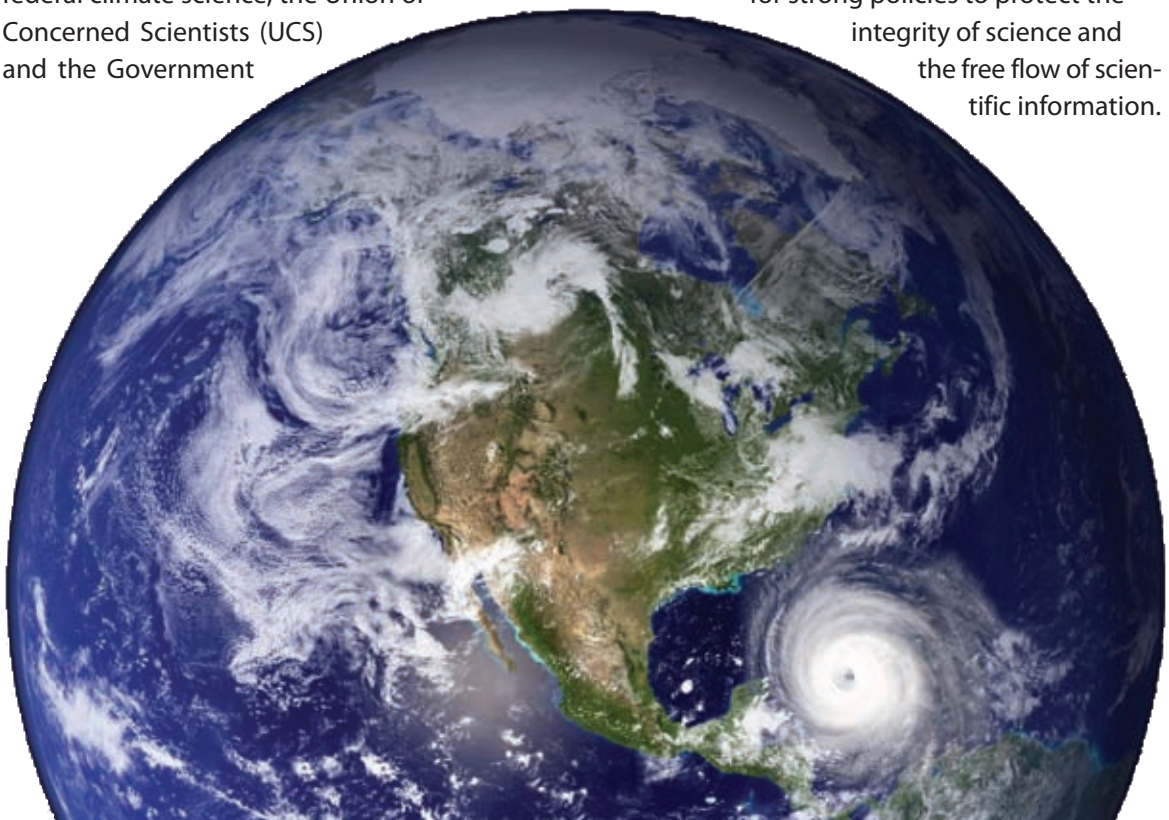
Executive Summary

Federal climate science research is at the forefront of assessing fundamental causes of global warming and the future dangers it could pose to our nation and the world. Such research is of tremendous value to many Americans planning for these risks, including coastal communities designing infrastructure for protecting against storm surges; civil authorities planning for heat waves; power companies preparing for higher peak energy demands; forest managers planning wildfire management programs; ski resort owners investing in snow-making equipment; and policy makers evaluating energy legislation. Therefore, it is crucial that the best available science on climate change be disseminated to the public, through government websites, reports, and press releases. In recent years, however, this science has been increasingly tailored to reflect political goals rather than scientific fact.

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.

"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."

— A SCIENTIST AT THE EPA

- 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.

"Policy should be based on sound science; results of science should not be diluted or . . . adjusted to justify policy. This particular Administration has gone beyond reasonable boundaries, on this issue. To be in denial on climate change is a crime against the Nation."

— A SCIENTIST AT THE USDA

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

"Scientists should be free to communicate with the media, rather than having media contacts filtered by 'Public Affairs' officers. This should be an official policy, not a 'wink and nod' policy."

— A SCIENTIST AT NOAA

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:

- 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 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 afterward.

- 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.

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.

Hurricane Katrina aftermath