

SUGGESTED READINGS

Climate Change and Security

Compiled by Wilfrid Greaves, NAADSN Network Coordinator

At a time when many of us find ourselves working from home in social isolation, NAADSN has invited various academic subject matter experts to suggest core readings on topics related to North American and Arctic Defence and Security.

The internet is filled with perspectives and opinions. These lists are intended to help direct policy makers, practitioners, and academics to credible, open-access sources, available online, free of charge, that reflect leading-edge research and thinking. The compilers of each list have been asked to select readings that are accessibly written (i.e. they are not filled with excessive jargon), offer a diversity of viewpoints, and encourage critical thinking and debate.

General

Simon Dalby. 2017. "[Climate Change and Geopolitics](#)," *Climate Science*.

A historical look at how our understanding of climate has changed over time starting in the 19th century, when imperial thinking suggested that climate "determined" the fate of peoples and places. In the 21st century, climate change has mostly reversed the causal logic in the reasoning about human-nature relationships and their geographies. The new thinking suggests that human decisions are influencing future climate changes. Humans are now shaping the environment on a grand scale, not the other way around. Apart from the outright denial that humanity is a factor in climate change, arguments about whether climate change causes conflict and how security policies should engage climate change also partly shape contemporary geopolitical agendas. But this is about more than just climate change. The larger earth-system science discussion of transformation, which can be encapsulated in the use of the term "Anthropocene" for the new geological circumstances of the biosphere, is starting to shape the geopolitics of climate change just as new political actors are beginning to have an influence on climate politics.

Simon Dalby. 2020. "[National Security in a Rapidly Changing World](#)." *Balsillie Papers Vol. 3, no. 2*.

The difficulties many states are having in dealing with both the COVID-19 pandemic and the climate emergency suggests that contemporary security institutions have not been adequately prepared to deal with the novel circumstances of the 21st century. The global fossil fueled economy, which has

been seen for many decades as the key to security and prosperity is now endangering humanity in numerous places because of rapid climate change. Traditional notions of security need a rapid overhaul based on a reconceptualization of the novel geopolitical and geophysical context encapsulated in the designation of present times as “the Anthropocene.” Securing the ability to move to a post-fossil fueled world economy while constructing a robust public health system needs to be the policy priority for these new times.

Cameron Harrington. 2016. “[Security in the Anthropocene: How can IR and Criminology Cope with Global Environmental Change.](#)” Lecture at Centre international de criminologie comparée (CICC).

In its most basic formulations, security means safety. Yet the world upon (and within) which we act can no longer absorb our pursuits of safety. Our carbon-based societies may have achieved unprecedented levels of health and development, but the unintended consequences are dire. Our dynamic and volatile world demands that we challenge our understandings of ourselves, of the environment, and of security. This lecture explores these themes and re-imagines security disciplines for the Anthropocene—the age of the human.

Will Steffen, et al. 2015. “[Planetary boundaries: Guiding human development on a changing planet.](#)” *Science* 347, no. 6223.

The planetary boundaries framework defines a safe operating space for humanity based on the intrinsic biophysical processes that regulate the stability of the Earth system. This publication revises and updates the planetary boundary framework, with a focus on the underpinning biophysical science, based on targeted input from expert research communities and non more general scientific advances over the past 5 years. Several of the boundaries now have a two-tier approach, reflecting the importance of cross-scale interactions and the regional-level heterogeneity of the processes that underpin the boundaries. Two core boundaries – climate change and biosphere integrity – have been identified, each of which has the potential on its own to drive the Earth system into a new state should they be substantially and persistently transgressed.

Caitlin E. Werrell and Francesca Femia. 2018. “[Climate change raises conflict concerns.](#)” *The UNESCO Courier*.

The current rate of climate change – higher seas, decreased ice in the Arctic, melting glaciers, extreme rainfall variability, and more frequent and intense storms – are scenarios that settled human societies have never experienced before. These dynamics will impact the foundational resources that people, nations – and the world order built on those nations – depend on for survival, security, and prosperity: particularly food and water. These impacts are already contributing to increased state fragility and security problems in key regions around the world. Climate change, by altering the world’s physical landscape, is also changing its geopolitical landscape. If governments are unable to mitigate

this, the risks of conflict and instability will increase, and become more difficult to manage. This is the case in many regions around the globe. However, the Horn of Africa is particularly vulnerable, given a combination of structural fragilities and the significant exposure to climate change risks. This raises the likelihood of conflict and instability on the peninsula.

North America

Jill Barclay, Jayde Lavoie, Carly MacArthur, and Maria Nallim. 2020. [The Impacts of Climate Change on North American Defence and Security](#). Policy Brief. North American and Arctic Defence and Security Network. September 25.

This NAADSN policy primer describes the impacts of climate change on defence and security planning and operations in North America. This includes an examination of the implications of climate change on the Canadian Armed Forces (CAF) and US Armed Forces' military preparedness. It begins by examining key institutions and policies by geographic region: first, Canada, then the USA. Given the substantial attention given to the Arctic in recent discussions of defence and security policy as they relate to climate change, the Canadian Arctic and Alaska are examined separately within this section. This primer then undertakes a comprehensive analysis of the implications of climate change on defence and security in North America. The purpose of this assessment is to help inform policymakers and other stakeholders of important considerations regarding how climate change intersects with military operations. This is relevant both in the context of how defence operations contribute to climate change, and how the effects of climate change pose obstacles to the successful execution of defence operations.

John Conger and Shiloh Fetzek. 2021. [A Climate Security Plan for Canada: How the Government of Canada Can Combat the Security Risks of Climate Change](#). Washington, DC: The Center for Climate and Security.

This Climate Security Plan for Canada aims to build on the body of existing Canadian government policies and interest aimed at addressing a range of climate-related security issues, from the community level to the international. It contains two parts, a Climate Security Risk Assessment (problem) and a Climate Security Action Plan (solution). The risk assessment aims to define the risks climate change poses to Canada's security, and the action plan details how the Government of Canada, particularly the security community, could strengthen its institutional capacity to manage these threats. The Climate Security Plan for Canada is structured to reflect the 2017 Canadian defence strategy, Strong, Secure, Engaged (SSE). Part one, the Climate Security Risk Assessment, examines the risks climate change poses to Canada being "Strong at Home," "Secure in North America," and "Engaged in the World." Part two, the Climate Security Action Plan, details how Canada can 1) anticipate climate security risks, 2) adapt to climate security risks, and 3) act decisively in response to climate security impacts.

CNA Military Advisory Board. 2014. [National security and the accelerating risks of climate change](#). Alexandria: CNA Corporation.

This report provides an update to CNA's 2007 report, *National Security and the Threat of Climate Change*. The authors, consisting of 16 retired Generals and Admirals from the U.S. Army, Navy, Air Force, and Marine Corps, re-examined climate change in the context of a more informed, but more complex and integrated world, to provide an update to their 2007 findings. This updated report was undertaken to incorporate nearly seven years of developments in scientific climate projections; observed climate changes, particularly in the Arctic; the toll of observed extreme weather events both at home and abroad; and changes in the global security environment. Although there has been progress in mitigation and other areas where climate adaptation and resilience are starting to be included in planning documents, there is growing concern over the lack of comprehensive action by both the United States and the international community to address the full spectrum of projected climate change issues. The specific questions addressed in this update are: 1. Have new threats or opportunities associated with projected climate change or its effects emerged since the last report? What will be the impacts on military? 2. The 2014 National Climate Assessment indicates that climate change, once considered an issue for a distant future, has moved firmly into the present. What additional responses should the national security community take to reduce the risks posed to the different elements of our national interests?

Wilfrid Greaves. 2021. "[Climate Change and Security in Canada](#)." *International Journal* 76 (2): 183-203.

This article examines the implications of human-caused climate change for security in Canada. The first section outlines the current state of climate change, the second discusses climate change impacts on human security in Canada, and the third outlines four other areas of Canada's national interests threatened by climate change: economic threats; Arctic threats; humanitarian crises at home and abroad; and the threat of domestic conflict. In the conclusion, it argues that climate change has clearly not been successfully "securitized" in Canada, despite the material threats it poses to human and national security, and outlines directions for future research.

Arctic

Barack Obama. 2015. "[Remarks by the President at the GLACIER Conference – Anchorage, AK](#)."

This source compiles comments on climate change by former U.S. president Barack Obama at the GLACIER (Global Leadership in the Arctic: Cooperation, Innovation, Engagement and Resilience) Conference in Anchorage, Alaska in 2015.

Wilfrid Greaves. 2019. “[Arctic Break Up: Climate Change, Geopolitics, and the Fragmenting Arctic Security Region.](#)” *Arctic Yearbook 2019: Redefining Arctic Security*, 1-17.

This article argues the intersection of human-caused climate change, particularly the warming of the Arctic Ocean, and renewed great power competition are causing the Arctic regional security complex (RSC) that emerged in the post-Cold War period to fragment into distinct sub-regions. Rather than a single region characterized by common environmental and human security challenges, security in the Arctic is increasingly shaped by geopolitical factors related to the North American, European, and Eurasian regions, respectively. The result is the end of the Arctic as a holistic security region and the emergence of distinct sub-regional security challenges across different parts of the circumpolar world. This variation in conditions of security will contribute to the erosion of the circumpolar Arctic as a single, coherent region over the course of this century, and will strain the region’s governance architecture. The result is a circumpolar region that will be less distinctly “Arctic” than in the past, as the cooperative nature of recent Arctic politics is replaced by adjacent security sub-regions characterized by great power competition and differing geopolitical and ecological considerations.

Sherri Goodman, et al. 2021. “[Climate Change and Security in the Arctic.](#)” Washington, DC: Center for Climate and Security.

How exactly climate change might impact security outcomes in the Arctic, particularly in the near-term window of the next decade, depends on a number of causal factors of varying levels of uncertainty, including: the speed and nature of regional environmental change; the ambition of global mitigation efforts to curb climate pollution; and the actions of governmental and non-governmental actors to advance their interests in the region. The effects of these changes on security will be felt across a few response variables which this study analyzes. This report sets out two future scenarios for understanding climate and security implications in the Arctic: one in which the world pursues aggressive climate change mitigation (Curbed Warming Scenario), and the other in which few attempts are made to shift global economic systems away from fossil fuels (Uncurbed Warming Scenario). By comparing these two scenarios across a range of dimensions focused on i) commercial activity and infrastructures, ii) institutional frameworks and distributional effects, and iii) military and operational issues, the aim is to provide a realistic assessment of how climate change will affect security dynamics in the Arctic and its implications for Norway.

Other Regions

Shiloh Fetzek, et al. 2020. [Climate and Security in the Indo-Asia Pacific 2020](#). Expert Group of the International Military Council on Climate and Security. Washington, DC: Center for Climate and Security.

The Indo-Asia Pacific is highly exposed to climate change impacts. Climate change is likely to alter the local physical and strategic environment profoundly, and potentially catastrophically. More frequent or intense extreme weather, sea level rise, and ocean acidification (among other climate impacts) will create a range of threats to the well-being and security of countries in the region, many of which are already threatened by disaster vulnerability and increasingly complex security tensions. As well as the immediate physical impacts, climate change will increase food and water insecurity, contribute to forced migration and displacement, and challenge disaster response and recovery capabilities. The unprecedented hazards it creates will compound a broad spectrum of conventional, unconventional, and hybrid security risks and challenges. These include increasing geostrategic competition, maritime boundary disputes, the expanding military capabilities of many countries in the region (three of which are seeking to develop nuclear triads), WMD threats from North Korea, ongoing conflicts linked to separatist movements and transnational violent extremist organizations, and piracy and serious organized crime. The interaction between climate change impacts and this complex and evolving regional security landscape is likely to give rise to new and potentially catastrophic risks, which will emerge in ways that are perhaps foreseeable, but difficult to predict.

Arabella Fraser, et. al. 2020. “[Urbanisation and Climate Security: Towards Integrated Approaches for Cities.](#)” Planetary Security Initiative.

Urban security is important to overall climate security, given exposure and vulnerability to climate impacts is ever more urbanized. Non-war related violence is a significant security concern in urban areas. Homicide rates due to non-conflict violence are particularly pronounced in Latin American and Caribbean cities, although on the rise worldwide. Beyond mortality statistics alone, a broad spectrum of civic, interpersonal, and everyday urban violence potentially overlaps with the impacts of climate change to create mutually constituted vulnerabilities at the individual, household, and community scales. These interactions have been poorly considered in both policy and research, but potentially undermine urban adaptation, security, and development efforts. Solutions are needed which tackle unmet urban development needs and address security and climate risks together, both through programmatic interventions and urban planning initiatives. This publication recommends military and diplomatic security advisors, as well as those interested in transnational crime networks, liaise not only with governments in countries of concern, but also work with representatives of cities and local governments to address these underlying issues.

Farah Hegazi, Florian Krampe, and Elizabeth Smith. 2021. [Climate-related Security Risks and Peacebuilding in Mali.](#) Stockholm: Stockholm Peace Research Institute (SIPRI).

Climate-related security risks are changing the security landscape in which multilateral peacebuilding efforts are taking place. Following a similar assessment of the United Nations Assistance Mission in Somalia in 2019, this SIPRI Policy Paper offers another glimpse into the future of peacebuilding in the context of

climate change, this time by providing an in-depth assessment of the UN Multidimensional Integrated Stabilization Mission in Mali (MINUSMA). Climate change in Mali has affected natural resource-based livelihoods and contributed to undermining human security in a context of conflict and weak governance. Furthermore, the compound character of climate change is an increasingly strong factor that reshapes social, political and economic contexts, thereby potentially amplifying local grievances and marginalization. These interactions all contribute to hindering MINUSMA's efforts to support peace and stability in Mali. MINUSMA explicitly and implicitly responds to climate-related security risks, but nevertheless faces three main limitations in addressing climate-related security risks: prioritization of the issue vis-à-vis the mandate, limited capacity within the mission, and coordination challenges between the mission and the UN Country Team. By analyzing how climate change affects MINUSMA's mandate, and the mission's responses to it, the insight offered in this paper suggests the need for increased knowledge, training, and prioritization surrounding climate security. This applies not only to MINUSMA, but also to other missions located in areas of high climate change exposure, and more generally to the broader UN system.

Sagatom Saha. 2019. "[How climate change could exacerbate conflict in the Middle East.](#)" *MENASource*. Atlantic Council.

Evidence abounds that the Middle East will be the region that climate change will hit hardest. Summer temperatures across the region are expected to increase more than twice the global average. Prolonged heat waves, desertification, and droughts will make parts of the Middle East and North Africa uninhabitable. Where Middle Easterners will still be able to live, climate change may fuel violent competition over diminishing resources. Even though some degree of warming is inevitable, governments in the region and their international partners have done little to integrate climate change to their strategies to mitigate instability and conflict. Instead, they should brace themselves for a Middle East in which warming intensifies unrest, weakens state capacity, and provokes resource conflicts.

Caitlin E. Werrell and Francesca Femia, eds. 2017. [Epicenters of Climate and Security: The New Geostrategic Landscape of the Anthropocene](#). Washington, DC: Center for Climate and Security.

In this publication from Center for Climate and Security, security experts identify 12 key climatic risks to international security that may shape the geostrategic landscape of the 21st century. In the wake of extraordinary upheaval in the international effort to address climate change, the report presents a compelling case for why tackling these climate and security "epicenters" – major categories of climate-driven risks to international security – should be a top priority for governments and institutions around the world. The report also outlines the key tools for managing systemic risks that should be included in every climate security practitioner's and policy-maker's toolbox.