

Libya is exposed to a number of climate hazards. In September 2023, Storm Daniel caused severe rainfall and floods, triggering the collapse of two ageing dams in eastern Libya. This left a trail of destruction in the city of Derna and its surrounding areas. Libya is also one of the driest and most water-stressed countries in the world; it is prone to drought and less than two per cent of the country receives enough rain to sustain agriculture. Climate stressors are in turn aggravated by political turmoil, a divided government, protracted conflict and the presence of a plethora of armed groups. These factors, which have contributed to mismanagement, corruption and a lack of good governance, affect efforts to address climate-related risks, including those that may influence peace and security dynamics.

- Livelihoods in Libya have been impacted by the compounded effects of conflict, political crisis, economic shocks and climate change. Climate change and water scarcity pose serious risks to livelihoods and the productive sectors and may increase the risk of intercommunal tensions.
- Conflict and climate-related disasters impact migration to and forced displacement within Libya. Internally displaced persons (IDPs), migrants and refugees are highly vulnerable to climate change and face additional challenges, including human rights violations and lack of access to services and protection. The divided government response to the Derna flooding partially excluded refugees and migrants, who faced discrimination in access to government support.
- The impacts of climate change have provided opportunities for armed actors and parallel government institutions to solidify political power, by boosting recruitment due to declining livelihoods or by controlling disaster response efforts in parts of Libya.
- The devastation in Derna exposed not only vulnerability to climate change but also the consequences of poor governance and mismanagement by two rival administrations. This fragmentation of state authority is a major inhibitor to addressing the impacts of climate change.

Political reconciliation and unification would advance the development and implementation of climate adaptation plans and disaster response strategies across Libya. Cooperation in tackling climate change may provide divided government institutions with opportunities for integration and collaboration, supported by international actors, such as the United Nations Security Council and the UN Support Mission in Libya (UNSMIL).

RECOMMENDED ACTIONS:

- ▶ The United Nations and relevant partners, through for example the UN4NAPs, should commit to a multisectoral effort to support Libyan authorities in analysing and mitigating climate-related peace and security risks, including developing an inclusive, conflict-sensitive and peace-positive national adaptation plan and disaster risk reduction guidelines.
- ▶ The technical capacity to access international climate finance should be strengthened, including developing a climate finance strategy that articulates and quantifies adaptation and mitigation needs.
- ▶ The UN and relevant partners should strengthen their efforts to support climate-resilient livelihood diversification. Special focus should be given to meaningfully involving and drawing on the agency of women, girls and the most vulnerable groups of people. This requires the strengthening of civil society and an end to repressive government measures against civil society actors, including climate activists.
- ▶ UN agencies, for example the Food and Agriculture Organization, and relevant partners should support government institutions such as the Ministry of Agriculture, Livestock and Marine Resources and the Ministry of Water Resources in improving water use, through reforms in agriculture and the construction and maintenance of water infrastructure, including desalination and waste water treatment.
- ▶ The UN Security Council should encourage and task the UN Support Mission in Libya with facilitating cooperation in tackling climate change, environmental issues and managing natural resources, providing divided government institutions with opportunities for peaceful collaboration, such as shared water management and early warning systems.

Figure 1. Key statistics

Climate and environment

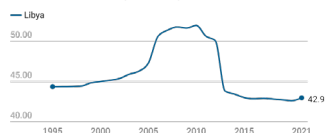
- Projected mean annual temperature increase of 1.42°C–2.69°C by 2060
- Water scarcity and a predicted increase in the frequency and intensity of extreme weather events
- Mean annual precipitation is expected to decrease by 7% by 2050
- Agriculture is a source of income for around 22% of the population (2020).

Population

Total population	7 million (2024)
Internally displaced population	1.2 million (2024)

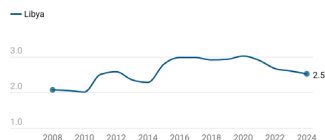
ND-GAIN Country Index

The ND-GAIN Country Index captures a country's vulnerability to climate change and other global challenges, and its readiness to improve resilience. It is a score out of 100; the higher the score, the less vulnerable and more ready the country.



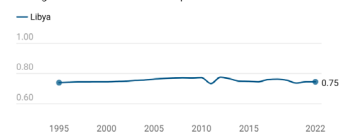
Global Peace Index (GPI)

The GPI ranks 163 countries according to their level of peacefulness. It is a score out of 5; the lower the score, the more peaceful the country.



Human Development Index (HDI)

The HDI measures a country's achievement in key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living. It is a score out of 1.0; the higher the score, the higher the level of human development.



Sources: World Bank, Climate Change Knowledge Portal, 'Libya: Climatology', accessed 26 June 2024; United Nations Population Fund, World Population Dashboard, 'Libya', accessed 7 Aug. 2024; World Food Programme (WFP), *Libya: Agricultural & Livelihood Needs Assessment Report—A Study of Fezzan Region* (WFP Libya: Mar. 2020); Notre Dame Global Adaptation Initiative (ND-GAIN), 'ND-GAIN Index country rankings 2021', accessed 7 Aug. 2024; Vision of Humanity, 'Global Peace Index 2024', accessed 7 Aug. 2024; and UN Development Programme (UNDP), *Human Development Report 2023/2024* (UNDP: New York, 2024).

Climate exposure: Trends and projections

Libya's climate ranges from a temperate Mediterranean climate along coastal areas to a tropical desert climate in most of the interior. About 95 per cent of the country is a desert, prone to dryness, sandstorms, dust storms and desertification, while parts of the Mediterranean coast are vulnerable to flooding.¹ Changes in climate, particularly increased climate variability, are likely to influence the frequency and intensity of extreme weather events and the impacts of natural hazards, such as Mediterranean cyclones.²

Temperature: The mean annual temperature is 22.92°C and by 2060 it is projected to rise by 1.42°C to reach 24.34°C, but it could go as high as 25.61°C.³ With higher temperatures, Libya will experience more frequent droughts, dust storms, sandstorms and extreme heat days, along with increased desertification.

Precipitation: Mean annual precipitation is expected to decrease by 7 per cent by 2050, but with an increase in the intensity of rainfall events.⁴ Water demand in Libya is already greater than its renewable supply and current projections indicate an increased stress on water sources.⁵ Water scarcity can lead to a decline in agricultural productivity and inadequate safe drinking water, sanitation and hygiene, with potentially deadly health consequences.⁶

Socioecological vulnerabilities

Despite wealth derived from the extraction and export of oil and gas, Libya's infrastructure has eroded over the last decade. Periods of armed conflict, particularly between 2011 and 2020, and sustained political crisis have degraded the operation and maintenance of critical infrastructure, including water and electricity.⁷ The effects of climate change can further exacerbate infrastructural vulnerabilities.

In September 2023, two dams in the city of Derna collapsed following torrential rains from Storm Daniel. The flooding that followed killed at least 4352 people, with an estimated 8000 missing.⁸ At least 44 862 people were displaced in the immediate aftermath.⁹ The dams were built in the 1970s, using short rainfall records, and may not have been designed to withstand extreme rainfall events. They were also not regularly serviced.

Rising sea levels pose another climate-induced threat. The rate of sea level rise in the Mediterranean is two to three times faster than global averages.¹⁰ A large majority of the Libyan population lives, and most of its strategic infrastructure is located, in coastal areas. Higher sea levels will erode shorelines and cause surge flooding.¹¹

The presence of gender inequality in Libya can also exacerbate the country's vulnerability to climate change. Nevertheless, women and girls play an important role in climate action as they constitute over one third of the Libyan labour force.¹²

Climate-related peace and security risks

Climate change is rarely the main driver of conflict, but it can undermine development gains, exacerbate the dynamics of ongoing violence and disrupt fragile peace processes. Violent conflict and political instability

can also weaken community resilience to the effects of climate change. This fact sheet uses four interrelated pathways to navigate the relationship between climate change, peace and security: (a) livelihood deterioration, (b) migration and mobility, (c) military and armed actors, and (d) political and economic exploitation and mismanagement.¹³

Livelihood deterioration

Livelihoods in Libya have been impacted by conflict, political crisis, economic shocks and climate change. Despite agriculture not being a main source of revenue at the national level, it plays a key part in livelihoods and remains an important source of income in rural areas and areas with arable land, for an estimated 22 per cent of the population.¹⁴ However, Libya imports three quarters of its foodstuffs, leaving it vulnerable to disruptions in global food supply chains, including those resulting from climate change.¹⁵

The effects of climate change, such as higher temperatures, droughts, irregular rainfall, flooding and soil degradation, have impacted agriculture, livestock and fishing, affecting livelihoods and food security.¹⁶ Libya's heavily subsidized agricultural sector has suffered since the outbreak of conflict, particularly between 2011 and 2020, with production declining significantly.¹⁷ The protracted conflict continues to make it difficult for farmers to access agricultural supplies, including fertilizers and spare parts. In the absence of viable sources of income, loss of livelihoods may increase grievances and risk further conflict.

Given the country's intensifying water stress, increased dependence on finite water resources may also increase the risk of conflicts.¹⁸ There is a growing demand for water for agriculture and industry, including the hydrocarbon sector. In order to extract water and transport it to the population centres in the north, an enormous pumping and water supply system named the 'Great Man-Made River' (GMR) has been built to pump water from deep water wells and transport it to the coast. The GMR supplies 80 per cent of Libya's drinkable water.¹⁹ Using water made available by the GMR, the government has created agricultural projects consisting of state farms in deserts, arid and semi-arid regions, growing plants that under normal conditions are too water intensive. Its two other potential sources of freshwater—desalination and waste water treatment—remain underdeveloped.²⁰

The GMR project has caused significant communal contestation over the inequitable management of water resources.²¹ The inequity in water management has, for example, aggravated a deepening sense of socioeconomic exclusion in the south-western region of Fezzan. Grievances have been manifested in protesters sabotaging pumps along the GMR network, at times significantly diminishing water output.²² Nevertheless, shared reliance on scarce subterranean water resources has also created avenues for cooperation between different communities and even armed groups.²³

Libya's economy is heavily reliant on oil and gas, which constitute 97 per cent of exports and over 90 per cent of government revenues.²⁴ It is thus highly vulnerable to external shocks from the green energy transition and global oil and gas price fluctuations.²⁵ As a result, the International Monetary Fund expects declining fiscal and external balances in Libya

¹ United States Agency for International Development (USAID), 'Climate risk profile: Libya', Fact sheet, July 2017; and World Bank, Climate Change Knowledge Portal, 'Libya: Country summary', accessed 26 June 2024.

² World Bank (note 1).

³ World Bank (note 1).

⁴ USAID (note 1).

⁵ USAID (note 1); and International Federation of Red Cross and Red Crescent Societies (IFRC), 'Libya climate fact sheet', [n.d.].

⁶ IFRC (note 5).

⁷ Irhiam, H. R., Schaeffer, M. G. and Watanabe, K. (eds), *The Long Road to Inclusive Institutions in Libya: A Sourcebook of Challenges and Needs* (World Bank Group: 2023).

⁸ United Nations Office for the Coordination of Humanitarian Affairs (OCHA), 'Libya: Flood response—Humanitarian update (as of 15 Dec. 2023)', 18 Dec. 2023; and OCHA, 'Libya: Flood response—Humanitarian update' (as of 20 Mar. 2024), 23 Apr. 2024.

⁹ Amnesty International, 'Libya: "In seconds everything changed"—Justice and redress elusive for Derna flood survivors', 11 Mar. 2024.

¹⁰ Intergovernmental Panel on Climate Change (IPCC), 'Summary for policymakers', eds Pörtner, H.-O. et al., *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate* (IPCC: 2019).

¹¹ United Nations and COP27, 'UN Climate Change Fact Sheet: Libya', Oct. 2022.

¹² UN Women, 'Women and girls at the forefront of climate action in Libya', 2022 International Women's Day Webinar, Summary Report, 2022; and World Bank, Data,

'Labor force, female (% of total labor force)—Libya', 2024.

¹³ Mobjörk, M., Krampe, F. and Tarif, K., 'Pathways of climate insecurity: Guidance for policymakers', SIPRI Policy Brief, Nov. 2020.

¹⁴ World Food Programme (WFP), *Libya: Agricultural & Livelihood Needs Assessment Report—A Study of Fezzan Region* (WFP Libya: Mar. 2020); and Food and Agriculture Organization of the UN (FAO), *Agriculture and Rural Livelihoods Needs Assessment—Libya* (FAO: 2017).

¹⁵ USAID (note 1).

¹⁶ WFP and REACH, *Libya: CLEAR—Consolidated Livelihood Exercise for Analysing Resilience* (WFP/REACH: Oct. 2022).

¹⁷ Adelphi, 'Climate-Fragility Risk Brief: Libya', Oct. 2021.

¹⁸ WFP and REACH (note 16).

¹⁹ USAID (note 1).

²⁰ Adelphi (note 17).

²¹ Wehrey, F., 'Climate vulnerability in Libya: Building resilience through local empowerment', Carnegie Endowment, 6 June 2024.

²² Wehrey (note 21).

²³ UN Support Mission in Libya (UNSMIL), Digital focus group interview with authors, 22 May 2024.

²⁴ African Development Bank Group, *African Economic Outlook 2024: Driving Africa's Transformation—The Reform of the Global Financial Architecture* (African Development Bank: May 2024).

²⁵ Peszko, G. et al., 'Diversification and cooperation in a decarbonizing world', World Bank, 2020.

over the coming decade due to a projected decrease in global oil prices.²⁶ This reduction in income can lead to cutbacks in the public sector, which employs the large majority of the population, diminishing social programmes and infrastructure, as well as reduced investment in climate mitigation and adaptation.²⁷ Structural transformation and diversification of Libya's economy will require political stability and integration.²⁸

There is an urgent need to support climate-resilient livelihood diversification. Special focus should be placed on including and meeting the needs of women and girls, as well as the most vulnerable and marginalized groups: the poor, youth, migrants and displaced populations, and persons living with disabilities.

Migration and mobility

Conflict and climate-related disasters affect migration and displacement in Libya. The country has also experienced an influx of migrants, refugees and asylum seekers from neighbouring countries, with a significant increase in Sudanese refugees since Sudan's conflict broke out in April 2023.²⁹ Moreover, it is a transit country for migrants heading to Europe. The International Organization for Migration (IOM) estimates that there are at least 725 304 migrants in Libya, many migrating from neighbouring countries.³⁰ Most migrants are employed in the Libyan labour market.

Climate change has been identified as one of several contributing factors, along with economic, conflict and political shocks, that drive migration into Libya.³¹ In a large sample of migrants recently interviewed by the IOM, 25 per cent had experienced at least one climatic shock or stressor in the year before migrating to Libya.³²

IDPs, migrants and refugees are highly vulnerable to the impacts of climate change and face additional challenges such as human rights violations, lack of access to critical services and absence of protection. Refugees and migrants in Libya have been the target of widespread human rights abuses, including arbitrary detention, enforced disappearance, slavery, torture and sexual violence.³³

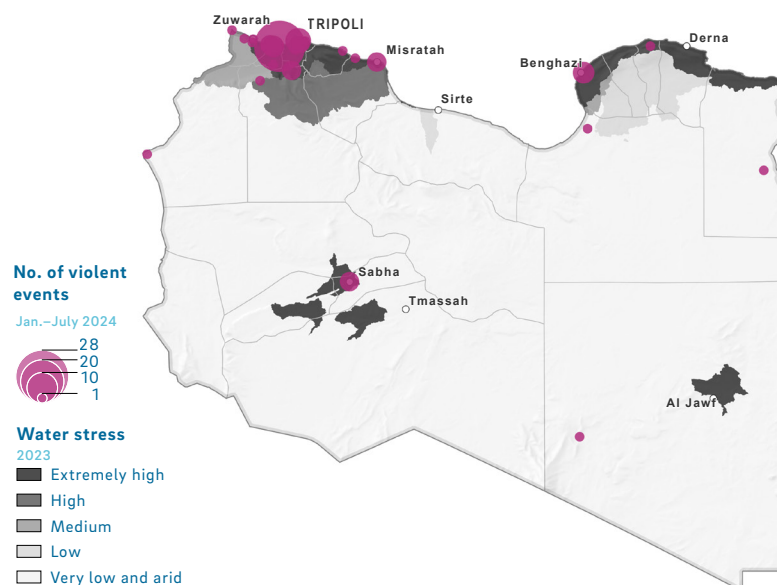
The Derna flooding response partially excluded foreign nationals, refugees and migrants, some of whom faced discrimination in accessing government compensation and support, despite significant budgets allocated for reconstruction and compensation by the rival governments.³⁴ An adequate disaster response for IDPs was also lacking, particularly in terms of providing accommodation, health services and food assistance.³⁵

The UN Sustainable Development Cooperation Framework for Libya thus underscores the need to provide durable solutions for IDPs and effective and rights-based migration management.³⁶ Special emphasis needs to be placed on the provision of critical services for migrants, refugees and IDPs, as well as addressing their specific climate vulnerabilities.

Military and armed actors

Fragmented security actors in Libya engage in competition for political influence and economic and natural resources. The disaster response following Storm Daniel was distinguished by securitized approaches employed by military actors.³⁷

Figure 2. Water stress and conflict in Libya



Note: Violent events refers to the number of battles, explosions/remote violence and attacks against civilians. Sources: Water Resources Institute, 'Aqeduct 4.0', accessed 1 Aug. 2024; and Armed Conflict Location & Event Data Project, 'Data export tool', accessed 1 Aug. 2024.

In the aftermath of the Derna flooding, public anger mounted at the authorities' failure to maintain the dam infrastructure, poor disaster preparedness and conflicting instructions ahead of the storm, including the imposition of a curfew.³⁸

The Libyan National Army (LNA) has clamped down on public dissent, restricting the independence of civil society and media, as well as resorting to violent suppression through detention and forced disappearance. Those targeted have included journalists, peaceful protesters and activists.³⁹ Concerns remain over the lack of willingness of judicial authorities to investigate or prosecute powerful military and political actors.⁴⁰ The Derna response arguably conforms to a general pattern of repression and restrictions placed on civil society in Libya.⁴¹

The arrival of humanitarian assistance following Storm Daniel was also delayed in some areas due to a lack of cooperation between various authorities and a plethora of checkpoints established by the LNA. Furthermore, control over reconstruction efforts and funds has been used as a tool to boost recognition from the international community for the eastern government.⁴²

The insecurity, instability and destruction wrought by climate change in Libya have opened up new possibilities for armed and military actors to strengthen their political hold.⁴³ This has shown how increased securitization in the aftermath of a natural disaster may politicize disaster responses and cause delays.

The UN Security Council should encourage and task the UN Support Mission in Libya with facilitating cooperation in tackling climate change, environmental issues and managing natural resources, providing divided government institutions with opportunities for peaceful collaboration, such as shared water management and early warning systems.

²⁶ International Monetary Fund (IMF), 'Libya: 2024 Article IV consultation—press release; staff report; and statement by the executive director for Libya', IMF Country Report no. 24/206, July 2024.

²⁷ Adelphi (note 17).

²⁸ African Development Bank Group (note 24).

²⁹ UN High Commissioner for Refugees (UNHCR), Operational Data Portal, 'Libya', accessed 1 Aug. 2024.

³⁰ IOM, *DTM Libya Migrant Report: Round 52 (March–May 2024)* (IOM Libya: Tripoli, May 2024).

³¹ IOM, *Climate Change, Conflict and Migration (CCM) Nexus and Water Scarcity Study, Final Report* (IOM: Cairo, Feb. 2023).

³² IOM, 'Aftershock: An assessment of how climate change is influencing migration and vulnerability in Libya', Nov. 2023.

³³ UN Human Rights Council, 'Detailed findings of the Independent Fact-Finding

Mission on Libya', A/HRC/52/CRP.8, 24 Mar. 2023.

³⁴ Amnesty International (note 9).

³⁵ IOM, 'IOM Libya: Impact of Storm Daniel—An update on displacement and needs following the floods in north eastern Libya', Nov. 2023.

³⁶ UN Libya, *United Nations Sustainable Development Cooperation Framework: Libya 2023–2025* (UNDP: Oct. 2022).

³⁷ UNSMIL (note 23).

³⁸ Amnesty International (note 9).

³⁹ Amnesty International (note 9).

⁴⁰ Amnesty International (note 9).

⁴¹ UN Human Rights Council (note 33).

⁴² UNSMIL (note 23).

⁴³ UNSMIL (note 23).

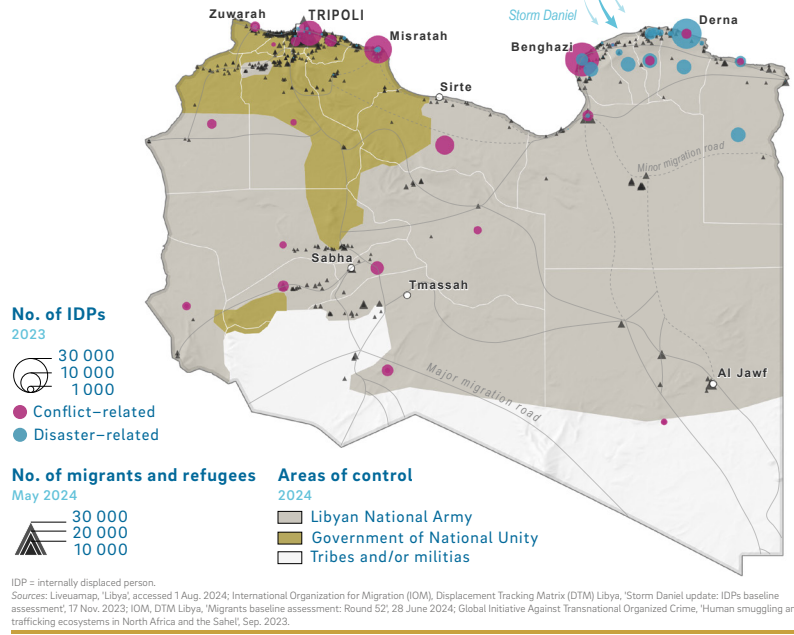
Political and economic exploitation and mis-management

Libya has suffered from divided government institutions for years, including duplicated bureaucratic structures. In 2021 a new unified Libyan government was formed, following facilitation by the UN, and its primary mandate was to prepare for national elections.⁴⁴ However, the failure to hold national elections in December 2021 led to the re-emergence of parallel government structures. Both national elections and the reunification of institutions remain elusive, with no agreed timeline.⁴⁵ In August 2024 the fragility of this political transition was underscored by military mobilization in southern and western Libya, jeopardizing the integrity of the 2020 ceasefire.⁴⁶

Previous conflict and political instability have limited nationwide planning, coordination and integration across a range of climate issues.⁴⁷ Libya is, for instance, yet to develop a National Adaptation Plan.⁴⁸ As evidenced by the Derna flooding, there has also been little progress in the development or implementation of policies for national disaster risk reduction.⁴⁹ It is currently the only country not to have finalized and submitted a climate mitigation strategy (Nationally Determined Contribution) as required by the Paris Agreement, despite having Africa's highest per capita greenhouse emissions.⁵⁰

The Libyan Ministry of Environment has worked with international partners to improve its own reporting capacity and integrate work on climate change across ministries, but this work has been complicated by institutional fragmentation.⁵¹ Furthermore, Libya attracts a marginal amount of international climate finance, placing it among the very lowest recipients in the Arab region.⁵²

Figure 3. Displacement and migration in Libya



The United Nations and relevant partners, through for example the UN4NAPs, should commit to a multisectoral effort to support Libyan authorities in analysing and mitigating climate-related peace and security risks, including developing an inclusive, conflict-sensitive and peace-positive national adaptation plan and disaster risk reduction guidelines. The technical capacity to access international climate finance should also be strengthened, including developing a climate finance strategy that articulates and quantifies adaptation and mitigation needs.

⁴⁴ Adelphi (note 17).

⁴⁵ Amnesty International (note 9).

⁴⁶ UNSMIL, 'UNSMIL statement on recent mobilization of forces', 9 Aug. 2024.

⁴⁷ Zachariah, M. et al., 'Interplay of climate change-exacerbated rainfall, exposure and vulnerability led to widespread impacts in the Mediterranean region', 2023; and UNSMIL (note 23).

⁴⁸ Zachariah et al. (note 47).

⁴⁹ UN Libya (note 36).

⁵⁰ UN Framework Convention on Climate Change (UNFCCC), 'NDC Registry', accessed 20 July 2024.

⁵¹ Adelphi (note 17).

⁵² Economic and Social Commission for Western Asia (ESCWA), 'Climate finance needs and flows in the Arab region', Policy Brief no. 1, Sep. 2022.

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The Climate, Peace and Security Fact Sheets aim to generate reliable, relevant, timely and actionable information and analysis on climate-related peace and security risks in selected countries and regions on the United Nations Security Council agenda.

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