



# Climate Change on the Move

## Climate Migration Will Affect the World's Security

Michael Werz and Kari Manlove December 8, 2009

Fast forward to the year 2050. The world's population will be up to 9 billion people according to the United Nations—an increase of one-third. More than 90 percent of this growth will take place in developing countries. Estimates also predict that 200 million people will be newly mobilized as climate migrants by 2050 due to global warming's effects. This increased migration will very likely affect global security, which makes it imperative for the United States and other nations to begin formulating responses to climate migration now.

As Thomas Friedman so bluntly writes, the world in 2050 will be crowded and it will be hot. Even if industrial and emerging societies were to reduce their greenhouse gas emissions tomorrow and reach instant carbon neutrality, existing pollution has locked into the atmosphere at least some unavoidable warming. No matter what steps the global community takes to mitigate emissions, we will still be forced to adapt to a warmer climate.

Global warming's consequences will be felt much earlier than 2050, too. Climate scientists argue that extreme weather events and resource shortages will affect millions of people in Africa, Australia, and Latin America by 2050. In Asia, warming will shrink freshwater resources from large river basins that could adversely affect 1 billion people. Parts of Africa could see rain-fed agricultural yields fall by much as 50 percent from today's output, threatening food insecurity on top of water insecurity. Melting snowcaps in the Andean region will harm important agricultural regions in Latin America.

CAP President and CEO John Podesta and his former CAP colleague Peter Ogden framed the stark reality of adaptation to a warmer climate two years ago: "Science only tells part of the story. The geopolitical consequences of climate change are determined by local political, social, and economic factors as much as by the magnitude of the climate shift itself."

And it's inevitable that as global warming intensifies hurricanes, drought, and adds to resource shortages, we will need to prepare for extreme circumstances, including human migration. In 1991, Tropical Cyclone Gorky hit the Chittagong district of Southeastern

Bangladesh and a 20-foot storm surge made landfall, killing approximately 138,000 people and leaving 10 million homeless.<sup>1</sup> Refugees from natural disasters usually can return home over time—as in this case—but future climate migrants could be permanently forced to leave. Climate migration is often a result of natural disasters, but resource scarcity, food security, and water shortages will also be important drivers of voluntary and long-term climate migration in the 21st century.

Worldwide, estimates suggest that as many as 200 million people could become climate migrants by 2050. Today there are roughly 214 million migrants globally, meaning if climate migration projections come true, they will double the total level of migration worldwide. In some cases, climate migration hot spots overlap with already volatile and unstable regions, where substantial migration could easily give rise to border conflicts and national security concerns.

These factors will undoubtedly affect 21st century migration, and the United States and other nations would be wise to factor these new forms of human mobility into long-term policy strategies and security assessments now. We'll offer a framework that can be used to address climate migration and its effects on security below. But first, we'd like to outline a handful of specific regions that could see migration and conflict due to a changing climate. Any assessment of climate migration and its security impacts should pay close attention to these areas.

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## Northern Africa and the Mediterranean

Africa will be one of the continents hardest hit by global warming. In the west and northwest, drought and desertification will intensify and threaten the livelihoods of local habitants. Sir Nicholas Stern, chair of the Grantham Research Institute on Climate Change and the Environment at the London School of Economics, considers both the humanitarian and economic impacts on Africa in his groundbreaking climate change analysis. He cites Mali in the 1970s and 1980s as a precedent to the looming, potential conflict that water shortages and drought can cause. In that case, the native Tuareg were so devastated by drought that they were driven to other countries to seek sustainable livelihoods. Their migration and eventual return caused much unrest and rebellion.

This example illustrates how northwestern Africa can become a battlefield, but other factors contribute to risk in the region: Sub-Saharan migrants enter the European Union through the region, and Islamist rebels threaten the governments of Morocco, Algeria, and Tunisia, where Al Qaeda Maghreb's presence has steadily grown in recent years. Resource allocation policies, drought, and water shortages are also factors within migration hubs like Morocco, Algeria, and Egypt, which all face their own environmental challenges.

The European Union is keeping a close eye on these developments and how they could be affected by climate change. For example, the E.U. report, “Climate Change and International Security,” discusses mass migration and political destabilization that “puts the multilateral system at risk.”<sup>2</sup> While this is a dark assessment, it appropriately calls attention to the issue.

In response to growing migration pressures in Northern Africa, the European Union and especially the Spanish government have tightened border controls. The Spanish government, for example, has gone so far as to set up operations, such as sending officials of the Interior Ministry to countries like Senegal, Guinea-Conakry, Mali, Mauritania, and Cape Verde, often discouraging potential migrants from leaving. FRONTEX, a cooperative European effort on border security, has invested 24 million euros to control migratory routes toward Spain and control the coastal waters of Cape Verde, Morocco, Mauritania, and Senegal.<sup>3</sup>

Both the E.U. analysis and Spain’s actions reflect the understanding that increased climate migration amplifies existing security and humanitarian threats, which increases pressure on weak states along the North African coastline, and that these developments will affect Mediterranean security in a much broader sense.

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## Bangladesh and India

Bangladesh is particularly vulnerable from both a climate and a security perspective. Using scientific modeling, the World Bank estimates that a 1.5-yard rise in sea level would flood 18 percent of Bangladesh, affecting large parts of its population of 162 million. To make matters worse, the Intergovernmental Panel on Climate Change’s climate modeling predicts that global warming could cause Bangladesh’s rice and wheat production to fall anywhere from 8 to 32 percent by 2050, given increased warming and water stress.

Experts expect that the combination of this change in food resources and sea level rise will cause major migratory movements from Bangladesh into neighboring India. For example, the National Defense University in Washington, D.C. ran an exercise in 2008 that explored a severe flood’s impact in Bangladesh. The result was hundreds of thousands of refugees taking shelter in India. Given the already tense conditions at the border, such a situation could easily result in increased religious conflict and potentially foster the spread of contagious disease.

Within the next few decades India’s role as a strategic partner to the United States, as well as its role as a regional anchor of political stability, will continue to grow. But India is not in a position to absorb many climate-induced pressures or large numbers of climate migrants. By 2050 it will have contributed 22 percent of global population growth and will have close to 1.6 billion inhabitants.

Bangladeshi migration to India's northeast region of Assam has already incited social friction and conflict. Roughly a dozen ethnic insurgencies reside in the northeastern region's seven states, motivated by causes ranging from greater autonomy within India to complete independence.<sup>4</sup>

The Pentagon's Deputy Assistant Secretary of Defense for Strategy Amanda J. Dory has stated that things in the region “get real complicated real quickly.” And because of climate change's impact on migration and conflict the Pentagon is incorporating climate change into the national security strategy planning. The 2008 National Defense Authorization Act required that the Pentagon do this assessment as part of its Quadrennial Defense Review, which is expected in February of 2010.

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## China

China will also be a country to watch. Across its vast territory China will experience the full spectrum of climate consequences that have the potential to drive migration, most likely internally. Consequences include: “water stress; increased droughts, flooding, and more severe natural disasters; increased coastal erosion and saltwater inundation; glacial melt in the Himalayas that could affect hundreds of millions; and shifting agricultural zones” that will affect food supplies.

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## Sustainable security strategies offer a new perspective on climate migration

When natural disasters occur or humanitarian crises break out, the United States usually has been and is likely to be a first responder, particularly with military assistance and operations. In 2004 an earthquake shook the Indian Ocean, sending one of the deadliest tsunamis—and natural disasters—in recent memory to the shores of Indonesia. The U.S. military's role in the response to distribute aid and provide assistance in the cleanup was monumental in dealing with the consequences.

Our traditional responses to these disasters have worked, but climate migration has multiple humanitarian, security, and legal implications and is a more complex issue than we've previously faced. Traditional methods of response may prove insufficient.

Military and national security experts describe climate change as a “threat multiplier” and Department of Defense officials use the term “instability accelerant” because it stands to affect communities already at risk and especially sensitive to even the smallest changes. An example is competition over shrinking or less reliable natural resources, which under the worst circumstances can incite violent conflict. In already volatile regions, fluid populations can radicalize more easily and take up a myriad of transnational concerns—trafficking, pandemics, terrorism, weapon smuggling, or drug trade.

Recognizing climate change's potential threat to security, the Center for American Progress and the Center for a New American Security ran an extensive Climate War Game in Washington, D.C. in the summer of 2008. International teams reacted to simulations and projections on climate change and extreme weather events for the years 2015 and 2050. The war game was based on extensive research and sophisticated modeling by the Pew Center on Global Climate Change, the Sustainability Institute, and the Oak Ridge National Laboratory team.

What we found in running the Climate War Game was that traditional frameworks for understanding global security threats are insufficient to deal with the looming specter of climate change. To approach the emerging challenges with traditional means such as aid or military force alone and independently from each other is insufficient for the complexity they pose.

Many policymakers also have little understanding of what to expect and how to prepare for small- or large-scale climate migration. For this reason, Susan Martin at Georgetown University's Institute for the Study of International Migration, calls for new frameworks to manage climate-induced migration. She notes that "to date, there are no examples of legislation or policies that address migration of persons from gradual climate changes that may destroy habitats or livelihoods in the future."<sup>5</sup>

The Center for American Progress has developed concepts such as integrated power and sustainable security to establish broad frameworks of combining political, economic, and security assets to adequately address complex challenges such as climate migration. This includes thinking about new mechanisms and interagency solutions that incorporate economic development, diplomacy, aid, and security. The goal is to muster effective responses, realizing that it is critical to set climate migration and international security agendas in the near future.

Climate change is in essence an attack on the shared interests or collective security of the world, and both climate change and climate migration assault the well-being and safety of people, or human security. It will therefore test the ability of countries to preserve natural resources and protect people. Since we are entering unknown territory we must expect the unexpected and prepare for worst-case scenarios.

In response to these challenges the Center for American Progress is bringing together our energy and national security teams to launch a project focused on the intersections between global warming, human migration, and national security. Our work will focus on better understanding the climate challenges at hand and articulating a set of progressive policy recommendations aimed at addressing these challenges. Ultimately, the proper response is likely to require new governance and management structures that can deal with the fallout at different levels and combine humanitarian and developmental policies along with public diplomacy and military assets.

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## Endnotes

- 1 IOM Migration Research Series, "Migration and Climate Change" (Geneva: International Organization for Migration, 2008), p. 18-19.
- 2 High Representative and the European Commission, "Climate Change and International Security," Paper to the European Council, March 14, 2008, p. 4.
- 3 Ninna Nyberg Sørensen, ed, Mediterranean Transit Migration (Copenhagen: Danish Institute for International Studies, 2006).
- 4 Stephan Faris, Forecast: The Surprising—and Immediate—Consequences of Climate Change (New York: Henry Holt and Company, 2009) p.186-189.
- 5 Susan Martin, "Managing environmentally induced migration," in Migration, Environment and Climate Change: Assessing the Evidence (Geneva: International Organization for Migration, 2009), p. 353-384.