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The impacts of climate change on peacekeeping operations

Towards a crucial adaptation

Dr Anne Xuan Nguyen



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Executive summary

According to Agathe Sarfati, six out of ten UN missions are currently deployed in areas severely affected by the climate crisis. Extreme weather events—such as droughts and floods—affect civilian populations already weakened by armed conflicts. They also destabilise the work of uniformed personnel in peace operations and transform the conditions under which they operate. Building on these observations, the Boutros-Ghali Observatory on Peacekeeping organised a seminar in May 2025 entitled *Integrating Environmental Issues into Peacekeeping Operations: Anticipating Crises, Curbing Emissions and Planning for Sustainability*. This paper aims to expand upon the discussions held during that event.

First, this research note examines the effects of climate change on the logistical and human capacities of peacekeeping operations. The increased frequency of extreme weather phenomena due to climate change represents a significant constraint for UN troops. Floods, storms and heatwaves render transport arduous, dangerous, or impossible. Equipment is tested to its limits and may become inoperative. Natural disasters also threaten the operability of bases, particularly regarding energy supplies. Furthermore, climate change diminishes missions’ human resources by impacting personnel’s health, exposing them to risks of dehydration, heat stroke, and parasitic and waterborne diseases.

Second, the paper demonstrates how climate change complicates the implementation of mission mandates, beginning with the protection of civilians—the very core of peace operations. Indeed, phenomena linked to climate degradation increase civilian populations’ dependence upon humanitarian assistance and overexpose them to violence. Finally, climate change undermines the peacebuilding efforts that host states and UN missions undertake jointly.

Consequently, climate change reduces peace missions’ material and human capacity to fulfil their mandates while simultaneously increasing their workload.

The recommendation section suggests strategies to help peacekeeping missions effectively adapt to climate change and minimise its impact on both the peacekeeping operations and the host state’s citizens. These include:

<p>Before missions</p>	<ul style="list-style-type: none"> ➤ <i>Ensure the training of contingents deployed in climate crisis areas through cooperation between TCCs/PCCs and UN institutions</i> ➤ <i>Incorporate climate factors from the operational planning stage</i> ➤ <i>Include clear and sustainable objectives for mission adaptation to climate change in mandate setting</i>
<p>During deployment</p>	<ul style="list-style-type: none"> ➤ <i>Include a Climate, Peace and Security specialist in missions affected by climatic phenomena</i> ➤ <i>Foster collaboration between missions, civil society organisations and host state institutions in building climate-related competencies</i> ➤ <i>Encourage collaboration with UN agencies and establish partnerships between missions and bodies such as UNDP, FAO and UNEP</i> ➤ <i>Increase the proportion of renewable energy produced by missions</i>
<p>Upon return from field operations</p>	<ul style="list-style-type: none"> ➤ <i>Ensure a positive environmental legacy for UN peacekeeping operations</i> ➤ <i>Establish audits on missions’ climate vulnerabilities</i> ➤ <i>Adapt training programmes based on lessons learned and climate audits</i>

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Glossary

CCCPA	Cairo International Centre for conflict resolution, peacekeeping & peacebuilding
UNFCCC	United Nations Framework Convention on Climate Change
CPS	Climate, Peace and Security
UNSC	United Nations Security Council
DDR	Disarmament, Demobilization and Reintegration
DOS	Department of Operational Support
DPO	Department of Peace Operations
FAO	Food and Agriculture Organization of the United Nations
IPCC	Intergovernmental Panel on Climate Change
MINUSCA	United Nations Multidimensional Integrated Stabilisation Mission in the Central African Republic
MINUSMA	United Nations Multidimensional Integrated Stabilisation Mission in Mali
UNMISS	United Nations Mission in South Sudan
MINUSTAH	United Nations Stabilisation Mission in Haiti
MONUSCO	United Nations Organization Stabilisation Mission in the Democratic Republic of Congo
OBG	Boutros-Ghali Observatory
OCHA	Office for the Coordination of Humanitarian Affairs
IOM	International Organization for Migration
UNOSOM II	United Nations Operation in Somalia II
OP	Peace Operation
WFP	World Food Programme
UNEP	United Nations Environment Programme
UNSC	United Nations Security Council
UNSG	United Nations Secretary-General
UNPOL	UN Police
SGBV	Sexual and gender-based violence

Introduction

"Of the 15 countries most exposed to climate risks, eight host a United Nations peacekeeping or special political mission", Antonio Guterres, Secretary-General of the United Nations, declared in his address to the UN Security Council (UNSC) in September 2021¹. Whether it is drought in Mali, torrential rain in the Central African Republic, or flooding in South Sudan, the theatres of UN peace operations often coincide with those of environmental crises². For the various missions deployed around the equatorial belt – where climate change phenomena become most apparent – extreme weather events form part of the operational equation. For example, Camp Castor (United Nations Multidimensional Integrated Stabilisation Mission in Mali - MINUSMA) experienced sandstorms with winds exceeding 150 km/h every three to five days during the wet season³. In South Sudan, mitigating and preventing the adverse effects of increasingly frequent flooding constitutes an intrinsic component of the United Nations Mission in South Sudan (UNMISS) deployment⁴. This research paper aims to examine how the climate crisis affects the work of uniformed personnel in UN missions.

Box 1: How climate change impacts human security

The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as "a change of climate [...] which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere, and which is in addition to natural climate variability observed over comparable periods"⁵.

Specialists distinguish between phenomena according to their temporal characteristics. Some, such as floods, storms or landslides, count as 'rapid onset' events⁶. Others, including droughts or disruptions to rainfall patterns, are classified as "slow onset" or "diffuse" phenomena⁷. Though less dramatic, they pose no less danger to local communities, causing lasting consequences and effects on societies⁸.

According to the World Meteorological Organisation, global warming has increased the frequency of extreme weather events and natural disasters fivefold over the past 50 years⁹. These events prove even more damaging when they occur in areas already affected by armed conflict. Beyond generating humanitarian crises, climate change can, through indirect mechanisms, undermine both human and state security¹⁰.

Over the past two decades, researchers and practitioners have examined various aspects of environmental issues in peacekeeping. Publications by Lucile Maertens, Malkit Shoshan and Claire Kupper have highlighted the significant carbon footprint of peacekeeping operations and the challenges posed by reducing their environmental impact¹¹. A growing number of experts, including

¹ GUTERRES Antonio, "[Secretary-General's Remarks at the Security Council Debate on Security in the Context of Terrorism and Climate Change](#)", *United Nations (UN)*, 9 December 2021.

² SARFATI Agathe, "[Toward an Environmental and Climate-Sensitive Approach to Protection in UN Peacekeeping Operations](#)", *International Peace Institute*, October 2022.

³ LENZ Björn, "[Stockdunkel mitten am Tag - Sandsturm über Camp Castor](#)", *Bundeswehr*, 13 July 2022.

⁴ Interview with a UNMISS staff member, 14 October 2025.

⁵ [United Nations Framework Convention on Climate Change](#), UN, 9 May 1992.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ NIXON Rob, *Slow violence and the environmentalism of the poor*, Harvard University Press, 2011.

⁹ "[Climate: the number of disasters has increased fivefold in 50 years, causing more damage but fewer deaths \(UN\)](#)", United Nations, UN Info, 1 September 2021.

¹⁰ DE GUGLIELMO Marine, THIENPONT Yente and TASSE Julie, "[Changements climatiques et foyers de conflits dans le monde](#)", *Observatoire Défense Climat*, May 2023.

¹¹ MAERTENS Lucile and SHOSHAN Malkit, "[Greening Peacekeeping: The Environmental Impact of UN Peace Operations](#)", International Peace Institute, 2018; KUPPER Claire, "[Vers une gestion responsable de l'environnement dans les opérations de paix](#)", *Boutros Ghali Observatory*, 27 March 2018.

Florian Krampe, Farah Hegazi¹², and Agathe Sarfati¹³ (to name but a few), have examined the multiple implications of climate change for peace and security in UN missions. In January 2025, the Boutros-Ghali Observatory published a study on climate-sensitive planning within peacekeeping operations and the obstacles it faces¹⁴. Building on these publications, this paper examines the logistical and capacity challenges posed to missions by climate disruption, and how this affects peacekeeping operations' ability to fulfil their mandates.

This work draws on semi-structured interviews with practitioners and specialists in environmental issues in peacekeeping, both at UN headquarters and deployed in the field. Its empirical sources build up directly from presentations made at the Observatory's seminar entitled *Integrating Environmental Issues into Peacekeeping Operations: Anticipating Crises, Curbing Emissions and Planning for Sustainability* (Accra, 22 May 2025)¹⁵.

First, the report examines missions' material and human resources in the face of climate disruption (Section 1). It then highlights the effects of climate change on the protection of civilian populations—the core of peacekeeping operations' mandate (Section 2). Finally, a series of recommendations concludes the note.

1 Logistical, capacity, and human challenges facing UN contingents in the face of climate change

Climate change represents a systemic phenomenon with multiple ramifications. Beyond amplifying security risks, it impacts missions' material (1.1) and human (1.2) capacities.

1.1 The paralysing effects of extreme weather events

In peacekeeping operational theatres, climate change can significantly reduce contingents' operational capacity. The increasing frequency of meteorological disasters degrades the condition of communication routes crucial to transport and supply of UN bases, directly impacting peacekeepers by impairing their mobility in the field¹⁶.

In the short term, transport—a critical component of mission activities—faces severe limitations from floods and storms. When roads and tracks become muddy or impassable, and weather proves unfavourable, patrols and the transport of humanitarian supplies become more laborious, more dangerous, or altogether impossible¹⁷. Prolonged drought similarly disrupts movement:

¹² HEGAZI Farah, KRAMPE Florian and SEYMOUR SMITH Elizabeth, "[Climate-related Security Risks and Peacebuilding in Mali](#)", SIPRI Policy Papers, *SIPRI*, 2021; KRAMPE Florian, "[Climate Change, Peacebuilding and Sustaining Peace](#)", SIPRI Policy Briefs, *SIPRI*, June 2019.

¹³ SARFATI Agathe, *loc. cit.*

¹⁴ NGUYEN Anne, "[Les défis d'une approche sensible à l'environnement dans le maintien de paix](#)", *Boutros-Ghali Observatory*, January 2025.

¹⁵ "[OBG seminar in Accra, Ghana - Integrating environmental issues into peacekeeping operations. Anticipating crises, curbing emissions and planning sustainably - 26 June 2025](#)", Boutros-Ghali Observatory, 26 June 2025.

¹⁶ Interview with a member of the Ivorian armed forces, 27 October 2025; Interview with a UNMISS staff member, 14 October 2025; TEKENET Ratia, "[The impact of climate change on peace operations. Lessons from UNMISS](#)", *OBG seminar in Accra, Ghana - Integrating environmental issues into peacekeeping operations. Anticipating crises, curbing emissions and planning sustainably*, 26 June 2025.

¹⁷ BORBI Michael, "[Ghana's defence policy on climate change and its impacts on peacekeeping operations](#)", *OBG seminar in Accra, Ghana - Integrating environmental issues into peacekeeping operations. Anticipating crises, curbing emissions and planning sustainably*, 26 June 2025. KAMAGATE Harouna, "[Les impacts du changements climatiques sur les opérations de maintien de la paix](#)", *OBG seminar in Accra, Ghana - Integrating environmental issues into peacekeeping operations. Anticipating crises, curbing emissions and planning sustainably*, 26 June 2025.

dust and sand-laden air reduces drivers' visibility. To ensure safe transport, convoys must reduce speed. Consequently, supplies to bases and the distribution of essential aid to local populations face delays, reductions or cancellations¹⁸.

To compensate for the loss of land mobility during climatic and humanitarian emergencies, the supply of critical goods—such as medicines, food and drinking water—must be ensured through river and air transportation¹⁹. Ratia Tekenet, UNMISS Climate, Peace and Security (CPS) expert, notes that air transport serves as a vital "lifeline" for both civilians and peacekeepers during South Sudan's recurrent flooding²⁰. She emphasises the indispensable role played by aircraft and helicopters in rescue operations and medical evacuations conducted by peacekeeping operations²¹. Additionally, aircraft ensure the safe movement of UN contingents following floods. Rising water levels may carry anti-personnel mines and improvised explosive devices from contaminated areas into previously cleared zones, posing a direct threat to personnel safety²².

However, air transport proves more expensive and less readily available²³. Its use may also become impossible when helipads and runways sustain damage from climatic disasters, or when navigation becomes too hazardous due to storms or extreme temperatures. Indeed, the most significant climate change effects on aviation include engine overheating and the inability to generate sufficient lift for take-off. During MINUSMA operations, temperatures exceeding 50°C in Kidal grounded the mission's helicopters due to insufficient air density for lift²⁴. When take-offs remain possible, high temperatures reduce helicopters' loading capacity. In such contexts, humanitarian requirements force missions to increase rotation frequency, thereby escalating costs.

Ratia Tekenet observes that climate change pushes mission logistics to their limits. In material terms, vehicles suffer accelerated damage through increased exposure to elements such as water and sand, or from extreme temperatures. Beyond this accelerated wear, extreme weather events can render available means of locomotion inoperative²⁵. While missions already face significant shortages in transportation assets²⁶, climate-related disasters increase the risk of losing critical equipment. When trucks, armoured vehicles, helicopters or aircraft cannot be replaced promptly, troops' capacity to intervene in the field may be curtailed precisely when most needed.

A staff member from the Department of Operational Support (DOS) adds that extreme weather events can also damage infrastructure critical to base operations, including power installations²⁷. While nearly 90% of electricity in UN camps comes from diesel generators, storms and floods can damage these²⁸. A member of the Ivorian armed forces, several of whose contingents deployed with MINUSMA, reported that sand infiltration blown in during storms had significantly reduced generator capacity in

¹⁸ BORBI Michael, *loc. cit.*

¹⁹ *Ibid.*

²⁰ TEKENET Ratia, *loc. cit.*

²¹ LITTLE Rod, "[Logistical Support to United Nations Peacekeeping Operations: An Introduction](#)", *Peace Operations Training Institute*, 2019.

²² HEGAZI Farah *et al*, *loc. cit.*

²³ SHARLAND Lisa, PENDLEBURY Jarrod and CHAMPION Phillip, "[The role of air power in UN peacekeeping](#)", *The Stimson Center*, April 2024; NOVOSELOFF Alexandra, "[Keeping Peace from above: air assets in UN Peace Operations](#)", *International Peace Institute*, October 2017.

²⁴ HEGAZI Farah *et al*, *loc. cit.*

²⁵ TEKENET Ratia, *loc. cit.*

²⁶ "[Current and Emerging Uniformed Capability Requirements for United Nations Peacekeeping](#)", *UN Department of Peace Operations*, June 2025.

²⁷ Interview with a DOS staff member, 12 November 2025.

²⁸ TREMBLAY Thierry, "[Transition to renewable energy in the field](#)", *OBG seminar in Accra, Ghana - Integrating environmental issues into peacekeeping operations. Anticipating crises, curbing emissions and planning sustainably*, 26 June 2025.

Sahelian camps²⁹. Consequently, crucial equipment such as security devices, surveillance cameras and telecommunications systems may fail, directly threatening base personnel safety.

Furthermore, during natural disasters, isolated bases may become increasingly dependent on fossil fuel reserves. Where no alternative exists (renewable energy equipment, local electricity providers, etc., see Box 2), fuel stocks deplete rapidly to maintain generator operation, even when resupply proves impossible³⁰. As explained above, deteriorating communication routes complicate transport. Fuel convoys, which involve inherently dangerous operations, already require substantial personnel to secure vehicles under normal circumstances³¹. When roads suffer climate disaster damage, these operations become even more costly in terms of time and personnel—who remain unavailable for other tasks³². Additionally, the diesel supplying bases with power draws from the same reserves as that used for vehicles³³. In shortage situations, patrols must be reduced or cancelled to ensure resource availability for camp security and operation³⁴.

Box 2: Renewable Energy—A Guarantee of Operational Readiness and Positive Legacy for Peacekeeping Operations

In 2019, UN Secretary-General Antonio Guterres pledged to increase the share of renewable energy in peacekeeping operations, targeting 40% clean energy by 2025 and 80% by 2030³⁵. This projection proved ambitious, given that, when the declaration was made, only 3% of energy consumed by peacekeeping operations derived from renewable sources. This share rose to 10% by January 2025³⁶. As of December 2025, all peacekeeping operations have specifications relating to the energy transition. Some, such as MONUSCO, have distinguished themselves in this regard, channelling 30% of its consumption from hydroelectric power³⁷. Beyond reducing peacekeeping operations' financial costs and carbon footprint, the aim is for missions to guarantee base operationality and troop readiness in the field during shortages or disasters.

To this end, the use of renewable energy and optimisation of electrical circuits encompassing batteries, diesel generators and renewable sources enable bases to save time and precious human resources during crisis, whether linked to climate change or other contingencies³⁸. Bases' energy autonomy guarantees their operational capacity under all circumstances.

Additionally, leaving a positive legacy has gained increasing importance in peacekeeping operational planning. In this regard, planning now includes reflection on how infrastructure such as solar panels, tidal turbines and wind turbines installed to support missions can subsequently benefit host states following mission withdrawal³⁹. A DOS staff member explained that acquiring new equipment is not always necessary. Indeed, missions can also work to improve local infrastructures on which they rely

²⁹ Interview with a member of the Ivorian armed forces, 27 October 2025.

³⁰ TREMBLAY Thierry, *loc. cit.*

³¹ ESMENJAUD Romain and RUTENBAR Sophie, "[Les Énergies Renouvelables et la Paix en République Centrafricaine. Une occasion pour l'ONU de montrer l'exemple](#)", *The Stimson Center*, July 2025.

³² Interview with a DOS staff member, 12 November 2025.

³³ TREMBLAY Thierry, *loc. cit.*

³⁴ *Ibid.*

³⁵ "[Peacekeeping and clean energy](#)", Planetary Security Initiative, *Clingendael Institute*, 14 October 2024; "[Historic Renewable Energy Compact for Peacekeeping Formally Launched at IRENA Assembly](#)", *IRENA*, 15 January 2023.

³⁶ "[Celebrating progress towards clean energy](#)", DOS, *United Nations*, 24 January 2025.

³⁷ HOLT Victoria and HOPKINS Alexander, "[Shifting power. Transitioning to renewable energy in United Nations Peacekeeping operations](#)", *The Stimson Center*, January 2021.

³⁸ Interview with a DOS staff member, 12 November 2025.

³⁹ HOLT Victoria, "[A Positive Legacy? UN Peace Operations and Renewable Energy](#)", *Ethics & International Affairs*, v.38, n.4, pp.444-463, December 2024.

during deployment (power stations, waste treatment centres, etc.)—a structural approach that will benefit the host country's communities in their entirety once the mission fully withdraws⁴⁰.

Consequently, climate change worsens UN missions' operational conditions. It renders communication routes less accessible, causing a host of harmful consequences: patrol immobilisation, slowdowns or cancellations of aid and supply convoys, and medical evacuations⁴¹. For Colonel Michael Yao Borbi of the Ghanaian Armed Forces, this time loss translates into increased mortality rates among the most vulnerable⁴².

1.2 The incapacitating effects of climate change on peacekeeping personnel

Beyond their negative impact on missions' material capacity, extreme weather phenomena adversely affect personnel health. Both civilian populations and contingents experience the effects of climate change, whether through floods, droughts or prolonged episodes of humid heat.

As temperatures rise and droughts lengthen, peacekeepers face increasingly likely deployment in extreme heat conditions. Yet heat significantly increases troops' water consumption—particularly in humid conditions⁴³. According to a US Army Borden Institute study, the water requirements of a classically equipped soldier (with appropriate combat clothing) increase. They rise from two to four litres per day at ambient temperatures to four to ten litres when external temperatures exceed 30°C⁴⁴. Without adequate water supply, personnel risk dehydration or fatal heat stroke. Research conducted by the Ukrainian army found that dehydration of 4 to 5% of individual body weight can lead to up to a 50% reduction in physical and cognitive capacity⁴⁵. In combat situations, reduced alertness and diminished bodily faculties directly threaten troops' lives. Drinking water storage thus becomes a critical issue for missions, adding an additional logistical challenge in contexts of water scarcity⁴⁶.

High temperatures also expose personnel to health risks. On the one hand, the dry heat of heatwaves renders the ground dusty. Beyond limiting visibility during movement, dust infiltrates vehicles and clothing, and soldiers, police officers and civilian personnel inhale it. Ivorian contingents of MINUSMA deployed in the Malian Sahel have reported skin problems and pulmonary pathologies linked to repeated inhalation of dust particles⁴⁷. Exposure to UV rays similarly affects personnel. During long days outdoors, sun protection renewal sometimes proves impossible, adversely affecting peacekeeping operation staff's skin health⁴⁸.

On the other hand, hot and humid climates present various risks for UN troops. First, deployment under these conditions proves conducive to exercise-induced heatstroke in soldiers⁴⁹. Second—and more critically—humid heat creates a breeding ground for disease. It especially encourages the reproduction of parasite-carrying mosquitoes. At the Observatory conference in Accra, a member of the Ivorian armed forces shared his observation regarding increased malaria cases among troops

⁴⁰ Interview with DOS employee, 12 November 2025.

⁴¹ HEGAZI Farah *et al*, *loc. cit.*

⁴² BORBI Michael, *loc. cit.*

⁴³ MONTAIN Scott and ELY Matthew, "[Water Requirements and Soldier Hydration](#)", *Borden Institute Monograph Series*, 2010.

⁴⁴ *Ibid.*

⁴⁵ SAVYTSKYI V.L, KAZMIRCHUK A.P *et al*, "[Peculiarities of water consumption of military services on the qualification course of Special Operations Forces of the Armed Forces of Ukraine](#)", *Current aspects of military medicine*, vol.28, n.1, 2021, pp.45-57.

⁴⁶ JOURDE Mathilde, "[Les impacts du changements climatiques sur le déploiement des opérations de paix](#)", *OBG seminar in Accra, Ghana - Integrating environmental issues into peacekeeping operations. Anticipating crises, curbing emissions and planning sustainably*, 26 June 2025.

⁴⁷ KAMAGATE Harouna, *loc. cit.*

⁴⁸ Interview with a MINUSMA former staff member, 29 October 2025.

⁴⁹ PERIARD Julien, DEGROOT David and JAY Ollie, "[Exertional heat stroke in sport and the military: epidemiology and mitigation](#)", *Experimental physiology*, vol.107, n.10, 29 August 2022, pp.1111-1121.

deployed in CAR. According to him, this could relate to a prolonged and intensified rainy season in the field⁵⁰. From a statistical standpoint, researchers must conduct more detailed epidemiological studies on the existence of a link between climate change and diseases such as malaria. If such a link exists, it would involve many factors, specific to geographical areas and evolving over time. However, the scientific literature already highlights environmental disruption's impact on certain disease propagation. Contamination zones will expand; Anopheles breeding seasons will lengthen; and areas currently affected by malaria epidemics—such as sub-Saharan Africa—will experience heavier impacts⁵¹.

Moreover, the degradation of health infrastructure by climatic disasters reduces access to drinking water and increases the risk of pathogen and pollutant transmission within both contingents and civilian populations. A DOS staff member explained that flooding caused by heavy rains and high water in South Sudan could cause septic tanks and wastewater treatment systems to overflow. Additionally, rainwater can seep beneath waste storage sites, causing soil pollution⁵². This infrastructural damage—whether to UN or host country facilities—inevitably leads to serious illness and poisoning cases among both staff and local communities.

Climatic disasters have already triggered epidemics, as in Haiti in 2010. While an earthquake weakened the Haitian state, poor water management by contingents of the United Nations Stabilisation Mission in Haiti (MINUSTAH), combined with floods and hurricanes, caused a cholera epidemic. Cases multiplied not only among contingents but also spread throughout the weakened Haitian population. The toll proved heavy: according to Médecins Sans Frontières estimates, more than 5,000 people lost their lives⁵³. This deterioration of the humanitarian situation complicated MINUSTAH's work and generated strong resentment against it among civilians and local institutions⁵⁴ (54). In 2016, to prevent such dire situations from recurring, the Department of Operational Support established its Waste Management Policy for Peacekeeping Operations⁵⁵. Additionally, it now ensures missions' compliance with environmental standards through biannual inspections⁵⁶. Environmental disasters have prompted DOS to update its management practices regarding peacekeeping operations' footprint on ecosystems and host communities' public health. Recurrent flooding, such as that experienced in the UNMISS field, now factors into planning and risk mitigation for peacekeeping operations' waste and wastewater management⁵⁷.

At the 2025 Observatory seminar in Accra, Lieutenant-Colonel Harouna Kamagate explained that Ivorian sections deployed in Bria sometimes experienced personnel shortages due to health problems linked to climate change⁵⁸. Combined with climate change's immobilising effect referenced in section 1.1, afflictions on personnel's physical integrity significantly impair missions' operational capacity. While tasks assigned to peacekeepers remain unchanged, the conditions under which they carry them out evolve. When field action faces limitations from climatic uncertainties, peacekeepers' capacity to protect civilians—the very heart of their mandate—suffers. To compensate for this loss of capabilities, resources—both material and human—will require adaptation.

⁵⁰ KAMAGATE Harouna, *loc. cit.*

⁵¹ KULKARNI Manisha, DUGUAY Claudia and OST Katarina, "[Charting the evidence for climate change impacts on the global spread of malaria and dengue and adaptive responses: a scoping review of reviews](#)", *Globalization and Health*, vol.18, n.1, 2021.

⁵² Interview with a DOS staff member, 12 November 2025.

⁵³ LUQUERO Francisco et al, "[Mortality rates during cholera epidemic, Haiti, 2010-2011](#)", *Emerging infectious diseases*, vol.22, n.3, March 2016.

⁵⁴ MAERTENS Lucile and SHOSHAN Malkit, *loc. cit.*

⁵⁵ NGUYEN Anne, *loc. cit.*

⁵⁶ Interview with a DOS staff member, 12 November 2025.

⁵⁷ Interview with a DOS staff member, 12 November 2025.

⁵⁸ KAMAGATE Harouna, *loc. cit.*

2 The effects of climate change on host states' civilian population

On several occasions, the UN Security Council has highlighted climate change's impact on civilians in armed conflicts—including those where peacekeeping forces are deployed. In 1993, as a preamble to the mandate of the United Nations Operation in Somalia II (UNOSOM II), the UNSC highlighted drought effects on the humanitarian situation ([S/RES/814/\(1993\)](#)). The UN has recognised the ecological crisis's consequences on populations, for example, for MINUSMA ([S/RES/2423\(2018\)](#)), UNMISS ([S/RES/2567\(2021\)](#)) and MINUSCA ([S/RES/2759\(2024\)](#)).

Based on the UNSC's statements, this section aims to gain a more detailed understanding of how climate change undermines human security (2.1) and complicates the implementation of protection of civilians (POC) and peacebuilding mandates of peacekeeping operations (2.2). These latter aspects constitute the main *raison d'être* of UN troops in the field. To better grasp the difficulties faced by missions in achieving their objectives, it is critical to examine climate change effects on populations.

2.1 Deterioration in the human security of civilian populations

While climate change affects the world's population as a whole, it has proved particularly destructive in so-called Global South countries⁵⁹. Whether progressing slowly or suddenly triggered, climate change effects remain striking; and directly threaten human security⁶⁰.

One common feature of major UN missions deployed over the past 20 years has been their involvement in states where a significant portion, if not most of society, depends on subsistence farming⁶¹. Consequently, food insecurity caused by climate change represents a fundamental risk for civilian populations. Both droughts and floods damage arable land and grazing areas. *Ipsa facto*, they render agricultural resources scarcer. At a global level, food security faces threats. According to scenario 8.5 of the Intergovernmental Panel on Climate Change (IPCC), between 8 million and 80 million people could face famine risks due to climate-related erosion of agricultural productivity⁶². In peacekeeping operation intervention theatres, the fragility of host state institutions exacerbates this insecurity. Indeed, they are not always able to mitigate ecosystem impoverishment consequences on their populations⁶³.

The case of South Sudan, where a famine was declared in 2017, provides a clear illustration of how the interaction between climate change and war affects civilians. According to the World Food Programme (WFP), this critical situation stems as much from recurrent droughts and floods as from the armed conflict destabilising the country since 2011 (the date of its independence)⁶⁴. In 2025, it was estimated that between 6.1 million ([S/RES/2779\(2025\)](#)) and 7.7 million people—more than half of South Sudan's

⁵⁹ SIBONGISENI NGCAMU Bethuel, "[Climate change effects on vulnerable populations in the Global South: a systematic review](#)", *Natural Hazards*, Vol. 118, pp.977-991, 4 July 2023.

⁶⁰ BARNETT Jon, "[Security and climate change](#)", *Global environmental change*, vol.13, 2003, pp.7-17.

⁶¹ KRAMPE Florian, *loc. cit.*

⁶² The IPCC's RCP 8.5 scenario is a "business as usual" model of climate change, which would occur if no measures to prevent and mitigate the effects of climate change were implemented. It is characterised by a doubling of greenhouse gas emissions by 2100. Intergovernmental Panel on Climate Change, "[Summary for Policymakers](#)" in MASSON-DELMOTTE Valérie *et al* (eds.), *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge University Press, 2021, pp.3-32; Intergovernmental Panel on Climate Change, "[Fact sheet - Food and water](#)", IPCC, 2023; MBOW C. *et al*, "(ed.), *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*, IPCC, 2019.

⁶³ KRAMPE Florian, *loc. cit.*

⁶⁴ "[Food lifeline fading for millions in South Sudan hit by conflict and climate shocks](#)", UN, 22 July 2025.

population—faced food insecurity⁶⁵. This represents a significant number of people who could potentially become dependent on humanitarian aid provided by the UN or other agencies.

Beyond famine risk, climate disruptions generate many negative ramifications for human security. Internal displacement constitutes another aspect of the dangers facing civilians. Confronted with meteorological disasters, many people must seek refuge in safe areas. According to the Internal Displacement Monitoring Centre, natural disasters caused more than 45.8 million internal displacements globally in 2024⁶⁶. With the increasing frequency of disasters linked to global ecosystem disruption, this toll will undoubtedly rise, the organisation notes⁶⁷. These displacements expose populations to countless dangers: physical violence, sexual and gender-based violence, armed robbery, extortion and forced recruitment into armed groups. Two examples illustrate the extent of risks incurred by civilians: interstate displacement in South Sudan (UNMISS), and refugee camps in Somalia (UNOSOM II).

The first case demonstrates how disasters caused by climate change can aggravate inter-community violence during conflict. South Sudan is currently divided into ten states, corresponding to the traditional territories of the country's various socio-cultural groups. While major tensions exist between these local authorities, agreements also exist concerning the crossing of internal borders. One form of agreement authorises passage and grazing between societies of semi-nomadic herders and farmers. Schedules and corridors are predetermined, to avoid exacerbating conflicts around transhumance periods. However, in 2024, repeated flooding at the end of summer led many pastoral communities to seek shelter with their livestock across territorial lines, outside planned timeframes. Alongside a backdrop of political tensions and pressure on food security, a UNMISS staff member also observed increased inter-community violence cases during movements in the harvest season⁶⁸.

Box 3: Climate change and inter-community violence: a linear causal link?

Climate change is often described as a "catalyst for violence", or even a "catalyst for chaos". Indeed, the emergence of violence, such as riots or the exacerbation of intercommunity conflict, often correlates with ecosystem disruption effects. While it would be erroneous to dismiss climate impact on armed conflicts, it would also be mistaken to attribute a direct causal link between environmental degradation and peace. According to political scientists, such as Nina von Uexkull, Halvard Buhaug and Bruno Charbonneau, the link represents one of correlation, more than causation⁶⁹. The IPCC also considers the statistical basis for such a relation relatively tenuous⁷⁰.

That said, the climate crisis may deepen historical dynamics of exclusion, vulnerability, predation by local elites, and worsen existing conflicts. In a context of war and weakened security governance, the

⁶⁵ ["Famine stalks two counties in South Sudan as fragile peace is threatened"](#), UN, 12 July 2025.

⁶⁶ ["IDMC Report: Record 83 Million People Living in Internal Displacement Worldwide"](#), Environmental migration portal, *International Organisation for Migration*, 14 May 2025.

⁶⁷ *Ibid.*

⁶⁸ Interview with a UNMISS staff member, 14 October 2025.

⁶⁹ CHARBONNEAU Bruno, ["The production of climate security futures in the West African Sahel"](#), *African Affairs*, 2024, pp.1-20; VON ÜEXKULL Nina and BUHAUG Halvard, ["Security implications of climate change: a decade of scientific progress"](#), *Journal of Peace Research*, vol.58, n.1, 2021, pp.3-17; BENJAMINSEN Tor and BA Boubacar, ["Fulani-Dogon Killings in Mali: Farmer-Herder Conflicts as Insurgency and Counterinsurgency"](#), *African Security*, vol.14, n.1, 2021, pp.4-26.

⁷⁰ POTTS Mary, RÜTTINGER Lukas and VIVEKANANDA Janani, ["What does the IPCC report tell us about climate and conflict?"](#), *Climate diplomacy*, 7 March 2022; ["Climate change 2022: impacts, adaptation and vulnerability"](#), IPCC, 2022.

intensity and frequency of confrontations increase with each new crisis, whether climatic or political. In this way, ecosystem disruption highlights fault lines within societies and between states⁷¹.

Inter-community conflicts in the context of climate change are therefore not inevitable⁷². Simple, low-cost measures such as those implemented by UNMISS and MINUSMA have proved effective in preventing violence linked to environmental resources. In South Sudan, the organisation of conferences between different groups (farmers, hunters, herders) to determine in advance emergency protocols, refuge areas in the event of flooding, and discussion platforms helped reduce clashes during periods of transhumance, drought and flooding⁷³. MINUSMA had also established meeting places for Fulani and Dogon communities ahead of transhumance and encouraged local leaders to express their views on climate degradation's impact on their livelihoods⁷⁴. Beyond resolving specific issues, these meetings helped establish understanding and ongoing dialogue, defusing tensions at their root.

Finally, cooperation in mitigating climate change effects can serve as a powerful peacebuilding tool. Experience shows that competing communities can improve their relations in the long term by working together to manage environmental resources and build collective resilience in the face of ecosystem disruption⁷⁵.

In general, population movements, whether motivated by a one-off humanitarian emergency or more diffuse adaptation to climate change, expose civilians to numerous dangers to their physical integrity. Taking the case of South Sudan again, pastoral societies travelling to dry areas during floods face violence and cattle raids by armed groups. In times of peace, these journeys form part of local survival and resilience strategies in the face of ecosystem disruption, in the same way as migration to urban centres or adjustments of agricultural practices. In times of conflict, however, these adaptations become limited or dangerous for civilians⁷⁶.

The second case study demonstrates how, in the context of the Somali civil war, a natural resource shortage, itself linked to climate change, facilitated combatant recruitment in refugee and IDP camps. In the 2000s, the civil war displaced a significant portion of the Somali population in emergency camps. Due to overcrowding, lack of sanitation and insufficient resources, people faced exposure to famine and health issues. Additionally, armed groups such as Al-Shabaab targeted civilians. They had exploited state weaknesses and refugee vulnerability to divert humanitarian assistance and establish themselves as aid providers. They also exploited food and water shortages caused by recurrent droughts, turning camps into recruitment pools for fighters, who joined its ranks in exchange for security, wages and basic necessities. Although similar events occur outside contexts of climatic emergencies, researchers Karolina Eklöv and Florian Krampe note that climate change consequences exacerbated security deterioration (both state and human) in Somalia⁷⁷. These two cases demonstrate how the combination of climate change and armed conflict can exacerbate populations' precariousness. For UN missions, this has led to increased demand for humanitarian aid and greater vigilance in POC.

⁷¹ KRAMPE Florian, *loc. cit*; CHARBONNEAU Bruno, *loc.cit*; VON ÜEXKULL Nina, *loc. cit*. BENJAMINSEN Tor and BA Boubacar, *loc.cit.* ; NGUYEN Anne, " [Le changements climatiques causera-t-il de nouveaux conflits armés?](#) ", Éclairages du GRIP, *GRIP*, December 2024.

⁷² BORBI Michael, *loc. cit*. KAMAGATE Harouna, *loc. cit*.

⁷³ Interview with a UNMISS staff member, 14 October 2025.

⁷⁴ "[Comment un projet de gestion de la transhumance contribue à la paix et la cohésion sociale au Mali](#)", MINUSMA, UN, 12 May 2023.

⁷⁵ Florian Krampe, *loc. cit*.

⁷⁶ Interview with a UNMISS staff member, 29 October 2025.

⁷⁷ EKLÖW Karolina and KRAMPE Florian, "[Climate-related security risks and peacebuilding in Somalia](#)", SIPRI, October 2019; BROEK Emilie and HODDER Christophe, "[Towards an Integrated Approach to Climate Security and Peacebuilding in Somalia](#)", SIPRI, June 2022.

Lastly, climate change-related phenomena expose civilians and mission personnel alike to major health risks, including the diseases mentioned above—malaria, waterborne diseases, dehydration, etc. Like members of UN contingents, civilians face endangerment from mines and unexploded remnants of war displaced by floods into formerly safe areas. However, they undoubtedly face more vulnerability than uniformed personnel: unlike UN personnel deployed in an armed conflict, they do not necessarily have access to preventive measures, local medical care, or medical evacuation options. Climate change, combined with armed conflict and the weakening of state institutions, can therefore considerably damage their health.

Box 4: The differential effects of climate change on women and girls

While climate disruption affects the entire world's population, it affects people differently depending on their gender. Studies on the subject agree: climate change more adversely affects women and girls⁷⁸.

First, women and children have a lower survival rate during a natural disaster. During the 2004 Aceh tsunami in Bangladesh, for example, they comprised the majority of victims. Research has shown that gender roles led many women to sacrifice their lives to ensure the evacuation of their relatives. Additionally, most female victims had not acquired basic swimming skills, unlike their male relatives⁷⁹.

Second, women and girls face greater exposure to sexual and gender-based violence (SGBV) during climatic disasters⁸⁰. When separated from their support networks (family, community) while seeking shelter, they may become victims of aggression on migration routes or in displaced persons camps⁸¹.

Moreover, the change and increase in their workload during disasters add to their vulnerability. As an illustration, a UNMISS staff member explained how floods in South Sudan prompted women and girls to walk further to fetch firewood, crossing areas where they risk suffering sexual violence⁸². This echoes the work of Bharat Desai, Moumita Mandal and Marisa Ensor on water collection in Darfur. In times of drought, women and girls, who are often assigned this chore, must walk long distances to water points. In these circumstances too, they may be assaulted⁸³. Finally, inter-community violence and cattle raiding - exacerbated in times of shortages – often coincide with SGBV committed against women and girls by members of armed groups⁸⁴.

Additionally, a growing number of publications demonstrate that climate change correlates with increased child marriage. In case of poor harvests, early marriages serve as a survival strategy for families who hope to transfer responsibility for their daughter to a better-off household, whether or not a dowry is involved⁸⁵.

⁷⁸ NGCAMU Bethuel, "[Climate change effects on vulnerable populations in the Global South: a systematic review](#)", *Natural Hazards*, vol.118, n.2, September 2023, pp.977-991.

⁷⁹ RAHIEM Maila, RAHIM Hsuni and ERSING Robin, "[Why did so many women die in the 2004 Aceh Tsunami? Child survivor accounts of the disaster](#)", *International Journal of Disaster Risk Reduction*, vol.55, 2021, pp.1-10.

⁸⁰ DESAI Bharat and MANDAL Moumita, "[Role of Climate Change in Exacerbating Sexual and Gender-Based Violence against Women: A New Challenge for International Law](#)", *Environmental Policy and Law*, vol.51, 2021, pp.137-157.

⁸¹ *Ibid.*

⁸² Interview with a UNMISS staff member, 29 October 2025.

⁸³ DESAI Bharat and MANDAL Moumita, *loc. cit* ; ENSOR Marisa, "[Climate disasters, mass violence and human mobility in South Sudan: Through a gender lens](#)", *Genocide Studies and Prevention: an international journal*, vol.16, n.1, 7 July 2022, pp. 60-75.

⁸⁴ ELLSBERG Mary, MURPHY Mary *et al*, "['If You Are Born a Girl in This Crisis, You Are Born a Problem': Patterns and Drivers of Violence Against Women and Girls in Conflict-Affected South Sudan](#)", *Violence against women*, vol.27, n.15-16, December 2021, pp.3030-3055.

⁸⁵ Interview with a UNMISS staff member, 29 October 2025. SELLERS Sam, "[Gender and Climate Change: a closer look at existing evidence](#)", *Global Gender and Climate Alliance*, November 2016.

In this respect, integrating gender and climate-sensitive policies within missions proves critical. Within UNMISS, close cooperation between the CPS unit and UNPOL elements trained to address SGBV enables careful observation of climatic changes in the field, and consequently effective prevention of gender-based violence during environmental crises. The intersection of these issues receives close monitoring, as a UNMISS informant stated that protecting civilians without accounting for gender and climate could "do more harm than good". Encouraging populations to seek refuge from a disaster without considering sexual violence risks suffered by displaced women amounts to placing them in the line of fire of aggressors⁸⁶.

Collaboration between missions, North-South cooperation organisations and local associations would enable grassroots prevention of violence against women and girls. Additionally, training for lawyers and police officers in host countries proves crucial to the legal handling of SGBV⁸⁷.

While missions themselves face immobilisation by climate disruption effects, their mandates become increasingly complex to implement due to the growing number of threats to human security. Climate change adds extra layers of challenges to peacekeeping operations in their fulfilment of their POC mandate.

2.2 Impact of climate crises on missions' ability to fulfil their mandates

Climate change affects peacekeeping operations' mandates in multiple ways, including the protection of civilians, political affairs and support for the host state in peacebuilding. Its unpredictable nature disrupts mission planning, and, therefore, their ability to respond to different security emergencies.

Regarding human security, environmental disruption has increased the number of people in need of assistance—whether through humanitarian aid following rapid-onset phenomena (flooding, fires), or more diffuse ones (famine). By the end of 2024, the Internal Displacement Monitoring Center estimated that 87.4 million people were living in situations of internal displacement due to war —7.5 million more than in 2023. Natural disasters cause most of the new displacements (45.8 million people)⁸⁸. In South Sudan, where UNMISS operates, internal displacement caused by fighting currently equals that caused by flooding⁸⁹. For peacekeeping operations, civilian vulnerability to climate change increases the workload associated with protection of civilians against disasters and dangers. For instance, significant numbers of peacekeepers are deployed to build and repair dykes during the rainy season in South Sudan, which are also regularly patrolled to ensure their stability during flooding. During the wet season, UNMISS engineers work around the clock. The mission also cooperates with other UN agencies, including the World Food Programme (WFP), the UN Food and Agriculture Organisation (FAO) and local authorities to supply essential goods⁹⁰. UNMISS also provides security for humanitarian convoys⁹¹. In the future, various disruptions to the global ecosystem could lead missions to allocate a greater portion of their troops to humanitarian aid. They would do so in partnership with other UN agencies, such as the Office for the Coordination of Humanitarian Affairs (OCHA), host governments and local organisations⁹².

The interaction between climate change and armed conflicts adversely affects population security. Consequently, it requires attention and vigilance at all levels of the civilian protection mandate, from planning to patrol conduct. In this respect, missions increasingly face the need to monitor and prevent

⁸⁶ Interview with a UNMISS staff member, 29 October 2025.

⁸⁷ Interview with a UNMISS staff member, 14 October 2025.

⁸⁸ ["IDMC Report: Record 83 Million People Living in Internal Displacement Worldwide"](#), Environmental migration portal, IOM, 14 May 2025.

⁸⁹ Interview with a UNMISS staff member, 14 October 2025.

⁹⁰ ["UNMISS and humanitarian partners battling floods in Bentiu, South Sudan, to protect IDPs"](#), UNMISS, 12 October 2022.

⁹¹ ["Catastrophic flooding affects thousands of families in conflict-ridden Pibor"](#), UNMISS, 13 October 2017.

⁹² KRAMPE Florian, *loc. cit.*

conflict generated by meteorological hazards linked to ecosystem disruption—such as the modification of transhumance routes in response to climate change. The UN's peacekeeping experience in Mali has already demonstrated how important it is for MINUSMA to encourage dialogue on climate change. Combined with support for pastoralists, the demarcation of forage areas and the digging of new watering points, measures taken by the mission have helped defuse intercommunity clashes between pastoralists and farmers at an early stage⁹³. Additionally, a Mission staff member emphasised the positive perception of local people regarding these so-called rapid impact projects⁹⁴. These measures therefore reveal the importance of a preventive rather than reactive approach, and of generalising climate-sensitive planning at every level of the mandates⁹⁵.

Moreover, climate disruption complicates the peacebuilding work that host states and UN missions do collaboratively. Indeed, the occurrence of disasters, whether climate-related or not, can significantly reduce host states' capacity to act—including in terms of conflict prevention⁹⁶. The cattle-raiding example given above demonstrates the difficulties that the South Sudanese state faces in maintaining effective control over militias and the circulation of small arms and light weapons and preventing attacks on civilians⁹⁷.

Even when environmental disturbances prove more diffuse, peacebuilding remains affected. Missions such as MINUSMA and MONUSCO support Disarmament, Demobilization and Reintegration (DDR), but the climate crisis and lack of economic development have severely delayed it. DDR largely relies on a return to civilian life through agricultural work, which climate change has rendered more precarious. These programmes are critical to conflict de-escalation, but climate change effects reduce the chances of their success. During its deployment, MINUSMA supported the reintegration of 16,000 former combatants in northern Mali. Repeated heatwaves in the region have led to major losses of arable land and livestock. Climate change effects reduce economic opportunities, which are already scarce in the region. However, favourable and sustainable material prospects prove essential for DDR activities. When civilian activities cannot ensure their survival, some combatants become reluctant to surrender their weapons⁹⁸. In DR Congo, MONUSCO faces a similar dynamic. Between 50% and 80% of demobilised former combatants opt to return to civilian life through farming. They receive support from the Mission in the form of training and seed distribution. However, uncertain weather can affect farming activities, hampering these efforts. Many beneficiaries are therefore taking up arms again to ensure their survival⁹⁹. This does not mean, however, that DDR proves futile in the face of climate change. Rather, specialists agree on the need for missions to integrate environmental issues into sustainable peacebuilding¹⁰⁰.

Box 5: Integrating environmental issues into mission mandates

Since the 1990s, specifically amid the setup of the United Nations Advance Mission in Cambodia, UN peace operations have included clauses covering environmental issues. Since the mid-2010s, issues tied to the CPS nexus have arisen in the conduct of several peace operations, including MINUSMA ([S/RES/2423\(2018\)](#)), UNMISS ([S/RES/2567\(2021\)](#)) and the United Nations Multidimensional Stabilisation Mission in the Central African Republic (MINUSCA) ([S/RES/2759\(2024\)](#)).

⁹³ NGUYEN Anne, *loc. cit.* 2025.

⁹⁴ Interview with a MINUSMA former staff member, 29 October 2025.

⁹⁵ NGUYEN Anne, *loc. cit.* 2025.

⁹⁶ KRAMPE Florian, *loc. cit.* HEGAZI Farah *et al*, *loc. cit.*

⁹⁷ Interview with a UNMISS staff member, 29 October 2025.

⁹⁸ HEGAZI Farah *et al*, *loc. cit.*

⁹⁹ HEGAZI Farah *et al*, *loc. cit.*; VERVISCH Thomas, MUDINGA Emery and MUZALIA Godefroid, "[MONUSCO's Mandate and the Climate Security Nexus](#)", Policy Brief, *Governance in conflict network*, 2020.

¹⁰⁰ HEGAZI Farah *et al*, *loc. cit.*

For missions, precise language may not prove necessary to implement environmental measures in the field. For example, UNMISS—among peacekeeping operations, the one with the most developed environmental programmes—omitted a clause on climate change in its basic mandate ([S/RES/1996\(2011\)](#)). However, this issue's interweaving with the protection of civilians, combined with the importance given to this subject by the mission's leadership, has resulted in the adoption of extensive measures to prevent and mitigate climate change effects¹⁰¹. These include the development of early warning mechanisms, climate-sensitive planning at all levels, the recruitment of specialised environmental crisis management units, deployment training on CPS issues, and the establishment of climate focal points in all UNMISS operational bodies.

However, CPS measures' adoption and implementation depend on the discretionary interest of missions' executive management. While some missions—such as UNMISS—have dedicated units, others rely solely on the voluntary work of staff members. In a context of political and security crises, some peacekeeping operations relegate environmental issues into the background, prioritising instead the restoration of order and civilian population safety¹⁰².

At the institutional level, the lack of clear rules and evaluation criteria makes it difficult to include climate issues into mission planning. Although important guidelines exist on reducing peacekeeping operations' environmental impact¹⁰³ and their transition to renewable energy¹⁰⁴, Russia vetoed integrating climate risks into UN conflict prevention measures—which include peacekeeping operations— at the UNSC in 2021¹⁰⁵. Since President Donald Trump's first and second terms in office, Washington DC's strong opposition to including environmental issues in UN discussions, first and foremost at the UNSC, has reflected the US government's climate scepticism¹⁰⁶. As a result, the integration of the climate, peace and security dimensions does not have an agreed upon and standardised set of terms of reference.

Nevertheless, this does not prevent these issues from being considered in mission planning, following the example of DOS, which takes a multiplicity of variables into account in its modelling of operational risks when establishing peacekeeping operations¹⁰⁷. Additionally, the Climate Security Mechanism supports consideration of climate change's multiple implications on peacekeeping operation conduct, through training and awareness raising as well as through the deployment of seven CPS specialists within various field missions¹⁰⁸.

Moreover, climate change affects mission planning through weather system disruption. The unpredictability of storms, floods and other exceptional meteorological events makes it more difficult to plan emergency aid and prevent peaks in violence. Ratia Tekenet (UNMISS) explained that inter-community violence in South Sudan tended to drop during rainy seasons. However, with the increase in flood frequency and severity, wet seasons have seen a rise in conflict¹⁰⁹. This means missions must

¹⁰¹ Interview with a UNMISS staff member, 14 October 2025; Interview with a UNMISS staff member, 29 October 2025.

¹⁰² Interview with a UNMISS staff member, 14 October 2025.

¹⁰³ ["The Way Forward: Environment Strategy for Peace Operations 2023-2030 Responsibility, Ambition, Legacy"](#), Department of Operational Support, UN, 2023.

¹⁰⁴ ["SDG7 Energy Compact of Renewable energy for peacekeeping - A next Decade Action Agenda to advance SDG7 on sustainable energy for all, in line with the goals of the Paris Agreement on Climate Change"](#), UN, 2021.

¹⁰⁵ ["Security Council Fails to Adopt Resolution Integrating Climate-Related Security Risk into Conflict-Prevention Strategies"](#), UN News, 13 December 2021.

¹⁰⁶ NIILER Eric, ["U.S. Helped to Weaken Report at U.N. Environment Talks, Participants Say"](#), *The New York Times*, 11 December 2025; WALDMAN Scott and SCHONHARDT Sara, ["Trump urges the world to abandon climate fight"](#), *EE News by Politico*, 24 September 2025.

¹⁰⁷ Interview with a DOS staff member, 12 November 2025.

¹⁰⁸ ["2024 Progress report. A year of rising heat and risk"](#), Climate Security Mechanism, UN, May 2025.

¹⁰⁹ TEKENET Ratia, *loc. Cit.*

maintain constant operational availability. Yet, the presence of trained personnel in bases closest to risk zones is not always guaranteed, due to a lack of integration of environmental and humanitarian issues into uniformed personnel training¹¹⁰. However, this skills gap is progressively being closed thanks to training programmes such as those offered by the Climate Security Mechanism¹¹¹ and the CCCPA¹¹². Additionally, in 2024, UNMISS recruited a Pakistani military contingent specialising in flood prevention and mitigation¹¹³.

To summarise, climate change worsens the conditions under which UN personnel are deployed, while simultaneously making it more difficult for missions to fulfil their mandates. By increasing vulnerability and the number of civilians requiring assistance and protection, and by placing obstacles in the way of peacebuilding, it adds to peacekeeping operations' workload.

Conclusion

This non-exhaustive analysis of climate change's impact on missions' capacity to carry out their mandates highlights several key findings. First, peacekeeping practitioners emphasise climate disruption's immobilising effect on UN contingents. Both material capacities and human resources of field missions face weakening. Second, mission mandates become more burdensome due to deteriorating human security caused by ecosystem disruption. Specifically, the protection of civilians and peacebuilding mandates confront major challenges. While their resources remain limited, UN field missions increasingly face expectations to participate in preventing and responding to climate disasters. Ratia Tekenet (UNMISS) emphasised that climate change is transforming peacekeeping into a "logistical nightmare"¹¹⁴ in which peacekeeping operations' capacities diminish in the face of ever-increasing emergencies.

At a time when UN finances face strain¹¹⁵, the adoption of climate-sensitive planning by peacekeeping organisations remains uncertain. Furthermore, climate issues undergo downgrading on the political agenda. While resistance to integrating climate change into peacekeeping operations proved prevalent in normal times, certain UNSC member states' reluctance—displaying overt climate-sceptic stances—could intensify¹¹⁶. Yet, according to a UNMISS staff member interviewed in 2025, the liquidity crisis affecting the UN since 2024¹¹⁷ already impacts measures implemented by peacekeeping operations in this regard. Implementing a CPS approach in missions relies mainly on planning and skills development—from support teams to field elements. During 2025, budget cuts reduced resources available for training deployed personnel. With prospects of reducing uniformed personnel numbers in operational forces by 15%, previously trained contingents will likely depart without assurance that their expertise will transfer¹¹⁸.

¹¹⁰ Interview with a UNMISS staff member, 29 October 2025.

¹¹¹ "[Climate Change, Peace and Security: Understanding Climate-Related Security Risks Through an Integrated Lens](#)", *One UN Climate Change Learning Partnership (UN CC:Learn)*, accessed 17 November 2025.

¹¹² "[CCCPA organises training in French on the theme of "climate, peace and security in the context of peace operations" with the support of the Organisation Internationale de la Francophonie \(OIF\)](#)", CCCPA, consulted on 17 November 2025; NGUYEN Anne, *loc. cit.*, 2025.

¹¹³ Interview with a UNMISS staff member, 14 October 2025.

¹¹⁴ TEKENET Ratia, *loc. cit.*

¹¹⁵ See in particular "[Afrique Midi, ONU: près de 14 000 casques bleus bientôt rapatriés face à une coupe budgétaire historique](#)", *RFI*, 14 October 2025.

¹¹⁶ SCARTOZZI Cesare, "[Climate-Sensitive Programming in International Security: An Analysis of UN Peacekeeping Operations and Special Political Missions](#)", *International Peacekeeping*, vol.29, n.3, 27 May 2022, pp.488-521; MARTENS Lucile and SHOSHAN Malkit, *loc. cit.*

¹¹⁷ CHEN Eugene, "[The liquidity crisis at the United Nations](#)", *Center on International Cooperation*, August 2024.

¹¹⁸ Interview with a UNMISS staff member, 29 October 2025.

However, necessary changes will not necessarily result in additional costs in the long term. On the contrary, they could lead to significant savings for missions, particularly through renewable energy use. Although investments prove essential, CPS approaches do not entail adding environmental tasks to missions already overburdened with mandates. Rather, it involves accounting for climate change and adapting peacekeeping practices to the realities of a world 1.5°C warmer.

Facing these multiple challenges, UN bodies have already deployed numerous strategies. The initiatives and policies cited in this report represent the product of twenty years of discussions, negotiations and development of peacekeeping expertise in ecological crisis contexts¹¹⁹. Despite resistance to including these issues in peacekeeping operations, mandates¹²⁰, early-warning mechanisms, new training programmes, recruitment of climate specialists within missions, and the creation of CPS units, these demonstrate clear needs for missions, host states and troop- and police-contributing countries.

However, these efforts remain all too often dependent on personnel availability and priorities defined by mission heads. Most UN uniformed personnel work in areas where environmental and security crises overlap. Despite this, integrating climate issues into operation planning has not yet become systematic. Consequently, adopted measures may prove inappropriate, or responses may remain reactive rather than preventive.

At a time when climate change profoundly reconfigures UN field missions' operational context, peacekeeping operations must fully account for these issues at every level of their action. From programming to after-action reviews, including patrols, prevention, humanitarian assistance and police unit training, considering and anticipating climate change effects would enable peacekeeping operations to carry out their mandates more effectively and for more lasting peace.

Recommendations

"The climate is changing, UN missions need to change too," concluded Ratia Tekenet at the Accra Observatory conference. The aim here is to provide a non-exhaustive list of various adaptation solutions for UN field missions, whether to mitigate climate change effects on troops or to better fulfil their mandate of protecting civilian populations. These recommendations are structured into three phases: upstream of missions, deployment and after-action reporting.

Before Missions

1. Ensure the training of contingents deployed in climate crisis areas through cooperation between TCCs/PCCs and UN institutions

Given that 80% of uniformed personnel deployed in peacekeeping operations are involved in climate crisis situations, they need to understand CPS issues. Regarding the protection of civilians, an understanding of the links between security, gender and climate change could enable UN field mission staff to act appropriately.

Additionally, training in how to respond to climatic emergencies can prove decisive in the face of rapid-onset phenomena such as floods.

Various national or regional peacekeeping schools can provide such training, which links to the training of UN troops and police by TCCs/PCCs. Such programmes already exist, notably at the CCCPA. They can be strengthened and encouraged through close collaboration with UN bodies such as UNITAR, the Climate Security Mechanism and UNEP. Regarding DPO, awareness-raising and training for uniformed

¹¹⁹ SCARTOZZI Cesare, *loc. cit.*; MARTENS Lucile and SHOSHAN Malkit, *loc. cit.*

¹²⁰ NGUYEN Anne, *loc. cit.* 2025.

personnel on mitigating climate change effects on peacekeeping operations and on the CPS nexus could be integrated into pre-deployment standards.

2. Incorporate climate factors from the operational planning stage

Climatic disturbances exist in most UN field missions. According to specialists and field personnel, incorporating these risks into operational planning enables the anticipation of climatic phenomena. Accounting for weather disruptions means that properly trained troops can be deployed. Adapting equipment to climatic constraints prevents the loss of material due to foreseeable disasters. Specifically, better air transport provisioning, which has been under pressure for several years, may prove decisive in field operations' transition towards a climate-sensitive approach.

Finally, a detailed understanding of interactions between climate crises and the protection of civilians enables a better-targeted approach in assistance to populations during climate-related disasters. Mainstreaming gender and adopting a youth-sensitive approach ensure more effective protection for women and girls and pays attention to young people in peacebuilding.

3. Include clear and sustainable objectives for mission adaptation to climate change in mandate setting

One of the difficulties faced by field operations in implementing climate-sensitive measures is, beside some Member States' resistance, the lack of clear objectives in terms of prevention and mitigation. Yet, the establishment of precise mandate objectives enables missions to plan for disasters (particularly in the form of standardised operational procedures in times of crisis). It also opens possibility for evaluating applied measures, which could lead to faster adaptations to climate change.

During Deployment

4. Include a Climate, Peace and Security specialist in missions affected by climatic phenomena

The presence of climate specialists or a climate unit in missions affected by climate change means that its multiple dimensions can be better accounted for. Following the example of UNMISS, in-house climate experts can establish and train contact points in each unit, thus ensuring climate issues are well integrated at all levels of the mission.

Establishing dedicated positions also opens opportunities for exchange and cooperation between different units (peacekeepers, UNPOL and civilian staff) and for disseminating good practice in adapting to climate change within missions.

These staff members can be deployed through collaboration with the United Nations Environment Programme (UNEP). Their presence in the field may also result from in-kind or financial contributions from UN member states as a contribution to peacekeeping.

5. Foster collaboration between missions, civil society organisations and host state institutions in building climate-related competencies

One of the major challenges in adapting missions lies in building advanced skills in dealing with climate-related issues with the host state's authorities and civil society. Working with the armed forces, police units and civil servants to build capacities for anticipating extreme weather phenomena, early warning and emergency protocols proves beneficial in several ways. Cooperation with civil society organisations matters, especially in aspects relating to the prevention of inter-community violence and violence against women.

These collaborations enable the sharing of local knowledge of climate change with UN field mission staff, and increase the number of local partners for action in times of crisis. This expertise proves even more valuable given that a 15% reduction in mission staff is expected by 2026, including personnel with prior training in environmental issues.

6. Encourage collaboration with UN agencies and establish partnerships between missions and bodies such as UNDP, FAO and UNEP

Effective climate adaptation requires coordinated action across the UN system. Establishing strong partnerships between peacekeeping operations and specialised agencies such as UNDP, FAO and UNEP enables missions to access technical expertise, share best practices, and implement integrated approaches to climate-related challenges.

7. Increase the proportion of renewable energy produced by missions

Adequate peacekeeping operation coverage in terms of renewable energy ensures their operation in the event of disasters, and more generally in the face of humanitarian emergencies. By guaranteeing a local supply of electricity, field missions can reduce their dependence on fossil fuels and on risky and unpredictable supplies during security and climate crises.

Upon return from field operations

8. Ensure a positive environmental legacy for UN peacekeeping operations

When missions withdraw, the UN can bequeath the renewable energy infrastructure it has developed to host countries, leaving a positive legacy for local communities. This can also encompass technical improvements to local energy infrastructures.

9. Establish audits on missions' climate vulnerabilities

Audits of missions' climatic vulnerabilities enable quick adaptation to environmental emergency effects. This would involve assessing available equipment and CPS measures adopted, and the skills and health of deployed personnel.

Evaluating equipment – particularly vehicles and generators – in terms of their adaptation to climate change effects enables contingent-owned equipment adjustment.

When CPS measures are in place, regular evaluations can identify good practice. Particular attention could be paid to planning and integrating CPS, gender and age dimensions into missions' units' work.

Understanding the effects of climate change on soldiers' and police officers' health – and therefore their performance – also presents a need. Protocols including testimonies and medical visits could, therefore, be implemented during missions and upon unit departures.

These assessments should enable DPO, DOS, missions and TCCs/PCCs to gain a better understanding of peacekeeping operations' climatic vulnerabilities. They will also enable the rapid adaptation of equipment, training and practices to the reality of climate change in the field.

10. Adapt training programmes based on lessons learned and climate audits

A recurring request from staff interviewed during this research and at the Observatory seminar in Accra was for providing training on climate issues. Enhancing current and future training programmes will equipped deployed staff with regularly updated practical knowledge. Feedback from lessons learned and climate audits (see recommendation 9) can feed into teaching modules intended for subsequent staff rotations, and even for future peacekeeping operations.

About the author



Anne Nguyen is a researcher at GRIP. She holds a master's degree in international relations - Security, Peace and Conflict from the Université libre de Bruxelles (ULB) and a PhD in Political Science from ULB. Her areas of expertise are peace studies, post-conflict issues and environmental questions related to the conduct of war.

The Boutros-Ghali Observatory on Peacekeeping is a forum for discussion between experts and French-speaking personalities from troop-and-police-contributing countries. It contributes to strengthening triangular dialogue between Member States engaged in peacekeeping, the UN Security Council, and the UN Secretariat.

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