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A Responsibility to Prepare: Why the U.S. National Security Community Takes Climate Risks Seriously

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In March 2017, U.S. Secretary of Defense James Mattis, in his response to questions posed by members of the Senate Armed Services Committee, stated:

"I agree that the effects of a changing climate — such as increased maritime access to the Arctic, rising sea levels, desertification, among others — impact our security situation. I will ensure that the department continues to be prepared to conduct operations today and in the future, and that we are prepared to address the effects of a changing climate on our threat assessments, resources, and readiness."

Some political commentators were surprised by the statement. However, they should not have been. The national security establishment in the United States, including the military and intelligence communities, has long understood climate change as a national security risk, as well as the "responsibility to prepare" for it. This is due to the nature of climate change as a "threat multiplier," which exacerbates existing and prospective threats in the security landscape. The security community has been planning for these risks since the first term of the George W. Bush Administration. This includes the integration of climate change risks into close to 70 unclassified defense, intelligence and homeland security assessments, strategies and plans since 2003. During the G. W. Bush Administration alone, eight major unclassified documents from the defense and intelligence community warned of climate risks to key national security equities:

2003: Pentagon Office of Net Assessment: An Abrupt Climate Change Scenario and Its Implications for United States National Security; Air War College: Weather Operations in the Transformation Era.

2007: Department of the Navy, the Marine Corps and the Coast Guard: A Cooperative Strategy for 21st Century Sea Power; CNA Military Advisory Board: National Security and the Threat of Climate Change:

2008: United States Joint Forces Command: The Joint Operating Environment, Trends and Challenges for the Future Joint Force Through 2030; National Intelligence Council: National Intelligence Assessment (NIA) on the National Security Implications of Climate Change to 2030; Department of Defense: National Defense Strategy; National Intelligence Council: Global Trends 2025: A Transformed World.

In short, attention to climate risks by the U.S. national security community spans administrations and transcends political party lines. The question is: why? Why do those organs of government that the public normally associates with fighting wars, devote time and effort to a problem that is popularly perceived as a primarily "environmental" issue, and is often framed as a partisan one?

The simple answer: The assessment of climate change as a security threat enjoys bipartisan support in the U.S. national security community. In 2016, for example, a group of senior, retired U.S. military and national security leaders convened by the Center for Climate and Security, many of whom served under both Bush Administrations, and the Reagan Administration, determined that climate change presents a "strategically-significant risk" to national security, and requires a commensurate level of response.

For the national security community, changes in the climate present problems worthy of attention by those whose primary job it is to protect the United States, and its allies, from physical harm. The following is a brief outline of how and why the U.S. national security community treats climate risks the way it does, beginning with:

- The common definition of a national security threat, and how climate risks fit into that definition;
- The direct and indirect national security implications of climate risks;
- Why a changing climate warrants attention in the face of other national security threats.

The definition of a national security threat, and how climate change fits into that definition. Unfortunately there is no one, accepted definition of a national security threat. However, simply put, the national security community generally considers threats as either *direct*, physical threats to the U.S. homeland, or vital U.S. assets and personnel abroad; or *indirect* threats from regions of the world that are either of strategic interest to the United States, or whose instability could present direct threats to the United States and its interests. In this context, the national security community considers climate change a "threat multiplier" (a term first coined by CNA's Military Advisory Board and now broadly used by the U.S. Department of Defense [DoD]), or an "accelerant of instability" as it is characterized in the FY2010 Quadrennial Defense Review conducted by the DoD. This means that climate change exacerbates, or heightens, other threats to the United States. Indeed, the cumulative impact of a changing climate *alters the security landscape*.

Multiplying direct threats to the U.S. homeland. Numerous climate change projections highlight a future of increased extreme weather events, such as droughts, floods, storms, and sea level rise in North America, which could devastate coastal communities, energy facilities and areas of the United States that rely on predictable patterns of rainfall. This puts U.S. domestic military installations and the civilian infrastructure and logistical chains essential to those installations at risk, and has become a major concern for the DoD. For example, the DoD has determined that drought, dust storms, forest fires, and rising temperatures are physically affecting military bases and training ranges across the American Southwest. The DoD has also examined the impact of sea level rise on its numerous coastal military installations (including the highly vulnerable Hampton Roads region, which includes 29 military sites that are critical for U.S. military readiness), concluding that these risks are real and increasing. An independent review by a Military Expert Panel convened by the Center for Climate and Security concluded that sea level rise presents "serious risks to military readiness, operations and strategy," based on existing and projected impacts of sea level rise and storm surge on critical military infrastructure and associated civilian support structures, including access roads and energy grids.

Multiplying direct threats to military installations and U.S. forces abroad. U.S. military installations abroad are also at serious risk of climate-related impacts, particularly critical coastal bases on low-lying islands like Diego Garcia. A 2016 DoD SERDP report ran sea level rise scenarios for 1,774 costal military bases worldwide, and found significant risks at all times scales examined (2035, 2065, and 2100).

Heightened droughts, or unpredictable rainfall patterns due primarily or in part to climate change in areas of the world where the U.S. military operates, can also leave armed forces vulnerable to being disconnected from potable water supplies. Pro-

tecting convoys to transport available water (along with protecting fuel convoys, which accounted for "one-third of U.S. Army casualties in Afghanistan in 2007"), is a dangerous mission for troops to engage in. That is why the DoD works to equip its soldiers with portable water filtration, and water desalination devices to deal with the problem, along with mobile hybrid and renewable energy systems (see for example, the U.S. Army's Energy to the Edge program). The emphasis is on enhancing the military's warfighting and humanitarian response capability, not addressing climate change.

Multiplying indirect threats to the United States and its interests abroad. Much of the national security community's concern about climate change revolves around its capacity to multiply *indirect* threats to the United States or its interests, particularly in regions of the world that the U.S. either sees as key, strategic environments, or those whose instability could constitute a threat to the U.S.

For example, climate change threatens to indirectly upset the balance of competing interests in the South China Sea, an area of critical geostrategic importance to the United States where ships carry $1.2 billion in U.S. trade annually. On top of this, sovereignty over parts of the Sea is bitterly contested by adjacent countries, and the U.S. and China have perennially competed over its control (with the U.S. viewing Chinese expansionism in the sea as a threat to freedom of navigation, national security, and the security of key allies). As the ocean warms, and fish stocks move northward, tensions between the fishing fleets of China and other nations in the region will likely increase, potentially heightening the possibility of conflict.

During his tour of duty as the Commander of U.S. Pacific Command (PACOM), Admiral Samuel J. Locklear III identified climate change as potentially the most disruptive long-term security threat facing the Asia-Pacific region. As Admiral Locklear stated, in reference to the climate change threat to growing coastal populations in the Asia-Pacific region:

"If it goes bad, you could have hundreds of thousands or millions of people displaced and then security will start to crumble pretty quickly."

A security breakdown in such a strategically-significant part of the world would have a considerable impact on regional and global security, as well as core U.S. national security interests.

Climate change may also place stresses on food security by increasing the severity, frequency and variability of crop-damaging events like droughts and floods. Due to the nature of the global food market, this can sometimes result in spikes in world food prices, increasing the likelihood of instability in places that depend on affordable imported food, such as most of the Middle East and North Africa. This is part of a larger phenomenon Dr. Troy Sternberg calls "the globalization of hazards," where natural hazards in one region can have a significant impact on regions halfway across the globe. In the case of countries such as Egypt, that are of such strategic significance to the U.S, such chronic instability due in part to severe food insecurity can fundamentally change the global security architecture that the U.S. defends.

In the Arctic, dramatic changes to sea ice cover, driven in large part by climate change, may have a significant impact on resource disputes, particularly given a petroleum-rich sea bed and hazy territorial boundaries. The expected increase in commercial activities in the Arctic may also lead to security complications – as nations attempt to manage large stretches of open ocean that were previously inaccessible.

Lastly, climate change can exacerbate the social, economic and environmental stresses that plague fragile states, thus heightening the probability of massive population displacements, and instability. In Syria, a severe drought from 2006-2011, coupled with natural resource mismanagement by the Assad regime, and other stresses, led to the displacement of around 1.5 million farmers and herders. As noted in our report "The Arab Spring and Climate Change," this drought was part of a pattern of increased drying in the Mediterranean and Middle East beginning in 1973, which was strongly associated with climate change in a 2011 NOAA report. Though it would be folly to argue that climate change "caused" the Syrian civil war, it is clear that the region's plummeting winter precipitation levels was one of the drivers of massive population displacements in Syria, and that the inadequacy of the government's response to that displacement contributed to popular dissatisfaction with the Assad regime.

In short, climate change threatens to make fragile states even more fragile, which can lead to the potential for de-stabilizing violence, which can present direct security challenges to the United States and its allies. This concern is acute enough to compel the U.S. DoD to invest resources (through programs such as the Minerva Initiative) to comprehensively map the security implications of climate change in Africa and South Asia – two regions of increasing strategic interest to the U.S, due to rising powers, increases in refugee flows, the rise of transnational terrorist organizations, and other security risks.

Why a changing climate warrants attention in the face of other national security threats. Do these security threats really warrant serious attention in light of the plethora of other security threats, such as the proliferation of nuclear weapons and materials? From a U.S. national security perspective, the answer is yes – not least because climate stresses on food, water and energy systems can make other security threats worse, particularly in fragile and climate vulnerable regions, such as the Middle East and North Africa, Central and South Asia. In this context, it is not useful to separate climate risks from other risks, or to attempt to rank it against other threats. It is, as mentioned previously, a "threat multiplier." Furthermore, climate change is what risk analysts would call a "high probability, high impact" risk, meaning that it is very likely to occur (between 90 and 97%), and will have a very large and widespread impact on security (for example, the 2014 Global Risks Report ranked climate change highest, next to "fiscal crises," in this regard).

It is useful to compare this to another transnational risk – the proliferation of nuclear weapons. A study commissioned in 2005 by Senator Richard Lugar produced a median response of a 10 percent likelihood of "an attack involving a nuclear explosion" in five years and a 20 percent likelihood in 10 years. Of course, in the case of a nuclear detonation, the price of that 10 or 20 percent likelihood materializing is devastating and unacceptable, so it makes all the sense in the world to prevent it. The same goes for a changing climate, given the high degree of certainty about its occurrence, and the likely scale of its impact over time.

Conclusion. The national security community does not have the luxury of waiting for 100% certainty about the scope, scale, or causation of climate change before addressing the associated risks, any more that it can wait for such certainty with any other national security risk. There is already a sufficiently high degree of certainty that climate change is, and has the capacity to be, a multiplier of direct and indirect threats to the United States, and that steps to address that risk are warranted. That is why U.S. national security planners put time, personnel and resources into addressing its effects, and have done so across both Republican and Democratic administrations. In this context, climate change as a security risk is not just a narrative, or a political talking point.

As U.S. Secretary of Defense James Mattis stated in his written testimony to the Senate:

"…climate change is a challenge that requires a broader, whole-of government response."

The U.S. military, intelligence and homeland security communities – indeed, the US government as a whole - have an obligation to be prepared for (and work to shape) the geostrategic security environment, and cannot afford blind spots in that picture. That is what grounds the "responsibility to prepare" for climate change risks enshrined in Secretary Mattis's statements, and in the actions of his predecessors.

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