



Voices of Federal Scientists

Americans' Health and Safety Depends on Independent Science

The United States faces extraordinary challenges such as combating climate change, protecting public health, and maintaining economic competitiveness. Every day, Americans hear the opinions of politicians, industry representatives, and media commentators on these topics. However, they only rarely hear from those whose daily work is critical to confronting these challenges: scientists and researchers at federal agencies. These scientists play a vital role in providing policy makers with the data and analyses they need to make the most informed decisions about our health, environment, and national security.

From 2005 to 2007, the Union of Concerned Scientists (UCS) conducted five surveys of federal scientists to evaluate how U.S. agencies use—and misuse—science to make policy decisions. These surveys gave voice to scientists at the Food and Drug Administration (FDA), the Environmental Protection Agency (EPA), the National Oceanic and Atmospheric Administration (NOAA), the Department of Agriculture (USDA), the Department of Defense (DOD), the Department of Energy

(DOE), the National Aeronautics and Space Administration (NASA), the Fish and Wildlife Service (FWS), and the U.S. Geological Survey (USGS).

The results reveal extensive political interference in federal science, with serious and wide-ranging consequences for our health, safety, and environment. This interference has weakened the federal scientific enterprise and impaired the ability of U.S. agencies to serve the public interest, with the potential for long-lasting harm to the federal scientific work force.

Restoring integrity to federal science requires action by the president and the leaders of U.S. agencies, strong and sustained congressional oversight, and the persistent and energetic engagement of many different stakeholders. Together, we must work to protect federal scientist whistle-blowers who report abuses of science, improve public access to scientific information, and reform the regulatory process to ensure that policy decisions are informed by the best available scientific information.



Union of Concerned Scientists

Citizens and Scientists for Environmental Solutions



Scientists Report Interference in Their Work

Large numbers of scientists reported political interference in their work:

- 1,028 scientists (60 percent of respondents¹) from a survey of climate researchers at seven agencies and a separate survey of EPA researchers reported that they had personally experienced at least one incident of political interference in their work over the last five years.
- 213 scientists (7 percent) across all five surveys said that agency decision makers had directed them to “provide incomplete, inaccurate, or misleading information” to the public.

Interference in federal science has taken many forms:

- 285 EPA scientists (22 percent of respondents) had personally experienced frequent or occasional “selective or incomplete use of data to justify a specific regulatory outcome.”
- 69 FDA scientists (9 percent) had frequently or occasionally “been asked, for non-scientific reasons, to inappropriately exclude or alter technical information or my conclusions in an FDA scientific document.”
- 72 scientists (15 percent) at the FWS and the National Marine Fisheries Service (the NMFS, a part of NOAA) had been “directed, for non-scientific reasons, to refrain from making findings that are protective” of endangered or threatened species.
- 57 climate scientists (21 percent) had personally experienced pressure to eliminate the words “climate change,” “global warming,” or similar terms from their communications.

Outside Pressures Influence Agency Work

Scientists reported political pressure from the White House, other agencies, and external commercial interests:

- 560 EPA scientists (49 percent of respondents) knew of many or some cases in which political appointees at other federal agencies were inappropriately involved in the EPA’s decisions. Nearly 100 respondents named the White House Office of Management and Budget as the primary culprit.

- 303 FWS scientists (74 percent) knew of cases where political appointees from the Department of the Interior (the parent agency of the FWS) injected themselves into FWS decisions.
- 245 FDA scientists (32 percent) knew of many or some cases where “commercial interests have inappropriately induced or attempted to induce the reversal, withdrawal, or modification of FDA determinations or actions.”
- 72 NMFS scientists (60 percent) knew of cases where administrators or appointees from the Department of Commerce (the parent agency of NOAA) “have inappropriately altered NOAA Fisheries determinations.”

Political Pressures Are Undermining Public Health and the Environment

Scientists’ responses suggest that political interference is compromising the ability of their agencies to protect the environment and public health:

- 522 EPA scientists (33 percent of respondents) disagreed that the EPA was acting effectively to “clean up and/or mitigate existing pollution or environmental problems.”
- 378 FDA scientists (39 percent) disagreed that the “FDA is acting effectively to protect public health.”
- 285 FWS scientists (69 percent) disagreed that the FWS is acting effectively to preserve endangered or threatened species.
- 85 NMFS scientists (70 percent) stated that they did not trust “NOAA Fisheries decision makers to make decisions that will protect marine resources and ecosystems.”

Scientists Are Unable to Speak Out

Scientists reported being afraid to speak frankly about their work, leading to a chilling effect on scientific candor and openness:

- A total of 1,413 scientists (42 percent of respondents) from all five surveys reported fearing retaliation for speaking out about their agency’s mission-driven work, either inside or outside the agency.

¹ Unless otherwise stated, we calculated percentages based on the number of respondents who answered a given question, or the total number who answered a set of similar questions across multiple surveys.



At some agencies, scientists reported that institutional barriers discourage them from communicating results and analysis with their scientific peers, the media, and the public:

- 783 EPA scientists (51 percent) disagreed that EPA policies allow scientists to “speak freely to the news media about their findings.”
- 269 FDA scientists (28 percent) disagreed that they are “allowed to publish work in peer-reviewed scientific journals regardless of whether it adheres to agency policies and positions.”
- 144 climate scientists (52 percent) reported that their agency’s public affairs officers always or frequently monitor scientists’ communication with the media.

The Climate for Science Is Worsening

Respondents repeatedly described a worsening environment for science at federal agencies:

- A total of 1,628 scientists (49 percent of respondents) across all five surveys disagreed that their agency is moving “in the right direction.”
- 931 scientists (52 percent) responding to four surveys (all except the EPA survey²) disagreed that their agency’s leadership consistently stands behind staff who put forth “scientifically defensible positions that may be politically controversial.”
- 719 EPA scientists (47 percent) felt that the agency’s decisions occasionally, seldom, or never make use of the best judgment of the EPA’s scientific staff.
- 182 climate scientists (67 percent) said that today’s environment for federal climate science is worse than it was five years ago.
- 171 scientists at the FWS and the NMFS (32 percent) felt that they are not allowed to do their job as scientists.
- 2,243 scientists (68 percent) across all five surveys described the morale of their office or division as fair, poor, or extremely poor.
- 1,351 scientists (47 percent) from four surveys (all except FWS) reported that their personal job satisfaction had declined over the past few years.

“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?”

— *A scientist from the National Aeronautics and Space Administration*

“There are still good scientists producing good science at USEPA. The main problem I see is an administration that considers science only if it supports its agenda.”

— *A scientist from the Environmental Protection Agency*

“Scientific discourse is strongly discouraged when it may jeopardize an approval . . . Whenever safety or efficacy concerns are raised on scientific grounds . . . these concerns are not taken seriously.”

— *A scientist from the Food and Drug Administration*

“Policy should be based on sound science; results of science should not be diluted or adjusted to justify policy.”

— *A scientist from the Department of Agriculture*

“It’s one thing for the department to dismiss our recommendations, it’s quite another to be forced (under veiled threat of removal) to say something that is counter [to] our best professional judgment.”

— *A scientist from the Fish and Wildlife Service*

“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. [In m]any cases they left.”

— *A scientist from the Department of Energy*

“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 a nod’ policy.”

— *A scientist from the National Oceanic and Atmospheric Administration*

² The five surveys did not include all of the same questions, and the form of some questions varied from survey to survey. Our analysis combines results only from survey questions with similar wording.

Conclusions and Solutions

Each survey provides a window into the practices, culture, and level of scientific integrity at U.S. science-based agencies. While the specific patterns of abuse of science varied from agency to agency, together the results show extensive political interference demanding immediate action. Restoring scientific integrity to federal policy making will require critical steps on the following five fronts:

- Scientists need stronger whistle-blower protections that enable them to report abuses of science without fearing that they will lose their jobs.
- The public should have full access to the results of federal research. Government operations and decision-making processes should become more transparent, so political interference in science can be exposed and corrected.
- The regulatory process needs fundamental reform to protect the vital role of independent science in agency decisions.
- Policy makers need better means of obtaining high-quality advice from scientists and researchers, so that they have accurate information on which to base their decisions.
- Congress and the president should investigate existing scientific monitoring programs to ensure that resources needed to enforce existing laws are in place and that political interference has not harmed those programs.

Survey Demographics

UCS conducted five surveys of scientists at nine federal agencies from 2005 to 2007. The surveys addressed the FWS in 2005, the NMFS in 2005, the FDA in 2006, climate scientists at seven agencies (NASA, NOAA, the EPA, the USDA, the DOD, the DOE, and the USGS) in 2006, and the EPA in 2007.³

More than 14,000 scientists at these nine federal agencies received surveys, and 3,400 responded, for an average response rate of 23 percent. (Response rates varied from

17 percent at the FDA to 29 percent at the EPA and the FWS.) The FDA, climate, and EPA respondents were largely senior scientists with many years of experience at their agencies. The first two surveys did not ask for demographic data.

Research Methods

While the methodology varied somewhat between surveys, the underlying goal remained the same: to obtain responses from as many federal scientists as possible while protecting their anonymity. The self-selection of respondents and other selection effects prevent us from extrapolating our findings to the entire group of scientists at the agencies. We therefore emphasize the raw numbers of responses to the questions, and provide percentages as a tool for comparison of results between surveys.

To find out more about the survey results and methodology, and to read other excerpts from respondents' essays, see www.ucsus.org/surveys.

The Union of Concerned Scientists

UCS is the leading science-based nonprofit working for a healthy environment and a safer world.

The UCS Scientific Integrity Program

Policy makers depend on the results of independent research to make informed decisions that protect our health, safety, and environment, and to ensure that the United States remains a world economic leader. The UCS Scientific Integrity Program mobilizes scientists and citizens alike to defend science from political interference and restore scientific integrity in federal policy making. To learn more, visit www.ucsus.org/scientific_integrity.

³ We may have surveyed a small number of EPA climate scientists twice—in the 2006 climate survey and the 2007 EPA survey—although we cannot say for sure because all respondents are anonymous. To avoid potential double-counting, we removed the 18 EPA scientists who responded to our climate survey when combining those results with the 2007 EPA survey. The lists of recipients for the 2005 NMFS survey and the NOAA scientists in the 2006 climate survey do not overlap.

The Union of Concerned Scientists is the leading science-based nonprofit organization working for a healthy environment and a safer world.



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