

WHEN POLITICS TRUMP SCIENCE: THE EROSION OF SCIENCE-BASED REGULATION

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“Science is science and facts are facts. My administration will ensure that there will be total [scientific] transparency and accountability without political bias.”¹ That was the promise made in September 2016 by then-candidate Donald Trump when asked how he would protect federal scientists from political interference in their work.² Since taking office, however, President Trump has led a concerted effort to undermine federal scientific research, particularly in areas where research findings contradict his own views or undermine the basis of his deregulatory agenda.

That effort is documented in the Silencing Science Tracker, an online database that records anti-science actions taken by the federal government.³ Drawing on three-and-a-half years of tracker data, this Comment analyzes the Trump Administration's evolving war on science and shows how it is changing the way federal agencies perform, use, and communicate scientific research. We focus primarily on climate science, which has been the subject of particularly fierce attacks under President Trump, though he has also targeted other areas. His actions could have long-lasting consequences, damaging the role of science in regulation for years to come.

I. The Silencing Science Tracker

The Silencing Science Tracker is a joint project of the Climate Science Legal Defense Fund and Columbia Law School's Sabin Center for Climate Change Law. As of June 26, 2020, the tracker recorded 295 anti-science actions

Authors' Note: All data analyzed in this Comment are available online at <https://climate.law.columbia.edu/Silencing-Science-Tracker>.

1. Science Debate, *2016 Presidential Q&As*, <https://sciencedebate.org/sciencedebate-presidential-2016.html> (last visited July 15, 2020).
2. *Id.*
3. See Sabin Center for Climate Change Law, *Silencing Science Tracker*, <https://climate.law.columbia.edu/Silencing-Science-Tracker> (last visited July 15, 2020).

taken by the federal government in the three-and-a-half years following President Trump's election (i.e., from November 8, 2016, to May 7, 2020). This reflects all publicly reported federal government actions restricting or prohibiting scientific research, education, or discussion, or the publication or use of scientific information.⁴ The tracker also records actions taken by state and local governments, but those are not discussed here.⁵

Federal actions recorded in the tracker are categorized as follows:

1. Government censorship;
2. Self-censorship;
3. Budget cuts;
4. Personnel changes;
5. Research hindrance; and
6. Bias and misrepresentation.⁶

Within the above categories, the tracker records actions taken by the federal executive branch and the U.S. Congress, except legislative proposals.⁷ Several tracker entries involve multiple types of action or actors. For the purposes of this analysis, those entries were separated into their component parts, resulting in 346 unique instances of anti-science behavior, each of which involves one type of action (i.e., from the list above), performed by one actor (e.g., a specific executive agency).

Unless otherwise specified, the figures shown below were calculated based on that total. The total represents

4. Sabin Center for Climate Change Law, *About the Silencing Science Tracker*, <https://climate.law.columbia.edu/content/about-silencing-science-tracker> (last visited July 15, 2020). [Editor's Note: The Climate Science Legal Defense Fund has provided legal assistance to scientists who have been affected by the government actions captured in the tracker, but all entries reflect solely publicly available information as reported by media outlets.]

5. *Id.*

6. *Id.*

7. *Id.*

a conservative estimate of anti-science actions taken since November 2016. Because the tracker only records actions reported in the news media, some will almost certainly not have been captured. (Readers who are aware of additional reported actions are invited to contact the authors.)

II. Anti-Science Actions Under Trump

Despite President Trump's campaign promise to ensure the integrity of federal scientific research, his Administration has taken a raft of measures to hamstring researchers and conceal their findings. This dovetails neatly with a key goal of the Trump Administration: to roll back climate change and other environmental regulations that scientific research shows would advance public health and environmental quality. Faced with this contradiction, the Administration has sought to restrict access to scientific information or to cast doubt on its veracity, thereby limiting public understanding of the issues and reducing possible opposition to the Administration's plans. Further compounding this impact, there is strong evidence that the Administration's actions have created a culture of fear among federal scientists, leading some to voluntarily suppress or distort information at odds with President Trump's agenda.

A. Censorship and Self-Censorship

In the three-and-a-half years following President Trump's election, there were 126 documented instances of federal government censorship of scientists, and 20 instances of scientists engaging in self-censorship. Approximately 79% involved the suppression of information about climate change. This began even before President Trump took office, with a discussion of the health impacts of climate change removed from a U.S. Department of Health and Human Services website immediately after the election, reportedly to "avoid drawing [the] new president's ire."⁸ Following President Trump's inauguration, climate change and other scientific information was removed from the websites of eight other federal bodies, in most cases at the direction of Administration officials.⁹

8. Sabin Center for Climate Change Law, *Silencing Science Tracker: References to "Climate Change" Removed From CDC Website*, <https://climate.law.columbia.edu/content/references-climate-change-removed-cdc-website> (last visited July 15, 2020).

9. Scientific information was removed from the websites of the U.S. Departments of Agriculture, Energy, the Interior, State, and Transportation, the U.S. Environmental Protection Agency, the U.S. Global Change Research Program, and the White House. See, e.g., Sabin Center for Climate Change Law, *Silencing Science Tracker: Climate Change Information Removed From USDA Website*, <https://climate.law.columbia.edu/content/climate-change-information-removed-usda-website> (last visited July 15, 2020); Sabin Center for Climate Change Law, *Silencing Science Tracker: Climate Change Resources Removed From DOE Website*, <https://climate.law.columbia.edu/content/climate-change-resources-removed-doe-website> (last visited July 15, 2020); Sabin Center for Climate Change Law, *Silencing Science Tracker: Climate Change Information Removed From DOI Website*, <https://climate.law.columbia.edu/content/climate-change-information-removed-doi-website> (last visited July 15, 2020); Sabin Center for Climate Change Law, *Silencing Science Tracker: Climate Change Pages Removed From State Department Website*, <https://climate.law.columbia.edu/content/climate-change-pages-removed-state-department-website> (last visited July 15, 2020); Sabin Center for Climate Change Law, *Silencing Science Tracker: "Climate Change*

The Trump Administration has also sought to block the publication of, or required prepublication edits to, scientific reports discussing climate change. This might seem inconsequential given the many other sources of climate change information. In the past, however, the federal government has provided United States-specific information that is unavailable elsewhere and highly useful in formulating domestic climate regulations. Concealing that information helps the Trump Administration by casting doubt on the need for climate regulations and thus making it easier to justify deregulation.

Recognizing this, Administration officials have deleted information on the local health effects of climate change from regulatory documents supporting the weakening of greenhouse gas emissions controls.¹⁰ Officials have also attempted to suppress information that could lead to demands for stricter regulation (e.g., because it sheds additional light on the impacts of climate change or shows that existing attempts to address it are inadequate).¹¹ This could have lasting consequences, making it more difficult for future administrations to take regulatory action, due to a lack of information or sense of urgency.

Censorship has been particularly widespread during the Trump Administration, having been documented at 20 federal bodies—more than any other type of anti-science action. Notably, however, the number of documented instances of government censorship has declined slightly over time, falling by 28% from 2017 to 2018 and a further 11% in 2019. This is not necessarily good news; it may simply reflect the fact that less science is being done because of personnel changes, budget cuts, and other anti-science actions taken by the Trump Administration.

B. Personnel Changes

Over the past three-and-a-half years, the Trump Administration has removed or reassigned federal government scientists on multiple occasions, often seemingly to prevent climate change research.¹² This has reduced the capacity

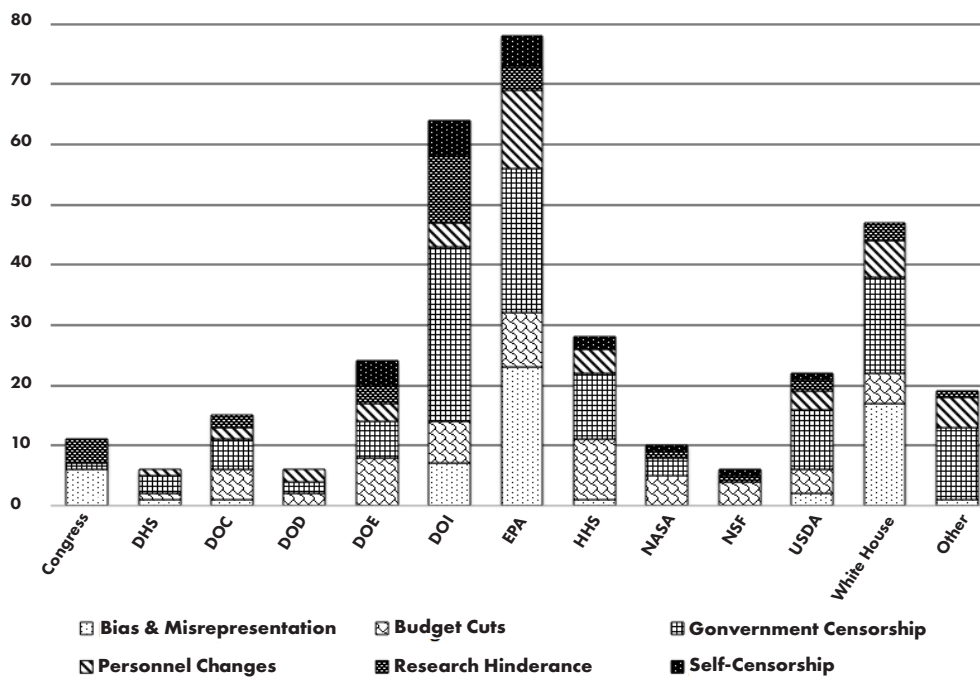
References Removed From FHWA Website, <https://climate.law.columbia.edu/content/climate-change-references-removed-fhwa-website> (last visited July 15, 2020); Sabin Center for Climate Change Law, *Silencing Science Tracker: EPA Climate Change Website Removed*, <https://climate.law.columbia.edu/content/epa-climate-change-website-removed> (last visited July 15, 2020); Sabin Center for Climate Change Law, *Silencing Science Tracker: USGCRP Removes Sections on Climate Change From Its Website*, <https://climate.law.columbia.edu/content/usgcrp-removes-sections-climate-change-its-website> (last visited July 15, 2020); Sabin Center for Climate Change Law, *Silencing Science Tracker: "Climate Change" References Removed From White House Website*, <https://climate.law.columbia.edu/content/climate-change-references-removed-white-house-website> (last visited July 15, 2020).

10. Sabin Center for Climate Change Law, *Silencing Science Tracker: References to "Climate Change" Removed From EPA Regulatory Impact Analysis*, <https://climate.law.columbia.edu/content/references-climate-change-removed-epa-regulatory-impact-analysis-0> (last visited July 15, 2020).

11. See, e.g., Sabin Center for Climate Change Law, *Silencing Science Tracker: Studies Showing Damages From Climate Change Buried by USDA*, <https://climate.law.columbia.edu/content/studies-showing-damages-climate-change-buried-usda> (last visited July 15, 2020).

12. See, e.g., Sabin Center for Climate Change Law, *Silencing Science Tracker: NCS Directorate for Global Health Security and Biodefense Dissolved*, <https://climate.law.columbia.edu/content/nsc-directorate-global-health-security-and-biodefense-dissolved> (last visited July 15, 2020); Sabin Center for Climate Change Law, *Silencing Science Tracker: DOI Scientists Involuntarily*

Figure 1. Federal Anti-Science Actions by Agency (Nov. 8, 2016 to May 7, 2020)



of key science agencies, including the U.S. Environmental Protection Agency (EPA), which lost nearly 700 scientists from 2017 to 2019, only one-half of which were replaced.¹³ It is not just EPA that has been affected, however. In total, more than 1,600 scientists, representing 1.5% of the federal scientific work force, left government between 2017 and 2019.¹⁴

As well as reducing federal agencies' internal scientific expertise, the Trump Administration has also sought to limit their access to outside experts. To that end, in June 2019, President Trump issued an Executive Order directing each federal agency to eliminate at least one-third of its current scientific advisory committees.¹⁵ Many of the committees that remain (e.g., at EPA, the U.S. Department of the Interior (DOI), and the U.S. Department of Labor) have been unofficially suspended.¹⁶ Others have had their

membership changed, with independent scientists replaced by industry representatives.¹⁷

The dismantling of science advisory committees furthers the Trump Administration's agenda by limiting external review of the scientific bases for its deregulatory actions. At EPA, for example, a committee responsible for advising on the adequacy of existing limits on particulate matter was disbanded in the midst of an agency review thereof.¹⁸ While the review was overseen by another board, its own members indicated that they lack the necessary expertise to advise EPA.¹⁹ It appears, then, that the Administration may be stacking advisory committees with favored "experts" who are unwilling or unable to question the science behind its decisions. This is particularly harmful to the development and implementation of science-based regulations.

Reassigned, <https://climate.law.columbia.edu/content/doi-scientists-involuntarily-reassigned> (last visited July 15, 2020).

13. Sabin Center for Climate Change Law, *Silencing Science Tracker: Fewer Scientists Employed by EPA in 2017*, <https://climate.law.columbia.edu/content/fewer-scientists-employed-epa-2017> (last visited July 15, 2020).

14. Sabin Center for Climate Change Law, *Silencing Science Tracker: Fewer Scientists Employed in Federal Government During Trump Presidency*, <https://climate.law.columbia.edu/content/fewer-scientists-employed-federal-government-during-trump-presidency> (last visited July 15, 2020).

15. Exec. Order No. 13875, Evaluating and Improving the Utility of Federal Advisory Committees, 84 Fed. Reg. 28711 (June 19, 2019).

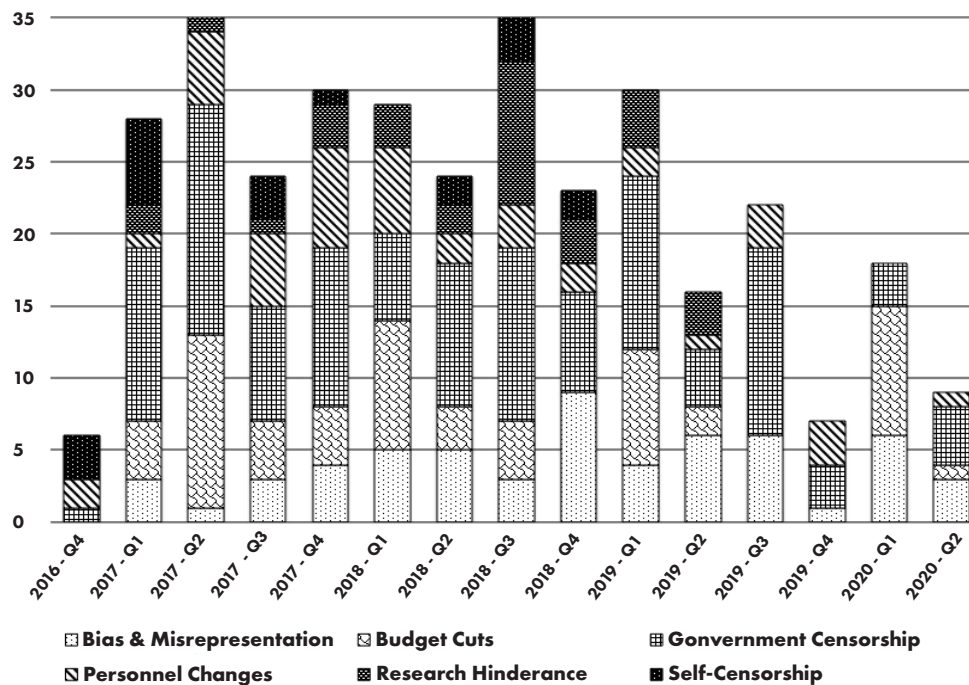
16. See, e.g., Sabin Center for Climate Change Law, *Silencing Science Tracker: EPA Science Advisory Board Unofficially Suspended*, <https://climate.law.columbia.edu/content/epa-science-advisory-board-unofficially-suspended-0> (last visited July 15, 2020); Sabin Center for Climate Change Law, *Silencing Science Tracker: DOI Advisory Boards Suspended or Eliminated*, <https://climate.law.columbia.edu/content/doi-advisory-boards-suspended-or-eliminated> (last visited July 15, 2020); Sabin Center for Climate Change Law, *Silencing Science Tracker: DOL Advisory Boards Suspended*, <https://climate.law.columbia.edu/content/dol-advisory-boards-suspended-0> (last visited July 15, 2020).

17. See, e.g., Sabin Center for Climate Change Law, *Silencing Science Tracker: EPA-Funded Scientists Barred From Serving on Advisory Committees*, <https://climate.law.columbia.edu/content/epa-funded-scientists-barred-serving-advisory-committees> (last visited July 15, 2020).

18. Sabin Center for Climate Change Law, *Silencing Science Tracker: EPA Science Panel Disbanded*, <https://climate.law.columbia.edu/content/epa-science-panel-disbanded-0> (last visited July 15, 2020).

19. CLEAN AIR SCIENTIFIC ADVISORY COMMITTEE, PRELIMINARY COMMENTS FROM MEMBERS OF THE CASAC ON EPA'S INTEGRATED SCIENCE ASSESSMENT FOR PARTICULATE MATTER (EXTERNAL REVIEW DRAFT-OCTOBER 2018) 28, 102 (2019), https://www.eenews.net/assets/2018/12/11/document_gw_102.pdf.

Figure 2. Federal Anti-Science Actions by Quarter (Nov. 8, 2016 to May 7, 2020)



C. Budget Cuts

Under President Trump, federal agencies have also faced pressure to reduce spending on scientific research, with the Administration proposing deep across-the-board cuts in the past three budget cycles.²⁰ Those proposals were largely rejected by Congress, which has actually increased research funding during the Trump presidency.²¹ Nevertheless, many existing research programs have had their funding cut or entirely eliminated.

Some agencies have also begun requiring new programs to be reviewed by political appointees to ensure they “promote the [Trump Administration’s] priorities.”²² Perhaps unsurprisingly, appointees have used the review process to further deregulatory initiatives, blocking funding for research that might otherwise underpin environmental regulations. EPA, for example, has refused new grants for climate research.²³ Meanwhile, DOI has halted existing

research on the health impacts of coal mining, purportedly due to financial constraints.²⁴

D. Research Hindrance

The Trump Administration has also hindered research in other ways, including by limiting access to necessary data,²⁵ preventing collaboration among researchers,²⁶ and interfering with research processes.²⁷ In total, in the three-and-a-half years following President Trump’s election, there were 35 documented examples of research hindrance. The number of incidents doubled from 2017 to 2018, before dropping in 2019.

As with other anti-science actions, officials have often targeted research that is at odds with the Trump Administration’s deregulatory agenda, especially regarding climate

20. Matt Hourihan, *Update: In the Age of Trump, Congress Keeps Boosting Science Funding*, AM. ASS’N FOR ADVANCEMENT SCI., Dec. 17, 2019, <https://www.aaas.org/news/update-age-trump-congress-keeps-boosting-science-funding>.
 21. *Id.*
 22. Sabin Center for Climate Change Law, *Silencing Science Tracker: New Grants Process Adopted by DOI*, <https://climate.law.columbia.edu/content/new-grants-process-adopted-doi> (last visited July 15, 2020).
 23. Sabin Center for Climate Change Law, *Silencing Science Tracker: EPA Grants Reviewed by Political Appointee*, <https://climate.law.columbia.edu/content/epa-grants-reviewed-political-appointee> (last visited July 15, 2020).

24. Sabin Center for Climate Change Law, *Silencing Science Tracker: Coal Mining Study Paused by DOI*, <https://climate.law.columbia.edu/content/coal-mining-study-paused-doi> (last visited July 15, 2020).
 25. Sabin Center for Climate Change Law, *Silencing Science Tracker: Scientific Data and Records to Be Destroyed by DOI*, <https://climate.law.columbia.edu/content/scientific-data-and-records-be-destroyed-doi-0> (last visited July 15, 2020).
 26. Sabin Center for Climate Change Law, *Silencing Science Tracker: Scientific Conference Cancelled by USDA Due to Partial Government Shutdown*, <https://climate.law.columbia.edu/content/scientific-conference-cancelled-usda-due-partial-government-shutdown-0> (last visited July 15, 2020).
 27. Sabin Center for Climate Change Law, *Silencing Science Tracker: USGS Scientists Ordered Not to Model Long-Term Climate Impacts*, <https://climate.law.columbia.edu/content/usgs-scientists-ordered-not-model-long-term-climate-impacts> (last visited July 15, 2020).

change. Scientists at DOI, for example, have been directed not to model impacts of climate change beyond 2040.²⁸ Since the worst impacts are expected to occur after that, halting this research helps justify the weakening of existing climate regulations.

E. Bias and Misrepresentation

Of course, the Trump Administration cannot always block the conduct or publication of research, particularly where it has been mandated by law. In those situations, Administration officials have engaged in bias and misrepresentation, undermining or simply dismissing research findings that do not support its agenda. One notable example is the Administration's response to the Fourth National Climate Assessment, which officials falsely claimed was "not data driven" and only modeled "the most extreme scenario," rendering it untrustworthy; President Trump simply declared, "I don't believe it."²⁹

In the three-and-a-half years following President Trump's election, we documented 59 instances of bias and misrepresentation, involving actors from Congress, the White House, and seven executive agencies. Government actors appear to have felt increasingly emboldened to engage in such behavior during the Trump presidency. Instances of bias and misrepresentation doubled from 2017 to 2018, before stabilizing in 2019 and early 2020. The increase may be partly attributable to the Trump Administration's widespread censorship of science, which has limited public access to information that calls officials' views into question. Moreover, as a result of other anti-science actions taken by the Trump Administration, there are now fewer federal scientists to advise and potentially constrain officials.

Regardless of the cause, the Trump Administration's bias and misrepresentation play neatly into their attempts to dismantle science-based regulations, such as at EPA (where scientists' advice has been restricted or outright disregarded)³⁰ and DOI (which has used faulty science to justify deregulation),³¹ as well as other agencies like the Office of Management and Budget (OMB) (which has instituted guidelines to limit how science can be used by regulatory agencies).³²

F. Agencies Affected

These problems are widespread throughout the federal government. Anti-science behavior has been documented at 22 federal bodies, including, unexpectedly, several agencies not highly focused on scientific research (e.g., the U.S. Department of Justice and Federal Communications Commission). Nevertheless, research agencies have borne the brunt of the attacks on science, with the largest number recorded at EPA (80, or 23% of the total) and DOI (67, or 19% of the total).

At EPA, the majority of recorded anti-science actions occurred during Administrator Scott Pruitt's tenure, and have become less frequent since he left the Agency. Under Administrator Pruitt, anti-science actions were recorded approximately once every 12 days (on average), compared to once every 22 days under Administrator Andrew Wheeler. However, there is reason to believe that additional, unrecorded actions may have occurred during Administrator Wheeler's tenure. In a recent survey conducted by EPA's Office of Inspector General, nearly 400 scientists said they observed violations of the Agency's scientific integrity policy in the second half of 2018 (after Administrator Wheeler took control), but did not report them primarily due to "fear of retaliation, belief that reporting would make no difference, perceived suppression or interference by Agency leadership . . . and belief that politics and policy outweigh science."³³ It appears, then, that a culture of fear and hopelessness now pervades EPA's scientific work force.

The same may very well be true at DOI, where anti-science actions have also been prevalent. While there appears to have been a decline over time, with anti-science actions recorded once every 14 days (on average) under then-Secretary Ryan Zinke, but once every 31 days under Secretary David Bernhardt, this may again be due to underreporting. Under Secretary Bernhardt, reported instances of bias and misrepresentation have increased at DOI, suggesting that department officials feel emboldened to ignore science, perhaps because past censorship has limited public access to information that calls their views into question, and/or because there are fewer scientists willing or able to advise and potentially constrain them.

III. Long-Term Implications of the Trump Administration's Anti-Science Actions

While the above discussion focuses primarily on the Trump Administration's attacks on climate science, other areas have also been targeted, with the Administration often employing the same tactics used in the climate space to block or discredit other inconvenient research. This has played out, most recently, in the discussions surrounding the Administration's response to the COVID-19 pandemic. President Trump and others in his Administration have

28. *Id.*

29. Sabin Center for Climate Change Law, *Silencing Science Tracker: Accuracy of National Climate Assessment Questioned by Trump Administration*, <https://climate.law.columbia.edu/content/accuracy-national-climate-assessment-questioned-trump-administration-0> (last visited July 15, 2020).

30. Sabin Center for Climate Change Law, *Silencing Science Tracker: Use of Science in EPA Air Pollution Programs Restricted*, <https://climate.law.columbia.edu/content/use-science-epa-air-pollution-programs-restricted-0> (last visited July 15, 2020); Sabin Center for Climate Change Law, *Silencing Science Tracker: EPA Scientists' Advice Disregarded*, <https://climate.law.columbia.edu/content/epa-scientists-advice-disregarded> (last visited July 15, 2020).

31. Sabin Center for Climate Change Law, *Silencing Science Tracker: FWS Decision to Delist Gray Wolf Based on Faulty Science*, <https://climate.law.columbia.edu/content/fws-decision-delist-gray-wolf-based-faulty-science> (last visited July 15, 2020).

32. Sabin Center for Climate Change Law, *Silencing Science Tracker: New Guidelines on the Use of Scientific Information Issued by OMB*, <https://climate.law.columbia.edu/content/new-guidelines-use-scientific-information-issued-omb> (last visited July 15, 2020).

33. OFFICE OF INSPECTOR GENERAL, U.S. EPA, *FURTHER EFFORTS NEEDED TO UPHOLD SCIENTIFIC INTEGRITY POLICY AT EPA 16-17* (2020), https://www.epa.gov/sites/production/files/2020-05/documents/_epaog_20200520-20-p-0173.pdf.

repeatedly dismissed research that calls its approach into question and, in some cases, even attacked the researchers involved. For example, President Trump recently dismissed a study casting doubt on the efficacy of a treatment he has touted, suggesting that it was conducted by opponents of his Administration who purposely manipulated the results.³⁴

President Trump's handling of the science relating to COVID-19, climate change, and other issues represents a fundamental departure from the approach of his predecessors. While anti-science behavior has occurred under other Republican and Democratic presidents, during President Trump's time in office, attacks on science have become more frequent and widespread.³⁵ Perhaps even more concerning, they have also taken on a different flavor. Whereas past presidents consistently upheld the value of scientific research, at least publicly, the Trump Administration has

repeatedly questioned it. Administration officials have described inconvenient research findings as untrustworthy and unbelievable.³⁶ Some have even suggested that all research is inherently partisan because, according to one official, science is "a Democrat thing."³⁷

Those sentiments undermine the perceived value of independent research, which could, in turn, encourage greater politicization of science and decrease reliance on it as a basis for environmental and other regulation. That may, unfortunately, be a lasting consequence of the Trump Administration. After all, with sufficient time, resources, and political will, individual actions can be undone. But the belief underlying and engendered by those actions (i.e., that science is flawed and facts are malleable) is much more difficult to overcome and threatens to erode science-based regulation for years to come.

34. Sabin Center for Climate Change Law, *Silencing Science Tracker: Accuracy of Scientific Study Questioned by President Trump*, <https://climate.law.columbia.edu/content/accuracy-scientific-study-questioned-president-trump> (last visited July 15, 2020).

35. See generally NATIONAL TASK FORCE ON RULE OF LAW AND DEMOCRACY, BRENNAN CENTER FOR JUSTICE, PROPOSALS FOR REFORM (2019), https://www.brennancenter.org/sites/default/files/2019-09/2019_10_TaskForce%20II_0.pdf.

36. Sabin Center for Climate Change Law, *Silencing Science Tracker: Accuracy of National Climate Assessment*, *supra* note 29.

37. Sabin Center for Climate Change Law, *Silencing Science Tracker: Coal Mining Study Paused by DOI*, *supra* note 24.