

# **Promoting and Sustaining the National Climate Assessment After a Period of Suppression and Political Influence:**

## ***A Cautionary Tale***



*Promoting and Sustaining the National Climate Assessment After a  
Period of Suppression and Political Influence:  
A Cautionary Tale*

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## Index of Acronyms

API – American Petroleum Institute  
CCSP – Climate Change Science Program  
CEI – Competitive Enterprise Institute  
CEQ – Council on Environmental Quality  
CSW – Climate Science Watch  
CSPW – Climate Science & Policy Watch  
EPA – Environmental Protection Agency  
IPCC – Intergovernmental Panel on Climate Change  
GAO – Government Accountability Office  
GAP -- Government Accountability Project  
GCRA – Global Change Research Act  
NCA – National Climate Assessment  
NASA – National Aeronautics and Space Administration  
NCIS – National Climate Indicators Systems  
NOAA – National Oceanic and Atmospheric Administration  
OMB – Office of Management and Budget  
OSTP – Office of Science and Technology Policy  
PAO – Public Affairs Office  
UCS – Union of Concerned Scientists  
USGCRP – United States Global Research Change Program

## Foreword

In the spring of 2005 Rick Piltz first contacted me. He had several questions related to government wrongdoing that he hoped I would help him to address. As a top editor of science publications at the U.S. Global Change Research Program (USGCRP), Piltz was responsible for producing the public and Congressional reports about the scientific findings that were emerging from the \$2 billion worth of federal taxpayer funds directed toward climate change research. He did not seek my counsel about whether he should blow the whistle on the corruption that he had observed. He had already decided to do that and to resign. He no longer wanted to associate with those who were engaged with the suppression of vital scientific information and findings. As he eloquently stated:

“I did not want to be associated in any way with that charade. Furthermore, I was deeply offended that they actually thought I would be willing to participate in the manipulation of scientific results...*When this guy's edits came to me, there was part of me that said: 'Who do you think you're dealing with? Do you think I'm one of you? I'm **not** one of you.'*”

He merely needed help in determining how best to blow the whistle for maximum impact while simultaneously incurring the least possible personal liability.

Over the next few months we (although mostly Rick) poured over tens of thousands of pages of documents that he had accumulated while working at USGCRP for nearly a decade. It was astonishing to examine the methodical hand-written White House edits of the climate science reports. The audacious editor was Phil Cooney, who served as Chief of Staff of the White House Counsel on Environmental Quality. He was an attorney, not a scientist. Before landing at the White House he had been the top lobbyist for the American Petroleum Institute. As one might expect, Cooney's meticulous edits primarily made it seem more questionable as to whether climate change was even happening or, if it was occurring, whether human activity was contributing to it. As disturbing as those edits were, there were even sections of the reports, such as those dealing with the Arctic, that were crossed out altogether, as if there were no research results at all from those areas despite the spending of multi-millions of federal dollars on those studies.

It did not take me but a second to realize that those dumbed-down White House edits were the smoking guns that would demonstrate what was happening throughout the federal government. Political forces had embraced an economic ideology around oil and cleverly managed to control and manage science reporting on climate through public relations manipulations and overt threats within most federal agencies dealing with climate science. Clearly those sensational edits would and did catapult the story onto the front page of *The New York Times*, landed Rick in a featured segment on CBS's *60 Minutes*, and provided impressive material for numerous environmental documentaries. In fact, according to an

Oxford University study<sup>1</sup>, his disclosure influenced the way in which journalists reported about climate science thereafter: Rick played a leading role in helping to shift the discussion away from a battle of so-called experts toward recognizing scientific consensus.

These White House revelations earned Rick the Ridenhour Prize for Truth-Telling and years of fame, not just fifteen minutes. He devoted the next nine years and the rest of his life to challenging climate science deniers and exposing the suppression of climate science wherever he could uncover it. But it was the sinister suppression of the National Climate Assessment of 2000 that remained for him the biggest climate-related scandal of the George W. Bush Administration.

This paper is appropriately dedicated to Rick Piltz because it tells the story of what happened with that assessment and subsequent ones. It is framed as a cautionary tale to us all about what could happen yet again, especially as a new administration takes over the levers of power at the Executive Branch of the federal government, headed by a President who campaigned on the theme that the scientific consensus on climate was a hoax concocted by the Chinese and has similarly installed in his transition team high-level personnel with oil industry connections and similar “denialist” views on the reality of climate change.

As Rick Piltz repeatedly showed, never has one nation spent more funds on discovering scientific truths and then done so much to suppress the knowledge that those endeavors had revealed. His admonishment to us that this must never again happen provides an incentive to all of us not to allow history to repeat. Here at the Government Accountability Project where Rick served as a program leader, we have devoted decades of effort to shoring up the rights of federal employees, government contractors and scientists.

No longer can agency public relations departments threaten or gag employees from speaking out about problems or scientists from reporting openly and accurately about their findings. In fact, it is now illegal to suppress such reports and bosses can be sanctioned for violations. Furthermore, federal employees and federal contractors can now refuse to obey illegal orders.

In other words, it is a new day. In fact, when the transition team at the Department of Energy recently demanded the names of any employee who had attended climate change conferences, federal government officials quickly pushed back. They not only refused to comply with the highly threatening, but absurd demand, they even instructed their science and engineering employees to protect their findings from such political threats. Our offices as well received calls from federal employees who assured us that they too would resist this type of coercion.

Hopefully this paper will remain a mere historical reflection upon a dark and embarrassing time when a series of draconian incidents allowed science to be overwhelmed by political science. If efforts to suppress scientific findings on climate again becomes both policy and practice, hopefully this paper will help us identify familiar patterns and publicly expose “clear and present dangers,” as well as rally new whistleblowers and other forces of enlightenment to fight back. If they do, I predict that these new climate deniers and fossil

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<sup>1</sup> Read more about this study at: [http://www.climate-science-watch.org/index.php/csw/details/us\\_newspaper\\_shift/](http://www.climate-science-watch.org/index.php/csw/details/us_newspaper_shift/)

fuel devotees and sycophants will once again see their efforts stymied and their legacies swept into the dustbin of history.

-- Louis Clark

*Government Accountability Project*

*Executive Director & CEO*

## Introduction: A Tribute to Rick Piltz

*“You have to have the leadership to listen to what federal climate scientists are saying and embrace it and accept it and promote it and act on it.... But it’s really for the rest of us to take the responsibility to hold public officials accountable to enable society to get the global warming problem dealt with effectively. And that’s something I think we all have a role in.”*

*-- Rick S. Piltz, while accepting the 2006 Ridenhour Prize for Truth-Telling*

Acting on climate change is the moral imperative of the current generation. World leaders -- from politicians to religious figures -- urge action to combat the greatest long-term threat facing the world. Contrary to some of the rhetoric we hear today, climate change is not a hoax, or some future concern. Its effects have moved firmly into the present, including rising seas, more frequent and more intense heat waves and droughts, retreating glaciers and sea ice, habitat loss, and more.<sup>2</sup> Failure to act in response to the consensus conclusions of the scientific community invites a greater risk that communities across the nation and the globe will suffer the rising consequences of climate change. As atmospheric concentrations of carbon dioxide and other greenhouse gases continue to rise, the more extreme climate impacts that result from higher emissions scenarios become more likely. Inaction on climate mitigation and adaptation presents a real danger to the nation’s ability to cope with the inevitable effects of warming the globe. We’ve known these facts for many years but have delayed our preparation because of a deliberate campaign to silence and question the veracity of these findings. Rick Piltz played a leading role in bringing that unfortunate truth to light.

Piltz chose to act. After witnessing first-hand numerous instances of White House interference in federal climate science programs beginning soon after George W. Bush took office, Piltz resigned from his senior position at the United States Global Change Research Program (USGCRP) National Coordination Office in 2005.<sup>3</sup> Affronted by the politicization of climate science, Piltz spoke out against the distortion and suppression of climate science findings by a handful of operatives in the Bush Administration. After partnering with the Government Accountability Project (GAP), Piltz created the public-interest education and advocacy project Climate Science Watch (CSW) as a program of GAP, with the mission of “protecting freedom of communication by federal scientists; combating the global warming denial machine; holding government accountable for using climate science with integrity; and promoting the public policy mission of climate change preparedness.”<sup>4</sup>

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<sup>2</sup> IPCC, 2013: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp, doi:10.1017/CBO9781107415324.

<sup>3</sup> The USGCRP coordinates and integrates scientific research across 13 Federal agencies whose missions include understanding changes in the global environment and their implications for society. It seeks to better understand, predict, and react to human-induced and natural effects of global change.

<sup>4</sup> “History,” Climate Science & Policy Watch, last accessed July 12, 2016, <http://www.climate-science-watch.org/history/>



Today, questioning the link between human activity and global warming should be an anachronism. According to NASA, “multiple studies published in peer-reviewed scientific journals show that 97 percent or more of actively publishing climate scientists agree: Climate-warming trends over the past century are extremely likely due to human activities.”<sup>5</sup> Nevertheless, public doubt about the reality of climate change – fueled by a legacy of organized denial of its causes and consequences – continues to impede progress on climate change.

Providing decision makers with timely and accurate information about the impacts of climate change is a critical step in preparing the nation to cope with a rapidly changing climate. As Dr. Michael MacCracken, the first Executive Director of the USGCRP National Coordination Office, explained, “collective scientific understanding of climate change is best represented in major assessment reports that assemble, evaluate and critically summarize the results of thousands of scientific papers and studies that have been written about the many aspects of the climate change issue.”<sup>6</sup> Comprehensive climate science and impacts reports, such as the Intergovernmental Panel on Climate Change (IPCC) Assessment Reports and the quadrennial National Climate Assessment (NCA) produced by USGCRP, are a key avenue for providing authoritative information to support mitigation (emissions reductions) policies, and the implementation of active adaptation plans. Accordingly, there are enormous benefits associated with the production and dissemination of a national assessment both inside and outside the scientific community.

Piltz saw the NCA as a pivotal issue; he regarded its suppression as “the central climate science scandal” of the Bush Administration. Step one in addressing climate change is supporting the continual production and confirmation of scientific findings on the subject, and their communication to the public. Properly disseminating scientific research to the nation is the foundation of preparing for change and the best mechanism to counter the climate change denial machine – a term coined by Piltz. This was the core of his fight.

This white paper presents a cautionary tale. First, it examines the suppression of the initial comprehensive climate change impacts assessment produced by the federal government as required by law (the First National Climate Assessment, henceforth referred to as NCA1) – and to a larger degree, climate change research products and communications thereof – under George W. Bush’s Administration. Second, it chronicles USGCRP’s effort to build a “sustained assessment” process, underscoring the need to acknowledge and incorporate external political considerations that could impede strategic planning for the future. Third, it details the strengths and vulnerabilities of the USGCRP, and therefore the NCA process as a whole, in terms of the Congressional budget process and the Program’s dependence on consistent federal funding across many agencies and departments; and offers some options for insulating this important function of government from attempts to slash its funding or even zero it out altogether. The paper concludes by drawing causation between

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<sup>5</sup> “Scientific consensus: Earth’s climate is warming,” NASA, last updated July 7, 2016, last accessed July 12, 2016, <http://climate.nasa.gov/scientific-consensus/>

<sup>6</sup> Declaration of Dr. Michael MacCracken in Support of Plaintiffs’ Motion for Summary Judgment at ¶ 8, Ctr. for Biological Diversity v. Brennan, 571 F. Supp. 2d 1105 (N.D. Cal. 2007), (No. C 06-7062), 2007 WL 857679.

the systematic suppression of NCA1 – which rendered its valuable information all but invisible to the American people – and the overall lack of national preparedness for a whole host of difficult climate change impacts: a permanent stain on the Bush-Cheney legacy. Further, it issues a warning that we as a nation cannot afford to allow another presidency to insert a communications gap between state-of-the-art findings in climate science and the American taxpayer who has a right to readily access those findings. Lastly, this white paper explains the importance of federal climate scientists being informed of their basic whistleblower rights and feeling comfortable speaking amongst themselves and their colleagues regarding communications and other problems stemming from political interference.

Piltz would often say that “it’s not just one administration – they all need a watchdog.” Through this paper, GAP hopes to reinvigorate a debate about how to protect federal climate science and the communication of its findings to Congress and the public, so that no matter who sits in the White House, science-based decision making in response to climate change can continue. While most people know the cliché, ‘speak truth to power’ -- Piltz enjoyed the more accurate version: “power already knows -- speak truth *about* Power.”

*I would like to extend a warm thanks to Anne Polansky, Adam Arnold, and Michael Termini for their advice, edits, and support throughout the drafting of this publication.*

# Doubt, Denial, and Deep-Sixing Part I: Climate Assessments and President George W. Bush

*“I see the Administration’s treatment of the 2000 National Assessment, and the abandonment of high-level support for an ongoing process of scientist-stakeholder interaction, as the central climate science scandal of the Administration – the action that has done, and continues to do, the greatest damage in undermining national preparedness in dealing with the challenge of global climate change.”*

*– Rick Piltz, Testimony before the US Senate Committee on Commerce,  
Science and Transportation on February 7, 2007*

## I. A Brief Preface to the Bush Years

In 1990, President George H.W. Bush signed the Global Change Research Act (GCRA), mandating a United States Global Change Research Program (USGCRP) to help the nation and the world “understand, assess, predict, and respond to human-induced and natural processes of global change.”<sup>7</sup> Citing the impacts of global warming on climate patterns and sea levels, the GCRA stressed the need to develop science-based policies to lessen, prevent, and cope with inevitable climate shifts as a result of “human-induced changes, in conjunction with natural fluctuations.”<sup>8</sup> The GCRA mandated three major documents: a ten-year National Global Change Research Plan; a scientific assessment produced every four years, which synthesizes, examines, and interprets the Program’s findings; and an annual report to Congress outlining achievements and highlighting progress towards attaining the goals of the ten-year

plan.<sup>9</sup> By acknowledging climate change’s substantial impacts on human life, and more significantly, by noting that human activities are its primary cause, the GCRA established global warming as a significant threat to human health and the natural environment, and one that requires tremendous investment in science and technology in order to develop and implement solutions.

During the Clinton presidency, scientists concluded with greater confidence that human actions, primarily the burning of fossil fuels, were the primary cause of the long-term warming trend. In 1992, the United Nations (UN) agreed to the UN Framework Convention on Climate Change (UNFCCC), an international treaty designed to address increasing atmospheric greenhouse gas concentrations; importantly, UNFCCC did not specify binding limits on greenhouse gas emissions. In 1995, the Second Assessment Report from the IPCC announced that the “balance of evidence” indicated an unequivocal human imprint on climate and increased

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<sup>7</sup> “Legal Mandate,” US Global Change Research Program, last accessed June 20, 2016, <http://www.globalchange.gov/about/legal-mandate>.

<sup>8</sup> Ibid.

<sup>9</sup> To read the exact language of the Global Change Research Act, go to the USGCRP’s website (<http://www.globalchange.gov/about/legal-mandate>).

warming throughout the 21st century.<sup>10</sup> Relying on such scientific discoveries, the international community pushed to enact the Kyoto Protocol to prevent “dangerous anthropogenic interference with the climate system.”<sup>11</sup> This agreement committed signatory states to reducing greenhouse gas emissions according to “common but differentiated responsibilities,” requiring binding reductions by developed countries with historical emissions legacies. While President Clinton signed the Protocol in 1998, the Byrd-Hagel resolution, passed 95-0 by the Senate in 1997, prevented the US from being a signatory of any agreement that would “mandate new commitments to limit or reduce greenhouse gas emissions ... unless the protocol or other agreement also mandates new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country Parties,” which essentially squashed any chance of the Senate ratifying the treaty.<sup>12</sup> Although the United States, along with every other United Nations member, is a party to the UNFCCC committing states to reduce greenhouse gas emissions, it is the only signatory not to have ratified the Kyoto Protocol.

President Clinton and Vice President Gore, along with leaders in the White House Office of Science and Technology Policy (OSTP), recognized the significance of the IPCC’s conclusions, and supported replicating these

findings for the United States via the GCRA-mandated National Climate Assessment.<sup>13</sup> Shortly before George W. Bush took office in 2001, the USGCRP, after three years of work by twenty regional teams, five teams examining various sectors, and a federal advisory group called the National Assessment Synthesis Team, produced NCA1 -- *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change*. The document came in two forms: a 154-page overview written for policymakers, and a detailed 500-page scientific report.<sup>14</sup> Adopting a nontraditional assessment methodology, NCA1 emerged from and deliberately incorporated conversations between scientists and regional stakeholders -- farmers, ranchers, state- and local-level officials, activists, and others -- so that the science in the Assessment reflected concerns expressed by this vibrant “stakeholder network.”<sup>15</sup> Using two leading climate models, NCA1 projected that climate change would profoundly affect the United States, posing various scenarios for its evolution based on different assumptions about emissions levels. The finding that different regions of the expansive, ecologically diverse United States would respond to climate change in unique, nuanced ways proved to be one of NCA1’s most important conclusions.<sup>16</sup> By detailing both the causes and potential consequences of climate change in the United States, NCA1 provided a

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<sup>10</sup> Chris Mooney, “An Inconvenient Assessment,” *Bulletin of the Atomic Scientists*, 63, no. 6 (2007): 42.

<sup>11</sup> United Nations Framework Convention on Climate Change. United Nations. 1992. [http://unfccc.int/files/essential\\_background/background\\_publications\\_htmlpdf/application/pdf/conveng.pdf](http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf)

<sup>12</sup> “Byrd-Hagel Resolution,” National Center for Public Policy Research, last accessed June 20, 2016, <http://www.nationalcenter.org/KyotoSenate.html>

<sup>13</sup> Rick Piltz, “The Denial Machine,” *Index on Censorship*, 37, no.4 (2008): 75.

<sup>14</sup> US Global Research Program, *National Assessment on The Potential Consequences of Climate Variability and Change*, Cambridge University Press (New York: 2001). See US Global Research Program site.

<sup>15</sup> Mooney, “An Inconvenient Assessment,” 42.

<sup>16</sup> *Ibid.*

strong evidence base for US citizens and politicians to take action to mitigate and adapt to future climate change.

In light of the NCA1's publication and the discussion around the Kyoto Protocol, the political case to address climate change appeared to gain real momentum, and concrete action seemed imminent. The environmental community was now strongly organized and unified around addressing climate change at the federal level by demanding carbon emissions reductions. Moreover, during the 106th Congress (1999-2000), multiple bills appeared in both the House and Senate addressing greenhouse gas emissions limits, climate-friendly technology, emissions from agriculture, and carbon sequestration.<sup>17</sup> Yet, the inauguration of George W. Bush as the 43rd President abruptly diverted the incipient move

## II. Intentional Indecision

Within months of taking office, President Bush denounced the Kyoto Protocol and rejected the international treaty's provisions for reducing global greenhouse gas emissions. In parallel, Bush's Administration "began to align itself with an orchestrated global warming disinformation campaign designed to mislead the public about scientific evidence for anthropogenic (human-caused) global warming and its likely harmful

toward regulating U.S. greenhouse gas emissions.<sup>18</sup> During the campaign, Bush had proposed a strategy to curb four major air pollutants and greenhouse gases associated with power plants – carbon dioxide, mercury, sulfur dioxide, and nitrogen dioxide – and repeatedly stated while debating Vice President Al Gore that global warming is "an issue that we need to take very seriously". Once situated in the White House, however, Bush's Administration embarked on a campaign to question the reality of anthropogenic climate change; downplay its impacts and stifle "inconvenient" findings and opinions, including the NCA1; and promulgate opposition to global climate efforts.<sup>19</sup> George W. Bush's Administration deliberately undermined environmental policies ratified under his father's administration.

impacts."<sup>20</sup> Documents show that President Bush and Vice President Cheney regularly communicated and met with oil industry representatives, while simultaneously appointing individuals with strong ties to fossil fuel interests to prominent positions overseeing environmental issues within the administration.<sup>21</sup>

Bush's campaign promises to mitigate greenhouse gas emissions were quickly replaced by a stubborn climate denialism that mirrored the stance of the fossil fuel industry.

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<sup>17</sup> "Legislation in the 106th Congress related to global climate change," Center for Climate and Energy Solutions, last accessed September 2, 2016, <http://www.c2es.org/federal/congress/106>.

<sup>18</sup> For clarity, all subsequent references to President Bush refer to George W. Bush, not George H.W. Bush

<sup>19</sup> Luke Burbank, "Bush Views Shift on Climate Change," *NPR*, published February 7, 2007, last accessed June 21, 2016, <http://www.npr.org/templates/story/story.php?storyId=7115660>. Seth Borenstein, "Bush Changes Plan on Emissions," *Philadelphia Inquirer*, March 14,

2001, last accessed August 25, 2016, <https://www.globalpolicy.org/component/content/article/212/45283.html>

<sup>20</sup> Rick Piltz, "The Denial Machine," 73.

<sup>21</sup> Michael Abramowitz and Steven Mufson, "Papers Detail Industry's Role in Cheney's Energy Report," *Washington Post*, July 18, 2007, last accessed August 23, 2016, <http://www.washingtonpost.com/wp-dyn/content/article/2007/07/17/AR2007071701987.html>

On March 1, 2001, Haley Barbour, a former Chairman of the Republican National Committee, distributed a memorandum throughout the White House pressing the President to assume an opinion on carbon dioxide emissions regulation satisfactory to the coal industry. V.P. Dick Cheney, political strategist Karl Rove, White House Chief of Staff Andrew H. Card Jr., Commerce Secretary Donald L. Evans, Energy Secretary Spencer Abraham, and Interior Secretary Gale A. Norton all received a copy of the memo.<sup>22</sup> At that time, Barbour lobbied on behalf of several large fossil fuel-based energy companies, many of which had donated generously to the Bush campaign.<sup>23</sup> Framing environment and energy policy as in conflict, Barbour asked whether Bush and Cheney would enable the former to prevail over the latter, which he claimed occurred “for the eight years of the Clinton Administration.”<sup>24</sup> Although a White House spokesperson denied undue influence by the energy industry, President Bush’s reversal on classifying carbon dioxide as a pollutant to be regulated under the Clean Air Act in conjunction with his Kyoto dismissal, illuminated an administration intent on placating fossil fuel industry desires at the expense of environmental protection.

Barbour was not the first energy lobbyist to contact the White House on behalf of fossil fuel interests. As exclusively exposed by GAP<sup>25</sup> and simultaneously released in *The Guardian*<sup>26</sup> in May 2016, about a month before Barbour’s memo, Arthur “Randy” G. Randol, III, an ExxonMobil lobbyist and senior environmental advisor, faxed a memo to the White House Council on Environmental Quality (CEQ) “outlining issues related to the ongoing IPCC negotiations,” and noting that a future phone call would “discuss recommendations regarding the team that can better represent the Bush Administration interests until key appointments...are made.”<sup>27</sup> According to Randol, pressing “issues” referred to the role of four “Clinton/Gore carry-overs with aggressive agendas”: Dr. Robert Watson, IPCC chair; Dr. Rosina Bierbaum, Office of Science and Technology Policy (OSTP) Associate Director and US representative to the IPCC; Jeff Miotke, State Department, Deputy Director of Global Change Office, Oceans and International Environmental and Scientific Affairs, and US representative to the IPCC; and Dr. Michael MacCracken, USGCRP Executive

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<sup>22</sup> “White House Shifted Policy After Lobbyist’s Letter,” *New York Times*, April 26, 2002, last accessed June 15, 2016,

<http://www.nytimes.com/2002/04/26/us/white-house-shifted-policy-after-lobbyist-s-letter.html>

<sup>23</sup> OpenSecrets, “Barbour, Haley Lobbyist Profile: Summary, 2001,” last accessed June 17, 2016, <https://www.opensecrets.org/lobby/lobbyist.php?id=Y0000036322L&year=2001>

<sup>24</sup> Christopher Newton, “Memo Shows Influence of Lobbyist,” *Associated Press*, April 26, 2002.

<sup>25</sup> “ExxonMobil and Climate Change: A Story of Denial, Delay, and Delusion, Told in Forms 10-K (2001-2008),” Government Accountability Project’s Climate Science & Policy Watch blog, available at: <http://www.climate-science-watch.org/2016/05/25/exxonmobil-and-climate-change-a-story-of-denial-delay-and-delusion-told-in-forms-10-k-2001-2008/>

<sup>26</sup> Suzanne Goldenberg, “ExxonMobil tried to censor climate scientists to Congress during Bush era,” May 25, 2016, available at: <https://www.theguardian.com/business/2016/may/25/exxonmobil-climate-change-scientists-congress-george-w-bush>

<sup>27</sup> Obtained by National Resource Defense Council. Archived by InsideClimate News, available at <http://bit.ly/1MbZpWT>

Director and US representative to the IPCC.<sup>28</sup> Randol bluntly requested that all four be removed, citing political and scientific biases, and asserted that the White House should, at a minimum, subvert Robert Watson's control over the IPCC. Randol recommended appointing two scientists -- Dr. John Christy and Dr. Richard Lindzen -- to lead the IPCC process and conduct a review of comments on the IPCC Working Group reports. Both Christy and Lindzen had reputations for purposely deviating from mainstream scientific consensus on climate change. Randol also suggested that Dr. Harlan Watson, a staff member of the House Science Committee, replace the targeted four as part of a larger restructuring to guarantee that "none of the Clinton/Gore proponents are involved in any decisional activities" at the IPCC.<sup>29</sup> Once the Bush Administration appointed James Connaughton -- a former lobbyist who helped industrial polluters such as General Electric evade responsibility for waste sites -- as head of the CEQ, he worked diligently to fulfill Randol's wishes.<sup>30</sup> Ultimately, per Randol's request, the Bush Administration pulled its support for Robert Watson and blocked his reelection as IPCC Chairman, denied Bierbaum's reappointment to OSTP, and "essentially harassed" Miotke out of his position.<sup>31</sup> Harlan Watson became the State Department's senior climate negotiator in 2001, which troubled some who worried about his potential allegiance to oil companies based on Randol's memo. From the earliest days of the Bush Presidency, the administration ceded to or worked according to the demands of fossil fuel energy industries,

most notably those of the Exxon Mobil Corporation.

A survey of Bush's environmental advisors and staff reveals extensive, close relationships with entrenched energy interests and organizations with a vested interest in downplaying the seriousness of climate change. Weeks into office, V.P. Dick Cheney met with ExxonMobil CEO Lee Raymond. Larisa Dobriansky, who by then had been appointed deputy assistant secretary for national energy policy at the Department of Energy, a position that included managing the department's Office of Climate Change Policy, had lobbied on climate change matters for ExxonMobil when she worked for Akin Gump.<sup>32</sup>

Larisa Dobriansky's sister Paula Dobriansky served as undersecretary for global affairs in the State Department, functioning as the administration's lead diplomat on global warming issues. She was the Head of the US Delegation to the UN, while Harlan Watson was the alternate head of the US Delegation. Soon after the Senate confirmed Paula Dobriansky, she met with Randy Randol at the suggestion of Charles Heimbold, Ambassador to Sweden and former board member of ExxonMobil. Talking points prepared to brief Dobriansky were designed to assuage Randol's and the corporation's fears. The notes tell Dobriansky to "understand Exxon/Mobil's [sic] position that there should be no precipitous policy decisions if scientific uncertainties remain...[W]e will...continue to rely on input from industry and other friends as to what constitutes a realistic market-based

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<sup>28</sup> Randy Randol, Fax Message to John Howard, February 6, 2001.

<sup>29</sup> Ibid.

<sup>30</sup> Tim Dickinson, "Six Years of Deceit: Inside the Bush's Secret Campaign to Deny Global Warming," *Rolling Stone*, June 28, 2007, 57.

<sup>31</sup> Michael MacCracken, Letter to Lee R. Raymond, September 26, 2002.

<sup>32</sup> Chris Mooney, "Some Like It Hot," *Mother Jones*, May 2005, last accessed June 23, 2016, <http://www.motherjones.com/environment/2005/05/some-it-hot>

approach.”<sup>33</sup> In June 2001, during an address to the Global Climate Coalition (GCC) – a collection of organizations and individuals formed to prevent federal policy from addressing climate change – at an event held at the headquarters of the American Petroleum Institute (API), Dobriensky credited the GCC for President Bush’s Kyoto decision; her notes from that speech read: “POTUS [President of the United States] rejected Kyoto, in part, based on your input.”<sup>34</sup> Documents reveal that Dobriensky discussed climate policy with ExxonMobil executives just days after September 11, 2001.

The industry ties within the White House went even deeper. Prior to his appointment as Commerce Secretary, Donald Evans was the CEO of Tom Brown, Inc., a public energy company specializing in oil and gas.<sup>35</sup> Matthew Koch, a White House energy advisor, went on to lobby for API. Most important to this narrative is Philip Cooney, appointed chief of staff of CEQ in 2001. Prior to joining CEQ, Cooney worked at API for fifteen years, most recently serving as API’s team leader on climate change, ensuring governmental actions on climate change were consistent with API’s goals.<sup>36</sup> Despite obvious conflicts of interest, Cooney functioned as an advisor to the President on global warming policy and abused his authority in this capacity to conduct extensive, substantive editing of official federal scientific reports even though he was trained as an attorney and had no formal

scientific education. Cooney’s involvement in concealing and censoring climate science will be discussed in the following section.

Bush’s political appointments and policy decisions mirrored his rhetoric of doubt and dismissal surrounding climate science, a tactic recommended by a communications expert to shift the global warming debate in favor of energy interests. According to an internal memo prepared by Republican consultant Frank Luntz for President Bush in 2001, “the scientific debate is closing [against us] but not yet closed. There is still a window of opportunity to challenge the science.”<sup>37</sup> Luntz advised that all climate change communications should revolve around spotlighting scientific uncertainty and prioritizing the development of sound scientific facts. Language should emphasize an ongoing scientific debate challenging the consensus view, ideally coming from professionals sympathetic to the administration’s view, so that the public would fail to form a firm opinion on global warming.<sup>38</sup> Further, by stressing uncertainty and focusing on longer timeframes, the President could argue for greater investment in “research and development,” a winning strategy since “Americans unanimously believe all environmental rules and regulations should be based on sound science and common sense.”<sup>39</sup> The Bush-Cheney White House perfected these suggested strategies, weaving a mixture of science denial and professed ignorance to downplay fears

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<sup>33</sup> Steve Coll, *Private Empire: ExxonMobil and American Power* (New York: Penguin, 2012), 91-92.

<sup>34</sup> Dickinson, “Six Years of Deceit,” 56.

<sup>35</sup> “Donald Luis Evans,” Petroleum Museum, n.d., last accessed June 22, 2016, <http://petroleummuseum.org/wp-content/uploads/2013/06/Biography.pdf>

<sup>36</sup> Philip Cooney’s Deposition

<sup>37</sup> Frank Luntz Memorandum to the Bush White House, 2001. In an interview with the BBC in 2006

(see: “Climate Chaos” at <http://news.bbc.co.uk/2/hi/programmes/panorama/5312208.stm>), Luntz acknowledged that global warming unequivocally exists. Nonetheless, many climate deniers still rely on strategies and phrasings he developed in 2001 and 2002.

<sup>38</sup> Ibid.

<sup>39</sup> Ibid.



about near-term global warming and its harmful consequences.

Many of Luntz's approaches reflect the strategies laid out by API members and advisors in their 1998 Global Climate Science Communications Plan, aimed at challenging climate science. Joe Walker, API's public relations representative, authored the plan with input from multiple energy interests including Chevron; the Southern Company; and ExxonMobil, represented by Randy Randol.<sup>40</sup> The project aimed to breed skepticism about the scientific consensus on climate change. Authors determined victory would occur when:

- Average citizens 'understand' (recognize) uncertainties in climate science; recognition of uncertainties becomes part of the 'conventional wisdom'
- Media 'understands' (recognizes) uncertainties in climate science
- Media coverage reflects balance on climate science and recognition of the validity of viewpoints that challenge the current 'conventional wisdom'
- Those promoting the Kyoto treaty on the basis of extant science

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<sup>40</sup> Written by Joseph Walker of API, the Global Climate Science Communications Team members included A. John Adams, John Adams Associates; David Rothbard, Committee For A Constructive Tomorrow; Jeffrey Salmon, The Marshall Institute; Lee Garrigan, Environmental Issues Council; Lynn Bouchey and Myron Ebell, Frontiers of Freedom; Peter Cleary, Americans for Tax Reform; Randy Randol, Exxon Corp.; Robert Gehri, The Southern Company; Sharon Kneiss, Chevron Corp; and Steve Milloy, The Advancement of Sound Science Coalition.

appear to be out of touch with reality.<sup>41</sup>

The plan devised "a national media relations program to inform the media about uncertainties in climate science; to generate national, regional and local media on the scientific uncertainties and thereby educate and inform the public, stimulating them to raise questions with policymakers."<sup>42</sup> By maximizing "the impact of scientific views consistent ... with Congress, the media and other key audiences," the authors envisioned a clear path to undercutting decades of science research, ignoring repeated findings by the IPCC and neutralizing scientific warnings about climate change.<sup>43</sup> This plan established the framework for the climate denial machine: a well-funded, expansive network that scored the most powerful mouthpiece in the world – the President of the United States.

Within his first sixth months in office, President Bush delivered two massive blows to proponents of public policy to address climate change. After four Republican Senators requested that Bush clarify his position on climate policy, he responded in a public letter disavowing the Kyoto Protocol, reneging on a campaign promise to regulate carbon dioxide, and announcing that the chemical compound failed to qualify as a pollutant under the Clean Air Act – and thus could not be regulated by the Environmental Protection Agency (EPA).<sup>44</sup>

<sup>41</sup> "1998 American Petroleum Institute Global Climate Science Communications Team Action Plan," *ClimateFiles*, last updated 2016, last accessed June 23, 2016, <http://www.climatefiles.com/exxonmobil/1998-global-climate-science-communications-team-action-plan/>

<sup>42</sup> Ibid.

<sup>43</sup> Ibid.

<sup>44</sup> Under President Obama, the EPA decided carbon dioxide could be regulated under the Clean Air Act.

Moreover, the letter stressed the need to reevaluate climate policy and to delay any major policy action “given the incomplete state of scientific knowledge of the causes of, and solutions to, global climate change.”<sup>45</sup> This equivocation on global warming infuriated EPA Administrator Christine Todd Whitman, who later quit her post (in June 2003) in protest of Bush’s position on the Kyoto Protocol. Doubt and uncertainty reappeared in his subsequent public discussion of global climate change, two months later in a June 2001 speech delivered from the White House Rose Garden. In this speech, Bush asserted:

We do not know how much effect natural fluctuations in climate may have had on warming. We do not know how much our climate could or will change in the future. We do not know how fast change will occur, or even how some of our actions could impact it.<sup>46</sup>

The Bush-Cheney White House willfully ignored the conclusions of NCA1 and the IPCC. In his June 2001 speech, Bush stated “no one can say with any certainty what constitutes a dangerous level of warming, and therefore what level must be avoided.”<sup>47</sup> In another nebulous statement, he commented that the current “policy challenge is to act in a serious and sensible way, given the limits of our knowledge,” for “while scientific uncertainties

remain, we can begin now to address the factors that contribute to climate change.”<sup>48</sup> There was no real intention within the Bush Administration to support mitigation policies. Given that Bush’s entire Rose Garden speech revolved around how global climate change affects the country, neglecting to even mention the NCA1 – a report mandated by Congress to provide that very information – revealed a blatant attempt to stifle unfavorable science and promote the illusion of scientific uncertainty.

In 2007, two years after Rick Piltz blew the whistle exposing Philip Cooney, the U.S. House of Representatives Committee on Oversight and Government Reform conducted an investigation and issued a report on political interference in climate change science under the Bush Administration. The Committee, then chaired by Rep. Henry Waxman (D-CA), concluded that the White House “acted as if the oil industry’s communications plan were its mission statement,” and that they had “censored congressional testimony on the causes and impacts of global warming, controlled media access to government climate scientists, and edited federal scientific reports to inject unwarranted uncertainty into discussions of climate change and to minimize the threat to the environment and the economy.”<sup>49</sup> A hostile atmosphere toward climate science encouraged, both implicitly and explicitly, restricting the communication of publicly-funded climate change research

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<sup>45</sup> George W. Bush, “Letter to Members of the Senate on the Kyoto Protocol on Climate Change,” March 13, 2001. Online by Gerhard Peters and John T. Woolley, *The American Presidency Project*, last accessed June 23, 2016, <http://www.presidency.ucsb.edu/ws/?pid=45811>.

<sup>46</sup> George W. Bush, “President Bush Discusses Global Climate Change,” *The White House*, June 11, 2001, last accessed June 23, 2016, [\[whitehouse.archives.gov/news/releases/2001/06/20010611-2.html\]\(http://whitehouse.archives.gov/news/releases/2001/06/20010611-2.html\).](https://georgewbush-</a></p></div><div data-bbox=)

<sup>47</sup> Ibid.

<sup>48</sup> Ibid.

<sup>49</sup> US House of Representatives Committee on Oversight and Government Reform, *Political Interference with Climate Change Science Under the Bush Administration, 110th Congress*, at i (2007).

findings that failed to support existing policy positions or objectives.

### III. Climate of Silence

Although the Bush Administration's public statements and documents insinuated, even at times boldly asserted, a lack of scientific consensus on numerous climate change topics, in reality, those in power were aware of the consensus and systematically suppressed information that conflicted with the official position on climate. Much has been written about federal agencies compromising scientific integrity, restricting press contact with certain scientists, and stifling communication of findings under the Bush Administration.<sup>50</sup> Scientists, journalists, investigators, and policy experts familiar with the suppression and censorship of climate science point to communications policy as the area best suited to the task.

Media censorship became a thorny problem for climate scientists after Bush's election. A 2007 investigation by the Government Accountability Project (GAP) uncovered agencies imposing restrictive scientific communication policies and practices, notably "delaying, monitoring, screening, and denying interviews."<sup>51</sup> Starting in 2001, each federal agency's office of public affairs (PAO) -- institutions meant to facilitate media exposure and assist with handling reporters -- began impinging upon scientists' freedom to express their findings. PAOs imposed pre-approval mandates on interviews, press releases, and press conferences (which were sometimes

delayed for days or even weeks); routed interviews to scientists preferred by the PAOs and often determined what could be discussed (sometimes regardless of a reporter's request); demanded scientists prepare and submit answers to questions presumed they would be asked as part of the pre-approval step; often sent an agency official to monitor the media interaction; and refused to issue a 'personal views' exception when scientists wished to speak in a private capacity.<sup>52</sup> The policies contain so much legalese and bureaucratese that scientists wanting to protect their careers began to shy away from the sheer hassle of proceeding through the entire process. In an archetypal Orwellian control maneuver, Bush's Administration adopted a "death by bureaucracy" policy, hamstringing scientists by putting them into busywork mode.

These more stringent media communications policies were put in place for political reasons. Evidence obtained through the 2007 House Oversight Committee's investigation demonstrated that "public affairs officers knew that climate change was a politically sensitive issue for the [Bush] Administration" and they acted accordingly.<sup>53</sup> Although many career officials in public affairs offices found White House involvement to be inappropriately invasive, they followed orders. Emails and communications obtained under the Freedom of Information Act (FOIA) document a culture in which federal officials worked with the explicit intent of minimizing potential controversy and avoiding communication of science that might translate into policy.

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<sup>50</sup> See Maasarani (2007), Donaghy et al. (2007), Greenpeace USA (2013) for more detailed accounts.

<sup>51</sup> Tarek Maasarani, *Redacting the Science of Climate Change*, Washington: Government Accountability Project, 2007, last accessed June 24, 2016,

<https://www.whistleblower.org/sites/default/files/RedactingtheScienceofClimateChange.pdf>.

<sup>52</sup> Ibid, 14.

<sup>53</sup> *Political Interference*, 5.

At the National Oceanic and Atmospheric Administration (NOAA), the public affairs policies under Bush were particularly problematic. In addition to the Commerce Department's Administrative Orders, NOAA, which is under Commerce's jurisdiction, created Administrative Order 219-6 relating to Public Affairs in 2004. That order contained conflicting provisions and failed to be distributed throughout the agency, thus doing little to improve the public affairs processes or scientists' understanding of them. A Department of Commerce Office of Inspector General (OIG) 2007 report found that "numerous formal and informal policies gave burdensome, unclear, and contradictory direction" to the agency's scientists and that many policies were not enforced consistently, creating even greater confusion.<sup>54</sup> The OIG report notes that "confusion was compounded by two memorandums issued by the Department of Commerce's Office of Public Affairs in 2005: (1) a January memo called for Departmental approval for all proposed media interviews and press releases; (2) July guidance required Public Affairs' approval for all press releases but only for interviews dealing with 'hot' (nationally or politically sensitive) issues that generated national attention or involved initiatives led by Dept. of Commerce senior officials." The report notes that NOAA staff informed OIG investigators that the policy was sometimes changed informally as well.<sup>55</sup>

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<sup>54</sup> US Department of Commerce Office of Inspector General, *Personnel Inaction and Process Breakdowns Delayed NOAA's Release of the Fact Sheet, But Policies Have Been Clarified*, by Judith J. Gordon, Mack Cato, and Trudy Gallic, BSD-18407 (Washington, D.C.: US Department of Commerce Office of Inspector General, 2008), 13.

<sup>55</sup> *Ibid.*, 14.

<sup>56</sup> Tarek Maasarani, *Redacting the Science of Climate Change*, Washington: Government Accountability Project, 2007, last accessed June 24, 2016,

Instances of ad hoc alteration of policy occurred during moments of extremely high publicity, such as after Hurricane Katrina in 2005, where policies became more restrictive. Most importantly, time lost because of the arduous, bureaucratic approval process inhibited NOAA scientists from communicating relevant information to the public, especially problematic during high publicity moments. As journalists on a deadline often turned to scientists able to respond within their time window, federal scientists could not comment on the climate implications of highly public weather events because of the slow PAO approval process.<sup>56</sup>

The CEQ also engaged in extensive monitoring of media policy within agencies. Established through the National Environment Policy Act (NEPA) of 1970, the CEQ produces an annual report on the status of the US environment, oversees implementation of environmental impact assessments, and advances the president's plan for environment and energy.<sup>57</sup> The CEQ Chairman sits on the Committee on Climate Change Science and Technology, and CEQ is a member of the Interagency Working Group on Climate Change Science and Technology, which oversees the Climate Change Science Program<sup>58</sup> and the National Assessment. Not only did suspicious patterns emerge from PAOs' behavior to suggest that they acted in the interest of quieting disquieting findings, but CEQ's Phil

<https://www.whistleblower.org/sites/default/files/RedactingtheScienceofClimateChange.pdf>, 24.

<sup>57</sup> National Environmental Policy Act, 42 USC. § 4321-4347, (1970).

<sup>58</sup> In 2002, as part of the US Climate Research Initiative, the Bush administration created the Climate Change Science Program (CCSP) to function in place of the USGCRP. Essentially, CCSP emerged as a new overarching structure for USGCRP, intended to integrate all climate initiatives and research across agencies. James Mahoney served as the first Director of the CCSP.

Cooney admitted that “communications people would render a view as to whether someone should give an interview or not or who it should be” and that he “was -- may have been involved” in the pre-approval process.<sup>59</sup> Kent Laborde, a public affairs officer at NOAA, explained that CEQ served as “the ultimate decision-maker on whether an interview request would be granted” and that the Department of Commerce, led by Don Evans, possessed the authority to nix any media request or press conference without justification.<sup>60</sup> Michele St. Martin, Associate Director of Communications at CEQ, often required Laborde to send her written summaries of approved interviews. Internal documents reveal that the Department of Commerce and CEQ intrusively instructed scientists and public affairs offices to ensure that people were “on message.”<sup>61</sup> CEQ even suggested agency talking points to scientists when discussing policy issues. Such authority over communications had never been granted to the CEQ in previous years, especially related to non-CEQ government entities.

The most blatant interference at NOAA occurred in 2005 during the aftermath of Hurricane Katrina. At this time, scientists were reluctant to associate climate change trends with any individual storm or weather event, though it was widely acknowledged that warming temperatures and rising seas increase the intensity and destructive potential of tropical cyclones, including Atlantic hurricanes like Katrina.<sup>62</sup> As disturbing images of

Katrina’s aftermath flooded the nation, the White House and the Department of Commerce, which houses NOAA, commenced a “concerted effort” to steer all media inquiries to scientists “who did not think climate change was linked to increased hurricane intensity.”<sup>63</sup> This effort directly impacted Dr. Thomas Knutson, a NOAA climate modeler and expert on the connection between hurricane activity and climate change.

Prior to Hurricane Katrina, Knutson gained significant media attention after his publication in the *Journal of Climate* projected higher intensity tropical cyclones resulting from increased atmospheric CO<sub>2</sub> concentrations. Yet, the White House refused to let him appear on a news and commentary program on MSNBC co-hosted by Ron Reagan, Jr., despite the fact that NOAA’s PAO initially invited Knutson based on his expertise, and Knutson had agreed to appear. Laborde, the NOAA PAO officer, called Knutson to apologize about the “confusion” and inform Knutson that he, Laborde, had already notified the network, even providing an excuse for the cancellation.<sup>64</sup> FOIA documents reveal that the NOAA PAO re-routed interview requests for Knutson, along with all media inquiries about hurricanes, to Dr. Chris Landsea, another NOAA scientist who, unlike Knutson, disputed the link between more powerful hurricanes and global warming.<sup>65</sup> After Katrina, with high media demand for hurricane specialists, Knutson received a media request to speak on CNBC,

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<sup>59</sup> House Committee on Oversight and Government Reform, Deposition of Philip Cooney, 161-162 (Mar. 12, 2007).

<sup>60</sup> *Political Interference*, 6.

<sup>61</sup> *Ibid.*, 7.

<sup>62</sup> Geophysical Fluid Dynamics Laboratory, “Global Warming and Hurricanes,” last updated September 30, 2015, last accessed July 8, 2016, <http://www.gfdl.noaa.gov/global-warming-and-hurricanes>

<sup>63</sup> *Ibid.*

<sup>64</sup> Timothy Donaghy et al., *Atmosphere of Pressure*, Cambridge: Union of Concerned Scientists and Government Accountability Project, 2007, last accessed June 27, 2016, <https://www.whistleblower.org/sites/default/files/AtmosphereOfPressure.pdf>

<sup>65</sup> *Ibid.*

which he forwarded to Laborde, who subsequently sent the message to Chuck Fuqua, the deputy director of communications at the Department of Commerce. Fuqua asked if Knutson's views on hurricanes and climate change were consistent with Landsea's opinions. After Fuqua learned of Knutson's scientific viewpoint, he replied, "why can't we have one of the other guys on then?" Shortly thereafter, Knutson received a voicemail notifying him that the interview had been cancelled.<sup>66</sup>

Scientists at NASA also testified to the restrictive policies imposed on them motivated by apparent political purposes. NASA's Dr. Drew Shindell recounted how White House political appointees "softened" the title of his press release on Antarctica's warmer future as a result of continued increases in greenhouse gas emissions.<sup>67</sup> He and his co-authors originally proposed "Cool Antarctica may warm rapidly, study finds." After that title was rejected, they suggested "NASA Scientists expect temperature flip-flop at the Antarctic." The authors were again overruled by communications staff at NASA who insisted on a more tepid title: "Scientists predict Antarctic climate changes," which had the effect of quashing any attention from the press. Shindell also testified that his objections were overruled anonymously without chance of appeal, that the process lacked transparency, and that press releases were seriously "delayed, altered, and watered down."<sup>68</sup>

In another clear example of censorship in the Bush Administration, NASA's press

secretary once prevented Dr. James Hansen, former GAP client and a leader in climate change science and public awareness, from speaking with National Public Radio about climate change, resulting in a month-long fight between Hansen and NASA's public relations staff. Hansen had never previously experienced such intrusion into his communication of climate science to the public during his decades at NASA. Ultimately, the interview did not take place. Testifying as a Congressional hearing witness in 2007, Hansen went on the record stating that such political filtering of public discourse on climate change and the downplaying of evidence about global warming was an attempt "to reduce concern about the relation of climate change to human-made greenhouse gas emissions" and "to confuse the public about the reality of global warming."<sup>69</sup> Chronic tampering with media policy illustrated an alarming lack of scientific integrity under the Bush Administration.

Multiple groups harshly criticized the Bush Administration for influencing scientific impartiality. Over 15,000 scientists signed a petition circulating between 2004 and 2008 calling for the restoration of scientific integrity to federal agencies. Their letter condemned an administration that "undermined the quality and independence of the scientific advisory system and the morale of the government's outstanding scientific personnel," and lamented "the distortion of scientific knowledge for partisan political ends."<sup>70</sup> Francesca Grifo, then with the Union of Concerned Scientists, found that 150 federal climate scientists reported

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<sup>66</sup> Ibid.

<sup>67</sup> House Committee on Oversight and Government Reform, Testimony of Drew Shindell, 2 (Jan. 30, 2007).

<sup>68</sup> Ibid.

<sup>69</sup> House Committee on Oversight and Government Reform, Hearing on Allegations of Political

Interference with Science: Global Warming, Part II, 110th Cong. (Mar. 19, 2007).

<sup>70</sup> "2004 Scientist Statement on Restoring Scientific Integrity to Federal Policy Making," *Union of Concerned Scientists*, last accessed June 27, 2016, <http://www.ucsusa.org/our-work/center-science-and-democracy/promoting-scientific-integrity/scientists-sign-on-statement.html#.V3GRqJMrL-Y>

“personally experiencing at least one incident of political interference” between 2002 and

2007, with reports of at least 435 such incidents of interference.<sup>71</sup>

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<sup>71</sup> House Committee on Oversight and Government Reform, Testimony of Francesca T. Grifo, 2-3 (Jan.

30, 2007).

## Doubt, Denial, and Deep-Sixing Part II: USGCRP, NCA, and President George W. Bush

Before President Bush entered the White House, a movement to stop the release of the NCA1 was already underway, orchestrated by climate change deniers and organizations specializing in fostering doubt about climate science. Near the end of the Clinton Presidency, the Competitive Enterprise Institute (CEI) filed a lawsuit along with the Heartland Institute, Consumer Alert, the 60 Plus Association, Sen. James Inhofe (R-OK), former Rep. Jo Ann Emerson (R-MO), and former Rep. Joseph Knollenberg (R-MI) against President Clinton seeking to prevent the release of the NCA1, alleging various procedural violations during its preparation.<sup>72</sup> When Bush took office, the plaintiffs refiled the suit against President Bush. In seeming agreement with CEI, the Bush Administration refused to defend the National Climate Assessment, despite its immense informational value, thus undermining the report.

Yet, the Bush White House began suppressing the NCA1 before the lawsuit reached adjudication. Rick Piltz testified in 2007 that while preparing a draft of USGCRP's annual report to Congress for Fiscal Year 2002, *Our Changing Planet*, the OSTP Chief of Staff directed that the 560-word section of the report detailing the NCA1, highlighting its publication and noting its availability, be removed. OSTP alleged that the deletion stemmed from the administration's efforts to settle the CEI *et al.*

lawsuit, “i.e., that potentially, in a quid pro quo arrangement, CEI would drop the lawsuit and the Administration in turn would make a statement in effect disavowing the National Assessment and stating that it did not represent an official position of the US Government.”<sup>73</sup> Ignoring the problematic precedent such a governmental decision set for the future of the National Assessment and climate science, OSTP ultimately enforced the section's deletion from the report, so the published version of *Our Changing Planet* for Fiscal Year 2002 included a mere two sentences on the NCA1, neither of which mentioned its “origin, purpose, relationship to the Global Change Research Act, structure, process, publication, or relevance to the global change research agenda.”<sup>74</sup> As the cornerstone of USGCRP's work and a significant investment of taxpayer money, NCA1's redaction from *Our Changing Planet* undermined the USGCRP and disregarded basic obligations to taxpayers to show how their money was spent. Then in September 2001, the CEI lawsuit was settled with a joint stipulation for dismissal without prejudice. The nature of the agreement affirmed the complete disavowal of the National Assessment by the Bush Administration.

Three of the plaintiffs in that lawsuit have particularly notable records of denying mainstream climate science, and have documented relationships with ExxonMobil

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<sup>72</sup> US District Court for the District of Columbia, *Competitive Enterprise Institute et al. v. William Jefferson Clinton*, C.A. No. 00-02383, October 3, 2000.

<sup>73</sup> Declaration of Rick S. Piltz in Support of Memorandum of Amici Curiae John F. Kerry and Jay Inslee at ¶ 22, *Ctr. for Biological Diversity v.*

*Brennan*, 571 F. Supp. 2d 1105 (N.D. Cal. 2007), (No. C 06-7062), 2007 WL 857679.

<sup>74</sup> Declaration of Rick S. Piltz in Support of Memorandum of Amici Curiae John F. Kerry and Jay Inslee at ¶ 26, *Ctr. for Biological Diversity v. Brennan*, 571 F. Supp. 2d 1105.



and other fossil fuel interests. Sen. Inhofe is one of the loudest naysayers of anthropogenic climate change. He routinely supports legislation that favors big oil companies that donate more money to him than any other industry. Over the course of his political career, Sen. Inhofe has received \$1,835,427 from oil and gas companies, including \$54,700 from Exxon.<sup>75</sup> Senator Inhofe has publicly asserted that the entire body of climate science is “the greatest hoax ever perpetrated on the American people.”<sup>76</sup> The Heartland Institute, another plaintiff, began developing and perfecting the strategy of spreading doubt about scientific findings in the 1990s when the organization partnered with Philip Morris to question evidence linking secondhand smoke to health problems. From 1998 to 2005, Heartland received over \$560,000 from ExxonMobil, with forty percent of funds designated for climate change projects.

Lastly, CEI, one of the vital organs to the body of climate denialism, proudly opposes “global warming alarmism.” Exxon’s WorldWide Giving Reports show that Exxon donated over two million dollars to CEI from 1998 through 2005. CEI also receives large contributions from the American Petroleum Institute. Multiple organizations run by the Koch brothers heavily donate to CEI, as do the Coors and Bradley Foundations, known for supporting anti-regulatory organizations, and Richard Scaife, a prolific contributor to conservative, libertarian causes before his death in 2014. A large majority of CEI’s contributors support or have ties with the fossil

fuel energy industries. Myron Ebell, arguably the most conspicuous climate change denier and the current choice of President-elect Donald Trump to lead the Environmental Protection Agency (EPA) transition team, served as CEI’s global warming and international policy director; he also contributed to the API Communications report mentioned previously. Once, referring to Exxon, Ebell noted that “no company appears to be working harder to support those who debunk global warming.”<sup>77</sup> CEI, along with other National Assessment disparagers, began utilizing their relationships with the Bush Administration to sabotage or weaken definitive statements attesting to global warming’s existence.<sup>78</sup> CEI’s resistance to climate science did not arise spontaneously from a critical review of the literature, but was manufactured by an industry heavily vested in the status quo and vehemently opposed to carbon regulation.

One of Ebell’s colleagues was Phil Cooney, formerly with API, who became part of the Bush Administration when James Connaughton, the Chairman of the CEQ, appointed him as chief of staff. While at API, Cooney ensured successful advocacy of API’s concerns about the NCA1 to members of Congress. Cooney began working as chief of staff on June 25, 2001, shortly after President Bush’s Rose Garden speech on climate change policy, which failed to even mention NCA1. In testimony before the House Committee on Oversight and Government Reform, Cooney attested that Bush’s speech shaped his

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<https://www.opensecrets.org/politicians/industries.php?cycle=Career&cid=N00005582&type=C>

<sup>76</sup> James Inhofe, speaking on ‘Science of Climate Change,’ 108th Congress, *Congressional Record* 149 (July 28, 2003): S10022,

<https://www.gpo.gov/fdsys/pkg/CREC-2003-07-28/html/CREC-2003-07-28-pt1-PgS10012.htm>

<sup>77</sup> Mooney, “Some Like It Hot.”

<sup>78</sup> To learn more about how CEI undermines climate change, visit DeSmog’s blogpost: <http://www.desmogblog.com/competitive-enterprise-institute>

understanding of the President's climate change policy, as well as his interpretation of the National Academy of Sciences (NAS) 2001 report on climate change issued shortly after the speech.<sup>79</sup> Although the first sentence of the NAS 2001 policy report states, "Greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean temperatures to rise," Cooney and President Bush embraced a different understanding.<sup>80</sup> They chose to focus on the "fundamental scientific uncertainties relating to climate change," and committed to "address[ing] those uncertainties."<sup>81</sup> Thus, from day one, Cooney diverged from scientific consensus to exaggerate uncertainties. Given Cooney's authority to edit documents that informed government climate policy -- a power he frequently took to new levels not seen before -- Cooney's understanding of President Bush's climate change agenda encouraged him to prioritize and emphasize doubt. About a year after Cooney joined the staff of CEQ, three crucial events occurred that notably shaped the rest of his tenure.

First, on February 14, 2002 President Bush delivered a speech outlining a global warming policy developed by James Connaughton, the "Clear Skies Initiative."<sup>82</sup> Devoid of clear timetables, filled with nebulous promises, and heavily focused on scientific uncertainties, Bush's climate policy received

harsh criticism from member scientists of the National Academy of Sciences: panel members expressed concern that the policy was "not cognizant of the existing science."<sup>83</sup>

Second, in May 2002 the Bush Administration released its annual Climate Action Report to the United Nations in compliance with reporting requirements under the UNFCCC. The report included a chapter on "Impacts and Adaptation" that relied heavily on the conclusions and discussions of the first National Assessment. Although Cooney had already edited the chapter to remove references to the NCA1 in the "Impacts and Adaptation" chapter as a clear effort to obfuscate the scientific assertions, The New York Times, nevertheless, published a front-page story suggesting an apparent shift by Bush and his administration on the existence and consequences of human-caused climate change. Facing a public relations nightmare, Cooney contacted Myron Ebell of CEI. Although Cooney later recollected that their brief phone conversation was "not agreeable" and was motivated by Cooney's desire to have Ebell "read the report before rendering judgment," Ebell reported that Cooney called in a nervous panic seeking guidance.<sup>84</sup> Ebell sent Cooney a cordial email the following day, providing advice on how Cooney should proceed. Acknowledging that the CEQ was "in crisis mode" and that Ebell wanted to "help cool things down," Ebell expressed that little could

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<sup>79</sup> House Committee on Oversight and Government Reform, Deposition of Philip Cooney, 45

<sup>80</sup> National Research Council, Committee on the Science of Climate Change, *Climate Change Science: An Analysis of Some Key Questions* (Washington, D.C.: National Academies Press, 2001), p. 1.

<sup>81</sup> House Committee on Oversight and Government Reform, Deposition of Philip Cooney, 46.

<sup>82</sup> George W. Bush, "President Announces Clear Skies & Global Climate Change Initiatives," February 14, 2002, <https://georgewbush->

[whitehouse.archives.gov/news/releases/2002/02/20020214-5.html](http://whitehouse.archives.gov/news/releases/2002/02/20020214-5.html)

<sup>83</sup> Andrew Revkin, "Panel of Experts Faults Bush Plan to Study Climate," *New York Times*, February 23, 2003, last accessed June 28, 2016, <http://www.nytimes.com/2003/02/26/us/panel-of-experts-faults-bush-plan-to-study-climate.html>

<sup>84</sup> House Committee on Oversight and Government Reform, Deposition of Philip Cooney, 123. Dickinson, "Six Years of Deceit," 57.

be done to deflect criticism unless and until Bush backtracked and repudiated the report.<sup>85</sup> Notably, Ebell wrote that the report's "references to the National Assessment...are the most hurtful to [CEI]." This sentence encapsulates the truth about organizations that promote climate change doubt and denial: CEI viewed public awareness of the troubling conclusions in the NCA1 as a threat to its own existence. When President Bush received a question the next day about the media publicity surrounding the report, he distanced himself from it and its message, denigrating it as "a report of the bureaucracy."<sup>86</sup>

Armed with Bush's dismissal of the Climate Action Report and the NCA1, Cooney drafted a letter to The New York Times rejecting any claims of policy reversal or indecision. In addition to Connaughton, Karl Rove also vetted the letter, praising Cooney's work as "great." Cooney was also praised by William O'Keefe, former executive vice president of the API and a lobbyist for ExxonMobil from 2001-2005, who sent Cooney a letter O'Keefe had sent to White House Chief of Staff Andrew Card urging a unified communications strategy on climate change and dismissing the NCA1 as "completely inconsistent with the President's policy and expressed views on the subject."<sup>87</sup> O'Keefe scribbled a handwritten note to Cooney reading, "P.S. You are doing a great job."<sup>88</sup> After the fallout from the Climate Action Report, Cooney assumed a larger set of responsibilities at the CEQ, with editing and veto power over federal scientists and Dr. James Mahoney, the director of the CCSP coordination office.<sup>89</sup>

Third, CEI filed a petition with the Bush Administration alleging that the reference to the NCA1 in the Climate Action Report violated the CEI et al. v. Bush settlement terms. In an effort to prevent the report's distribution, CEI asserted that the NCA1 failed to meet the requirements of the Data Quality Act (DQA, sometimes referred to as the Information Quality Act), a law passed by Congress in 2001, which came into effect in October 2002. The assertion was bogus: the Data Quality Act was itself a ploy to discredit science politically unpalatable to conservative factions in Congress, and application of the law to the NCA1 was flawed. NCA1 predated the passage of the DQA, and no valid third party had critiqued the science behind NCA1's findings as the provisions required.

Questioning the validity of government scientific reports on climate change was a prevalent political strategy under the Bush Administration, used to discredit reports drawing connections between carbon dioxide emissions and climate change impacts. By criticizing the climate models relied upon for the NCA1, and calling into question the veracity of related scientific papers, CEI and other groups raised doubts regarding scientific findings distasteful to the fossil energy industries. Relying on this bogus line of argument, CEI filed another lawsuit hoping to legally bar NCA1's production and distribution.

Aside from the crucial fact that the Data Quality Act did not exist during the NCA1's development, rendering compliance impossible, the scientific community at large held the report in high regard; the 2001

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<sup>85</sup> Myron Ebell, email message to Phil Cooney, June 3, 2002.

<sup>86</sup> Declaration of Rick S. Piltz in Support of Memorandum of Amici Curiae John F. Kerry and Jay Inslee at ¶ 31, *Ctr. for Biological Diversity v. Brennan*, 571 F. Supp. 2d 1105.

<sup>87</sup> *Ibid.*

<sup>88</sup> Dickinson, "Six Years of Deceit," 58.

<sup>89</sup> See footnote 55, for a brief description of the CCSP.

National Academy of Sciences report mentioned above devoted an entire chapter to the findings in the NCA1 and concluded that the climate models utilized were “well-regarded.”<sup>90</sup> The endorsement conveyed a high degree of confidence in the data from an expert audience. High-level Bush Administration operatives, however, chose to side with political allies, and to overlook the obvious legal and scientific shortcomings of CEI’s argument. Cooney, an attorney with no scientific training, expressed his view that the NCA1 was not based on sound science, an opinion he admitted was derived from statements made by a few scientists known to deviate from mainstream thinking, and the fact that a few Members of Congress had initiated litigation.<sup>91</sup> Refusing to defend the integrity of the NCA1, the Bush White House saw to it that a disclaimer appeared at the bottom of each page of the NCA1 posted on any federal government website, claiming that the report was “not subjected” to the stipulations of the Data Quality Act. Note the clever use of language: claiming the report was not “subjected” to DQA guidelines as opposed to “subject” to them manipulated a subtle difference in meaning such that the statement was factually accurate but highly misleading. CEI’s victory was the clear implication that the NCA1 was inaccurate and based on questionable science. The Bush White House response to both CEI lawsuits and the way they handled NCA1 in the Climate Action Report revealed how it privileged politics above science. Still more troubling was the clear, unmistakable message this sent to the scientific community regarding how it planned to treat

statements on climate change that opposed the administration’s agenda.

Through his high-level perch at the CEQ, Cooney adopted a mission to forward the CEI’s agenda by removing any and all references to the NCA1 from all federal climate reports including those produced by the USGCRP, renamed the CCSP under Bush. Assessing the harmful impact this had on the CCSP, Rick Piltz described Cooney as:

a kind of linchpin of the global warming disinformation campaign, connecting the interests of the oil industry from whence he had come to the inner circles of the White House. His role in this political-corporate strategy and division of labour was to serve as a kind of political policeman of the climate science programme itself...played a lead role as White House agent for enforcing the suppression of the National Assessment and the systematic removal of meaningful references to it from CCSP publications.<sup>92</sup>

While Cooney rejected the characterization of himself as an agent of suppression, he did concur that he understood his role as defined by the legal obligations of the CEI et al. lawsuit settlement terms: that the NCA1 would not serve as a basis for policymaking.<sup>93</sup> Thus, in Cooney’s mind, citing the NCA1 in the CCSP 10-year Strategic Plan or in its annual report to Congress, *Our Changing Planet* – reports Cooney saw as policy-relevant documents – was “inappropriate” and gave him sufficient license

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<sup>90</sup> National Research Council, Committee on the Science of Climate Change, *Climate Change Science*, p. 19–20.

<sup>91</sup> House Committee on Oversight and Government Reform, Deposition of Philip Cooney, p. 88-89.

<sup>92</sup> Rick Piltz, “The denial machine: Science, censorship, and the White House,” *Index on Censorship* 37, no. 4 (2008): 77.

<sup>93</sup> House Committee on Oversight and Government Reform, Deposition of Philip Cooney.

to delete all references to the NCA1 in these reports. Given that the Strategic Plan and Our Changing Planet recommended the direction and funding for federal science programs under the CCSP, one could argue that these documents recommended but did not prescribe policy. However, Cooney never contacted the Department of Justice to determine if removing these references was required in order to abide by the settlement terms, and, when questioned, he failed to identify the exact reason for his belief that the NCA1 could not be mentioned.<sup>94</sup> He cited CEI's anger over the Climate Action Report as proof of a breach of the settlement agreement, but admitted he did not "really know what it absolutely requires and absolutely doesn't" and "just walked around with the knowledge...that we wouldn't use this for policy purposes."<sup>95</sup> So, even though Cooney admitted a great degree of uncertainty about just how he arrived at his conclusion, he executed his own policy by making copious report revisions with a heavy, authoritative pen.

Thus, in reviewing and editing CCSP's 10-year Strategic Plan that had been carefully prepared over many months throughout 2003, a plan designed to direct the course of federal climate change research for the remainder of the Bush Administration and beyond, Cooney systematically removed all references to the NCA1. Moreover, he took it upon himself to delete certain phrases and add new language serving to exaggerate scientific uncertainties and introduce a level of ambiguity regarding climate change impacts that simply did not

exist at the time. Versions of the draft Strategic Plan, copied and analyzed by Piltz and others, show that Cooney and other CEQ officials made a whopping 181 edits to manufacture or elevate existing scientific uncertainties, and 113 edits to delete or downplay evidence of the human effect on global warming. While not all of Cooney's edits survived scrutiny, dozens made it into the final version of the Strategic Plan. Although Cooney later claimed that CEQ's edits were not final, but rather recommended changes to be accepted or rejected by Dr. James Mahoney, Director of the CCSP Coordination Office, it was he, not Mahoney, who had to sign the ultimate 'concurrence sheet' before the final draft's publication stating that he approved the Strategic Plan.<sup>96</sup> Piltz later explained that "taken in the aggregate, the changes had a cumulative effect of shifting the tone and content of an already quite cautiously worded draft to create an enhanced sense of scientific uncertainty about climate change and its implications."<sup>97</sup> Cooney's counter-argument, stated in his 2007 deposition taken by the House Oversight Committee, was that he understood his edits to be attempts to insert language regarding "fundamental, basic research needs" that must be addressed before speaking "definitively to impacts," but that "the deletions...were immaterial."<sup>98</sup> One could argue, if Cooney believed his edits and deletions were immaterial, why did he bother to make them? Quite the contrary, Cooney's collection of edits acted to render the NCA1 and all the

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<sup>94</sup> Ibid at 97-102.

<sup>95</sup> Ibid at 101.

<sup>96</sup> Democratic Members of the Committee on Oversight and Government Reform to Oversight and Government Reform Committee Majority Staff, March 19, 2007, 110th US House Committee on Oversight and Government Reform, Full Committee Hearing on Political Interference with Science: Global Warming, Part II, last accessed

June 29, 2016,

[http://www.globalsecurity.org/security/library/congress/2007\\_h/070319-memorandum.pdf](http://www.globalsecurity.org/security/library/congress/2007_h/070319-memorandum.pdf)

<sup>97</sup> Declaration of Rick S. Piltz in Support of Memorandum of Amici Curiae John F. Kerry and Jay Inslee at ¶ 38, Ctr. for Biological Diversity v. Brennan, 571 F. Supp. 2d 1105.

<sup>98</sup> House Committee on Oversight and Government Reform, Deposition of Philip Cooney, p. 79 and 103.

thoughtful research behind it essentially invisible in the Strategic Plan.

In a June 2003 memo to Dr. Richard Moss, Director of the Office of the USGCRP/CCSP, and James Mahoney, Piltz outlined his vehement opposition to the content of the CEQ comments. Piltz explained how CEQ's systematic pattern of edits was evidence of:

attempts to change science statements, generally either to downgrade the significance of certain issues of concern or to downgrade accomplishments of previous scientific work by creating an enhanced sense of scientific uncertainty; and attempts to substitute CEQ judgment for science program management judgment about research priorities and ways of expressing the payoffs from research. For example, the CEQ comments tend to take out references to potential public health impacts, the importance of focusing at the regional level, the relevance of social science involvement, the potential for major changes (e.g., in the Arctic), and the value and significance of current modeling. They would alter definitions of science terms, for which we have typically used approved IPCC and AMS language.

Evidently, Bush-Cheney operatives believed that by removing references to health impacts, regional importance, and potential major tipping points, scientific findings regarding climate change would seem less real or relevant to people, and thus easier to dismiss as a priority for policy making. As a whole, Cooney's

numerous edits of scientific documents reveal a political agenda to interfere with the scientific process, not promote it.

Citing the CEQ interventions, Piltz brought up a broader critique of the review method employed for the CCSP ten-year Strategic Plan. Piltz asserted that the structure itself prevented others from realizing the powerful effect of numerous small edits throughout the document. Since multiple agencies and the Executive Office of the President reviewed the Strategic Plan, Piltz hypothesized that interspersing comments from CEQ with those of agency technocrats, and then relying on staff to approve or reject each edit on a "comment-by-comment, chapter-by-chapter basis," allowed the CEQ to exact a heavy hand on the CCSP without being seen as doing so. The very process of review itself was flawed in that it constituted:

giving the task to people who will not be looking at the big picture of the full range of CEQ intervention in all 16 chapters, thus not likely to appreciate the cumulative effect of taking many seemingly small individual comments, and who are not likely to address the comments consistently across chapters; and are not at the level of authority called for in dealing with interventions by an office that is, let's face it, the gorilla at the cocktail party -- i.e., would you encourage staff to really accept or reject CEQ comments on the merits of whether the proposed changes are really called for and whether they improve the document?

Piltz sought to illuminate how the review process itself masked the problematic nature of

CEQ's extensive editing by employing a large set of piecemeal changes. Burrowed within a single chapter or heavily focused on line-by-line changes, reviewers failed to discern the subtle shift in tone throughout the whole document, not because of incompetence, but because of perspective. Moreover, Piltz condemned CEQ's overuse of its authority under the Bush Administration, and was especially concerned that CEQ's overbearing posture had the effect of stifling pushback from others involved in the federal climate science and assessment programs. Given "the bias in this process to incorporate proposed changes" since any single edit rejected required a written explanation or defense, and thus risked controversy, the CEQ could get away with making politically-driven changes to scientific reports without forceful disagreement.

The redaction of references to the NCA1 was even more powerful: a March draft contained twelve references to the National Assessment; by the end of June, only seven remained; for the pre-publication version, two more references were eliminated; then in the final version published in September 2003, four of the five remaining references were cut. Ultimately, only one sentence mentioned the National Assessment, which failed to even refer to the document by its title. Moreover, the NCA1 did not appear in the bibliography, nor did the Strategic Plan incorporate any account of the Assessment's process, significance, intent, or findings, nor information given about how to acquire a copy of the National Assessment. For all intents and purposes, the National Assessment had been wiped from the Strategic Plan.

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<sup>99</sup> National Research Council, "Appendix A: Excerpts from Planning Climate and Global Change Research: A Review of the Draft US Climate Science Program Strategic Plan," in *Implementing Climate and Global Change*

In February 2004, the National Academy of Science's National Research Council (NRC) issued a report on the Strategic Plan. A panel of highly credentialed scientists strongly criticized omission of discussion of the NCA1 in the Strategic Plan and chastised the Bush Administration for not building upon the Assessment's extensive stakeholder engagement. The NRC "Committee to Review the US Climate Change Science Program Strategic Plan" pointed out that:

the draft strategic plan does not adequately use many prior assessments and consensus reports that have provided scientific information to decision makers...it fails to build upon past experience in applied climate studies, including regional impacts, or in interactions with a wide range of user communities. In these facets the plan must build on lessons learned from the US National Assessment of the Potential Impacts of Climate Variability and Change.

The NRC panel expressed disappointment in the Strategic Plan's treatment of the NCA1, given that both CCSP program managers and members of the NRC had previously expressed worries that the NCA1 would be ignored in the Strategic Plan.<sup>99</sup> Nonetheless, nobody within the administration provided to the NRC panel a rationale for the omission, which only served to solidify suspicions of a political motive.

The Strategic Plan also left out a future for the NCA process itself, despite the fact that

*Research: A Review of the Final US Climate Change Science Program Strategic Plan*, Washington, DC: The National Academies Press, 2004, doi:10.17226/10635, 48.

a national assessment of climate impacts was required to be reported to Congress every four years. Instead of charting a course for the next large integrative research document, it offered up 21 shorter “Synthesis and Assessment Products” (SAPs) on a variety of climate issues, supposedly covering all of the material necessary to meet the mandate of the GCRA. This set of reports was no substitution for a comprehensive assessment, and, it can be argued, this course of action did little to aid society’s need to prepare for a wide-ranging set of climate change impacts. As Michael MacCracken, former Executive Director of the Coordination Office of the USGCRP from 1997 to 2001, said, the “very significant gaps and limitations” in the synthesis reports on impacts of and adaptation to the stresses of climate change kept from the public and private sectors information needed to make optimal adjustments for protecting resources at home and for keeping up with their international competitors.”<sup>100</sup> Furthermore, doubts emerged about how these reports could truly substitute for a full-blown National Assessment, given the requirements outlined in the GCRA. Unlike the narrow synthesis reports, the NCA1 was “a far-reaching study that synthesized a large volume of research and aimed to equip everyone from civilians to Congresspersons with a better sense of our environmental risk factors, thus providing the informational tools to engender better public policy decisions.”<sup>101</sup>

As noted in a Government Accountability Office (GAO) report following an investigation requested by Senators John Kerry (D-MA) and John McCain (R-AZ) to determine

whether the Strategic Plan fulfilled the stipulations of the GCRA, “without a well-developed plan that links the reports to the eight assessment areas -- and especially because the currently planned reports will be issued over a three-year period -- the Congress and other users will not know how, when, and where the eight areas will be addressed.”<sup>102</sup> For that reason, the GAO recommended that “it would be helpful to the Congress and other users if CCSP summarized the 21 reports in a single volume for a general audience, as was done in 2000.”<sup>103</sup> Thus, the GAO recommended that the Bush Administration carry out another National Assessment to best aid the spread of important information. By treating essential climate change impacts studies as bureaucratic publications, the Bush Administration failed to provide citizens with information to understand and engage with the issue.

In addition to legitimate concerns about the content of the reports, chronic delays in completion of the SAPs compromised the integrity of the program. CCSP’s July 2003 schedule outlined the release of the 21 reports between 2005 and 2007. This plan meant that over seven years would have elapsed between the NCA1 and the final publication -- nearly twice the length of time required by the GCRA, defeating the purpose of regularly updated impacts assessments. Many of the initial reports began suffering delays in the drafting process. When the GAO issued its report in 2005, eight of the nine synthesis reports had suffered some type of setback, forcing the CCSP to determine a new publication target date.

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<sup>100</sup> Declaration of Dr. Michael MacCracken in Support of Plaintiffs’ Motion for Summary Judgment at ¶ 25, *Ctr. for Biological Diversity v. Brennan*, 571 F. Supp. 2d 1105 (N.D. Cal. 2007), (No. C 06-7062), 2007 WL 857679.

<sup>101</sup> Mooney, “An inconvenient assessment,” 45.

<sup>102</sup> Government Accountability Office, *Climate Change Assessment: Administration Did Not Meet Reporting Deadline*, GAO-05-338R, (Washington, DC, 2005), <http://www.gao.gov/htext/d05338r.html> (accessed June 12, 2016).

<sup>103</sup> *Ibid.*



Frustrated by inaction, NCA advocates turned to the courts.

Citing the failure to produce a 2004 National Assessment on Climate Change as required by the GCRA, the Center for Biological Diversity, Greenpeace, and Friends of the Earth filed suit against the Bush Administration on November 14, 2006. In a straightforward argument, the plaintiffs alleged that the CCSP acted illegally in failing to provide a comprehensive, integrative assessment every four years -- the most recent published in 2000 -- as well as an updated research plan every three years -- last updated in 2003 -- thus violating the GCRA. Since both documents were out of date, the lawsuit demanded newer versions. In 2007, presiding US District Court Judge Sandra Brown agreed, and ordered a new plan to be developed by March 1, 2008 and a new assessment by May 31, 2008.

Although the second National Assessment was eventually published under the Bush Administration, albeit in 2009 at the end of Bush's presidency, the small window to pull together such a vast amount of research necessarily limited the scope of the National Assessment. Strictly comparing the length of the documents, the second Assessment contained almost 400 fewer pages, despite having an existing framework to help guide

what needed to be addressed and updated. While producing any document in such a short time deserves credit, the failure to produce a more robust assessment of climate impacts prevented the federal government from providing solid information to communities needing to better prepare for climate change.

In sum, the Bush Administration stagnated climate science, thus preventing the United States from improving its preparedness for the effects of global warming through a variety of tactics meant to suppress the National Assessment and its findings. By suppressing the 2000 Assessment, the Bush-Cheney Administration prevented citizens from accessing research and synthesis activities that they had already paid for with tax dollars. From manipulating draft documents to communicating with fossil fuel representatives or global warming deniers to delaying the production of climate science documents, the Bush Administration systematically undermined climate change efforts. Bush appointees established a blueprint for how an administration hostile to the warnings of climate scientists can instill a culture of suppression, pervade doubt, and restrict the distribution of knowledge. As such, it is of tremendous importance that we learn from the past to ensure its mistakes will not be repeated.

# A Sustained National Climate Assessment Plan: When Science Becomes Politicized

*“Those who cannot remember the past are condemned to repeat it.” -- George Santayana*

Given what transpired under the Bush Administration, identifying methods for safeguarding the integrity of the National Climate Assessment and associated federal climate research is paramount. Under the current system, political factors can delay or disrupt the communication of federal research. This is not to suggest that the entire scientific community needs to become politically active, but rather that we must consider what should be done when climate science and scientists become ensnared in a partisan, politicized debate. Any scientist passionate about the sustainable wellbeing of science should spend more time communicating findings with the public. John Holdren, Assistant to the President for Science and Technology and Director of the OSTP, has consistently implored fellow scientists to enhance communications skills germane to conveying findings, to seek out actively additional and more effective avenues for doing so, and to devote ten percent of professional time and efforts to engage society about the benefits of science and technology for the human condition (see, for example, this appeal in 2007).<sup>104</sup> Scientists engaging with the public has benefits for all; a society that better understands and appreciates the work of science is more likely to fund and support scientific endeavors. Although most scientists prefer to remain apolitical, their work is sometimes conducted in a highly political

environment, and can directly affect the body politic.

As the collection of diverse federal programs and research activities under the USGCRP umbrella work together to achieve a “sustained” NCA process, such a heavy focus on internal processes, while significant, fails to address the ongoing potential for political interference. Certain threats to scientific integrity associated with the Bush Administration, such as agency media policies, have now been revised for the better. Yet the catalogue of instances of political interference offers a cautionary tale about how an administration, intent on diminishing the credibility of climate science or its impacts on policy, might undertake its campaign. Carefully delineating the methods of political interference employed in the past can help to identify specific steps that can be taken to protect scientific integrity in the future. While attaining a sustained NCA should be a core focus of the USGCRP, it is also essential to keep a watchful eye on forces external to federally-funded climate research, such as the current administration’s stated climate policy agenda and elements outside the government imposing political pressure on the Executive Branch.

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<sup>104</sup> John P. Holdren, “Science and Technology for Sustainable Well-Being,” *Science* 319, no. 5862 (2008): 433.

## I. A Sustained National Climate Assessment

Prior to the initiation of the Third National Climate Assessment (NCA3), its leaders and authors developed a new vision for future assessment activities.<sup>105</sup> Learning from the previous two NCAs, they wanted to reduce the substantial burden inherent in undertaking a massive, comprehensive assessment of the state of climate science every four years. Much of the discussion at the initial planning workshop revolved around improving how the NCA supports and informs policy and decision making as well as how the NCA can be better sustained in the future. Aiming to establish “a sustained assessment process,” these individuals sought to “integrate evolving scientific understanding into decision making” and collaborate with “a diverse and widely distributed set of non-governmental and governmental entities” in order to produce “timely, scientifically sound climate information products and processes, rather than...single quadrennial synthesis reports.”<sup>106</sup> If properly achieved and utilized, this sustained assessment would be “more efficient and cost-effective” while simultaneously “avoiding the painful and time-consuming process of beginning the assessment process anew every four years.”<sup>107</sup> In their view, developing a sustained assessment process would enable USGCRP to more fully meet its mandate to

support the nation’s response to climate and global change by broadening the distribution of its findings to decision makers within civil society; state, local, and tribal governments; and the private sector.

To assist in building a sustained assessment process, USGCRP relied upon the recommendations of the National Climate Assessment Development and Advisory Committee (NCADAC), a Federal Advisory Committee convened “to provide advice and recommendations toward the development of an ongoing, sustainable NCA of global change impacts and adaptation and mitigation strategies for the Nation.”<sup>108</sup> NCADAC focused on giving USGCRP recommendations on sustained assessment activities and products, including engagement of stakeholders. NCADAC issued a *Special Report* on building a sustained NCA process, detailing four overarching recommendations:

- Establish mechanisms to support enduring collaborative partnerships that sustain assessment activities;
- Enhance and organize the scientific foundations for managing the risks and opportunities of climate change;

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<sup>105</sup> James L. Buizer, Paul Fleming, Sharon L. Hays, Kirstin Dow, Christopher B. Field, David Gustafson, Amy Luers, and Richard H. Moss, Report on Preparing the Nation for Change: Building a Sustained National Climate Assessment Process, National Climate Assessment and Development Advisory Committee, 2013

<sup>106</sup> James L. Buizer, Kirstin Dow, Mary E. Black, Katharine L. Jacobs, Anne Waple, Richard H. Moss, Susanne Moser, Amy Luers, David I. Gustafson, T.C. Richmond, Sharon L. Hays, and

Christopher B. Field, “Building a sustained climate assessment process,” *Climatic Change* 135, no. 1 (2015): 23, doi:10.1007/s10584-015-1501-4.

<sup>107</sup> *Ibid.*, 23-24.

<sup>108</sup> US Department of Commerce, “Charter of the National Climate Assessment and Development Advisory Committee,” 1, [https://downloads.globalchange.gov/nca/NCADAC/NCADAC\\_Charter\\_6-24-13.pdf](https://downloads.globalchange.gov/nca/NCADAC/NCADAC_Charter_6-24-13.pdf) (accessed July 14, 2016)

- Provide infrastructure to support a sustained assessment process; and
- Diversify the resource base and set priorities.<sup>109</sup>

Of the four recommendations, the first was understood to be the most challenging, yet most central because it required forging long-term relationships between scientists and decision makers. While NCA1 engaged a tremendous number of stakeholders, the level of relationship-building recommended by the NCADAC report was unprecedented in the NCA process.

Stakeholder participation turned out to be one of the crowning achievements of the NCA3 process. Unlike the process employed during NCA2, which struggled to engage stakeholders and failed to garner much public attention for reasons outlined in the previous chapter, NCA3 sought to identify stakeholders early on and prioritize their input and information needs. NCA3 participants later agreed that the process used was a real success and effectively built an “actively engaged assessment community” while fostering stakeholder engagement.<sup>110</sup> Moreover, the organizers of the NCA3 developed novel methods for engagement, such as NCAnet, a network of organizations working with the NCA managers to better engage and interconnect both producers and users of assessment information in regions and sectors across the

United States. With a forward-looking eye, NCA3 authors have defined “sustained assessment” as “maintaining the same level of effort required for the extremely involved NCA3 process and its very large participant list.”<sup>111</sup> This definition provides insight into the value that USGCRP places on stakeholder participation in the creation of future NCAs and in measuring their success.

A vibrant, well-maintained set of stakeholder relationships is essential for an ongoing, sustained climate change impacts assessment and reporting function at the federal level. In 2015, NOAA established a new fifteen-member Federal Advisory Committee, the Advisory Committee for the Sustained National Climate Assessment, to provide insight into how best to facilitate “ongoing and transparent interactions among scientists and stakeholders across regions and sectors” as well as general stakeholder engagement.<sup>112</sup>

The sustained assessment concept envisioned is already underway; a USGCRP team published *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment* in April 2016. This public health study, together with several other technical reports and assessments on the “Second State of the Carbon Cycle” and the “Climate Science Special Report” to be published in 2017, will all feed into NCA4. USGCRP’s sustained assessment web page identifies six ongoing initiatives, four of which relate to stakeholder engagement: 1) NCAnet; 2) listening sessions; 3) public comment periods

<sup>109</sup> Buizer et al., Report on Preparing the Nation for Change: Building a Sustained National Climate Assessment Process, 9.

<sup>110</sup> Susanne C. Moser, Jerry M. Melillo, Katharine L. Jacobs, Richard H. Moss, and James L. Buizer, “Aspirations and common tensions: larger lessons from the third US national climate assessment,” *Climatic Change* 135, no. 1 (2015): 190, doi:10.1007/s10584-015-1501-4.

<sup>111</sup> Buizer et al., “Building a sustained climate assessment process,” 31.

<sup>112</sup> NOAA, “NOAA establishes new panel to guide sustained National Climate Assessment,” published June 29, 2016, last accessed July 19, 2016, <http://research.noaa.gov/News/NewsArchive/LatestNews/TabId/684/ArtMID/1768/ArticleID/11776/NOAA-establishes-new-panel-to-guide-sustained-National-Climate-Assessment.aspx>

on the content and scope of NCA4; and 4) creation of the Federal Advisory Committee mentioned above.

That web page mentions other interim assessments and technical reports. USGCRP has also launched an interagency pilot effort called the National Climate Indicators Systems (NCIS) to communicate complex scientific information on vital elements of the changing environment to decision makers.<sup>113</sup> Climate indicators function both descriptively and analytically, identifying climate trends and impacts in climate-sensitive sectors and, in some cases, providing a sense of the impact of current climate policies. They obviously can contribute significantly to future assessments. Through NCIS, the NCA process could be sustained by using climate indicators for: 1) consistent and periodic updates of physical, ecological, and societal change; 2) tangible measurements documenting changing conditions over time since the last assessment; and 3) a unified system of information used and shared by federal agencies that addresses climate change impacts, informs mitigation and adaptation policies, and provides general climate data to better evaluate or estimate the United States' preparedness and growth in responding to climate change.<sup>114</sup> NASA and EPA have funded indicator efforts, and NOAA continues to support the pilot interagency indicators system with funding and technical support. Evidently, USGCRP is making strides in implementing a sustained assessment process -- an encouraging development for people familiar with the NCA.

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<sup>113</sup> For more information, see Melissa A. Kenney, Anthony C. Janetos, and Glynis C. Lough, "Building an integrated US National Climate Indicators System," *Climatic Change* 135, no. 1 (2015): 85-96, doi:10.1007/s10584-015-1501-4 or USGCRP's Climate Indicators website (<http://www.globalchange.gov/explore/indicators>).

Nonetheless, USGCRP faces challenges in bringing about the evolution of the NCA into a truly sustainable process; some NCA3 authors commented that:

Of greatest concern is that the focus of activity [on establishing credible, ongoing assessment processes] remains almost exclusively on the production of reports coordinated through federal agencies. The special report's recommendations to move toward a wider range of NCA products such as data sets, scenario planning methods, tools for vulnerability assessments, maps, and others, and to make a more concerted effort at addressing the international dimension have not yet been realized. The recommendation to encourage a distributed assessment approach, allowing for a series of self-motivated assessment processes organized by municipalities, sectoral interest groups, universities, NGOs and other interested parties does not seem to have progressed.<sup>115</sup>

An effort to bridge the divide between practical needs and what science is able to produce could entail "critically assessing the use and value for specific purposes of commonly available data, methods, visualizations, and other tools and resources" to augment and diversify an assessment's applicability.<sup>116</sup> While USGCRP managers overseeing the NCA process have

<sup>114</sup> Kenney, Janetos, and Lough, "Building an integrated US National Climate Indicators System," 94-95.

<sup>115</sup> Moser et al., "Aspirations and common tensions," 193.

<sup>116</sup> *Ibid*, 196.

initiated first steps to increase the NCA's relevance, extend its reach, and optimize the transition from assessment to assessment, there is no publicly-available evidence demonstrating that progress is being made on the recommendations to instigate a series of self-motivated assessments, address the international dimension, or create tools for vulnerability assessments. Failing to expand the scope of NCA products also maintains the potential risk for a future administration to successfully censor or suppress the valuable informational stream so characteristic of the climate change impacts assessment apparatus.

The multiple products that contribute to the NCA, each of which requires participation from multiple federal agencies and synthesizes the work of scientists and stakeholders, makes it far more difficult to censor or suppress the information. Expanding NCA products increases the number of constituencies invested in NCA's success and publication, helping to safeguard the process from political interference. A wider range of products also attracts a broader audience, which in turn develops a wider vested interest in the sustainability of the program. Presenting material in clear and accessible ways, such as via the NCA3 website, aids communication with grassroots participants and tends to expand public interest and strengthen demand. These elements of the sustained assessment process bring different communities together to establish a large network -- exactly what NCAnet attempts to foster through its platform. NCA stakeholders -- those who have used, cooperated on, or contributed to the USGCRP's work on the Assessment -- need to demonstrate the NCA's importance to members of Congress and to the Executive Branch.

The thousands of people who participate in all of the various NCA workshops around the country, exchanging information and insights with one another in the lead-up to the final report, ended up amassing a tremendous knowledge base that is not entirely captured in the written product. Relationships are built, networks established, new ideas generated, and so on. The process of gathering and synthesizing the wealth of knowledge generated is at least as, if not more, valuable than the final report itself. That too cannot be lost.

While some USGCRP constituents might be uncomfortable encroaching into political territory to market the Program and demonstrate its value, in the zero-sum world of funding and for a politicized topic such as climate change, ensuring a program's future necessitates demonstrating value to politicians. USGCRP program managers and the communications team in the National Coordination Office have traditionally leaned towards engaging a broad audience; this is a good strategy but, if the Program is to survive and thrive, its program leadership must spend more time and effort building a strong, bipartisan constituency on Capitol Hill. Indeed, an internal USGCRP document from early 2001 explained a plan to "increase face-to-face exposure on capital hill [sic] and direct conversations with staff" while simultaneously working to "continue, intensify and accelerate efforts to work with Congressional staff to develop [a] briefing schedule that meets Congressional needs without courting controversy."<sup>117</sup>

One of the chronic problems at USGCRP, even under the Clinton Administration, was its essential invisibility to the Congress, except in the committees with

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<sup>117</sup> Document from Rick Piltz personal library

direct oversight, such as the House Science, Space, and Technology Committee. Raising awareness of USGCRP and the climate change impacts assessment process and products it produces among the American public and Members of Congress and their staff is the best way to ensure this valuable program survives shifting political winds. Part of the lack of awareness is due to the difficulty of explaining the complex nature of an interagency program. A more crucial structural flaw, however, is the difficulty of coordinating communication and messaging across a 13-agency program. An inherent problem with USGCRP is that if its coordinating officers want to do a briefing on Capitol Hill, for example, they must get approval from all thirteen agencies on presentation slides, communications material, etc -- as well as ultimate approval from the White House. This need to receive consent from all agencies is cumbersome, and impedes USGCRP staff's ability to communicate with Congress and advocate for itself. Also, most employees at the USGCRP coordination office are non-federal staff and therefore are not able to speak on behalf of federal agencies. So, a Congress already not particularly receptive to climate change in conjunction with USGCRP's fundamental problem with coordinating communications inhibits the Coordination Office's ability to communicate with USGCRP's constituents. In addition to exploring opportunities to place NCA products in the hands of business leaders, average citizens, and scientists, USGCRP Coordination Office staff must continue pursuing relationships with leaders and climate-information users at the local, state, and federal level to develop a broad

network of allies invested in the success of the sustained assessment process.

Although a very different program, NOAA's National Sea Grant College Program has a similar reliance on a broad base of constituents as USGCRP. The Sea Grant Program is a network of 33 initiatives in every coastal and Great Lakes state, which "serve as the core of a dynamic, national university-based network of over 300 institutions involving more than 3,000 scientists, engineers, educators, students and outreach experts."<sup>118</sup> Similar to the NCA, the Sea Grant program features a good balance of applied research, stakeholder engagement, and effective communication. Key to Sea Grant's success and longevity -- it has existed for 50 years -- is its combination of national administration and local implementation. The program's reach extends into hundreds of coastal communities in over 30 states. Its very structure and function serve to develop and maintain a strong and vibrant constituency armed with what it takes to inform policy-makers about the value and benefits of the Program to taxpayers. This geographically broad constituency makes itself heard in the halls of Congress whenever the Program is at risk of funding cuts or other undesirable public policy changes. The Sea Grant program, or even Medicare, serves as a useful example for understanding how to insulate a complex federal function from inevitable swings in political power. Like the Sea Grant program, the USGCRP is similarly endowed with participating entities across academia and industry sectors, but its constituent base is less politically sophisticated, overall, than is the Sea Grant constituency.

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<sup>118</sup> National Oceanic and Atmospheric Administration, "National Network of State Programs," last accessed July 21, 2016,

<http://seagrants.noaa.gov/wherewework/seagrantsprograms.aspx>.

There is much room for improvement in this area.

Also, unlike Medicare and the Sea Grant Program, climate change science and policy-making are deeply polarized. Stemming from fossil fuel companies' investment in manipulating public and Congressional opinions through a massive negative public relations campaign over several decades, a number of elected officials now bear contempt for the research programs that comprise the USGCRP.

However, the USGCRP is not an easy program to eliminate – as in to cut or zero out its funding – because its many moving parts are embedded in dozens of obscure areas buried deeply within the federal budget. Several different Congressional Appropriations Subcommittees have jurisdiction. Many of the elements are not obvious climate change programs; for example, it is not evident that a program addressing the biogeochemistry of sea water off the Florida coast or the behavior of chlorinated compounds in the atmosphere is a climate science program. Simply put, the complexity and interagency nature of the USGCRP insulates it from complete nullification. However, no program is safe, and a well-orchestrated effort to do damage to the USGCRP could still be effective.

Some considerations for strengthening the support base for the USGCRP include: 1) continually proving usefulness by generating topical reports of public interest; 2) conducting targeted, specialized assessments addressing emerging problems or concerns; 3) making a concerted effort to bring in more scientists and stakeholders across the board; 4) strengthening

existing networks and relationships via a variety of means; and 5) cultivating new partnerships to develop and utilize new technologies and products for improving outreach and communication (e.g. smartphone applications, interactive platforms, etc.).

We ought to keep in mind that the First National Climate Assessment (NCA1) was a fairly easy target to attack and suppress because the vast amount of information it generated was embodied in one single set of hard copy reports associated with a single set of citations. Only later did the USGCRP post the report online, and even then, it was able to be falsely discredited unfairly and inaccurately. Going forward, the Program managers should implement all of the recommendations of the *Special Report* by creating a large variety of new resources and broadening participation and partnerships. As the USGCRP transitions towards making more products, data, materials, and tools available online, however, the Program must recognize that government climate websites can easily disappear or languish for months or even years without updates. During the Bush Administration, this exact phenomenon occurred. According to a UCS survey in 2006, “nearly two in five [scientists] (38 percent) perceived or personally experienced the disappearance or unusual delay of websites, reports, or other science-based materials relating to climate.”<sup>119</sup> Additionally, UCS recorded unusual activity on two government websites.<sup>120</sup> A State Department website that was actively uploading and storing climate-related articles, such as new scientific research, was suddenly altered in July 2006 when a notice announced

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<sup>119</sup> Union of Concerned Scientists and Government Accountability Project, *Atmosphere of Pressure*, 12.

<sup>120</sup> Union of Concerned Scientists, “Government Climate Web Sites: Missing in Action,” accessed July 20, 2016, <http://www.ucsusa.org/center-for->

[science-and-democracy/scientific\\_integrity/abuses\\_of\\_science/a-to-z/government-climate-web-sites.html#.V5EU1ZOAoko](http://www.ucsusa.org/center-for-science-and-democracy/scientific_integrity/abuses_of_science/a-to-z/government-climate-web-sites.html#.V5EU1ZOAoko)



that all old postings were retired, and accessible only via the search function. Then, newer articles appeared after July 2006, but they largely supported Bush's climate policy stance and downplayed conflicting scientific research results at odds with the political agenda. On the EPA's climate change web page, content froze, remaining unaltered from 2002 through 2006. Once finally updated, the site lacked any reference to NCA1 or the *Climate Action Report*, and focused predominantly on uncertainties in climate change science.

Posting more information online allows people to access it quickly, a significant aid to effective communication of science produced under the umbrella of the USGCRP. That is the upside; the downside is that web infrastructure and content can vanish or be targeted by an administration. Inappropriate application of the terms of the Data Quality Act to the very first climate change impacts assessment (NCA1) prevented NCA1 reports from being published online. When the USGCRP could finally post the set of reports, each page had to be tagged with a qualifier stating that the report was "not subjected" to the DQA's regulations. Forcing this caveat was intended to undermine the credibility of the science. Such tampering directly impacts sustained assessment efforts, including but not limited to the NCIS, data sets, and maps. The NCA3 website received over 1.5 million hits in the first two months of its publication, substantially more activity than the usual traffic at the USGCRP site.<sup>121</sup> The decision to feature reports generated by the NCA3 on an elegantly designed website will attract a broader audience and spark deeper user engagement. As a growing volume of informational material is readily available electronically, taking

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<sup>121</sup> Buizer et al., "Building a sustained climate assessment process," 33.

precautionary steps to help ensure website security and integrity will be essential.

Since political appointees often control federal agencies' data systems and website content, any administration can direct which climate science materials exist online, with the power to remove, delay, or block whatever it chooses. Political appointees abound in key climate agencies. Aside from the head of every agency represented in the USGCRP, important political appointees include: all EPA Assistant Administrators, OSTP's director and associate directors, the Assistant Secretary for Oceans and International Environmental and Scientific Affairs at the State Department, the Administrator of the National Oceanic and Atmospheric Administration, the Department of Interior's Assistant Secretaries and Director of Bureau of Land Management, and the Department of Energy's Under Secretaries and Assistant Secretaries. Since these political appointees are beholden to the White House, they certainly would not want to upset those 'up the chain.' Therefore, we can deduce how appointees might limit distribution of material contradicting an administration's official policy, as happened under Bush 2.

In 2000, USGCRP had its own website, managed by the Global Change Research Information Office (GCRIO). USGCRP's website was "the primary *daily* communications vehicle" for the Program, and its usage spiked after NCA1's release in June 2000.<sup>122</sup> USGCRP is overseen by the White House Executive Office of the President (EOP) Office of Science and Technology Policy, as well as the Subcommittee on Global Change Research (SGCR), a subcommittee of the Committee on Environment, Natural Resources, and Sustainability (CENRS).

<sup>122</sup> Document from Rick Piltz's personal library

CENRS is part of the National Science and Technology Council (NSTC), another EOP entity. OSTP today is staffed by eleven political appointees (the directors and all associate directors). CENRS usually appoints a civil servant member from each of the USGCRP agencies, but can assign political appointees to be representatives to that Committee. Members of the science and technology community conveyed concerns in 2014 about the need for more civil service staff at OSTP, as well as a larger budget.<sup>123</sup> Accordingly, the White House has the ability to greatly influence and filter what the USGCRP can and cannot publish through the direct chain of command. Intentions to suppress the NCA filtered down from the White House -- Karl Rove's memo of edits to Phil Cooney revealed that high-level White House staff took an interest in moving away from the NCA -- governing the behavior of political appointees and civil servants. As noted in the previous section, Phil Cooney testified that the CEI lawsuit led him to believe that he had not only permission but an obligation to redact any references to the NCA, which suggests that other political appointees could have adopted a similar attitude. More broadly, that political appointees control the EOP with direct oversight of USGCRP enables regulation of web content as the White House sees fit.

Determining specifically how appointees could suspend, regulate, or suppress web content is difficult since procedures for managing web content vary widely across agencies and departments, and web policies are not readily available. According to the EPA's

"Web Governance and Management" policy memorandum in 2013, "the management of content is the responsibility of the Assistant Administrator or Regional Administrator of each program office or region in accordance with OEAE (Office of External Affairs and Environmental Education) and OEI's (Office of Environmental Information) governance policies and procedures," yet many links on the EPA's website about its web governance policies and procedures do not work.<sup>124</sup>

Many other federal agencies obscured information about web governance policy -- either not providing their policies online or not listing the individual responsible for a website's day-to-day content -- making oversight difficult or impossible. For USGCRP's website, all lower-level content is approved by staff in the Coordination Office, but any materials with policy implications generally must be approved by OSTP, including products of or related to NCA. Thus, OSTP, led by political appointees, has direct control over what USGCRP can and cannot publish online. OSTP, along with Department Secretaries and Undersecretaries, could issue directives about permissible and impermissible content, perhaps in a tacit manner, to censor web content or encourage program managers to self-censor web content according to the wishes of an administration.

Greater clarity about who monitors web content at each agency and how program managers within agencies oversee day-to-day web content would make it easier to track political interference with climate science communication. This transparency measure

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<sup>123</sup> US Library of Congress, Congressional Research Service, *The President's Office of Science and Technology Policy (OSTP): Issues for Congress*, by John F. Sargent Jr. and Dana A. Shea, RL34736 (2014), 25.

<sup>124</sup> Environmental Protection Agency, *Web Governance and Management*, CIO Policy 2180.1 (Washington, D.C., 2013), 2,

<https://www.epa.gov/sites/production/files/2013-11/documents/2180-1.pdf> (accessed July 21, 2016). Environmental Protection Agency, "Policies and Procedures," last updated on June 30, 2016, accessed July 18, 2016, <https://www.epa.gov/web-policies-and-procedures/policies-and-procedures>.

would also align with and help increase trust in USGCRP's sustained assessment efforts. Given that the first National Climate Assessment reports were initially blocked from online release, and that there have been other instances of suppression of climate-related material on agency websites, this troubling phenomenon could repeat itself without the proper safeguards. Without making web governance policies, procedures, and responsibilities more accessible, watchdog organizations -- both inside and outside of the government -- are less able to advocate for accountability in the use of publicly-funded research outputs. This lack of transparency makes it harder to know what is going on unless gross misconduct occurs or a whistleblower comes forward.

## II. Remembering President Bush for NCA4 and Beyond

The Bush Administration demonstrated that what can be "sustained" is quite dependent upon the prevailing political climate. As described in the previous chapter, continuous work on the NCA was impeded, delayed, and hampered by political appointees, fossil fuel lobbyists, and other representatives of fossil fuel companies. A process that may rely on bringing suit against the President in order to produce an NCA, as occurred in 2007, is arguably not a "sustained process."

A truly sustained assessment process should identify areas where it is exposed to political interference, and work to insulate itself from politics. Although many would argue that such sheltering is nearly impossible given

the dynamics of climate funding and bureaucratic government management, strategic plans should address how to protect climate science programs during unfriendly administrations. Again, we should remember the chilling effect the Bush Administration had on the communication of climate science and the NCA when developing any type of sustained plan.

Now, putting together an assessment of this scale and caliber is a mammoth task. Since the passage of the GCRA in 1990, only three NCAs have been produced despite its quadrennial mandate. The authors of NCA3 commented that "there are a number of explanations for why the quadrennial reporting requirements have not been met, including the fact that comprehensive, multi-sector assessments are difficult to conduct; the politics of climate change and funding issues within federal agencies are also factors." Much of the current work within USGCRP on developing a sustained process attempts to resolve and simplify the complexities associated with research, stakeholder engagement, and a comprehensive synthesis report. Based on available documentation, the interagency program is not actively determining how to address the politics or the funding -- two intertwined issues that determine the 'sustainability' of the NCA almost as much as internal complications.<sup>125</sup> Based on the treatment of NCA1 and NCA2 under President Bush, the politics of climate change and an administration's climate agenda strongly influence the effectiveness of NCA's communication and its overall impact.

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<sup>125</sup> I use the term 'sustainability' to mean the ability to successively produce NCA products under any type of administration. For the NCA to be 'sustained' or 'sustainable,' it must be completed in

a similar fashion with a similar output for every version, regardless of internal or external circumstances.

USGCRP staff should contemplate these issues moving forward.

Planning and preparation for NCA4 is underway and its managers intend to implement many elements of the sustained assessment process throughout its creation, prior to its planned release in late 2018. As members of the Federal Steering Committee oversee the process, including the report-writing and development of other information, they will have to work with the outgoing Obama Administration and the incoming Trump Administration beginning in January 2017. As witnessed in 2000, the transition process itself can delay and complicate final production and release of major reports like the National

Climate Assessment. USGCRP and NCA managers and leadership could develop guidelines and procedures to help ensure a smooth process and minimize delays. Addressing the political circumstances external to normal USGCRP business is crucial to protecting the resources and products generated by federal programs under the USGCRP. George W. Bush's Administration provided an important lesson: science might not be political but it can certainly be politicized. Remembering how climate science was systematically censored will help guide the USGCRP in crafting a truly sustained assessment, more resistant to political influence.

## Complications of an Interagency Budget for the NCA

*“Society needs to see science not as a luxury of funding but as a fundamental activity that drives enlightenment, economics, and security. Science agencies should never have to go hat in hand to congress.” -- Neil deGrasse Tyson*

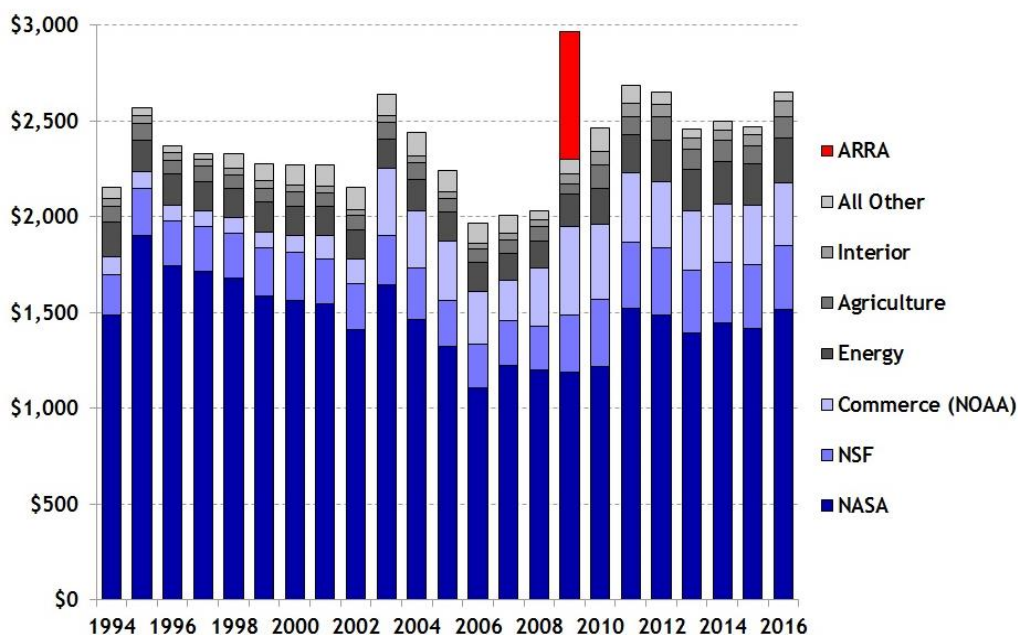
Establishing a sustained National Climate Assessment process will require, at a minimum, a steady flow of federal funding for the many programs under the umbrella of the USGCRP. Since a sustained assessment process entails replicating the level of effort and engagement that went into NCA3, future funding levels will need to meet or exceed those of the past several fiscal years to support the research, writing, engagement, and communication aspects of the process. To that end, mitigating the USGCRP overall vulnerability to budget cuts by identifying and employing tactics

to help ensure long-term support for funding in Congress and the Executive Branch will be paramount to ensuring the NCA’s continued success. This section focuses on issues around funding the climate impacts assessment component of the USGCRP, not the USGCRP as a whole.

The distributed nature of the USGCRP budget is both its largest strength for longevity and its greatest weakness. Because USGCRP is comprised of programmatic elements spread across thirteen federal agencies and departments, Congress could not cut all of the many components of the program and

### U.S. Global Change Research Program

(budget authority in millions of constant FY 2015 dollars)



Source: U.S. Global Change Research Program budget supplements. © 2015 AAAS

therefore simply would not be able to eliminate most or all of federal climate science research. Since the Program relies so heavily on interagency cooperation, any budget infighting or turf battles among agencies, neither of which is uncommon, undermine its efficacy and effectiveness. This dynamic is relevant to the national climate assessment process since there is no single stream of funding appropriated for the NCA, meaning that multiple agencies must cooperate throughout the NCA process and report production. NCA1 showed how limited or insufficient funding for regional reports, subsequent research, and communication taxes participants and impedes the NCA from fully achieving its mandate.

## I. An Interagency Budget

Although USGCRP funding levels do not appear to change substantially across the Clinton, Bush, and Obama Administrations in this graph, in reality any slight variation or decrease represents a large reduction in the budget for climate science programs -- greatly threatening them. While the breakdown of funding across agencies fluctuates to some extent, total budget authorization for the program tends to range from \$2 billion to \$2.5 billion, except in 2009 when funding from the American Reinvestment and Recovery Act raised the total amount to nearly \$3 billion. Yet this general trend does not tell the whole story.

From 2003 through 2006, the USGCRP budget suffered serious cuts, and

NASA's budget, which bore the brunt of the decrease, shrunk from \$1.64 billion to \$1.11 billion. Differences in growth for annual budgets for agencies and divisions tend to be a few percentage points in either direction. As Dr. James Hansen noted, although a one percent change in the budget may seem trivial, "small differences are important because every agency has fixed costs (civil service salaries, buildings, other infrastructure), so new programs or initiatives are strongly dependent upon any budget growth and how that growth compares with inflation."<sup>126</sup> Because budget information for FY2007 listed a normal budget fluctuation for NASA (a change of one or two percent), NASA entered 2006 with normal operations. Then, NASA learned of a staggering twenty percent reduction in its Earth Science budget that the administration *retroactively* implemented one third of the way through fiscal year 2006. Most of the remaining budget was spent covering administrative and infrastructural costs.<sup>127</sup> The extreme budget cuts were puzzling in the sense that NASA's Earth Science satellite program had recently yielded spectacular results: two satellites measured that Greenland's ice mass had shrunk by 200 cubic kilometers in 2005, and that, over the past twenty-five years, its summer melting increased by fifty percent, major ice streams' flow speed doubled, and Arctic Ocean summer sea ice extent decreased by

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<sup>126</sup> James Hansen, "Swift Boating, Stealth Budgeting, & Unitary Executives," *World Watch Magazine*, November/December 2006, 29,

[http://www.columbia.edu/~jeh1/2006/WorldWatch\\_20061006.pdf](http://www.columbia.edu/~jeh1/2006/WorldWatch_20061006.pdf)

<sup>127</sup> Hansen, "Swift Boating," 30.

twenty percent.<sup>128</sup> Although the Bush Administration attempted to justify NASA’s climate science budget cuts by noting slight increases in NOAA’s budget, the National Research Council reported that the funding reduction would require canceling or not replacing several of NASA’s Earth observation satellites, which would create a “severe deficit’ in Earth observation capabilities that compromises the government’s ability to ‘fulfill its obligations in ... [the] Climate

Change Science Program.”<sup>129</sup> NASA indeed cancelled or delayed “a number of satellites” involved in Earth observation missions.<sup>130</sup> NASA’s situation demonstrated that if an administration were to find certain scientific findings problematic, targeting funding – thereby eliminating or allowing Earth observations capacity to deteriorate – would be an easy solution.

Many federal scientists expressed concern over the funding cuts during the

### FY 2015 - FY 2017 USGCRP Budget Crosscut by Agency

Funding amounts are shown in millions of dollars (\$M) and are rounded to the nearest millions (totals reflect the rounded sum of the unrounded agency amounts). DOD does not report activities or funding through the USGCRP budget crosscut. DOS and USAID funding supports USGCRP and the Climate Change International Assistance effort. In the past, some of this funding was counted under both categories. These efforts do not add to the USGCRP total, and DOS and USAID are considered “Non-Add Agencies.”

| Agency   | FY 2015 Budget Enacted (\$M) | FY 2016 Budget Enacted (\$M) | FY 2017 Budget Requested (\$M) |
|--|------------------------------|------------------------------|--------------------------------|
| Department of Agriculture (USDA)                     | 96                           | 98                           | 124                            |
| Department of Commerce (DOC)                         | 312                          | 283                          | 342                            |
| Department of Energy (DOE)                           | 214                          | 238                          | 242                            |
| Department of Health and Human Services (HHS)        | 8                            | 8                            | 8                              |
| Department of the Interior (DOI)                     | 58                           | 57                           | 63                             |
| Department of Transportation (DOT)                   | 1                            | 1                            | 1                              |
| Environmental Protection Agency (EPA)                | 16                           | 19                           | 22                             |
| National Aeronautics and Space Administration (NASA) | 1,432                        | 1,549                        | 1,632                          |
| National Science Foundation (NSF)                    | 331                          | 339                          | 348                            |
| Smithsonian Institution (SI)                         | 8                            | 8                            | 9                              |
| <b>TOTAL</b>   | <b>2,474</b>                 | <b>2,599</b>                 | <b>2,790</b>                   |
| Non-Add Agencies*                                    | FY 2015 Budget Enacted (\$M) | FY 2016 Budget Enacted (\$M) | FY 2017 Budget Requested (\$M) |
| U.S. Agency for International Development (USAID)    | 6                            | 9                            | 10                             |

\* Department of State (DOS) has been included as a non-add agency in the past, but reported no USGCRP funding during this time period.

<sup>128</sup> *Ibid.*

<sup>129</sup> Timothy Donaghy et al., *Atmosphere of Pressure*, Cambridge: Union of Concerned Scientists and Government Accountability Project, 2007, last accessed June 27, 2016, <https://www.whistleblower.org/sites/default/files/AtmosphereOfPressure.pdf>.

<sup>130</sup> Beth Daley, “NASA Shelves Climate Satellites: Environmental Science May Suffer,” *The Boston Globe*, June 9, 2006, accessed September 4, 2016, [http://archive.boston.com/news/science/articles/2006/06/09/nasa\\_shelves\\_climate\\_satellites/](http://archive.boston.com/news/science/articles/2006/06/09/nasa_shelves_climate_satellites/).

Bush Administration. In the report *Atmosphere of Pressure*, UCS reveals that 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.” Further, NASA “budget cuts that have forced the cancellation of crucial Earth observation satellite programs were of particular concern to respondents.”<sup>131</sup> The best suppression is to prevent knowledge from being gathered in the first place.

Understanding how the government funds climate science, or how the government can choose to defund it, is a complex undertaking. USGCRP uses a “budget crosscut”, meaning that participating program managers across 13 agencies and departments identify activities and associated funding levels that fall under the USGCRP umbrella, and report them to the White House Office of Management and Budget (OMB). OMB then makes adjustments to elements of the overall budget, which are then reflected in each annual President’s Budget Request to Congress.

In crafting their budgets, program managers are guided by a joint memo from OSTP and OMB detailing priorities for the upcoming fiscal year.<sup>132</sup> For example, for FY 2017, OSTP and OMB recommended that agencies’ budget plans “should advance the goals and objectives of the

2012-2021 US Global Change Research Program (USGCRP) *Strategic Plan*, as well as the complementary science agenda that underpins the President's Climate Action Plan,” and should concentrate on “activities that foster the development and use of actionable data, information, and related tools needed to prepare for and reduce climate-related risks and should prioritize investments that support technical assistance for community climate-preparedness efforts.”<sup>133</sup> To a large extent, these recommendations from OSTP and OMB align with USGCRP’s 2012-2021 *Strategic Plan* that established the sustained assessment goal.

Although the table above depicts a sense of interagency collaboration, in truth, budgeting is an individualistic enterprise. Agency budgets are primarily driven by each agency working with their budget examiner at the OMB. Agencies coordinate and integrate their work that overlaps with USGCRP goals and required products. So, agencies are not likely to do anything outside of their mandates. The value of the Program arises largely from its ability to coordinate, integrate, and add value to existing agency activities through interagency efforts like the National Climate Assessment.

Interagency struggles over funding levels directly impact the National Assessment. NCA3 authors acknowledged that “under current federal budget constraints, it is hard to agree across multiple federal agencies to any kind of ongoing expenditures, even for a program

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<sup>131</sup> *Ibid.*

<sup>132</sup> For more detailed information about the budgeting process, see the American Association for the Advancement of Science’s Federal Budget Process 101.

<sup>133</sup> Memorandum from Shaun Donovan and John P. Holdren to Heads of Executive Departments and Agencies (July 9, 2015) (on file at <https://www.whitehouse.gov/sites/default/files/omb/memoranda/2015/m-15-16.pdf>)



that is congressionally mandated.”<sup>134</sup> Since the NCA process lacks a budget line, at the beginning of the NCA3 process, “funding was identified by the OMB within one agency (NOAA) as its contribution to the collective assessment process, but other agency contributions were not specified.”<sup>135</sup> While requiring financial support across agencies might deepen investment in the National Assessment and foster greater sentiments of ownership, “having no explicit interagency budget line for the NCA means that existing agency programs need to be leveraged and/or ‘taxed’ to support the assessment. *The lack of sufficient ongoing funds to support the sustained assessment remains a significant challenge*” (emphasis added).<sup>136</sup> Political and bureaucratic battles for funding exacerbate this challenge.

With limited pots of money available for scientific research and development, competition among the agencies impinges upon an agency’s willingness to fund an integrated, collaborative program. Within the zero sum world of funding, an interagency budget such as the USGCRP’s can fall victim to a sort of public goods dilemma where people prefer not to contribute unless coerced. Buizer et al. describe how this aspect of federal funding poses a danger for the NCA:

Importantly, federal program managers operate in an environment of constantly

increasing expectations on a fixed (or in some cases, decreasing) budget. *In this context, it would be understandable if they saw investments in the NCA as one more unfunded mandate.* It is much easier to start new programs that are additive (bringing in new resources) than to engage in a zero sum game. *Understandably there was some reluctance to fund NCA3 activities under highly constrained fiscal conditions.*<sup>137</sup> [emphasis added.]

The NCA should never be allowed to become an unfunded mandate: it is simply too valuable. What would happen to the NCA if agency budgets were further reduced, placing program managers under even greater strain? Would investment in the NCA shrink? How could the USGCRP institutionalize the sustained assessment process if agencies became increasingly reluctant to allocate funding for the NCA? While these questions are the natural outcomes of the circumstances described by Buizer et al., neither the authors, nor USGCRP, have answered them.

Now, one solution appears obvious: create a single budget line item for the

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<sup>134</sup> Susan C. Moser, Jerry M. Melillo, Katharine L. Jacobs, Richard H. Moss, and James L. Buizer, “Aspirations and common tensions: larger lessons from the third US national climate assessment,” *Climatic Change* 135, no. 1 (2015): 187-201, doi:10.1007/s10584-015-1501-4.

<sup>135</sup> Ibid.

<sup>136</sup> Ibid.

<sup>137</sup> Buizer et al., “Building a sustained assessment process,” 31.

NCA. Yet, such a change is actually not possible. By definition, an interagency budget lacks a single budget line item for a given activity, so the fix would have to entail one of the participating agencies, or Congress, adding a budget line item for the NCA -- but then the funding would go only to that agency, and not to other programs in a dozen other agencies. Furthermore, funding the NCA as a single budget line item is risky because it would enable Congress to zero out this line item in an appropriations bill. Since climate science funding is a highly partisan issue, creating a single line item that centralizes all NCA funds in one place is too precarious, placing all the eggs in one basket that could be targeted by climate deniers.

Moreover, the process by which the House and Senate Budget Committees draft and enforce the Congressional budget resolution raises additional concerns about having a single budget line for the NCA. In the House, four different appropriations subcommittees have jurisdiction over the various agencies of the USGCRP; the NCA would likely receive varying levels of support across those subcommittees. Appropriations subcommittees could vote to cut funding for the NCA for a variety of reasons: 1) they do not want to see its publication and the implications of its findings, 2) they do not believe it is worth funding even if they support its mission, 3) they do not want to prioritize its funding over other scientific pursuits, or for any other reason. Once the subcommittee reports out the appropriations bill to the full Appropriations Committee, then the full House considers the bill, adds amendments, and votes on it. The process repeats in the Senate. Then, when both the

House and Senate have voted to pass their respective bills, a Conference Committee reconciles differences between the bills, sending the conferenced bill to the President, who can sign or veto it. At every point within this process, the NCA would be in jeopardy. Leaving Congress to make funding decisions about NCA adds a level of partisan conflict, far more contentious than interagency budget squabbling. Until climate change science and the NCA are universally accepted and supported by all political parties, members of Congress, and White House administrations, the lack of an explicit budget line item for the NCA actually allows for more funding in the long term by preventing climate science deniers in the House or Senate from blocking money going to the NCA, or the White House from using discretionary power to determine how funds are spent within Executive-Branch science agencies. By having pockets of money for climate science throughout the thirteen agencies, USGCRP vastly increases the likelihood that research will proceed. Fundamentally, that is most significant, even if does not resolve the politicking and jockeying for funding within the USGCRP.

## II. NCA Funding Issues, Then and Now

During NCA1, lack of funding at the regional level, or at least inconsistencies in funding, strained or limited efforts to produce the regional and sector reports, develop relationships with stakeholders, and communicate findings. Despite budgetary struggles, hundreds of people produced a powerful report. Yet, the difficulties encountered throughout the

NCA1 process, particularly how it coped with and adapted to funding restrictions, reinforce why USGCRP must consider how to secure sufficient resources to fulfill a sustained assessment process within a zero sum federal budget.

In 2007, Anne Polansky, currently the Senior Climate Policy Analyst at GAP's Climate Science & Policy Watch program and a Senior Associate at Climate Science Watch at the time, interviewed each of the program managers for the regional and sector chapters for the NCA1 process. A clear message that came across in her interviews was the lack of adequate funding either during or after NCA1. Resources were distributed at the regional level, but not nearly enough. This only forced NCA1, already reliant upon goodwill, to ask more from its volunteers.

For example, Eileen Shea, who oversaw the Pacific Islands/Hawaii report, explained that “the amount of funding we got was limited, so we relied on relationships and trust that had already been built as well as familiarity with the impact of changing climate conditions. Those characteristics shaped the content and the social network character of the Pacific Islands regional assessment.”<sup>138</sup> Fortunately, Shea could rely on the Pacific ENSO Applications Center (PEAC) -- a partnership to study climate variability associated with the El Niño - Southern Oscillation (ENSO) climate cycle in Pacific Islands -- which had spent years educating and reaching out to people. Through PEAC, Shea could engage stakeholders in

the Pacific Islands region, without federal funding.

Not all the impact assessments for the various regions and sectors had similar resources to fall back on. Otto Doering, the project manager for the Eastern Midwest regional assessment, recalled that “there was insufficient funding for this project. I recall the grant money being so small that I ended up contributing \$2400 of my personal money for the workshop luncheon.”<sup>139</sup> Production of the NCA should not rely on personal financial sacrifices. Phil Mote, who acted as the project manager for the Pacific Northwest assessment, recounted in 2007 that “when we first started on our regional assessment, we had a list of seven sectors we wanted to do, but it'd been a struggle to maintain funding.” Budget constrictions forced them to “focus on water resources, marine ecosystems and salmon, and forests,” and concluded that they needed to add agriculture and health -- but all efforts to get them funded ended without success.<sup>140</sup> Many scientists lamented how budding relationships built during NCA1 fell apart in its aftermath as funds never materialized to sustain the incipient connections. Stakeholders felt hurt too; they envisioned relationships that suddenly vanished without funding. USGCRP should remember the sense of broken trust from cutting short nascent relationships as they emphasize funding sustained engagement with stakeholders going forward. To maximize NCA's grassroots impact and minimize feelings of

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<sup>138</sup> Eileen Shea, interview by Anne Polansky, February 28, 2007, transcript.

<sup>139</sup> Otto Doering, interview by Anne Polansky, April 2, 2007, transcript.

<sup>140</sup> Philip Mote, interview by Anne Polansky, February 13, 2007, transcript.

desertion or abandonment, the USGCRP should keep prioritizing NCA funding for a continuous stream of assessment activities.

A common theme of disappointment and frustration occurred throughout the 2007 interviews about the relationship between funding for climate science and climate change politics. In her interview, Eileen Shea suggested integrating NCA products into a broader range of ongoing activities to elevate NCA beyond a stand-alone research project: “as long as assessment activities are seen as research projects, then the funding for them will ebb and flow, along with communities’ interest and political interest. But if you build those research projects into a broader set of activities that are going to go on regardless of the political whims of climate change, then you have a much better chance of keeping everyone at the table, scientists and stakeholders alike.” This was not only a prescient recommendation that has now been adopted by the USGCRP, but it speaks to the intertwined nature of sustained assessments and funding. Understanding the NCA as more than a research report combats fluctuations in support for climate science depending on the ruling political ideology in Washington. Agencies must fund programs to develop needed stakeholder engagement, but the programs can only provide quality research and information if funded sufficiently.

Producing and promoting the new NCA products to enable a sustained

assessment process, which would address Shea’s concerns from a decade ago, requires a reassessed funding strategy and commitment. Today, USGCRP and the NCA continue to struggle with similar financial issues. Reflecting on the NCA3, its leaders acknowledged that “federal agencies were legitimately concerned about the cost and complexity of such extensive participation throughout the process, and whether this level of effort could be sustained” since “even with a mostly volunteer ‘army’ working on the report, the costs associated with managing the process must be acknowledged and objectively evaluated relative to the benefits.”<sup>141</sup> Despite the acknowledged value of the NCA, the USGCRP will likely be unable to find sufficient funds to reduce its reliance on *pro bono* assistance, and a shrinking federal budget compounds the problem.

Since future National Assessments will likely be more costly than previous versions, e.g. NCA3, the USGCRP will face a budget bind. What made NCA3 so successful and credible -- multiple levels of review, numerous topics explored, vast array of participants, inclusion of physical and social science, etc. -- added much cost and complexity.<sup>142</sup> Incorporating new products into the assessment process while maintaining all the components, energy, and resources from NCA3 only increases the cost of a national assessment. Plus, USGCRP will need to budget for rising demands for NCA products, hosting and maintaining websites, and updating new sustained products, e.g., climate

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<sup>141</sup> Moser et al., “Aspirations and common tensions: larger lessons from the third US national climate assessment,” 197.

<sup>142</sup> Buizer et al., “Building a sustained assessment process,” 32.

indicators. Providing consistent, relevant climate science that is properly communicated to educate and increase community and political interest at the local and regional level entails expanded funding. Yet, no USGCRP statement or publication has addressed solutions for this financial reality about the NCA. If the USGCRP truly wants to diversify the assessment process' resource base, meet the increasing call for its services, and fund a sustained assessment process, change must occur.

A flawed solution to reduce costs would be to abandon the comprehensive NCA model for smaller assessments released every year or multiple times per year. First, as the briefs in the lawsuit against the Bush Administration repeatedly demonstrated, large, comprehensive reports, such as the NCA, are the best representation of collective scientific understanding. Michael MacCracken, for example, felt strongly that synthesis reports rarely match the sophistication, breadth, and conclusiveness of major assessment reports. Second, frequent smaller reports might not save money. In fact, NCA contributors warned that "multiple shorter, targeted products and synthesis reports could even be more expensive than the NCA3 approach if not carefully managed."<sup>143</sup> So, simply transitioning away from a quadrennial NCA could leave the nation less informed without definitively reducing costs. As part of the sustained assessment process, however, USGCRP recently began releasing periodic

topical reports that contribute to the NCA, as opposed to the CCSP synthesis reports that largely overviewed existing literature. Provided USGCRP keeps releasing timely assessments, thereby reducing the burden of the NCA, then the endeavors are worthwhile.

One possible solution, however, is to partner with the private and nonprofit sectors. Some federal managers participating in the USGCRP have suggested establishing relationships with the "ever-increasing number of foundations, private companies, and NGOs [which] are working on climate issues and investing funds in research, education, and communication."<sup>144</sup> Stimulating these collaborations with non-governmental partners not only reduces the financial or informational burden of a sustained climate impacts assessment process, but also decreases the likelihood of its suppression or elimination. Establishing partnerships with entities engaged in climate vulnerability assessment, risk management, mitigation, and adaptation, will also make the assessment more useful by providing scientists and agencies greater insight into the types of information that communities need. USGCRP leadership accepted that "from the perspective of conserving resources at the federal level, a key benefit of a more distributed process (in which self-motivated users work with data, products, and tools) is that it shifts some of the assessment burden on to intermediaries (e.g., in the NGO or private sectors) and entities conducting their own

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<sup>143</sup> Moser et al., "Aspirations and common tensions: larger lessons from the third US national climate assessment," 198.

<sup>144</sup> Ibid.

assessments,” indicating that exporting some of the process outside USGCRP’s direct supervision might alleviate issues for funding and the sustained assessment process.<sup>145</sup> Precedent exists for this model: President Obama’s Climate Data Initiative partnered multiple federal agencies working on climate research with many private sector companies including Microsoft, Google, and Intel in order to “to leverage the Federal Government’s extensive, freely-available climate-relevant data resources to stimulate innovation and private-sector entrepreneurship in support of national climate-change preparedness.”<sup>146</sup> These relationships could help resolve some critical limitations of the NCA and have been shown to be effective in the past.

Agencies can also adjust their characterization of climate activities to try to sustain or attract funding. Based on an agency’s perception of its funding, the agency can tinker with names or descriptions of programs to emphasize or diminish its salience, significance, or impact. Agencies have to sell themselves to the administration and appropriators to convince them to fund its programs, and Congressional funding is inherently political. So, federal program managers will focus on delivering what appropriators and administrators want to hear, i.e. pushing programs as less politically sensitive to ensure funding. Speaking off the record, individuals familiar with the budgeting process acknowledged that during the Bush Administration agency

budget requests suddenly stopped using the word ‘climate’ to keep getting funding because of the Administration’s agenda. Nonetheless, climate research continued and, under President Obama, the opposite might now be true where agencies are labeling programs as climate-related, even if only tangentially, to get additional funding from an Administration intent on demonstrating its environmental consciousness. This phenomenon can allow for agencies to create seemingly ‘new’ programs by re-labeling them or filing them under another program, enabling agencies to continue to receive funding even under a hostile administration or Congress.

A final suggestion to secure NCA funding would be to emulate the growth of the Sea Grant Program, mentioned in the previous chapter. Building and maintaining a strong political constituency for a climate science program has become more important than ever with the election of Donald Trump, who has described climate change as “a hoax” and has installed in his transition team high-level personnel with oil industry connections and similar “denialist” views on the reality

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<sup>145</sup> Ibid, 33.

<sup>146</sup> White House Office of the Press Secretary, “The President’s Climate Data Initiative: Empowering America’s Communities to Prepare for the Effects of Climate Change,” March 19, 2014, last accessed

July 28, 2016, <https://www.whitehouse.gov/the-press-office/2014/03/19/fact-sheet-president-s-climate-data-initiative-empowering-america-s-comm>

of climate change.<sup>147</sup> Given that the American public largely accepts that anthropogenic climate change is a serious concern, there may be an opportunity as the new administration takes office to generate the broad support needed to preserve the NCA process.<sup>148</sup> By establishing government-funded activities across wide geographical areas -- i.e., Congressional districts -- more constituents might be willing to fight to have those activities preserved. Fundamentally, a broad support network across the country translates to dozens of Congressional members with constituents actively advocating for a program's continuation. For that reason, NOAA's Sea Grant Program has thrived under multiple administrations with disparate views on climate. Attempting to invigorate support for the NCA across the country and getting those supporters to pressure their Congressional representatives to invest in the NCA is the best chance at securing sustained funds.

### III. Lack of USGCRP Budget Information

While writing this report, it became apparent that necessary information about the USGCRP budget, and federal climate change expenditures more broadly, is not easily accessible or updated online. The American Association for the Advancement of Science's *Guide to the President's Budget: Research & Development FY 2017* contained no data on USGCRP's budget, despite intending to include a section on interagency initiatives, because all major initiatives had not released their annual budget supplements at the time they published in March. Up to six months after President Obama's request, a budget had still yet to be produced by the USGCRP. As included in the previous section, only recently was the budget page on the USGCRP website updated; before then all that was available was a table of the budget crosscut for FY 2014, or three years out of date -- although the budget was available in the annual *Our Changing Planet* reports.

The USGCRP is not the only government entity to have failed to produce climate change funding

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<sup>147</sup> Suzane Monyak, "Donald Trump Will Be the Only World Leader to Deny Climate Change," *Slate*, November 18, 2016, [http://www.slate.com/articles/health\\_and\\_science/science/2016/11/donald\\_trump\\_will\\_be\\_the\\_only\\_world\\_leader\\_to\\_deny\\_climate\\_change.html](http://www.slate.com/articles/health_and_science/science/2016/11/donald_trump_will_be_the_only_world_leader_to_deny_climate_change.html). See also: Brakkton Booker, "Senators Ask Trump's EPA Pick To Disclose His Connections To Energy Industry," *NPR*, December 28, 2016, <http://www.npr.org/2016/12/28/507276662/senators-ask-trumps-epa-pick-to-disclose-his-connections-to-energy-industry>; and, Ben Jervy, "The Trump Administration Is Filling Up With Koch Allies," *Desmog*, December 19, 2016, <https://www.desmogblog.com/2016/12/19/trump-administration-filling-koch-allies>.

<sup>148</sup> Lydia Saad and Jeffrey M. Jones, "U.S. Concern About Global Warming at Eight-Year High," *Gallup*, March 16, 2016, <http://www.gallup.com/poll/190010/concern-global-warming-eight-year-high.aspx>

information. Appropriations Acts of 2014, 2015, and 2016 all contained the same paragraph requiring a report from the OMB on climate change funds:

Not later than 120 days after the date on which the President's fiscal year 2017 budget request is submitted to the Congress, the President shall submit a comprehensive report to the Committees on Appropriations of the House of Representatives and the Senate describing in detail all Federal agency funding, domestic and international, for climate change programs, projects, and activities in fiscal years 2015 and 2016, including an accounting of funding by agency with each agency identifying climate change programs, projects, and activities and associated costs by line item as presented in the President's

Budget Appendix, and including citations and linkages where practicable to each strategic plan that is driving funding within each climate change program, project, and activity listed in the report.<sup>149</sup>

Nonetheless, no Federal Climate Change Expenditures report has been posted online since 2013, which focused on the FY2014 budget. OMB has provided no explanation for why the agency is not adhering to the binding statutory language.<sup>150</sup> From the perspective of transparency, government accountability, and good governance, OMB's lack of explanation and missing reports are worrisome. Although OMB might be trying to obscure information about climate funding from a Congress that includes vehement climate deniers, citizens and Congress are entitled to that update.

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<sup>149</sup> Consolidated Appropriations Act, 2016, Pub. L. No. 114-113, 416 Stat. 2578 (2016).

<sup>150</sup> Office of Management and Budget, *Federal Climate Change Expenditures Report to Congress*, August 2013,

[https://www.whitehouse.gov/sites/default/files/omb/assets/legislative\\_reports/fcce-report-to-congress.pdf](https://www.whitehouse.gov/sites/default/files/omb/assets/legislative_reports/fcce-report-to-congress.pdf)



## A Time for Choosing: Science or Pseudoscience

*"Obama's talking about all of this with the global warming and ... a lot of it is a hoax. It's a hoax. I mean, it's a money-making industry, okay? It's a hoax, a lot of it."*

*-- Donald Trump, speaking in Hilton Head, South Carolina on December 30, 2015.*

During the George W. Bush presidency, US leaders adopted a “head-in-the-sand” approach to climate change to placate political allies. Even without White House involvement, fossil fuel interests continue spending money to stymie action to reduce the risks of climate change. When the President and Congress fail to support any sort of impact assessments and analyses -- even of the most rudimentary kind, as they did from 2000 through 2008 -- they expose the nation as vulnerable and unprepared to face a highly challenging future. That is a precarious situation since climate change *is* a national security threat.<sup>151</sup> Preventing or stifling research that helps the nation prepare for climate change and its impacts imperils the US economy, society, and citizenry. Instead of ignoring the unpleasanties of the Bush Administration or mocking its anti-science approach, this white paper identifies areas still susceptible to political abuse that ought to be addressed to guarantee effective, quality NCAs, regardless of who sits in the Oval Office.

When President Bush intentionally targeted the NCA to limit its dissemination, many scientists feared that the effects of his decision would not truly be realized until a future date when an ill-prepared United States would be faced with a series of challenging,

dangerous climate impacts. In his 2007 interview with then CSW Senior Associate Anne Polansky, Peter Gleick, chief author of the 2000 NCA’s water report and co-founder and president of the Pacific Institute for Studies in Development, Environment, and Security, bemoaned that “seven years has [sic] gone by and the federal government has not done enough to address the impacts on water resources on climate change. As a result, we’re starting to experience the impacts of climate change without being adequately prepared for them.”<sup>152</sup> Some scientists interviewed actually posited that the United States in 2007 was less ready to deal with climate change impacts than it was in the late 1990s, implying that by delaying climate initiatives or dismissing climate science research, President Bush created a climate science vacuum during his presidency, eroding our scientific capacity and therefore preparedness. In his 2007 declaration of support for the plaintiffs in *Ctr. for Biological Diversity v. Brennan*, Michael MacCracken outlined the wastefulness and danger of not issuing an updated NCA, stating:

the decision of the present Administration not to prepare and issue an updated National Assessment is squandering the

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<sup>151</sup> Department of Defense, *Response to Congressional Inquiry on National Security Implications of Climate-Related Risks and a Changing Climate*, July 2015, <http://archive.defense.gov/pubs/150724->

congressional-report-on-national-implications-of-climate-change.pdf?source=govdelivery

<sup>152</sup> Peter Gleick, interview with Anne Polansky, March 6, 2007, transcript.

tremendous opportunity of building on the 2000 Assessment effort. This delay has also limited the provision of important and useful information to stakeholders and is therefore likely postponing adaptive responses that could limit and ameliorate the early stages of climate change. This delay will thereby increase costs for dealing with impacts in the future, when faster and greater responses are going to be needed.<sup>153</sup>

Instead of carrying forward all the momentum from the 2000 NCA, President Bush halted the process, plateauing federal climate science at a crucial moment in time instead of ramping up its participation. With the federal government's reduced role in climate science assessments, other groups, such as the Union for Concerned Scientists, filled the void to the best of their ability by carrying out their own assessments.

As a result of inaction because of denial and misinformation, the United States, along with the rest of the world, will inevitably suffer far more severe consequences from climate change than if we had acted in a timely manner. Unpreparedness for climate change adaptation

equates to billions of dollars in damage, such as the historic flooding of Houston in 2016; more frequent, bigger wildfires in the western states; and Hurricane Sandy in 2012.<sup>154</sup> A 2014 report from the Council of Economic Advisers conservatively estimated that warming of three degrees Celsius would cost the United States around \$150 billion per year, 0.9 percent of global economic output, to deal with public health outbreaks and rising seas as well as more intense storms, wildfires, and drought.<sup>155</sup> With greater inaction, economic costs rise as adaptation strategies become more complex, more urgent, and more costly in the face of increasing climate change. For example, these higher costs will include planning a slower, deliberate "planned retreat" from locations with expected sea level rise, fortifying coastal defenses, and experiencing disastrous impacts on infrastructure, housing, etc. from major storm events fueled by higher temperatures and rising seas.

Lack of preparedness for climate change also results in human suffering from temperature-related death and illness, hazardous air quality, vector-borne diseases, water-related illness, food security concerns, and extreme weather events.<sup>156</sup> As part of the

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<sup>153</sup> Declaration of Dr. Michael MacCracken in Support of Plaintiffs' Motion for Summary Judgment at ¶ 21, Ctr. for Biological Diversity v. Brennan, 571 F. Supp. 2d 1105 (N.D. Cal. 2007), (No. C 06-7062), 2007 WL 857679.

<sup>154</sup> For Houston, see Eric Holthaus, "Historic Deluge Hits Texas. Houston, You Have a Problem," *Slate*, June 3, 2016, accessed July 31, 2016, [http://www.slate.com/blogs/the\\_slatest/2016/06/03/historic\\_floods\\_in\\_houston\\_texas.html](http://www.slate.com/blogs/the_slatest/2016/06/03/historic_floods_in_houston_texas.html). For wildfires, see Philip E. Dennison et al., "Large wildfire trends in the western United States, 1984-2011," *Geophysical Research Letters* 41, no. 8 (2014): 2928–2933. For Hurricane Sandy, see: US Department of Commerce, Economics and Statistics Administration, Office of the Chief Economist, *Economic Impact of Hurricane Sandy*, September 2013,

<http://www.esa.doc.gov/sites/default/files/sandyfinal101713.pdf>.

<sup>155</sup> Council of Economic Advisors, Executive Office of the President of the United States, *The Cost of Delaying Action to Stem Climate Change*, July 2014, accessed August 2, 2016, [https://www.whitehouse.gov/sites/default/files/docs/the\\_cost\\_of\\_delaying\\_action\\_to\\_stem\\_climate\\_change.pdf](https://www.whitehouse.gov/sites/default/files/docs/the_cost_of_delaying_action_to_stem_climate_change.pdf)

<sup>156</sup> USGCRP, 2016: *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*, Eds. Crimmins, A., J. Balbus, J.L. Gamble, C.B. Beard, J.E. Bell, D. Dodgen, R.J. Eisen, N. Fann, M.D. Hawkins, S.C. Herring, L. Jantarasami, D.M. Mills, S. Saha, M.C. Sarofim, J. Trtanj, and L. Ziska, US Global Change Research Program, Washington, DC, 312 pp. <http://dx.doi.org/10.7930/J0R49NQX>

sustained assessment process, USGCRP released an assessment of the already apparent human health consequences of climate change and projections of future issues. Since climate change endangers our physical, economic, and social health, and the risks continue to grow as the climate continues to change, there is an urgent need to promote and publish impacts literature to reduce health vulnerabilities -- especially since impacts on human health overlap with demographic and socioeconomic factors exposing the poorest, most disenfranchised members of the population to the worst effects.

National Climate Assessments alert us to present and future climate issues, so that regions of the country, sectors of the economy, and the nation as a whole can recognize and plan for them. These reports support and contribute to the planning processes that minimize the shock of natural disasters. Ricardo Alvarez, who was an active participant during NCA1 and served as Managing Director for the South Atlantic Coast and Caribbean Report, articulated why climate assessments matter, even if nature possesses a propensity to astonish:

*The element of surprise inherent in disaster brought about by natural hazards is mainly a reflection of humankind lack of preparedness, or a result of ignorance regarding poorly understood natural processes or the true consequences of interaction of human activity with such hazards. Although nature will always retain the capability of surprising humankind by surpassing even the best estimates of magnitude, location*

and frequency for given events, societies around the globe must strive to reduce the surprise factor to its minimum expression. This should be achievable to the degree that available information is converted into knowledge that is then distributed to all by way of educational and outreach activities. *Climate change, whether resulting from natural cycles or anthropogenic forcings, must not be allowed to spring devastating surprises around the globe. Toward this end... we must attempt to map out the state of knowledge and the need for future action regarding the potential regional effects of climate change.*<sup>157</sup> [Emphasis added]

Not only does understanding the state of knowledge allow for more targeted climate research to better inform adaptation and mitigation policies, it also raises awareness of how regions should act to protect citizens, infrastructure, economy, etc., from climate change impacts. That is a key reason why guaranteeing the NCA is so crucial.

Although some criticize President Obama's record on climate policy, he prioritized climate science that informed and improved preparedness measures during his tenure. Obama has done much to fill in the climate knowledge gap from the Bush Administration. In numerous speeches throughout his presidency, Obama reiterated that climate change is not only a reality, but one that demands attention and action. Obama

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<sup>157</sup> Ricardo Alvarez, interview with Anne Polansky, June 29, 2007, transcript.

reinvested in climate resilience policies and the NCA, both major achievements in helping the US public recognize the importance of climate science. In addition to the Climate Data Initiative, which is mentioned in the third section, President Obama established the State, Local and Tribal Leaders Task Force on Climate Preparedness and Resilience as well as the Natural Disaster Resilience Competition to enhance coordination and brainstorm solutions to recover from previous climate impacts and plan for future events. He released his President's Climate Action Plan in 2013.<sup>158</sup> He raised vehicle fuel-efficiency standards and rejected the Keystone XL pipeline, along with other efforts to cut greenhouse gas emissions.<sup>159</sup> He also helped secure the COP21 agreement in Paris in 2015, a new international climate agreement aimed at slowing the pace of global warming. Despite President Obama's efforts however, climate change denialism remains prominent within the United States Congress, where 182 members reject evidence about anthropogenic climate change.

Large-scale, comprehensive assessments are also the best way to push back against denial campaigns. As climate deniers repeat false scientific claims until people begin to believe they might possess a kernel of truth, the NCA not only demonstrates how and why these deniers are incorrect, but indicates how our climate is already changing. President Bush once ad-libbed that in his "line of work you got to keep repeating things over and over and over again for the truth to sink in, to kind of catapult the propaganda."<sup>160</sup> While certain

fossil-fuel organizations continue peddling bad data and emphasizing uncertainty to promote a denialist ideology, the NCA directly and forcefully rebuts the misinformation and deceit. NCA's clout and authority jeopardizes climate deniers' distorted message by demonstrating the severe implications of climate change on our daily lives.

In the aftermath of George W. Bush's presidency, USGCRP and its member agencies worked to improve upon weaknesses exposed by whistleblowers, investigations, and GAO reports. To protect climate science, agencies must ensure that government scientists understand and can access the agency's whistleblowing policy. Empowering scientists with an understanding of the whistleblower and media policies that govern their speech best safeguards politically-inspired corruption of science, akin to what transpired under President Bush. Identifying and reducing situations that generate perceptions of retaliation, notably pressure and stress to compromise standards, provides incentives for whistleblowers to come forward and flag a troubling development within the USGCRP or a specific agency. In 2013, Francesca Grifo, then senior scientist and science policy fellow at the Union of Concerned Scientists, conducted an analysis of federal agency scientific integrity policy. An updated version, emphasizing strengths and weaknesses of federal climate agency whistleblower policy and practice, should assess the degree of improvement during President Obama's time in office. Without whistleblowers like Rick Piltz, critical

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<sup>158</sup> Executive Office of the President, *The President's Climate Action Plan*, June 2013, <https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>.

<sup>159</sup> The White House, "A Historic Commitment to Protecting the Environment and Reversing Climate Change," accessed August 2, 2016, <https://www.whitehouse.gov/the-record/climate>.

<sup>160</sup> Dan Froomkin, "The Ostrich Approach," *The Washington Post*, published May 25, 2005, accessed August 1, 2016, <http://www.washingtonpost.com/wp-dyn/content/blog/2005/05/25/BL2005052501250.html>

knowledge about abuse of power would surely take longer to surface. Protecting whistleblowers protects the integrity and credibility of the institution. If instances of climate science suppression or distortion begin to take place, scientists must be willing and able to report them and raise public awareness.

Given current public opinion on climate change, now might be the most opportune time to try and institute positive reforms to protect the climate science community and those who stand to benefit from climate information. National Surveys of Energy and Environment (NSEE) found that only fifteen percent of Americans believe there is no solid evidence that the planet is warming, a record low and a sharp decline from the thirty-three percent figure from Spring 2014. Meanwhile, more US citizens -- sixty-six percent -- affirmed the existence of climate change than in any other previous Spring survey (see graph).<sup>161</sup> More Republicans than ever are unsure about the existence of global warming: only thirty-nine percent are certain about the existence of climate change, indicating that more Republicans are indecisive on climate change. Change in Republican response could be attributable in part to President-elect Donald Trump and high-level personnel with oil industry connections and similar denialist views that he is bringing with him into the White House, who have denounced climate change findings and global warming warnings.

Although the survey does not address the anthropogenic component, its results indicate dwindling skepticism about the reality of climate change, despite fossil fuel companies' attempts to do the opposite. Perhaps now, USGCRP and federal climate science agencies can address some of the weaknesses mentioned in this white paper.

The planet is eclipsing environmental records. NOAA's State of the Climate in 2015 identified a "toppling of several symbolic milestones," including record warmth -- 1.0°C warmer than preindustrial times -- and the first annual mean atmospheric carbon dioxide concentration greater than 400 ppm.<sup>162</sup> Oceans warmed to their highest temperatures since the instrumental record began, with the Arctic measuring eight degrees Celsius above its average in August. Sea levels reached new heights due to glacial melting and heat expansion.<sup>163</sup> 2016 global average surface temperatures will almost certainly eclipse the 2015 record.<sup>164</sup> Each year now, we witness more and more evidence of climate change; it increasingly affects our lives. At this time of transition, we must be watchful as an all too familiar "fossil friendly" administration comes into power. As Rick Piltz warned:

The need to hold the federal government accountable for the integrity of science-based decision making on climate change in the

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<sup>161</sup> Sarah B. Mills, Christopher Borick, and Barry G. Rabe, "Fewer Americans Doubt Global Warming is Occurring," *Issues in Energy and Environmental Policy* 29, July 2016: 1.

<sup>162</sup> K. M. Willett, D. F. Hurst, R. J. H. Dunn, and A. J. Dolman, 2016: Global Climate in "State of the Climate in 2015," *Bull. Amer. Meteor. Soc.*, 97 (8), S7.

<sup>163</sup> Oliver Milman, "Environmental records shattered as climate change 'plays out before us,'" *The Guardian*, published August 2, 2016, accessed

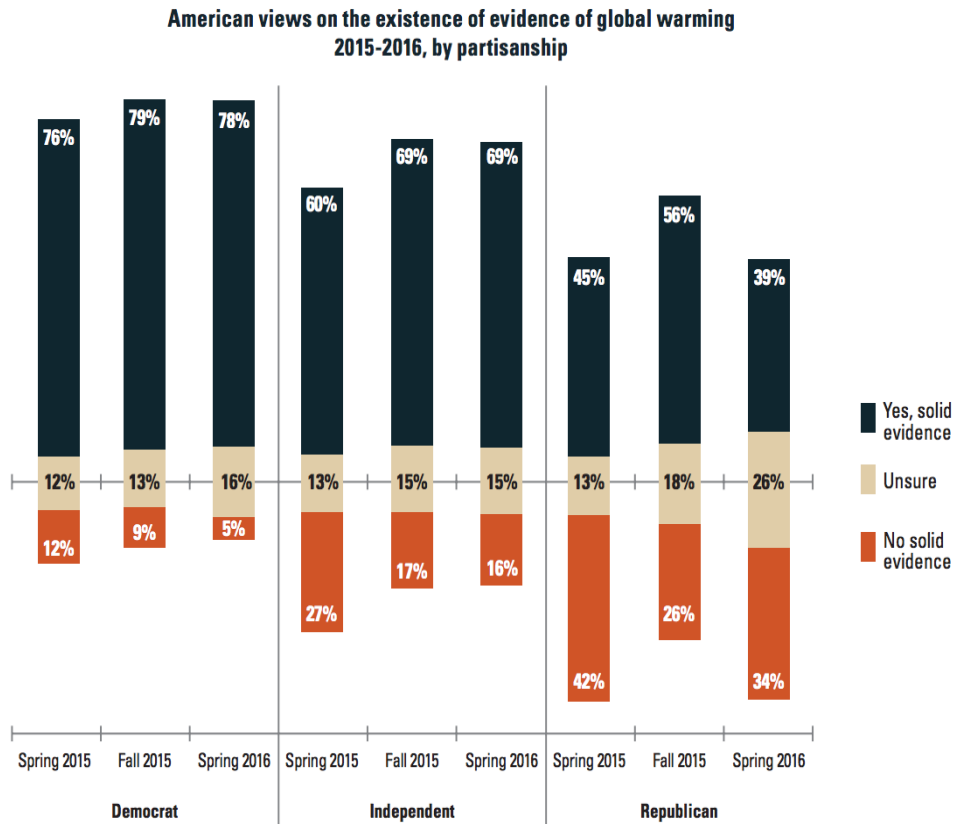
August 3, 2016, <https://www.theguardian.com/environment/2016/aug/02/environment-climate-change-records-broken-international-report>

<sup>164</sup> World Meteorological Organization, "Global climate breaks new records January to June 2016," published July 21, 2016, accessed August 2, 2016, <http://public.wmo.int/en/media/press-release/global-climate-breaks-new-records-january-june-2016>

current atmosphere of political polarization -- combined with the pressure of corporate power on government policy and the absence of a coherent national climate policy with legislative support -- is as great

as ever.

The world can ill-afford a return to the manipulation, burial and politicization of science data, thus this cautionary tale.



Question: "From what you've read and heard, is there solid evidence that the average temperature on Earth has been getting warmer over the past four decades?"