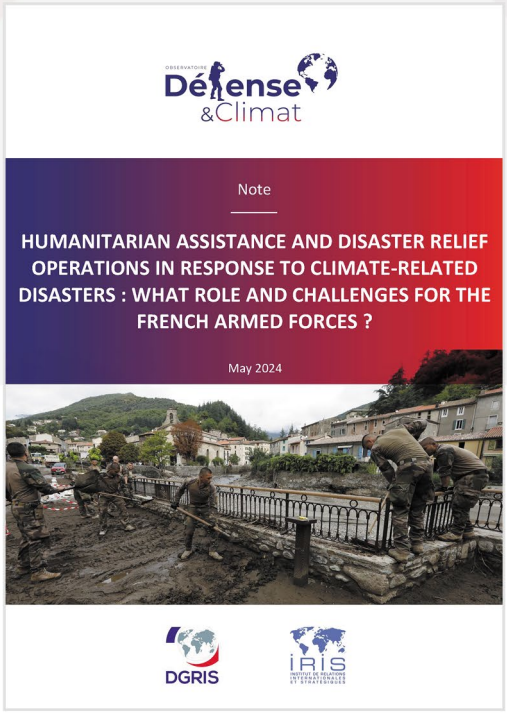
SUMMARY

HUMANITARIAN ASSISTANCE AND DISASTER RELIEF OPERATIONS IN RESPONSE TO CLIMATE-RELATED DISASTERS: WHAT ROLE AND CHALLENGES FOR FRENCH ARMED FORCES?

May 2024



The Defence and Climate Observatory, launched in December 2016, aims to study climate-related security and defence issues.

It is coordinated by IRIS as part of the contract carried out on behalf of the French Ministry of Defence's Directorate General for International Relations and Strategy (DGRIS). The Observatory's multi-disciplinary team includes researchers specializing in international relations, security, defence, migration, energy, economics, climatology and health. It is directed by Julia Tasse and François Gemenne.

The Observatory has initiated numerous collaborations with European partners (Netherlands, Luxembourg) and international partners (Australia, United States, India), international NGOs and national and international public bodies. These initiatives have strengthened cooperation on climate issues and their security implications.

The Climate and Defence Observatory produces reports and notes, organises restricted seminars and conferences open to the public, and hosts the podcast "On the climate front".

www.defenseclimat.fr/en

The Ministry of Defence regularly calls upon private research institutes for outsourced studies, using a geographical or sectoral approach to complement its external expertise. These contractual relationships are part of the development of the defence foresight approach, which, as emphasised in the latest White Paper on Defence and National Security, "*must be able to draw on independent, multidisciplinary and original strategic thinking, integrating university research as well as specialised institutes*".

Many of these studies are made public and available on the Ministry of Defence website. In the case of a study published in part, the Directorate General for International Relations and Strategy may be contacted for further information.

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This note analyses **climate change impacts on humanitarian assistance and disaster relief (HADR) operations carried out by the French armed forces in response to climate-related disasters.** It is divided into three parts: climate change impacts on the evolution of HADR operations in France along with the operational and capability consequences for French armed forces (I), followed by an analysis of the use of HADR operations abroad as a lever for military influence and power by nations active in this field such as the United States, China, France, India and Australia (II). Finally, three foresight scenarios for 2050 are suggested along with recommendations for the Ministry of Armed forces (III).

I. Climate change, natural disasters and emergency response (HADR)

This first part sets out how extreme weather events are set to increase in frequency and intensity as a result of climate change, in France as in most countries around the world. **French territories, both in mainland France and overseas, are facing an increasing number of extreme weather events** such as floods, landslides, cyclones and forest fires. As these events multiply, risks spread to different regions of France that were previously not, or were less, exposed to such hazards. Increased local vulnerabilities represent a major challenge for emergency services, which must adapt to meet these new challenges.

In France, in response to extreme weather events, civil protection and civil protection military units (ForMiSC) provide **emergency assistance to disaster-stricken victims**. Civil protection missions in response to climate disasters are not increasing over the period 2014-2023 but are more marked by activity peaks. Conversely, **the number of HADR operations carried out by French armed forces in response to climate disasters has increased by 200% between 2007 and 2023, in response to requests from civil protection forces at local, departmental or zonal levels.**

The increased commitment of armed forces has led to **operational and capability challenges**, as well as a wider reflection on civil protection missions of armed forces. One of these challenges is the **over-solicitation of air capabilities**, which are the primary resources mobilised in the event of climate-related disasters. In addition, given the increasing vulnerability of French overseas territories to climate-related disasters, **the lack of human and material resources, particularly airborne resources, of civil protection forces and armed forces pre-positioned in the French overseas territories**, led, for example, to the use of forces from mainland France after hurricane Irma hit the Antilles in 2017. Finally, it is worth highlighting the significant **lack of climate risk-related culture** in mainland France. These

climate change adaptation gaps of civil protection units contribute to the risk of French armed forces losing their capacity to cope with the increase and intensification of climate disasters.

II. HADR operations abroad in response to climate-related disasters: a growing lever of influence and power

France participated in numerous HADR interventions, on all continents, and in response to all types of disasters. However, **the United States (US) and China are the most active countries in this field**, distinguishing themselves specifically by the geographical extent of their interventions. The Sino-American rivalry is also evident in the field of HADR operations abroad, insofar as the Chinese People Liberation Army intervenes in response to climate-related disasters in areas considered by the US to be its “backyard”. In return, the US are investing in the Indo-Pacific, notably through a proactive policy of humanitarian aid, thanks, for example, to the mobilisation of the US army within at least fourteen HADR operations abroad since 2010.

Many countries are involved in HADR operations abroad to support allied states, or to intervene on the territory of states that are part of **influence projection strategies**. In this context, the ability of states to deploy military means for HADR operations abroad becomes a structuring factor of soft power, with the aim of improving their reputation and influence within disaster-stricken populations and/or their governments. Some countries are therefore engaging in "**disaster diplomacy**", hoping their interventions will have the potential to improve relations on the international stage.

Finally, military powers use HADR operations abroad as **opportunities to deploy and project military means serving diplomatic and power objectives.** Indeed, these interventions, and the exercises set up to prepare them, are an opportunity to encourage military cooperation, between allies or with new partners, to demonstrate national military capabilities, and to deploy forces on the territory of another state. The **climate vulnerability of a state thus becomes an issue of sovereignty and strategy**, insofar as a particularly exposed or vulnerable state will potentially have to accept help from other states on its territory.

III. Foresight and recommendations

Foresight scenarii

Scenario	Critical factors and the geopolitical situation in the region	Geopolitical consequences, consequences for France and impact on French armed forces
Loss of influence in the Mediterranean.	• In 2046, Egyptian coastal cities are gradually sinking, creating strong demographic pressure in urban areas. • Tensions around the Jordan River and between the European Union and China	France, due to a lack of capabilities, lets China establish itself as a pillar of humanitarian aid in Egypt, which illustrates its military and technological superiority. It triggers risk of cyber-espionage for French armed forces.
Humanitarian crisis in the South Pacific	Despite the gradual marine submersion, French Polynesia lacks a climate-related risk culture in 2050, and local armed forces are insufficiently pre-positioned. The region is seeing a deterioration in the FRANZ alliance, while India has become the world's third largest power.	France is in a situation of military capability breakdown, which leads to a position of capability dependence on India and Japan. Civil unrest is rising in addition to a disastrous humanitarian record, affecting France's role as a provider of humanitarian aid in the Indo-Pacific.
Operational dilemma in mainland France.	In the Northern hemisphere in 2045, the risk of terrorism has increased, and nationalist and isolationist ideas have spread and strengthened. The rise of anti-Westernism is gaining ground in the Southern hemisphere.	The resources of the French and European armed forces are outstripped when it comes to fighting forest fires. France and its European partners are losing influence as for HADR operations abroad, to the benefit of Eastern European countries that maintain close relations with Russia.

Recommendations

These recommendations have been drawn up in order of importance, considering several factors: the strategic interest for armed forces, along with the capabilities, role and priorities of the Ministry of Armed forces in relation to civil protection missions.

1	**Anticipate the increase in requests, from civil protection forces, of armed forces to conduct HADR operations abroad in response to climate-related disasters.**
2	**Ensure redundancy of the most critical military capabilities on national territory to guarantee greater autonomy for French overseas territories.**
3	**Strengthen international cooperation in the field of HADR operations abroad.**
4	**Ensure the resilience of defence systems in the event of climate-related disasters, to maintain emergency response capabilities.**
5	**Contribute to the development of a risk culture within the French population, adapted to climate risks of each territory.**

Appendix 1. Map: France's foreign HADR operations in response to climate-related disasters (2010-2023)[1]

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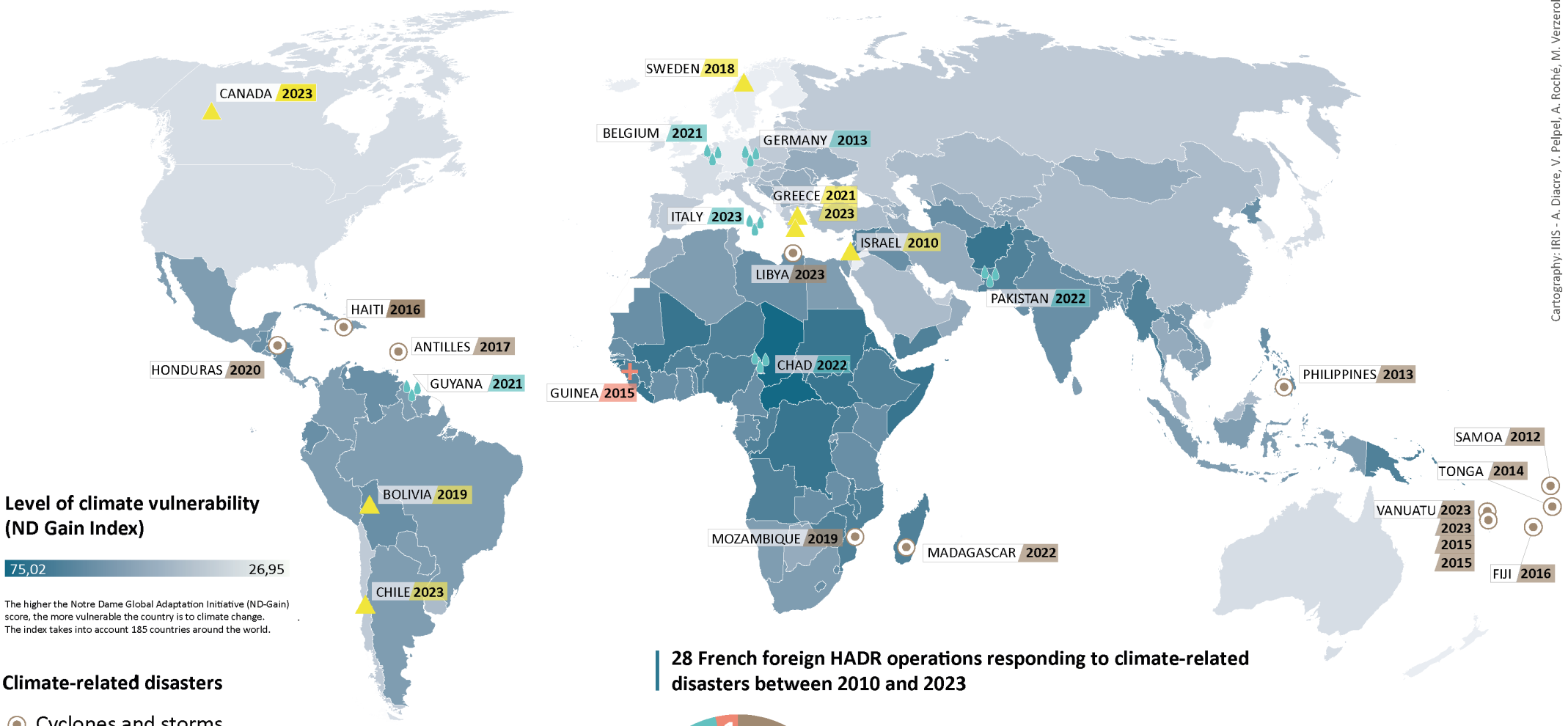
Cartography: IRIS - A. Diacre, V. Pelpel, A. Roché, M. Verzeroli



Level of climate vulnerability (ND Gain Index)

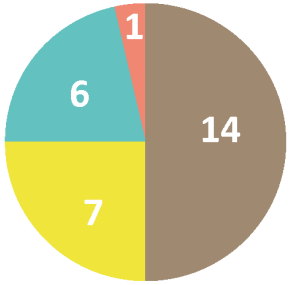
75,02 — 26,95

The higher the Notre Dame Global Adaptation Initiative (ND-Gain) score, the more vulnerable the country is to climate change. The index takes into account 185 countries around the world.

Climate-related disasters

- Cyclones and storms
- Epidemics
- Forest fires
- Extreme precipitation and flooding

28 French foreign HADR operations responding to climate-related disasters between 2010 and 2023

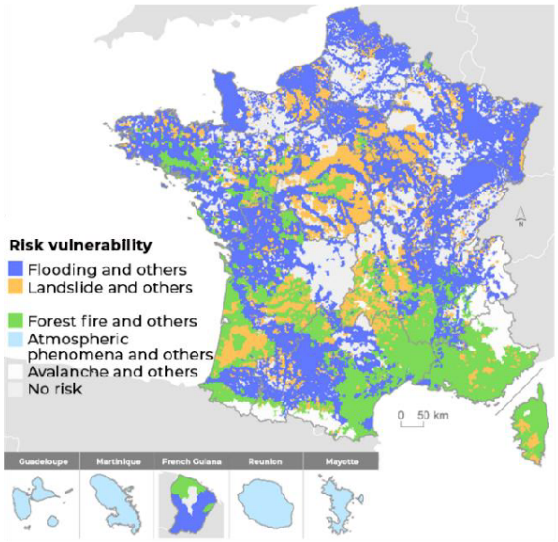


- Cyclones and storms
- Epidemics
- Forest fires
- Extreme precipitation and flooding

[1] Non-exhaustive list of French foreign HADR operations that have mobilised military human and material resources within a bilateral or multilateral framework, for example as part of the FRANZ agreement. This includes the mobilisation of military civil protection units.

Sources: CdCS (French MEFA) ; Deutsche Welle, 2018 ; FranceTVInfo, 2016 ; High Commission of the French Republic in New Caledonia, 2015 ; IHEDN, 2021 ; Laurent, 2019 ; New Zealand Ministry of Foreign Affairs and Trade, 2014 ; Ouest France, 2017 ; Reliefweb ; French Ministry of Defence website; French Ministry of Europe and Foreign Affairs website; French Ministry of the Interior and Overseas France website; Civil Security Training and Intervention Unit 1 website ; Civil Security Training and Intervention Unit 7 website

Figure 7 - Map of the vulnerability of French regions to climate risks

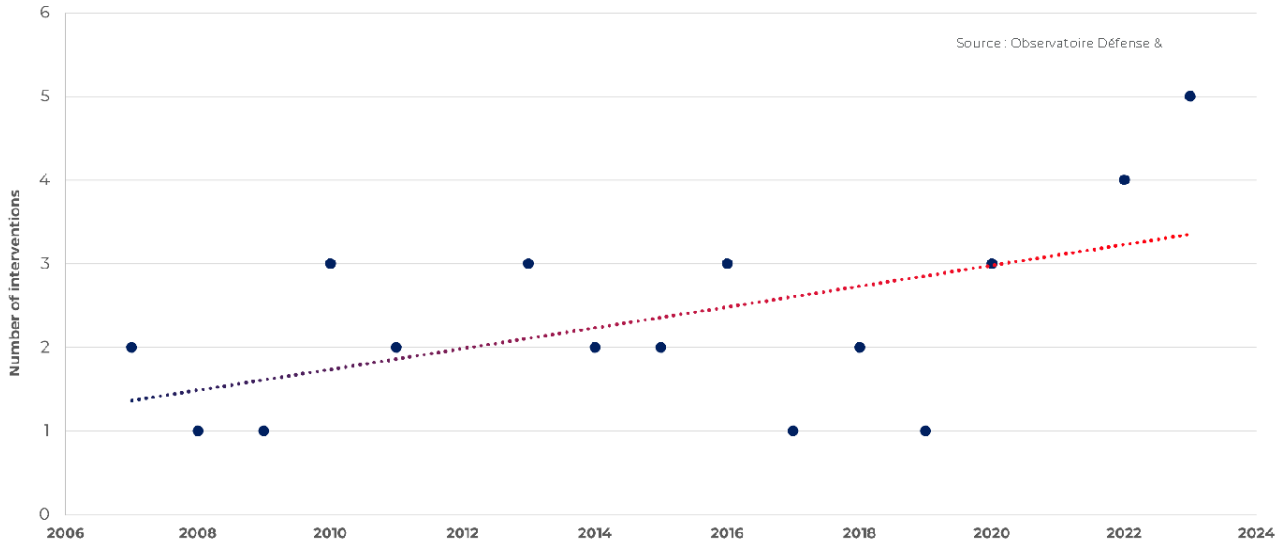


Source : MTES, Gaspar, 2017 - © IGN, BD Carto, 2016 - © Traitements : SDES, 2019

Flooding, which is greatly exacerbated by climate change, accounts for 56% of natural hazards in France. It is the natural hazard to which most of mainland France is most vulnerable, particularly along the French coastline from Calais to La Rochelle, and in the catchment areas of France's major rivers: the Rhine, the Rhône, the Loire, the Seine, the Garonne and the Adour. In France, **18.5 million people live in flood-prone areas, primarily due to river overflow** but also, to a lesser extent, due to marine submersion. The second and third greatest natural risks in France are landslides (landslides, mudslides, etc.) and the shrinking and swelling of clays, risks that have also been amplified by climate change. They mainly affect the Centre-Val de Loire, Landes, Dordogne, Cantal, Puy-de-Dôme and the west of the Grand-Est region.

The idea that HADR operations conducted by the French armed forces is increasing in response to extreme climate events seems to be more of an impression than a scientific fact (Labbe, 2023). The increase in the frequency and often the intensity of climatic disasters cannot in fact be sufficient to project a parallel increase in the commitment of the armed forces, since other factors come into play, including, particularly, the strengthening of civil protection resources, which could make it possible to absorb the growing climatic pressures. To the best of our knowledge, **no data has been collected on the frequency of these interventions as a result of climate change**. In addition, no commitment of this kind has been requested or coordinated by the Interministerial crisis management centre (COGIC), which has so far only requested the exceptional reinforcement of military resources for the transport of civil security forces (aircraft in particular). This means that **no crisis management process at national level in response to a weather-related disaster has involved the deployment of exceptional military resources**, in addition to permanent civil protection personnel: the Civil Protection Military Training Corps (ForMiSC), made up of three Civil Protection training and intervention units (UIISC), and the Paris Fire Brigade (BSPP). This raises the question of climate-related disasters that have led to the deployment of military resources at local, departmental or zonal level. To answer this question, **the Defence and Climate Observatory has carried out an open-source survey of the involvement of the French armed forces between 2007 and 2023 in climate-related disasters**, in support of military civil protection forces.

Figure 12 - Evolution of the number of HADR operations by armed forces in response to climatic disasters (2007 - 2023), off ForMiSC*



*Military civil protection personnel are excluded. We only list the reinforcements of military personnel mobilized in support of civil protection forces.

Figure 12 shows **the number of HADR operations carried out by armed forces in support of civil protection forces on French territory (including French overseas territories)** over the period 2007-2023. This time, the aim is to list HADR operations carried out by military personnel under the authority of the Ministry of the Armed Forces. Based on open-source information, **34 interventions were recorded, and a 200% increase in the number of interventions was observed between 2007 and 2023**. Between 2007 and 2014, the average number of HADR operations carried out by armed forces in additional support of civil security forces was two per year. Over the period 2015-2023, it rises to 3.25, mainly because of a milestone being reached in 2022, with four interventions per year, an increase that will continue in 2023, with five interventions per year. **Given that the data collected cannot be considered exhaustive, and given the low number of interventions, a margin of uncertainty must be considered. However, based on the statistical laws relating to the fluctuation interval, it is 95% certain that the evolution over time of military HADR operations in support of civil security forces during climatic disasters does indeed correspond to an increase**. The reasons for this increase require further research, but we can speculate that it is partially attributable to an increase in frequency and intensity of climate-related disasters.

ANALYSIS OF SECURITY AND DEFENCE ISSUES RELATED TO CLIMATE CHANGE

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