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# Global Climate Change and National Security

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Depending on the audience, global climate change has many different meanings. For environmentalists, global climate change may be the number one threat facing the world. Many argue that humans are the sole cause of the problem and that it is incumbent on us to take steps to reverse course. Some in that community go so far as to see mitigating global climate change as a chance to reverse the course of modernity. For many business leaders, doing so presents a serious challenge to some traditional industries, threatening the basic building blocks, such as petroleum and coal, upon which Western nations have built their economies. They argue that science has yet to determine the exact causes of climate change, and it is premature to disrupt the economy to address a threat that man may not cause. However, others in the business community view climate change as a tremendous opportunity to develop and sell cutting-edge technologies to reduce the impact of man-made greenhouse gases.

For the military, global climate change represents considerable uncertainty and risk. See CNA, NATIONAL SECURITY AND THE THREAT OF CLIMATE CHANGE (2007), prepared under direction of an Advisory Board comprised of three-star and four-star Flag Officers from the Army, Navy, Air Force and Marine Corps, [www.SecurityAndClimate.cna.org](http://www.SecurityAndClimate.cna.org). There are numerous reports detailing the potential causes of global climate change, including the November 18, 2007, *4th Assessment Report of the Intergovernmental Panel on Climate Change*, which reports that “the warming of the climate system is unequivocal.” [www.IPCC.ch](http://www.IPCC.ch). For the military, whether the warming is caused by man, is naturally occurring, or is some combination of the two is immaterial. The military cannot wait for the science to be perfected to begin planning for the potential effects of global climate change. Likewise, the military cannot morally judge the causes of global climate change. What matters is that it is occurring and the results will have impacts on military operations.

Instead of focusing on the causes of climate change, or even how to prevent it, the military must plan for the risks posed by global climate change. Risk is defined as the chances that an event will occur multiplied by the magnitude of its occurrence. Viewed through that lens, the effects and poten-

tial outcomes of global climate change—whether it is man-made or naturally occurring—are disastrous.

In terms of risk and military strategy, the disastrous effects of global climate change can best be described as a low probability/high consequence event. The low probability is due to science still being unsettled about the actual magnitude and timing of the potential impacts of global climate change and the chances of halting or reversing its causes. Perhaps the apocalyptic scenarios envisioned by some will never come to fruition. However, the potential high consequences of a worst-case scenario, such as droughts, famines, and floods, are disastrous, so the U.S. military has no choice but to consider the effects of global climate change.

The United States military has long planned its strategy around low probability/high consequence events. Much of the Cold War strategy involved the threat of a Soviet nuclear attack, which is the very model of such an event. Although it never happened, the military would have been derelict not to have planned for such an event. Following September 11, the military focused on many other low probability/high consequence threats, including bioterrorism and chemical warfare. That such events had happened only infrequently in the past and had only minimal probability of occurring in the future did not justify ignoring the risk or failing to plan for it. Indeed, the very severity of the potential consequences required the military to prepare. The same is true with global climate change for which the exact magnitude and location of its effects are highly uncertain.

Stability is the heart of our national security policy. Our Cold War strategy centered on maintaining the balance of power with the Soviet Union. The United States sought alliances that maintained stability, even when such actions may have been counter to other compelling interests or may have produced long-term negative consequences. Other such examples abound, including our aid to Iraq during the Iran-Iraq war, aid to the mujahideen in Afghanistan, and support for undemocratic regimes in Southeast Asia and Latin America. Although there may have been downsides to these actions, in the strategic picture, maintenance of a bipolar balance of power and the stability it produced was paramount.

The loss of stability is the primary threat of global climate change. Climate change does not create new enemies for the United States or empower our existing foes. It is not a weapon that enemies can harness directly. Instead, climate change is an engine of destabilization, resulting in long-term shifts in weather, precipitation, sea level, food supplies, and

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population. Our enemies, both current and future, may exploit these shifts for their own gain. Climate change is a threat multiplier. The range of troubling national security risks were recently summarized by General Gordon R. Sullivan, USA (Ret.) in his September 27, 2007, testimony before the U.S. House of Representatives Subcommittee on Investigations and Oversight, Committee on Science and Technology. See <http://securityandclimate.cna.org/testimony/transcripts/070927.aspx>.

Three overarching policy documents guide current U.S. military strategy. At the top, the National Security Strategy (NSS) is an executive-level document, promulgated by the president, which sets the overarching international security priorities of the country. Second is the National Defense Strategy, which is produced by the secretary of defense. It translates the president's guidance in the NSS to mission-specific priorities in the U.S. Department of Defense. The chairman of Joint Chiefs of Staff (CJCS) promulgates the third document, the National Military Strategy, which "provides focus for military activities by defining a set of interrelated military objectives from which the Service Chiefs and combatant commanders identify desired capabilities and against which CJCS assesses risk." These documents are updated periodically to reflect changing priorities and world conditions. Interestingly, none of the existing versions of these documents identifies global climate change as a risk for which the United States must prepare its military. Of the three, only the NSS even mentions climate change, solely in the context of balancing economic growth with the reduction of greenhouse gases.

As part of its status as the world's only superpower, the United States military is the only force today that has the ability to project power anywhere on the globe for a nearly unlimited duration. That ability is a great benefit to U.S. political leaders. However, it also means that the military must plan for the full effects of climate change. U.S. forces operate throughout the world, in all climates. For example, naval and air forces routinely operate in the frigid Polar Regions, especially the Arctic. Land forces operate in all conditions: from the deserts of Southwest Asia, to the jungles of South America and Pacific, to the temperate regions of Europe. These forces must be prepared to fight in all climates.

Moreover, U.S. forces engage in many types of operations throughout the world that have nothing to do with combat. Although in its most simple terms, the job of the U.S. military is, in the words of the Army, "to fight and win America's wars," that is an oversimplification. The U.S. military engages in far more "operations other than war" (OOTW) than in actual battles. A short list of OOTW includes counterterrorism, disaster relief, humanitarian assistance, security assistance, peacekeeping operations, and support to U.S. civilian authorities. Real-world examples of these types of activities include peacekeeping operations in Bosnia, disaster relief in Indonesia following the December 2004 tsunami, and security assistance and counternarcotics assistance in Latin America. The pace of these types of operations is likely to increase as the pace of global climate

change hastens change.

The potential consequences of global climate change on U.S. security interests are varied and will affect the full range of U.S. military operations. Climate change is predicted to thin and reduce the ice caps in the polar region, exposing new areas to competition for scant resources. The United States Navy and Coast Guard will be called upon to support and defend national interests in these areas. Changes in precipitation patterns may have long-term consequences on access to drinking water, drought, and food production. In response to these events, there may be mass migrations of people both within and across national borders. In such instances, Army Civil Affairs Teams may be dispatched to provide infrastructure and response, and United States Air Force aircraft may be called on to provide airlift to the disaster relief and humanitarian assistance missions. These stressors may further weaken already faltering governments, which in turn may provide safe haven to terrorist organizations. United States Special Forces may engage in security assistance in these countries. Likely, every branch and specialty of the military will be called upon to deal with the consequences of global climate change.

### *The Effects of Global Climate Change on National Security*

To begin the planning for global climate change, the military must first understand the potential effects to which it may be required to adapt. Some of the effects are direct, such as changes in precipitation that restrict access to potable water. Others are indirect, such as the mass movement of populations in response to drought induced by climate change. Ultimately, the most serious effects these occurrences may have on national security will be the effect on already weakened and failing governments.

Perhaps the immediate potential consequence of global climate change will be the impact resulting from changes in precipitation. Adequate quantities of freshwater for irrigation, drinking, and sanitation are essential to human existence. Changes in the amounts or patterns of precipitation, especially droughts, can produce disastrous results. The potential loss of drinking water may occur from both drought conditions and the reduction of mountain glaciers. According to the International Water Management Institute (IWMI), many countries in the world's most troubled regions, such as North Africa and the Middle East, already are considered "water scarce." These countries soon will be joined by Pakistan, South Africa, and large parts of India and China. Indeed, by 2025, the IWMI estimates that 1.8 billion people will live in countries or regions with absolute water scarcity, due to both increases in population and decreased water supply. The Intergovernmental Panel on Climate Change notes that although total precipitation amounts may not change much because of global climate change, the variability in precipitation patterns likely will result in more frequent droughts in water-scarce countries.

The loss of mountain glaciers will exacerbate the problem of reduced access to potable water. Glaciers provide water for





