

Voices of Federal Scientific Integrity

National Oceanic and Atmospheric Administration

HIGHLIGHTS

Scientists conduct work vital to fulfilling the science-based missions of federal agencies charged with protecting Americans' health and safety, yet some federal officials are sidelining science from the policymaking process, endangering the nation's health, economy, environment, and world leadership. How do the scientists working for the federal government experience the state of science in their own agencies? A 2018 survey on the state of science inside the National Oceanic and Atmospheric Administration (NOAA) highlights issues regarding science-based decisionmaking processes at the agency, including evidence of the challenges presented to these processes by business interests and by scientists' self-censorship on climate change work.

Our nation relies on government science and scientists to protect public health, public safety, and the environment. However, political, ideological, and financial interests often undermine the use of science in federal decisionmaking, harming the public good in the process. While all modern presidents have politicized science to some extent, the Trump administration has escalated the challenge in many areas in both scope and severity.

In February and March 2018, the Union of Concerned Scientists (UCS) and the Center for Survey Statistics and Methodology at Iowa State University surveyed more than 63,000 federal scientists in 16 government agencies, including the National Oceanic and Atmospheric Administration (NOAA). The goal was to gain insight one year into the Trump administration about the state of scientific integrity in the federal government, as well as agency effectiveness and the working environment for its scientists. At NOAA, 11,195 scientists and scientific experts were sent a survey; 1,158 responded, yielding an overall response rate of 10 percent. Across survey items, the total number of respondents varied. Acting NOAA administrator Dr. Timothy Gallaudet was supportive of the survey, sending an agency-wide email to remind staff of the agency's scientific integrity policy and encourage survey participation in the scientists' personal time.

The results shed light on the level of politicization of science at NOAA, as well as its impact on agency effectiveness and its federal workforce. While respondents generally feel that NOAA adheres to its scientific integrity policies, they also feel the agency should do more to create a work environment in which scientists feel free to conduct and communicate independent science without inappropriate pressure



Kathryn Hansen/NASA

In early 2018, scientists from NOAA were surveyed on issues of scientific integrity, funding and resources, censorship, top barriers to science-based decisionmaking, and more.

from decisionmakers. They also feel that business interests—and officials who come from industry—have inappropriately influenced agency decisions.

The survey follows and builds on surveys conducted by UCS since 2005 during the administrations of President George W. Bush and President Barack Obama. Detailed methodology and results from all surveys can be found at www.ucsusa.org/surveys.

Scientific Integrity at the National Oceanic and Atmospheric Administration

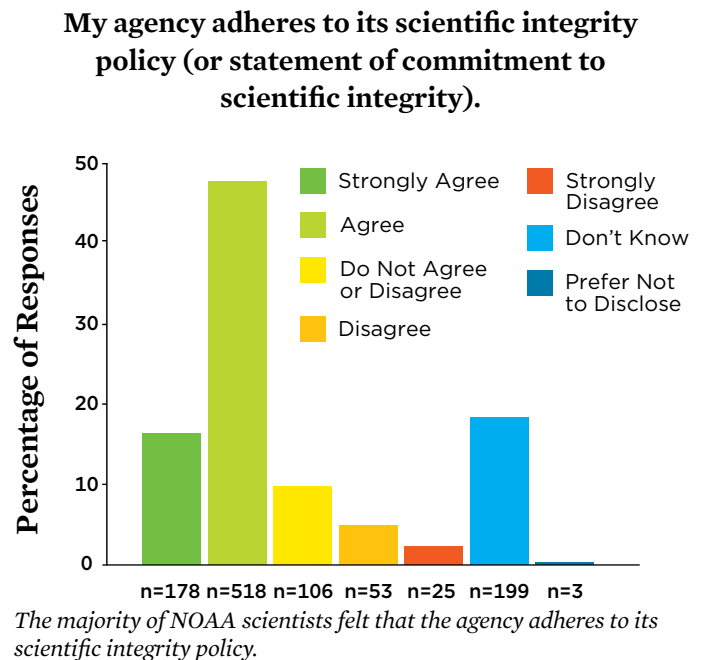
NOAA is essential to personal and societal decisions on keeping Americans safe. Instilling a strong culture of scientific integrity at NOAA is vital for scientists to fulfill the agency's mission of providing quality science, service, and stewardship, particularly in understanding and predicting changes in climate, weather, oceans, and coasts; conserving and managing coastal and marine ecosystems and resources; and communicating this information with others. NOAA's scientific integrity policy establishes strong protections for scientists to communicate their data and findings to the public and clear procedures for investigating allegations of scientific misconduct.

As in previous surveys, NOAA scientists called attention to efforts by the agency to protect scientific integrity, but they also identified concerns extending beyond the scope of the agency's scientific integrity policy. These included issues with communication and undue influence from business interests in science-based decisions. Further, in both 2015 (19 percent, 1,034 respondents) and 2018 (45 percent, 521 respondents) NOAA respondents widely viewed a lack of staff capacity over multiple administrations as a limiting factor for science-based decisionmaking. "At my local level I generally see high standards of integrity in research," one NOAA scientist said. "I do not see the kinds of things that have been in the media about other science agencies like where scientists have been silenced (NASA scientist appearance at a conference cancelled by the agency) or basically forced into early retirement because the agency is being gutted (EPA). The problem[s] we have had with funding and hiring freezes have been going on for quite a long time and are due to Congress."

NOAA scientists report that the agency adheres to its scientific integrity policy:

- 48 percent of respondents (518) agreed, and 16 percent of respondents (178) strongly agreed, that NOAA adheres to its scientific integrity policy (Figure 1).

FIGURE 1. Adherence to Scientific Integrity Policy at NOAA



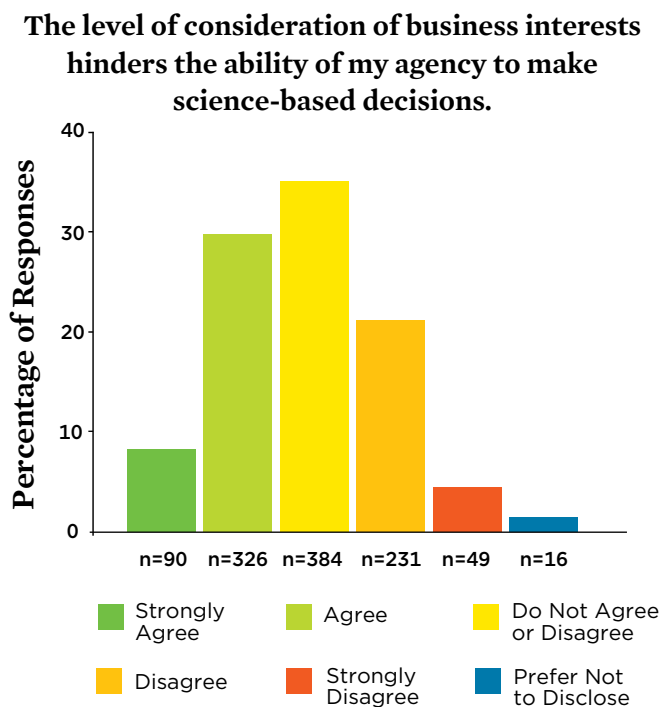
NOAA scientists feel that leadership coming from regulated industry inappropriately influences science-based decisions:

- 38 percent (416 respondents) said that a focus on business interests hinders science-based decisionmaking at NOAA (Figure 2, p. 3).
- 29 percent (311 respondents) said that senior decisionmakers who come from industry or have a financial stake in regulatory outcomes inappropriately influence decisionmaking.

NOAA scientists report censoring climate change science, although many feel the agency supports their work and communication on issues viewed as politically contentious:

- 10 percent (108 respondents) reported censorship of the phrase "climate change" (Figure 3, p. 3).
- 67 percent (765 respondents) felt that their direct supervisors support scientists who put forth scientifically defensible positions that might be viewed as politically contentious. This was an improvement over responses to the 2015 survey of NOAA scientists (56 percent; 1,180 respondents).

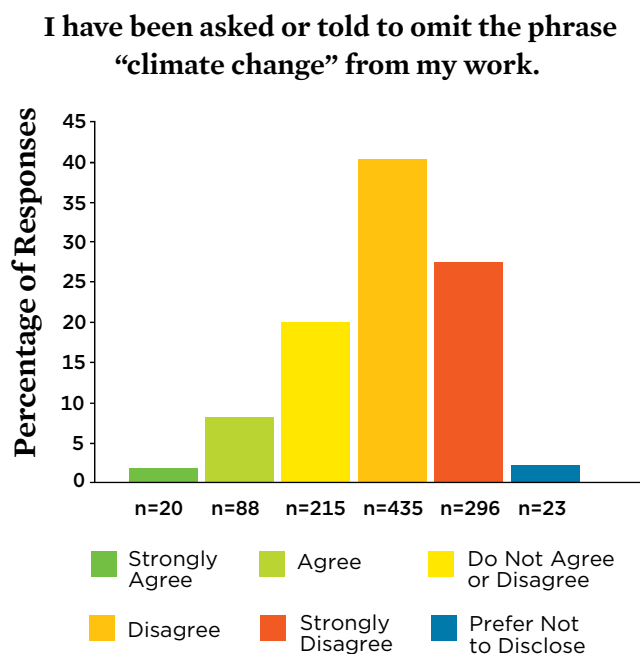
FIGURE 2. Industry Influence at NOAA



NOAA scientists felt that industry inappropriately influences agency decisions.

- 42 percent (467 respondents) felt that they could share scientific findings with the public and the media, regardless of the topic's political contentiousness. This is a slight improvement from 2015 (32 percent, 625 respondents) (Figure 4, p. 4).

FIGURE 3. Censorship at NOAA



108 NOAA respondents said that they have censored work and language related to climate change.

Scientists called attention to efforts by the agency to protect scientific integrity.

Scientists Speak Out

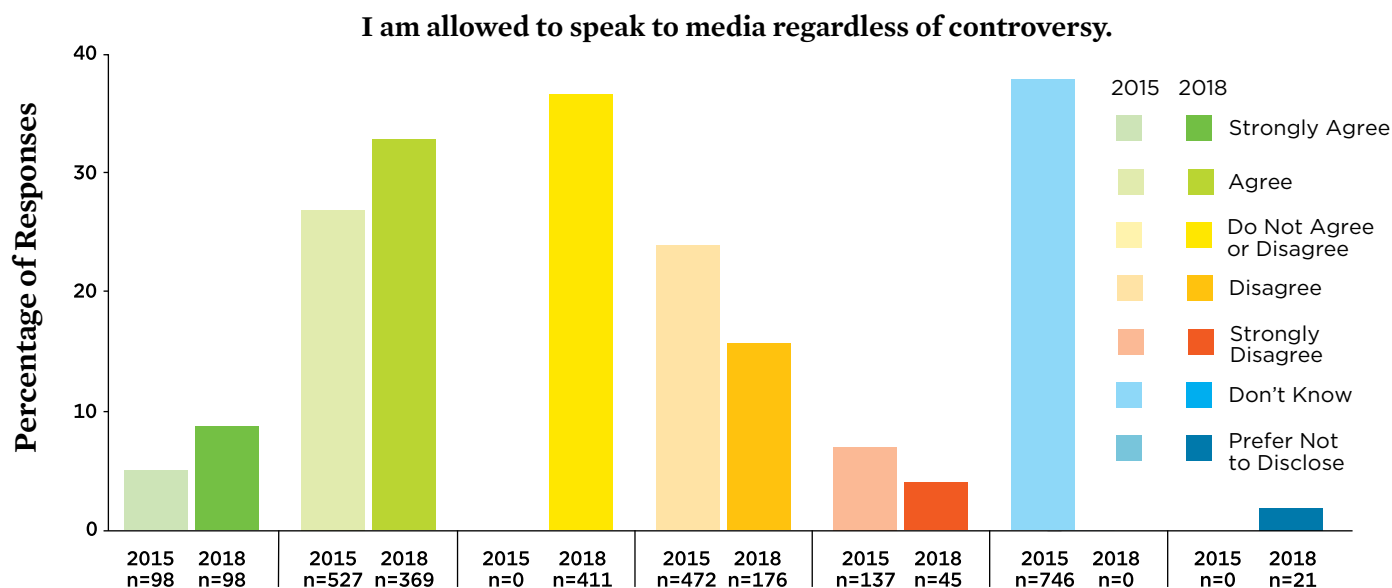
Anonymous survey respondents from NOAA cited industry interference among their concerns. Here are some examples of what they had to say:

- "I've been told to avoid scientific work that might link environmental problems with the actions of U.S. industry."
- "Industry is given power to direct policy involving regulations or scientific conclusions (and opinions based on the science) that would affect them, thus providing outcomes that benefit them. This comes at the cost of our agency's ability to accomplish our mission for the

American public and natural resources we are entrusted to manage and conserve."

- "NOAA's mission includes climate work. There is universal acceptance among the agency's non-political staff about the reality of climate change. We have to tiptoe around this issue, which is degrading."
- "Our management (career NOAA) at [Oceanic and Atmospheric Research] has been clear that we are free to discuss our scientific results, no matter their political implications, as long as we stick to the science."

FIGURE 4. Speaking to the Media at NOAA



Compared with 2015, NOAA scientists felt more able to speak to the public and media about their scientific research findings, regardless of the topic's political contentiousness. A chi-square test between survey results found that these results were significantly different at a 95-percent level ($p < 0.0001$). A Mantel-Haenszel chi-square test found that results skewed significantly more positive (agree/strongly agree) in 2018 responses ($p < 0.0001$).

Recommendations

With respondents noting some interference from business interests, scientific integrity at NOAA could best be improved if agency leaders reaffirm scientists' freedom to pursue and communicate openly about their scientific work without asking for permission, regardless of whether the work is politically

contentious. Further, the agency should allow for professional development by providing adequate resources and encouragement for scientists to attend scientific conferences. Working to further instill a culture of scientific integrity at NOAA should help to improve scientists' job satisfaction, which was reported as low during the past year.

Union of Concerned Scientists

FIND THIS DOCUMENT ONLINE: www.ucsusa.org/2018survey

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