

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA**

**DECLARATION OF STEPHEN DYCUS**

I, STEPHEN DYCUS, declare as follows:

**PERSONAL BACKGROUND AND EXPERIENCE**

1. I received a Bachelor of Arts degree from Southern Methodist University in 1963 and a Bachelor of Laws degree from the same university in 1965. I went on to receive a Master of Laws degree from Harvard University in 1976.

2. Between 1965 and 1975, I worked first as a bank trust officer in Texas and then as Assistant Dean at Southern Methodist University Law School.

3. In 1976 I joined the faculty of Vermont Law School, and I continue to serve there as a Professor of Law. I have taught a variety of courses relating to environmental protection and to national security, among others.

4. In 1990-91, I was a Visiting Professor at the U.S. Military Academy at West Point, where I taught courses in constitutional law and national security law.

5. In 1991, I worked for half a year at the Natural Resources Defense Council in Washington, DC as a Visiting Scholar on issues related to the environmental effects of domestic military activities.

6. I am the lead author (with three others) of a casebook entitled *National Security Law*, first published in 1990 by Little, Brown and more recently by Wolters Kluwer Law & Business. The

fifth edition of this book was published in 2011, and a sixth edition will be published in 2016.

The book has been adopted for classroom use at more than 120 American law schools, a number of military academies and schools, and many nonmilitary undergraduate and graduate university programs.

7. I am also the lead author of *Counterterrorism Law*, a casebook dealing with selected aspects of national security law, now in its second edition, with a third edition scheduled for publication by Wolters Kluwer in 2016.

8. I am currently at work (with William C. Banks at Syracuse University) on a new book tentatively entitled *Soldiers in the Streets: The Military in 21st Century America*, scheduled for publication by Harvard University Press in 2015.

9. I am the author of *National Defense and the Environment*, published by University Press of New England in 1996. This book deals broadly with the application of federal environmental laws, including the National Environmental Policy Act (NEPA), to the military and the Department of Energy.

10. I am the author of the number of articles that address the intersection between national security and environmental law, including *Is Global Warming a Threat to American National Security?*, 35 Wm. Mitchell L. Rev. 5031 (2009); *Osama's Submarine: National Security and Environmental Protection After 9/11*, 30 WM. & MARY ENVTL. L. & POL'Y REV. 1 (2005); *Institutional Controls or Emperor's Clothes? Long-Term Stewardship of the Nuclear Weapons Complex* (with John S. Applegate), 28 ENVTL. L. REP. 10631 (1998); and *NEPA Secrets*, 2 NYU ENVTL. L.J. 300 (1993).

11. I was the founding Chair of the Association of American Law Schools' Section on National Security Law, and Chair of its Section on Environmental Law. I was also a founding Co-Editor-in-Chief of the *Journal of National Security Law & Policy*, which I continue to serve as a Senior Editor.

12. The findings and supporting information in this declaration are offered as my expert opinion, based on my education, experience, and knowledge of the relevant literature.

#### **SUMMARY OF MY TWO KEY POINTS**

13. The Department of Defense and the intelligence community agree that climate change poses a serious threat to U.S. and international security.

14. Experts outside of government believe that global warming is already a source of conflict abroad, and that climate-related conflicts will become widespread and severe in the future.

#### **ELABORATIONS OF MY TWO KEY POINTS**

**POINT A.** The Department of Defense and the intelligence community agree that climate change poses a serious threat to U.S. and international security.

15. The United States defense and intelligence communities have been aware for a number of years that the effects of global climate change pose a threat to national security. At least as early as 2006, intelligence officials initiated a study of this threat, prompted by mounting scientific evidence that global warming is changing the world in ways that will be dramatic,

highly unpredictable, and extremely dangerous.<sup>1</sup> That study resulted in a still-classified report said to be based on the work of the U.S. Climate Change Science Program, climate modelers and experts from the Department of Energy national laboratories and the National Oceanic and Atmospheric Agency (NOAA), several academic institutions, and the United Nations Intergovernmental Panel on Climate Change (IPCC).<sup>2</sup> It reportedly considered effects that might “impact the U.S. homeland, a U.S. economic partner, or a U.S. ally,” and it focused on “the potential for humanitarian disaster, such that the response would consume U.S. resources.”<sup>3</sup>

16. Citing the intelligence community report, Thomas Fingar, Chairman of the National Intelligence Council, told the House Select Committee on Energy Independence and Global Warming in June 2008 that climate-driven effects in many countries could “seriously affect U.S. national security interests.”

We assess that climate change alone is unlikely to trigger state failure in any state out to 2030, but the impacts will worsen existing problems — such as poverty, social tensions, environmental degradation, ineffectual leadership, and weak political institutions. Climate

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1. *National Security Implications of Global Climate Change: Joint Hearing Before the House Select Committee on Energy Independence and Global Warming and House Intelligence Community Management (ICM) Subcommittee*, 110th Cong. (June 25, 2008) (statement of Thomas Fingar, Deputy Director of National Intelligence for Analysis and Chairman of the National Intelligence Council), <http://www.markey.senate.gov/GlobalWarming/tools/2q08materials/files/0069.pdf>.

2. National Intelligence Assessment (NIA), *National Security Implications of Global Climate Change to 2030* (date unknown) (described in statement of Thomas Fingar, *supra*). See also Siobhan Gorman, *Global Warming as Security Issue: Intelligence Report Sees Threat*, Wall St. J., June 26, 2008, at A10.

3. Statement of Thomas Fingar, *supra*.

change could threaten domestic stability in some states, potentially contributing to intra- or, less likely, interstate conflict, particularly over access to increasingly scarce water resources.<sup>4</sup> These conditions, he said, “could increase the pool of potential recruits” to terrorism. He indicated that the dangers are especially acute in Sub-Saharan Africa, Asia, and the Middle East.<sup>5</sup>

17. In a public 2008 report the National Intelligence Council repeated the same concerns. “Over the next 20 years,” it added, “worries about climate change effects may be more significant than any physical changes linked to climate change. Perceptions of a rapidly changing environment may cause nations to take unilateral actions to secure resources, territory, and other interests.”<sup>6</sup> Moreover, the Council declared, “[i]f even the moderately severe projections of climate change are correct, the impacts could spur religious conflict through large sections of Africa and Asia.”<sup>7</sup>

18. A 2010 report from the staff of the House Select Committee on Energy Independence and Global Warming concluded:

*There is a growing consensus that climate change presents a serious and growing risk to the United States’ national security interests around the world, acting as a “threat multiplier.” Climate change impacts will increase the risk of water and food scarcity, mass migration, and resource conflict in the developing world, with the potential for destabilization in many*

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4. *Id.*

5. *Id.*

6. National Intelligence Council, *Global Trends 2025: A Transformed World* (2008), at 54.

7. *Id.* at 86.

regions. Climate change impacts will also affect military and strategic infrastructure and energy supplies, both here in the United States and abroad.<sup>8</sup>

As an example of the potential for conflict spawned by the effects of climate change, it cited increased coastal flooding in Bangladesh, which “could force 30 million people to search for higher ground in a country already known for political violence,” while India is building a wall along its border with Bangladesh.<sup>9</sup> Conflicts over water resources in parts of the developing world will be exacerbated by climate change, the report found, while water scarcity will prompt migrations of people to wetter regions. According to the committee staff, drought attributed to climate change has already contributed to warfare and genocide in the Darfur region of Sudan and in Somalia.<sup>10</sup>

19. The House Select Committee staff also found that climate change poses an immediate threat to U.S. military readiness:

*Global warming will directly impact U.S. military infrastructure at risk of damage from extreme weather and melting permafrost. Infrastructure upgrades, repair and replacement to increase resilience to global warming impacts, and rebuilding after extreme weather events will be costly. . . . Many active U.S. coastal military installations around the world are at a significant and increasing risk of damage from storm surges and associated flooding and damages. For example, the U.S. airbase at Diego Garcia in the Indian Ocean, which is critical*

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8. House Select Committee on Energy Independence and Global Warming, *Final Staff Report for the 110th Congress*, Oct. 31, 2008, iv (emphasis in original), [http://www.markey.senate.gov/GlobalWarming/mediacenter/pressreleases\\_2008\\_id=0059.html#main\\_content](http://www.markey.senate.gov/GlobalWarming/mediacenter/pressreleases_2008_id=0059.html#main_content).

9. *Id.* at 22-23.

10. *Id.* at 23.

to operations in Iraq and the surrounding region, is an average of four feet above sea level and is threatened by sea level rise and storm surges.<sup>11</sup>

20. Each year the Director of National Intelligence delivers a Worldwide Threat Assessment of the U.S. Intelligence Community to the Senate and House Intelligence Committees. In the 2009 Assessment DNI Dennis Blair warned that “global climate change will have important and extensive implications for US national security interests over the next 20 years.”<sup>12</sup>

21. In 2010, Blair reported that members of the intelligence community continue to assess that global climate change will have wide-ranging implications for US national security interests over the next 20 years because it will aggravate existing world problems — such as poverty, social tensions, environmental degradation, ineffectual leadership, and weak political institutions — that threaten state stability. . . . Water issues, which have existed before the recent changes in the climate, will continue to be [a] major concern. As climate changes spur more humanitarian emergencies, the demand may significantly tax US military transportation and support force structures, resulting in a strained readiness posture and decreased strategic depth for combat operations.<sup>13</sup>

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11. *Id.* at 23-24 (emphasis in original).

12. *Current and Projected National Security Threats to the United States: Hearing Before the S. Select Comm. on Intelligence*, 111th Cong. (2009) (statement of Dennis C. Blair, Director of National Intelligence).

13. *Current and Projected Threats to the United States: Hearing Before the S. Select Comm. on Intelligence*, 111th Cong. (2010) (statement of Dennis C. Blair, Director of National Intelligence).

22. In his 2013 Assessment, DNI James Clapper pointed to shifts in climate as fueling tensions and conflicts.<sup>14</sup>

23. In 2014 Clapper once again described climate change as a threat to freshwater supplies, food, energy, and economic growth in many countries.<sup>15</sup>

24. Concern about the national security implications of climate change is nothing new at the Defense Department. In 2000 the Office of the Deputy Under Secretary of Defense (Environmental Security), declared that changes in the global climate, including “[r]ising sea levels, desertification, extreme storms, loss of farmland and food sources, salinization of fresh water, and other physical and health-related effects can lead to increases in civil strife, the number of environmental refugees, and conflicts among nations.”<sup>16</sup>

25. Reflecting Congress’s growing anxiety about climate change related threats to national security, the National Defense Authorization Act for Fiscal Year 2008 directed military planners to “assess the risks of projected climate change to current and future missions of the armed forces,” and to “update defense plans based on these assessments,” including the next quadrennial defense review, national security strategy, and national defense strategy.<sup>17</sup>

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14. *Current and Projected National Security Threats Against the United States: Hearing Before the S. Select Comm. on Intelligence*, 113th Cong. (2013) (statement of James R. Clapper, Director of National Intelligence).

15. *Current and Projected National Security Threats Against the United States: Hearing Before the S. Select Comm. on Intelligence*, 113th Cong. (2014) (statement of James R. Clapper, Director of National Intelligence).

16. Office of the Deputy Under Secretary of Defense (Environmental Security) (2000), *available at* <http://infohouse.p2ric.org/ref/21/20958.htm>.

17. Pub. L. No. 110-181, §951, 122 Stat. 3, 290 (2008).

In response, the Defense Department's 2010 *Quadrennial Defense Review* (QDR) noted that climate change

will affect DoD in two broad ways. First, climate change will shape the operating environment, roles, and missions that we undertake. . . .

Assessments conducted by the intelligence community indicate that climate change could have significant geopolitical impacts around the world, contributing to poverty, environmental degradation, and the further weakening of fragile governments. Climate change will contribute to food and water scarcity, will increase the spread of disease, and may spur or exacerbate mass migration.

While climate change alone does not cause conflict, it may act as an accelerant of instability or conflict, placing a burden to respond on civilian institutions and militaries around the world. In addition, extreme weather events may lead to increased demands for defense support to civil authorities for humanitarian assistance or disaster response both within the United States and overseas. . . .

Second, DoD will need to adjust to the impacts of climate change on our facilities and military capabilities. . . . In 2008, the National Intelligence Council judged that more than 30 U.S. military installations were already facing elevated levels of risk from rising sea levels. DoD's operational readiness hinges on continued access to land, air, and sea training and test space. Consequently, the Department must complete a comprehensive assessment of all installations to assess the potential impacts of climate change on its missions and adapt as required.<sup>18</sup>

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18. Dep't of Defense, *Quadrennial Defense Review Report* (Feb. 2010), at 84-85.

26. The most recent *Quadrennial Defense Review*, issued in 2014, is more succinct but no less emphatic:

Climate change poses [a] significant challenge for the United States and the world at large. As greenhouse gas emissions increase, sea levels are rising, average global temperatures are increasing, and severe weather patterns are accelerating. These changes, coupled with other global dynamics, including growing, urbanizing, more affluent populations, and substantial economic growth in India, China, Brazil, and other nations, will devastate homes, land, and infrastructure. Climate change may exacerbate water scarcity and lead to sharp increases in food costs. The pressures caused by climate change will influence resource competition while placing additional burdens on economies, societies, and governance institutions around the world. These effects are threat multipliers that will aggravate stressors abroad such as poverty, environmental degradation, political instability, and social tensions — conditions that can enable terrorist activity and other forms of violence.<sup>19</sup>

27. The 2014 QDR also notes the effect of global warming on military readiness: “climate change . . . will continue to affect the operating environment and the roles and missions that U.S. Armed Forces undertake. The Department will remain ready to operate in a changing environment amid the challenges of climate change and environmental damage.”<sup>20</sup>

28. The 2010 *National Security Strategy* added this observation: “The danger from climate change is real, urgent, and severe. The change wrought by a warming planet will lead to new

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19. Dep’t of Defense, *Quadrennial Defense Review 2014* (Mar. 4, 2014), at 8.

20. *Id.* at 25.

conflicts over refugees and resources; new suffering from drought and famine; catastrophic natural disasters; and the degradation of land across the globe.”<sup>21</sup>

29. The following year the Defense Science Board produced a large report providing “compelling evidence that climate impacts are observable, measurable, real, and having both near and long-term consequences. . . . [C]hanges already underway are having, and will continue to have, major consequences for the political, economic, and geographic world as we know it,” and some of the consequences affect U.S. security interests.<sup>22</sup> These include effects on systems that support human populations — water, food, health, energy — human security, and political continuity. The results might be seen, according to the report, in “protests, strikes, inter-communal violence, and conflict between nations.”<sup>23</sup> The Department of Defense will “inevitably” be part of the U.S. response.

30. In early 2013, the commander of U.S. forces in the Pacific, Navy Admiral Samuel J. Locklear III, declared that climate-related conflict “is probably the most likely thing that is going to happen . . . that will cripple the security environment, probably more likely than the other scenarios we often talk about.”<sup>24</sup>

31. In October 2014, the Pentagon issued a new report emphasizing the urgency of the threat posed by global warming. It warns that climate change “poses immediate risks to U.S. national

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21. *National Security Strategy* (May 27, 2010), at 47. No more recent *National Security Strategy* has been completed.

22. *Report of the Defense Science Board Task Force on Trends and Implications of Climate Change for National and International Security* (Oct. 2011), at vii.

23. *Id.* at xi.

24. Remarks in Cambridge, MA, Mar. 7, 2013 (quoted in Bryan Bender, *Chief of US Pacific Forces Calls Climate Biggest Worry*, Boston Globe, Mar. 9, 2013, at A7).

security.”<sup>25</sup> The report repeats the concerns expressed earlier, adding that the domestic effects of climate change will increase the “frequency, scale, and complexity” of military missions in support of civil authorities at home, such as that provided by troops in the wake of Hurricane Katrina.<sup>26</sup> It also stresses an “[i]ncreased demand for disaster relief and humanitarian assistance overseas.”<sup>27</sup> Among other worries, according to the report, “Climate change will have serious implications for the Department’s ability to maintain both its built and natural infrastructure, and to ensure military readiness in the future.”<sup>28</sup>

32. The October 2014 report describes the importance of “deliberate collaboration with stakeholders — across the Department and with other Federal, State, local, tribal and international agencies and organizations — in addressing climate change considerations. . . . The complexities and uncertainties of climate change require a whole-of-government approach.”<sup>29</sup> This echoes the command in a 2013 executive order to all federal agencies to seek “reductions to the sources of climate change.”<sup>30</sup> Needless to say, the executive order is binding on the Department of the Interior, just as it is on the Defense Department.

33. United States security interests will be affected profoundly in the Arctic, as global warming leads to the rapid melting of sea ice there. New navigation routes are opening up, and

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25. *Id.* at 1.

26. Dep’t of Defense, *2014 Climate Change Adaptation Roadmap* (Oct. 13, 2014).

27. *Id.* at 16.

28. *Id.* at 6.

29. *Id.* at 12.

30. Exec. Order No. 13,653, *Preparing the United States for the Impacts of Climate Change*, §3, 78 Fed. Reg. 66,819 (Nov. 1, 2013).

increasing access to natural resources beneath the ocean floor has sparked new competition among states in the region. The Defense Department has recognized the potential for conflict by adopting an *Arctic Strategy*, which addresses “[f]uture challenges in the Arctic [that] may span the full range of national security interests.”<sup>31</sup>

34. The Defense Department is also preparing carefully for future deployments of troops on humanitarian missions abroad, in response to the very kinds of developments predicted as a result of climate change. These troops may act as peacekeepers or peacemakers, transport relief supplies, provide engineering assistance, or protect civilian aid workers.<sup>32</sup>

35. Another important measure of the Defense Department’s concern for the growing threat posed by the effects of climate change is its commitment to reduce its own very substantial emissions of greenhouse gases. Soldiers are packing tents with solar panels. Navy ships are beginning to manufacture their own fuel from seawater. In 2010 the Pentagon announced that it would reduce its greenhouse gas emissions from non-combat activities by one-third in ten years.<sup>33</sup> These are parts of a broad initiative to reduce the military’s dependence on fossil fuel and thus its contribution to the global warming that is expected to make the world more violent in the future.<sup>34</sup>

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31. Dep’t of Defense, *Arctic Strategy* (Nov. 2013), at 6. *See also* Dep’t of Defense, *Report to Congress on Arctic Operations and the Northwest Passage* (May 2011).

32. Dep’t of Defense, Jt. Pub. 3-29, *Foreign Humanitarian Assistance* (Jan. 3, 2014).

33. U.S. Dep’t of Defense, News Release, *Greenhouse Gas Targets Announcement for DOD*, Jan. 29, 2010.

34. *See* Pew Project on National Security, Energy and Climate, *Reenergizing America’s Defense: How the Armed Forces Are Stepping Forward to Combat Climate Change and Improve the U.S. Energy Posture* (2010).

36. The U.S. government agencies charged with keeping the nation safe, the Defense Department and the members of the intelligence community, are best equipped to assess threats to the nation's security. They have determined that the effects of climate change pose serious, present threats to peace both at home and abroad. In my opinion, their warnings must be taken seriously. The hazards they predict should be considered carefully in evaluating any federal action that might contribute to global warming and that might therefore place the security of this nation at greater risk.

**POINT B. Experts outside of government believe that global warming is already a source of conflict abroad, and that climate-related conflicts will become widespread and severe in the future.**

37. A number of quasi-government and non-government organizations have also concluded that climate change represents a very serious threat to national security. The non-profit CNA Corporation (CNA stands for Center for Naval Analyses) is a federally funded research and development center for the Navy and Marine Corps established in 1942. Its Military Advisory Board, consisting of 11 retired Generals and Admirals, first expressed its concern over the effects of global warming in a 2007 report entitled *National Security and the Threat of Climate Change*.<sup>35</sup> The Board determined that

- Projected climate change poses a serious threat to America's national security.

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35. CNA Corp., *National Security and the Threat of Climate Change* (2007), available at <http://cna.org/reports/climate>.

- Climate change acts as a threat multiplier for instability in some of the most volatile regions of the world.
- Projected climate change will add to tensions even in stable regions of the world.<sup>36</sup>

Among the destabilizing effects of climate change, it reported, is reduced access to fresh water, due to changes in rainfall, snowfall, snowmelt, and glacial melt. Forty percent of the world's population, for example, gets at least half of its drinking water from shrinking glaciers.<sup>37</sup>

Impaired food production is already provoking conflicts, as in the Darfur region of Somalia. The spread of vector-borne diseases, such as dengue fever and malaria, will produce health emergencies that could require military intervention. Flooding of coastlines will displace major populations. Resulting massive internal and cross-border migrations will spark further conflict. The spread of poverty will create new breeding grounds for terrorists. And some already weakened states may simply fail. The report concluded with a recommendation that the United States "commit to a stronger national and international role to help stabilize climate change at levels that will avoid significant disruption to global security and stability."<sup>38</sup>

38. In May 2014 the CNA Military Advisory Board issued another report, this one called *National Security and the Accelerating Risks of Climate Change*.<sup>39</sup> Reflecting on U.S. military experience ranging from "containment and deterrence of the Soviet nuclear threat during the Cold War to political extremism and transnational terrorism," it concluded that "[t]he national

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36. *Id.* at 6.

37. *Id.* at 15.

38. *Id.* at 7.

39. CNA Military Advisory Board, *National Security and the Accelerating Risks of Climate Change* (2014), available at <http://www.cna.org/reports/accelerating-risks>.

security risks of projected climate change are as serious as any challenges we have faced.”<sup>40</sup>

“Coordinated, wide-scale, and well-executed actions to limit heat-trapping gases and increase resilience to help prevent and protect against the worst projected climate change impacts are required — now,” it said.<sup>41</sup> Citing rapid population growth and increasing political complexity in the world, the report noted that “climate change impacts are already accelerating instability in vulnerable areas of the world and are serving as catalysts for conflict.”<sup>42</sup> According to this latest report, not all the effects will be felt abroad: “Projected climate change impacts inside the borders of the United States will challenge key elements of our National Power and encumber our homeland security.”<sup>43</sup>

39. Other organizations have reached many of the same conclusions. In 2012 the National Research Council of the National Academies completed a study, at the request of the U.S. intelligence community, entitled *Climate and Social Stress: Implications for Security Analysis*.<sup>44</sup> This study reviewed the potential impacts of various “disruptive events that are becoming more likely because of climate change.”<sup>45</sup> “It is prudent,” the study found, “to expect that some of these events will create or exacerbate conditions affecting U.S. national security.”<sup>46</sup> “There is a

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40. *Id.* at iii.

41. *Id.* at 1.

42. *Id.* at 2.

43. *Id.* at 3.

44. National Research Council, *Climate and Social Stress: Implications for Security Analysis* (2012).

45. *Id.* at 3.

46. *Id.* at 4.

statistically significant correlation between some forms of climate stress and the onset of some forms of armed internal conflict, but in general the causal pathways are not well understood.”<sup>47</sup>

Concerning this indeterminacy, the authors of the study recalled that during the Cold War, most people thought that deterrence was robust, and few thought the likelihood that the Soviet Union would actually initiate a nuclear attack against the United States was anything but minuscule. But because the consequences would have been so dire, tremendous efforts were made . . . to monitor events that might provide early warning of the possibility of such a strike.<sup>48</sup>

So also extreme events resulting from climate change that might be unlikely could, nevertheless, have catastrophic consequences, and should be carefully considered. The study concluded, in part,

It is prudent to expect that over the course of a decade some climate events—including single events, conjunctions of events occurring simultaneously or in sequence in particular locations, and events affecting globally integrated systems that provide for human well-being—will produce consequences that exceed the capacity of the affected societies or global systems to manage and that have global security implications serious enough to compel international response. It is also prudent to expect that such consequences will become more common further in the future.<sup>49</sup>

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47. *Id.* at 134.

48. *Id.* at 26.

49. *Id.* at 136.

40. An earlier report from the Council on Foreign Relations expressed many of the same concerns.<sup>50</sup> “The concentrated impacts of climate change will have important national security implications,” the report concluded, “both in terms of the direct threat from extreme weather events as well as broader challenges to U.S. interests in strategically important countries.”<sup>51</sup>

Domestically, extreme weather events made more likely by climate change could endanger large numbers of people, damage critical infrastructure (including military installations), and require mobilization and diversion of military assets. Internationally, a number of countries of strategic concern are likely to be vulnerable to climate change, which could lead to refugee and humanitarian crises and, by immiserating tens of thousands, contribute to domestic and regional instability.<sup>52</sup>

41. A different 2007 report from the Center for Strategic and International Studies plowed much of the same ground, but offered several new insights:

[T]he United States can expect that climate change will exacerbate already existing north-south tensions, dramatically increase global migration both inside and between nations (including into the United States), spur more serious public health problems, heighten interstate tension and possibly conflict over resources, challenge the institutions of global governance, cause potentially destabilizing domestic political and social repercussions, and

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50. Joshua W. Busby, *Climate Change and National Security: An Agenda for Action* (Council on Foreign Relations, Nov. 2007), available at [http://www.cfr.org/publication/14862/climate\\_change\\_and\\_national\\_security.html](http://www.cfr.org/publication/14862/climate_change_and_national_security.html).

51. *Id.* at 26.

52. *Id.*

stir unpredictable shifts in the global balance of power, particularly where China is concerned.<sup>53</sup>

According to the CSIS report, “climate change has the potential to be one of the greatest national security challenges that this or any other generation of policymakers is likely to confront.”<sup>54</sup>

42. The Center for a New American Security published a study in 2010 concluding that “[c]limate change holds important consequences for national security and the way the Department of Defense (DOD) does business.”<sup>55</sup> It describes the impacts of this change on different combatant commands and recommends a variety of political and operational reforms.

43. Numerous other studies by non-governmental organizations have also concluded that the effects of climate change are having or will have a significant impact on U.S. national security.<sup>56</sup>

## **SUMMARY**

44. The sources reviewed above reflect a near-perfect consensus among those responsible for keeping this nation safe — the Defense Department and members of the intelligence community —

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53. Kurt M. Campbell et al., *The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change* (Center for Strategic and International Studies, Nov. 2007), at 103, available at [http://www.csis.org/media/csis/pubs/071105\\_ageofconsequences.pdf](http://www.csis.org/media/csis/pubs/071105_ageofconsequences.pdf).

54. *Id.* at 105.

55. Herbert E. Carmen, Christine Parthemore & Will Rogers, *Broadening Horizons: Climate Change and the U.S. Armed Forces* (Center for a New American Security, Apr. 2010).

56. Some of the best-known of these studies are Gregory F. Treverton, Erik Nemeth & Sinduja V. Srinivasan, *Threats Without Threateners? Exploring Intersections of Threats to the Global Commons and National Security* (RAND Corporation, 2012); Frankie Sturm, *Climate Change: A New Threat to National Security* (Truman National Security Project, Sept. 10, 2009); Michael Werz & Kari Manlove, *Climate Change on the Move: Climate Migration Will Affect the World's Security* (Center for American Progress, Dec. 8, 2009); National Research Council, *National Security Implications of Climate Change for U.S. Naval Forces* (2011)

and experts outside of government that the effects of climate change pose a serious threat to national security. The effects are taking the form of rising average temperatures, drought, extreme weather events, shrinking fresh water supplies, coastal flooding, melting glaciers and polar ice, and spreading tropical diseases. Security is threatened by increasing competition over vital resources, especially water and arable land; mass migrations of people displaced by flooding, lack of resources, and conflict; instability of government institutions; worsening of economic and social conditions that promote the growth of terrorism; increased reliance on military forces to respond to domestic natural disasters; and the growing need to deploy U.S. troops on humanitarian missions around the world.

45. In light of this broad consensus, and because of my own experience studying, teaching, and writing about U.S. uses of military force, as well about a variety of environmental issues, my own considered opinion is that climate change is already beginning to affect this nation's security, and that as the effects of global warming multiply in the future threats to the security of the United States will be profound.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge.

Dated: November 3, 2014

  
Stephen Dycus