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Before the Committee on Oversight and Government Reform
U.S. House of Representatives

Hearing on "Allegations of Political Interference with the Work of Government Climate Change Scientists"
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This testimony is presented by Dr. Francesca Grifo, Senior Scientist with the Union of Concerned Scientists (UCS), a leading science-based nonprofit working for a healthy environment and a better world. The full testimony is submitted for the record and Dr. Grifo will summarize her statement for the Committee on the problem of political interference in the work of federal government scientists.

This written testimony contains an overview of the issue of scientific integrity, a summary of the report Atmosphere of Pressure *released today and recommended government reforms needed to restore scientific integrity to the policy making process. Also included are a timeline of abuses of science compiled by UCS, selected essay responses from UCS's survey of federal climate scientists, the text of the statement signed by 11,000 scientists, and summaries of UCS's surveys of scientists working at the Food and Drug Administration, the Fish & Wildlife Service, the NOAA Fisheries Service, and climate scientists working at seven federal agencies.*

In a nutshell, here is the problem we face – political interference is harming federal science and threatening the health and safety of Americans. UCS has surveyed more than 1,800 federal scientists and found the following:

- 145 FDA scientists reported being asked, for non-scientific reasons, to inappropriately exclude or alter technical information or change their conclusions in an FDA scientific document.
- Nearly half (44 percent) of all FWS scientists whose work is to evaluate endangered species reported that they have been directed, for non-scientific reasons, to refrain from making findings that would protect a species.
- And, from the report we are releasing today, 150 federal climate scientists report personally experiencing at least one incident of political interference in the past five years, for a total of *at least* 435 such incidents.

Our government runs on vast amounts of information. If the government does not have access to accurate and complete information about a topic, the inevitable result is bad policy and bad decisions. The thousands of scientists in the employ of the federal government represent a tremendous resource and their knowledge and advice should be heeded, rather than manipulated or ignored. The message of these statistics is clear: without strong action to restore integrity to federal science our nation will be ill-prepared to deal with the challenges we face.

Scientific Integrity

Successful application of science has played a large part in the policies that have made the United States of America the world's most powerful nation and its citizens increasingly prosperous and healthy.

Although scientific input to the government is rarely the only factor in public policy decisions, scientific input should always be weighted from an objective and impartial perspective. Presidents and administrations of both parties have long adhered to this principle in forming and implementing policies. Recent actions, however, threaten to undermine this legacy by preventing the best available science from informing policy decisions—with serious consequences for our health, safety, and environment.

Misrepresenting and suppressing scientific knowledge for political purposes can have serious consequences. For example, if the Nixon administration suppressed air quality studies and vetoed the Clean Air Act of 1970, Americans would have suffered more than 200,000 premature deaths and millions of cases of respiratory and cardiovascular disease over the next 20 years.[1]

This misuse of science has led Russell Train, the EPA administrator under Presidents Nixon and Ford, to observe: "How radically we have moved away from regulation based on independent findings and professional analysis by the White House and driven primarily by political considerations."

On February 18, 2004, 62 preeminent scientists articulated these concerns in a statement titled "Restoring Scientific Integrity in Policy Making." In this statement, the scientists charged the Bush administration with widespread and unprecedented "manipulation in the process thorough which science enters into its decisions." In conjunction with the statement, the Union of Concerned Scientists (UCS) released detailed documentation backing up the scientists' charges in its February 2004 report, *Scientific Integrity in Policy Making.*

In the months since the original UCS report, more than 11,000 scientists have signed onto the scientists' statement. Signers include 52 **Nobel laureates**, 63 National Medal of Science recipients, and 194 members of the National Academy of Sciences. A number of these scientist have served in multiple administrations, both Democratic and Republican, underscoring the unprecedented nature of the current practices and that the issues of scientific integrity transcend partisan politics. The names of all the signers are listed on the banners displayed here today.

Scientific Community Response

The scientific community has responded strongly to this growing problem. The more than 11,000 individual scientists who have called for a restoration of scientific integrity in federal policy making have been joined by several major scientific associations, including

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[1] See www.epa.gov/oar/sect812. See also data from the American Meteorological Society, online at ametsoc.org/sloan/cleanair/index.html

the American Association for the Advancement of Science, the American Public Health Association, the American Geophysical Union, and the Ecological Society of America, which have addressed the problem at society wide meetings and have begun to investigate how to defend science.

In addition, a National Academy of Sciences panel, chaired by former Congressman John Porter (R-IL), released a report in November 2004 that strongly rejected political litmus test for federal science and technology appointments. The report stated: "It is no more appropriate to ask experts to provide non-relevant information—such as voting record, political party affiliation, or position on particular policies—than to ask them other personal immaterial information, such as hair color or height."

In May 2006, the National Science Board of the Nation Science Foundation (NSB), responding to a request by Senator John McCain (R-AZ), released a report concluding that "there exists no consistent Federal policy regarding the dissemination of research results by Federal employees" and recommending that the development of an "overarching set of principles for the communication of scientific information" by the Administration. The NSB found that "[d]elay in taking these actions may contribute to a potential loss of confidence by the American public and broader research community regarding the quality and credibility of Government sponsored scientific research results."

Congressional Response

House and Senate bills titled the "Restore Scientific Integrity to Federal Research and Policymaking Act" were introduced in the 109th Congress to address this problem and restore America's status a world leader in science. The House bill, led by Representatives Henry Waxman (D-CA) and Bart Gordon (D-TN), had 80 cosponsors, while the Senate bill, led by Senator Richard Durbin (D-IL), had 15 cosponsors. Similar legislation is expected to be introduced in the 110th Congress.

In December 2005, an amendment to the FY '06 Labor, Health, Human Services and Education Appropriations bill banned the use of political questions for scientific advisory committee nominees and the deliberate dissemination of false scientific information for those agencies.

In June 2006, two separate congressional letters to the Administration were sent in response to concerns about suppression of climate science. House Science Committee Chairman Sherwood Boehlert (R-NY) and Representative Vernon Ehlers (R-MI) sent a letter to the Director of the National Oceanic and Atmosphere Administration Conrad C. Lautenbacher, Jr. asking him to look into concerns that scientists at the agency have been prevented from discussion climate science, Senator Joe Lieberman (D-CT), also sent a letter to the Office of Science and Technology Policy Director John Marburger asking him to investigate why "the suppression of scientists' climate-change findings appears to be occurring simultaneously across more than one government agency."

Misuse of Science

Specific examples of the misuse of science have occurred across a broad range of issues such as childhood lead poisoning, toxic mercury emissions, climate change, reproductive health, and nuclear weapons. Experts at the FDA charged with ensuring the safety of our food and drug supply, report being pressured to alter their scientific conclusions. Political appointees in the Department of the Interior have been exposed for overruling the scientific consensus and refusing to protect endangered species. Scientists nominated to serve on scientific advisory boards report being asked about their political leanings. And scientists studying what may very well be the most profound global change of this century – global warming – are effectively barred from communicating their findings to the news media and the public. UCS has continued to compile additional examples in its July 2004 update of the original report, and its 2006 *A-to-Z Guide to Political Interference in Science.*

The specific actions by political appointees and others include:

1. Censorship and suppression of federal science by suppressing or delaying scientific reports, limiting media access to government scientists, and placing restrictions on the flow of information.
2. Disseminating inaccurate science-based information by forcing scientists to change their data, editing scientific documents to alter their conclusions, distributing inaccurate science based information, and distributing curricula with incorrect information.
3. Manipulating scientific advice by subjecting scientific advisory panel nominees to political litmus tests; nominating underqualified individuals or individuals with conflicts of interest; and ignoring or disbanding science advisory committees altogether.

Scientist Surveys

To move beyond anecdotes and to gather information about the extent and nature of the interference, UCS has conducted a series of surveys of federal scientists. Previous surveys have given voice to scientists at the Food and Drug Administration, the Fish and Wildlife Service and the NOAA Fisheries Program. More information about the series of surveys can be found at *http://www.ucsusa.org/surveys/.*

Today, UCS and the Government Accountability Project (GAP) are releasing a joint report, entitled *Atmosphere of Pressure*, addressing political interference in the work of federal climate scientists. As a part of this report, UCS sent surveys to over 1,600 climate scientists at seven federal agencies and departments.

Atmosphere of Pressure

Out of concern that inappropriate political interference and media favoritism are compromising federal climate science, the Union of Concerned Scientists (UCS) and the Government Accountability Project (GAP) undertook independent investigations of federal climate science. UCS mailed a questionnaire to more than 1,600 climate scientists at seven federal agencies to gauge the extent to which politics was playing a role in scientists' research. Surveys were also sent to scientists at the independent (non-federal) National Center for Atmospheric Research (NCAR) to serve as a comparison with the

experience of federal scientists. About 19 percent of all scientists responded (279 from federal agencies and 29 from NCAR). At the same time, GAP conducted 40 in-depth interviews with federal climate scientists and other officials and analyzed thousands of pages of government documents, obtained through the Freedom of Information Act (FOIA) and inside sources, regarding agency media policies and congressional communications.

These two complementary investigations arrived at similar conclusions regarding the state of federal climate research and the need for strong policies to protect the integrity of science and the free flow of scientific information.

Political Interference with Climate Science

The federal government needs accurate scientific information to craft effective policies. Political interference with the work of federal scientists threatens the quality and integrity of these policies. As such, no scientist should ever encounter any of the various types of political interference described in our survey questions. Yet unacceptably large numbers of federal climate scientists personally experienced instances of interference over the past five years:

- Nearly half of all respondents (46 percent of all respondents to the question) perceived or personally experienced pressure to eliminate the words "climate change," "global warming," or other similar terms from a variety of communications.
- Two in five (43 percent) perceived or personally experienced changes or edits during review that changed the meaning of scientific findings.
- More than one-third (37 percent) perceived or personally experienced statements by officials at their agencies that misrepresented scientists' findings.
- Nearly two in five (38 percent) perceived or personally experienced the disappearance or unusual delay of websites, reports, or other science-based materials relating to climate.
- Nearly half (46 percent) perceived or personally experienced new or unusual administrative requirements that impair climate-related work.
- One-quarter (25 percent) perceived or personally experienced situations in which scientists have actively objected to, resigned from, or removed themselves from a project because of pressure to change scientific findings.
- Asked to quantify the number of incidents of interference of all types, 150 scientists (58 percent) said they had *personally experienced* one or more such incidents within the past five years, for a total of *at least* 435 incidents of political interference.

The more frequently a climate scientist's work touches on sensitive or controversial issues, the more interference he or she reported. More than three-quarters (78 percent) of those survey respondents who self-reported that their research "always" or "frequently" touches on issues that could be considered sensitive or controversial also reported they had personally experienced at least one incident of inappropriate interference. More than

one-quarter (27 percent) of this same group had experienced six or more such incidents in the past five years.

In contrast to this evidence of widespread interference in climate science at federal agencies, scientists at the independent National Center for Atmospheric Research (NCAR), who are not federal employees, reported far fewer instances of interference. Only 22 percent of all NCAR respondents had personally experienced such incidents over the past five years.

Barriers to Communication

Federal scientists have a constitutional right to speak about their scientific research, and the American public has a right to be informed of the findings of taxpayer-supported research. Restrictions on scientists who report findings contrary to an administration's preferred policies undermine these basic rights. These practices also contribute to a general misunderstanding of the findings of climate science and degrade our government's ability to make effective policies on topics ranging from public health to agriculture to disaster preparation.

The investigation uncovered numerous examples of public affairs officers at federal agencies taking a highly active role in regulating communications between agency scientists and the media—in effect serving as gatekeepers for scientific information.

Among the examples taken from interviews and FOIA documents:

- One agency scientist, whose research illustrates a possible connection between hurricanes and global warming, was repeatedly barred from speaking to the media. Press inquiries on the subject were routed to another scientist whose views more closely matched official administration policy.
- Government scientists routinely encounter difficulty in obtaining approval for official press releases that highlight research into the causes and consequences of global warming.
- Scientists report that public affairs officers are sometimes present at or listen in on interviews between certain scientists and the media.
- Both scientists and journalists report that restrictive media policies and practices have had the effect of slowing down the process by which interview requests are approved. As a result, the number of contacts between government scientists and the news media has been greatly reduced.

Highly publicized incidents of interference have led at least one agency to implement reforms; in February 2006, NASA adopted a scientific openness policy that affirms the right of open scientific communication. Perhaps as a result, 61 percent of NASA survey respondents said recent policies affirming scientific openness at their agency have improved the environment for climate research. While imperfect, the new NASA media policy stands as a model for the type of action other federal agencies should take in reforming their media policies.

The investigation also highlighted problems with the process by which scientific findings are communicated to policy makers in Congress. One example, taken from internal documents provided to GAP by agency staff, shows edits to official questions for the record by political appointees, which change the meaning of the scientific findings being presented.

Inadequate Funding
When adjusted for inflation, funding for federal climate science research has declined since the mid-1990s. A majority of survey respondents disagreed that the government has done a good job funding climate science, and a large number of scientists warned that inadequate levels of funding are harming the capacity of researchers to make progress in understanding the causes and effects of climate change. Budget cuts that have forced the cancellation of crucial Earth observation satellite programs were of particular concern to respondents.

Poor Morale
Morale among federal climate scientists is generally poor. The UCS survey results suggest a correlation between the deterioration in morale and the politicized environment surrounding federal climate science in the present administration. One primary danger of low morale and decreased funding is that federal agencies may have more difficulty attracting and keeping the best scientists.

A large number of respondents reported decreasing job satisfaction and a worsening environment for climate science in federal agencies:

- Two-thirds of respondents said that today's environment for federal government climate research is worse compared with 5 years ago (67 percent) and 10 years ago (64 percent). Among scientists at NASA, these numbers were higher (79 percent and 77 percent, respectively).
- 45 percent said that their personal job satisfaction has decreased over the past few years. At NASA, three in five (61 percent) reported decreased job satisfaction.
- 36 percent of respondents from NASA, and 22 percent of all respondents, reported that morale in their office was "poor" or "extremely poor." Among NCAR respondents, only seven percent reported such low levels of morale.

Recommendations
This report has brought to light numerous ways in which U.S. federal climate science has been filtered, suppressed, and manipulated in the last five years. Until this political interference ends, the United States will not be able to fully protect Americans and the world from the dangers of a warming planet. Creating systems to ensure long-term independent and accessible science will require the energies of the entire federal government. UCS and GAP recommend the following reforms and actions:

- Congress must act to specifically protect the rights of federal scientists to conduct their work and communicate their findings without interference and protect scientists who speak out when they see interference or suppression of science.

- The federal government must respect the constitutional right of scientists to speak about any subject, including policy-related matters and those outside their area of expertise, so long as the scientists make it clear that they do so in their private capacity, and such communications do not unreasonably take from agency time and resources. Scientists should also be made aware of these rights and ensure they are exercised at their agencies.

- Ultimate decisions about the communication of federal scientific information should lie with scientists themselves. While non-scientists may be helpful with various aspects of writing and communication, scientists must have a "right of last review" on agency communications related to their scientific research to ensure scientific accuracy has been maintained.

- Pre-approval and monitoring of media interviews with federal scientists by public affairs officials should be eliminated. Scientists should not be subject to restrictions on media contacts beyond a policy of informing public affairs officials in advance of an interview and summarizing the interaction for them afterwards. We provide a Model Media Policy that can be used as an example for federal agencies who wish to reform their policies and practices regarding scientific freedom and openness.

- Federal agencies should clearly support the free exchange of scientific information in all venues. They should investigate and correct inappropriate policies, practices, and incidents that threaten scientific integrity, determine how and why problems have occurred, and make the necessary reforms to prevent further incidents.

- Congress should immediately exert pressure on the Executive branch to comply with its statutory duty under federal law and undertake periodic scientific assessments of climate change that address the consequences for the United States. (The last national assessment was conducted in 2000.)

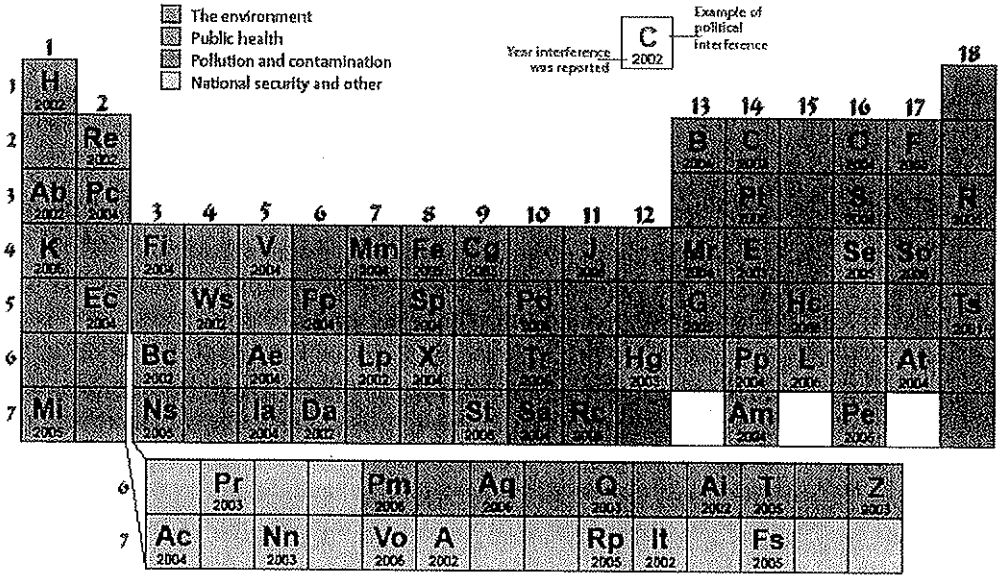
- Funding decisions regarding climate change programs should be guided by scientific criteria, and must take into account the importance of long-term, continual climate observation programs and models.

- All branches of the government must have independent scientific advice.

The reality of global warming, including the role of heat-trapping gases from human activities in driving climate change, has been repeatedly affirmed by scientific experts. Every day that the government chooses to ignore climate science is a day it fails to protect future generations from the consequences of global warming. Our government must commit to ensuring basic scientific freedoms and support scientists in their endeavors to bring scientific results to the policy arena, scientific fora, and a wide array of other audiences. Addressing climate change is a matter of national preparedness.

The A to Z Guide to Political Interference in Science

In recent years, scientists who work for and advise the federal government have seen their work manipulated, suppressed, distorted, while agencies have systematically limited public and policy maker access to critical scientific information. To document this abuse, the Union of Concerned Scientists has created the *A to Z Guide to Political Interference in Science*. To read the full *A to Z Guide* visit *http://www.ucsusa.org/scientific_integrity/interference/a-to-z-guide-to-political.html.*



From air pollution to Ground Zero, the *A to Z Guide* showcases dozens of examples of the misuse of science on issues like childhood lead poisoning, toxic mercury contamination, global warming, and endangered species. These examples originate in 18 federal agencies and departments.

Timeline of abuses of science

October 2006	Endangered Species Act Scientific Documents Altered
August 2006	EPA closes its scientific libraries
	EPA ignores scientific studies on pesticides
July 2006	Education Department suppresses study on school vouchers
May 2006	STD Panel at CDC conference manipulated,
	Science disregarded for prescription drug Ketek
April 2006	National Ambient Air Quality Standards
February 2006	Navy downplays sonar impact on marine life
	Science suppressed on hurricane/global warming connection
	Bureau of Land Management suspends forest study funding
	EPA distorts evidence for tightening particulate matter standard
January 2006	NASA censors climate scientist James Hansen
November 2005	Economic analysis distorted for endangered red frog habitat
October 2005	EPA limits information about their release of toxic chemicals
August 2005	Department of Justice suppresses racial profiling study

July 2005	EPA report on fuel efficiency withheld
	Top FDA official overrules staff to approve nerve stimulator
June 2005	Bureau of Land Management altered a cattle grazing impact study
May 2005	Genetics eliminated from Endangered Species Act decisions
April 2005	World Health Organization approval of abortion pill block attempt
March 2005	New selenium pollution control standards misrepresent science
February 2005	First UCS surveys of federal agencies scientists released
December 2004	Endangered Species Act scientific documents altered for greater sage grouse
	Federally funded abstinence-only curriculum contains false science
November 2004	FDA ignores scientists' warnings on arthritis drug Vioxx
October 2004	BLM promotes flawed study on hydraulic fracturing, an oil drilling technique
September 2004	Endangered Species Act science ignored for the marbled murrelet
August 2004	Science obscured on health impacts of weedkiller Atrazine
	Forest Service exaggerates wildfire threat to spotted owl to promote logging
June 2004	Health Organization panel experts are vetted by Health and Human Services
May 2004	EPA uses bad science to create plywood plant pollution rule
	FDA appointees distort science to deny access to emergency contraception
	Research at the U.S. Fish and Wildlife Service is distorted
April 2004	EPA distorts guidelines for monitoring air pollution over national parks
	CDC researchers kept from international AIDS conference
	Fish and Wildlife Service distorted economic analysis of bull trout habitat
	NIH advisory board rejects scientists subjected to political litmus tests
March 2004	Science-based recommendations removed from an official report on salmon
	Scientists dismissed from President's Council on Bioethics
February 2004	Arms Control Advisory Panel dismissed and never reappointed.
January 2004	Multiple agencies disregard science on mountaintop removal mining
December 2003	Office of Management and Budget adopts flawed peer review rule
	Administration officials manipulate Endangered Species Act science
August 2003	White House orders misleading of public on Manhattan air quality after 9/11
July 2003	National Nuclear Security Administration Panel dismissed
	EPA withheld an analysis of alternatives to President Bush's Clear Skies Act
June 2003	Administration officials undermined science behind climate change
March 2003	Forest Service overruled science-based old-growth forest management plan
February 2003	White House suppressed information about the impact of mercury on public health
December 2002	Administration obscured scientific evaluation of abstinence-only education programs
	CDC ordered to change website to raise doubt about the effectiveness of condoms
	NIH Drug Abuse Advisory Panel members subject to political litmus tests
	Abortion and breast cancer erroneously linked on National Cancer Institute website
	Microbiologist prohibited from publishing research on airborne bacteria from farms
November 2002	Workplace Safety Panel scientists rejected because of their political beliefs
October 2002	Childhood lead poisoning panelists replaced by scientists with industry funding
	Underqualified nominee suggested as chair of an FDA reproductive health committee
September 2002	Administration disregarded scientific analysis of aluminum tubes in Iraq
	Engineer rejected from Army Science Board because of political contributions
August 2001	Fish and Wildlife Service misrepresented information on rare trumpeter swans

Selected Excerpts from UCS Climate Survey Essay Responses

The 40-question survey mailed by UCS to over 1,600 federal climate scientists featured one essay question that allowed scientists to provide a written narrative, and extra space for scientists to leave additional comments. The following are excerpts from the essays provided, divided into five topic areas: political interference in climate science, scientific findings misrepresented, barriers to communication, funding, and climate scientist are disheartened.

"The integrity of the U.S. federal government climate science could best be improved by..."

I. Political Interference with Climate Science

Large numbers of federal climate scientists reported various types of interference, both subtle and explicit:

National Aeronautics and Space Administration (NASA)

"Remembering that the civil service scientists and engineers can and should be an unbiased reservoir of insights into different questions with impacts across international economic and cultural dividing lines. Politicizing and degrading the integrity for which we are internationally known and respected is a disservice to our country and a danger to the world. If we can't be trusted, to give insights on global change and funded to do so, who in the world will do it?"

"Keep politics out of science."

"Administration needs to act on the best information, not try to force the information to fit their desired action."

National Oceanic and Atmospheric Administration (NOAA)

"Removing the current atmosphere where scientists who report findings truthfully may face consequences if they contradict administration policies."

"I have never seen or expected this degree of political interference in scientific research. It's appalling and unbelievable that it happens in the US."

"Eliminating political pressure from influencing science findings."

"De-politicizing the science, especially at the highest administrative levels of agencies. Protect the integrity of scientists by letting them speak, and by respecting that."

"Remove political pressures that try to make agencies support the administration's agenda. Allow scientific agencies to remain nonpolitical. Allow scientific results to be used as scientific facts instead of political or policy statements."

"Policy of zero interference in the scientific process."

Environmental Protection Agency (EPA)

"The perception that . . . we (climate scientists) might find and write [something that] might

be considered controversial is a strong one that comes down from management. It's not clear that there's a real reason for it or what the consequences would be. This perception should be actively discouraged from the highest levels!"

"Keeping politics out of the scientific process. I believe the line has been crossed between science informing public policy and policy manipulating the science (and trying to influence its outcome). I have personally experienced this manipulation in the area of communicating the science many times."

Department of Energy
"Allowing scientists to work completely independently of current administrative views on the subject."

"No oversight of scientific quality by politicians. It should be left to peer review and presentations of results in scientific meetings."

U.S. Geological Survey (USGS)
"A scientific report will now undergo three 'policy' reviews and two 'peer' reviews prior to further peer-review journal reviews. This will not only slow the reporting of results, but the chances are that significant watering-down of results will occur during the three 'policy' reviews by non-specialists."

National Center for Atmospheric Research (NCAR)
"Keeping political employee appointments completely independent of the scientific research, scientific publication, and scientific communications processes."

II. Scientific Findings Misrepresented

Federal climate scientists reported that their research findings have been changed by non-scientists in ways that compromise accuracy:

National Oceanic and Atmospheric Administration (NOAA)
"Not censoring scientific results."

"US Federal government climate science does not lack integrity. Science assessments, summaries, policy papers sometimes do lack integrity. The best way to improve them would be to ensure they are written by qualified scientists, not by political hacks."

Department of Agriculture (USDA)
"It's not the climate science per se, but how it is spun and censored by officials."

"Hands off by policy/communications and non-scientific staff on scientific reports. These reports should be subject to scientific and independent peer review."

Department of Energy
"Not having political appointees who have no formal training in climate science looking over our shoulders. There should be some minimum bar before they are appointed. Policy should be based

on sound science; results of science should not be diluted on suited/adjusted to justify policy. This particular Administration has gone beyond reasonable boundaries, on this issue."

National Center for Atmospheric Research
"The unedited presentation of findings to government panels and to the public. It appears that funding organizations are shifting priorities away from climate studies to other programs deemed more important by the current administration."

III. Barriers to Communication

Agency scientists are not free to communicate their research findings to the media or the public:

National Aeronautics and Space Administration (NASA)
"As of March 2006, there was a marked change in NASA, and I have spoken out freely on climate change, including a NASA-approved press release. I believe scientists at other agencies (e.g. NOAA) still have restrictions."

"Allow direct and open communication between scientists and the public without prior permission, clearance, chaperones, handlers, etc."
"Recently a Bush appointee to the position of Public Information Officer attempted to muzzle Jim Hansen, Director of GISS . . . the NASA Administrator made it clear that such political meddling would not be tolerated. This was excellent leadership at the top and set the tone for any lower echelons that may not otherwise have been this strong. Michael Griffin is a great improvement over his recent precedents."

"Reduced public affairs interference, review, delay, oversight."

"Not having White House liaisons in science related PR offices."

National Oceanic and Atmospheric Administration (NOAA)
"Scientists should be free to communicate with the media, rather than having media contacts filtered by "Public Affairs" officers. This should be official policy, not a "wink and nod" policy."

"Removing all apparatchiks monitoring the controlling how scientists communicate to the public."

"Allowing us to interact openly with the public."

"Less restrictions on publications and data output, more universal support, less restrictive travel/visitor policies (our honored guests are treated like criminals to even get in the building)."

Department of Energy
"Not having political appointees tinker with science that is best left to the experts. Particularly at NOAA where the Administration has gagged free exchange of results.

"More open discussion of issues, honest assessment of data and results. The public does not know who to believe. Separate the "grey" results/literature from solid peer reviewed results and provide "what is known and not known", not opinions."

Environmental Protection Agency (EPA)
"Allowing scientists to communicate directly to the public and other scientists about critical significance of climate change. In fact, informing the public regarding the truth of this issue must be encouraged and rewarded."

National Center for Atmospheric Research
"From what I've heard, NCAR is rare among research institutes in that we are free to communicate our findings. This policy needs to apply to all research institutes and all scientists should be encouraged to communicate their results to the public."

"At one point, I specifically asked my division director if there were any censorship policies at NCAR. He emphatically stated that there were none and that if we were ever pressured that we should contact him immediately and he would raise hell to eliminate the pressure."

IV. Inadequate Funding

Scientists reported that inadequate funding affects their ability to do the research that is necessary and pertinent.

National Aeronautics and Space Administration (NASA)
"I believe that climate research at NASA is being undermined by the current administration. This is accomplished not through direct threats of intimidation, but through lack of funding. Several years ago the funding focus [at NASA] was switched from Earth Science to solar system exploration (Moon and Mars). I believe this was done not for solar system exploration, but rather to curtail climate research. The emphasis needs to be switched back to Earth Science."

"Problems with climate research in the federal government mainly have to do with funding. Future funding at my agency is uncertain. Future climate observational programs (crucial ones) are threatened because of lack of funds. New accounting rules at my agency require climate scientists to spend unreasonable amounts of time writing proposals, which has reduced productivity."

"Funding for climate research is a factor of 5-10 below critical mass to develop a designed climate observing system."

National Oceanic and Atmospheric Administration (NOAA)
"Include a dedicated long-term observing program with stable funding support for about 30 more years. The current satellite program does not meet climate research needs."

Environmental Protection Agency (EPA)
"I have not worked directly on climate change since funding was eliminated in my area. Other areas of much less importance have been emphasized as a result. Which is a tragedy."

Department of Agriculture (USDA)
"The US Climate Change Science Program has not received sufficient funding for needed observations, monitoring, research, [and] data systems."

U.S. Geological Survey (USGS)
"US satellite programs are in severe jeopardy. The loss of continuity in observational satellite data will impair progress in climate science."

V. Climate Scientists are Disheartened

While a large majority of respondents (88 percent) agreed with the statement, "U.S. federal government climate research is of generally excellent quality," respondents reported decreasing job satisfaction and a worsening environment for climate science in federal agencies:

National Oceanic and Atmospheric Administration (NOAA)
"The intrusion of politics into the field is making some (me and others) consider change of field or career."

Environmental Protection Agency (EPA)
"I am [close to] retirement and feel that I will no longer be able to use my abilities to produce scientific information of relevance to the American public. The last years of my career are being squandered for political reasons. I do not think I will be able to do any more new climate science before I retire. My goal is to get out the results from past research."

Department of Energy
To watch this from another agency is so demoralizing. They have virtually derailed the mission of providing environmental services to the public and burnt billions.... Shocking tracking record!"

"I know people in federal agencies who have been pushed into very difficult decisions on whether to leave or stay and do bad/insignificant work. Many cases they left."

U.S. Geological Survey (USGS)
"Incredible bureaucratization of USGS during Bush era seems intent on crippling our scientific productivity by wasting more of our time and energy on ridiculous and counter-productive 'accountability' procedures, damag[ing] to morale."

Scientists' Statement: Restoring Scientific Integrity in Policy Making

Science, like any field of endeavor, relies on freedom of inquiry; and one of the hallmarks of that freedom is objectivity. Now, more than ever, on issues ranging from climate change to AIDS research to genetic engineering to food additives, government relies on the impartial perspective of science for guidance.

President George H.W. Bush, April 23, 1990

Successful application of science has played a large part in the policies that have made the United States of America the world's most powerful nation and its citizens increasingly prosperous and healthy. Although scientific input to the government is rarely the only factor in public policy decisions, this input should always be weighed from an objective and impartial perspective to avoid perilous consequences. Indeed, this principle has long been adhered to by presidents and administrations of both parties in forming and implementing policies. The administration of George W. Bush has, however, disregarded this principle.

When scientific knowledge has been found to be in conflict with its political goals, the administration has often manipulated the process through which science enters into its decisions. This has been done by placing people who are professionally unqualified or who have clear conflicts of interest in official posts and on scientific advisory committees; by disbanding existing advisory committees; by censoring and suppressing reports by the government's own scientists; and by simply not seeking independent scientific advice. Other administrations have, on occasion, engaged in such practices, but not so systematically nor on so wide a front. Furthermore, in advocating policies that are not scientifically sound, the administration has sometimes misrepresented scientific knowledge and misled the public about the implications of its policies.

For example, in support of the president's decision to avoid regulating emissions that cause climate change, the administration has consistently misrepresented the findings of the National Academy of Sciences, government scientists, and the expert community at large. Thus in June 2003, the White House demanded extensive changes in the treatment of climate change in a major report by the Environmental Protection Agency (EPA). To avoid issuing a scientifically indefensible report, EPA officials eviscerated the discussion of climate change and its consequences.

The administration also suppressed a study by the EPA that found that a bipartisan Senate clean air proposal would yield greater health benefits than the administration's proposed Clear Skies Act, which the administration is portraying as an improvement of the existing Clean Air Act. "Clear Skies" would, however, be less effective in cleaning up the nation's air and reducing mercury contamination of fish than proper enforcement of the existing Clean Air Act.

Misrepresenting and suppressing scientific knowledge for political purposes can have serious consequences. Had Richard Nixon also based his decisions on such calculations he would not have supported the Clean Air Act of 1970, which in the following 20 years prevented more than 200,000 premature deaths and millions of cases of respiratory and cardiovascular disease. Similarly, George H.W. Bush would not have supported the Clean Air Act Amendments of 1990 and additional benefits of comparable proportions would have been lost.

The behavior of the White House on these issues is part of a pattern that has led Russell Train, the EPA administrator under Presidents Nixon and Ford, to observe, "How radically we have moved away from regulation based on independent findings and professional analysis of scientific, health and economic data by the responsible agency to regulation controlled by the White House and driven primarily by political considerations."

Across a broad range of policy areas, the administration has undermined the quality and independence of the scientific advisory system and the morale of the government's outstanding scientific personnel:

- Highly qualified scientists have been dropped from advisory committees dealing with childhood lead poisoning, environmental and reproductive health, and drug abuse, while individuals associated with or working for industries subject to regulation have been appointed to these bodies.
- Censorship and political oversight of government scientists is not restricted to the EPA, but has also occurred at the Departments of Health and Human Services, Agriculture, and Interior, when scientific findings are in conflict with the administration's policies or with the views of its political supporters.
- The administration is supporting revisions to the Endangered Species Act that would greatly constrain scientific input into the process of identifying endangered species and critical habitats for their protection.
- Existing scientific advisory committees to the Department of Energy on nuclear weapons, and to the State Department on arms control, have been disbanded.
- In making the invalid claim that Iraq had sought to acquire aluminum tubes for uranium enrichment centrifuges, the administration disregarded the contrary assessment by experts at Livermore, Los Alamos and Oak Ridge National Laboratories.

The distortion of scientific knowledge for partisan political ends must cease if the public is to be properly informed about issues central to its well being, and the nation is to benefit fully from its heavy investment in scientific research and education. To elevate the ethic that governs the relationship between science and government, Congress and the Executive should establish legislation and regulations that would:

- Forbid censorship of scientific studies unless there is a reasonable national security concern;
- Require all scientists on scientific advisory panels to meet high professional standards; and
- Ensure public access to government studies and the findings of scientific advisory panels.

To maintain public trust in the credibility of the scientific, engineering and medical professions, and to restore scientific integrity in the formation and implementation of public policy, we call on our colleagues to:

- Bring the current situation to public attention;
- Request that the government return to the ethic and code of conduct which once fostered independent and objective scientific input into policy formation; and
- Advocate legislative, regulatory and administrative reforms that would ensure the acquisition and dissemination of independent and objective scientific analysis and advice.

For a list of all 11,000 signers of this statement visit
http://www.ucsusa.org/scientific_integrity/interference/scientists-signon-statement.html

Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

U.S. Fish & Wildlife Service and NOAA Fisheries Survey Summary

February and June 2005

The Union of Concerned Scientists (UCS) and Public Employees for Environmental Responsibility (PEER) distributed a survey to more than biologists, ecologists, botanists and other science professionals working in headquarters and regional and field offices across the country who work for USFWS and NOAA Fisheries to obtain their perceptions of scientific integrity within the agencies, as well as political interference, resources and morale. Nearly 30 percent of the scientists at each agency returned completed surveys, despite USFWS agency directives not to reply—even on personal time.

Political Interference with Scientific Determinations

Large numbers of agency scientists reported political interference in scientific determinations.

- More than one third (37 percent) of respondents at NOAA Fisheries and nearly half (44 percent) of all respondents at USFWS whose work is related to endangered species scientific findings reported that they "have been directed, for non-scientific reasons, to refrain from making findings that are protective" of species and marine life. Nearly one in four (24 percent) NOAA Fisheries respondents and one in five USFWS scientists revealed they have been instructed to compromise their scientific integrity—reporting that they have been "directed to inappropriately exclude or alter technical information from [an agency] scientific document," such as a biological opinion;

- More than half of all respondents at each agency knew of cases where "commercial interests have inappropriately induced the reversal or withdrawal of scientific conclusions or decisions through political intervention;" and

- More than two out of three USFWS staff scientists (70 percent) and nearly nine out of 10 USFWS scientist managers (89 percent) knew of cases "where U.S. Department of Interior political appointees have injected themselves into Ecological Services determinations." More than half of the NOAA Fisheries scientists (58 percent) knew of cases "where high-level U.S. Department of Commerce administrators have inappropriately altered NOAA Fisheries determinations." A majority of USFWS respondents and a substantial minority (42 percent) of NOAA Fisheries respondents also cited interventions by members of Congress and local officeholders.

Negative Effect on Wildlife Protection

Only a slim majority of NOAA Fisheries respondents indicated the agency "routinely makes determinations using its best scientific judgment, even when political pressure is applied." There is further evidence that political intrusion has undermined both organizations' ability to fulfill their missions of protecting wildlife and marine resources.

- Three out of four USFWS staff scientists and even higher proportions of scientist managers (78 percent) felt that the USFWS is not "acting effectively to maintain or enhance species and their habitats, so as to avoid possible listings under the Endangered Species Act;"

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- Nearly two out of three USFWS scientists (64 percent) and three out of five NOAA Fisheries scientists (60 percent) did not feel the agency "is moving in the right direction;" and

- For those species already listed as threatened or endangered under the ESA, more than two out of three USFWS scientists (69 percent) did not regard the USFWS as effective in its efforts toward recovery of those listed species. Furthermore, nearly two in three (64 percent) of NOAA Fisheries scientists did not agree that the agency was effectively protecting populations of habitats of federally listed species, and more than two in three (69 percent) also doubted the agency could effectively aid in recovering threatened and endangered species.

Chilling Effect on Scientific Candor

Agency scientists reported being afraid to speak frankly about issues and felt constrained in their roles as scientists.

- More than forty percent of scientists from both agencies said they could not openly express "concerns about the biological needs of species and habitats without fear of retaliation" in public, while nearly a third of USFWS and NOAA Fisheries scientists did not feel they could do so even inside the confines of the agency;

- Almost a third of the scientists at USFWS (32 percent) and NOAA Fisheries (31 percent) felt they are not allowed to do their jobs as scientists; and

- Almost one in five scientists at each agency reported having "been directed by [agency] decision makers to provide incomplete, inaccurate or misleading information to the public, media or elected officials."

Resources and Morale

There was a broad perception that the agency lacks the resources to accomplish its mission. Not surprisingly, results showed a strain on staff morale in both agencies.

- Half of all scientific staff at USFWS reported that morale is poor to extremely poor and only 0.5 percent rated morale as excellent. More than two out of five (42 percent) of scientists at NOAA Fisheries described morale as poor or extremely poor and more than half (56 percent) do not feel that "upper-management will stand behind" an employee with a scientifically solid, yet politically controversial position.

- More than nine out of ten (92 percent) at USFWS and four in five (81 percent) at NOAA Fisheries did not feel that the agency "has sufficient resources to adequately perform its environmental mission;" and

- More than four out of five (85 percent) scientists at USFWS said that funding to implement the Endangered Species Act is inadequate.

The USFWS survey was sent to 1,410 scientists, of which 414, or 29.4 percent, responded to the survey. The NOAA Fisheries survey was sent to 464 scientists, of which 124, or 26.7 percent, responded to the survey.

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