



BRIEFER

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Climate Change in the U.S. National Security Strategy: History and Recommendations

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INTRODUCTION

2021 marks renewed and heightened U.S. government attention to climate and environmental security. Reducing the threat of climate change is integrated into nearly every aspect of the Biden Administration's agenda, into all cabinet and other senior positions, including those that deal with national security and foreign policy, and is the focus of three Executive Orders (EOs) that President Biden issued starting on day one of his presidency.¹ The White House also published an *Interim National Security Strategic Guidance*² which states that the United States and the world have to act aggressively, now, to avert the most dire climate change consequences "for the health of our people, our economy, our security, and our planet."²

The President's "Tackling the Climate Crisis at Home and Abroad" EO starts with a directive to put the climate crisis "at the center of U.S. foreign policy and national security."³ It directs the Secretary of Defense, the Director of National Intelligence and others to analyze the security implications of climate change (i.e., the "Climate Risk Analysis") and incorporate them into modeling, simulation, war-gaming and other analyses. This EO also calls for the first National Intelligence Estimate (NIE) focused on climate change - one of a number of measures to integrate climate change considerations into all aspects of domestic and international security planning. This is both unprecedented and critical. NIEs are the most authoritative analyses by the U.S. intelligence community. They provide policymakers with detailed data,

¹ ["Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis,"](#) The White House, January 21, 2021.

["Executive Order on Tackling the Climate Crisis at Home and Abroad,"](#) The White House, January 27, 2021. ["Executive Order on Tackling the Climate Crisis at Home and Abroad,"](#) The White House, January 27, 2021.

² ["Interim National Security Strategic Guidance,"](#) The White House, March 2021.

³ ["Executive Order on Tackling the Climate Crisis at Home and Abroad,"](#) The White House, January 27, 2021.

information, and evidence-based analysis, without regard to whether the analytic judgments conform to current U.S. policy. Though a number of previous intelligence documents have addressed climate change, including a landmark 2016 National Intelligence Council memorandum,⁴ an NIE will go further in detailing the impact of climate change on America's security.

The Biden administration is also on the verge of producing its first National Security Strategy (NSS), as most administrations have done nearly annually since 1987 when they were first legally mandated. NSSs present each administration's views on the most important threats facing the U.S., set national security priorities, and provide strategic guidance for all national security agencies, including the Department of Defense (DoD). NSSs are developed through an interagency process. The President then sends them to Congress to convey the executive branch's national security vision and priorities.

This paper reviews and gleans lessons from the history of how climate change is treated in NSSs. Based on an analysis of the trends since climate change was first mentioned in a NSS more than twenty years ago, this paper proposes recommendations to help ensure that the forthcoming NSS will be as comprehensive as it needs to be to fully address the climate security crisis, and as compelling as it needs to be to ensure that Congress acts on the information it provides, including allocating the budget required to implement the measures necessary to avert the worst impacts to the degree that society still can.

THE EVOLUTION OF CLIMATE CHANGE IN THE NATIONAL SECURITY STRATEGY

All seventeen national security strategies produced to date, starting with President Ronald Reagan's, share the vision of enhancing American security, bolstering economic prosperity and promoting democracy abroad. However, the means of achieving those goals vary over time depending on the values and views of the President, just as the views on the security risks of climate change and the means of addressing them have also varied. Though the recognition of the importance of national and global environmental integrity to the health and wealth of the nation has generally grown, including the connection between climate change and national security, climate has ranged over the decades from little to no mention to it being considered an urgent and current security threat.

From the early 1990s - when climate change first appeared in a NSS, until recently, climate change was perceived as a distant threat, both in terms of time scale and geography. Climate change and other forms of environmental disruption, including climate-driven natural disasters, were largely viewed as problems that happened outside of the United States, and the need to secure foreign fossil energy sources was a more dominant security concern. It was not until about a decade later, in 2000, that climate change began to be seen as a security threat within the United States, and another ten years after that when the need to adapt to climate change, in addition to mitigating it, appeared in the NSS. Climate change first appeared in a NSS in the George H.W. Bush Administration in 1991. It arose in the context of hostilities with Iraq:

“The environmental depredations of Saddam Hussein have underscored that protecting the global ecology is a top priority on the agenda of international cooperation - from extinguishing oil fires in Kuwait to preserving rain forests to solving water disputes to assessing climate change. The upheavals of this era are also giving rise to human migrations on an unprecedented scale, raising a host of social, economic, political and moral challenges to the world’s nations.”

“National Security Strategy of the United States,” The White House, August 1991

⁴ [“Implications for US National Security of Anticipated Climate Change,”](#) National Intelligence Council, September 21, 2016, NIC WP 2016-01.

Thirty years ago, that NSS directly linked U.S. economic strength and national security to the “sustainability and environmental security of the planet” and acknowledged the **interrelated and transboundary global concerns of climate change**, ozone depletion, food security, water supply, deforestation, biodiversity and waste treatment.⁵ Two years later, the next Bush NSS underscored the need for increased energy efficiency especially regarding oil, and achieving that efficiency through market mechanisms, not regulation.⁶

In 1994, President Clinton’s first NSS introduced the concept of **sustainable development** (which was promulgated in 1992 at the Rio Earth Summit and supported by the Bush administration), and the need to address **population growth**. The Clinton administration acknowledged that “not all security threats are military... they include an emerging class of transnational environmental issues that will affect international stability and therefore new challenges.” The United States had signed the Convention on Biological Diversity in 1993, and in response to the challenge of climate change, the NSS noted that the United States had developed a National Climate Plan to reduce greenhouse gas emissions to 1990 levels by the year 2000. As during the prior Bush administration, U.S. dependence on foreign oil was considered an essential need, and access to foreign oil sources continued to be of great concern owing to fears of depleting domestic sources. The NSS did, however, point to the need for “continued and extended reliance on energy efficiency, conservation, and development of alternative energy sources.”⁷

President Bill Clinton’s 1996 NSS stated that by 2025, even when making the most generous allowances for advances in science and technology, “one cannot help but conclude that population growth and environmental pressures will feed into immense social unrest and make the world substantially more vulnerable to serious international frictions.”⁸ The 1997 NSS went further to say that the United States needed to move forcefully to counter the **growing dangers to its security, including from environmental damage**. Solutions included “reducing the greenhouse gases that challenge our health as they change our climate.” Additionally, the document stated the desire to “... forge an international consensus to address the challenge of global climate change, as evidenced by threats such as rising sea levels, the spread of tropical disease and more frequent and severe storms.”⁹

With international agreement on the Kyoto Protocol at the end of 1997, a turning point in the international regime to mitigate climate change, the 1998 NSS pointed out the positive nature of the **international agreement** with binding limits on greenhouse gas emissions for industrialized countries that used the free market to tackle the problem. However, when the Byrd-Hagel resolution¹⁰ prohibited Senate ratification of the Protocol without binding limits on key developing country emissions, the NSS emphasized that the Clinton administration would press for meaningful participation by those nations. This continued to be the case for the next two years. The NSS also continued to state that environmental degradation, including from climate change and especially in light of increasing **globalization**, could affect U.S. security, economy and health for generations, but did not prescribe additional action on the climate problem. Rather, the 1998 NSS catalogued a long list of other important international environmental goals, including sustainable management of fisheries, Senate ratification of the Convention to Combat Desertification, and work with the Nordic countries and Russia to mitigate nuclear and non-nuclear pollution in the Arctic. This NSS was the first to mention the need for **environmental monitoring** - “intelligence and surveillance... to protect the environment.”¹¹

⁵ [“National Security Strategy of the United States.”](#) The White House, August 1991.

⁶ [“National Security Strategy of the United States.”](#) The White House, January 1993.

⁷ [“A National Security Strategy of Engagement and Enlargement.”](#) The White House, July 1994.

⁸ [“A National Security Strategy of Engagement and Enlargement.”](#) The White House, February 1996.

⁹ [“A National Security Strategy for a New Century.”](#) The White House, May 1997.

¹⁰ [“S.Res.98 - A resolution expressing the sense of the Senate regarding the conditions for the United States becoming a signatory to any international agreement on greenhouse gas emissions under the United Nations Framework Convention on Climate Change.”](#) 105th Congress (1997-1998).

¹¹ [“A National Security Strategy for a New Century.”](#) The White House, October 1998.

In 2000, the last Clinton NSS stated that American leadership was essential for agreement on the Kyoto Protocol, and that efforts to curb global warming through that agreement were vital to protecting America from a future of rising sea levels and economic disruption.

President George W. Bush produced his first NSS in 2002 in the aftermath of the September 11, 2001, attacks. It stated that “economic growth should be accompanied by “...global efforts to stabilize GHG concentrations” and to contain them at a level that prevents dangerous human interference with the global climate.”¹² The objective was to reduce U.S. emissions relative to the size of the economy, cutting them “per unit of economic activity by 18 percent over the next 10 years, by the year 2012,”¹³ though not through the Kyoto Protocol from which the Bush administration had withdrawn. Strategies included improving standards for measuring and registering emissions reductions, and promoting renewable, nuclear and “clean” coal technology. As in previous administrations, it also stressed the need to enhance energy security, but this time with an emphasis on expanding energy supplies, “especially in the Western Hemisphere, Africa, Central Asia and the Caspian region.”¹⁴ This NSS was the first to mention the need to **protect “the environment and workers,”**¹⁵ including through trade agreements.

The next Bush NSS in 2006 barely mentioned climate change (which was not allowed in that administration) and did not identify it as a national security threat.¹⁶ Instead, the document acknowledged that extreme weather events could overwhelm local authorities’ and national militaries’ capacity to respond, and emphasized the need to find economic growth strategies that bolster America’s energy security without increasing global carbon emissions.¹⁷

The 2010 Obama era NSS signaled yet another shift in perspective, again linking climate change and national security and making **links to human health and other impacts in the United States itself**. It called for a wholesale transformation of the economy - a “new Industrial Revolution in clean energy...that will cut greenhouse gases, improve energy efficiency, increase use of renewable and nuclear power, reduce the dependence of vehicles on oil, diversify energy sources and suppliers...modernize the way we distribute electricity, encourage the use of transitional fuels, while moving towards clean energy produced at home....The Nation that leads the world in building a clean energy economy will enjoy a substantial economic and security advantage.”

The document raised the concept of **adaptation** to climate change - citing its importance in regions such as Africa, and the need to underpin our responses to climate change based on **science**. By providing incentives to make clean energy profitable, increasing efficiency standards, passing and implementing legislation and other measures, the United States planned to cut its greenhouse gas emissions by approximately 17 percent by 2020 and more than 80 percent by 2050. This NSS advocated for **international cooperation** in confronting climate change and other global challenges, including devising new clean energy partnerships and implementing and building on the December 2009 Copenhagen Accord.¹⁸

The next Obama NSS in 2015 was the first to discuss current threats from climate change to **specific regions in the United States**. It considered climate change “an urgent and growing threat to our national security, contributing to increased natural disasters, refugee flows, and conflicts over basic resources like food and water” with negative impacts on the global economy.^{19 20}

¹² [“The National Security Strategy of the United States of America.”](#) The White House, September 2002.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ [“Presidential Views of Climate Change as a National Security Concern.”](#) Alicia Orr, American Security Project, March 2021.

¹⁷ [“The National Security Strategy of the United States of America.”](#) The White House, March 2006.

¹⁸ [“National Security Strategy.”](#) The White House, May 2010.

¹⁹ [“National Security Strategy.”](#) The White House, February 2015.

The Trump Administration's 2017 NSS did not address climate change as a major security threat. Rather, it stated that the US would advance an approach that balanced energy security, economic development and environmental protection. With its claim that the developing world would require fossil fuels and other forms of energy to power their economies, the U.S. would remain a global leader in "reducing traditional pollution, as well as greenhouse gases, while expanding our economy."²¹

FINDINGS AND RECOMMENDATIONS

Clearly climate became a more and more pressing security issue over time in the NSS, especially as the United States faced undeniable direct impacts such as Superstorm Sandy and Hurricane Michael.²² Nearly every administration listed the ways it would deal with climate change, including some that gave specific targets and timetables for reductions. The Department of Defense itself has consistently been a leader in considering the national security impacts that climate change presents, and in taking steps to address those impacts. Nevertheless, the United States is still not on a path to achieve sufficient reductions quickly enough, concentrations of greenhouse gases in the atmosphere have only increased, and therefore the security threats are also mounting.

Climate-fueled hurricanes, wildfires, heatwaves, extreme cold spells, floods and droughts, with their associated human and financial costs in the US and abroad, including to military installations²³ and operations, have accelerated and intensified regardless of whether a particular administration favored traditional regulation or did not, tried innovative market mechanisms or tried to control greenhouse emissions through conventional energy conservation and efficiency, or advocated for international cooperation including funding and technology transfer and technical assistance or took a more isolationist posture.

In short, climate risks have continued to mount and now threaten the very basis of global security and stability.

In April 2021, President Biden announced a U.S. greenhouse gas reduction target of a 50-52 percent reduction from 2005 levels in economy-wide net greenhouse gas pollution by 2030 - the most significant and robust goal that the United States has ever set.²⁴ In order to achieve that, it is imperative that the forthcoming NSS plainly spell out the national security impacts of the present, near-term and long-term consequences of climate change, which it is likely to. The NSS should also clearly state that humans have significantly altered the chemistry of the atmosphere and oceans, and that we have to act immediately to ensure life on Earth continues as we know it, and is tolerable for all inhabitants, not just those with financial means or who happen to live in the increasingly limited, less vulnerable areas. It must also call for, in the strongest and most urgent terms, the implementation measures that the United States must take to realize a significant and rapid decline in greenhouse gases at home and abroad, coupled with maximum sequestration and adaptation/resilience measures.

Some of the ways that the next NSS can help ensure sufficient action are outlined below:

²⁰ This echoed the findings of the Center for Naval Analyses Military Advisory Board's 1997 report, ["National Security and the Threat of Climate Change,"](#) which identified climate change as a "threat multiplier" -- the fact that climate change amplifies stressors that can lead to conflict, such as food and water scarcity, poverty, political instability, refugee flows and social tensions. See ["National Security and the Threat of Climate Change."](#) The CNA Corporation, 2007.

²¹ ["National Security Strategy of the United States,"](#) The White House, December 2017.

²² ["Hurricane Michael Cost this Military Base About \\$5 Billion, Just One of 2018's Weather Disasters,"](#) Phil McKenna, *Inside Climate News*, February 6, 2019.

²³ ["Military Expert Panel Report: Sea Level Rise and the U.S. Military's Mission, 2nd Edition,"](#) The Center for Climate and Security, February 2018.

²⁴ ["President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies,"](#) Fact Sheet, The White House, April 22, 2021.

--In the past, the NSS has looked almost exclusively at the energy sector as the one responsible for climate-disrupting emissions and the only one in which to implement solutions. Energy is indeed responsible for the majority of carbon dioxide emissions in both the United States and globally, however, other sectors including buildings and the built environment, transportation, industry/manufacturing and agriculture/forestry/land use also emit carbon dioxide and other climate-altering gases. Therefore, the NSS and policies that may flow from it need to **address all sectors and greenhouse gases, including sources and sinks.**²⁵

--Just as the NSS needs to expand its view of climate problems and solutions beyond the energy sector, it also needs to **expand past the concept of climate security to one of ecological security.**²⁶ All commerce and wealth creation is ultimately built on materials and services that nature provides. Therefore, the NSS should address rapidly declining **biodiversity and ocean health** as the severe security threats that they are, including the impacts of climate change on both, and the impacts to the environmental services that nature provides such as air and water filtration, flood and erosion control, and pollination. The NSS should avoid compartmentalization, and instead **apply systems thinking to the complex threats** humanity and the United States face.²⁷ The document should lead forecasters and planners to ask “then what” when devising solutions to **prevent unintended security, social, economic or environmental consequences**, just as is common practice with war and humanitarian-mission planning.

--One important tool for assessing and improving our ecological security is **environmental monitoring** - another area where the NSS should devote more attention. The United States, in cooperation with other countries, should deploy and help other countries deploy, the most sophisticated tools to assess global ecological health, including of the oceans, species and ecosystems and the climate, such as by measuring and monitoring greenhouse gas emissions, locating major emitters and leaks (e.g. forests, pipelines, etc.), determining where carbon is being absorbed the most effectively, and knowing whether net emissions are increasing or decreasing.

--As DoD and other security and intelligence agencies tend to do, the next NSS should **forecast and plan for unpredictability**, especially given that climate change and environmental destruction impacts are non-linear. Studies show that self-reinforcing feedbacks could push the Earth system past a planetary threshold that could prevent stabilization of the climate at intermediate temperature rises and cause continued warming even as human emissions are reduced. Crossing the threshold would lead to a much higher global average temperature than any in the past 1.2 million years and to sea levels significantly higher than at any time since the last ice age, nearly 12,000 years ago. If the threshold is crossed, severe-to-catastrophic disruptions to ecosystems, society, economies and security would be likely.²⁸ **Stewardship of the entire Earth system**, i.e., the biosphere, climate, and societies, is necessary, including decarbonization of the global economy, enhancement of carbon sinks, technological innovations, and behavioral and governance changes.²⁹ Indeed, **our national security depends on recognizing that humanity is living on a planet that is fundamentally different from the one humans have ever known.** The unprecedented speed and magnitude of climate change, ecological disruption and biological extinction are altering the geopolitical landscape on which nations operate, and no one knows how these combined changes will interact and shift into the future.^{30 31}

²⁵ Many reliable sources of data on greenhouse gases include buildings, industry and transportation in the energy sector, including the [World Resources Institute](#). This paper parses those subsectors to ensure that the NSS looks closely and addresses the sources and sinks in each.

²⁶ [“The Security Threat that Binds Us - The Unraveling of Ecological and Natural Security and What the United States Can Do About It,”](#) Council on Strategic Risks, February 2021.

²⁷ [“Note from CCS and CSR Co-Founder on Ten Years of Combating the Greatest Systemic Threats of Our Time,”](#) Caitlin E. Werrell, The Center for Climate and Security, February 18, 2021.

²⁸ [“A Security Threat Assessment of Global Climate Change: A Product of the National Security, Military and Intelligence Panel on Climate Change.”](#) The Center for Climate and Security, February 24, 2020.

²⁹ [“Trajectories of the Earth System in the Anthropocene.”](#) Will Steffen, Johan Rockström, Katherine Richardson, et al, Proceedings of the National Academy of Sciences Aug 2018, 115 (33) 8252-8259; DOI: 10.1073/pnas.1810141115.

³⁰ “Note from CCS and CSR Co-Founder on Ten Years of Combating the Greatest Systemic Threats of Our Time,” Werrell.

--Such stewardship must be the hallmark of U.S. and international governance, as the challenge facing humanity is so much bigger than any one country, including the United States, can tackle alone. With the United States now fully engaged again in the United Nations climate treaty process, and serving as head of the U.N. Security Council, it has the opportunity to **assert strong international leadership on climate and the interrelated global ecological crises** - especially to **lead by example**, cooperate with other leaders in this arena, and rally the engagement of laggards.³²

In the National Defense Authorization Acts (NDAA) for fiscal years 2019, 2020 and 2021, Congress significantly enhanced the authorities DoD has to address climate-related threats to military installations and key supporting civilian infrastructure.³³ ³⁴ Bipartisan agreement on the need to consider the risks and costs that climate change poses to national security, and to provide robust funding to address those risks has also been evident, including at House Appropriations Committee Defense Subcommittee and House Foreign Affairs Committee meetings in recent years.³⁵ ³⁶ However, despite DoD's incorporation of climate security concerns into its strategies, operations and infrastructure for over two decades, Congress has repeatedly limited the Department's climate and energy activities, and programs including those related to military installation resilience remain drastically underfunded. Hopefully the NSS will catalyze more bipartisan agreement and be reflected in forthcoming NDAs, Defense appropriations bills, and appropriations bills for all federal agencies, as the allocation of funds is the truest expression of policy. Following the guidance of a comprehensive NSS that conveys the immense immediate and future security threats of climate change and other environmental destruction, hopefully Congress will meet the moment by **passing aggressive climate and environmental restoration legislation along with the appropriations needed to fund it.**

In voicing his support for President Biden's January 27, 2021, Executive Order on tackling the climate crisis, Secretary of Defense Lloyd Austin said, "We know first-hand the risk that climate change poses to national security because it affects the work we do every day...There is little about what the Department does to defend the American people that is not affected by climate change."³⁷ "Climate-proofing" our security is essential to protect America's near- and long-term interests.³⁸ Otherwise we will bear witness to an increasingly unstable world that is not only costly in terms of dollars but also in human lives.

³¹ ["What Are Mass Extinctions and What Causes Them?,"](#) Michael Greshko and National Geographic staff, National Geographic, September 26, 2019.

³² ["Climate Security at the UNSC: Opportunities for US Action in March,"](#) Erin Sikorsky, Steve Brock, Francesco Femia, Rachel Fleishman, and Caitlin Werrell, The Center for Climate and Security, February 25, 2021.

³³ In FY2019, a majority Republican majority Congress in both the House and Senate passed the measure which had a number of climate resilience provisions. In FY2018, Congress passed a provision in the NDAA that stated climate change was a direct threat to the national security of the United States.

³⁴ ["U.S. Congress Continues to Address Climate Change in Defense and Intelligence Legislation,"](#) The Center for Climate and Security, John Conger, December 2019.

³⁵ House Committee on Appropriations hearing, ["Climate Change, National Security and the Arctic,"](#) March 17, 2021.

³⁶ ["Sherri Goodman and Vice Admiral McGinn Testify Before House Foreign Affairs Committee,"](#) The Center for Climate and Security, John Conger, April 4, 2019.

³⁷ ["Statement of Secretary of Defense Lloyd J. Austin III on Tackling the Climate Crisis at Home and Abroad,"](#) January 27, 2021.

³⁸ ["A Responsibility to Prepare: Governing in an Age of Unprecedented Risk and Unprecedented Foresight,"](#) Caitlin E. Werrell, Francesco Femia, Sherri Goodman and Shiloh Fetzek, Briefing No. 38, The Center for Climate and Security, August 7, 2017.

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