Book Reviews

Climate Change and Armed Conflict: Hot and Cold Wars

By James R. Lee
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Climate change has reemerged in the mainstream of U.S. Government policy as a central issue and a national security concern. President Barack Obama, addressing an audience at the Massachusetts Institute for Technology in October 2009, identified climate change and fossil fuel dependence as a national security threat needing innovative, science-based solutions to "[prevent] the worst consequences of climate change." President Obama asserted that "the naysayers, the folks who would pretend that this is not an issue . . . are being marginalized."

The climate change debate—the existence, underlying sources, and need for mitigation—has met with controversy in the United States for more than a decade and a half. U.S. policy has evolved from the Clinton administration's active support in 1997 and signing—but not submitting for ratification—the Kyoto Protocol of the United Nations Framework Convention on Climate Change, to President George W. Bush withdrawing support in 2001. The pendulum quietly swung back with President Bush later acknowledging climate change as a security matter in 2007, issuing a climate change mitigation policy strategy, and signing America's Climate Security Act. Over the past several years, former Vice President Al Gore has heightened domestic and international public awareness of climate change, and in testimony before Congress in April 2009, Gore identified climate change mitigation as a "moral imperative." Complicating matters, in November 2009, leading up to the quadrennial meeting of the United Nations Intergovernmental Panel on Climate Change (IPCC), questions about the transparency of data behind certain United Kingdom scientific reports informing work of the panel led some in the U.S. media to dub the climate change debate as "Climate-gate whitewash."

U.S. military and intelligence planners have examined the challenges posed by climate change for years. Last year, the National Intelligence Council completed its first assessment of the national security implications of climate change, the potential geopolitical impacts, and military and humanitarian responses. The assessment concluded that resulting storms, droughts, and food shortages would increase humanitarian relief demands, which "may significantly tax U.S. military transportation and support force structures, resulting in a strained readiness posture and decreased strategic depth for combat operations."

Climate change has gained prominence in the Pentagon as well, and the 2010 Quadrennial

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Defense Review (QDR) identifies climate change as a national security threat in three ways. First, it is a force-multiplying driver of conflict, as changes in temperature, precipitation levels, and the increasing frequency of extreme weather events "contribute to food and water scarcity . . . increase the spread of disease, and may spur or exacerbate mass migration." Second, climate change impacts national security as a wildcard variable skewing military plans. Third, climate change burdens military and civilian resources by creating additional humanitarian response obligations. As the QDR states, "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."

Following the lead of the Pentagon, the Department of State and the U.S. Agency for International Development are drafting the first Quadrennial Diplomacy and Development Review (QDDR), modeled on the QDR and expected to be released in the fall of this year. Like the QDR, the QDDR will incorporate climate change issues.

A *wicked problem*, as coined by Horst Rittel and Melvin M. Webber, is one that is difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to identify, and the solution is not true or false, but better or worse options. Climate change is said to be a *super wicked problem*, which has the added complications of a time imperative, no central authority to resolve the problem, and the fact that the entities seeking to solve the problem are also involved in causing it, thus creating a deepening cycle of complications.

At this critical juncture in the climate change and national security debate, the Routledge Studies in Peace and Conflict Resolution book series has published *Climate Change and Armed Conflict: Hot and Cold Wars*, by James R. Lee. Professor Lee, of American University's School of International Service, is an international relations expert with a geography background. His treatment of climate change is exceptional among contemporary analyses in that it essentially sets aside the debate over the underlying causes—natural versus human induced—and focuses on mapping a path for understanding the climate change phenomenon based on historical cases, extrapolating conflict trends, predicting alternative outcomes, and suggesting practical options.

Lee begins by tracing the history from the prehistoric period, beginning with the relative adaptive abilities of and territorial competitions between Cro-Magnon and Neanderthal man through the present. Lee intervolves periodic variations and dramatic changes in climate, with corresponding human factors: social, political, and economic development; population growth; human migration; competition for scarce resources; and territorial-induced conflicts. He thereby demonstrates linkages between climate change, social growth, and conflict.

Building on these links, Lee then juxtaposes the climate change predictions of the IPCC with the Fund for Peace Index of Failed States and the U.S. Department of Defense conflict forecasting tool, ACTOR (Analyzing Complex Threats for Operations and Readiness). Through this study, he extrapolates conflict trends—"projections of unhealthy convergences between climate change and conflict" (p. 118).

Given that conflict arose even where climate change was mostly slow and periodic, if climate change is accelerated, then the ability

to adapt to such changes may be stretched beyond sustainable limits, particularly in those regions already politically fragile, resource-deprived, and experiencing population, ethnic, and other stresses.

Significantly, the regions subject to greatest stress from climate change lie along the "Equatorial Tension Belt," which includes Mexico, Central America, and the northern portion of South America, North Africa, the Middle East, and Southeast Asia. Lee predicts that climate change in these regions will exacerbate internal conflict and competition for scarce natural resources—water, food, and sustenance agriculture economic livelihoods—and result in "Hot Wars" of internal strife.

Paradoxically, climate change warming may enhance natural resource abundance in polar areas previously unfit for human habitation. Such changes too can lead to conflict, characterized by Lee as "Cold Wars" of interstate conflict, resulting from competition for the exploitation of the new natural resources and competing territorial and sovereignty claims made acute by new human migration patterns.

Lee predicts that climate change also will impact the comparatively politically stable territories of the United States and Northern and Central Europe, despite their greater resource abundance, aggravated by territorial competition from mass migrations and increased demands for humanitarian relief responses. The adaptive capacity of these regions may stave off conflict initially, but likely not indefinitely.

Lee notes that the rate of climate change for the first half of the 21st century is predicted by the IPCC and other scientists to be highly accelerated, regardless of intervening mitigation measures—essentially, for the immediate future, the damage has been done and the course set. This suggests a corresponding accelerated rate of struggle and instability. The second half of the 21st century remains malleable, depending on the measures taken and outcomes of the first half. Lee discusses various possible scenarios based on "realists and pessimists" contrasted with "idealists and optimists" models. Lee concludes with a series of long-term suggestions to mitigate conflicts, uncouple climate change and violence, and preventative measures that reduce human contribution to climate change. He asks "whether the goal of good global policy or the goal of national interests will win out in shaping human impacts on future climates" (p. 162).

Lee's treatment of climate change and conflict is simultaneously technical and historical, primarily utilizing political science methodology. He draws on a diversity of disciplines from a distinctive wide range of sources from the United States, Canada, the United Kingdom, and continental Europe. This is a significant work, illuminating and instructive, and not encumbered by political underpinnings, which can be useful in objectively informing the climate change and national security policy discussion. PRISM