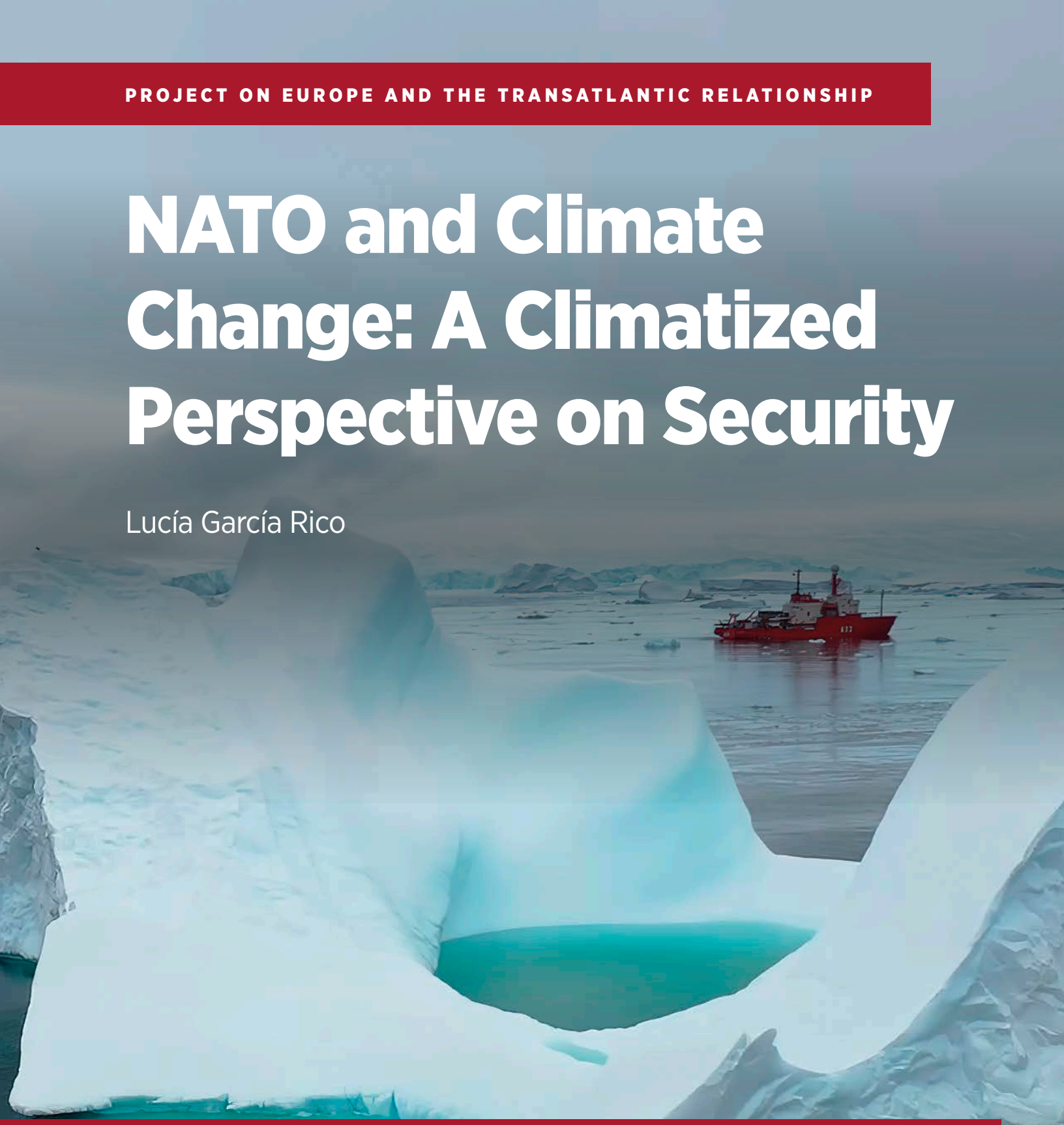
PROJECT ON EUROPE AND THE TRANSATLANTIC RELATIONSHIP

NATO and Climate Change: A Climatized Perspective on Security

Lucía García Rico



HARVARD Kennedy School
BELFER CENTER
for Science and International Affairs

REPORT
AUGUST 2022

Project on Europe and the Transatlantic Relationship
Belfer Center for Science and International Affairs
Harvard Kennedy School
79 JFK Street
Cambridge, MA 02138

https://www.belfercenter.org/project/project-europe-and-transatlantic-relationship

PROJECT ON EUROPE AND THE TRANSATLANTIC RELATIONSHIP

NATO and Climate Change: A Climatized Perspective on Security

Lucía García Rico

HARVARD Kennedy School
BELFER CENTER
for Science and International Affairs

REPORT
AUGUST 2022

About the Author

Lucía García Rico is the Rafael del Pino-Spanish Ministry of Foreign Affairs Fellow at the Belfer Center, Project on Europe and the Transatlantic Relationship.

Lucía García Rico joined the Spanish Foreign Service in 2006 and has been posted to the Embassy of Spain to Mauritania (2010–2012), the Delegation of Spain to NATO (2012–2016), and the Embassy of Spain to Turkey (2016–2019), with responsibilities in political, consular, and cultural affairs. At the Ministry of Foreign Affairs, European Union and Cooperation, she has served as Desk Officer at the UN Directorate (2007–2008), Assistant Deputy Director at the Spanish Bureau for Gibraltar (2008–2010), and Deputy Chief of Staff for the Under-Secretary (2019–2020).

Ms. García Rico graduated in Law from ESADE, Universidad Ramón Llull (Barcelona), and Political Science and Public Administration from UNED (Madrid). She also obtained a master's degree in Defence Policy and International Security from Universidad Complutense (Madrid) and completed the Joint Advanced Command and Staff Course of the Armed Forces (National Defence and Security Studies Centre of Spain).

About the Project

The Harvard Kennedy School Project on Europe and the Transatlantic Relationship aims to strengthen the University's capacities for teaching, research, and policy on the relationship between the United States and Europe. The program is designed to deepen a relationship which has—for over 70 years—served as an anchor of global order, driven the expansion of the world economy, provided peace and stability and reunited peoples once divided by war. In doing so, we hope to prepare a new generation of leaders on both sides of the Atlantic.

Acknowledgments

My fellowship at the Project on Europe and the Transatlantic Relationship Program in the Belfer Center for Science and International Affairs has been one of the most enriching experiences of my personal and professional life. I thank the Fundación Rafael del Pino and the Spanish Ministry of Foreign Affairs for making it possible and the Belfer Center and its staff for their support.

I am grateful to Nick Burns, Juliette Kayyem, and Karl Kaiser for their guidance, and to Erika Manouselis and Alison Hillegeist for their constant help and support. I am also grateful to the Belfer Center's Director Ash Carter, its Co-Director Eric Rosenbach, and its Executive Director Natalie Colbert for making me part of the numerous events held in the Belfer Center throughout this year. I want to express my gratitude to all the professors who allowed me to audit their courses and from whom I learnt so much: James Salzman, Jason Beckfield, Graham Alison, David Sanger, Derek Reveron, David Keith, and Dara Kay Cohen.

Finally, I would like to extend my thanks to all the colleagues who took the time to read the never-ending series of drafts of this paper and whose comments substantially improved the final version: Adrián Martín, Pablo Desportes, Nicolás Cimarra, Alejandro Núñez-Jiménez, and, again, Erika Manouselis. The lonely journey of research was made more companionable by the help of my Research Assistant Marco Fornara.

Table of Contents

Used with permission. Spanish Navy

Introduction

The effects of anthropogenic global warming are not only degrading human living conditions and ecosystems but also challenging the security environment. Climate change will bring more competition over scarce resources, the failure of vital infrastructure, and a new geostrategic scenario, among other disruptions. Climate change-related impacts may provoke political unrest and heighten domestic and international tensions. Extreme climate events will multiply security risks and degrade the state's capabilities to counter them.

Politicians and policymakers must launch effective action to prevent and prepare for the effects of climate change to protect their citizens and their environment. While some uncertainties may remain about climate change and security, we should remember that strategic and military contingency plans are put in place to prepare for possible undesirable scenarios—not just those that are already confirmed.

NATO aspires to take the lead in understanding and adapting to the impact of climate change on security. The new Strategic Concept declares that climate change is a defining challenge of our time, with a profound impact on Allied security. Now, the Alliance and the Allies must "walk the talk" by preparing to face the emerging climate change-driven challenges and adapting their armed forces to the new climate conditions created by global warming.

This paper will begin by answering the most pressing questions about NATO and climate change: Is climate change a security threat? Does climate security fit into NATO's mission? And is NATO the best forum to address climate change? It will then review NATO's current actions on the climate, and finally make some proposals for the Alliance to implement a climatized perspective on security to climate-proof its assets and capacities and effectively accomplish its mission and tasks.

In the 2000s, the war on terror diverted attention from environmental security concerns. During the following decade, focus shifted to the security consequences of the Arab Spring and the 2014 invasion of Ukraine.

Today, the European security scenario and the post-Cold War international order have been deeply disrupted by Russia's renewed military aggression against Ukraine. Nevertheless, the Alliance cannot afford to stall in the development of climate security practices.

The Alliance is not a climate change first responder nor should it become one. It does not need to undergo a complete transformation or neglect any of its core tasks. However, it does need to prepare for extreme events induced by climate change, as this is the only way it can accomplish its purpose of preserving peace and security in the years to come.

Executive Summary

NATO must prepare for climate change impacts in order to effectively preserve peace and security in the Euro-Atlantic region. The Alliance does not need to transform under the climate lens; it has substantive assets and capabilities, together with consultation and decision-making mechanisms, to lead the Allies as they confront climate disruptions, a security environment of climate-related instability, and new geostrategic competition.

NATO has already adopted a climatized perspective on security. The Alliance has embraced climate change as a defining challenge with a profound impact on Allied security and as a crisis and threat multiplier, while NATO has adopted the first climate security practices. Yet, NATO must make its efforts more comprehensive and effective to align them with its strong climate discourse. Climate considerations must be mainstreamed in NATO's core tasks of deterrence and defense, crisis prevention and management, and cooperative security.

On collective defense, the Alliance must climate-proof itself by including climate considerations in situational awareness and in operational and defense planning. Moreover, the Alliance must push for an unprecedented mitigation effort and help the Allies to follow the same path.

Extreme weather events and climate change-related natural disasters will increase the need for peace support and relief operations. The Alliance must confront higher demand for both human and material resources by helping Allies, partners, and other countries to build climate resilience. NATO must also include climate considerations in crisis management planning and execution.

Climate change will be particularly destabilizing for more vulnerable and exposed NATO partners. Cooperative security is the best tool for NATO to help these countries prevent and prepare for climate change-related impacts on their security through political consultation and practical cooperation. NATO must also engage with other international organizations to coordinate efforts rather than duplicate them.

NATO's efforts should increase climate awareness and literacy among relevant actors via enduring commitment, high visibility, and strong leadership. Climate change should be regarded as an opportunity for NATO to engage with new audiences, especially younger populations, and to work more closely with partners such as the EU, countries from the Southern flank, and non-partner countries like China and the Sahel and Sub-Saharan countries.

NATO, Climate Change, and Security

NATO stated for the first time in NATO's 2021 Brussels Summit Communiqué and reiterated in the 2022 Strategic Concept that it will "become the leading international organization when it comes to understanding and adapting to the impact of climate change on security."[1] But why has NATO taken on this aspiration? Does it align with its core mission? And is NATO the most appropriate organization to pursue it?

Climate Change as a Security Threat

Climate change is becoming a stronger and more destructive force that threatens every aspect of daily life. In its Sixth Assessment Report (AR6), the Intergovernmental Panel on Climate Change (IPCC)[2] reiterates that human influence has caused the atmosphere, ocean, and land to warm up, already causing changes across the global climate system worldwide that are unprecedented in scale.[3]

According to the IPCC AR6, human-induced climate change is already affecting every region across the globe with extreme weather events like increased heat, hot extremes, marine heatwaves, and rainfall variability. These events provoke episodes of heavy precipitation, droughts, and tropical cyclones, as well as reductions in Arctic Sea ice, snow cover, and permafrost. All these phenomena will become more frequent and intense, and they will cause losses and damage to both nature and humankind. The level of risk will depend on national vulnerability, exposure, level of socioeconomic development, and adaptation.[4] Near-term actions that limit

1 NATO, "Brussels Summit Communiqué Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels."

2 The IPCC was created to provide policymakers with regular scientific assessments on climate change, its implications, and its potential future risks, as well as to put forward adaptation and mitigation options. IPCC, "IPCC—Intergovernmental Panel on Climate Change."

3 IPCC, "Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change."

4 Busby, *States and Nature*.

global warming to close to 1.5°C would substantially reduce projected climate change-related losses and damages to human systems and ecosystems but still cannot eliminate them all.

Climate hazards multiply climate-driven security risks as they threaten critical infrastructure, disrupt energy, financial and agricultural centers, and intensify the scarcity of resources.[5] Extreme events, depending on the national exposure and social vulnerability, increase state fragility and stir political instability conducive to mass migrations, illicit activities, and conflict.[6] They also affect military operational readiness, degrade military assets and installations, and introduce new logistic challenges.[7] The increased scarcity of resources will deepen existing conflicts and tensions, and a new geopolitical scenario of an intense power struggle in the Arctic is arising.[8]

Recent studies have corroborated the links between climate change and security.[9] During the 2000s, academic research on climate security was mainly qualitative, and many scholars regretted the lack of data to support the growing academic and political consensus on the nexus between climate change and security.[10] Current research has drawn more on quantitative data on climate phenomena and conflict and security,[11] examining the indirect causal pathways between climatic conditions and conflict-related outcomes and the scope conditions that shape this relation.[12]

5 Busby, "Beyond Internal Conflict."

6 IPCC, "AR6 Climate Change 2022."

7 NATO, "NATO Climate Change and Security Action Plan."

8 IPCC, "AR6 Climate Change 2022."

9 Gleditsch, "Whither the Weather?"; Scheffran et al., "Climate Change and Violent Conflict"; Buhaug et al., "One Effect to Rule Them All?"; Hsiang and Burke, "Climate, Conflict, and Social Stability"; Seter, "Connecting Climate Variability and Conflict"; Sharifi, Simangan, and Kaneko, "Three Decades of Research on Climate Change and Peace."

10 Scheffran et al., "Climate Change and Violent Conflict."

11 Busby, "The Field of Climate and Security: A Scan on the Literature."

12 von Uexkull and Buhaug, "Security Implications of Climate Change." Gleditsch, "Whither the Weather?"; Scheffran et al., "Climate Change and Violent Conflict"; Buhaug et al., "One Effect to Rule Them All?"; Hsiang and Burke, "Climate, Conflict, and Social Stability"; Seter, "Connecting Climate Variability and Conflict"; Sharifi, Simangan, and Kaneko, "Three Decades of Research on Climate Change and Peace."

In line with the academic results, many countries[13] and international organizations[14] have acknowledged this connection, and political debates around the issue have proliferated on a national scale and in international fora such as the United Nations Security Council (UNSC) and NATO. The recently published IPCC report "Climate Change 2022: Impacts, Adaptation, and Vulnerability" also acknowledges the consequences of climate change on security in the mid to long term: "at higher global warming levels, impacts of weather and climate extremes, particularly drought, by increasing vulnerability will increasingly affect violent intra-state conflict."[15]

Climate change-related hazards can be anticipated with predictive tools and advanced climate modeling capabilities; therefore, all security actors must attempt to prevent future catastrophic scenarios and prepare for the effects of climate change on security.[16] We urgently need a public and private response to the climate crisis that is coordinated at both national and international levels. Urgent mitigation and adaptation measures, including climate security practices, must be adopted.

After two decades of debate about the links between climate change and security, it is time to start operationalizing this debate to prevent and prepare for climate change impacts on security. [17] Addressing climate change and security will make the Alliance resilient to the climate change-related impacts on its military assets and installations and prepare the Organization to deal with an unstable security environment and new geostrategic competition due to climate change effects.

---

13 Johnson, "PM Boris Johnson's Address to the UN Security Council on Climate and Security"; Ministère des Armées, "Défense et Climat. La France s'engage."; National Intelligence Council, "National Intellingence Estimate. Climate Change and International Responses Increasing Challenges to US National Security Trough 2040."; Obama, "Presidential Memorandum: Climate Change and National Security"; United States Department of Defense, "DOD Climate Risk Analysis."

14 ENVSEC, "Climate Change and Security"; European External Action Service, "Towards a Climate-Proof Security and Defence Policy: A Roadmap for EU Action"; NATO, "NATO Climate Change and Security Action Plan"; UNEP, "Climate Change and Security Risks."

15 IPCC, "Summary for Policymakers. In: Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change."

16 The Center for Climate and Security, "The Climate and Security Advisory Group (CSAG)."

17 Mobjörk, "Exploring the Links between Climate Change and Violent Conflict"; Day, *Conflict Prevention in the Era of Climate Change Adapting the UN to Climate-Security Risks*; Mach et al., "Climate as a Risk Factor for Armed Conflict"; Dröge, "Addressing the Risks of Climate Change"; Sharifi, Simangan, and Kaneko, "Three Decades of Research on Climate Change and Peace."

NATO's Core Mission

Critics may point out that climate change, even when considered as a security challenge, lies outside NATO's mission. NATO was created as a state-centered Alliance with the traditional concept of national security at its core. The orthodox concept of security focuses on state security, military threats, the use of military force, and how states prepare for, prevent, or engage in war.[18] At the moment, Europe is living through a major war and a breakdown of the post-Cold War international order. From a traditional and state-centric perspective, those should be the priorities for a defensive Alliance such as NATO.

Nonetheless, climate change impacts are also a threat to national security. Environmental degradation and natural disasters impact states' national interests such as their economies, the integrity of their borders, and the stability of their institutions,[19] and can even temporarily compromise the state monopoly on the use of force.[20] Climate change-related disasters may also degrade military and civil assets and capabilities and reduce the state's capacity to confront conventional threats. Thus, NATO must include climate change in its agenda to tackle national civil and military resilience, reinforce situational awareness, and work on adapting military capabilities to new climate conditions and climate hazards.[21] In sum, NATO must address the consequences of climate change for security in order to safeguard peace and security in the Euro-Atlantic area—NATO's core mission.[22]

Moreover, the North Atlantic Treaty contains three articles that prepare the ground for climate action. Article 2 says that "The Parties will contribute toward the further development of peaceful and friendly international relations by […] promoting conditions of stability and well-being […]." Article 3 addresses resilience when it says that "the Parties, separately and jointly, by means of continuous and effective self-help and mutual aid, will maintain

18 Walt, "The Renaissance of Security Studies."

19 Adger, "Climate Change, Human Well-Being and Insecurity"; Levy, "Is the Environment a National Security Issue?"; Dalby, *Security and Environmental Change*; Mobjörk, "Exploring the Links between Climate Change and Violent Conflict"; O'Sullivan, "Environmental Security Is Homeland Security."

20 Busby, *States and Nature*.

21 McDonald, "Discourses of Climate Security."

22 NATO, "The North Atlantic Treaty."

and develop their individual and collective capacity to resist armed attack." Article 4 covers political consultation by stating "The Parties will consult together whenever, in the opinion of any of them, the territorial integrity, political independence or security of any of the Parties is threatened."[23]

In addition to the state-centered perspective, security is not a fixed concept, but an evolving and context-dependent one that has broadened and deepened in recent decades.[24] Climate security may fit better in the new approach to security that emerged in response to the new security challenges of a radically different post-Cold War geostrategic scenario. Critical security studies aimed to capture the complexity of contemporary security dynamics and the political and ethical issues involved in studying and practicing security.[25] This revolution broadened the concept of security by encompassing new challenges such as transnational migration, global health, food, energy, human rights, and climate change, and also deepened it by including new security actors and new referent objects of security (i.e., what should be protected and from what threats).

At that time, the Alliance needed to evolve to be able to adapt to new geostrategic scenarios and face new challenges such as terrorism, cyber and hybrid attacks, or political instability in NATO's neighborhood. Following the theoretical transformation of security, NATO broadened and deepened its concept of security to include emerging challenges and new security actors. It also assumed two new tasks—crisis management and cooperative security—to prepare the Allies for a complex, unpredictable, and disruptive security environment.

NATO has fallen short of adopting the concept of human security[26] beyond the humanitarian perspective.[27] Yet, its broadening and deepening of the

23 NATO.

24 Hardt, "The United Nations Security Council at the Forefront of (Climate) Change?"

25 Krause and Williams, "Security and 'Security Studies.'"

26 Human security focuses on the safety, well-being, and dignity of people and communities as the security object of reference (Tadjbakhsh and Chenoy, *Human Security*.) It goes beyond state security and territorial integrity to center attention on individual humans in all their dimensions (economic, food, health, environmental, personal, community, and political security) and to focus on the material needs linking developmental imperatives and security (Page and Redclift, *Human Security and the Environment*.).

27 NATO, "Brussels Summit Communiqué Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels," para. 60.

concept of security meant the adoption of a new vision that included environmental issues and NATO's engagement in disaster relief,[28] environmental protection,[29] and energy security.[30] This new security construct enabled the Allies to declare climate change a "crisis and threat multiplier" in the new Strategic Concept.[31]

The coexistence of the old and new conceptions of security in NATO entails that climate change forms part of its tasks from different perspectives. From a restrictive state-centered perspective, the Alliance must address climate change impacts because they affect the way forces operate and the infrastructure, assets, and bases that they use, degrading the Alliance's capabilities and resilience and leaving NATO Allies more vulnerable to all kinds of threats, including conventional military attacks. The Alliance need to climate-proof itself in order to defend and deter. [32]

From a broader security perspective, the Alliance must address climate change because, as the 2022 Strategic Concept puts it, "climate change is a defining challenge of our time, with a profound impact on Allied security. It is a crisis and threat multiplier. It can exacerbate conflict, fragility, and geopolitical competition […] disrupting our societies, undermining our security, and threatening the lives and livelihoods of our citizens."[33] Thus, climate change will not only impact NATO's assets and capabilities but will also transform the geopolitical order and multiply conventional threats and emerging security challenges.

28 Vid. Crisis management section.

29 NATO started to develop its own guidelines and standards for NATO-led forces to respect the environment during military operations in the 70s. Today, NATO standards are covered by NATO's policy document "NATO Military Principles and Policies for Environmental Protection" and the Alliance contributes to national armed forces training in compliance with NATO environmental policy by designating staff officers, providing courses, and including environmental protection in NATO exercises.

30 Securing energy supply is important both for the Allies and Alliance operations. The Alliance members work together by consulting on energy security, sharing information, and cooperating to protect critical energy infrastructures. It is also vital to secure energy sources during NATO-led operations. The SPS Programme, together with the Smart Energy initiative and the Green Defence Framework, support projects to increase critical energy infrastructure protection, energy efficiency, and the diversification of energy sources.

31 NATO, "NATO 2022 Strategic Concept."

32 NATO, para. 19.

33 NATO, para. 19.

Is NATO the Best Fit?

Yet, what makes NATO a better fit to address climate security compared to other international organizations? Considering that climate change is a transnational challenge with multifaceted dimensions, might a universal or general-purpose organization, such as the United Nations, be a better option?

From the geographical perspective, drawing from Regional Security Complex (RSC) Theory, a regional organization can be more effective at tackling a specific security concern because the countries that constitute a security region all tend to securitize the same issues.[34] RSC does not consider the Euro-Atlantic area a security region—but nevertheless, NATO will soon comprise 32 countries in the transatlantic area that share common values and principles and have pledged their collective defense.

NATO members may not all share the same precise positions or levels of ambition on climate change, but their community of values and principles, and their cooperation and consultation dynamics, enable them to find common ground and make progress where other leading organizations have come to a standstill.

The UN Security Council (UNSC) has been the leading security institution addressing climate change and security for two decades, yet the debate stalled in December 2021 when Russia rejected a draft resolution co-sponsored by 113 countries on climate change and security.[35] The veto related to opposition to "establishing a new track of UNSC activities that asserts a generic automatic link between climate change and the international security, thus turning a scientific and socio-economic problem into a political issue."[36] According to the explanations given by Russia's Permanent Representative to the UN, consideration of climate change as a

34 Buzan, *Regions and Powers*.

35 United Nations, "Security Council Fails to Adopt Resolution Integrating Climate-Related Security Risk into Conflict-Prevention Strategies | Meetings Coverage and Press Releases."

36 Permanent Representative of Russia to the United Nations, "Explanation of Vote by Permanent Representative Vassily Nebenzia before the Vote on UNSC Draft Resolution on Climate and Security."

threat to international security would divert attention from the root causes of conflict as well as resources from development assistance.

This position of the Russian Federation would also affect the progress achieved in other international organizations, such as the Organization for Security and Cooperation in Europe (OSCE)—but there was still room for negotiations. Yet, the collapse of the post-Cold War international order and Russia's military aggression in Ukraine obstructs advances wherever Russia plays a decisive role. The Russian Federation is no longer a reliable partner or interlocutor in the international arena, including for climate-related debates, and any prospects for dialogue and cooperation are very dim.

Furthermore, NATO is not only "the single most important contributor to security, stability, and peace in Europe and North America," but also a worldwide referent for defense and security policy.[37] To project stability beyond its borders, it has built the biggest network of security partnerships across the globe. Consequently, the Alliance's regional commitment to work on climate change and security also has global implications—partly as an exemplar, but also as a hub for political consultation and practical cooperation.

NATO's climate action must be conducted in coordination with environmental organizations, such as the United Nations Framework Convention on Climate Change (UNFCC) or the United Nations Environmental Program (UNEP), or development and humanitarian-focused organizations such as the United Nations Development Program (UNDP), the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), the United Nations Office for Disaster Risk Reduction (UNDRR), or the United Nations High Commissioner for Refugees (UNHCR) because NATO is not an all-encompassing first responder to the climate crisis.[38]

The Alliance should also cooperate and coordinate with other international security organizations, such as the UNSC, NATO, the OSCE, or the EU. Resources are scarce, and thus coordination, complementarity, and non-duplication are key to an efficient and effective approach to climate security by the Alliance.

37 Lute and Burns, "NATO at 70."

38 McDonald, "Discourses of Climate Security."

NATO's Climatized Perspective on Security

Theoretical Framework

The environmentalist mass movement initiated in the 1960s and the 1970s introduced environmental concerns to the national and international political agenda. In the 1990s, the evolution of the concept of security allowed the environment to be framed as a security problem, giving birth to the environmental security debate. Homer-Dixon and his collaborators in the Toronto Group led the move to link environment and security, arguing that resource scarcity could lead to national and international conflicts.[39] De Soysa argued that "the resource curse" was the cause of potential political, social, and economic instability.[40] Political ecologists such as Peluso and Watts pointed to the control of resources as the problem.[41] The Green Theory of International Relations[42] adopted a wider approach and posited environmental security as the referent object of security, or included it within the novel concept of human security.[43]

At the same time, the revolution of critical security studies provided the theory of securitization, which quickly became a referent to frame environmental issues as a threat to national security.[44] This constructivist theory argues that any issue can become a security issue if a legitimate authority (a *securitizing actor*) designates it as an existential threat to a security object of reference (through a *speech act*), and the audience collectively agrees on the nature of the threat and supports taking extraordinary measures.[45] Thus, a legitimate authority, a national government, or an international organization should designate climate change as an existential threat to national security,

39 Homer-Dixon, *Environment, Scarcity, and Violence*; Homer-Dixon, *Environmental Scarcity and Global Security*; Homer-Dixon, "On the Threshold."

40 De Soysa, "The Resource Curse: Are Civil Wars Driven by Rapacity or Paucity?"

41 Peluso and Watts, *Violent Environments*.

42 Barnett, *The Meaning of Environmental Security*; Dalby, *Security and Environmental Change*; Eckersley, *The Green State*; Patterson, "Green Politics."

43 Dalby, *Security and Environmental Change*.

44 Buzan, Wæver, and Wilde, *Security*.

45 Buzan, Wæver, and Wilde; Buzan and Wæver, "Macrosecuritisation and Security Constellations"; Eroukhmanoff, "Securitisation Theory: An Introduction."

and the audience, the population, or the member states should accept this speech act and the extraordinary measures adopted as a result.[46]

However, the securitization theory has been widely contested.[47] Securitization escalates any issue from the sphere of normal politics to a matter of exceptional and urgent policy. In its most extreme form, it could legitimize the possibility of undemocratic procedures, in which drastic mitigation measures are adopted and traditional practices of the security field may be applied.[48] Therefore, the potential benefits of securitization (gaining public attention, mobilizing political will, lifting restrictions, and accelerating processes) may be tarnished by its potentially negative implications (disregarding debate, negotiation, compromise, and supervision in favor of fear and emergency).[49] Moreover, the introduction of the logic of war[50] diverts attention from socioeconomic issues to those of defense and security.[51]

Yet, securitization may still be a useful theoretical framework to study NATO's approach to climate change. Following this theory, the Alliance should perform the speech act by designating climate change as an "existential threat" to its security, and it should adopt "extraordinary" measures for climate action. It can be argued that NATO has started the securitization process already, by performing speech acts and adopting measures that will be reviewed later. Still, it has fallen short of considering climate change to be an existential threat, and the measures adopted are not extraordinary.

---

46 According the theory of Collective Securitization by Lucarelli and Sperling, a group of states in concert, or an international organization on their behalf, may undertake securitization. Sperling and Webber, "The European Union."

47 Busby, *Climate Change and National Security*; Busby, "Beyond Internal Conflict"; Busby, "The Field of Climate and Security: A Scan on the Literature"; Trombetta, "Environmental Security and Climate Change"; Floyd, *Security and the Environment*; Floyd, "Extraordinary or Ordinary Emergency Measures"; Corry, "Securitisation and 'Riskification'"; Floyd and Matthew, *Environmental Security*; Mason, "Climate Change, Securitisation and the Israeli-Palestinian Conflict"; McDonald, "Discourses of Climate Security"; Boas, *Climate Migration and Security*; Casado Claro, "El cambio climático"; Day, *Conflict Prevention in the Era of Climate Change Adapting the UN to Climate-Security Risks*; Dewi, "Failure of Securitizing the Climate Change Issue at the United Nations Security Council (2007–2019)."

48 Oels, "From 'Securitization' of Climate Change to 'Climatization' of the Security Field."

49 Aradau, "Security and the Democratic Scene"; Krause and Williams, "Security and 'Security Studies'"; Trombetta, "Environmental Security and Climate Change."

50 Trombetta, "Environmental Security and Climate Change."

51 Slettebak, "Don't Blame the Weather! Climate-Related Natural Disasters and Civil Conflict."

Moreover, NATO's securitization of climate change may be undesirable, since it would transpose climate action from the environmental and development sphere to the defense and security domain. As noted above, such a move could entail the diversion of attention from socioeconomic problems to defense and security issues.[52] The increase in resources devoted to climate security practices may reduce the national resources allocated to other environmental and development projects. The adoption of extraordinary, emergency measures may uproot climate change from regular political debate.[53]

Even though the Alliance is an organization driven by consensus and built on dialogue and consultations, its debates are never public and many of its documents and decisions are not disclosed. Thus, securitization may exclude climate change from the arena of public debate. At the extreme, the securitization of climate change may even end up legitimizing the use of force—although such a scenario is admittedly unlikely.

These limitations, together with the multidimensional nature of climate change, prompted scholars to look for alternative theoretical frames, such as climatization.[54] Climatization is defined as the "process through which an issue, actor or institution is framed as related to anthropogenic climate change and relevant to climate politics"[55]—a process "through which other domains of world politics are framed through a climate lens and transformed as a result of such a translation."[56]

Climatization relies on the global and multidimensional nature of climate change, suggesting a comprehensive approach—not only in specific venues, but in every possible political space. Dedicated organizations like the UNFCC or specific conferences like the Conferences of the Parties (COP) allow the global convergence of experts, activists, and practitioners and bring dedicated attention and efforts to climate change. However, many environmental activists and policymakers consider them inefficient

52 Slettebak.

53 Trombetta, "Environmental Security and Climate Change."

54 Maertens, "Climatizing the UN Security Council."

55 Aykut and Maertens, "The Climatization of Global Politics."

56 Maertens, "Climatizing the UN Security Council."

because of their lack of binding results and look for new "alternative globalities" to pursue a global answer.[57] Thus, all policymaking and national and international institutions should be transformed under the climate lens and put climate change at the top of their agendas—and security actors, under this theory, should be no exception.

Choosing climatization over securitization shifts the balance from security concerns to climate ones. It entails opting for a climate logic over a security logic, for science over politics, for a planetary over a national perspective, for a long-term view over a short term one, for regular politics over extraordinary measures, and for solutions over problems.[58]

Applying Maertens' conclusions about the climatization of the UNSC to NATO, the climatization of the Alliance would be a strategic, instrumental, and symbolic move.[59] It would draw attention and resources to climate change; it would make NATO accept its responsibility and agency in preventing and preparing for climate change-related impacts; and it would open NATO's agenda to new discussions, experts, and climate action. Additionally, it would include the Alliance, the leading security organization, in the global transformation of international politics stirred by climate change awareness.

However, climatization requires the Alliance to focus on climate change and security over other traditional and emerging threats—not to mention the complete transformation of the Organization through the climate lens. Thus far, the Alliance has not placed climate change and security at the top of its agenda; nor has it been transformed under the lens of climate change. Climate change concerns are gaining momentum, and climate change considerations are set to be integrated across all tasks—but NATO's purpose remains to ensure collective defense, as the Strategic Concept declares.[60]

Due to the limitations of both theories, this paper presents a new theoretical proposal: the Climatized Perspective on Security. This new framework

57 de Moor, "Alternative Globalities?"

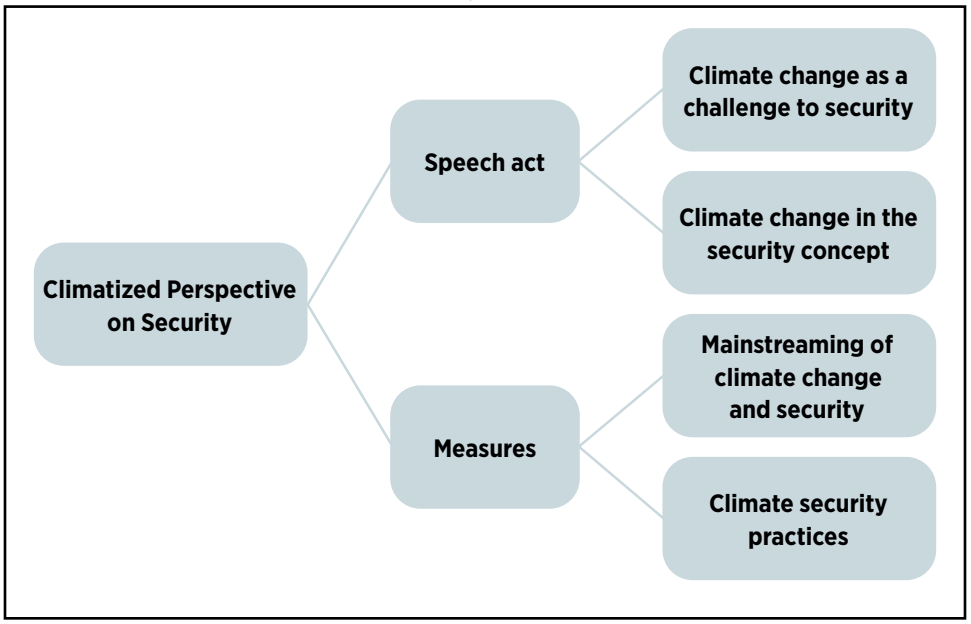
58 Aykut and Maertens, "The Climatization of Global Politics."

59 Maertens, "Climatizing the UN Security Council."

60 NATO, "NATO 2022 Strategic Concept."

fills a theoretical and empirical gap to address climate change and security. On the theoretical side, the Climatized Perspective is rooted in the critical security studies framework, drawing from the securitization and climatization approaches—but it goes beyond these theories as it avoids the limitations recounted above.

Moreover, this new perspective helps to fill an empirical gap. It has been outlined as a tool to review institutional actions and determine whether an institution has adopted a climatized perspective on security. This new approach is based on the notion that security actors must address the impact of climate change on security to protect against and prevent catastrophic security scenarios from the state and human-security perspective. Therefore, security actors must consider climate change impacts as a challenge to security, they must include them in their concept of security, and they must mainstream them in all their activities, developing comprehensive and coordinated climate security practices.



Thus, the Climatized Perspective on Security combines the speech act from the theory of securitization and the mainstreaming of climate change concerns from climatization theory, but it overcomes the limitations of both by considering the state-centered nature of international security organizations and their traditional focus on conventional threats.

In this new perspective, climate change must be designated as a security challenge, but it need not be deemed an existential threat to national security. Thus, the Climatized Perspective on Security is not imprinted with the extraordinary and emergency nature that threatens to extract climate action from the regular political process and the social sphere. Moreover, while the speech act must be followed by the adoption of measures, they need not be extraordinary ones, and there is no need to place climate change under the military logic.

Besides, as in climatization theory, the institution must include climate change and security considerations in its security agenda. Its security concept must include climate security and it must mainstream climate considerations in every department and activity, developing climate security practices to prevent and prepare for the consequences of global warming for security.[61] Yet, in the Climatized Perspective on Security, the institution should not be completely transformed under the climate lens; it must continue to address conventional threats, climate-proofing its capacities so it can continue to defend its members effectively.

Therefore, the Climatized Perspective on Security reconciles the importance of urgently addressing climate change as a security challenge with the reality of its coexistence with traditional security threats. Nevertheless, the implementation of a climatized perspective on security, whether by an organization or a nation, depends on two prerequisites: political will to perform the speech act and adopt measures, and adequate capacities to mainstream climate change and develop climate security practices.

NATO's Speech Act

To perform the speech act, using the securitization model, the North Atlantic Council, as the highest political authority in NATO, must define climate change as a threat to the "reference object"—the Allies' national

61 Climate security is defined as "a state whereby individuals and localities have the necessary options to respond to threats to their human, environmental and social well-being imposed by climate change, and have the capacity and freedom to exercise these options." Adger, "Climate Change, Human Well-Being and Insecurity."

security—and the "audience," the Allies, must accept this designation.[62] Thus, climate security would be incorporated into the Alliance's security construct.

The speech acts of the Alliance are recorded in the documents adopted by the North Atlantic Council, the most relevant being the Strategic Concepts and the declarations or communiqués issued after NATO Summits.[63] These documents contain the agreements adopted by the Allies during their high-level meetings and set the political guidance for the Alliance.

The first NATO Summit to address climate change was the Strasbourg/Kehl Summit (2009). The Summit Declaration stated: "We welcome the initiative of Iceland in hosting a NATO seminar and raising the interest of Allies in safety- and security-related developments in the High North, including climate change."[64] The Declaration on Alliance Security adopted at the same Summit acknowledged that: "Other challenges such as energy security [and] climate change […] may also have a negative impact on Allied and international security."[65]

In the following Summit, Lisbon 2010, a new Strategic Concept was to be adopted. Before its adoption, a group of experts delivered a report in which they identified the consequences of environmental degradation, including climate change, as one of the factors magnifying uncertainty and as an unconventional threat.[66] The Lisbon Strategic Concept of 2010 fell short of including this wording but did consider climate change as a threat multiplier. It also stated that: "Key environmental and resource constraints, including health risks, climate change, water scarcity and increasing energy needs will further shape the future security environment in areas of

62 In the case of international organizations, the nations will be the securitizing actor, the audience, and the referent object simultaneously. As explained by Lucarelli when addressing collective securitization, the international organization will be the securitizing actor or legitimate authority and it will adopt the speech act and the extraordinary measures in agreement with its member states. Lucarelli, "The EU as a Securitising Agent?"

63 The Strategic Concept is a key document for the Alliance, occupying a place second only to the Washington Treaty. It reaffirms NATO's values and purpose and provides a collective assessment of the security environment. It also drives NATO's strategic adaptation and guides its future political and military development. NATO, "NATO 2022 Strategic Concept."

64 NATO, "Strasbourg/Kehl Summit Declaration—Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Strasbourg/Kehl," para. 60.

65 NATO, "Declaration on Alliance Security, Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Strasbourg/Kehl."

66 NATO, "'NATO 2020."

concern to NATO and have the potential to significantly affect NATO planning and operations."[67]

The wording of the 2010 Strategic Concept was reused in the Lisbon Summit Declaration,[68] the Chicago Summit Declaration,[69] and the Wales Summit Declaration.[70] However, it was not replicated in the Warsaw Summit Communiqué,[71] the Brussels Summit Declaration,[72] or the London Declaration[73]—possibly due to the loss of consensus among Allies on the issue.

During preparations for the 2022 Strategic Concept, the Secretary General appointed a new group of experts, which presented its reflections in the document "NATO 2030: United for a New Era."[74] This report, published in 2020, described climate change as a "risk multiplier" and noted that it "holds serious implications for the security and economic interests of all thirty members of the Alliance." It stated that "NATO has an important role to play in those areas where climate change has a demonstrable impact on Allied security and shapes the security conditions under which NATO and its adversaries operate."

The NATO Brussels Summit in June 2021 produced two documents incorporating some of the expert group's recommendations: the Summit Communiqué and the NATO Climate Change and Security Action Plan (CCSAP). The Communiqué stated that climate change is a threat multiplier that impacts Alliance security.[75] The CCSAP designated climate

67 NATO, "Strategic Concept 2010," para. 15.

68 NATO, "Lisbon Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Lisbon."

69 NATO, "Chicago Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Chicago on 20 May 2012."

70 NATO, "Wales Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Wales, 5 September 2014."

71 NATO, "Warsaw Summit Communiqué - Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Warsaw, 8–9 July 2016."

72 NATO, "Brussels Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels, 11–12 July 2018."

73 NATO, "London Declaration."

74 NATO, "NATO 2030: United for a New Era Analysis and Recommendations of the Reflection Group Appointed by the NATO Secretary General."

75 NATO, "Brussels Summit Communiqué Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels."

change as a threat to NATO and its neighborhood and acknowledged NATO's role to respond comprehensively to climate change and consider the impact of climate change on security to successfully fulfill its three core tasks of collective defense, crisis management, and cooperative security.

Pursuing this line, the 2022 Strategic Concept mentions climate change considerations at several points within the document. First, in the purpose and principles section, regarding resilience, the document states that the Alliance will "integrate climate change […] across all our tasks."[76] Later, the Strategic Environment section includes climate change impacts as aggravators of the security, demographic, economic, and political challenges of NATO's southern neighborhood, particularly the Middle East, North Africa, and Sahel regions.[77] Finally, the last paragraph of this section is dedicated to climate change, describing it as "a defining challenge of our time, with a profound impact on Allied security. It is a crisis and threat multiplier."[78] The same wording is included in the Madrid Summit Declaration issued by NATO Heads of State and Government.[79] Thus, with these recent documents, NATO has undoubtedly defined climate change as a security challenge for the Alliance and incorporated it into its security construct.

NATO's Climate Security Practices

NATO, as a political and military alliance, is an exceptional forum to implement a 3D perspective (diplomacy, defense, and development of capabilities) to address climate change and security. NATO has always guaranteed the freedom and security of the Allies through political and military means, and its cooperative security task includes political consultation and practical cooperation with partner countries.

NATO's CCSAP focuses on four areas: Allied awareness, adaptation, mitigation, and outreach. On Allied awareness, the plan includes the

76 NATO, "NATO 2022 Strategic Concept," para. 5.

77 NATO, para. 11.

78 NATO, para. 19.

79 NATO, "Madrid Summit Declaration Issued by NATO Heads of State and Government Participating in the Meeting of the North Atlantic Council in Madrid 29 June 2022," para. 12.

preparation of an annual Climate Change and Security Impact Assessment, and the integration of climate change considerations into security risk and resilience assessments and civil advice on the security situation in regions of key interest to the Alliance. In addition, NATO will leverage its science and technology programs and communities to support research on the impact of climate change on security, including gender perspectives in the context of NATO's Women, Peace and Security policy.

On adaptation, NATO will incorporate climate change considerations into its work on resilience, civil preparedness, defense planning, capability delivery, assets and installations, standards, innovation, training, exercises, and disaster response. NATO will also address the need to adapt its capabilities to the changing climate more prominently in its procurement practices and its partnership with industry. NATO will also assess how climate change might impact its deterrence and defense posture, including readiness, enablement, reinforcement, and military mobility.

On mitigation, the measures involve mapping greenhouse gas (GHG) emissions from military activities and installations. Carbon reduction technology to support the Allies' emission assessment programs could help formulate voluntary goals to reduce GHG emissions from the military. Furthermore, data on energy demand and consumption in the military could inform Allies' investment decisions and help define the role of emerging disruptive technologies and innovative energy-efficient and sustainable technologies, as well as informing operational planning. In developing the methodology, NATO will draw on the best practice of Allies, and can leverage expertise from partner nations and other international organizations, including the EU. NATO will also study the feasibility of scaling up innovative low-carbon technologies through its procurement practices.

The outreach component comprises exchanges with partner countries, as well as with international and regional organizations that are active on climate change and security issues, including the EU, the UN, and others. NATO will also increase dialogue with civil society, academia, and industry on climate change and security issues, to support its work and contribute to the global response to climate change.

The first Climate Change and Security Progress Report was released at the Madrid Summit in June 2022.[80] It tracks the progress made, reassesses the level of ambition, and informs the way ahead. The report sets out the impact of climate change on NATO's strategic environment, NATO's assets and installations, NATO's missions and multidomain operations, and NATO's resilience and civil preparedness.

Moreover, in the Madrid Summit Declaration, the Allies announced, "a goal to significantly cut greenhouse gas emissions by NATO political and military structures and facilities while maintaining operational, military and cost effectiveness."[81] The Secretary General set this goal at a minimum reduction of 45% by 2030, falling to net-zero by 2050.[82] The Secretary General also announced that "the first methodology for measuring NATO's greenhouse gas emissions, civilian and military" is to be "made available to all Allies to help them reduce their own military emissions."[83]

NATO has successfully adopted a climatized perspective on security. From a practical perspective, the Alliance has incorporated climate change into its security agenda and incorporated it as a challenge to security in its security construct. Climate-security practices will be developed on awareness, adaptation, mitigation, and outreach to climate-proof the three core tasks.

From a theoretical perspective, NATO has partially securitized climate change and has been partially climatized. Yet, the controversial consequences of securitization and climatization have been circumvented, as climate change has not been defined as an existential threat to the Alliance and extraordinary measures have not been adopted. At the same time, the negative aspects of climatization, such as changing NATO's core mission and transforming the Alliance, have also been bypassed. Climate-related measures have been mainstreamed, but they are not at the top of the agenda.

80 NATO, "The Secretary General's Report. Climate Change & Security Impact Assessment."

81 NATO, "Madrid Summit Declaration Issued by NATO Heads of State and Government Participating in the Meeting of the North Atlantic Council in Madrid 29 June 2022," para. 12.

82 NATO, "Opening Speech by NATO Secretary General Jens Stoltenberg at the High-Level Dialogue on Climate and Security, NATO Public Forum."

83 NATO.

What's Next?

NATO must further address climate change impacts on its activities to be able to continue carrying out its three core tasks in a geostrategic scenario transformed by global warming. It should focus on awareness, readiness, and preparedness of its forces to ensure defense and deterrence; on the changes of profile missions shifting to crisis management; and on climate cooperative security and climate-related conflict resolution.

Climate considerations should be mainstreamed at the strategic, operational, and tactical levels, with a focus on integrating key climate considerations into NATO's strategy, policies, doctrines, education, training, exercises, and evaluations, as the NATO 2030 Young Leaders Report proposed. As recommended in the same report, a good example to follow could be the implementation of the gender perspective into NATO's work. Moreover, the Alliance should integrate climate considerations into existing units and work strands.

Most of the adaptation and mitigation measures required to prevent and prepare for the security implications of global warming fall into the competencies of the member states. In addition, therefore, NATO should aim to lead by example with mitigation and adaptation measures in its assets and installations. Primarily, however, it should provide the Allies, partners and other countries and organizations with appropriate tools to mainstream climate considerations into their situational awareness, defense, and operational planning, and promote political dialogue, cooperation, and the sharing of lessons learned and best practices.

National and international circumstances should be considered at all times. National considerations such as the elevated cost of the climate security practices, or the specific national geostrategic and security situation should not be overlooked. Allied concerns like the need to reinforce the Eastern or Southern flank defense and the Allied deterrence posture must be addressed together with the urgency of preventing and preparing for dis-ruptive climate change-induced security scenarios.

Deterrence and Defense

The new Strategic Concept reaffirms that collective defense is NATO's key purpose and greatest responsibility.[84] Expanding the concept of security did not overshadow this mission, but rather broadened the range of threats and challenges from which the Alliance must now be protected.

The Strategic Concept declares climate change a defining challenge of our time, with a profound impact on Allied security. It describes it as a crisis and threat multiplier, that affects military operations, infrastructure, assets, and bases.[85] However, it makes no reference to climate change in the section on deterrence and defense. Nevertheless, in order to fulfill its core mission of collective defense, the Alliance must address the consequences of climate change when working on situational awareness, resilience, and deterrence and defense.

On situational awareness, new practices must be introduced to identify, assess, and be prepared for climate impacts on the strategic environment, such as competition over scarce resources, from food to raw materials, or the opening of new maritime routes. The CCSAP stresses the importance of assessing the geostrategic scenario and includes an annual Climate Change and Security Impact Assessment, the first edition of which was presented at the Madrid Summit.[86] The CCSAP also indicates that NATO will integrate climate change considerations into security risk and resilience assessments and civil advice on the security situation in regions of key interest to the Alliance.[87]

In addition to the assessments included in the CCSAP, it is necessary to improve early warning and produce comprehensive assessments. NATO should devote more resources to strategic foresight capabilities by reinforcing its staff with experts in climate security and incorporating the necessary technology. The NATO Situation Centre (SITCEN) must integrate climate change hazards into its assessments and situational awareness

84 NATO, "NATO 2022 Strategic Concept," para. 1.

85 NATO, para. 19.

86 NATO, "The Secretary General's Report. Climate Change & Security Impact Assessment."

87 NATO, "NATO Climate Change and Security Action Plan," para. 9a.

activities. Moreover, all programs, divisions, and centers should include climate considerations in their activities—and, again, all sections should be properly staffed and resourced to deliver wide-ranging analysis and early warnings to enable early action. Similarly, NATO Allies should improve climate security-related intelligence sharing.

Canada is creating a new Climate Security Centre of Excellence (CoE) that may take advantage of available foresight capabilities and expertise to collect climate data, develop climate security risk assessments, and share best practices and lessons learned. Its products and activities should inform NATO mitigation and adaptation efforts, especially operational and defense planning, and inspire Allies' and partners' national efforts. It should also play a significant role in training in climate change and security.

On climate resilience, NATO and the Allies must climate-proof NATO's and the Allies' military and civil capabilities and infrastructures. Under Article 3 of the North Atlantic Treaty, all Allies are committed to building national resilience, which is the combination of civil preparedness and military capacity to resist and recover from major disruptions.

At the 2016 Warsaw Summit, the Heads of State and Government committed to enhancing resilience.[88] They renewed this commitment at the 2021 Brussels Summit, with the "Strengthen resilience commitment." Climate resilience was included in the Brussels Commitment: "We will bolster our efforts to meet challenges to our energy security, and to deal with the impact of natural hazards that are being exacerbated by climate change."[89] Consequently, Allies should include climate change-related events among the challenges to national resilience.

On deterrence and defense, global warming effects may impact assets and installations and place additional strain on troops and equipment during missions and operations. The CCSAP incorporates the assessment of force readiness, enablement, reinforcement, and military mobility. It also includes climate change considerations into its work on resilience and civil

88 NATO, "Commitment to Enhance Resilience—Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Warsaw, 8–9 July 2016."

89 NATO, "Strengthened Resilience Commitment—Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels, 14 June 2021."

preparedness and defense planning—particularly, for capability delivery, assets and installations, standards, innovation, training, exercises, procurement practices, and partnership with industry.

Beyond CCSAP measures, NATO should adapt its operational planning, both in advance and crisis-response, because climate change will make operations more expensive and more technically challenging on land, air, and sea.[90] Climate considerations must be included at strategic, operational, and tactical levels. Training, deployment, operations, and military supply chains must be adapted to avoid disruptions in altered operating environments, ensure the readiness and preparedness of the armed forces, and protect their freedom of action. NATO should follow the UNSC's lead and designate "Climate Advisors" for the planning and execution of NATO missions and operations.

Another priority is to further assess impacts on capabilities and include climate considerations in defense planning. The assessment must focus on possible liabilities and resilience gaps in NATO's capabilities, assets, and installations to bolster climate resilience. Energy efficiency and clean technologies should be prioritized to guarantee military effectiveness in the future. The Alliance should enhance its efforts in "Green Defense" and "Smart Defense" by betting on green technologies, which ensure force readiness and security and increase operational mobility and effectiveness, thanks to energy efficiency improvements reducing logistical and budgetary burdens.

Initiatives such as the NATO Science for Peace and Security (SPS) Programme, NATO's Environmental Protection Working Group (EPWG),[91] and the Specialist Team on Energy Efficiency and Environmental Protection (STEEEP) should pay special attention to public and private efforts in green technologies. During the Madrid Summit, the NATO

90 NATO, "The Secretary General's Report. Climate Change & Security Impact Assessment."

91 "The EPWG aims to reduce possible harmful impacts of military activities on the environment by developing NATO policies, standardization documents, guidelines and best practices in the planning and implementation of operations and exercises. The goal of the STEEEP is to integrate environmental protection and energy efficiency regulations into technical requirements and specifications for armaments, equipment and materials on ships, and the ship to shore interface in Allied and partner countries' naval forces." NATO, "Environment, Climate Change and Security."

Innovation Fund,[92] the world's first multi-sovereign venture capital fund, was created with the signing of a letter of commitment by 22 Allied countries.[93] This fund will invest €1B in emerging technologies and complement the Defence Innovation Accelerator for the North Atlantic (DIANA). These two significant efforts should include green technology as a priority.

NATO must also help the Allies to adapt their military infrastructures and equipment to climate impacts and to develop training programs for military and civil officials. NATO should work together with the Allies and partners by sharing best practices and lessons learned. Interoperability must be preserved when developing new capabilities.

Finally, reducing the military carbon footprint is one of the most important measures to take to defend the Allies. Thus, mitigation measures were the first climate-related effort addressed by the Alliance with the Green Defence initiative. The announcement of NATO's commitment to reducing GHG emissions by at least 45% by 2030 and to net zero by 2050 is a mile-stone, but immediate measures should be implemented to accomplish it.[94]

The implementation of the first methodology for measuring NATO's GHG emissions, both civilian and military, is another crucial step, but it needs to be made available to all Allies and partners as soon as possible to encourage them to reduce their emissions. Mitigation efforts should also entail an impulse to the SPS Programme, NATO's Environmental Protection Working Group, and the Specialist Team on Energy Efficiency and Environmental Protection, reinforcing the activities already launched within the Green Defence framework. Green technologies developed thanks to NATO's Innovation Fund and DIANA should also help the Alliance and the Allies to reduce their carbon footprint.

92 NATO, "NATO Launches Innovation Fund."

93 Belgium; Bulgaria; Czech Republic; Denmark; Estonia; Germany; Greece; Hungary; Iceland; Italy; Latvia; Lithuania; Luxembourg; Netherlands; Norway; Poland; Portugal; Romania; Slovakia; Spain; Türkiye; United Kingdom.

94 NATO, "Opening Speech by NATO Secretary General Jens Stoltenberg at the High-Level Dialogue on Climate and Security, NATO Public Forum."

Crisis Management

Crisis management, crisis response operations, and non-Article 5 operations are the best examples of NATO's adaptation to a new strategic environment.[95] These types of operations were NATO's answer to the need for adaptation after the end of the Cold War. They appeared for the first time in the 1991 Strategic Concept to cover non-collective defense operations like peace support operations (i.e., peacemaking, peace enforcement, peacekeeping, or peacebuilding operations), disaster relief, and military contribution to stabilization and reconstruction. All these operations will be profoundly affected by climate change.

Crisis management was not directly addressed in the CCSAP, but the Climate Change and Security Impact Assessment considers it when addressing the impact of climate change on NATO's missions and operations, recording the potential increase of humanitarian aid and disaster relief operations, and calling for "adaptations in training, as well as procurement to acquire specific capacities for these new roles and new theatres of operation."[96]

Climate change is a risk multiplier that endangers livelihoods and may lead to political instability in already vulnerable regions.[97] Climate change will inflame geopolitical rivalries by straining scarce resources contested by different communities or states, alter international power dynamics by opening up new areas of geostrategic competition, and exacerbate instability in fragile states, contributing to migration and political unrest and damaging critical infrastructures.[98]

Therefore, including climate considerations in situational awareness and risk assessments will prove crucial to evaluating the security situation—not only for collective defense, but also for crisis management. Non-Article 5 operations should also integrate climate considerations in their operational

95 NATO, "Strategic Concept 2010."

96 NATO, "The Secretary General's Report. Climate Change & Security Impact Assessment."

97 NATO, "Brussels Summit Communiqué Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels."

98 IPCC, "AR6 Climate Change 2022."

planning and execution and contribute to national and regional regenerative climate security. This means building climate resilience; paying attention to local dynamics and integrating the perspectives of local communities; and seeking the regeneration of a state of sustainable positive security when planning and implementing NATO's missions. Again, NATO must follow the UNSC's lead and designate "Climate Advisors" for the planning and execution of operations.

Climate change will increase temperatures and change rainfall patterns causing extreme weather events and natural disasters.[99] NATO has been always committed to protecting the population—first against war threats such as nuclear weapons, then against the effects of disasters; first for the Allies, after the end of the Cold War, then also for partners. However, the potential increase in natural disasters may drive up the financial cost of operations, straining NATO's resources and diverting attention from its other core tasks. Therefore, NATO must prepare for a scenario where the Alliance continues to fulfill its core task of crisis management and yet in such a way that the armed forces do not find themselves overstretched.

In disaster relief, NATO must enhance its emergency response by improving its mechanisms, activities, and exercises to counter rising demand with greater efficiency. NATO's emergency response system, led by the Euro-Atlantic Disaster Response Coordination Centre (EADRCC)[100] but complemented by other bodies such as the Crisis Management and Disaster Response Centre of Excellence in Sofia and the SPS Programme, should increase research on climate change effects and organize consultations, training, and scenario-building exercises to improve the understanding of the potential role of climate change in the increasing intensity and frequency of natural disasters. Additionally, NATO must increase its support of research, workshops, exercises, and training courses focused on climate change-related natural disasters in the institutions of NATO, Allies, and partners.

---

99 IPCC, [MassonDelmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M., and Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.), "Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change."

100 The EADRCC is a civil emergency response mechanism that functions as a clearing-house system for coordinating both requests for and offers of assistance in case of disasters.

Cooperative Security

Prevention and preparation for climate risks dovetail perfectly with the concept and aims of cooperative security. As stated in the Madrid Strategic Concept, "political dialogue and practical cooperation with partners, based on mutual respect and benefit, contribute to stability beyond our borders, enhance our security at home and support NATO's core tasks. Partnerships are crucial to protect the global commons, enhance our resilience and uphold the rules-based international order."[101] Thus, NATO's efforts to prevent and prepare for climate change impacts must go beyond its own borders.

Some NATO partners are in highly climate-vulnerable regions[102] and some are already politically and socioeconomically vulnerable,[103] leaving them more exposed to the disruptive effects of climate change.[104] Cooperative security is one of the best tools available to NATO to project stability and strengthen security across NATO's neighborhood and beyond. NATO should work on climate resilience to help its partners cope with global warming hazards, avoid social disruption caused by the failure of critical infrastructures, and ease tensions resulting from resource scarcity.

Climate security must be viewed as an opportunity for partners to work together on a common threat. For example, the Mediterranean Dialogue framework gathers some of the countries most affected by climate change and includes a climate change adaptation leader in the form of Israel. By working together on preventing and preparing for climate change hazards, partners can improve their climate resilience and also improve relations amongst themselves and with NATO Allies.

In fact, partners contribute to many of NATO's activities and NATO-led operations and missions. To maintain their interoperability and remain reliable partners, they should launch their mitigation and adaptation efforts to prepare for climate impacts on their military assets and capabilities. The

101 NATO, "NATO 2022 Strategic Concept," para. 42.

102 Scheffran, Link, and Schilling, "Climate and Conflict in Africa."

103 The Fund for Peace, "Fragile States Index."

104 IPCC, "AR6 Climate Change 2022."

Alliance could contribute to these efforts to ensure that the partners' armed forces and installations are not threatened and to protect the partners' capabilities and interoperability.

NATO engages with partners in two specific ways: political dialogue and practical cooperation. Both are essential to NATO's response to climate change impacts on security. In the domain of political dialogue, the CCSAP, on the topic of outreach, states that "NATO will strengthen exchanges with partner countries, as well as with international and regional organizations that are active on climate change and security issues, including the EU, the UN, and others, where appropriate."[105]

NATO must also include climate change and security in its political consultations with partners, nations, and international organizations to share data and knowledge, best practices, and lessons learned—especially, though not exclusively, with those partners most affected by climate change. NATO's partnerships may also become a forum to share common concerns and work on common solutions. Established[106] formats and Berlin+ formats[107] could enhance consultations on climate and security and might even be used to reduce tension over climate-related disputes.

The EU is a unique and essential partner for NATO. NATO Allies and EU member states share the same values.[108] Moreover, NATO and the EU share geopolitical interests and face the same risks, threats, and challenges. These common values and interests are the foundation of their strategic partnership. The partnership's strengths in crisis management, capability development, and political consultations provide an ideal framework to advance climate change and security issues, as the new Strategic Concept acknowledges.

105 NATO, "NATO Climate Change and Security Action Plan," para. 9.4.

106 NATO has developed a network of partnerships with non-member countries: Euro-Atlantic Partnership Cooperation, the Mediterranean Dialogue, the Istanbul Cooperation Initiative, and links to other partners across the globe.

107 In 2011, the Berlin policy decisions opened up the possibility of more flexible formats for thematic or event-driven political dialogues on a case-by-case basis outside the established programs of cooperation.

108 NATO, "NATO 2022 Strategic Concept."

In 2020, the EU adopted the "Climate Change and Defence Roadmap," and the 2022 "Strategic Compass for Security and Defence" included climate change as a threat multiplier and called for the full implementation of the Roadmap. [109] The Roadmap focuses on three areas: operational dimension, capability development, and strengthening multilateralism and partnerships, paving the way for close cooperation with relevant actors.

NATO-EU cooperation could prove crucial in situational awareness by allowing the sharing of technology, tools and instruments, foresight capabilities, climate models, and other relevant data. There are also many opportunities for cooperation in operational planning, by sharing best practices and lessons learned, and in defense planning, by promoting awareness and sharing best practices and lessons learned for exercises, training, and procurement. Coordinating NATO and EU efforts in diplomatic outreach may multiply their impact.

In 2004, NATO joined the Environment and Security Initiative (ENVSEC), together with the United Nations Environment Program (UNEP), the United Nations Development Program (UNDP), the Organization for Security and Co-operation in Europe (OSCE), United Nations Economic Commission for Europe (UNECE), and the Regional Environment Center for Central and Eastern Europe (REC). This initiative should be revived and used to address climate change issues and their impact on security, together with other environmental concerns.

NATO must coordinate its work with that of other international organizations and avoid duplicating it—both security- and state-centered organizations like UNSC and OSCE and humanitarian and environmental organizations such as the UNFCC, UNEP, UNDP, UNOCHA, UNDDR, or UNHCR. These organizations deal with climate change impacts on individuals and communities and their livelihoods, in response to the multidimensional and multifaceted impacts of climate change,[110] and in contrast to the more state- and security-centered approach taken by

109 European External Action Service, "Climate Change and Defence Roadmap."

110 Dalby, *Security and Environmental Change*; Mobjörk, "Exploring the Links between Climate Change and Violent Conflict."

NATO.[111] It is extremely important to share data, intelligence, best practices, and lessons learned; to coordinate, complement, and not duplicate efforts. Duplication leads to whatever valuable and scarce resources are available being misused.

In the dimension of practical cooperation, work with partners is focused on helping them build and strengthen their defense and security institutions and forces. Defense reform, institution-building, and capacity-building must include climate considerations to help partners become climate-resilient and achieve regenerative climate security in those countries already impacted by climate change.

One of the most appropriate tools to tackle climate issues is the Defence and Related Security Building Initiative. This initiative supports, advises, assists, trains, and mentors countries that require the Alliance's support. Additionally, climate change impacts must be prioritized in the environmental activities offered in the activities eligible for the Partnership Cooperation Menu, the Trust Funds, and the SPS Programme, and exercises and training conducted with partners.

Besides, the security implications of climate change should be also regarded as an opportunity to work with non-partner countries like the Sahel countries, who are extremely exposed and vulnerable to climate change effects, or China, a key player in the international arena and climate diplomacy. Despite the traditional opposition from China to the framing of climate change as a national security issue, both academic debates and official documents in China have begun to emphasize the linkage between climate change and security[112] and Chinese authorities have begun to use climate security concerns as a diplomatic tool.[113] Cooperation on climate security practices may be a starting point for engagement between NATO and China.[114]

111 Adger, "Climate Change, Human Well-Being and Insecurity."

112 Trombetta, "Securitization of Climate Change in China."

113 Moore, "China's Pivot on Climate Change and National Security."

114 NATO, "Brussels Summit Communiqué Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels," para. 56.

Awareness, Visibility, and Leadership

Finally, all these efforts undertaken by the Alliance should come with the appropriate level of visibility and leadership to boost their impact. This will be only achieved by increasing NATO's level of ambition with the political engagement of the Allies.

First, NATO and the Allies should continue their commitment to the prevention and adaptation of climate change by building the necessary political consensus. Since the Alliance is driven by consensus, all members must be involved in implementing the current agenda and moving forward. The work on Allied awareness will prove key to gathering the Allies' support for a climate change and security agenda within NATO. Moreover, most of the mitigation and adaptation efforts required to prevent and prepare for climate change-related impacts on security fall under national competence; therefore, NATO awareness efforts should also be aimed at promoting national climate action.

Second, the agreed documents need to be promptly translated into action in a coordinated manner. It is an ambitious commitment that requires the engagement of all departments. To coordinate efforts, the Alliance should appoint a high-level official for Climate Change and Security to lead the implementation of the CCSAP, report directly to the North Atlantic Council, and hold regular briefings for the Allies and partners and liaise with other relevant actors. A coordinated task force should be created to support the appointed official to coordinate all efforts, and "climate points of contact" should be designated in every unit to implement climate security considerations in all NATO activities. This senior official and the task force may be commissioned to propose future climate change-related actions and climate security practices for NATO.

The Alliance should aspire to be a hub for sharing knowledge on climate change and security. Allies and partners may designate experts to attend dedicated meetings and events. Additionally, member states should continue designating points of contact for climate change and security issues in their Foreign Affairs and Defense ministries.

Third, NATO must make its climate change agenda more visible. As stated in the 2022 Strategic Concept, NATO should "become the leading international organisation when it comes to understanding and adapting to the impact of climate change on security."[115] To secure visibility, climate change and security must be included as a topic in Summit deliberations, products, and side events, as has been done in the recent Madrid Summit. All NATO strategic, operational, and tactical documents must be aligned with the new Strategic Concept and consider climate change as a defining challenge of our time and a crisis and threat multiplier.

Fourth, the Alliance should lead by example with effective adaptation and mitigation measures, but in order to lead it is important to make such measures visible and work on awareness and outreach. NATO's Public Diplomacy Division should organize climate change and security-related events, engaging with the public and private sectors in Allies, partners, and other countries; other international security organizations such as UNSC, the EU, or OSCE; security fora like the Munich Security Conference; and non-security settings, especially the COP meetings.

The security implications of climate change may also be an opportunity to engage with estranged audiences, like the Allies' and partners' young populations. Climate change and security should remain central topics in all the events aimed at a young population, as they were in the recent 2022 NATO Youth Summit[116] or the NATO 2030 Young Leaders Report.[117]

115 NATO, "Strategic Concept 2010," para. 46.

116 More information at https://cepa.org/events/nato-youth-summit-2022/.

117 NATO 2030 Young Leaders, "NATO 2030: Embrace the Change, Guard the Values. A Report by the NATO 2030 Young Leaders Group – for This Generation and the Next."

Conclusion

The impact of climate change on security is increasing. Individuals, communities, and states are threatened by extreme climate events that endanger lives and livelihoods and increase the risks of conflict and other security challenges. All countries, including the member states of the North Atlantic Alliance, have the responsibility to protect their citizens from all security threats—and that includes preventing and preparing for future catastrophic security scenarios caused by climate change.

If NATO wants to remain at the center of the Euro-Atlantic security architecture, it must continue its efforts to prevent and prepare for climate change-related hazards. To effectively preserve peace and security in the Euro-Atlantic area, NATO will have to address the impacts of climate change on its assets and capabilities and prepare for a climate-transformed geostrategic scenario.

The Alliance has defined climate change as a challenge to security and a crisis and risk multiplier. It has incorporated climate security in its security construct. It has adopted its first climate security practices in Allied awareness, mitigation, adaption, and outreach—but it must go further still. NATO's efforts must be bolder, more comprehensive, and more effective. NATO must implement adaptation measures in operational and defense planning, and, more importantly, it must lead its members in their mitigation and adaptation efforts in the security domain.

The Alliance is not a climate change first responder, and it should not become one. It should not undergo a complete transformation through the climate lens, nor neglect any of its core tasks. On the contrary, in order to effectively pursue its core mission of preserving peace and security, NATO must align its strong political discourse on climate change and security with its climate security practices.

The Alliance must lead by example by climate-proofing its core tasks with mitigation and adaptation measures and working together with all relevant actors to prevent and prepare for climate hazards. Despite the current security environment, and possible differences in perspective or level of ambition among Allies, NATO cannot afford to stall in the development of climate security practices if it wants to be ready to fulfill its core mission.

References

Adger, Neil W. "Climate Change, Human Well-Being and Insecurity." *New Political Economy* 15, no. 2 (2010): 275–92.

Aradau, Claudia. "Security and the Democratic Scene: Desecuritization and Emancipation." *Journal of International Relations and Development* 7, no. 4 (2004): 388–413.

Aykut, Stefan C., and Lucile Maertens. "The Climatization of Global Politics: Introduction to the Special Issue." *International Politics* 58, no. 4 (2021): 501–18.

Barnett, Jon. *The Meaning of Environmental Security: Ecological Politics and Policy in the New Security Era*. London: Zed Books, 2001.

Boas, Ingrid. *Climate Migration and Security: Securitisation as a Strategy in Climate Change Politics*. Environmental Politics/Routledge Research in Environmental Politics 24. New York: Routledge, 2015.

Buhaug, H., J. Nordkvelle, T. Bernauer, T. Böhmelt, M. Brzoska, J. W. Busby, A. Ciccone, et al. "One Effect to Rule Them All? A Comment on Climate and Conflict." *Climatic Change* 127, no. 3–4 (2014): 391–97.

Busby, Josh. *Climate Change and National Security: An Agenda for Action*. New York: Council on Foreign Relations, 2007.

Busby, Joshua. "The Field of Climate and Security: A Scan on the Literature." *LBJ School of Public Affairs, University of Texas at Austin*, 2019.

Busby, Joshua W. "Beyond Internal Conflict: The Emergent Practice of Climate Security." *Journal of Peace Research* 58, no. 1 (2021): 186–94.

Busby, Joshua W. *States and Nature: The Effects of Climate Change on Security*. The Politics of Climate Change. Cambridge: Cambridge University Press, 2022.

Buzan, Barry. *Regions and Powers: The Structure of International Security*. Cambridge Studies in International Relations. Cambridge: University Press, 2003.

Buzan, Barry, and Ole Wæver. "Macrosecuritisation and Security Constellations: Reconsidering Scale in Securitisation Theory." *Review of International Studies* 35, no. 2 (2009): 253–76.

Buzan, Barry, Ole Wæver, and Jaap de Wilde. *Security: A New Framework for Analysis*. Boulder, Colorado: Lynne Rienner Pub, 1998.

Casado Claro, María Francisca. "El cambio climático: un caso de securitización exitosa del medio ambiente." *Relaciones Internacionales*, no. 34 (2017): 31–50.

Corry, Olaf. "Securitisation and 'Riskification': Second-Order Security and the Politics of Climate Change." *Millennium* 40, no. 2 (2012): 235–58.

Dalby, Simon. *Security and Environmental Change*. Dimensions of Security. Oxford: Polity Press, 2009.

Day, Adam, Caus, Jessica, United Nations University. *Conflict Prevention in the Era of Climate Change Adapting the UN to Climate-Security Risks*, 2019.

De Soysa, Indra. "The Resource Curse: Are Civil Wars Driven by Rapacity or Paucity?" In *Greed & Grievance: Economic Agendas in Civil Wars*, by Mats R. Berdal, David Malone, and International Peace Academy. Boulder, Colo.: Lynne Rienner Publishers, 2000.

Dewi, Murni Kemala. "Failure of Securitizing the Climate Change Issue at the United Nations Security Council (2007–2019)." *Andalas Journal of International Studies (AJIS)* 9, no. 2 (2020): 168–84.

Dröge, Susanne. "Addressing the Risks of Climate Change: What Role for the UN Security Council?" *SWP Research Paper*, 2020.

Eckersley, Robyn. *The Green State: Rethinking Democracy and Sovereignty*, 2004.

ENVSEC. "Climate Change and Security." OSCE, July 19, 2017. https://www.osce.org/files/f/documents/a/a/330586.pdf.

Eroukhmanoff, Clara. "Securitisation Theory: An Introduction." In *International Relations Theory*, edited by Stephen McGlinchey, Rosie Waters, and Christian Scheinpflug, 4. E-International Relations Publishing, 2018.

European External Action Service. "Climate Change and Defence Roadmap," 2020.

———. "Towards a Climate-Proof Security and Defence Policy: A Roadmap for EU Action," 2020. https://eeas.europa.eu/headquarters/headquarters-homepage /90320/towards-climate-proof-security-and-defence-policy-roadmap-eu-action_en.

Floyd, Rita. "Extraordinary or Ordinary Emergency Measures: What, and Who, Defines the 'Success' of Securitization?" *Cambridge Review of International Affairs* 29, no. 2 (April 2, 2016): 677–94.

———. *Security and the Environment: Securitisation Theory and US Environmental Security Policy*. Cambridge ; New York: Cambridge University Press, 2010.

Floyd, Rita, and Richard Matthew, eds. *Environmental Security: Approaches and Issues*. London: Routledge, 2012.

Gleditsch, Nils Petter. "Whither the Weather? Climate Change and Conflict." *Journal of Peace Research* 49, no. 1 (2012): 3–9.

Hardt, Judith Nora. "The United Nations Security Council at the Forefront of (Climate) Change? Confusion, Stalemate, Ignorance." *Politics and Governance* 9, no. 4 (October 22, 2021): 5–15.

Homer-Dixon, Thomas F. *Environment, Scarcity, and Violence*. Core Textbook. Princeton, N.J.: Princeton University Press, 1999.

———. *Environmental Scarcity and Global Security*. Headline Series ; No. 300. 80 p.: ill., maps, 1993.

———. "On the Threshold: Environmental Changes as Causes of Acute Conflict." *International Security* 16, no. 2 (1991): 76–116.

Hsiang, Solomon M., and Marshall Burke. "Climate, Conflict, and Social Stability: What Does the Evidence Say?" *Climatic Change* 123, no. 1 (March 2014): 39–55.

IPCC. "AR6 Climate Change 2022: Impacts, Adaptation and Vulnerability—Summary for Policy Makers," February 28, 2022. https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/.

———. "IPCC—Intergovernmental Panel on Climate Change," 2022. https://www.ipcc.ch/.

IPCC, WGI, [MassonDelmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M., and Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.). "Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change," 2021. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI _Full_Report.pdf.

Johnson, Boris. "PM Boris Johnson's Address to the UN Security Council on Climate and Security: 23 February 2021." GOV.UK, February 23, 2021. https://www.gov.uk/government/speeches/pm-boris-johnsons-address-to-the-un-security-council-on-climate-and-security-23-february-2021.

Krause, Keith, and Michael Williams. "Security and 'Security Studies.'" The Oxford Handbook of International Security, March 15, 2018. http://www

.oxfordhandbooks.com/view/10.1093/oxfordhb/9780198777854.001.0001/oxfordhb-9780198777854-e-2.

Levy, Marc A. "Is the Environment a National Security Issue?" *International Security* 20, no. 2 (1995): 35–62.

Lucarelli, Sonia. "The EU as a Securitising Agent? Testing the Model, Advancing the Literature." *West European Politics* 42, no. 2 (2019): 413–36.

Lute, Douglas, and Nicholas Burns. "NATO at 70: An Alliance in Crisis," 2019. https://www.hks.harvard.edu/faculty-research/policy-topics/international-relations-security/nato-70-alliance-crisis.

Mach, Katharine J., Caroline M. Kraan, W. Neil Adger, Halvard Buhaug, Marshall Burke, James D. Fearon, Christopher B. Field, et al. "Climate as a Risk Factor for Armed Conflict." *Nature* 571, no. 7764 (2019): 193–97.

Maertens, Lucile. "Climatizing the UN Security Council." *International Politics* 58, no. 4 (August 1, 2021): 640–60.

Mason, Michael. "Climate Change, Securitisation and the Israeli-Palestinian Conflict: Climate Change, Securitisation and the Israeli-Palestinian Conflict." *The Geographical Journal* 179, no. 4 (December 2013): 298–308.

McDonald, Matt. "Discourses of Climate Security." *Political Geography* 33 (March 2013): 42–51.

Ministère des Armées. "Défense et Climat. La France s'engage," 2018.

Mobjörk, Malin. "Exploring the Links between Climate Change and Violent Conflict." In *SIPRI Yearbook 2017: Armaments, Disarmament and International Security*, 2017.

Moor, Joost de. "Alternative Globalities? Climatization Processes and the Climate Movement beyond COPs." *International Politics* 58, no. 4 (2021): 582–99.

Moore, Scott. "China's Pivot on Climate Change and National Security." Lawfare, April 2, 2019.

National Intelligence Council. "National Intellingence Estimate. Climate Change and International Responses Increasing Challenges to US National Security Trough 2040," 2021.

NATO. "Brussels Summit Communiqué Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels." NATO, June 14, 2021. https://www.nato.int/cps/en/natohq/news_185000.htm.

———. "Brussels Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels, 11–12 July 2018." NATO, July 11, 2018. http://www.nato.int/cps/en/natohq/official_texts_156624.htm.

———. "Chicago Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Chicago on 20 May 2012." NATO, May 20, 2012. http://www.nato.int/cps/en/natohq/official_texts_87593.htm.

———. "Commitment to Enhance Resilience - Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Warsaw, 8–9 July 2016." NATO, July 8, 2016. http://www.nato.int/cps/en/natohq/official_texts_133180.htm.

———. "Declaration on Alliance Security, Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Strasbourg/Kehl." NATO, April 4, 2009. http://www.nato.int/cps/en/natohq/news_52838.htm.

———. "Environment, Climate Change and Security." NATO, 2021. https://www.nato.int/cps/en/natohq/topics_91048.htm.

———. "Lisbon Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Lisbon." NATO, November 20, 2010. http://www.nato.int/cps/en/natohq/official_texts_68828.htm.

———. "London Declaration." NATO, December 4, 2019. http://www.nato.int/cps/en/natohq/official_texts_171584.htm.

———. "Madrid Summit Declaration Issued by NATO Heads of State and Government Participating in the Meeting of the North Atlantic Council in Madrid 29 June 2022." NATO, June 29, 2022. https://www.nato.int/cps/en/natohq/official_texts_196951.htm.

———. "NATO 2020: Assured Security; Dynamic Engagement. Analysis and Recommendations of the Group of Experts on a New Strategic Concept for NATO." NATO, May 17, 2010. http://www.nato.int/cps/en/natohq/official_texts_63654.htm.

———. "NATO 2022 Strategic Concept." NATO 2022 Strategic Concept, 2022. https://www.nato.int/strategic-concept/.

———. "NATO 2030: United for a New Era Analysis and Recommendations of the Reflection Group Appointed by the NATO Secretary General," November

20, 2020. https://www.nato.int/nato_static_fl2014/assets/pdf/2020/12/pdf/201201-Reflection-Group-Final-Report-Uni.pdf.

———. "NATO Climate Change and Security Action Plan." NATO, 2021. http://www.nato.int/cps/en/natohq/official_texts_185174.htm.

———. "NATO Launches Innovation Fund." NATO, June 30, 2022. https://www.nato.int/cps/en/natohq/news_197494.htm.

———. "Opening Speech by NATO Secretary General Jens Stoltenberg at the High-Level Dialogue on Climate and Security, NATO Public Forum." NATO, June 28, 2022. https://www.nato.int/cps/en/natohq/opinions_197168.htm.

———. "Strasbourg/Kehl Summit Declaration - Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Strasbourg/Kehl." NATO, 2009. http://www.nato.int/cps/en/natohq/news_52837.htm.

———. "Strategic Concept 2010." NATO, November 19, 2010. http://www.nato.int/cps/en/natohq/topics_82705.htm.

———. "Strengthened Resilience Commitment—Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels, 14 June 2021." NATO, 2021. https://www.nato.int/cps/en/natohq/official_texts_185340.htm.

———. "The North Atlantic Treaty," April 4, 1949. http://www.nato.int/cps/en/natohq/official_texts_17120.htm.

———. "The Secretary General's Report. Climate Change & Security Impact Assessment," 2022. https://www.nato.int/nato_static_fl2014/assets/pdf/2022/6/pdf/280622-climate-impact-assessment.pdf.

———. "Wales Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Wales." NATO, September 5, 2014. http://www.nato.int/cps/en/natohq/official_texts_112964.htm.

———. "Warsaw Summit Communiqué - Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Warsaw, 8–9 July 2016." NATO, July 9, 2016. http://www.nato.int/cps/en/natohq/official_texts_133169.htm.

NATO 2030 Young Leaders. "NATO 2030: Embrace the Change, Guard the Values. A Report by the NATO 2030 Young Leaders Group—for This Generation

and the Next." NATO, 2021. https://www.nato.int/nato_static_fl2014/assets/pdf/2021/2/pdf/210204-NATO2030-YoungLeadersReport.pdf.

Obama, Barack. "Presidential Memorandum: Climate Change and National Security," September 21, 2016. https://obamawhitehouse.archives.gov/the-press-office/2016/09/21/presidential-memorandum-climate-change-and-national-security.

Oels, Angela. "From 'Securitization' of Climate Change to 'Climatization' of the Security Field: Comparing Three Theoretical Perspectives." In *Climate Change, Human Security and Violent Conflict*, edited by Jürgen Scheffran, Michael Brzoska, Hans Günter Brauch, Peter Michael Link, and Janpeter Schilling, 185–205. Berlin, Heidelberg: Springer Berlin Heidelberg, 2012.

O'Sullivan, Terrence M. "Environmental Security Is Homeland Security: Climate Disruption as the Ultimate Disaster Risk Multiplier." *Risk, Hazards & Crisis in Public Policy* 6, no. 2 (2015): 183–222.

Page, Edward, and M. R. Redclift. *Human Security and the Environment: International Comparisons*. Cheltenham, UK ; Northampton, MA: Edward Elgar, 2002.

Patterson, Matthew. "Green Politics." In *Theories of International Relations*, by Scott Burchill, 4th ed. Houndmills, Basingstoke, Hampshire ; New York: Palgrave Macmillan, 2009.

Peluso, Nancy Lee, and Michael Watts. *Violent Environments*. Ithaca: Cornell University Press, 2001.

Permanent Representative of Russia to the United Nations. "Explanation of Vote by Permanent Representative Vassily Nebenzia before the Vote on UNSC Draft Resolution on Climate and Security." Accessed July 27, 2022. https://russiaun.ru/en/news/sc_13122021.

Scheffran, Jürgen, Michael Brzoska, Jasmin Link, Peter Link, and Janpeter Schilling. "Climate Change and Violent Conflict." *Science* (New York, N.Y.) 336 (2012): 869–71.

Scheffran, Jürgen, Peter Link, and Janpeter Schilling. "Climate and Conflict in Africa." In *Oxford Research Encyclopedia of Climate Science*, 2019.

Seter, Hanne. "Connecting Climate Variability and Conflict: Implications for Empirical Testing." *Political Geography* 53 (July 2016): 1–9.

Sharifi, Ayyoob, Dahlia Simangan, and Shinji Kaneko. "Three Decades of Research on Climate Change and Peace: A Bibliometrics Analysis." *Sustainability Science* 16, no. 4 (July 2021): 1079–95.

Slettebak, Rune T. "Don't Blame the Weather! Climate-Related Natural Disasters and Civil Conflict." *Journal of Peace Research* 49, no. 1 (January 1, 2012): 163–76.

Sperling, James, and Mark Webber. "The European Union: Security Governance and Collective Securitisation." *West European Politics* 42, no. 2 (February 23, 2019): 228–60.

Tadjbakhsh, Shahrbanou, and Anuradha M. Chenoy. *Human Security: Concepts and Implications*. Routledge Advances in International Relations and Global Politics 51. London ; New York: Routledge, 2007.

The Center for Climate and Security. "The Climate and Security Advisory Group (CSAG): A Climate Security Plan for America." Washington, DC, September 24, 2019. https://climateandsecurity.org/climatesecurityplanforamerica/.

The Fund for Peace. "Fragile States Index." Tableau Software, 2021. https://public.tableau.com/views/fsi-2021-rankings/DashboardRankings?:embed=y&:showVizHome=no&:host_url=https%3A%2F%2Fpublic.tableau.com%2F&:embed_code_version=3&:tabs=no&:toolbar=yes&:animate_transition=yes&:display_static_image=no&:display_spinner=no&:display_overlay=yes&:display_count=yes&:language=en&publish=yes&:loadOrderID=0.

Trombetta, Maria Julia. "Environmental Security and Climate Change: Analysing the Discourse." *Cambridge Review of International Affairs* 21, no. 4 (2008): 585–602.

———. "Securitization of Climate Change in China: Implications for Global Climate Governance." *China Quarterly of International Strategic Studies* 05, no. 01 (January 2019): 97–116.

Uexkull, Nina von, and Halvard Buhaug. "Security Implications of Climate Change: A Decade of Scientific Progress." *Journal of Peace Research* 58, no. 1 (January 1, 2021): 3–17.

UNEP. "Climate Change and Security Risks." UNEP—UN Environment Programme, January 8, 2017. http://www.unep.org/explore-topics/disasters-conflicts/what-we-do/disaster-risk-reduction/climate-change-and-security.

United Nations. "Security Council Fails to Adopt Resolution Integrating Climate-Related Security Risk into Conflict-Prevention Strategies | Meetings Coverage and Press Releases," 2021. https://www.un.org/press/en/2021/sc14732.doc.htm.

United States Department of Defense. "DOD Climate Risk Analysis," October 2021, 18.

Walt, Stephen M. "The Renaissance of Security Studies." *International Studies Quarterly* 35, no. 2 (1991): 211–39.

Project on Europe and the Transatlantic Relationship
Belfer Center for Science and International Affairs
Harvard Kennedy School
79 JFK Street
Cambridge, MA 02138

https://www.belfercenter.org/project/project-europe-and-transatlantic-relationship