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WORKING PAPER

# Promoting the Dialogue: Climate Change and the Quadrennial Defense Review

By Christine Parthemore and Will Rogers

Center for a New American Security

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*Cover Image*

*The USS Nimitz (CVN 68) navigates between thunderstorms during its deployment in the Pacific Ocean, September 2009.*

*(MASS COMMUNICATION SPECIALIST 2ND CLASS JASON GRAHAM /U.S. Navy)*

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## About the Authors

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When the Quadrennial Defense Review (QDR) is sent to Congress on February 1st, it will offer an unusual opportunity to shift how the national security community views climate change. Congress required in the 2008 National Defense Authorization Act (NDAA) that the Department of Defense (DOD) consider the effects of climate change on all of its "facilities, capabilities and missions," and, perhaps most notably, it called for the Department to incorporate such concerns into the next QDR.

The QDR is an important analytical tool for the Department, intended to shape programs, plans and budgets for the nation's defense. Adding such a specific requirement was a potentially significant step in advancing understanding of how climate change could affect the U.S. military's operating and strategic environments, and, more broadly, the future security environment. However, given the relative paucity of research about the security implications of climate change, it was by no means obvious how the Department of Defense would meet this legislative requirement or what the implications would be for DOD priorities, budgets, policies and practices.

In June 2009, the Center for a New American Security (CNAS) launched its "Promoting the Dialogue" project with an off-the-record event to discuss climate change and its effects on U.S. security and the QDR process. Throughout this project, CNAS researchers sought to examine how the Department of Defense has been meeting the challenge of integrating climate change into the QDR, as well as to engage in subject matter exchanges with the national security community. This overview working paper and forthcoming CNAS working papers on the implications for maritime, ground and air missions and for the Combatant Commands reflect extensive staff research and dozens of personal interviews with DOD officials.

In the following pages, we provide observations about how the QDR process addressed the 2008 NDAA requirement and some potential outcomes of that process. We hope that this background contributes to what Deputy Under Secretary of Defense for Strategy, Plans and Forces Kathleen Hicks described to the Senate as "a sea change in the understanding of the interrelationship between climate change and energy and their impact on national security."[1]

## THE PROCESS

How the security implications of climate change are treated in the 2010 QDR is likely to represent a significant step forward, and it is therefore important to understand the precedents set by previous strategy documents and reviews, and the backdrop of various attitudes about climate change within the national security community. Based on DOD leadership statements and such efforts as the U.S. Navy's Task Force Climate Change and wargaming conducted by the Office of the Secretary of Defense, it is fair to say that the Department of Defense now considers climate change to be a legitimate national security concern. Secretary Gates and numerous other defense leaders (including the commander in chief) have explicitly mentioned that climate change will be a factor to consider in the future security environment.[2]

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**It is worth noting, however, that the military services were uneven in their input to the QDR process on climate change and vary in their level of attention to this issue.** The ground forces (U.S. Army and U.S. Marine Corps) do not appear to have devoted extensive analysis to climate change, which is indeed understandable and not unexpected given their need to fight and succeed in two ongoing ground wars and to navigate major shifts in their understanding of the likely nature of future warfare. The U.S. Navy, on the other hand, has thoroughly integrated climate change into its QDR considerations and contributed important analysis to the process. And although the U.S. Air Force has long focused on questions of energy security, it does not appear to have engaged extensively yet on climate change as a security issue given its larger-level strategic reevaluations of the past year.[3]

Consideration of climate change in most strategy documents preceding the 2010 QDR process is logical, albeit perfunctory and not always well integrated. The National Defense Strategy (July 2008) delineated a future in which U.S. interests will be shaped by *threats* and *trends*. Generally speaking, "threats" tend to be characterized as challenges with agency (i.e., an actor behind them with intent to harm the United States, our interests or our allies). The latter "trends" category is a catch-all for factors that will shape or drive global security, from pandemic flu to demographic change to climate change. In a way, the National Defense Strategy identifies complexity and uncertainty as key characteristics of the global security environment. Most service-level assessments are consistent with this characterization, although the actual language differs. The U.S. Army, for example, describes the future security environment as "an era of persistent conflict."[4] A notable outlier is the November 2008 Joint Operating Environment (JOE), which outlined a similar construct but stated incorrectly that the science about the causes of climate change is "contradictory."[5] (While this is often true with regard to future *effects*, the science on the *causes* of climate change enjoys a widespread global consensus, including as the official U.S. government position, with relatively few outliers.[6])

Questions about whether there is strong enough scientific evidence of anthropogenic climate change to warrant DOD attention– and whether those changes will truly constitute a threat to the nation's security even if there is sufficient scientific evidence – are not unique to the 2008 JOE. In fact, it reflects a lingering skepticism that CNAS researchers encountered in numerous meetings with and information from military and civilian defense professionals. For

## ABOUT THE QDR

The Quadrennial Defense Review (QDR), a strategic planning exercise required by Congress, is intended to close the gap between vision and reality for the Department of Defense, delineating the "policies, capabilities and initiatives"[7] needed for the nation's defense over a 20-year time horizon. The QDR was first established to provide a more systematic review of defense priorities immediately after the end of the Cold War; Congress later formalized in law the requirement to conduct the process.[8] The Office of the Secretary of Defense leads the QDR process and the drafting of the report, but the Joint Staff is largely responsible for collecting data and inputs from the various military services, Combatant Commands and defense agencies.[9] Generally, the Department of Defense is highly dependent on Congress to resource and execute the recommendations of the QDR, particularly when there are budget allocations involved. In the past, the QDR has proven to be a useful tool, and is in fact being replicated this year by the Departments of State and Homeland Security.[10]

example, a defense contractor involved in drafting DOD strategy documents, writing on a listserv in December 2008, noted that "those who are actually interested in the facts and real science stopped worrying about this problem some time ago." In response, a DOD official wrote: "Facts do not bear out the redundant claims that global warming is happening. This is increasingly shrill and pedantic. Moreover, it's becoming boring."[11]

This skepticism may be rooted in the fact that climate science is complicated and technological advancements have a dynamic effect on scientific understanding. Wading through the shifting narrative of what scientists actually observe and can credibly project can be a challenge. As our own experiences have shown and as our conversations with DOD, intelligence community, State Department and other officials have affirmed, there is a serious problem of "translation" between the science and policy communities (as a forthcoming CNAS report will discuss[12]).

One practical consequence of this lack of good communication is that the national security community has a deficit of "actionable" data, or data that can be used for planning purposes or to guide policy responses. There is insufficient credible research tying together observations and projections about climate change with other social science trends (such as demographics and poor governance) and delineating how this will affect U.S. and global security. Officials working to increase the depth of understanding of the implications of climate change for the global security environment have been conducting original research and constructing cutting-edge studies of the climate and security nexus for the QDR process (as well as for further strategic planning) using the best data that is available today, with an understanding that projections continue to progress. And even while the U.S. military may lack enough specific information to understand exactly where and when climate change is likely to mean more missions or affect military operations and installations, there is sufficient information to develop a realistic understanding of the risks.

## THE OUTCOME

**The 2010 QDR will reflect the priorities of the current administration – and most likely preview the National Security Strategy.** Ideally, all DOD strategy documents rest on a foundation set by the president, perhaps most importantly as expressed in the National Security Strategy. The 2010 QDR (along with several other defense, foreign policy and homeland security strategy documents) will come out in advance of a public iteration of President Obama's vision of national security.

The broad outlines of those priorities, and what is likely to be in the next National Security Strategy,

## IMPLICATIONS OF CLIMATE CHANGE FOR DOD

Climate change effects will range from drier conditions in some parts of the world, wetter conditions in other parts, warmer temperatures, sea level rise, melting ice on land and at sea and perhaps more frequent and more intense storms. Given that the U.S. military is a globally deployed force, it will have to adjust to new operating conditions for its ships, aircraft, vehicles and personnel.

U.S. Navy SEALs assist flood victims in Manila after Tropical Storm Ketsana in September 2009.
(MASS COMMUNICATION SPECIALIST 2ND CLASS WILLIAM RAMSEY/ U.S. Navy)

Some of these changes could severely affect military installations. According to a groundbreaking 2007 CNA report, even modest increases in sea level rise and extreme weather are likely to flood military installations on low-lying islands and atolls such as Diego Garcia and Guam, and even U.S. bases such as those located around Norfolk, Virginia.[13] There are other potential effects on installations as well. For example, Camp Pendleton, a large Marine Corps base near San Diego, has been taking measures to adapt to more frequent wildfires in the area, which scientists attribute in part to climate change.[14] The U.S. military is likely to be able to adjust to all of these climate-related changes in the operating environment, but at some expense – and most likely at greater expense if the changes are not anticipated (i.e., it is generally more cost effective to invest in flood control measures than to mount rescue and clean up operations in response to more frequent flooding).

Also, as a major consumer of fossil fuels and generator of greenhouse gas emissions, the Department of Defense has a role in reducing national energy consumption and emissions, and in some cases (in many facilities, for example) is required to do so by law and/or regulation. For example, Executive Order 13423, signed by President Obama on October 5, 2009, requires the Department of Defense and other federal agencies to set ambitious greenhouse gas emissions reduction targets and measure their progress. Such changes have the potential to affect military operations, including in ways that may be positive. Fuel convoys, for example, are vulnerable to attack and require combat troops for protection in current conflicts; reducing the number of convoys could reduce casualties and allow forces to be deployed for other missions.[15]

Most climate change projections suggest that there will be an increase in demand for humanitarian and disaster contingencies in the United States and abroad, and the United States is likely to continue to be the nation with the most robust capacity to respond to complex or multiple disasters. The increase in demand for these types of military missions is likely to extend to more traditional "hard security" missions, as well. To describe how these missions might come about, DOD officials involved in the QDR have been using the term "instability accelerant." In this definition, climate change is a factor that interacts with other trends, principally weak governance, poor economies and population growth, to drive states toward instability – which can, in turn, spawn a range of security challenges. In her October 2009 Senate testimony, Deputy Under Secretary of Defense Kathleen Hicks stated that climate change is "a stress that has the potential to accelerate state failure in some cases, and may also lead to the spread of insurgency as weak governments fail to cope with its effects."[16]

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can be inferred from President Obama's public remarks to date. In a December 1, 2009 speech at West Point, President Obama described the global security environment as one "unlike the great power conflicts and clear lines of division that defined the 20th century" and characterized by "disorderly regions, failed states, diffuse enemies."[17] In past speeches, he has described U.S. security in this more chaotic world as resting on "four pillars": nonproliferation and disarmament; the promotion of peace and security; the preservation of the planet; and global economic prosperity.[18] President Obama has also emphasized the need for greater international cooperation, and in his December 2009 speech, he focused on the application of American power through non-military instruments (such as diplomacy, development and values). In the same speech, the President highlighted the need to restore "balance," especially between domestic and foreign policy priorities. Given these statements, it is very likely that President Obama's National Security Strategy will describe a more complicated national security environment, characterized by non-traditional threats and responses, with climate change explicitly identified in that context. The QDR's treatment of climate change can therefore be considered akin to a statement of intent for the National Security Strategy.

**The 2010 QDR is very likely to have the effect of building upon and strengthening previous efforts to integrate climate change into security considerations.** Though many researchers (both inside and outside of government) have considered a wide range of the security consequences of climate change and conducted several good in-depth studies,[19] the U.S. government has not yet produced a single, definitive public assessment that is widely accepted as a factual baseline. However, based on our interactions with the primary drafters of the climate change language for the QDR in the Office of the Secretary of Defense, it is clear that they were ambitious and thorough in culling input from a wide range of experts and stakeholders, including through a lengthy questionnaire, and were rigorous in comparing and combining previous research on climate change and security. Reviewers of early drafts of the QDR report indicate that it includes robust language from that research effort.

**The research effort behind the QDR has been signaling a strong demand for more of the kind of data the security community needs for planning purposes. This in itself is a significant advancement.** By meeting the requirement to include climate change in its strategic planning documents, the Department has signaled that it needs better climate change-related data for planning purposes. If the QDR process indeed marks a shift to more regular and in-depth consideration of climate change in planning and strategy, the Department of Defense's sustained demand signal for actionable data could drive useful advances in our understanding of this global challenge.

**The 2010 QDR is likely to mark another shift from the past by explicitly linking energy and climate change as related security concerns.** The Department of Defense has generally considered energy security and climate change as separate issues (when the latter is considered at all). In general, the Department has focused more on energy security, given that there are more pressing concerns in this area related to current missions and escalating fuel costs. In some cases, such as in the U.S. Air Force's investment in coal-to-liquid fuels during the Bush administration, assuring affordable energy supplies took precedence over contributions of climate-changing emissions.

**The QDR process, as a concerted effort to understand what climate change could mean for the Department of Defense, has clarified that responding to climate change is not primarily a DOD mission.** Although the Department has a legitimate and important role to play in cutting greenhouse gas emissions, promoting global resilience to assist other nations in adapting to projected climate changes and responding to climate change-related contingencies at home and abroad, DOD should not be considered the lead agency, by any means. Civilian agencies, including the Departments of State, Homeland Security and Energy should take the lead role. (For an overview of how climate change could affect the Department of Defense, see the text box "Implications of Climate Change for DOD.")

**Finally, the legislative requirement for the QDR has had a positive, unintended consequence.** In order to comply with the law, the Office of the Secretary of Defense, the Joint Staff and the military services have all had to designate officials to study climate change, which has effectively created a new, nascent intellectual infrastructure of military and civilian officials who are well informed about the security consequences of climate change. In many cases, these are seasoned professionals with broad responsibilities for strategy, programs and budget planning. This intellectual infrastructure may well ensure that the study of the implications of climate change is institutionalized, keeping climate change fresh in the minds of DOD senior leadership. It is part of the "sea change" described by Deputy Under Secretary Hicks, and it will help to solidify this QDR's place in marking a turning point in the study of the national security implications of climate change.

## CONCLUSION

The 2010 Quadrennial Defense Review will be an important bellwether for how the Defense Department views the present and future security environment – and how climate change considerations fit into that assessment. Having a solid analysis of the security implications of climate change will be useful in itself, but it will also point to a need for further action. One of the most consistent critiques of the QDR process since its inception has been the mismatch between the analysis of the security threats and opportunities and the programmatic follow through, specifically through funding in subsequent defense authorizations and appropriations.[20]

However, we are confident that the rigor of DOD's process in meeting the 2008 NDAA requirement for considering this issue, and early indications of the outcomes of that process, show that the QDR is only the beginning. As forthcoming CNAS working papers on climate change and maritime, ground and air missions will show, the verbiage of the QDR and the networks created by its process are growing more meaningful as climate change is more often incorporated into defense planning scenarios, wargaming, programming, planning and budgeting, particularly in the military services and the Combatant Commands.

## ENDNOTES

[1] Deputy Under Secretary of Defense for Strategy, Plans, and Forces, Kathleen Hicks, "Testimony Before the Senate Environment and Public Works Committee" (28 October 2009).

[2] See for example: "I don't think I have to emphasize that climate change is one of the defining challenges of our time. The science is clear and conclusive, and the impacts can no longer be ignored. Ice sheets are melting. Sea levels are rising. Our oceans are becoming more acidic. And we've already seen its effects on weather patterns, our food and water sources, our health and our habitats. Every nation on this planet is at risk, and just as no one nation is responsible for climate change, no one nation can address it alone." President Barack Obama, "Remarks by the President on Major Economies Forum Declaration" (9 July 2009); and "As was the case at that time, the country is again trying to come to terms with new threats to national security. Rather than one, single entity – the Soviet Union – and one, single animating ideology – communism – we are instead facing challenges from multiple sources: a new, more malignant form of terrorism inspired by jihadist extremism, ethnic strife, disease, poverty, climate change, failed and failing states, resurgent powers, and so on. The contours of the international arena are much more complex than at any time during the Cold War. This stark reality – driven home in the years since September 11th – has led to a renewed focus on the overall structure and readiness of our government to deal with the threats of the 21st century." Secretary of Defense Robert Gates, "Speech to the Association of American Universities" (18 April 2008).

[3] Forthcoming (Spring 2010) policy briefs on climate change and maritime, air and ground missions will provide more depth on this observation.

[4] Submitted by Honorable Pete Geren and General George W. Casey, Jr., "A Statement on the Posture of the United States Army 2009" (May 2009): 1-2.

[5] U.S. Joint Forces Command, "The Joint Operating Environment" (25 November 2008): 21.

[6] See, for example, the United States Global Change Research Program, "Global Climate Change Impacts in the United States" (June 2009); and Dr. Thomas Fingar, "National Intelligence Assessment on the National Security Implications of Global Climate Change to 2030," Statement for the Record for the House Permanent Select Committee on Intelligence (25 June 2008).

[7] "DoD Begins QDR, NPR Processes," DOD Press Release (23 April 2009).

[8] The "Base Force" structure, the Bottom Up Review, and the Commission on Role and Missions are some of the studies conducted in the early 1990s.

[9] Ibid. 4.

[10] See Dr. Kristin Lord, "Engaging the Private Sector for the Public Good: The Power of Network Diplomacy," CNAS Policy Brief (19 January 2010) and Brian Burton, "Learning from Experience: Lessons from the QDR for the QDDR," CNAS Policy Brief (19 January 2010).

[11] Listserv email chain received by CNAS researchers, (11 December 2008).

[12] See Jay Gulledge and Will Rogers "Lost in Translation: Navigating the Gap Between Climate Science and Security Policy" (Washington, DC: Center for a New American Security, forthcoming 2010).

[13] The CNA Corporation, "National Security and the Threat of Climate Change" (2007): 48.

[14] A.L. Weserling, et al., "Warming and Earlier Spring Increase Western U.S. Forest Wildfire Activity," *Science*, vol. 313 (18 August 2006).

[15] Army Environmental Policy Institute, "Sustain the Mission Project: Casualty Factors for Fuel and Water Resupply Convoys" (September 2009).

[16] Deputy Under Secretary of Defense for Strategy, Plans, and Forces, Kathleen Hicks, "Testimony Before the Senate Environment and Public Works Committee" (28 October 2009).

[17] President Barack Obama, "Address to the Nation on the Way Forward in Afghanistan and Pakistan" (1 December 2009).

[18] President Barack Obama, "Remarks by the President to the United Nations General Assembly" (23 September 2009).

[19] For example, see the National Intelligence Council's series, "The Impact of Climate Change to 2030: Commissioned Research and Conference Reports," (2009); and Sharon Burke, Jay Gulledge, Michael Horowitz, Christine Parthemore and Nirav Patel, "Uncharted Waters: The U.S. Navy and Navigating Climate Change" (Washington, DC: Center for a New American Security, 30 March 2009).

[20] Jeffrey D. Brake, "Quadrennial Defense Review (QDR): Background, Process, and Issues," Congressional Research Service (21 June 2001): 6.

## *About the Center for a New American Security*

The mission of the Center for a New American Security (CNAS) is to develop strong, pragmatic, and principled national security and defense policies that promote and protect American interests and values. Building on the expertise and experience of its staff and advisors, CNAS aims to engage policymakers, experts and the public with innovative fact-based research, ideas, and analysis to shape and elevate the national security debate. A key part of our mission is to help inform and prepare the national security leaders of today and tomorrow.

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*The Center for a New American Security (CNAS), a non-profit, non-partisan national security research organization based in Washington, D.C., launched the Natural Security program in June of 2009. CNAS initiated the program in order to study the near-term national security implications of natural resources supply and demand patterns, as well as the security consequences of high consumption rates. The program focuses on energy, minerals, water, land, climate change, and biodiversity, as well as the links among these resource challenges. The ultimate goal of the program is to offer practical solutions and strategies to anticipate, shape, and respond to the ways in which natural resources will shape the 21st century strategic environment.*

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