Institute on Science for Global Policy

Climate Security and "Actionable Science"**

Honorable Sharon E. Burke
Senior Advisor, New America, Washington, D.C., U.S.

Summary
The United States government recognizes climate change as a security issue, but has insufficient ends, ways, and especially means to actually improve global or domestic climate security.

Current realities
In October 2007, the Department of Defense (DoD) released "A Cooperative Strategy for 21st Century Seapower," the first ever collective maritime strategy for the Navy, Marine Corps, and the Coast Guard. It was also the first U.S. military strategy document to explicitly refer to climate change as a national security concern. In the years since, a number of documents from the DoD and Intelligence Community (IC) (Table 1) have followed that basic template, defining climate change as a national security issue and citing civilian scientific judgments. These documents delineate four main climate security concerns, which are accepted to varying degrees by national security professionals.

1. **Military installations and readiness.** DoD owns or manages more than a half million structures on 28 million acres worldwide, with a replacement value approaching $1 trillion. Many of these bases are more than housing or training sites; in the digital age, bases are increasingly "platforms" that directly support military operations. Although the DoD has taken some action to protect these bases from climate change (e.g., updating building codes and conducting vulnerability assessments), bases are a relatively low priority policy concern. In 2012, the Government Accountability Office observed that DoD lacked sufficient official scientific information and coordination to effectively and consistently anticipate and adapt to the effects of climate change at bases. *Uniformed and civilian national security professionals accept adaptation at bases as a defense responsibility, but generally as a low priority concern.*

2. **The Arctic.** Satellite imagery of the Arctic, tracked by the Naval Ice Center, as well as civilian agencies, shows dramatic evidence of the formation of an entirely new ocean, replacing solid ice. This means new oil, gas, and other mineral resources are becoming recoverable and new global trade routes are opening for the first time in human history. Given the difficulty and expense of operating in the Arctic and the view that most area missions belong to the Coast Guard, the DoD to date has increased regional surveillance but not its presence in the Arctic. There is $1 billion budgeted for a new icebreaker, though not until 2020. Russia, however, is increasingly aggressive about its military and commercial presence in "the Far North," which is integral to Russian identity. *Uniformed and civilian national security professionals accept the Arctic as a climate security defense mission, to some degree*.

3. **Humanitarian and Disaster Relief (HADR).** According to the National Climate Assessment and the United Nations, climate change increases the frequency and/or severity of extreme weather events, which in turn means a rising demand for HADR. This can include military missions. For example, more than 10,000 active duty and National Guard personnel responded to Hurricane Sandy in 2012 and 9,000 to Typhoon Haiyan in the Philippines in 2013. Although most military strategic documents identify HADR, or Defense Support to Civil Authorities (DSCA) in the domestic context, as part of the defense mission, it often is of limited concern. This reflects internal DoD ambivalence about these responsibilities, which are relatively underserved in training, organizing, equipping, and posturing of armed forces. Civilian disaster relief capacity largely consists of the Office of Foreign Disaster Assistance (OFDA), which has only 520 staff members worldwide, at the Department of State (DoS) and support from nongovernmental organizations (NGOs). *Uniformed and civilian defense personnel do not fully*

accept HADR as a core defense mission, even though operations tempo (OPTEMPO) for HADR can be high.

4. **Instability accelerant**. The risk of devastating violence in this age of mobility is the potential energy driving internal or interstate disruptions that lead to political change, and human misery (e.g., shortages of food, water, and energy) and migration following natural disasters. Thus, the 2010 Quadrennial Defense Review labeled climate change an "accelerant of instability or conflict," a factor that can push that potential energy into a perfect storm, with Syria as a case in point. National security agencies, however, are not incorporating climate risks into their most important scenarios, plans, modeling and simulation, or exercises — all tools used to develop the future defense force and shape collaboration with other agencies and nations. Arguably, such security building should be the task of civilian agencies, but with less than one-tenth of the budget and personnel of DoD, the DoS lacks the resources. *Uniformed and civilian national security personnel are not incorporating climate security and risks into force development; civilian agencies lack capacity to build climate security.*

Scientific opportunities and challenges

All of the defense and intelligence documents (Table 1) take the science of climate change as a given, generally relying on civilian agencies and the United Nations Intergovernmental Panel on Climate Change for scientific consensus on climate change. This approach is sensible, given that the national security agencies have limited scientific expertise. Today, the U.S. government relies on numerous sources for scientific and policy information on climate (e.g., National Climate Assessment, National Oceanic and Atmospheric Administration's (NOAA) National Climate Data Center, Environmental Protection Agency, NASA, DoS, Department of Energy, Department of Interior, U.S. Geological Survey). Thus, there is no definitive U.S government source for scientific or policy information on climate change, particularly when it comes to its impact on human societies and security.

Indeed, climate policy and scientific research to date have focused on the relationship between greenhouse gases and climate change and the potential effectiveness of various mitigation strategies, especially for clean energy development. Such studies have relied on natural and physical science, often without incorporating social science and practitioner expertise. There is, therefore, insufficient authoritative, actionable scientific study of how climate change may affect human societies and security, ranging from consistent vulnerability studies of specific locations to how changing access to water, food, and energy may drive migration, instability, and conflict. The latter is particularly difficult to access at a local or even regional scale. This situation has led to something of a "Catch-22": while security professionals lack the actionable climate security information needed for planning, programming, budgeting, and execution, there is not strong demand for developing that information.

In this regard, the DoD itself is a barrier, given that climate change is generally not seen as a "real" security issue. In addition, current challenges such as active combat operations, pressing modernization needs, unfolding cyber and high-tech wars, and overall budget uncertainties leave defense professionals with little room to consider new, indirect security challenges. Moreover, uniformed professionals may consider climate security a political fight best avoided. There are members of Congress in both chambers who will attack and try to strip any programming or budgeting related to climate change, especially at the DoD, often egged on by external players. For that matter, such initiatives may attract enthusiasm from advocacy campaigns, which may overstate or glamorize the role of armed forces for political ends. The truth is somewhere between: climate change is a valid security concern, but not necessarily one with a military solution (not with the current U.S. force structure, at any rate).

The lack of civilian operational capacity to address climate security, at home and abroad, is also a barrier to better climate security. With the exception of discrete offices (e.g., OFDA), the DoS

lacks operational equipment, training, and organization. While the current diplomacy and development missions are important, they are not sufficient to build security and respond to contingencies. In extreme circumstances, civilian agencies and NGOs will continue to require the assistance of National Guard and active duty forces, especially for logistics support even for domestic response, which is generally decentralized at the state and local level. The American people are historically generous in responding to crises *ad hoc*, but have shown little enthusiasm for increasing the standing resources for foreign aid or disaster prevention. This is problematic, given that climate change is ultimately a governance and economic development challenge and fundamentally a civilian and civil society responsibility.

Policy issues

- It is important that efforts to improve global climate security start at home, with a *national* adaptation strategy aimed at deliverables and outcomes to enhance community disaster resilience and response and to improve public works infrastructure.

- Encourage public acceptance of the scientific basis for climate change as a real-world issue requiring practical, systematic approaches — but this should be separate from the national adaptation strategy.

- Facilitate unified civilian support for scientifically based policy efforts on climate change, including civilian leadership and oversight on building global climate security.

- Invest in National Climate Assessment as an authoritative scientific resource that produces data and analysis on societal and security effects at local, regional, and global scale.

- Increase operational capacity for disaster relief and resilience at DoS, including OFDA and the U.S. Agency for International Development.

- Create a military command structure focused on training, organizing, and equipping for global HADR and DSCA missions; dedicated forces, recruited, trained and managed separately, or embedded within standing brigades, strike groups, task forces, and air wings.

- Reissue and enforce Presidential Memorandum on Climate Security by designating a single Executive Office of the President (EOP) to lead and press the DoD to implement its recommendations based on actionable science in scenarios, plans, modeling and simulation, and exercises.

- Clarify DoD lead for climate security (e.g., designate USDP/Policy and Joint Staff (J5 or J3) as leads, along with J3, J5, or J8 leads in the Combatant Commands with ASD/Installations, Energy, and Environment playing supporting role.

References

Solomon M Hsiang et al., " Quantifying the Influence of Climate on Human Conflict," *Science*, Vol. 341, Issue 6151, 3 Sep 2013.

Colin P. Kelley et al., "Climate Change in the Fertile Crescent and Implications of the Recent Syrian Drought," *Proceedings of the National Academy of Sciences*, vol. 112, No. 11, January 30, 2015.

*** A policy position paper prepared for presentation at the conference on Climate Impact on National Security (CINS), convened by the Institute on Science for Global Policy (ISGP) in partnership with the U.S. Army War College (USAWC), Nov. 28 – Dec. 1, 2016, at the USAWC, Carlisle, Pennsylvania, U.S.*

Table 1: Select Unclassified Department of Defense and Intelligence Community Climate Security Documents

Note this is a partial list and only includes documents produced by DoD or the IC that have some discussion of or direction on the national security aspects of climate change; it does not include documents, policies, or directives produced by the EOP or other agencies.

- A Cooperative Strategy for 21st Century Seapower, October 2007.
- National Intelligence Assessment on the National Security Implications of Global Climate Change to 2030, June 2008. (Testimony only is unclassified; report remains classified)
- National Intelligence Committee, The Impact of Climate Change to 2030 Commissioned Research and Conference Reports, 2009 (includes studies of China, India, Russia, Southeast Asia and Pacific Islands, North Africa, Mexico, Central America, and the Caribbean).
- U.S. Department of Defense, Quadrennial Defense Review 2010.
- U.S. Navy Climate Change Roadmap 2010.
- U.S. Department of Defense, Report to Congress on Arctic Operations and the Northwest Passage, May 2011.
- US Department of Defense, Strategic Environmental Research and Development Program, "Assessing Impacts of Climate Change on Coastal Military Installations: Policy Implications," July 2013.
- U.S. Department of Defense, Arctic Strategy, 2013.
- U.S. Department of Defense, Quadrennial Defense Review 2014.
- U.S. Department of Defense, "Climate Change Adaptation Roadmap," 2014.
- U.S. Strategic Sustainability Performance Plan 2014.
- U.S. Department of Defense, "National Security Implications of Climate-Related Risks and a Changing Climate," July 2015.
- Department of Defense Instruction Number 3200.21, Sustaining Access to the Live Training Domain, September 15, 2015.
- US Air Force Civil Engineer Center, Assessing Risk to the USAF's Arctic Infrastructure Due to Coastal Erosion, September 2015.
- Air Force Community Partnership Program, "Council on Environmental Quality: Climate Preparedness Planning Pilot for Mountain Home Air Force Base," January 2016.
- U.S. Department of Defense Directive 4715.21, Climate Change Adaptation and Resilience, January 14, 2016.
- Michigan National Guard, Adaptation Planning for Climate Resilience: Reports on Selfridge Air National Guard Base, Camp Grayling Joint Maneuver Center, and Fort Custer Training Center, June 2016.
- U.S. Department of Defense, Strategic Environmental Research and Development Program, "Climate-Sensitive Decision-Making in the Department of Defense: Synthesis of Ongoing Research and Current Recommendations," April 2016.
- National Intelligence Council, Implications for US National Security of Anticipated Climate Change, September 21, 2016.