Ranking Member,

Subcommittee on Oversight and Investigations

June 23, 2005

Dr. Malcolm K. Hughes

Professor

Laboratory of Tree-Ring Research

The University of Arizona

PO Box 210058

Tucson, AZ 85721

Dear Dr. Hughes:

Questions have been raised, according to a February 14, 2005 article in *The Wall Street Journal*, about the significance of methodological flaws and data errors in studies you co-authored of the historical record of temperatures and climate change. We understand that the Mann, Bradley, Hughes studies of temperature proxy records (tree rings, ice cores, corals, etc.) formed the basis for a new finding in the 2001 United Nation's Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report (TAR). This finding – that the increase in 20th century northern hemisphere temperatures is “likely to have been the largest of any century during the past 1,000 years” and that the “1990s was the warmest decade and 1998 the warmest year” – has since been

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Dr. Malcolm K. Hughes

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The concerns surrounding these studies reflect upon the quality and transparency of federally funded research and of the IPCC review process – two matters of particular interest to the Committee. For example, one concern relates to whether IPCC review has been sufficiently independent. We understand that you were a contributing author of the IPCC chapter that assessed and reported your own studies, and that two study co-authors were also contributors to this very same chapter. Given the prominence these studies were accorded in the IPCC TAR and your position and role in that process, we seek to learn more about the facts and circumstances that led to acceptance and prominent use of this work in the IPCC TAR and to understand what this controversy indicates about the data quality of key IPCC studies.

As you know, sharing data and research results is a basic tenet of open scientific inquiry,

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providing a means to judge the reliability of scientific claims. The ability to replicate a study, as the National Research Council has noted, is typically the gold standard by which the reliability of claims is judged. Given the questions reported about data access surrounding these studies, we also seek to learn whether obligations concerning the sharing of information developed or disseminated with federal support have been appropriately met.

In light of the Committee's jurisdiction over energy policy and certain environmental issues, the Committee must have full and accurate information when considering matters relating to climate change policy. We open this review because this dispute surrounding your studies bears directly on important questions about the federally funded work upon which climate studies rely and the quality and transparency of analyses used to support the IPCC assessment process. With the IPCC currently working to produce a fourth assessment report, addressing questions of quality and transparency in the process and underlying analyses supporting that assessment, both scientific and economic, are of utmost importance if Congress is eventually going to make policy decisions drawing from this work.

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2. List all financial support you have received related to your research, including, but not limited to, all private, state, and federal assistance, grants, contracts (including subgrants or subcontracts), or other financial awards or honoraria.
3. Regarding all such work involving federal grants or funding support under which you were a recipient of funding or principal investigator, provide all agreements relating to

those underlying grants or funding, including, but not limited to, any provisions, adjustments, or exceptions made in the agreements relating to the dissemination and sharing of research results.

Dr. Malcolm K. Hughes

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4. Provide the location of all data archives relating to each published study for which you were an author or co-author and indicate: (a) whether this information contains all the specific data you used and calculations you performed, including such supporting documentation as computer source code, validation information, and other ancillary information, necessary for full evaluation and application of the data, particularly for another party to replicate your research results; (b) when this information was available to researchers; (c) where and when you first identified the location of this information; (d) what modifications, if any, you have made to this information since publication of the respective study; and (e) if necessary information is not fully available, provide a detailed narrative description of the steps somebody must take to acquire the necessary information to replicate your study results or assess the quality of the proxy data you used.
5. Regarding study data and related information that is not publicly archived, what requests have you or your co-authors received for data relating to the climate change studies, what was your response, and why?
6. The authors McIntyre and McKittrick (*Energy & Environment*, Vol. 16, No. 1, 2005) report a number of errors and omissions in Mann *et. al.*, 1998. Provide a detailed narrative explanation of these alleged errors and how these may affect the underlying conclusions of the work, including, but not limited to answers to the following questions:
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Dr. Malcolm K. Hughes

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Sincerely,

Joe Barton Ed Whitfield

Chairman Chairman

Subcommittee on Oversight

and Investigations

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cc: The Honorable John Dingell, Ranking Member
The Honorable Bart Stupak, Ranking Member,
Subcommittee on Oversight and Investigations

June 23, 2005

Dr. Raymond S. Bradley

Director, Climate System Research Center

Department of Geosciences

Morrill Science Center

University of Massachusetts

Amherst, MA 01003-9297

Dear Dr. Bradley:

Questions have been raised, according to a February 14, 2005 article in *The Wall Street Journal*, about the significance of methodological flaws and data errors in studies you co-authored of the historical record of temperatures and climate change. We understand that the Mann, Bradley, Hughes studies of temperature proxy records (tree rings, ice cores, corals, etc.) formed the basis for a new finding in the 2001 United Nation's Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report (TAR). This finding – that the increase in 20th century northern hemisphere temperatures is “likely to have been the largest of any century during the past 1,000 years” and that the “1990s was the warmest decade and 1998 the warmest year” – has since been referenced widely and has become a prominent feature of the public debate surrounding climate change policy.

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available information, the conclusions concerning temperature histories – and hence whether warming in the 20th century is actually unprecedented – cannot be supported by the Mann *et. al.* studies cited in the TAR. In addition, we understand from the February 14 *Journal* and these other reports that researchers have failed to replicate the findings of these studies, in part because of problems with the underlying data and the calculations used to reach the conclusions. Questions have also been raised concerning the sharing and dissemination of the data and methods used to perform the studies. For example, according to the January 2005 *Energy & Environment*, such information necessary to replicate the analyses in the studies has not been made fully available to researchers upon request.

Dr. Raymond S. Bradley

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disseminated with federal support have been appropriately met.

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2. List all financial support you have received related to your research, including, but not limited to, all private, state, and federal assistance, grants, contracts (including subgrants or subcontracts), or other financial awards or honoraria.
3. Regarding all such work involving federal grants or funding support under which you were a recipient of funding or principal investigator, provide all agreements relating to those underlying grants or funding, including, but not limited to, any provisions, adjustments, or exceptions made in the agreements relating to the dissemination and sharing of research results.

Dr. Raymond S. Bradley

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4. Provide the location of all data archives relating to each published study for which you were an author or co-author and indicate: (a) whether this information contains all the specific data you used and calculations you performed, including such supporting documentation as computer source code, validation information, and other ancillary information, necessary for full evaluation and application of the data, particularly for another party to replicate your research results; (b) when this information was available to researchers; (c) where and when you first identified the location of this information; (d) what modifications, if any, you have made to this information since publication of the respective study; and (e) if necessary information is not fully available, provide a detailed narrative description of the steps somebody must take to acquire the necessary information to replicate your study results or assess the quality of the proxy data you used.

5. Regarding study data and related information that is not publicly archived, what requests have you or your co-authors received for data relating to the climate change studies, what was your response, and why?

6. The authors McIntyre and McKittrick (*Energy & Environment*, Vol. 16, No. 1, 2005) report a number of errors and omissions in Mann *et. al.*, 1998. Provide a detailed narrative explanation of these alleged errors and how these may affect the underlying conclusions of the work, including, but not limited to answers to the following questions:

a. Did you run calculations without the bristlecone pine series referenced in the article and, if so, what was the result?

b. Did you or your co-authors calculate temperature reconstructions using the referenced "archived Gaspe tree ring data," and what were the results?

c. Did you calculate the R2 statistic for the temperature reconstruction, particularly for the 15th Century proxy record calculations and what were the results?

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d. What validation statistics did you calculate for the reconstruction prior to 1820, and what were the results?

e. How did you choose particular proxies and proxy series?

7. Explain in detail your work for and on behalf of the Intergovernmental Panel on Climate Change, including, but not limited to: (a) your role in the Third Assessment Report; (b) the process for review of studies and other information, including the dates of key meetings, upon which you worked during the TAR writing and review process; (c) the steps taken by you, reviewers, and lead authors to ensure the data underlying the studies forming the basis for key findings of the report were sound and accurate; (d) requests you received for revisions to your written contribution; and (e) the identity of the people who wrote and reviewed the historical temperature-record portions of the report, particularly Section 2.3, "Is the Recent Warming Unusual?"

Dr. Raymond S. Bradley

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Thank you for your assistance. If you have any questions, please contact Peter Spencer of the Majority Committee staff at (202) 226-2424.

Sincerely,

Joe Barton Ed Whitfield

Chairman Chairman

Subcommittee on Oversight

and Investigations

cc: The Honorable John Dingell, Ranking Member

The Honorable Bart Stupak, Ranking Member,

Subcommittee on Oversight and Investigations

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