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PART 1/2

## **COMMISSION STAFF WORKING DOCUMENT**

**Second update on Preventing and managing disaster risk in Europe**

*Accompanying the document*

**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND  
THE COUNCIL**

**Advancing risk management and resilience-building in Europe: First report on the  
implementation of the union disaster resilience goals  
Second update on preventing and managing disaster risk in Europe**

{COM(2025) 561 final}

## 1. EXECUTIVE SUMMARY

This staff working document (SWD) **accompanies the report ‘Advancing risk management and resilience building in Europe’** and provides an **update on the progress** made by Member States and Participating States under Article 6 of Decision 1313/2013 on a Union Civil Protection Mechanism (UCPM). The SWD is structured around seven key themes: the status of reporting by Member States and Participating States, disaster risk assessment, climate change impacts and adaptation, governance of disaster risk management, risk management capability assessment, measures to raise risk awareness, and cross-border cooperation and measures.

The analysis presented in this SWD contributes to a better understanding of risk assessment and disaster risk management frameworks across Member States and Participating States, highlighting progress since the previous reporting cycle and providing insight that can inform decision-making and policy development in support of the EU Preparedness Union Strategy and Union Disaster Resilience Goals.

The examination of these themes reveals that **countries are increasingly recognising the importance of all-hazard approaches to risk identification**, considering multiple hazards, impacts, and interdependencies between risks. This shift towards all-hazard approaches reflects a broader trend towards considering complex and compound risks that can have significant adverse consequences for communities, economies, and vital sectors.

The SWD also examines the legal, procedural, and governance arrangements for risk assessment and disaster risk management, showing that Member States and Participating States are increasingly recognising the importance of whole-of-society and whole-of-government approaches. These approaches engage a broad range of public and private stakeholders across the disaster risk management cycle and are critical to enhancing disaster risk management and preparedness in the European Union.

Despite the progress made, the analysis also reveals that **information gaps** exist between identified key risks and reported measures to address them. The quality and detail of country reporting vary greatly, making it difficult to obtain a comprehensive picture of existing capacities and needs to effectively manage risks. This gap underscores the need for **up-to-date, comparable and comprehensive data**, ensuring relevance to inform policy and decision-making.

Overall, this SWD highlights the importance of **continued efforts to enhance risk assessment, disaster risk management and preparedness** across Member States and Participating States, and the need for a **coordinated and comprehensive approach** to addressing the complex and evolving risk landscape.

## 2. INTRODUCTION

As outlined in Article 6.1(d) of Decision 1313/2013 on a Union Civil Protection Mechanism (UCPM)<sup>1</sup>, UCPM Member States and Participating States are required to submit a summary report to the European Commission every three years, covering risk assessment, risk management capabilities and priority prevention and preparedness measures for key cross-border and high-impact, low-probability risks.

This staff working document (SWD) accompanies the second report on the implementation of Article 6 of Decision 1313/2013. It analyses the submissions from Member States and Participating States during the 2023 reporting cycle, which saw the participation of new countries in the UCPM, namely Albania, Bosnia and Herzegovina, Moldova and Ukraine.

Recent years have been marked by significant changes in the European risk landscape. The COVID-19 pandemic forced Member States and Participating States to reevaluate their approach to disaster risk, considering not only natural hazards but also health-related risks and other types of threats. In parallel, the severity and frequency of natural hazards such as floods and wildfires have continued to escalate in various European regions, largely driven by climate change. Russia's war of aggression against Ukraine further altered the geopolitical landscape, highlighting the need to thoroughly address hybrid and man-made threats as well as their cascading effects on areas such as critical infrastructure resilience and cybersecurity.

In response to these developments, the European Commission has stepped up its approach to disaster risk management and preparedness. As part of its 2024-2029 priorities to meet security and defence challenges while enhancing crisis management, the Commission launched the EU Preparedness Union Strategy<sup>2</sup> in March 2025. The EU Preparedness Union Strategy identifies key actions to enhance the European Union's ability to anticipate, prevent and respond to crises, fostering integrated all-hazards approaches through the engagement of all levels of society. The first key action outlined in the EU Preparedness Union Strategy and its Annex<sup>3</sup> is the development of a comprehensive EU risk assessment that encompasses all existing standards and covers multiple hazards.

Prior to the EU Preparedness Union Strategy, the report 'Safer Together: Strengthening Europe's Civilian and Military Preparedness and Readiness' (Niinistö report)<sup>4</sup>, published in October 2024, had emphasised the urgency of boosting civil-military preparedness in the European Union. The European Union's climate risk assessment efforts, including the

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<sup>1</sup> Decision No 1313/2013/EU of the European Parliament and the Council of 17 December 2013 on a Union Civil Protection Mechanism, as amended by Decision No 2019/420. OJ L347, 20.12.2013, p. 924.

<sup>2</sup> JOIN(2025) 130 'Joint Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on the European Preparedness Union strategy'.

<sup>3</sup> JOIN(2025) 130 Annex 'Annex to Joint Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on the European Preparedness Union strategy'.

<sup>4</sup> 'Safer Together: Strengthening Europe's Civilian and Military Preparedness and Readiness' Report by Sauli Niinistö, former President of the Republic of Finland, in his capacity as Special Adviser to the President of the European Commission.

Communication on managing climate risks in Europe<sup>5</sup> and the EU Climate Risk Assessment (EUCRA) report<sup>6</sup>, further highlighted the need for enhanced climate adaptation measures and disaster risk management.

Based on the information submitted by Member States and Participating States, the report on the implementation of Article 6 of Decision 1313/2013 and its accompanying SWD provide an update on progress made in recent years, building on the findings of previous reports and highlighting key elements relevant to promoting all-hazard, whole-of-society and whole-of-government approaches to disaster risk management.

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<sup>5</sup> COM(2024) 91 ‘Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Managing Climate risks – protecting people and prosperity’.

<sup>6</sup> EEA (2024), European Climate Risk Assessment, ISSN 1977-8449.

### 3. STATUS OF REPORTING BY MEMBER STATES AND PARTICIPATING STATES

Under Article 6(1)d of Decision 1313/2013, Member States are required to submit summaries of their risk assessment and risk management capability assessments to the Commission every three years, starting from 31 December 2020. For the 2023 reporting cycle, the Commission received submissions from 32 out of 37 countries participating in the UCPM, including first-time reports from Albania and Bosnia and Herzegovina. While most countries met the extended deadline of 30 June 2024, seven countries submitted their reports between July 2024 and June 2025.

A total of five countries, namely Iceland, North Macedonia, Moldova, Türkiye and Ukraine, did not submit their summary reports. Notably, Ukraine, which became a member of the UCPM in 2023, is still grappling with significant challenges stemming from Russia's ongoing war of aggression. Meanwhile, Moldova, which joined the UCPM in 2024, is in the process of developing its national risk assessment, a key step in its integration into the UCPM framework.

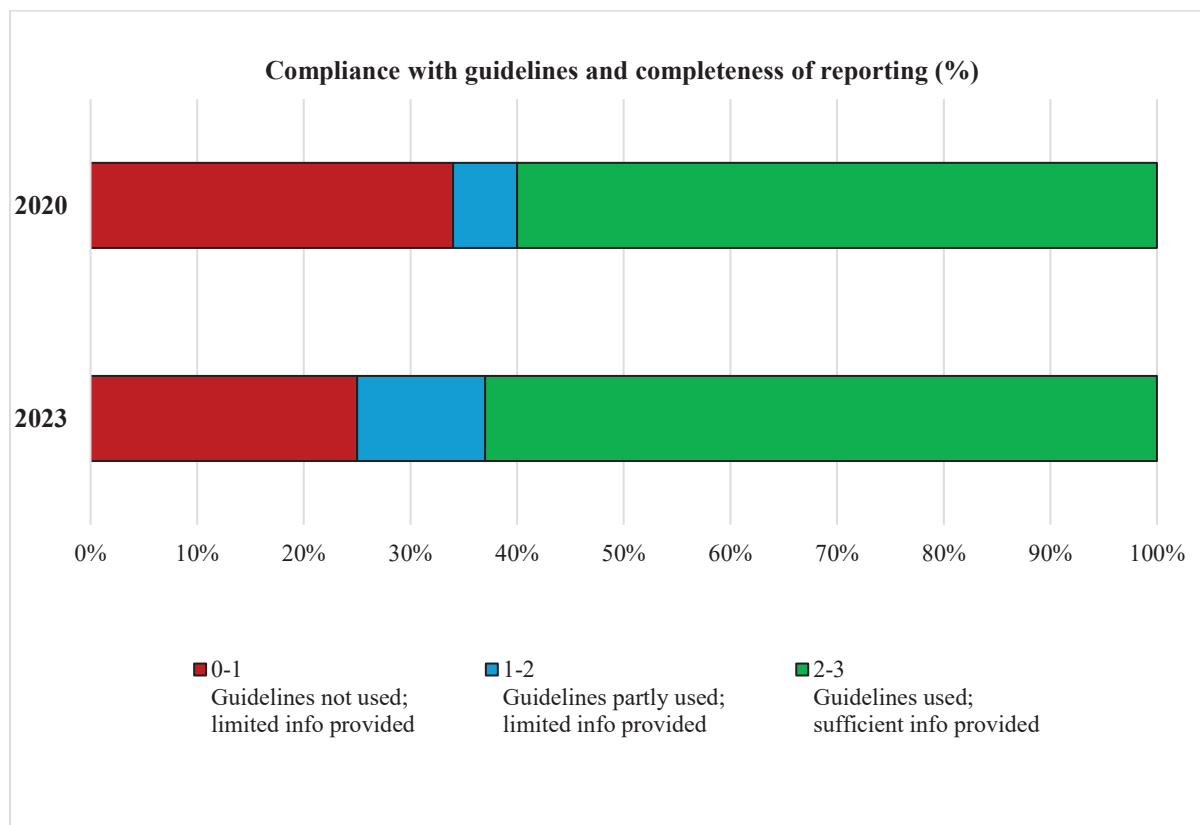
Notwithstanding the legal requirement under Article 6(1)(d) of Decision 1313/2013, nearly one third of reporting countries failed to provide adequate summaries of their risk assessments and risk management capability assessments. Some Member States and Participating States submitted their full national risk assessment documents. Others provided incomplete summary reports that lacked essential information or included links to national risk assessment documents rather than incorporating the required information directly.

Compared to the previous reporting cycle, 23 countries provided new information on the substance or methodology of their assessments, while six countries made only minor changes to their reports and did not update their risk assessments. Malta was the only country to confirm its findings of 2015 in full. Notably, a growing number of countries have adopted the European Commission's 2019 Reporting Guidelines (Guidelines)<sup>7</sup>, which provide non-mandatory instructions and a template to ensure comparability of findings. Although there is a positive correlation between the use of the Guidelines and the completeness of information provided, the level of detail in the reports varies significantly.

The reports from Member States and Participating States revealed disparity in the comparability of data on disaster risk management versus risk assessment. This disparity is largely due to the inconsistent quality and extent of information provided, with several countries offering limited updates on recent initiatives and actions to enhance their disaster risk management frameworks.

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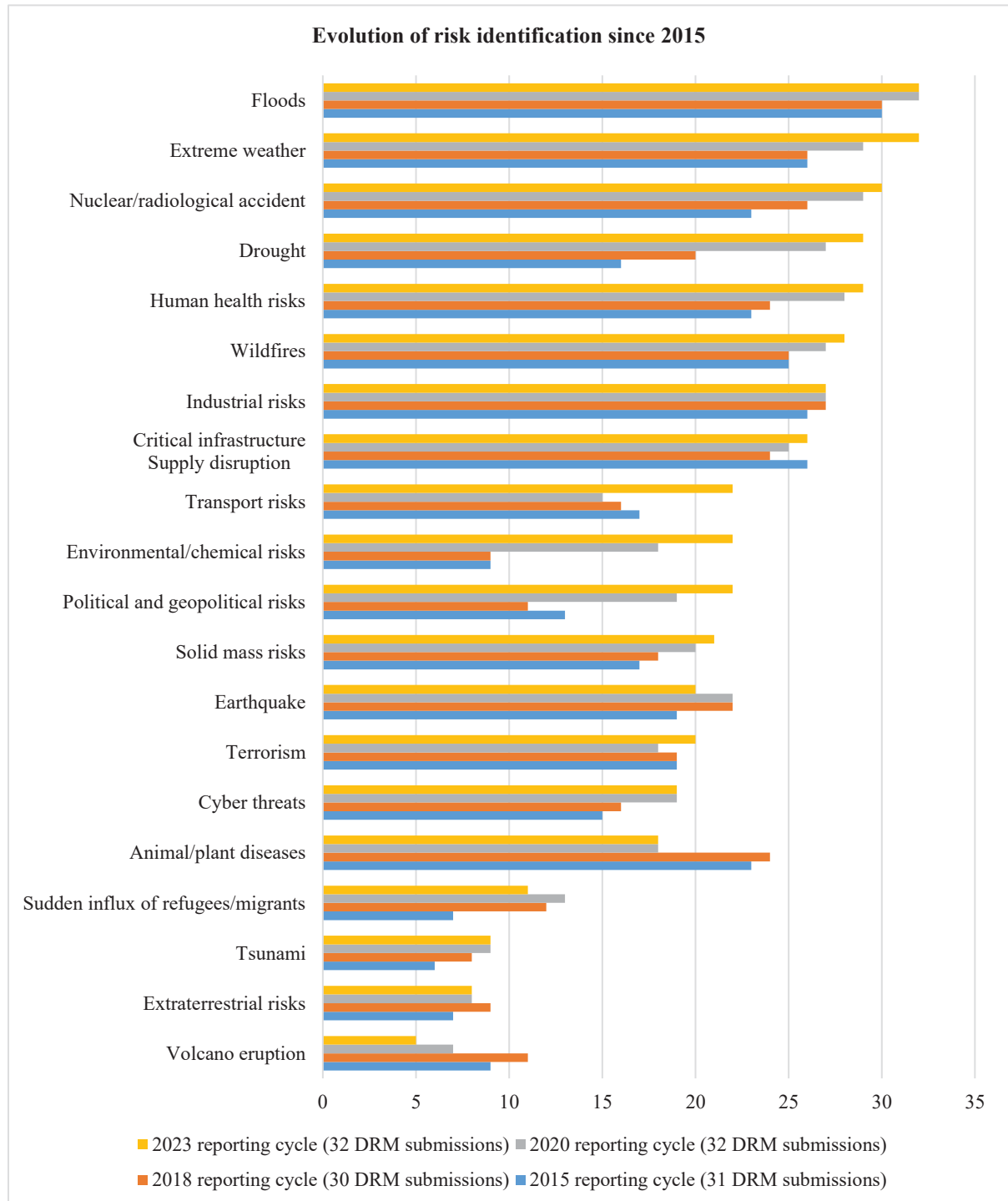
<sup>7</sup> OJ C 428, 20.12.2019, p. 8-33.



**Figure 1.** Level of compliance of DRM summary reports with Reporting Guidelines on Disaster Risk Management. The chart shows that roughly 60% of reporting countries fully complied with the Guidelines and provided detailed information in their 2023 summary reports. Overall, compliance with the Guidelines has increased compared to the previous reporting cycle. Source: 2020 and 2023 DRM summary reports. Submitted reports in 2023: 32 out of 37.

#### 4. DISASTER RISK ASSESSMENTS

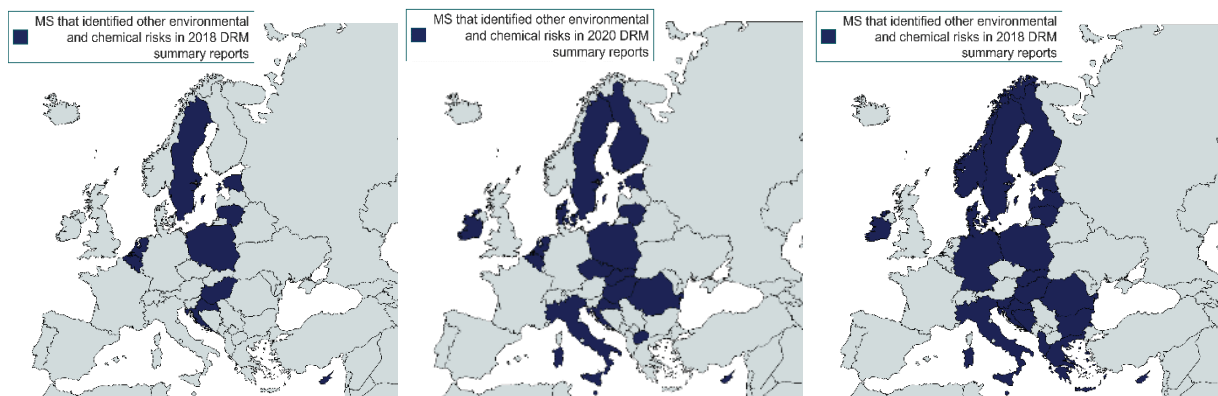
**Risk identification.** The most pressing risks identified by Member States and Participating States are floods, extreme weather, nuclear and radiological accidents, drought, and human health-related risks. These risks have consistently been among the top concerns reported by countries in previous years (Figure 2).



**Figure 2.** Evolution of key risk identified across reporting cycles. Sources: 2015 reports (2017 Overview), 2018 (2020 Overview), 2020 (DRM summary reports) and 2023 (DRM summary reports).

Over time, several trends have emerged in the risks reported by countries. Notably,

environmental and chemical risks have seen the most significant increase in reporting since 2015, with more than twice as many countries identifying them as a key risk in the 2023 reporting cycle (Figure 3).



**Figure 3.** Countries identifying environmental and chemical hazards as key risks in 2018, 2020, and 2023.  
Source: 2020 Overview of risks; 2020 and 2023 DRM summary reports.

In contrast, using 2020 as a baseline, transport risks - including accidents on roads, railways, airspace, and waterways - have seen the highest increase, and now affect most European countries (Figure 2). Other risks, including political and geopolitical risks, terrorism, extreme weather, critical infrastructure and drought, have also increased over time, with drought showing a particularly significant rise. Conversely, risks such as volcanic eruptions, extraterrestrial risks, sudden influxes of refugees and migrants, and earthquakes have seen a significant decrease in reporting.

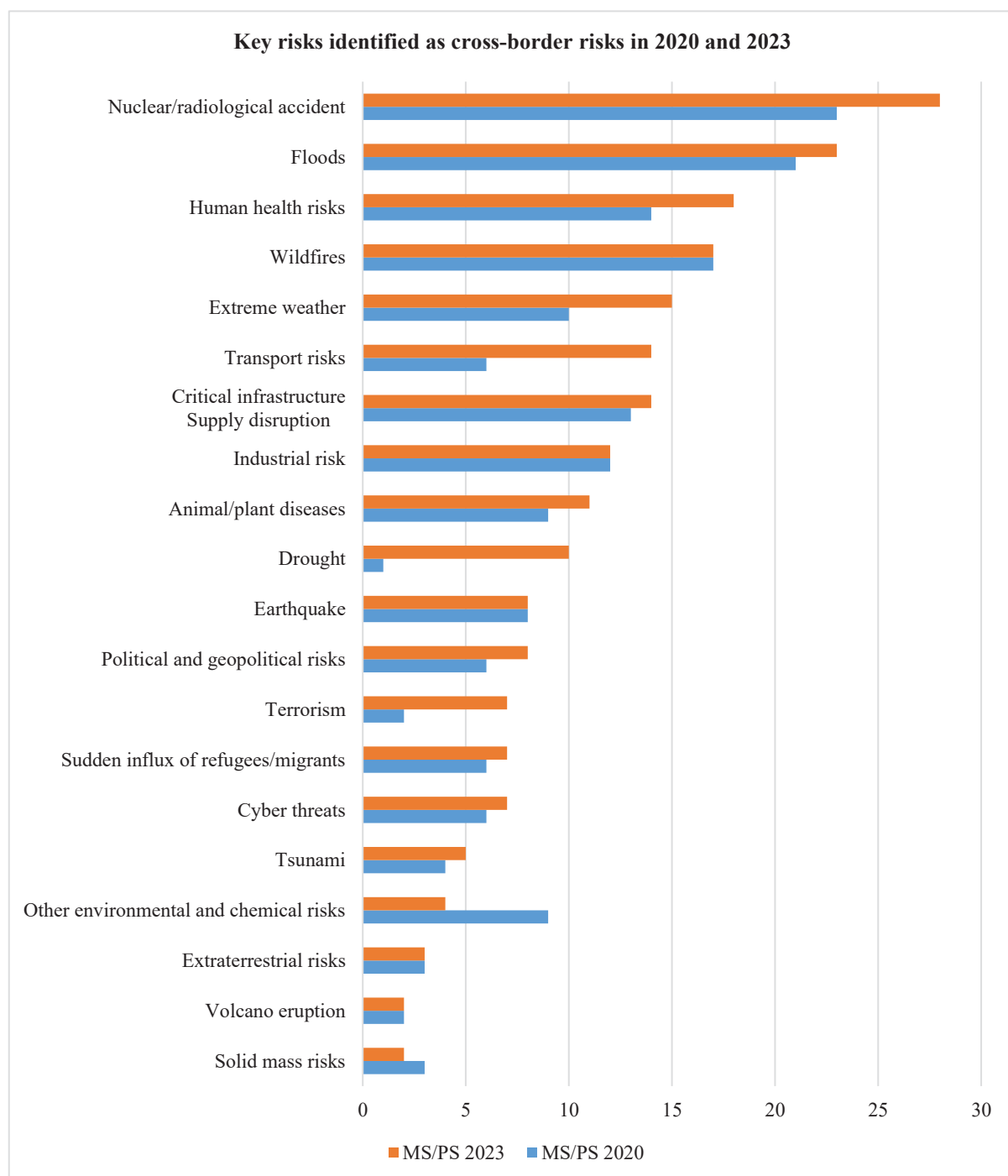
In 2020, the Article 6 Report introduced new high-level risk categories, including solid mass risks, political and geopolitical risks, and environmental and chemical risks. Solid mass risks encompass landslides, avalanches, rockfalls, and erosion risks (both coastal and soil). Political and geopolitical risks are a broad category of human-induced risks with primarily societal and political impacts, including armed conflict, hybrid risks (such as disinformation), economic risks and disruptions to public order.

Environmental and chemical risks comprise a diverse range of environmental hazards and hazards with environmental impacts that could not be included under any other high-level risk category. In the 2023 reporting cycle, the most reported risk in this residual category was pollution, cited by half of the countries, with a focus on marine pollution. Other reported risks within the same category include biodiversity losses and invasive species.

In 2023, Member States and Participating States also identified other types of risks, such as building fires, risks to cultural heritage, generic fires and explosions, and notably sea level rise, which has seen increased inclusion compared to 2020.



**Cross-border risks.** All reporting Member States and Participating States have identified significant adverse cross-border risks, with the most reported risks being nuclear and radiological risks, floods, human health risks, wildfires, extreme weather and transport risks. The consideration of these risks has increased since 2020, with more countries reporting them in absolute terms. Reporting of transport risks has more than doubled, and reporting of drought has increased from one country in 2020 to ten.

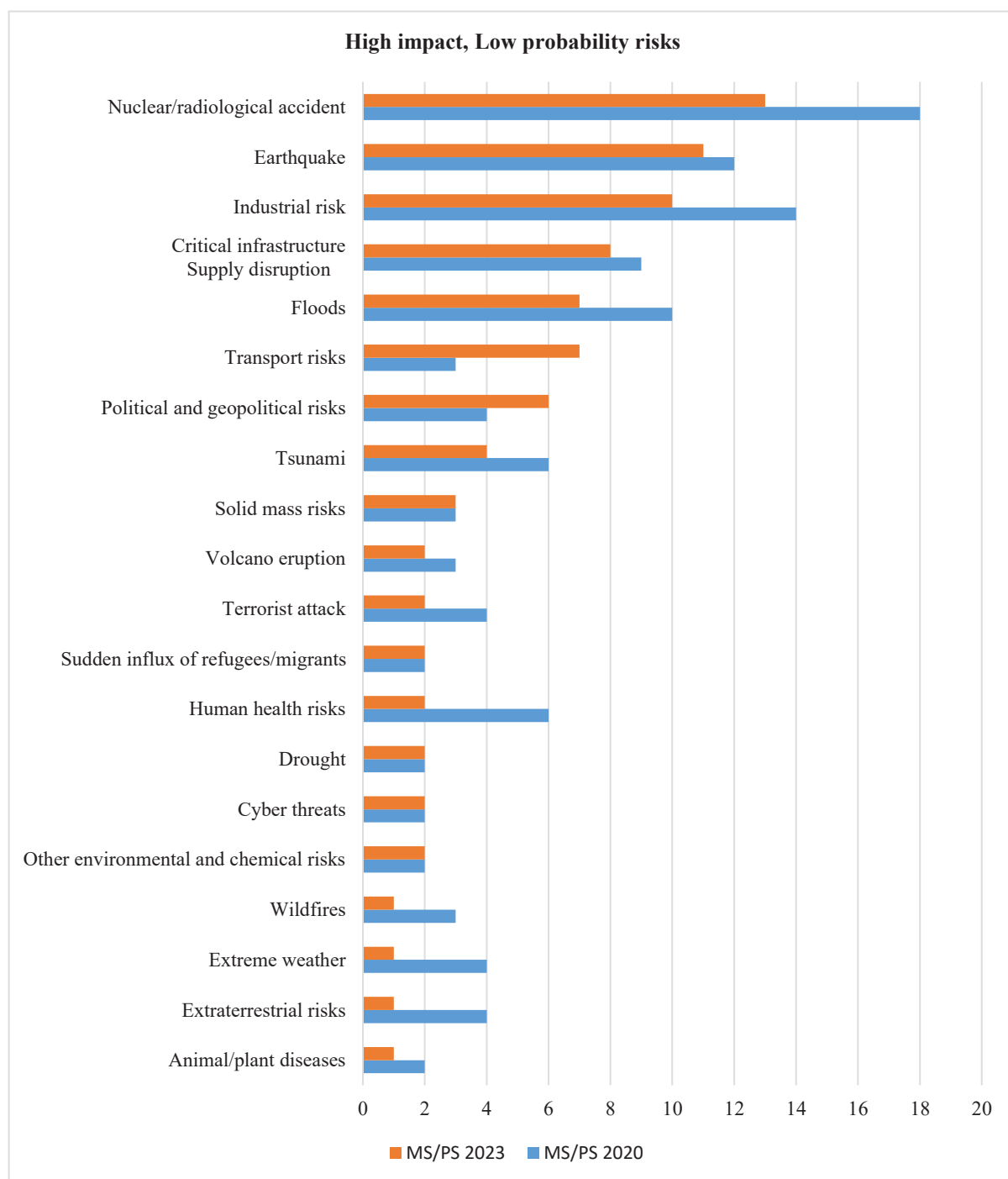


**Figure 4.** Key risk categories identified as cross-border risks and ranked by number of countries reporting. Source: 2020, and 2023 DRM summary reports.

**High-impact low-probability risks.** Twenty-eight countries identified high-impact, low-probability (HILP) risks, a decrease from 29 in the 2020 reporting cycle. The two most

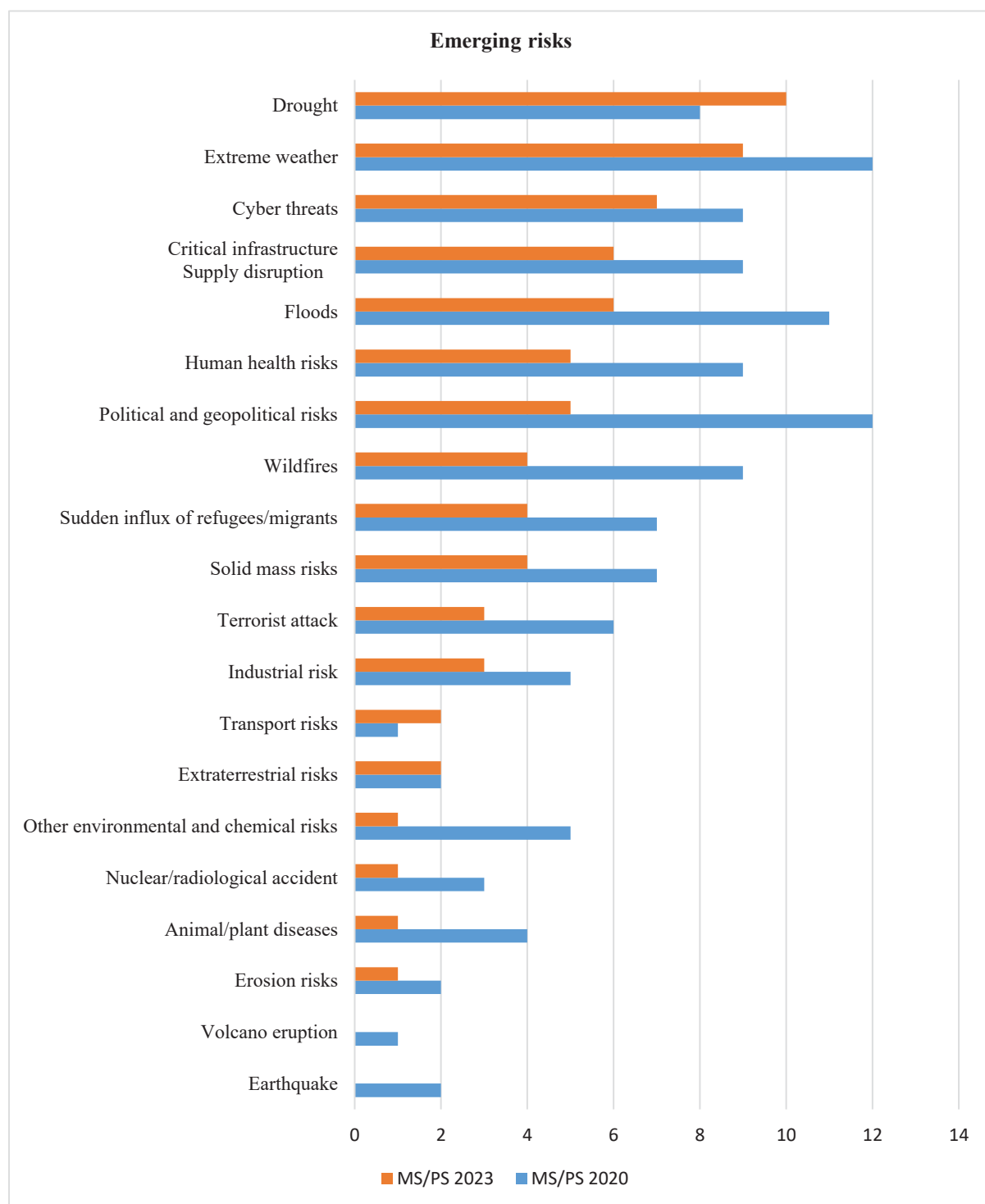
commonly identified HILP risks are nuclear and radiological risks and earthquakes (Figure 5). The landscape for other HILP risks remains fragmented, with different countries identifying different risks.

The HILP risks that saw an increase in reporting are critical infrastructure/supply disruption, transport risks, political and geopolitical risks, environmental and chemical risks, and drought. There are two principal reasons for declassifying a risk as HILP, namely if the perceived probability of it occurring has increased, or if the impacts are considered to be lower, for instance due to improved risk reduction measures. Risks such nuclear and radiological accidents, industrial accidents and floods saw a sharp decline in their reporting as HILP risks.



**Figure 5.** Risk categories identified as *HILP* risks ranked according to the number of Member States and Participating States reporting them. Source: 2020, and 2023 DRM summary reports.

**Emerging risks.** In general, as in 2020, summary reports do not provide detailed explanations for why certain risks are considered emerging and/or future risks. However, some countries, such as Belgium, Ireland and the Netherlands, explicitly reference horizon scanning analysis, while Denmark mentions foresight and future studies conducted by stakeholders such as academic research institutions and think tanks. Hungary uses forecasts and models to assess climate risks and conducts simulations to identify climate change effects, defining scenarios under which climate change triggers certain risks.



**Figure 6.** Risk categories identified as emerging risks ranked according to the number of Member States and Participating States reporting them. Source: 2020 and 2023 DRM summary reports.

More than half of the countries identified emerging risks, representing a decrease compared to 2020 in both absolute and percentage terms. The most commonly reported emerging risks are drought, extreme weather, political or geopolitical risks, critical infrastructure/supply disruption risks, floods, cyber risks, human health-related risks and solid mass risks. Climate-related hazards (drought, extreme weather, floods) remain prominent among the emerging risks identified by a relative majority of countries.

The two emerging risks that have seen the highest increase since the 2020 reporting cycle are drought and environmental and chemical risks, particularly biodiversity losses and pollution. As in the case of HILP risks, the de-classification of emerging risks may be the result of changed risk perceptions due to changed circumstances. This could be the reason for the decrease in the consideration of political and geopolitical risks as ‘emerging risks’. No new risk category emerged from the analysis of the data submitted by Member States and Participating States for this reporting cycle.

**Risk drivers.** Compared to the 2020 reporting cycle, Member States and Participating States have provided more detailed information on identifying and analysing risk drivers. However, the specific risk drivers identified have also undergone changes.

In the 2023 reporting cycle, 16 countries cited climate change as a primary driver of future and emerging risks, marking a significant increase from 2020. While some risk drivers such as geopolitical shifts, ecological developments and economic conditions remain unchanged, others have been newly identified. For instance, Lithuania has highlighted the growing demand for resources such as natural gas as a potential driver of disruption in the energy sector. Similarly, Norway and Poland have noted the increasing reliance on information and communication technologies as a risk driver.

#### **4.1 Risk identification methods and risk analysis (Q5)**

**Risk identification and analysis.** Member States and Participating States employ a wide range of approaches to identify key risks, including the analysis of historical, geological, statistical, and meteorological data as well as expert opinions, working groups and exchanging information with relevant public and private stakeholders. They also draw on national and international studies, maps, scenarios and empirical methods. Over one third of Member States and Participating States reference foresight and anticipation methods for risk identification, particularly in the context of emerging threats and climate change. Belgium, Ireland and the Netherlands, for instance, have integrated horizon scanning into their risk assessment processes. However, the distinction between foresight and forecasting is not always clear, as the former is often focused on the short term and rarely includes a long-term perspective.

Some Member States and Participating States have also integrated studies on societal perceptions of risks into their methodologies. In Ireland, for example, a survey was conducted by Dublin City University in parallel with expert focus groups to capture public opinion on key national level risks considered for the 2023 national risk assessment.

While the majority of Member States and Participating States report single-risk scenario analysis for the identification of key risks, less than one third of countries mention multi-risk

scenario analysis, often combined with single-risk scenarios. Montenegro, for instance, considers 51 individual risk scenarios and 8 multi-risk scenarios.

Most reporting countries include or refer to risk matrices (both single and multi-risk) that help identify, analyse, and prioritise risks in their own disaster risk management summary reports. As in 2020, risk matrices included in the summary reports allowed for the identification of high-impact low-probability risks otherwise not expressly indicated.

All reporting countries provided information regarding their risk assessment methodologies, enabling some comparison with findings from the previous reporting cycle. The analysis revealed a trend towards refining and enhancing risk assessment methodologies and scenarios, with over 10 countries introducing changes to their risk assessment methodologies and/or scenarios, and four planning to do so in the coming years.

A few Member States, such as Poland and Sweden, explicitly stated that methodological revisions were also driven by the need to further align with internationally recognised standards and analytical approaches used by other countries. Across the board, there is emphasis on the connections with sectoral risk assessments. This can inform the content and methodology of national risk assessments, as well as reporting obligations under relevant EU legislation, including the Critical Entities Resilience Directive (CER Directive)<sup>8</sup>, the Directive on the assessment and management of flood risks (Floods Directive)<sup>9</sup>, the Directive on measures for a high common level of cybersecurity across the Union (NIS2 Directive)<sup>10</sup>, and the Directive on the control of major-accident hazards involving dangerous substances (Seveso III)<sup>11</sup>.

These methodological changes underscore a growing consideration for all-hazard approaches, the examination of cascading effects, and climate change impacts. Several Member States and Participating States acknowledge that recent shifts in the risk landscape have prompted the inclusion of new threats and risk scenarios in the national risk assessments, particularly in the area of security, due to increased geopolitical tensions and Russia's war of aggression against Ukraine. This is also reflected in the increased consideration of interdependencies between risks, with 21 countries considering cascading effects in one or more risk scenarios, particularly in relation to critical infrastructure, and incorporating complex or compound risks, such as hybrid threats and Natech.

Several countries have successfully integrated climate change impacts into their risk assessment, demonstrating alignment with international initiatives. Having piloted new risk assessment methodologies, Croatia enhanced the analysis of climate change impacts on individual risks while Greece introduced a dedicated section on climate change scenarios,

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<sup>8</sup> Directive (EU) 2022/2557 of the European Parliament and of the Council of 14 December 2022 on the resilience of critical entities and repealing Council Directive 2008/114/EC. OJ L 333, 27.12.2022, p. 164-198.

<sup>9</sup> Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks. OJ L 288, 6.11.2007, p. 27-34.

<sup>10</sup> Directive (EU) 2022/2555 of the European Parliament and of the Council of 14 December 2022 on measures for a high common level of cybersecurity across the Union, amending Regulation (EU) No 910/2014 and Directive (EU) 2018/1972, and repealing Directive (EU) 2016/1148 (NIS 2 Directive). OJ L 333, 27.12.2022, p. 80-152.

<sup>11</sup> Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC. OJ L 197, 24.7.2012, p. 1-37.

considering impacts, adaptation, and mitigation aspects. Twelve Member States and Participating States referenced Intergovernmental Panel on Climate Change (IPCC) scenarios and reports, using Representative Concentration Pathways (RCPs) to determine climate-related impacts and projections.

Summary reports indicate that several Member States and Participating States factor vulnerabilities into their risk assessments, with 23 countries analysing the vulnerability of areas, sectors, and/or populations. However, approaches to vulnerability assessments vary significantly, with some Member States and Participating States conducting vulnerability assessments for each risk scenario and others only for certain key risks. Moreover, only 10 countries report considering vulnerable groups in their risk assessments, highlighting areas for improvement. Some of these countries consider vulnerable groups in the context of human impacts while others do so in the analysis of vulnerabilities, testifying to the diversity of existing approaches.

Information on the parameters used to identify categories such as cross-border, HILP, and emerging risks is very limited. Risk matrices are helpful to understand criteria used for the identification of HILP risks.

Concerning emerging and future risks criteria, certain countries provide some indications: Ireland explicitly referred to horizon scanning to identify future risks and Belgium states that emerging risks follow a qualitative probability estimation given the difficulty to quantify them.

**Estimation of probability and impacts.** Member States and Participating States' approaches to quantifying probability and impacts are not uniformly detailed, with some countries providing more extensive information on their methodologies than others. For instance, Belgium stands out for its detailed approach, which has undergone significant changes since 2020, including the introduction of a new scale for probability and a specific method for assessing aggregate probability for cascading risks. Belgium also acknowledges the challenges of quantifying probability for man-made risks due to the unpredictability of human actors.

The inclusion of time horizons is also limited, with only a few countries considering this aspect, including climate change time horizons. However, Belgium is an exception, as it incorporates both time-return periods and climate change time horizons into its assessment.

In contrast, Member States and Participating States provide more information on the types of impacts they consider. Economic and human impacts are the most cited, followed by environmental and socio-political impacts. Some countries, such as Lithuania, provide detailed examples of specific impact areas, like the medical sector. Belgium, for example, highlights the potential loss of public confidence in authorities as a strictly political impact, while other countries mention psychological impacts.

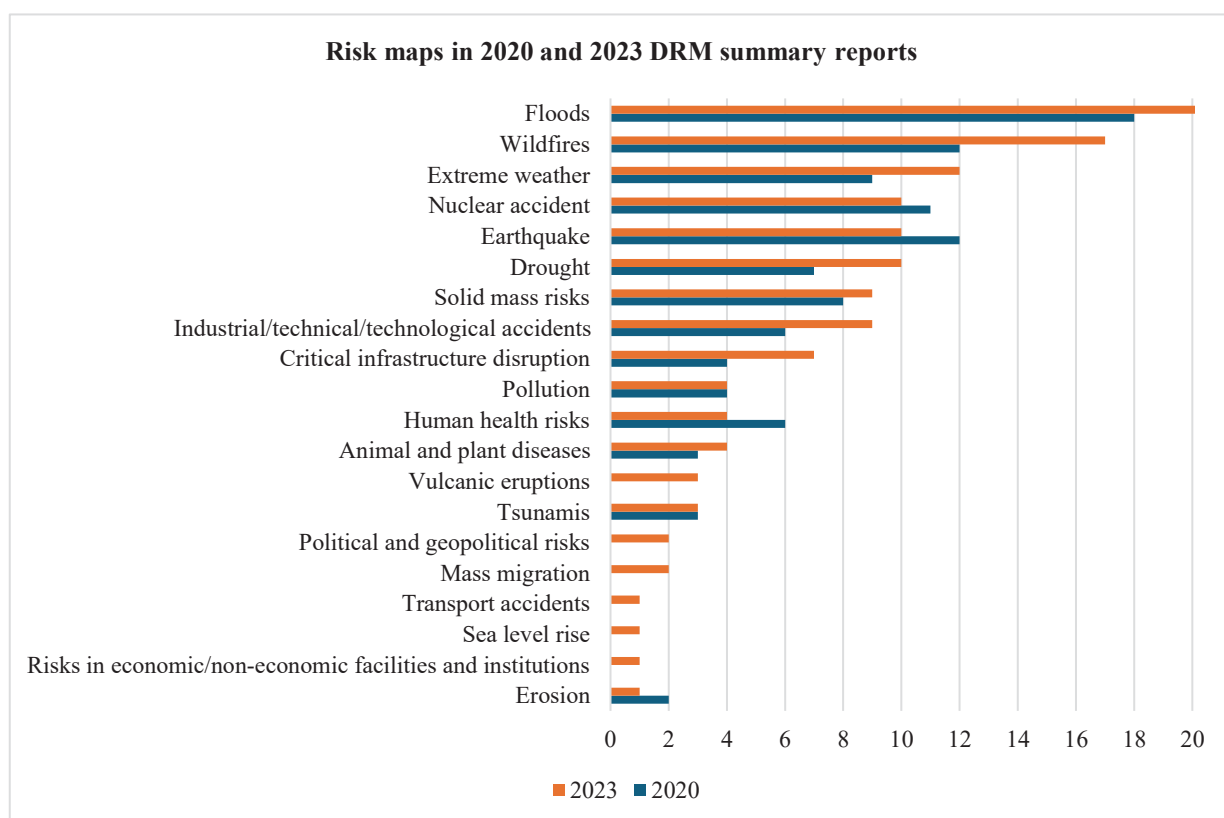
Regarding the quantification of impacts, only a subset of countries provides numerical estimates. Human and economic impacts are often quantified, whereas environmental and socio-political impacts tend to be more qualitative. Some countries also report semi-quantitative impacts, which combine numerical and descriptive elements.

However, Member States and Participating States rarely provide explicit criteria for distinguishing between quantitative, qualitative, and semi-quantitative impacts. Instead, the criteria are often inferred from the indicators and data provided.

From a methodological perspective, the reported information is limited and fragmented. Some countries rely on expert assessments, historical event data and scientific data to determine probabilities and impacts. Other methods mentioned include plausibility criteria, statistics, modelling, social science approaches and deterministic methods. For example, Ireland consulted with the public to identify key risks, demonstrating an inclusive approach.

## 5.1 Risk mapping (Q6)

Twenty-five Member States and Participating States provide information on risk mapping. Over half of the summary reports include disaster risk maps, although only about one third contain information on the public availability of such maps, sometimes providing links to access them.



**Figure 7.** Risks for which countries have reported that risk maps are available. Source: 2020 and 2023 DRM summary reports.

The reported maps encompass not only risk maps but also hazard maps and maps covering non-risk elements, such as the location of industrial plants where accidents could occur.

As in 2020, countries mention a wide range of maps covering various risks, with a primary focus on physical and natural hazards. The top three risks covered by maps are for floods, wildfires and extreme weather, with wildfires showing the most significant increase in



reporting since 2020. The inclusion of flood risk maps has also increased since 2020, which is notable considering that such maps are mandatory for all EU countries under the EU Floods Directive.

Notwithstanding EU-level regulations, such as the Seveso Directive, which mandate the preparation of risk maps, it appears that countries participating in the UCPM have not reported all available risk maps in their summary reports, a trend that was also detected in 2020.

Some countries also mention the entities responsible for risk mapping. For example, in Greece, the Ministry of Environment and Energy is responsible for risk mapping, while in Norway, the municipalities oversee the mapping process. In Portugal and Slovakia, each risk-specific map is managed by the relevant entity responsible for that risk.

For example, Portugal clearly states that the Sea and Atmosphere Institute is in charge of risk mapping for heat waves, winds storms and droughts, while the Environmental Agency manages flood risk mapping and the Institute for Nature and Forests Conservation deals with wildfire risk maps.

In the case of Romania, the country is benefiting from the EU-funded project RO-FLOODS that aims to implement cycle II of the Floods Directive and update the flood hazard and risk maps. Bosnia and Herzegovina received support from the United Nations Development Programme (UNDP) that contributed to the integration of new flood risk maps.

## **6.1 Monitoring and reviewing of risk assessment (Q7)**

In 2023, all reporting Member States and Participating States provided some information on monitoring and reviewing risk assessments to incorporate new developments, with varying levels of detail. A significant number of countries (24), albeit fewer than in 2020, reported on the regularity of these reviews. Almost half of the countries also provided information on the reasons for regular review and monitoring of risks, also representing a slight decrease since 2020.

Compared to 2020, countries generally provide more information on the frequency of risk assessment reviews and updates. In 2023, Member States and Participating States reported that three-year interval reviews and continuous reviews are the most common timeframes (with nine countries reporting in each case), showing an increase since the last reporting cycle. However, seven countries did not provide information on the regularity of risk assessment reviews.

The three-year interval reviews may be linked to the provision of Article 6.1 of Decision 1313/2013 requiring Member States to submit a disaster risk management summary report to the Commission every three years. Notably, other EU legislative provisions require submissions every three years, such as Article 7 of the Regulation on Serious Cross-Border Health Threats<sup>12</sup>.

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<sup>12</sup> Regulation (EU) 2022/2371 of the European Parliament and of the Council of 23 November 2022 on serious cross-border threats to health and repealing Decision No 1082/2013/EU. OJ L 314, 6.12.2022, p. 26-63.

When describing their national frameworks for risk assessment, nearly all Member States and Participating States refer to Decision 1313/2013, indicating greater convergence towards EU-level practices and continuous development of risk assessment methodologies. This is also evident in the synergies identified between reporting on risk assessments under Article 6 of Decision 1313/2013 and comparable obligations under other EU instruments, such as the Directive establishing a framework for Community action in the field of water policy (Water Framework Directive)<sup>13</sup>, Floods Directive, and Seveso III Directive.

Ireland provides an example of a recently updated national risk assessment, which was reviewed in 2023 with the contribution of Track 1 funding for the FUTUREPROOF-IE project. The review incorporated horizon scanning elements to better identify emerging risks and updated the national risk assessment by mapping existing methodologies in different areas.

Some 29 Member States and Participating States refer to legal requirements to review risk assessments, which may differ for various types of risks.

Regarding the reasons for reviewing risk assessments, it is challenging to identify a clear trend among countries due to the lack of information in the reports. However, some common elements include significant changes impacting the level of risk, changes in the risk landscape, the obsolescence of existing data and methodologies, and the need for updates. Climate change and the emergence of new technologies and techniques that can alter risk assessment methodologies are also mentioned.

Some countries specifically reference the geopolitical context. Poland, for example, reports updating its risk assessment based on the changing security landscape, while Czechia mentions the Russian invasion of Ukraine as a catalyst for review.

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<sup>13</sup> Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. *OJ L 327, 22.12.2000, p. 1–73.*

## **7.1 Summary of findings**

Member States and Participating States have identified various key risks, with floods, extreme weather, nuclear and radiological accidents, drought and human health-related risks being the most pressing. The reporting of environmental and chemical risks has increased significantly since 2015, while transport risks have seen the highest increase since 2020. Countries are also considering emerging risks, such as drought, extreme weather and political or geopolitical risks, with climate change being a prominent driver.

The risk identification methods used by countries are diverse, including analysis of historical data, expert opinions and information exchanges with stakeholders. Many countries are refining and enhancing their risk assessment methodologies, with some considering approaches such as horizon scanning and foresight. While single-risk scenario analysis is still the most common approach, with less than one third of countries using multi-risk scenario analysis, there is a more prominent consideration for all-hazard approaches, examination of cascading effects, and climate change impacts. Several countries have integrated climate change impacts into their risk assessment, and 21 countries are considering cascading effects in one or more risk scenarios, particularly in relation to critical infrastructure.

The consideration of impacts is also becoming more prominent, with countries analysing the vulnerability of areas, sectors and populations, and quantifying human, economic and environmental impacts. Risk mapping is also being used by many countries, with flood risk maps being the most reported. The monitoring and reviewing of risk assessments is also being done regularly, with many countries updating their risk assessments every three years or continuously. The reviews are often triggered by changes in the risk landscape, climate change, or the emergence of new technologies and techniques.

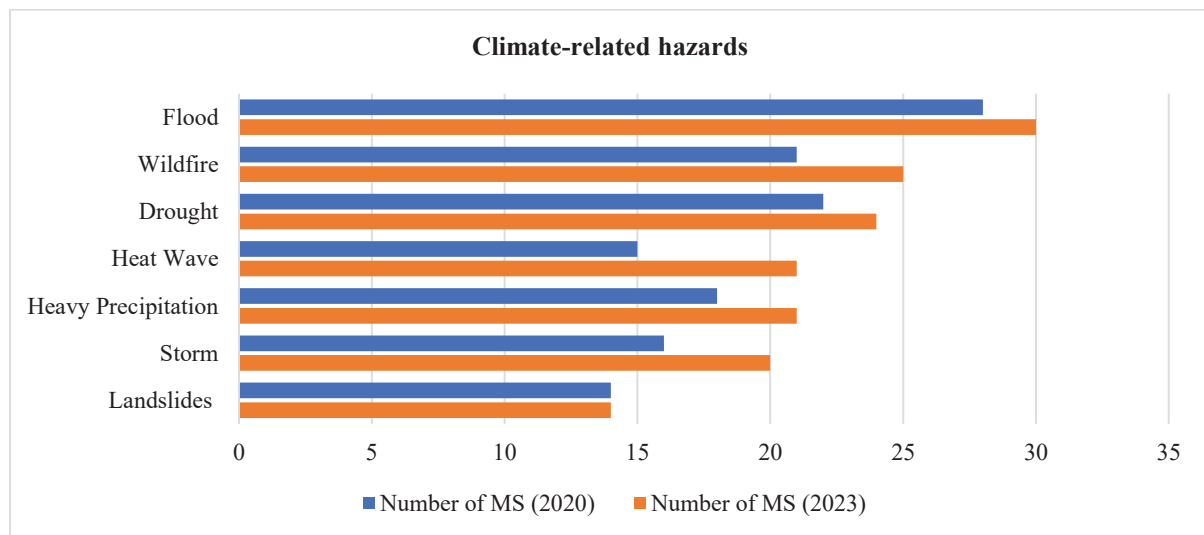
Overall, countries are making progress in identifying and assessing risks and are refining their methodologies to better address the evolving risk landscape. This includes the increasing consideration of interdependencies between risks and the incorporation of complex or compound risks, such as hybrid threats and Natech.

## 5. CLIMATE CHANGE IMPACTS AND ADAPTATION

### Identifying climate change impacts (Q4)

In recent years, climate-related risks have gained increasing attention at the EU level. The EUCRA highlights Europe as the fastest-warming region in the world, underscoring the importance of considering climate-related risks. The EUCRA identifies 36 climate-related hazards and their impacts on various sectors and areas.

**Identifying climate change related hazards and impacts.** The top three reported climate-related risks are floods, wildfires and drought (with wildfires surpassing drought as the second most reported hazard), followed by heatwaves, heavy precipitation, storms and landslides. Among these risks, heatwaves have seen the greatest increase in reporting since 2020 (Figure 8).

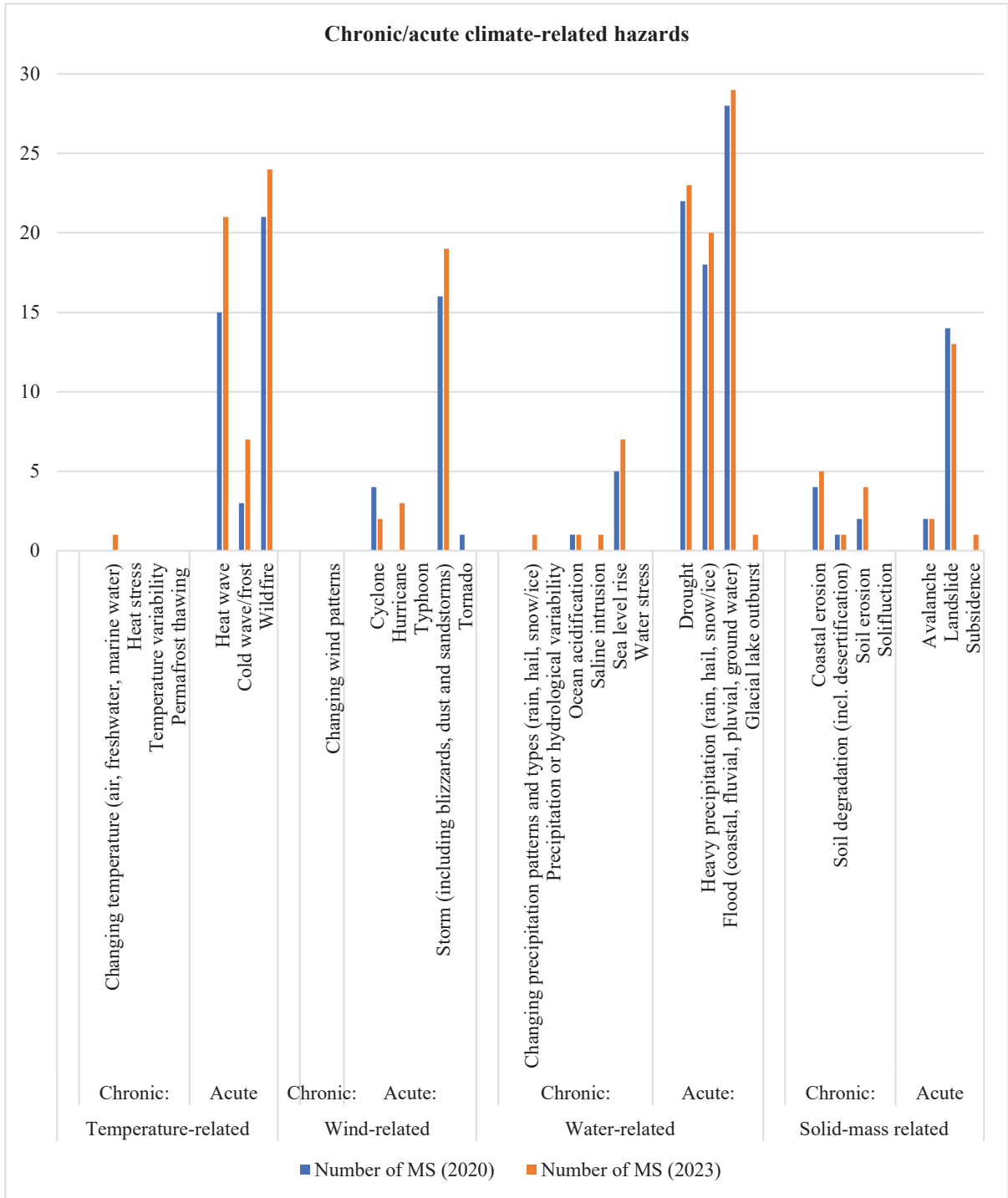


**Figure 8.** Climate-related hazards as identified by countries. Source: 2020 and 2023 DRM summary reports.

As in 2020, countries primarily identify acute hazards (with a relatively short duration) rather than chronic hazards (with a long duration) (Figure 9). When identifying the impacts of climate change, countries also consider risks related to secondary effects of climate change, going beyond direct climate-related hazards.

Member States and Participating States often do not distinguish between hazards related to climate change and areas or sectors affected by climate change. As most countries report on climate-related impacts, this chapter will discuss areas and sectors impacted by climate change, using the EUCRA cluster classification where applicable.

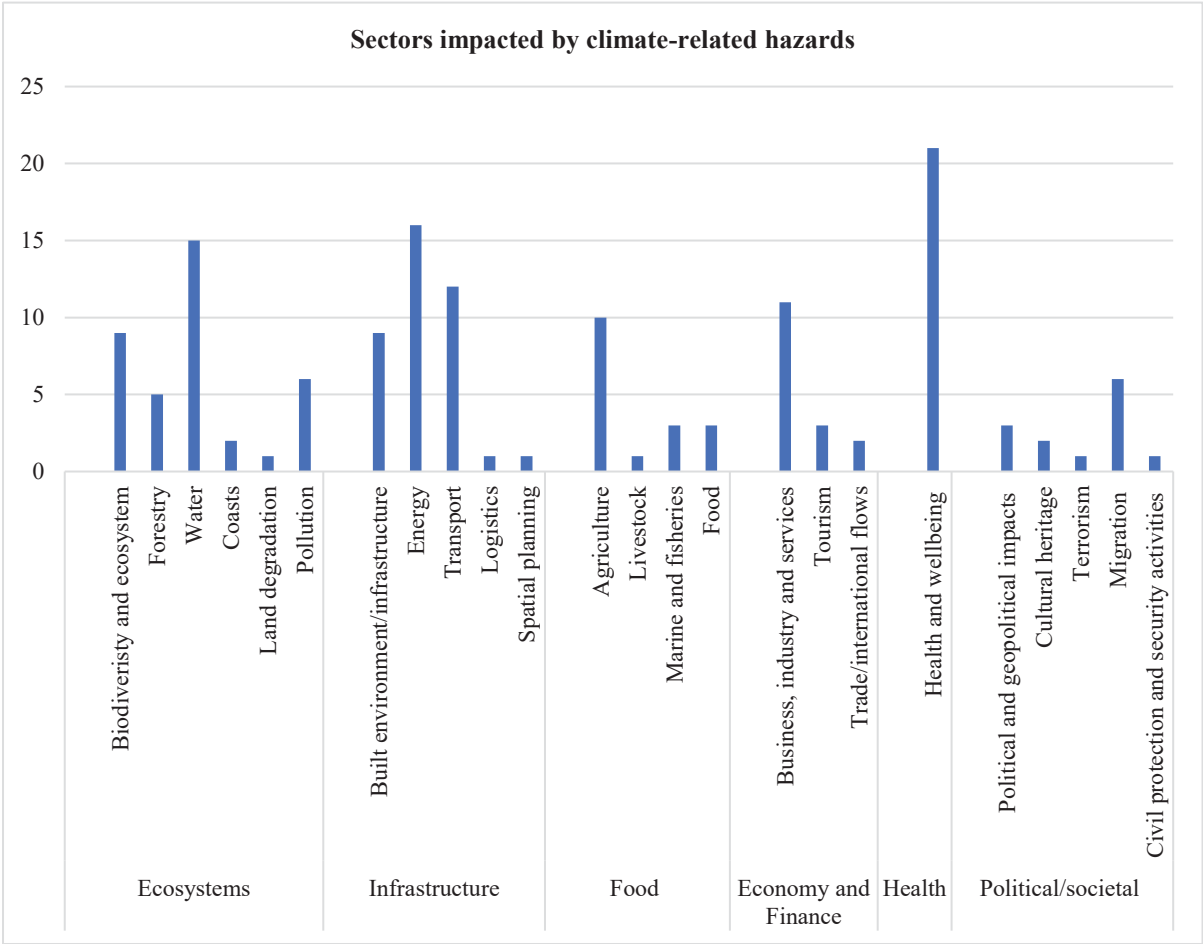
The most reported impact remains on health, with a higher number of countries identifying how climate change can impact health and well-being, generating secondary risks like pandemics and epidemics. For example, Bosnia and Herzegovina mentions the impact of climate change on cardiovascular diseases, while the Netherlands highlights the impact on mental health.



**Figure 9.** Climate-related hazards as identified by countries, divided into two types of risks that are either chronic (slow onset/permanent) or acute (rapid onset/time limited events). Source: 2023 DRM summary reports.

Sixteen Member States and Participating States report impacts on the energy sector, including disruptions to electricity and gas supply and energy facilities, power outages, and disruptions to nuclear and hydroelectric energy production (Figure 10).

The impact of climate change on water is also being considered more widely, with 15 countries reporting it. Countries generally do not make a distinction whether the impact on water refers specifically to quantity or quality.



**Figure 10.** Sectors impacted by climate-related hazards by countries, divided into the clusters included in the European Union Climate Risk Assessment (EUCRA). Source: 2023 DRM summary reports.

Twelve Member States and Participating States report impacts on the transport sector, with specific references to road, railway, air and maritime accidents.

Business, industry and services are other areas identified as vulnerable to climate-related hazards, with 11 countries reporting impacts, such as increased risk of industrial accidents, supply chain disruptions and telecommunications outages. Slovakia, for example, mentions that climate-related risks may have a significant financial impact on insurance premiums.

Impact on other sectors, such as agriculture and biodiversity and ecosystems, is also taken into consideration more frequently.

Member States and Participating States also report impact areas not included in the EUCRA sectors, such as climate impacts on pollution, including air quality, increased risk of maritime oil spills, and environmental burden.

Additionally, some countries consider the political and societal implications of climate change, with four countries referring to climate-related political and geopolitical impacts as drivers of international armed conflicts, internal political instability and terrorism. Since 2020, there has been a slight increase in the number of countries reporting climate-induced migration.

### **8.1 Climate adaptation measures (Q14)**

The level of reporting on climate adaptation measures has increased significantly since 2020. The number of countries identifying links between disaster risk management and climate change adaptation is much higher than before, indicating a shift in how Member States and Participating States consider these two elements. This suggests that climate change considerations are becoming more integrated into overall disaster risk management, with strengthened links between the two areas.

**Synergies between disaster risk management and climate change adaptation.** There is a growing recognition of the interconnectedness between disaster risk management and climate change adaptation among Member States and Participating States. Since 2020, the number of countries highlighting links between these two areas has increased significantly, with 25 countries now considering climate change adaptation as an integral part of their risk management planning assessments. This represents a fourfold increase from 2020, when only six countries reported such synergies.

A closer examination of the reports reveals that approximately two thirds of these countries have incorporated climate change adaptation into their risk strategies, action plans and broader environmental strategies. Furthermore, one third of the countries have developed climate change adaptation strategies that explicitly integrate disaster risk management measures. Additionally, half of the countries report that their disaster risk management and climate change adaptation efforts are developing in parallel, with a focus on sharing knowledge and best practices.

In terms of adaptation planning, the majority of countries continue to take a national approach, with most presenting adaptation plans or strategies at the national level. However, there is also an increasing trend towards sub-national and sectoral planning, with more countries reporting sub-national plans and sectoral action plans than in 2020.

The reports also highlight a growing emphasis on specific measures and approaches that combine adaptation actions and disaster risk management. For example, more countries are reporting the use of monitoring, data collection and processing to inform their adaptation and disaster risk management efforts. Notably, almost two thirds of countries now conduct risk assessments that take into account climate change projections and scenarios, representing a significant increase from 2020, when only one country reported on the topic. A smaller but still significant number of countries, four in total, are also conducting risk surveys to better understand their vulnerability to climate-related disasters.

## **9.1 Summary of findings**

Member States and Participating States have identified various climate-related hazards, with floods, wildfires, and drought being the top three reported risks. The impacts of climate change are far-reaching, with the most reported impact being on health, followed by the energy sector, water, transport, and business and industry. Countries are also considering the political and societal implications of climate change, including climate-induced migration and climate-related political and geopolitical impacts.

There is a significant increase in the integration of climate change adaptation into disaster risk management strategies since 2020. A growing number of countries now recognise the synergies between these two areas, with the number of countries identifying links between disaster risk management and climate change adaptation increasing from 6 to 25 since 2020. This shift is evidenced by two thirds of countries conducting risk assessments that account for climate change projections and scenarios, a significant rise from just one country in 2020.

More countries are implementing specific measures that combine adaptation actions with disaster risk management, using tools like monitoring, data collection and processing to inform their efforts. Although fewer in number, four countries are also conducting risk surveys to better understand their vulnerability to climate-related disasters.

Overall, this reflects a shift towards a more integrated approach, with countries increasingly embedding climate change considerations in their disaster risk management frameworks and recognising the importance of addressing these interconnected challenges. Most countries now have national adaptation plans or strategies, and an increasing number are reporting sectoral and sub-national plans, indicating a comprehensive approach to tackling climate risks.



## 6. GOVERNANCE OF DISASTER RISK MANAGEMENT

All Member States and Participating States provided information on the legislative, procedural, and institutional frameworks for risk assessment and disaster risk management. In addition to the new data submitted by countries reporting for the first time, certain Member States and Participating States outlined amendments to their legislative and procedural structures, underscoring a collective effort to refine the risk assessment process and strengthen disaster risk management governance to effectively address various types of crises.

### **Legislative and procedural framework for risk assessment and disaster risk management capability assessment (Q1, Q9)**

In most countries, risk assessment and disaster risk management capability assessment appear to be governed by the same legal framework, with one central legal act complemented by other laws addressing specific risk areas or different aspects of disaster risk management, including the distribution of responsibilities among authorities and administrative levels. Complementary laws may also impose obligations on different entities and sectors.

**Risk assessment.** The framework laid down by Decision 1313/2013 has also been instrumental in shaping several national frameworks. For instance, Denmark has adopted the UCPM legislation as a foundational framework for risk assessment, which is supplemented by additional sector-specific laws and procedures.

Most reporting countries stated that they rely on risk assessment guidelines that are issued either by international organisations or by central authorities to direct lower administrative levels on how to conduct assessments. The most referenced international guidelines include the Commission's 2010 Risk Assessment and Mapping Guidelines for Disaster Risk Management<sup>14</sup> and 2019 Reporting Guidelines on Disaster Risk Management<sup>15</sup>, ISO standards 31000 and 31010:2009, and UNISDR/UNDRR Guidelines on National Disaster Risk Assessment, whose core principles are integrated into national frameworks and methodologies for risk assessment.

While several countries have updated their risk assessment methodologies and scenarios, legal frameworks for risk assessment did not undergo significant revisions, highlighting the strong adaptability of existing national instruments to a rapidly evolving threat landscape. However, some changes are underway in Slovenia and Czechia, where legislative reforms will enhance and better integrate national risk assessments into the overall disaster risk management framework.

**Risk management.** Since the last reporting cycle, several Member States and Participating States have implemented or plan to introduce amendments to their legislative frameworks, with some citing recent events, particularly the COVID-19 pandemic, as a catalyst for reform. For instance, Belgium's National Crisis Centre has launched a project to codify legislation governing contingency planning and crisis management following the 2016 terrorist attacks. Building on lessons learned from COVID-19, this project also aims at integrating the sectoral level into the organisational structure of contingency planning and crisis management.

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<sup>14</sup> SEC(2010) 1626. Commission Staff Working Paper Risk Assessment and Mapping Guidelines for Disaster Risk Management.

<sup>15</sup> Commission Notice 2019/C 428/07. Reporting Guidelines on Disaster Risk Management, Article 6(1)(d) of Decision No 1313/2013. OJ C 428, 20.12.2019.

Greece has undergone substantial reforms in its crisis management framework, with the 2023 legislative updates building on foundational changes introduced in 2020. These updates seek to strengthen the overall effectiveness of the civil protection and crisis management system by reforming processes and structures and introducing substantive measures.

Similarly, Bosnia and Herzegovina has planned a transition from a reactive to a proactive disaster risk management system, which includes enhancing policy, normative and regulatory frameworks. This effort involves adopting enhanced risk reduction legislation, as well as national, sub-national and local disaster risk reduction strategies setting directions for building resilience to disasters.

In addition to the UCPM framework, several other pieces of EU legislation are viewed as integral to disaster risk management, some of which set out reporting obligations. These include the CER, NIS2, Floods, Seveso III and the Regulation on Serious Cross-Border Health Threats, as well as EU legislation on animal and plant diseases.

Some Member States and Participating States refer to the Commission notice on Risk Management Capability Assessment Guidelines<sup>16</sup> and the Disaster Resilience Goals (DRGs)<sup>17</sup>. Croatia, for example, has aligned its capability assessment process with the methodology outlined in the Guidelines, while Germany recognises the value of the DRGs as a strategic framework for informing prevention and preparedness actions at the national level.

### **10.1 Authorities responsible for and stakeholders involved in the risk assessment process (Q1, Q2, Q10)**

**Responsible authorities.** All Member States and Participating States reported that the main responsibility for risk assessment lies with national level public sector authorities, supported by a broad stakeholder base. However, data from the reports testify to a variety of governance models in the area of risk assessment.

Most countries mention one or more ministries as the main responsible authority for their national risk assessment, in particular ministries of internal affairs, justice or defence.

Interinstitutional, cross-sectoral working groups or subgroups coordinated by the main competent authority are widely used throughout the risk assessment preparation process. In countries where sub-national authorities or other entities conduct their own risk assessments, coordination structures ensure alignment between different administrative levels and actors.

A few Member States and Participating States have explicitly outlined legal requirements for sectoral authorities and operators of critical infrastructures and services to conduct risk assessments for their operations.

Compared to the previous reporting cycle, two Member States have entrusted the national risk assessment to different authorities. In 2021, Greece assigned the responsibility for its national risk assessment to the newly founded Ministry of Climate Crisis and Civil Protection. In

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<sup>16</sup> Commission notice – Risk Management Capability Assessment Guidelines. OJ C 261, 8.8.2015, p. 5-24.

<sup>17</sup> Commission Recommendation of 8 February 2023 on Union disaster resilience goals 2023/C 56/01 C/2023/400. OJ C 56, 15.2.2023, p. 1-11.

2023, Lithuania tasked the National Crisis Management Centre with carrying out the national risk assessment.

**Stakeholders involved.** Across all reporting countries, the risk assessment process involves a wide range of public and private stakeholders, demonstrating a commitment to participatory, whole-of-society and whole-of-governance approaches, as well as knowledge-sharing and convergence of best practices among risk assessment actors.

In addition to ministerial authorities, various public sector authorities are involved in risk assessment in Member States and Participating States, including agencies, regulatory authorities, public institutes, and state-owned companies. These entities play a key role in the risk assessment process, providing technical input and expertise.

Some countries involve sub-national authorities in the national risk assessment process to varying degrees, allowing for more nuanced and localised approaches to risk assessment. Emergency services, such as fire and rescue teams, police and the armed forces, may contribute in an advisory capacity.

Most Member States and Participating States engage with academic and research institutions in their national risk assessment process, leveraging their expertise through studies and expert opinions and highlighting the potential for academia to contribute to risk assessment efforts at various administrative levels.

A few Member States and Participating States report that non-governmental and aid organisations, such as national Red Cross societies, are involved in risk assessment. In Bulgaria, the Bulgarian Red Cross, as well as other legal entities and non-profit organisations focused on disaster risk reduction, are part of the Council for Disaster Risk Reduction of the Council of Ministers. At the sub-national level, non-profit entities participate in county and municipal councils for disaster risk reduction.

A few reported practices signal connections between national and international frameworks, with countries exchanging knowledge and expertise and incorporating findings from international initiatives into their risk assessment processes.

### **11.1 Authorities responsible for and stakeholders involved in disaster risk management (Q10)**

**Responsible authorities.** Although information regarding authorities responsible for **disaster risk management capability assessment** is somewhat scarce, countries that report on this topic generally adhere to the principle of sectoral responsibility and risk-specific competence, where different actors are responsible for assessing risk management capabilities within their respective areas of competence.

In some countries, government departments and public authorities conduct disaster risk management capability assessments. Other countries involve civil protection and defence authorities. In Sweden, the Swedish Civil Contingencies Agency (MSB) and the armed forces jointly assess the overall capabilities of total defence, while MSB conducts the overall assessment of civilian defence. With a system grounded on sectoral responsibility, Norway relies on coordination between sectors for its national disaster risk management capability assessment.

Looking at **disaster risk management** broadly, in most Member States and Participating States, different ministries are responsible for defining the regulatory framework, planning, directing and overseeing the implementation of policies. Other authorities have competence in specific areas or phases of disaster risk management. In Belgium, for instance, introducing preventive measures is mostly the responsibility of sectors and regions.

Across the board, reporting countries do not always distinguish between different phases of disaster risk management, suggesting a more holistic approach that emphasises the crucial role of sectors and sub-national administrative entities in comprehensive disaster risk management. Notably, Denmark acknowledges that most documents and practices in disaster risk management are all-hazard oriented, emphasising the principle of subsidiarity, under which emergency and crisis management should be handled at the lowest organisational level possible.

In most reporting countries, sub-national authorities are responsible for disaster risk management planning, coordination and implementation of measures at their territorial level. In Sweden, for instance, municipalities have legal obligations to reduce the vulnerability of their activities. They have a good capacity to handle peace time crises, achieve basic civil defence capabilities and ensure coordination of crisis management measures by different actors and information to the public.

Compared to the previous reporting cycle, twice as many countries provided information on the authority responsible for the 24/7 emergency contact point at national level and how it is integrated into the overall management structure.

**Stakeholders involved.** Nearly all countries refer to civil protection authorities being responsible for one or more phases of disaster risk management, including preparedness and response. These authorities, often in the form of civil protection directorates and committees, play a key role in planning and coordinating civil protection activities, with some countries relying on sub-national levels.

Crisis management and civil protection organisations implement preventive, operational, and remedial measures to mitigate disaster risk. Several countries also involve different emergency services, including health services, fire and rescue services, police forces and security services, in specific areas of disaster risk management.

Sub-national entities also play a role in disaster risk management at the national level, implementing tasks and policies set by national authorities, providing data and information, and participating in training and exercises. In Belgium, for example, local authorities are required to participate in at least one multidisciplinary contingency exercise annually.

Some countries have set up multi-stakeholder structures at the sub-national level to promote coordinated action and address specific tasks during emergency situations. In Romania, for example, county and local emergency committees comprise a diverse range of stakeholders, including services, managers of companies, institutions, economic operators and representatives from higher administrative levels. These committees are responsible for informing higher authorities about emergency situations, developing and following up on emergency measures, reviewing and approving plans for providing emergency management resources.

Notably, non-governmental actors play a significant role in disaster risk management, particularly in Nordic countries, implementing total defence approaches. In Denmark, for instance, non-governmental stakeholders are informed and involved in managing key risks under the principle of sectoral responsibility.

Research institutes and academia are also involved in disaster risk management in several Member States and Participating States. In Bulgaria, Portugal, and Romania, for example, research institutes and universities participate in national platforms for disaster risk reduction. Interestingly, Finland, Romania, and Sweden also report the involvement of religious communities in preparedness and disaster risk reduction efforts.

Recent initiatives reported by Member States and Participating States demonstrate a growing trend of stakeholder involvement in improving national risk management systems. In Germany, for instance, an Advisory Council including representatives from the public administration, private sector, academia, civil society, and the media convened for the first time in 2024 to enhance the National Platform for Resilience to Disasters, transforming it into a forum for effective coordination between networks of actors.

**Focus on the private sector.** Summary reports show that the private sector is a key player in disaster risk management, performing a variety of activities of national interest.

In most Member States and Participating States, the private sector provides input into risk assessment and disaster risk management planning at the national or sub-national level. The private sector can be represented in multi-stakeholder bodies at the national level, such as national platforms for disaster risk reduction, or be involved in civil protection planning through specific agreements, such as the public-private partnership concluded by the Italian Department of Civil Protection and Confindustria. In Germany, the Lander of Hessen has set up a forum (the KRITIS Round Table) where departments of the Lander administration and critical infrastructure operators can work together to enhance synergies in crisis management measures and preparedness.

Some private actors, especially operators of critical infrastructure and providers of essential services, are also required to assess risks and develop their own business continuity and risk management capability plans. Hungary emphasises the growing importance of cooperation between public and private stakeholders in risk management capability, highlighting the importance of information sharing and the processing of lessons learned.

In several countries, the private sector implements preventive measures related to specific risks. Greece, for instance, is increasingly adopting whole-of-society approaches to wildfire risk management, involving the private sector, civil society organisations and academia. Denmark's DEMA expects to further enhance cooperation with the private sector for the implementation of the CER Directive.

In Nordic countries, private sector operators of essential goods and services are responsible for ensuring security of supply under the principle of sectoral responsibility and in cooperation with public authorities and other stakeholders. Private actors are also integral to the total defence concept, and are therefore involved in planning for enhanced preparedness. In Sweden, for example, contingency authorities may enter into agreements with private companies for the supply of goods and services in emergency situations. At the same time, companies support the efforts of public authorities in total defence planning and crisis



preparedness. In Finland, NGOs, businesses and individuals collaborate with authorities to maintain vital functions under the Security Strategy for Society.

About one third of reporting countries mention the involvement of the private sector in capacity and resilience building initiatives. These include providing emergency management services, such as search and rescue or handling hazardous materials, implementing prevention and preparedness measures, including strategic stockpiling, the implementation of early warning systems, and actions to strengthen cybersecurity. In Austria and Germany, cooperation with private actors in the energy sector has resulted in information materials aimed at raising awareness and supporting the self-preparedness of the population.

In Portugal, a collaborative effort between various public and private stakeholders is underway to develop a comprehensive disaster loss database which will systematically track and analyse losses related to high-impact events.

**Focus on civil society.** Most Member States and Participating States provide some information on civil society involvement in disaster risk management. Although detailed reporting on this topic is limited, available data indicate that one third of reporting countries involve the public in self-preparedness activities or trainings. In addition to incorporating societal perspectives into risk assessment through studies and consultations, some Member States and Participating States involve the public in disaster risk management planning.

Voluntary organisations are well integrated and play a vital role in the disaster risk management systems of nine reporting countries.

At the local level, volunteers can also play a crucial role in responding to disasters. In Germany, for instance, the civil protection system is heavily reliant on volunteer engagement, with the Federal Agency for Technical Relief providing numerous possibilities for people to contribute their time and skills to various organisations. In Bulgaria, the Disaster Protection Act mandates the establishment of trained and equipped voluntary entities in municipalities with up to 20 000 inhabitants to support professional emergency response teams.

Other countries rely on volunteers for specific emergency response tasks. In Greece, for example, the newly founded Ministry of Climate Crisis and Civil Protection has launched initiatives to train and mobilise volunteers for wildfire protection, implementing whole-of-society approaches that also leverage the expertise of academia and the private sector. In Hungary, municipal disaster risk management exercises, which aim to strengthen coordination and knowledge of operating procedures, are public and engage a growing number of volunteers and students.

In countries that implement total defence policies, legal obligations and established cooperation structures enable the active participation of civil society across the entire spectrum of disaster risk management, working alongside public, private, non-governmental and military stakeholders through self-preparedness and the implementation of specific measures.

## **12.1 Internal coordination mechanisms (Q11, Q12, Q13)**

Member States and Participating States describe various approaches to coordination between different administrative levels. In most Member States and Participating States, applicable

laws and/or strategic plans designate coordination authorities and set out the responsibilities of different actors. Ministries, government offices and civil protection authorities are often tasked with coordinating roles at the national level.

Several countries have permanent coordination bodies and structures in place, such as committees, platforms and technical working groups, that meet regularly. These structures involve different stakeholders and may have different compositions depending on the types and nature of the activities to be coordinated.

Coordination bodies also exist at the sub-national and sectoral level. For instance, Finland's security of supply sectors are cooperation organisation that include representatives of ministries, central agencies, business organisations and key companies to guide, coordinate and monitor preparedness within their remit and promote cooperation between authorities and businesses in matters concerning security of supply.

Several countries underscore the relevance of coordination and integration between sectors and administrative levels. Norway, for instance, emphasises that the national risk management system is based on coordination between sectors at the national, regional and local levels. In Finland, preparedness committees are permanent and broad-based cooperation bodies for preparedness at regional level, involving a wide range of security actors representing the public administration, businesses and the third sector, including the church, rescue services and NGOs.

A few countries report having implemented or planned measures to improve coordination. In Germany, the EU competence body for the UCPM at the Federal Office for Civil Protection and Disaster Assistance became operational in early 2024. It is tasked with strengthening coordinated German engagement in UCPM and creating opportunities for German actors to participate in the UCPM. Belgium is planning for the creation of a National Security Cell, an inter-departmental and inter-federal consultation body composed of representatives of departmental and sectoral crisis units aimed at enhancing joint preparation for crisis management.

As part of a broader defence and safety reform, Hungary has introduced a whole-of-government approach to coordination by setting up the Defence Administration Office, which will oversee a national incident management centre responsible for coordinating government-wide crisis management efforts. In 2023, Italy created the Observatory of Good Practices to support coordination of civil protection activities between central and peripheral state administrations, sub-national and local public bodies, as well as any other public or private institution or organisation operating in civil protection.

Despite several Member States and Participating States referring to the army as a key player in disaster risk management, only a handful of countries mention the existence of formal or informal civil-military coordination structures. Similarly, very few countries report the existence of specific agreements with the private sector, despite engaging and relying on private actors in several disaster risk management activities. Sweden, for example, has a cross-sectoral cooperation structure to ensure communication coordination during critical incidents, which includes directors for communication from various agencies, the armed forces, and representatives of the County Administrative Boards. In 2022, this coordination group developed a communication strategy on crisis preparedness and civil defence in response to the unfolding of the current security situation.

### 13.1 Risk management planning

**Applications of risk assessment.** Risk assessment and disaster risk management planning are closely linked, with the former providing the foundation for disaster risk management and civil protection planning, helping identify vulnerabilities and development needs, and supporting prioritisation at the national and sub-national levels.

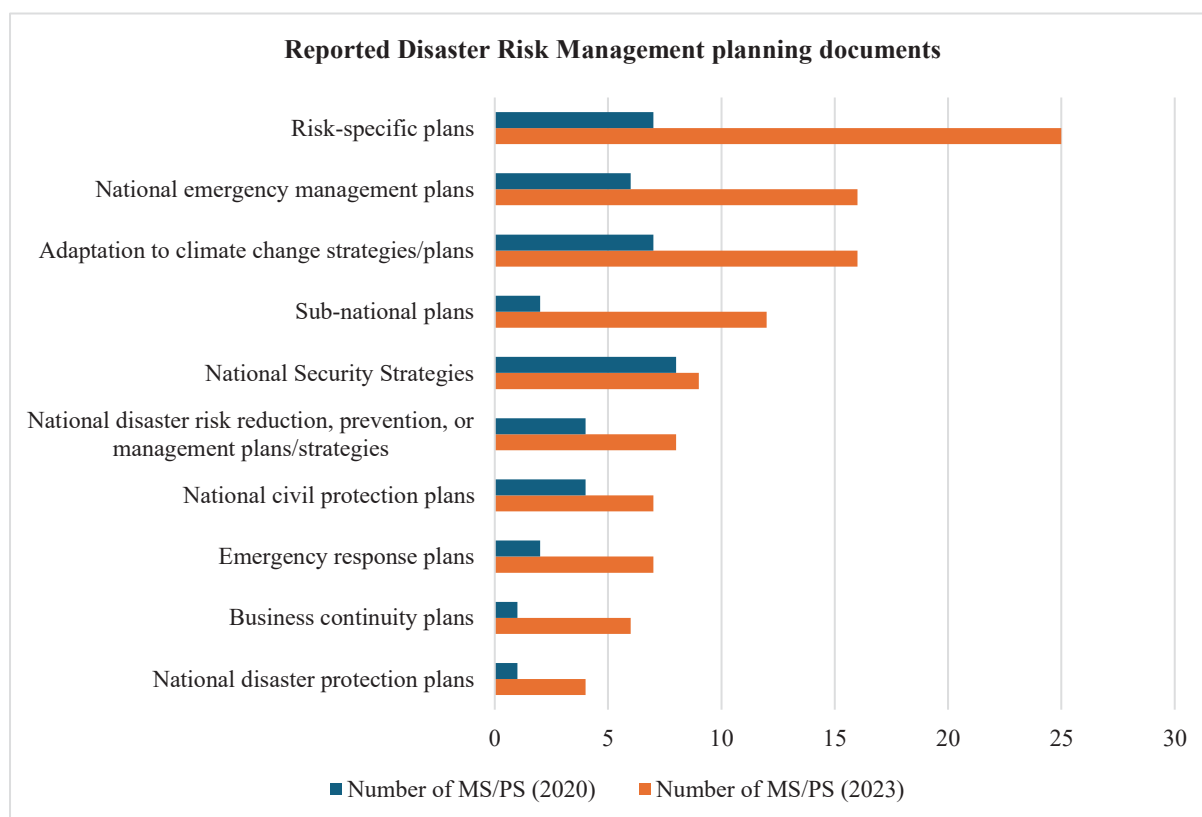
In some Member States and Participating States, national risk assessments serve as a benchmark for sub-national or sectoral authorities to conduct their own risk assessments. In Sweden, for instance, the national agency MSB creates a risk catalogue based on the national risk assessment, which stakeholders, including regions and municipalities, can use to inform their own analysis and planning. In Bulgaria, risk assessment is a key component of disaster protection plans under the Disaster Protection Act, with sectoral legislation relying on risk assessments to inform various aspects of disaster risk management.

A few countries reported additional functions of risk assessments, such as informing scenario development and exercises, guiding urban and spatial planning, and developing strategies for climate change adaptation. For instance, Slovenia reports using its national risk assessment for the development of disaster scenarios that will support advancing the DRGs. These examples illustrate the versatility and importance of national risk assessments in supporting comprehensive and inclusive disaster risk management planning.

**DRM planning documents.** Although disaster risk management planning was not a specific focus of the reporting obligations under Article 6 of Decision 1313/2013, Member States and Participating States reported on a broad range of relevant documents, showing an increase in reporting compared to the previous cycle. However, this increase may not necessarily indicate actual progress, as few countries appeared to have updated or introduced new disaster risk management plans. Instead, it may reflect improved reporting practices.

Notably, some countries that reported having certain disaster risk management documents in 2020 no longer mention them in the 2023 reporting cycle, despite these documents still being in effect. Furthermore, countries that had planned to develop new disaster risk management documents in 2020 did not provide updates on their status in the 2023 cycle. Due to these limitations, it is not possible to produce a comprehensive overview of existing disaster risk management strategies and planning documents. However, a general overview of the different types of disaster risk management planning documents reported can be provided, along with examples of recent initiatives undertaken by Member States and Participating States.





**Figure 1.** Types of DRM planning documents reported by countries in 2020 and 2023. Sources: 2020 and 2023 DRM summary reports.

Several countries are making progress in developing new initiatives. For example, Cyprus and Serbia are in the process of approving their national strategies for disaster risk reduction. Germany and Sweden have also made significant strides, with Germany adopting its first national security strategy in 2023, which puts in place an integrated security policy framework. Sweden has drafted a series of key documents related to civil defence and preparedness, focusing on emergency response capabilities, contingency planning, and supply preparedness. Additionally, MSB has developed a new national strategy for host nation support, which aims to set up a common methodology and working arrangements for preparatory planning and implementation of civilian host country support in peacetime crisis situations and war.

## 14.1 Summary of findings

Member States and Participating States have made progress in developing their legislative and procedural frameworks for risk assessment and disaster risk management. Most countries have a central legal act that provides the framework for risk assessment, which is complemented by other laws and guidelines. The risk assessment process is often led by national level public sector authorities, with the involvement of various stakeholders, including sub-national authorities, academic and research institutions, and non-governmental organisations.

Countries are increasingly recognising the importance of whole-of-society and whole-of-government approaches, with many countries engaging a broad range of stakeholders in risk

assessment, disaster risk management planning and emergency response efforts, as well as providing them with information and training to enhance their preparedness and resilience.

The use of risk assessments is well-established, with many countries relying on them to inform decision-making, identify vulnerabilities and support prioritisation at the national and sub-national levels.

The private sector can play a key role in disaster risk management, with many countries already involving private actors in risk assessment and disaster risk management planning. Civil society is also increasingly engaged in disaster risk management, with volunteers participating in established civil protection structures and contributing to emergency response efforts.

Internal coordination mechanisms are also being set up, with many countries having permanent coordination bodies and structures in place to coordinate efforts among different administrative levels and stakeholders. However, there is still a need for improvement in coordination and integration between sectors and administrative levels, with some countries reporting challenges in this area.

Overall, while progress has been made, there is still a need for continued effort and improvement in developing and implementing all-hazard approaches to risk management planning and comprehensive disaster risk management strategies.

## **7. RISK MANAGEMENT CAPABILITY ASSESSMENT**

While all reporting countries provided information on risk assessment, data on risk management capability assessment is somewhat scarce. Five countries submitted little to no information on disaster risk management capability assessments.

National summary reports show a diverse range of practices in assessing disaster risk management capability, with some countries having recently completed their first disaster risk management capability assessment. UCPM legislation has prompted newly joined countries to develop their risk management capability assessment, as seen in the case of Montenegro, which finalised its assessment in October 2023 with support from the EU-funded project ‘Development of Montenegro’s disaster risk management capability assessment’.

The frequency of disaster risk management capability assessments varies significantly among Member States and Participating States, with UCPM legislation often serving as a benchmark for triannual reviews. Some countries conduct annual or ongoing reviews, while others update their disaster risk management capability assessment every six years. Following the development of a conflict scenario agreed with the Länder in 2022, Germany has undertaken a review of its frameworks and capability concepts for civil defence, emphasising cross-disciplinary and multi-level approaches.

### **Critical infrastructure identification and protection (Q15)**

Twenty-eight Member States and Participating States indicate that they have policies or programmes for protecting critical infrastructure, which points to a clear increase in reporting in comparison with the previous reporting cycle, where only 17 provided information on this topic. Further, one Participating State – Bosnia and Herzegovina – is in the process of drafting its national legislation on critical infrastructure protection.

While elaborating on protection measures, countries generally refer to the sectors covered by the Council Directive on the identification and designation of European critical infrastructure and the assessment of needs to improve their protection (ECI Directive)<sup>18</sup>, the CER Directive and the NIS2 Directive, albeit using varying terminologies. The key sectors that hold critical infrastructure assets include energy such as electricity, water management and/or water supply, telecommunications and/or communications, transport, banking and finance, food supply and/or food industry, healthcare, public administration, space, and digital infrastructure. Other sectors mentioned by reporting countries are cultural heritage, defence and civil protection. Some countries provide generic references to the number of sectors covered or non-exhaustive lists while several Member States still reference the ECI Directive, noting that their national regulations cover more sectors.

This may be because most Member States prepared and submitted their summary reports to the Commission before the transposition deadline of the CER Directive. However, despite submitting their reports after the deadline, some Member States explicitly stated that they were still in the process of aligning their national frameworks with the CER and NIS2 Directives.

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<sup>18</sup> Council Directive 2008/114/EC of 8 December 2008 on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection. OJ L 345, 23.12.2008, p. 75-82.

The summary reports reveal two distinct approaches to protecting critical infrastructure. One approach focuses on protecting key assets, with a strong emphasis on national security, while the other – championed by Nordic and Baltic States - prioritises vital societal functions and is underpinned by the concepts of societal resilience and total defence, integrating cybersecurity, defence and civil preparedness.

There is a lack of information as regards the procedures for compiling and updating lists of critical infrastructure. Less than half of the Member States and Participating States reported having compiled such a list, and only a few provided information on the review process, which is mostly conducted on a regular or need-based basis. At the time of reporting, Montenegro and Denmark were still mapping their critical infrastructure, while Sweden had compiled a list of essential societal functions in 2023.

Several Member States and Participating States are currently developing additional policies and provisions to enhance the protection of critical infrastructure and the resilience of their critical entities. These efforts emphasise the importance of cross-sectoral cooperation, including cooperation with the private sector to identify threats and protect critical infrastructure while ensuring the continuation of essential services. There is growing focus on the energy sector and vulnerability of critical infrastructure to climate change and technological risks, with some countries – like Germany, Ireland, and Spain - specifically considering cascading effects in relation to critical infrastructure and the essential services they provide and in critical sectors.

For example, France reported the approval of all civilian technological risk prevention plans by the end of 2023, which involved a large number of stakeholders through association and consultation mechanisms. In the context of the Climate and Nature Protection Action Plan, Hungary has recently undertaken a project to examine the vulnerability of energy infrastructure to weather extremes, geological events, and climate change. In Austria, the national climate change adaptation strategy includes recommendations for protecting critical infrastructure from climate-related risks.

Despite the emphasis on critical infrastructure protection, information on investment needs is extremely scarce. Member States and Participating States reporting on this topic generically noted the need for additional support from international organisations to implement measures and activities. Spain, for instance, has made efforts to promote calls for R&D&I projects to relevant entities, raising awareness about funding opportunities.

### **15.1 Sources of financing (Q16)**

**Flexible budgetary allocations.** Nearly all Member States and Participating States indicate that their budgetary resources can be allocated flexibly in case of urgent need. However, information on the type of funding sources and allocation to priority measures for identified key risk is scarce. The summary reports reveal a variety of financial instruments and funding sources, mostly public, but also highlight gaps and constraints hindering short-term and long-term funding of DRM measures.

Over half of the countries providing information on flexible budget allocation mention budgetary reserves and unforeseen expenditure items to be deployed in emergency situations.

Other countries report on various legal schemes and procedures that ensure the availability of state funds for unplanned expenditures and exceptional circumstances, including at the sub-national level. While most countries refer to the funding of response and recovery activities, Finland, Hungary, and Poland also mention procedures for flexible budget allocations to support prevention and preparedness measures.

Across the board, Member States and Participating States often rely on flexible arrangements to compensate for deficient budget allocations. Bosnia and Herzegovina, for instance, reports that *impromptu* budgeting from related budget lines has proven effective when financial instruments for response and early recovery were insufficient. In Belgium, the possibility of requesting additional budget via the Ministry of the Interior can ensure the availability of funds for prevention and planning measures related to newly identified risks for which a budget is not automatically allocated.

Other flexible solutions include exemptions from legislative provisions, such as the exemption for civil protection and rescue services under the Public Procurement Law in Montenegro, and schemes for financial aid to municipalities affected by disasters, such as the Force Majeure Aid in Hungary and the Municipal Emergency Fund in Portugal.

**Public funding.** Reported sources of funding are predominantly public, both at national and sub-national levels. However, very few Member States and Participating States provide insight into how available funds are used to take priority measures across different DRM stages and in relation to reported key risks. Most Member States and Participating States reference ordinary state budgets and regular allocations of public authorities as the main sources of funding for disaster risk management activities.

In countries applying the principle of sectoral responsibility, such as Estonia and Finland, the annual state budget does not specifically allocate funds for DRM, as each sectoral authority is responsible for planning sufficient resources for DRM in their area of responsibility. Some countries also refer to special funds and programmes at the national level, especially in connection with the prevention of and preparedness for natural disasters.

Although reporting is not comprehensive, this might suggest potential areas for improvement in implementing all-hazards approaches that also consider other types of disasters and the impact of climate change. In the area of climate adaptation, five countries mention the availability of public funds and budget allocations, some of which were introduced in recent years. France, for example, set up the Green Fund in 2023 to accelerate green transitions in different parts of the country and support communities' climate change adaptation efforts.

Only a few Member States and Participating States provide information related to funding for key risks. Seven countries refer to allocations for flood prevention and protection measures, while four countries allocate funds to wildfire prevention and management. The emphasis on these risks is probably due to the requirements of the Floods Directive, which mandates that Member States ensure that adequate financial resources are available to implement flood risk management plans, as well as to recent events. For instance, following the 2023 floods, Slovenia plans to increase investments in flood protection measures, using European funding to support this effort. Italy has put in place the National Civil Protection Fund for Foresight and Prevention Activities, which supports civil protection activities related to risk forecasting and prevention.

In general, sub-national authorities have their own budget to implement disaster risk management activities and can benefit from state funds or co-financing schemes. In Poland, for example, local authorities can receive funds from the annual reserve for natural disaster prevention and recovery, but must meet specific criteria, including presenting plans to restore initial conditions and prevent repeated damage from similar threats.

**Private funding.** Eleven countries reported private sources of funding, primarily donations and insurance schemes for homeowners, with no increase from the previous reporting cycle. While Romania has introduced mandatory insurance for homeowners, Bosnia and Herzegovina noted that most insurance schemes are not viable options for homeowners due to high costs. In most reporting countries, private organisations, companies and foundations contribute to funding civil protection activities and projects. In Italy, for instance, the private sector co-finances or anticipates some of the costs of measures to reduce the vulnerabilities of buildings to seismic risk.

**EU and international funding.** About two thirds of reporting countries mention allocating EU funds to disaster risk management, although detailed information on the activities and measures funded is limited. Most countries refer to EU structural funds, such as the Cohesion Fund (CF) and the European Regional Development Fund (ERDF), as well as the EU Solidarity Fund for post-disaster relief. Some countries also use resources from the Recovery and Resilience Plan and EEA grants for natural disaster and climate change-related activities. Portugal, for example, has implemented three programmes to enhance risk awareness and management of key risks such as wildfires (MAIS FLORESTA Programme) and floods (LIFE Programme) and to strengthen resilience and adaptation to climate change (POSEUR).

A few countries have accessed UCPM preparedness and prevention projects and financing response modules under rescEU, while others have leveraged UCPM and EU funding to enhance their national risk assessment processes. Ireland, for example, has received support from DG REFORM under the Technical Support Instrument to enhance its national risk assessment process, aligning it with the requirements of the CER Directive.

Some countries have also tapped into international sources, particularly international and bilateral projects and programmes, to finance capacity building and climate adaptation activities. These sources include World Bank loans, technical assistance facilities, the Norwegian Financial Mechanism, the Swiss Financial Mechanism, as well as support from the UN and NATO. In Romania, for example, the World Bank funded projects aimed at improving uniform disaster risk assessment and fostering multi-hazard, multi-risk approaches.

European and international funding plays a crucial role in enabling the implementation of disaster risk management and reduction activities, particularly where national and sub-national budget allocations are insufficient. This is the case, for example, in Montenegro, where the implementation of the disaster risk reduction strategy is still largely reliant on international funds.



## 16.1 Infrastructure, assets and equipment (Q17)

Relatively few Member States and Participating States provided exhaustive information on their procedures for maintaining assets and responding to disasters. The limited information provided makes it challenging to form a comprehensive picture of the efforts undertaken across Member States and Participating States. Only a few Member States and Participating States spontaneously provide details about the types and functions of available resources for disaster protection and response. Additionally, the responses received suggest that the entities responsible for reporting might not always have a full grasp of the resources and procedures within the sectors, which appear to play a crucial role in at least one third of Member States and Participating States.

Despite the limitations outlined above, country reports provide some insights into the types of procedures used to keep infrastructure, assets and equipment in good order. The procedures reported focus on supply management and asset auditing, human resources training and preparation, and on means to keep the required assets updated. As in the previous reporting cycle, Member States and Participating States mostly referred to inventories of assets and auditing procedures.

**Available resources.** Reports mostly mention the availability of infrastructure, assets and equipment for responding to health emergencies, conducting search and rescue, handling CBRN hazards, and managing the risks of floods and wildfires. Notably, Norway's summary report includes a sample of preparedness and contingency analyses, which aimed to identify gaps between planned preparedness targets and actual readiness. Similarly, Croatia's summary report not only discusses the development of preventive measures for floods and wildfires but also explicitly highlights gaps in the distribution and equipment of voluntary fire brigades, underscoring the need for improvement in this area.

Countries mentioned the existence of strategic reserves, especially in the energy sector, reinforced by legal obligations on energy companies and network operators as well as European legislation such as Regulation EU 2017/1938 concerning measures to safeguard the security of gas supply<sup>19</sup>. Considering recent developments in the global threat landscape, measures introduced by Member States and Participating States concern in particular the electricity sector. For instance, Belgium has transformed its national electricity emergency plan into an emergency planning fiche aligned with the federal crisis management principles, enabling integrated and coordinated action. Lithuania has introduced legislative requirements to set up a strategic reserve of material and equipment for protecting and repairing energy infrastructure, effective as of 2025.

Technology is also an important asset in reducing the impact of disasters and ensuring effective response. In Hungary, for example, an intra-governmental working group has concluded that AI can support various disaster risk assessment and management activities of the sectors. Emergency response plans in Estonia must ensure that adequate technology and equipment are in place.

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<sup>19</sup> Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010. OJ L 280, 28.10.2017, p. 1-56.

**Procedures.** Countries highlight the significance of equipment regulations and disaster protection plans in ensuring the availability of adequate means in the event of a disaster. In Greece, for example, legislation passed in 2023 requires regional and municipal civil protection authorities to maintain a register of available construction machinery and operators for fire and flood protection. These authorities report monthly to the General Secretariat for Civil Protection on the state of available human resources, civil protection assets and materials, monitoring their level of preparedness. Similarly, Croatia's Act on Strategic Commodity Reserves (2022) mandates the creation of stocks for basic needs in the event of a major emergency or technical-technological and environmental disasters.

Cross-sectoral cooperation and collaboration with different actors, including the private sector and defence forces, are crucial for strengthening preparedness and response to disasters, with some reporting countries providing examples of recent or ongoing initiatives to enhance synergies and improve disaster risk management capacities. For example, Belgium's National Logistics Hub (Nat Log Hub), set up during the COVID-19 pandemic, serves as a coordination structure between civil protection, defence, and fire service networks, aiming to harmonise national coordination of non-medical logistical needs with the support of the National Crisis Centre and according to the principle of subsidiarity. Finland emphasises the importance of investing resources in security of supply activities through public-private cooperation schemes.

Effective management of procurement procedures is essential for maintaining and restoring the availability of equipment and resources, as emphasised by countries such as Italy, Slovenia and Sweden. Civil protection authorities can play a key role in resource management. Sweden's MSB, for example, coordinates resources and expertise among different actors, and can broker resources or facilitate the exchange of resources when needed, ensuring the effective use of resources in emergency situations. Other countries, like Portugal, can resort to temporary requisitions of goods and services from entities ordered by the Ministry of Internal Affairs in case of an emergency.

### **17.1 Disaster loss data collection and procedures (Q18)**

In 2023, 28 Member States and Participating States reported on the collection of disaster loss data, representing a significant increase since 2020. The information provided on the types of data collected and related risks has doubled since 2020, with 18 countries now reporting it. Additionally, more countries report having databases for data collection.

However, there is a certain level of under-reporting, as some countries refer to the data collected and risks associated with them, but do not report having databases in place. This under-reporting may be because civil protection and disaster risk management entities are sometimes different from those in charge of data collection, and there may be a lack of communication or coordination between them.

At the European Commission level, the Risk Data Hub collects loss and damage data on Member States from open sources data related to natural and technological hazards. Some countries have shared disaster loss data on different categories of risks, such as health risks or critical infrastructure-related risks.

**Progress.** Progress has been made in loss data collection, with countries showing increased consideration of this element since 2020. For example, Croatia mentions that collecting



disaster loss and vulnerability data is one of the main measures of its DRM strategy, as it contributes to improving risk knowledge. Bosnia and Herzegovina refers to the regional project IPA DRAM, which aims to collect data on damages over the last 15 years through an electronic application.

Although several countries refer to existing databases for collection, with 12 countries reporting having a database in place, it is not always clear whether such databases are multi-risk or risk-specific. Among others, countries report having risk-specific databases for wildfires, earthquakes, climate change impacts, and extreme weather. Finland reports a specific system called PRONTO, which records human damage data from rescue services.

Estonia refers to a decentralised system where each risk-specific authority is responsible for collecting its own risk data based on its area of competence. Eight countries explicitly mention not having a database for data collection, with three of them in the process of developing one. For example, Spain has launched the project IMPACTO, financed by the Track 1 projects fund, which aims to put in place a centralised damage and loss collection system.

Portugal is developing a database which will subsequently be replicated at the local level.

**Data collection.** Data collection practices and challenges have been reported by several countries, particularly on who collects the data, how, when, and why. The entities in charge of collection remain scattered, with nine countries indicating that civil protection and emergency management authorities are responsible for data collection, followed by statistics offices and regional and local authorities, each of which was identified by five countries, and health authorities reported by four countries.

Insurance companies, sectoral authorities, damage assessment authorities and others are also mentioned by three countries.

The number of countries reporting different purposes for collecting loss data has decreased since 2020, both in absolute and percentage terms. The reasons for disaster loss data collection remain scattered, but the top categories are risk assessment, analysis and mapping, including preparing statistics, identifying monitoring trends and determining impact magnitudes.

The second purpose is related to policy and planning, notably resources assessment and allocation, evaluation of prevention measures and risk reduction strategies preparation. Lastly, another purpose is financial, as disaster loss data contributes to determining recovery resources and planning subsidies and establishing damage compensation costs.

**Type of data.** The number of countries reporting the types of data collected and the risk areas they are related to has significantly increased since 2020, doubling from 9 countries to 18. The main categories of risk reported are miscellaneous accidents, which has more than doubled since 2020, followed by fire risks, which include both wildfires and unspecified fires, and floods, which become the third identified risk, unlike in 2020 when it was the first one.

Human health risks data collection has also seen an increase in reporting, while some other categories saw a decrease, notably critical infrastructure and extreme weather. For the first

time, countries also report data on nuclear accidents and drought, while, unlike in the previous reporting cycle, no country included terrorism data.

The main types of data collected that Member and Participating States report are mostly general data or economic, followed by human. The amount of data related to the environment, infrastructure, and cultural heritage remains very limited. Unlike in 2020, no country reports information on animal impacts.

**Data sharing.** As in 2020, less than one third of countries referred to the reporting obligations under the Sendai framework, with some reporting using the Desinventar platform. In terms of links to European legislation, only one country makes a reference to the Floods Directive while one other mentions sharing these data with external stakeholders.

As in 2020, no country provided information on data shared with the Risk Data Hub.

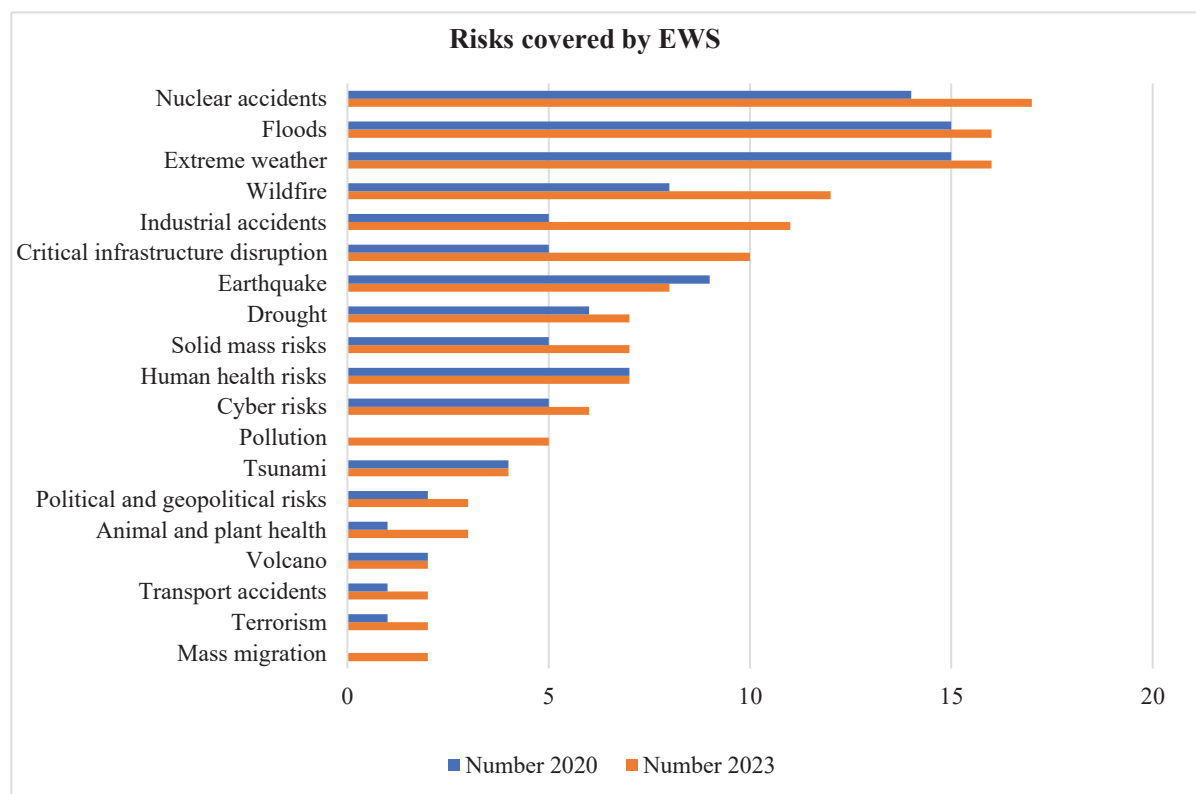
### **18.1 Early warning systems equipment and procedures (Q19)**

Twenty-eight Member States and Participating States replied to the question, representing an increase since 2020. As in the previous reporting cycle, most countries indicate that EWS are in place for early hazard detection for key risks, but data on forecast methodologies remains very limited.

Eighteen countries indicate that their national system is connected to EWS at the European or global level, representing a significant increase since 2020. One third of Member States and Participating States, compared to a quarter in 2020, mentioned cross-border links between EWS. Twenty countries also report information on the entities in charge of or involved in the early warning systems.

**EWS for key risks.** As in 2020, nuclear and radiological risks, extreme weather, and floods were the top three risks reported to be covered by EWS, with a higher number of countries mentioning them than in 2020. This indicates that slightly more than half of the countries identifying these risks report having early warning systems in place.

With the exception of EWS for earthquakes, all other risk categories have seen an increase since 2020, with the most significant being wildfire (from 8 to 12), critical infrastructure disruptions and industrial accidents (both doubling in numbers). At the same time, countries report new categories of risks for which early warning systems are in place, notably pollution



**Figure 2.** Countries that reported having an early warning system are in place for the key risks reported in 2020 and in 2023. Source: 2020 and 2023 DRM summary reports.

and mass migration.

The consideration of early warning systems for political and geopolitical risks remains very limited. However, there are a few relevant examples: Finland reports monitoring and assessing military threats, while Lithuania carries out monitoring of its economic vulnerabilities and export dependencies on hostile countries, as well as any possible activities involving lobbying, corruption, and influence from foreign countries. Poland uses digital map systems to monitor situations such as the war in Ukraine and the influx of Ukrainian refugees into the country.

As in 2020, there is still a gap between identified risks and a warning system in place, which could be due to under-reporting or an implementation gap.

**Monitoring, detection, forecasting.** A limited number of countries report information on monitoring, detection and forecasting related to their early warning systems. Nineteen countries report that their EWS carries out monitoring activities, particularly related to floods and nuclear accidents and, to a lesser extent, other risks for which an EWS is reported.

However, it appears that the distinction between monitoring and detection is not always clarified by Member States and Participating States, and the two terms may often be used

interchangeably. For detection, slightly over one third of Member States and Participating States report related EWS, with the most prominent risk reported being wildfires.

Less than one third of Member States and Participating States refer to forecasting elements in their early warning systems, and the two risks most covered are floods and extreme weather.

A very limited number of countries report the infrastructure and assets in place to carry out monitoring and detection activities, and such information remains scattered: less than one third of countries report monitoring and measuring infrastructure, such as monitoring points, networks and stations.

**Entities involved.** As in 2020, the entities responsible for EWS are mostly public authorities. Hydrometeorological institutes and geophysical and seismological entities remain the most reported, with some countries mentioning additional sectoral authorities, notably energy, transport infrastructure, maritime, airspace and telecommunications authorities.

**Connections between EWS.** Slightly under two thirds of countries, increasing from 2020, reported that EWS are connected to European and global systems. The information provided, however, is rather fragmented. At the European level, the most reported tool is the European Community Urgent Radiological Information Exchange (ECURIE), followed by the Early Warning and Response System (EWRS), the European Drought Observatory (EDO), the European Flood Awareness System (EFAS), and the Rapid Alert System for Food and Feed (RASFF). Three countries also make a reference to the Copernicus system.

Additionally, Hungary and Romania refer to the Accident Emergency Warning System of the Danube River Basin as an example of a regional EWS at European level.

Sweden refers explicitly to the Serious Cross-Border Health Threats Regulation and its obligation to notify the Commission in case of any related human health risks.

At global level, the most reported systems and entities related to EWS are the International Atomic Energy Agency (IAEA) and the World Health Organization (WHO).

Few countries, however, refer to any cross-border cooperation on EWS: five countries explicitly mention cross-border data exchange and three refer to cross-border EWS, while four make a generic reference to cross-border elements.

**Gaps and developments.** Some countries refer to existing gaps in their own EWS. For example, Montenegro mentions the lack of monitoring capacity for EWS for extreme weather, and Greece refers to the need for enhanced monitoring capacity and EWS to counter the risk of wildfires.

Concerning future developments, Czechia mentions having developed a plan for a fully digital warning system, which will be funded by European structural and investment plans and implemented over the long term. Finally, Luxembourg refers to a project to set up a new warning system.

## **19.1 Summary of findings**

The varying level of detail provided on disaster risk management capability assessments only allows for a limited understanding of the resources available and preparedness of Member States and Participating States for addressing key risks.

The risk management capability assessment reveals that 27 Member States and Participating States have policies or programmes in place for protecting critical infrastructure, with a focus on sectors such as energy, water, and telecommunications. Countries are taking different approaches to protecting critical infrastructure, with some focusing on key assets and national security, while others, such as the Nordic and Baltic States, prioritise vital societal functions and emphasise societal resilience and total defence. Despite this, countries are actively developing additional policies and provisions to enhance the protection of critical infrastructure, with a growing focus on cross-sectoral cooperation and the involvement of the private sector.

In terms of financing, most countries have flexible budgetary allocations for disaster risk management, with a variety of financial instruments and funding sources available, including public and private sources. EU and international funds are also widely used, playing a crucial role in enabling the implementation of disaster risk management activities, particularly where national and sub-national budget allocations are insufficient. While private funding sources, such as donations and insurance schemes, are being used, there are opportunities for greater involvement of the private sector in financing disaster risk reduction and climate change adaptation measures.

The assessment also highlights the importance of infrastructure, assets and equipment in disaster risk management, with countries reporting on their procedures for maintaining assets and responding to disasters. However, the information provided is limited, making it challenging to form a comprehensive picture of the efforts undertaken across Member States and Participating States to address key risks. Despite this, countries are making progress in collecting disaster loss data, with 27 Member and Participating States responding to the question on collecting loss data, representing a significant increase since 2020.

Furthermore, the use of early warning systems is becoming more widespread, with 27 Member States and Participating States reporting on their early warning systems, representing an increase both in absolute and percentage terms since 2020. Most countries indicate that early warning systems are in place for early hazard detection for key risks, although data on methodologies remain limited. The connections between early warning systems at the European and global levels are also being strengthened, with a high number of reporting countries indicating that their national system is connected to EWS at the European or global level. Overall, while progress is being made, there is still a need for improvement in reporting of disaster risk management capabilities, particularly in terms of financing, assets and early warning systems.

## 8. MEASURES TO RAISE RISK AWARENESS

As in 2020, about two thirds of Member States and Participating States provide information on the role of communicating the results of risk assessments and their public availability. Twenty-eight countries provided information on risk information and communication to raise public awareness, indicating a variety of activities. Although this represents an increase in reporting since 2020, the information provided is often fragmented and lacks detail.

It should be noted that the reported information is not always related to risk awareness but also covers risk communication elements.

### 20.1 Communication of risk assessment to the public (Q8)

Twenty-three countries, an increase of seven since 2020, reported having publicly available national risk assessments on their websites. The results of risk assessments are made available through different channels, which are reported in a scattered way by Member States and Participating States. Notably, the main channels used are events like seminars, workshops, and conferences, open days, fora, press meetings, printed media, and social media.

The publicity of risk assessments depends on the sensitivity of the risk information: for example, Slovenia states that the terrorism risk assessment is not public.

The findings from Member and Participating States also point out how communicating risk assessments is a key element to support preparedness: for example, in Finland and Montenegro, the public results of risk assessments are used for training and preparedness exercises, while Sweden mentions sharing the results with civilian preparedness actors.

Some countries also report community and public engagement in the overall risk assessment process: in Slovenia, for example, the public can participate in the preparation and evaluation of risk assessment, and Greece engages communities in the overall risk assessment process.

As part of the implementation of the project FUTUREPROOF-IE, Ireland has actively consulted both the public and expert groups on risk perception to revise its national risk assessment.

**Alert and risk awareness (Q20).** Twenty-five countries indicated having public warning systems, representing an increase since 2020. Eleven countries refer to alert and warning systems in a general sense, citing examples such as weather alert systems in Finland, Germany, and Montenegro, while Estonia mentions that enterprises vulnerable to hazards have their own warning systems. Bulgaria, for instance, reports an earthquake cross-border alarm system.

Regarding specific types of alarms, Germany mentions loudspeakers, and Poland refers to visual alarms. Other reported means of alert include mobile phones, sirens, television, radio, social media, and websites. For example, Luxembourg is developing a new website for public alerts.

Mobile phones are increasingly used for alerts to the population. Almost two thirds of reporting countries now use mobile phone calls, SMS, and applications to issue alerts to the



population in case of hazardous events. This is connected to the obligation to implement the European Electronic Communication Code (EECC)<sup>20</sup>, particularly Article 110.

Most countries focus on prevention and preparedness measures, self-protection measures, behaviours in case of emergency and related instructions in their risk awareness activities. Some countries report more specific elements, such as home preparedness, risk recognition, emotional preparedness, self-capacity development and protection of other individuals.

Other activities communicated to the public are more technical in nature, including hazard and risk maps, risk legislation, statistics, studies and reports, as well as monitoring data and plans for coverage, contingency, disaster protection, external rescue and risk management.

Some countries have risk-specific awareness and communication activities, such as Greece and Hungary, which have wildfire-specific activities and sectoral communication plans. Hungary and Finland also refer to sectoral communication and awareness plans.

In implementing whole-of-society approaches to risk assessment, some Member States and Participating States have created synergies between risk assessment and population awareness. For instance, the Netherlands notes that risk profiles for safety regions serve as both a decision-making tool for administrators and a basis for risk communication with the public. Lithuania's national risk assessment includes recommendations for the public under each scenario described, indicating a strong focus on population engagement and preparedness.

Some Member States and Participating States emphasise the importance of public awareness and education on risks and emergency response, recognising the vital role that population engagement plays in building resilience across all levels of government. For example, with the support of UNDP and donors, Bosnia and Herzegovina has put in place a system for disseminating information on risks and impacts to 22 local communities. Serbia uses training programmes and regular awareness-raising activities to enhance public preparedness and resilience to crises, highlighting the essential contributions that everyone can make to disaster risk reduction, including vulnerable groups and people with disabilities, who are often disproportionately affected by crises.

### **21.1 Risk information and communication to raise public awareness (Q20)**

**Communication.** As in 2020, Member States and Participating States report a wide range of risk awareness communication methods. However, unlike in the previous reporting cycle, the extent of reporting on these tools has changed, showing that countries are reporting some of these methods more frequently than before.

Websites and the internet remain the top reported methods, with 22 countries using them. The use of trainings, seminars, courses, and workshops, as well as social media, has increased to 14 reporting countries, almost doubling since 2020. For example, Bulgaria explicitly refers to training programmes for children and adults, while in Croatia, these types of activities are primarily educational.

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<sup>20</sup> Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (Recast). OJ L 321, 17.12.2018, p. 36-214.

Greece mentions that these types of training are designed for industrial workers, emergency responders and community members. Some countries explicitly refer to exercises as a means to increase risk awareness. Montenegro cooperates with the Red Cross to organise training on first aid knowledge and skills.

12 countries mention risk awareness campaigns and 11 rely on printed materials, such as banners, posters, books and magazines, representing a two-fold increase since 2020. For example, Sweden has prepared war-risk brochures to prepare the population in case of conflict and has set up a mechanism to measure the level of awareness by tracking the number of downloads of these brochures.

The use of traditional media, such as television and radio, and mobile phones (SMS, calls, and applications) has also increased. Belgium, for instance, has risk-specific campaigns for major accidents and nuclear risks, plans to launch future campaigns based on risk perception from the public and vulnerable groups, and will cooperate with intermediary organisations to achieve this goal.

Norway specifically refers to its participation in the Knowledge Action for Prevention and Preparedness (KAPP) project preparEU as an example of ongoing work to implement DRG2 'Prepare' on risk awareness.

Another notable example of campaigns comes from Sweden, which reports a Swedish Army campaign aimed at fighting disinformation. In Spain, during wildfire seasons, the authorities launch a wildfire risk awareness campaign.

Among the methods reported, some countries have included new approaches that were not previously reported in the 2020 cycle. For example, some Member and Participating States report using games for risk awareness, such as board games and didactic games, as reported by Czechia and Slovenia respectively. Another example comes from Sweden, which organises a contingency week and a preparedness week to raise awareness among the population.

**Target groups.** Several countries identify specific target groups for their risk awareness and communication activities. Thirteen countries specifically mention students, pupils and youth as a primary target group. For example, Cyprus organises evacuation exercises in schools as part of its activities.

Czechia has a comprehensive school programme that focuses on various activities, such as teaching students how to call emergency numbers, behave in dangerous situations, and understand improvised protection and siren signals.

However, the target groups identified by Member and Participating States remain diverse, with no other dominant trend emerging. Among other vulnerable groups are people with disabilities and older people. For instance, Czechia explicitly states that its risk awareness educational activities target people with disabilities and older people.

Some countries also mention tourists and immigrants, who can be considered vulnerable groups to some extent, due to language barriers and a lack of knowledge about procedures and rules in the countries they visit. In this context, Sweden uses sign language and other languages to facilitate risk communication.



Cyprus is developing a formal information strategy that differentiates between various target groups, tailoring its approach to meet the specific needs of each group.

## **22.1 Summary of findings**

Member States and Participating States are making progress in communicating risk assessments to the public, with over half having their national risk assessments publicly available on websites. The number of countries reporting various risk information and communication activities has grown, with nearly twice as many risk awareness campaigns as in 2020.

To raise awareness, countries are using a range of methods to disseminate risk information, including websites, social media, training and printed materials. The use of seminars, courses, workshops and social media has almost doubled since 2020. Traditional media, such as television and radio and mobile phones (SMS, calls, and applications) are also increasingly utilised. Public warning systems, using mobile phones, sirens and other means, are used to alert populations in hazardous events. Most countries now employ mobile phones for alerts, aligning with the European Electronic Communication Code requirements.

Member States and Participating States recognise the importance of public awareness and education in building resilience. They target various groups, including students, vulnerable populations and the public, with tailored communication strategies. Some countries have introduced innovative approaches, such as organising national preparedness days and using games for risk awareness.

Overall, there is a shift towards more comprehensive and integrated approaches to risk communication, emphasising community engagement and new methods to enhance public awareness, prevention and preparedness.

## **9. CROSS-BORDER COOPERATION AND MEASURES**

### **Priority prevention and preparedness measures for key cross-border and HILP risks (Qs 21-24)**

Despite the obligation under Article 6(d) of Decision 1313/2013 to report on priority prevention and preparedness measures for key risks with cross-border impacts and risks related to disasters with multi-country transboundary effects, the information available is limited. The level of detail provided by countries varies significantly, making it challenging to gather a comprehensive understanding. Most Member States and Participating States only provide general information on risk areas where measures are in place, without specifying any priority actions taken.

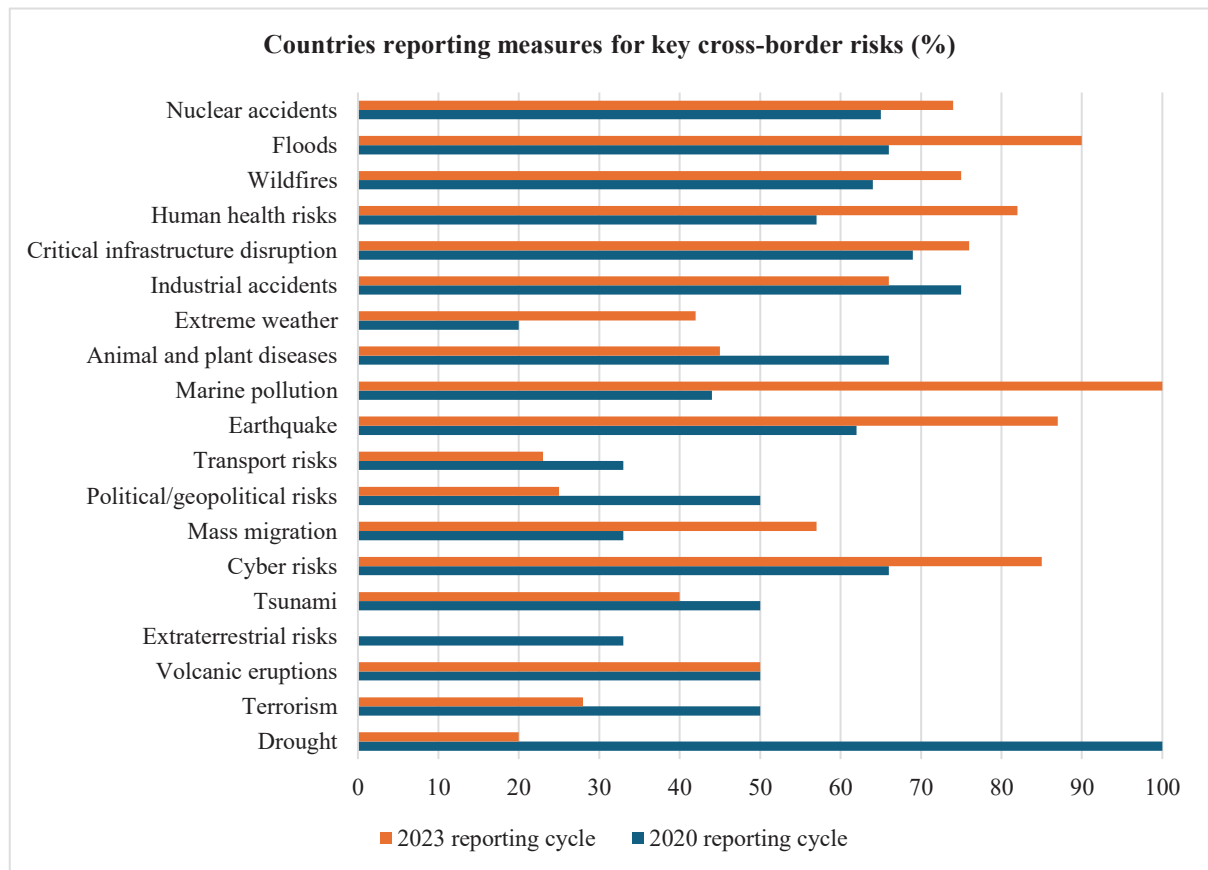
In contrast, some countries, such as Sweden and Montenegro, provide selected examples of prevention and preparedness measures for cross-border and HILP risks. Slovenia stands out by offering a detailed account of its measures, including costs, responsible authorities, timelines, outcomes and lessons learned. However, five countries failed to provide any information whatsoever. The diversity in reporting formats and levels of detail hinders the ability to create a thorough picture of existing or planned priority prevention and preparedness measures. The available data only permits a broad and incomplete overview of the risk areas where measures are being implemented.

Compared to the previous reporting cycle, more countries are now reporting measures to address cross-border risks. However, reporting on measures for HILP risks remains very limited. This might be due to the language of Article 6(1)d of Decision 1313/2013, which only requires Member States to describe priority prevention and preparedness measures for low-probability risks with high impact when deemed appropriate.

A significant gap remains between the key risks countries have identified and the measures they report having in place to address them. Several countries acknowledge cross-border or HILP risks yet fail to report any corresponding prevention and preparedness measures.

Nonetheless, some positive trends are emerging in the reporting of priority prevention and preparedness measures for cross-border risks (Figure 13). Notably, there has been an increase in reporting across the board, with some risks reaching a 90% reporting threshold for measures. This is an improvement over the previous cycle, where reporting on measures fell short of 70% for nearly all cross-border risks. Specifically, a higher percentage of countries are now reporting measures for marine pollution (all five countries that identified it as a cross-border risk), floods (20 out of 22), and cyber risks (six out of seven).

However, there is still room for improvement. For example, although 28 countries identify nuclear accidents as a cross-border risk, only 20 report having priority prevention and preparedness measures in place. Similarly, despite a sharp increase in the number of countries reporting droughts as a cross-border risk (from 1 to 10), only 2 out of 10 countries report having measures to address this risk.



**Figure 3.** The graph shows the proportion of countries that have taken action to address a specific risk compared to the number of countries that consider that risk to be a key risk with cross-border impacts.

As it appears from summary reports, the distinction between prevention and preparedness measures is often blurred. Countries report on both structural and non-structural measures. As in 2020, the most reported types of structural priority prevention and preparedness measures cover floods and wildfires, such as flood barriers, water points and fire stations. Some five Member States and Participating States also report on emergency stocks and strategic reserves, especially in the energy and health sectors.

Similarly, the most reported non-structural measures include risk assessment, information exchanges and situational awareness, training and exercises, as well as early warning, monitoring, detection and alert systems. Spain and Portugal, for instance, engage in exchanges of knowledge and good practices on wildfires and coordinate processes for the review of flood management plans for 2022-2027. Member States and Participating States also underscore the importance of legislative requirements and international regulations in enhancing preparedness for key risks, such as compliance with Eurocode 8 on the design of structures in seismic zones or the International Civil Aviation Organization (ICAO) standards for aviation safety risks.

Some countries also emphasise the function of preparedness plans and security strategies in advancing and supporting the prevention and preparedness for key risks while cooperating in the implementation of multilateral treaties, such as with the International Atomic and Energy Agency (IAIEA) and the Organisation for the Prohibition of Chemical Weapons (OPCW).

### **23.1 Cross-border cooperation (Q13)**

Member States and Participating States engage in a wide range of bilateral and multilateral cooperation efforts with neighbouring countries and regional and international organisations. This collaboration takes different forms, including international conventions, intergovernmental agreements and memoranda of understanding. Bilateral agreements often cover exchanges of risk information, providing mutual assistance in civil protection and cooperating on disaster prevention, preparedness and response.

In some cases, cooperation mechanisms were set up in the aftermath of large-scale, transboundary disasters. Against this backdrop, the Nordic and Baltic States launched a joint initiative to enhance cooperation on wildfire management, including sharing experiences and informing EU policy development within the UCPM.

In other instances, cross-border initiatives have emerged in response to changes in the risk landscape. For example, the energy and electricity preparedness authorities and the core network operators of the Nordic countries have recently signed the NordBER letter of intent, which aims at promoting continuous information sharing and cooperation on preparedness and contingency planning for the Nordic electricity sector. Similarly, the 2023 Wismar Declaration, adopted by ministries within the Council of the Baltic States, specifically identifies civil security as a key area for regional cooperation.

Sub-national cooperation mechanisms are also in place, particularly in border areas. In Slovenia, for instance, municipalities along the Croatian border have mutual agreements on cooperation, relief and assistance in civil protection. Spain and Portugal have set up a Joint Civil Protection Committee, which brings together representatives from neighbouring autonomous communities. The Netherlands has also fostered close cooperation between safety regions in the border areas and their counterparts in Belgium and Germany.

Reported cross-border cooperation mechanisms primarily focus on the exchange of risk information, providing assistance in case of emergencies, and enhancing preparedness – including joint disaster risk management planning. The Nordic Health Preparedness Cooperation, for instance, brings together Nordic national health authorities to discuss common preparedness challenges and identify ways to better manage crises.

A few Member States and Participating States have also reported cross-border cooperation in other areas, such as risk assessment, forecasting and early warning. Greece, for example, is leveraging a partnership with the European Space Agency to enhance early warning and risk assessment capabilities using advanced satellite technology. Some 10 countries also reported engaging in exercises to test cooperation structures and procedures.

Cross-border projects were also reported by around 10 Member States and Participating States, primarily aimed at enhancing preparedness and response capacity to manage risks. Compared to the previous reporting cycle, more countries are reporting participating in INTERREG programme projects. While several projects are risk-specific, concerning in particular floods, wildfires and seismic risks, countries also mention initiatives that address all hazards. Among reported initiatives is the pilot ‘prepareEU’, involving Sweden, Norway, Belgium and Spain, which aims to explore ways to increase national risk awareness and preparedness, with potential for UCPM-wide implementation.

Numerous international frameworks are referenced, with most Member States and Participating States referring to the Sendai Framework for Disaster Risk Reduction and the UN Sustainable Development Goals. Reporting countries also mention the role of NATO in addressing geopolitical threats, security and disaster risk management policy actions. The UCPM is the most reported EU piece of legislation addressing cross-border risks, followed by the Floods and Seveso directives. Countries also report Euratom cooperation on nuclear safety and EU legislation on critical infrastructure and cyber security.

Although Member States are obliged to implement these directives, the level of reporting on relevant activities varies. Similarly, despite participating in the same regional or bilateral initiatives, the extent of reporting on cross-border cooperation mechanisms and procedures differs among Member States and Participating States, with some providing more comprehensive accounts than others.

#### **24.1 Summary of findings**

The quality and detail of country reporting on their efforts to prevent and prepare for cross-border risks and – where appropriate – for high-impact, low-probability risks vary greatly. This makes it challenging to obtain a comprehensive picture of the measures in place. A significant gap exists between identified key risks and reported measures, with many countries acknowledging cross-border or HILP risks without corresponding priority prevention and preparedness measures.

Notwithstanding these challenges, there are positive trends in reporting on cross-border risks, with an increase in countries reporting measures, particularly for marine pollution, floods, and cyber risks. Most countries are also engaging in cross-border cooperation, including bilateral agreements, international conventions and multilateral initiatives, mostly to enhance preparedness and response capacity. The Sendai Framework for Disaster Risk Reduction and the UN Sustainable Development Goals are widely referenced, and the UCPM is the most reported framework addressing cross-border risks.

Overall, the reports highlight the importance of continued cooperation and information sharing among countries to effectively manage and reduce the risks of disasters with cross-border impacts. Despite progress, there is still room for improvement, with varying levels of reporting and a need for more comprehensive and detailed information on prevention and preparedness measures.

## 10. CONCLUSIONS

The analysis of summary reports submitted by Member States and Participating States reveals that strides have been made towards holistic approaches to risk identification. Countries are increasingly recognising the multifaceted nature of risks, examining not only natural hazards but also man-made threats such as political and geopolitical risks, transport accidents and pollution, as well as hybrid threats. The gradual shift towards all-hazard approaches, greater consideration of climate change impacts and cascading effects reflects a broader trend towards considering interdependencies between risks and incorporating complex and compound risks.

A key challenge in this context is the development of risk assessment methodologies that can accommodate all types of risks. While European legislation offers updated frameworks, such as the CER and NIS2 directives, the existing Risk Assessment and Mapping Guidelines for Disaster Risk Management<sup>21</sup> date back to 2010 and will be revised by the European Commission along with the 2019 Reporting Guidelines on Disaster Risk Management<sup>22</sup>. Summary reports submitted by Member States and Participating States vary significantly in detail and adherence to the Reporting Guidelines, which ultimately impacts the quality of information and the usability of the findings. Revised guidelines and any reporting obligations must meet current needs, tackle future challenges and ensure alignment with recent and upcoming initiatives – namely, the DRGs and the EU [Preparedness Union Strategy](#) and related key actions.

Legislative and procedural frameworks for risk assessment and disaster risk management have also advanced, with most countries having a central legal act complemented by other laws and guidelines. These frameworks are increasingly recognising the importance of whole-of-society and whole-of-government approaches, engaging a broad range of public and private stakeholders in risk assessment, DRM planning and emergency response efforts.

Despite progress, challenges remain in developing and implementing all-hazard approaches to risk management planning and comprehensive disaster risk management strategies. The quality and detail of country reporting on efforts to address key risks vary greatly, making it difficult to obtain a comprehensive picture of outstanding needs and existing capacities to effectively manage risks. Addressing this gap is crucial for setting informed priorities for action by the Commission and UCPM countries.

As risk assessments become more comprehensive, capacities must evolve to become more universal, potentially requiring changes in governance, funding and planning. To ensure the ongoing relevance and usefulness of this reporting exercise for both the European Commission and UCPM countries, future submissions should prioritise providing up-to-date, comparable and comprehensive data. The European Commission may need to supplement this information to address gaps in comparability, ensuring that reporting remains a valuable tool for effectively informing policy and decision-making.

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<sup>21</sup> SEC(2010) 1626.

<sup>22</sup> OJ C 428, 20.12.2019.



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Brussels, 29.9.2025  
SWD(2025) 279 final

PART 2/2

## **COMMISSION STAFF WORKING DOCUMENT**

**Second update on Preventing and managing disaster risk in Europe**

*Accompanying the document*

**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND  
THE COUNCIL**

**Advancing risk management and resilience-building in Europe: First report on the  
implementation of the union disaster resilience goals  
Second update on preventing and managing disaster risk in Europe**

{COM(2025) 561 final}

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## 1.1 Animal and plant diseases

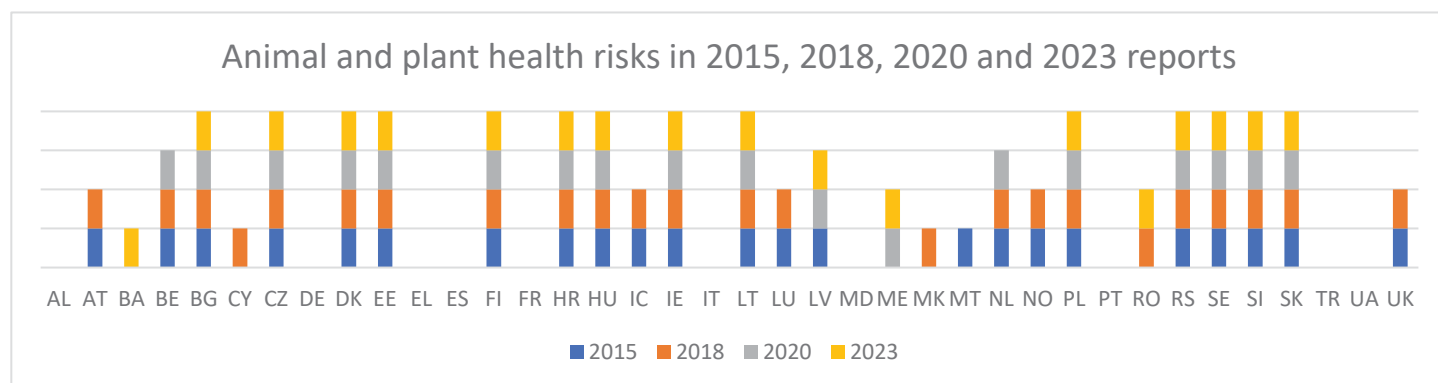
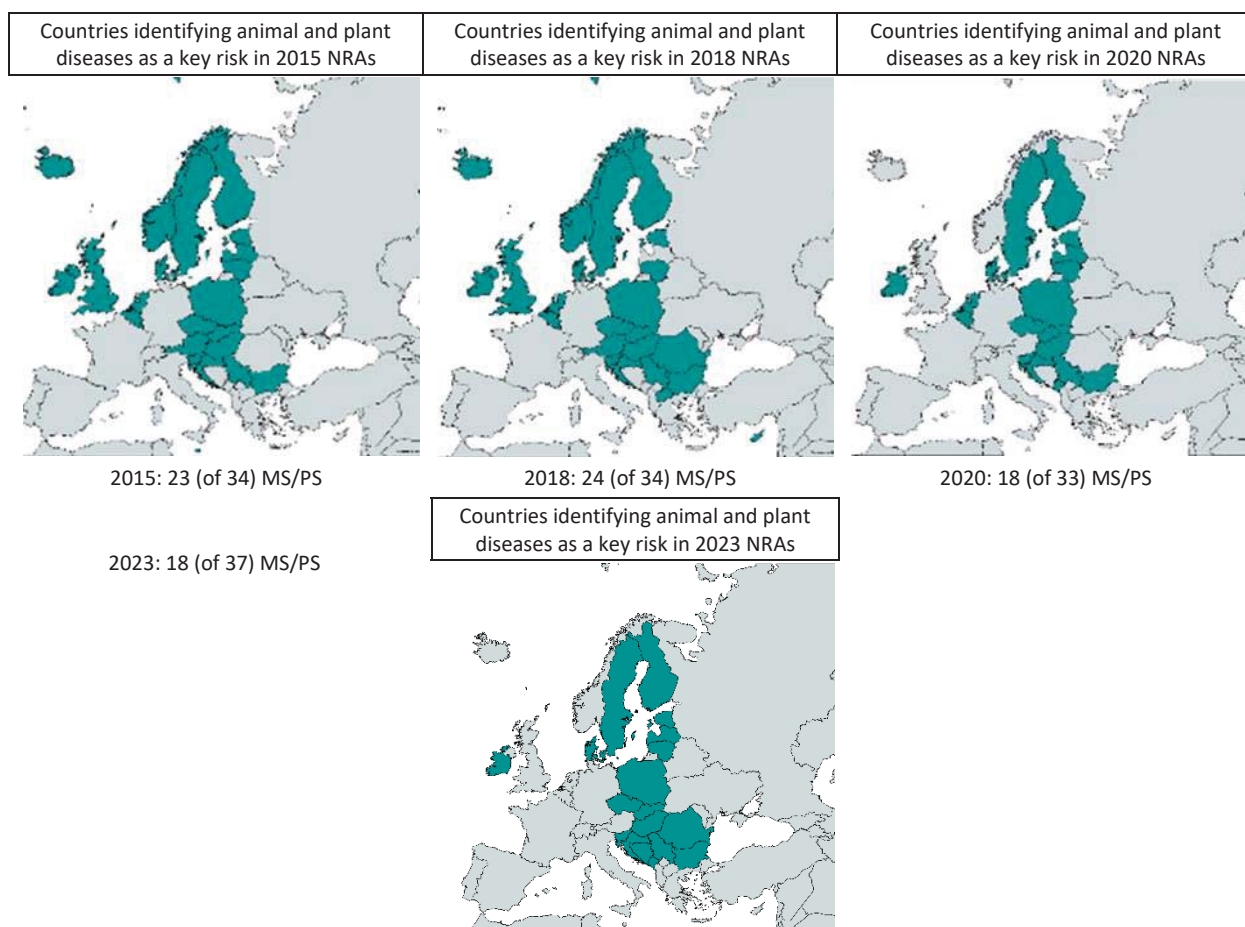


Figure 1. Countries indicating animal and plant diseases as a risk in the reports covering four reporting periods 2015, 2018, 2020 and 2023.

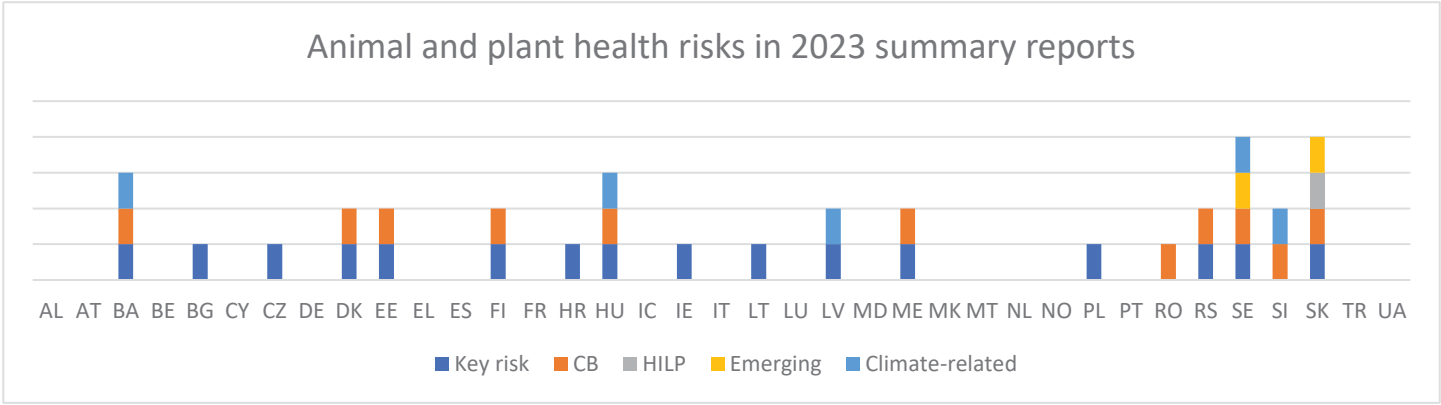


Figure 2. Countries reporting animal and plant diseases in the 2023 DRM summary reports as either a key risk, a cross-border risk, a high-impact, low-probability risk, an emerging risk or a climate-related risk.

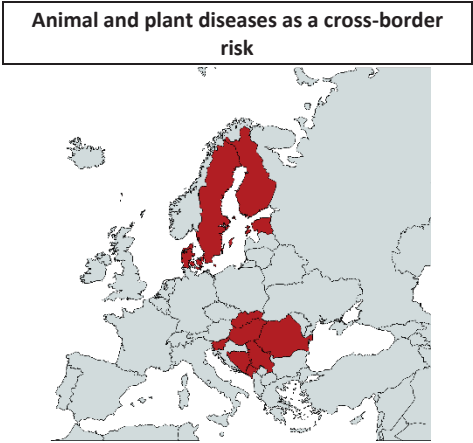


Figure 3. Animal and plant diseases in the 2023 DRM summary reports as a cross-border risk.

## 1.2 Cyber threats

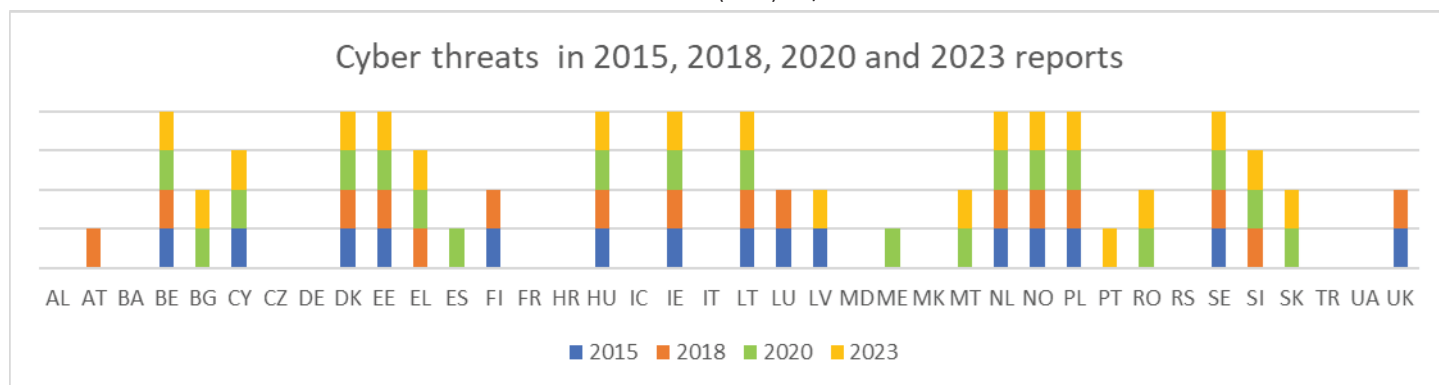
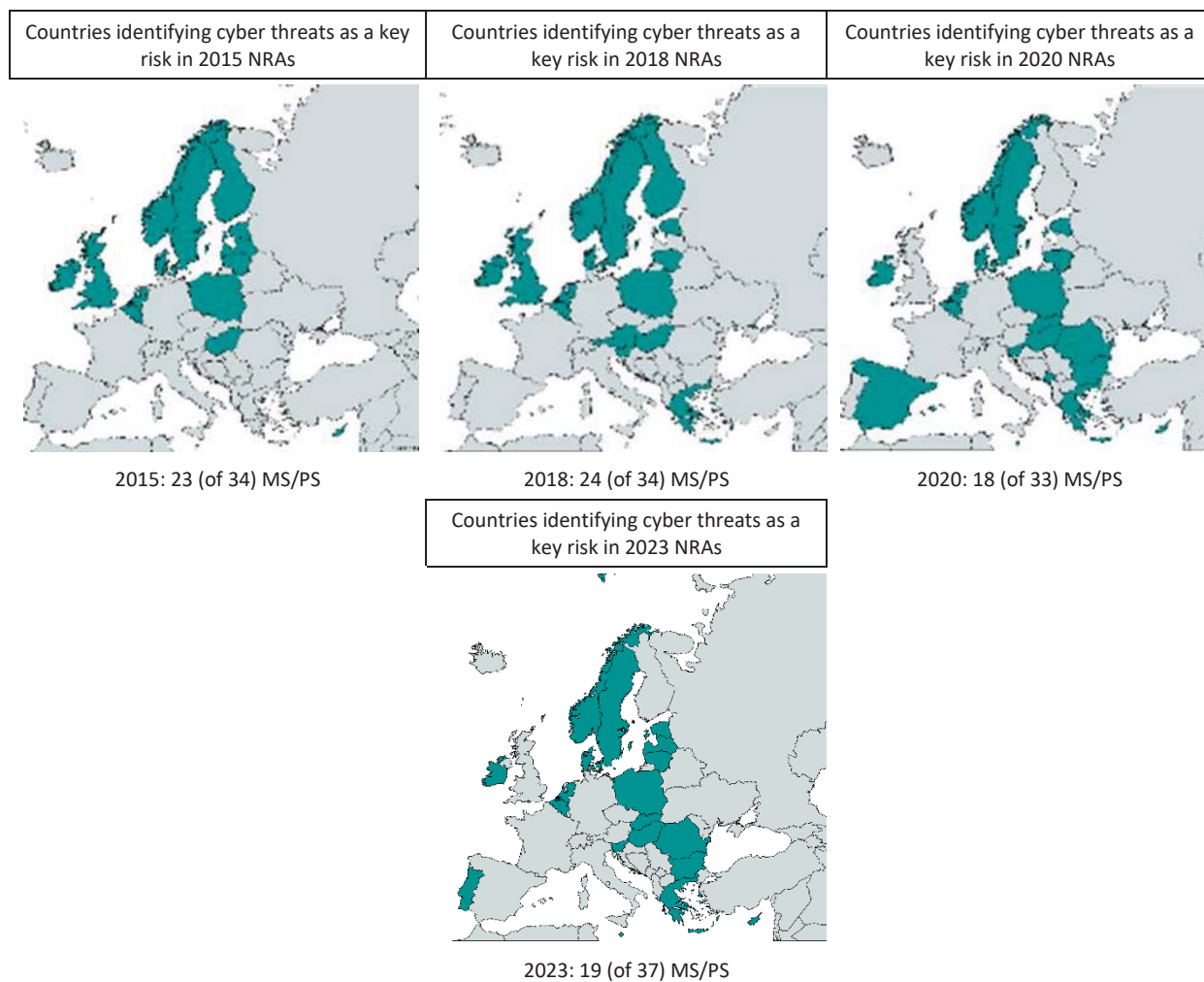


Figure 4. Countries indicating cyber threats as a risk in the reports submitted for the four reporting periods: 2015, 2018, 2020.

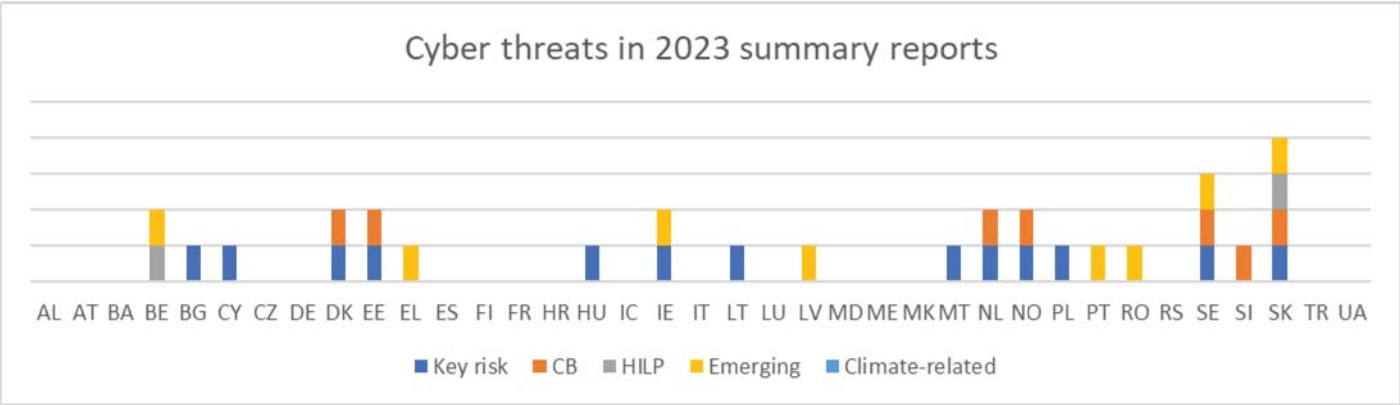


Figure 5. Countries indicating cyber threats in the 2023 DRM Summary reports by category: key risk, cross-border risk, high-impact low-probability risk, emerging risk and climate-related risk.

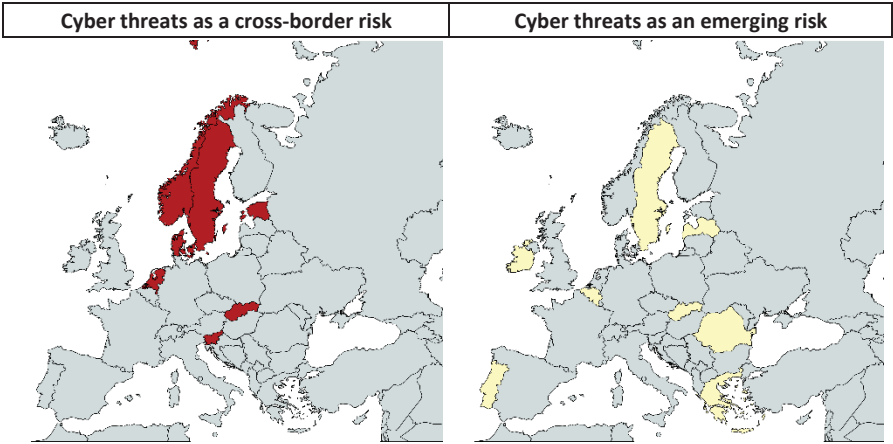
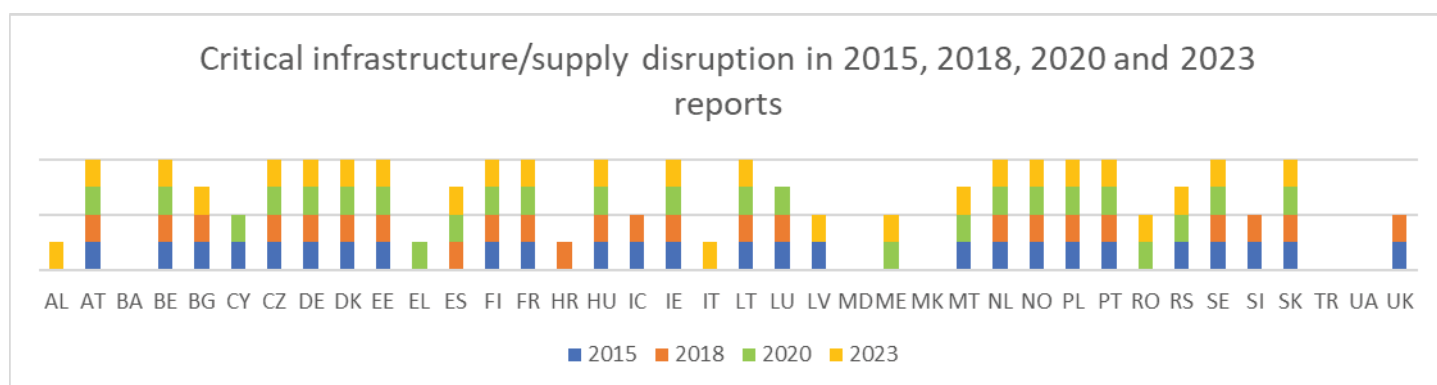
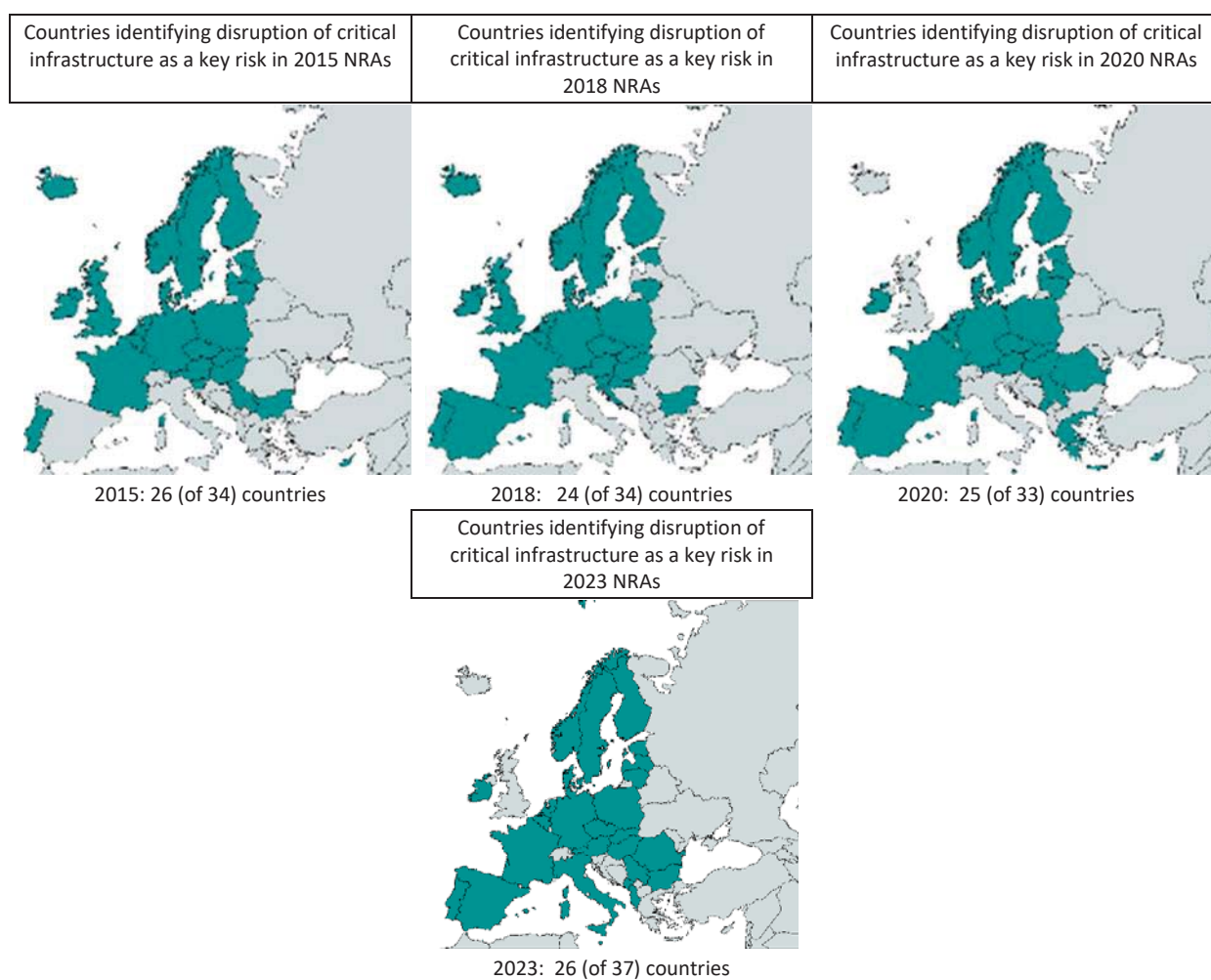


Figure 6. Geographic distribution of cyber threats as a relevant risk by category of risk as reported in the 2023 DRM summary reports.

### 1.3 Disruption of critical infrastructure



*Figure 7. Countries indicating the disruption of critical infrastructure indicated as a risk in the reports submitted for the four reporting periods 2015, 2018, 2020 and 2023.*

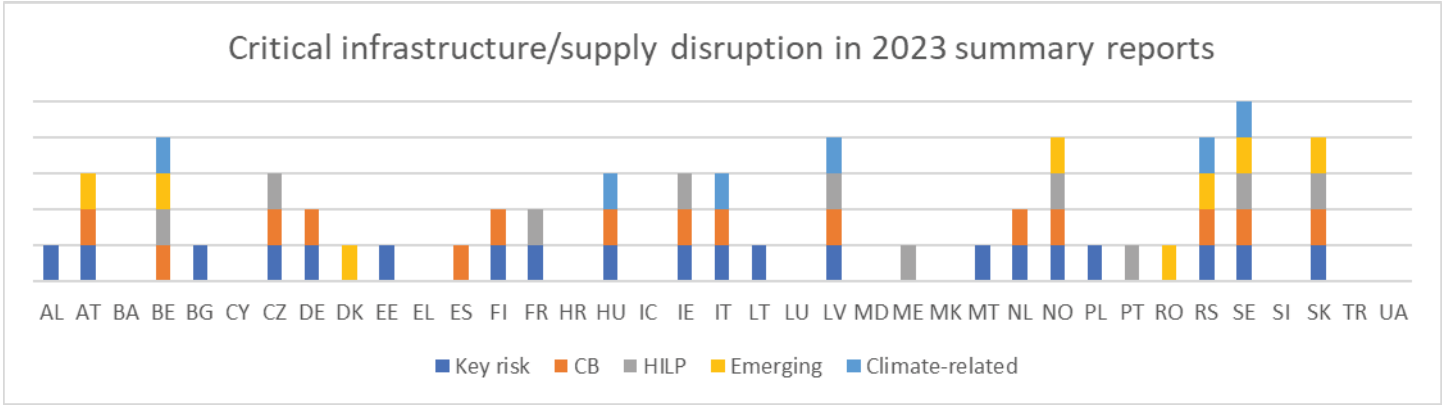


Figure 8. Disruption of critical infrastructure in the 2023 DRM summary reports as a key risk, a cross-border risk, a high-impact low-probability risk, an emerging risk or a climate-related risk. (IC did not report in 2020).

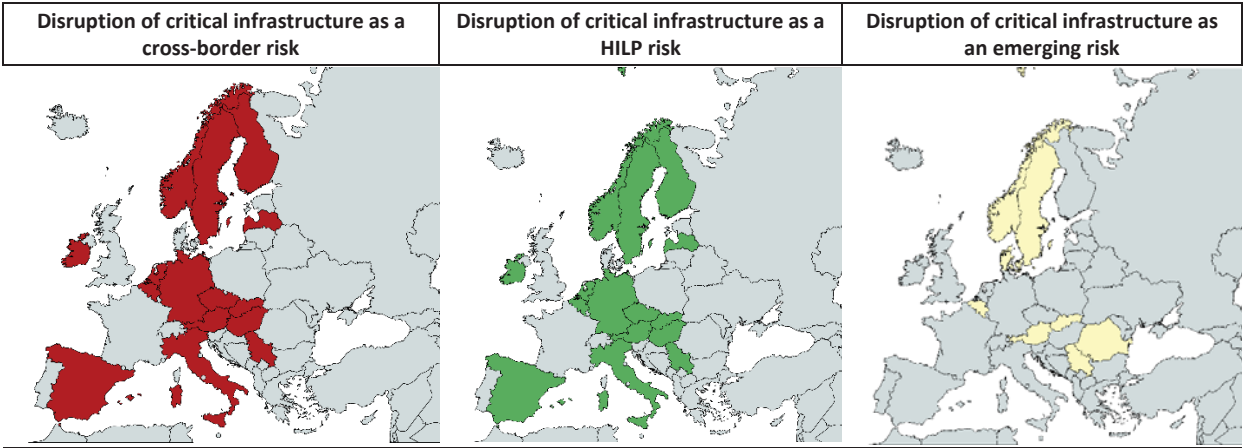


Figure 9. Geographic distribution of disruption of critical infrastructure as a relevant risk by category of risk as reported in the 2023 DRM summary reports.

## 1.4 Drought and water scarcity

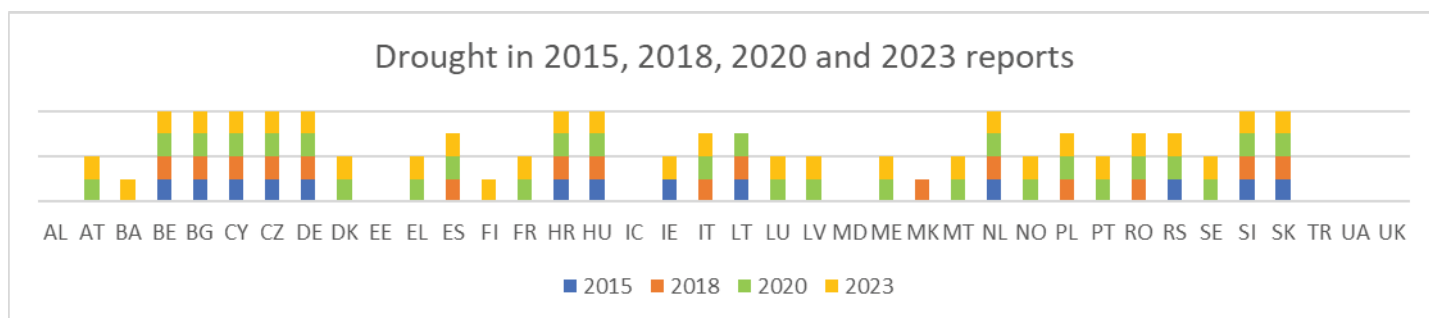
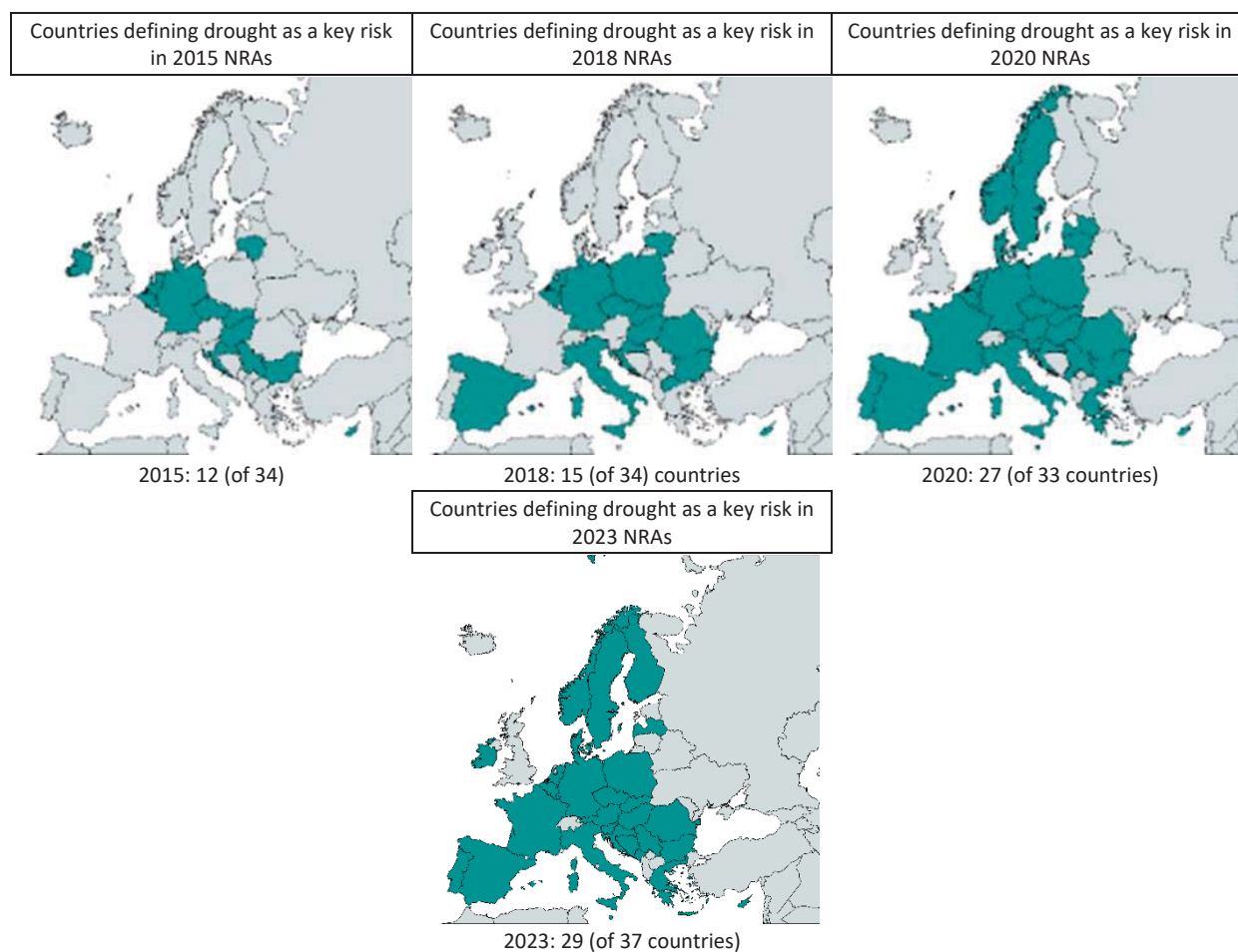


Figure 10. Countries indicating droughts and water scarcity as a relevant risk in the reports submitted for the four reporting periods: 2015, 2018, 2020 and 2023.



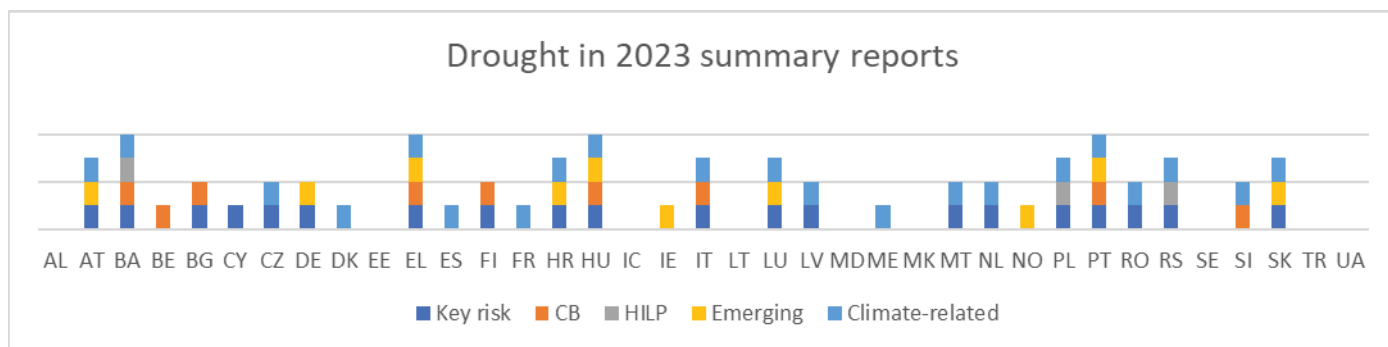


Figure 11. Countries indicating droughts and water scarcity in the 2023 DRM summary reports as a key risk, a cross-border risk, a high-impact low-probability risk, an emerging risk or a climate-related risk.

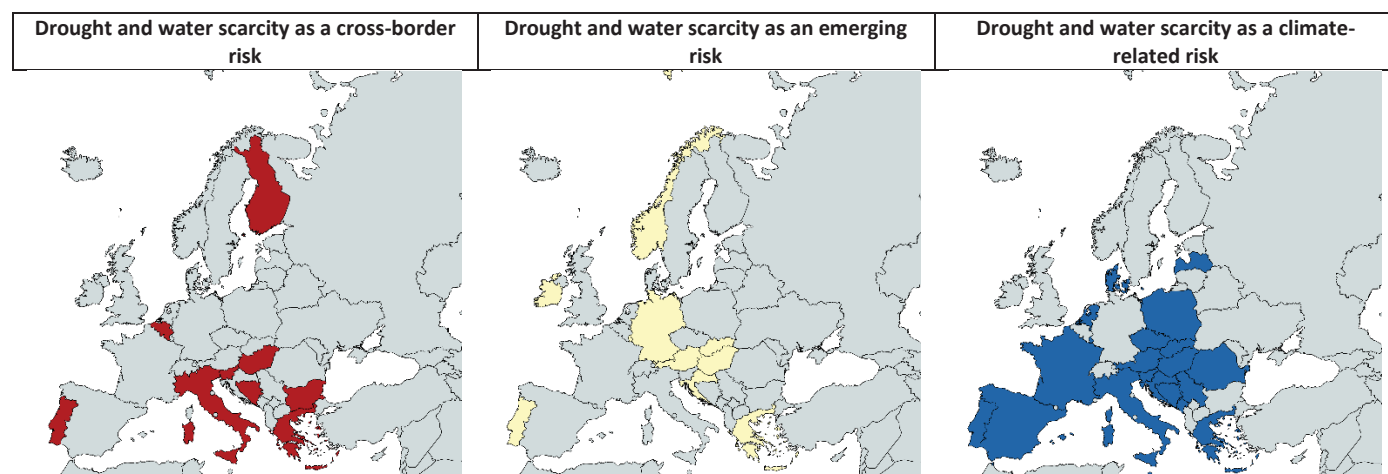


Figure 12. Geographic distribution of drought as a relevant risk by type of risk as reported in the 2023 DRM summary reports.

## 1.5 Extra-terrestrial risk

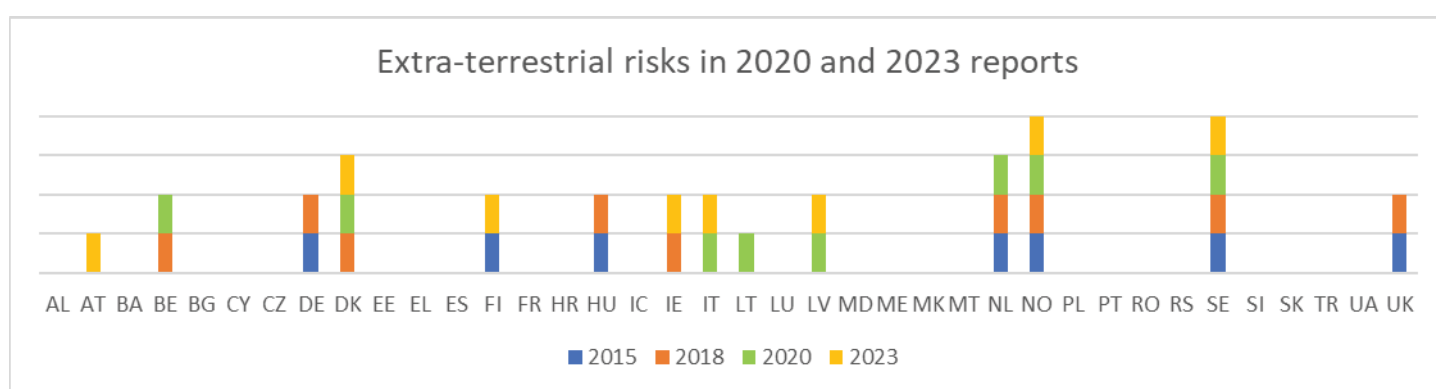
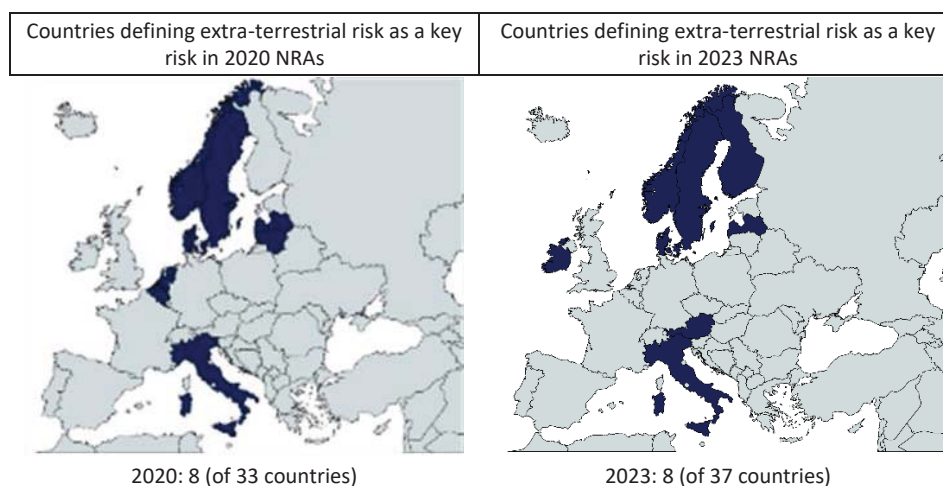


Figure 13. Countries indicating extra-terrestrial risks as a relevant risk in the reports submitted for the reporting periods 2020 and 2023.

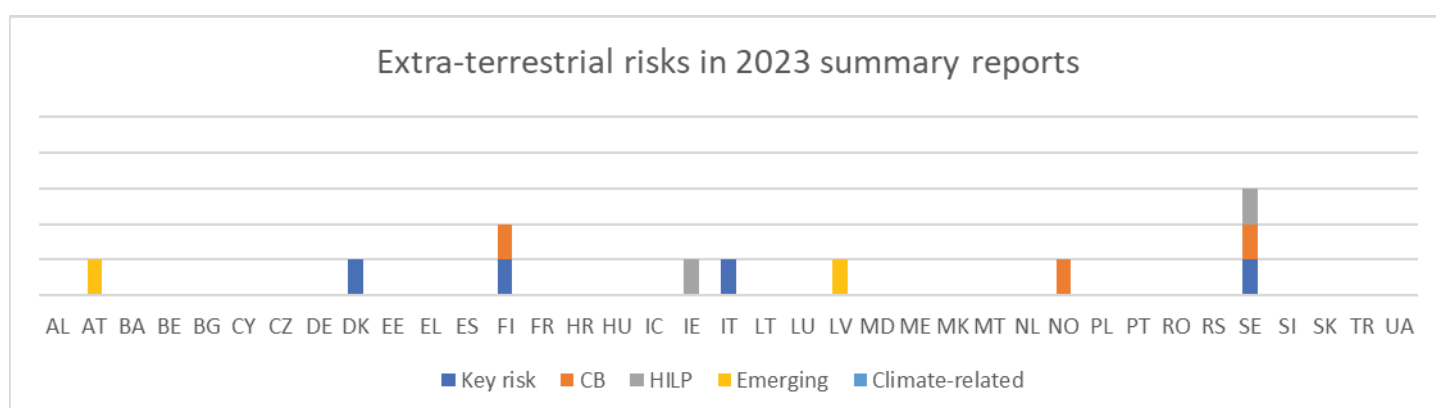


Figure 14. Countries indicating extra-terrestrial risks in the 2023 DRM summary reports as a key risk, a cross-border risk, a high-impact low-probability risk, an emerging risk or a climate-related risk.

## 1.6 Extreme weather

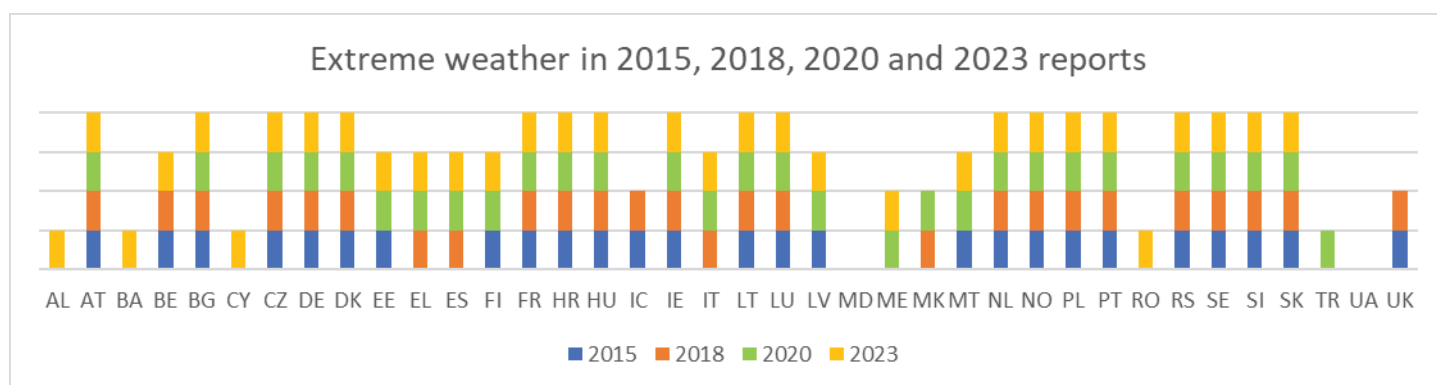
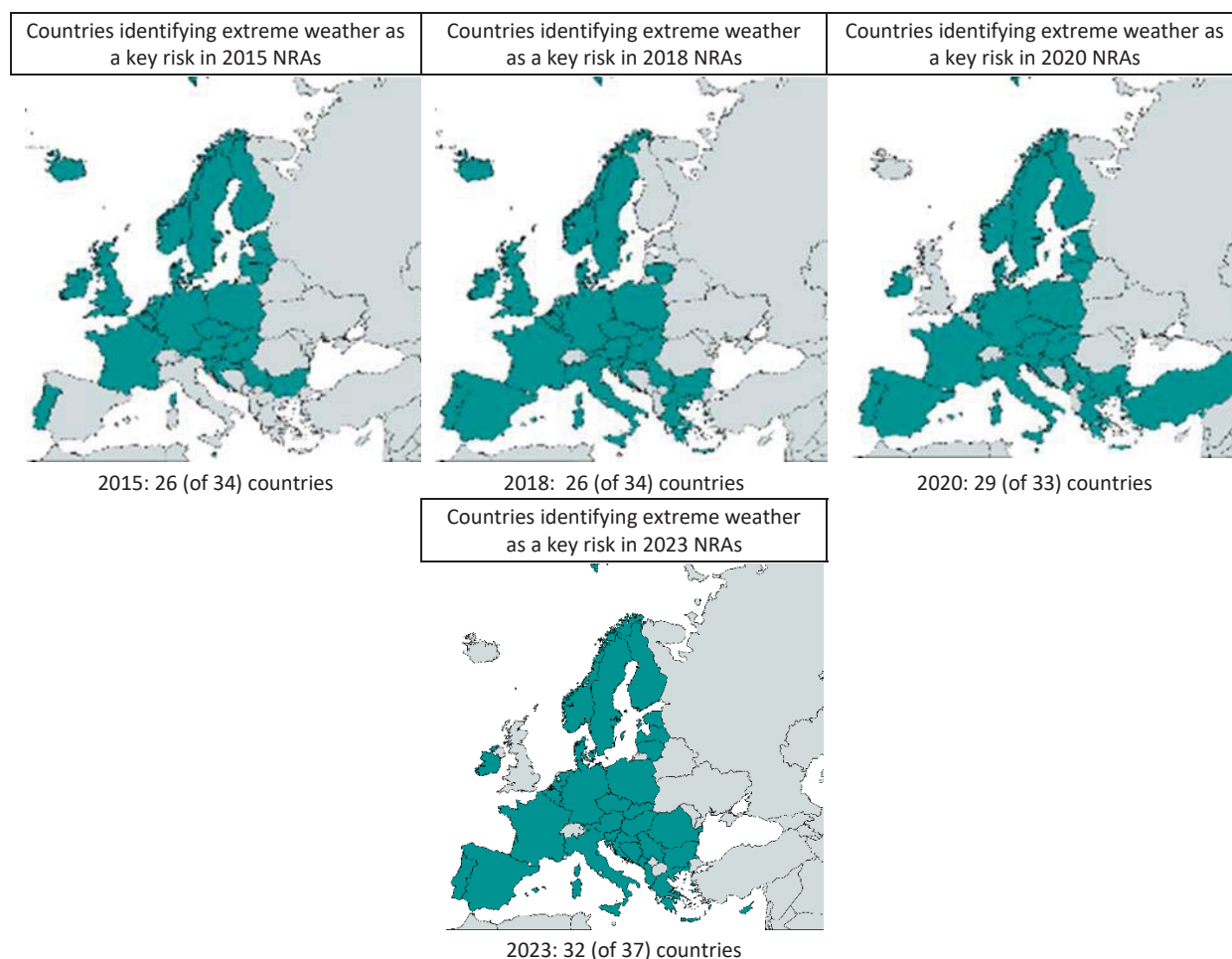


Figure 15. Countries indicating extreme weather indicated as a risk in the reports submitted for the four reporting periods: 2015, 2018, 2020 and 2023.

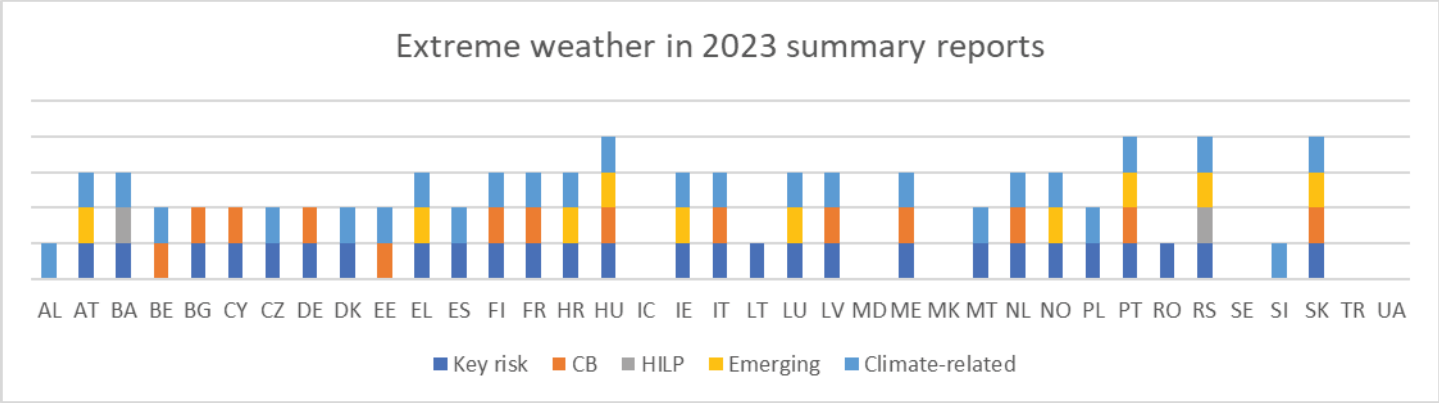


Figure 16. Countries indicating extreme weather in the 2023 DRM summary reports as a key risk, a cross-border risk, high-impact low-probability risk, an emerging risk or a climate-related risk.

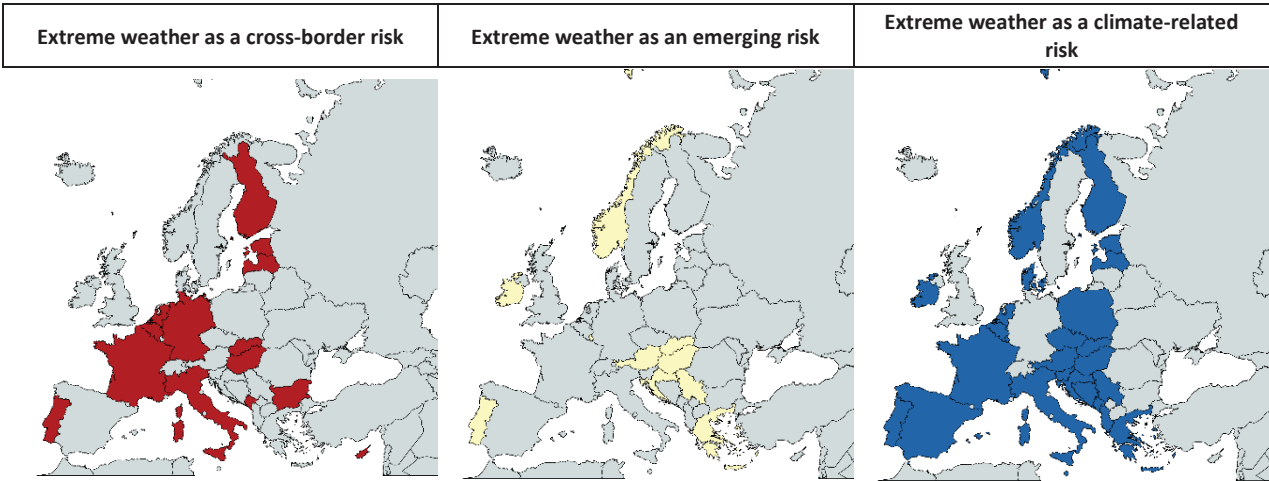


Figure 17. Geographic distribution of extreme weather reported as a relevant risk by type of risk in the 2023 DRM summary reports.

## 1.7 Floods

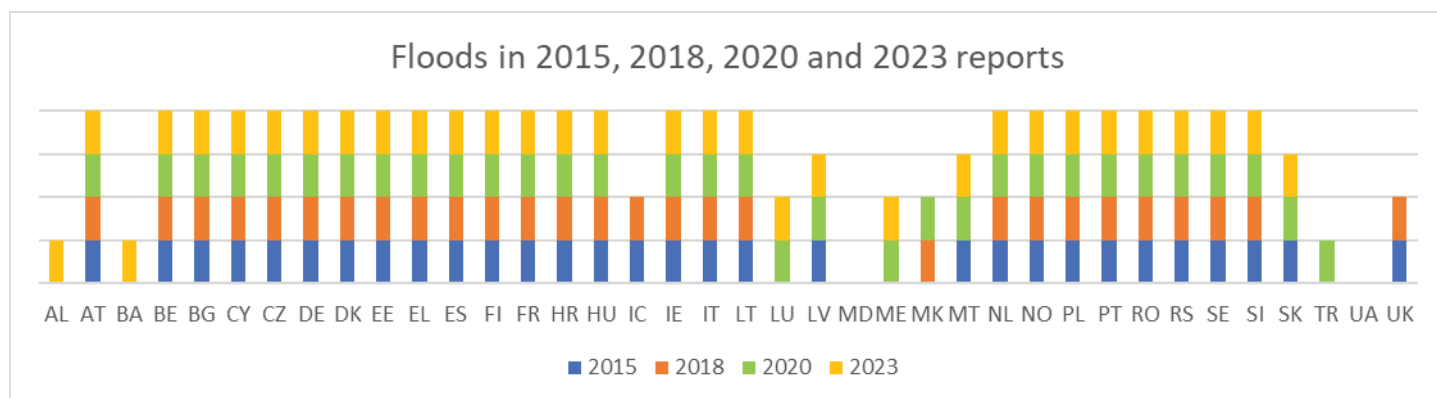
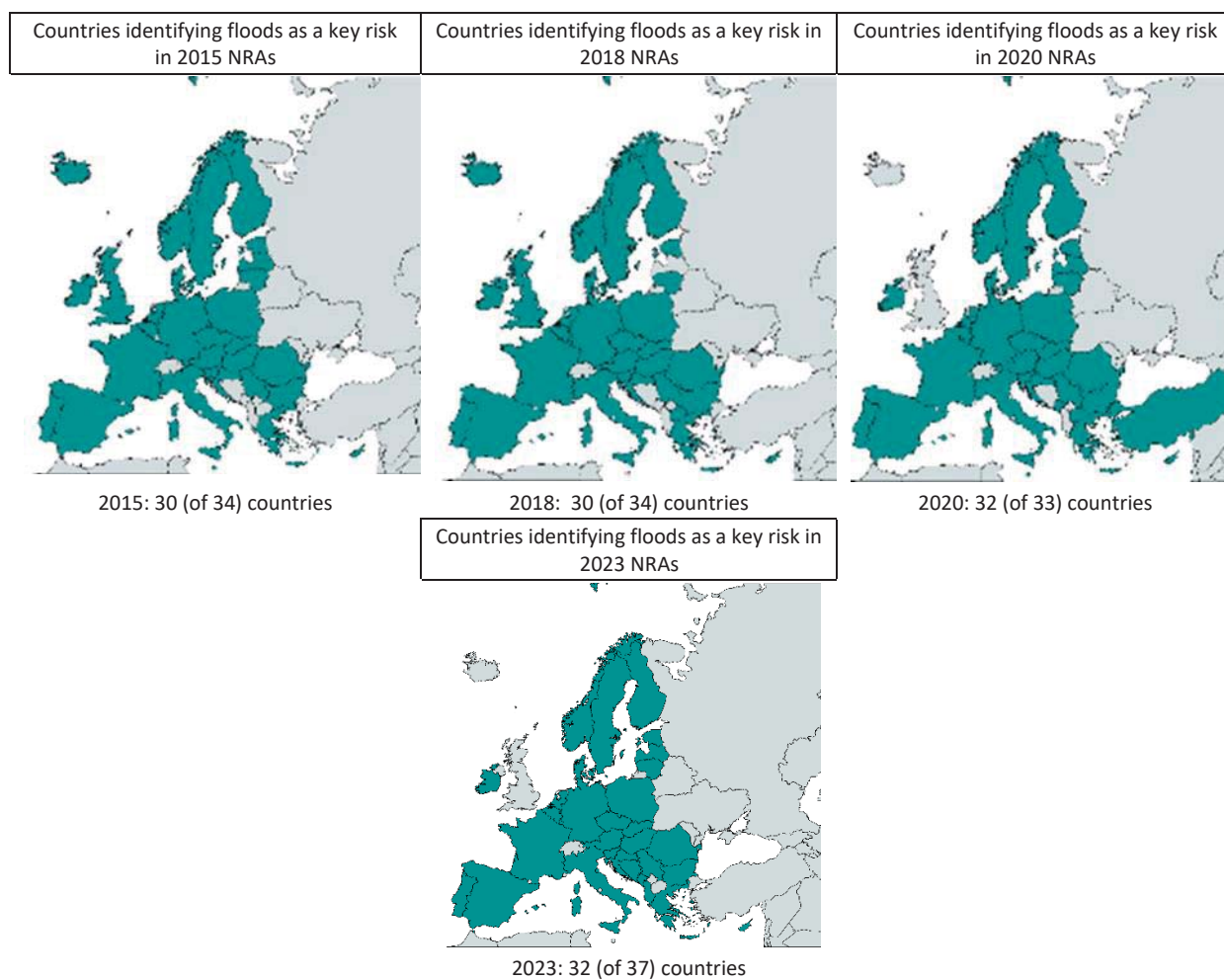


Figure 18. Countries indicating floods as a risk in the reports submitted for the four reporting periods: 2015, 2018, 2020 and 2023.

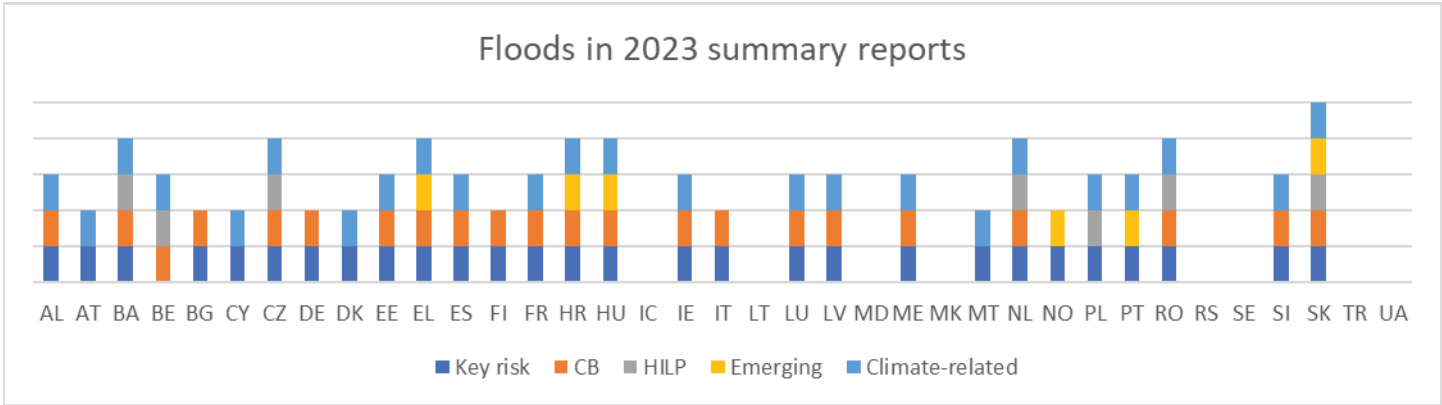


Figure 19. Countries indicating floods in the 2023 DRM summary reports as a key risk, a cross-border risk, high-impact low-probability risk, an emerging risk or a climate-related risk.

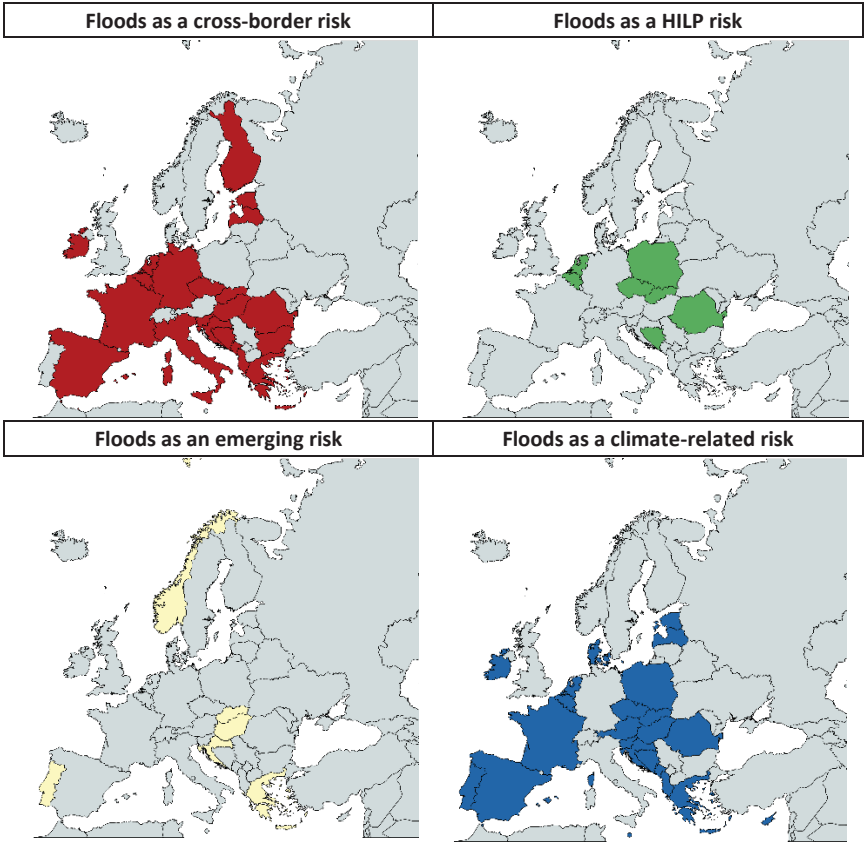


Figure 20. Geographic distribution of floods as a relevant risk by type of risk as reported in the 2023 DRM summary reports.

## 1.8 Geophysical risk

### 1.8.1 Earthquakes

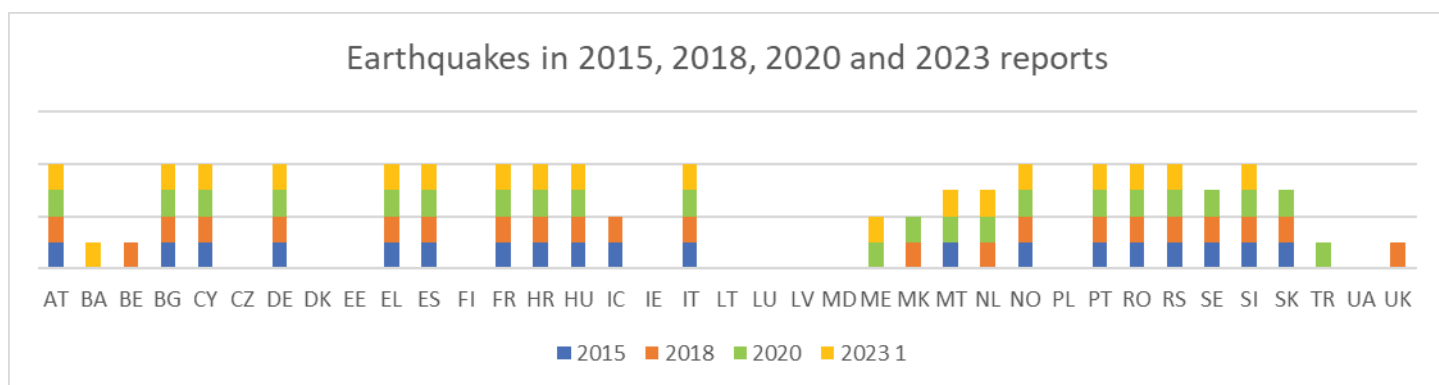
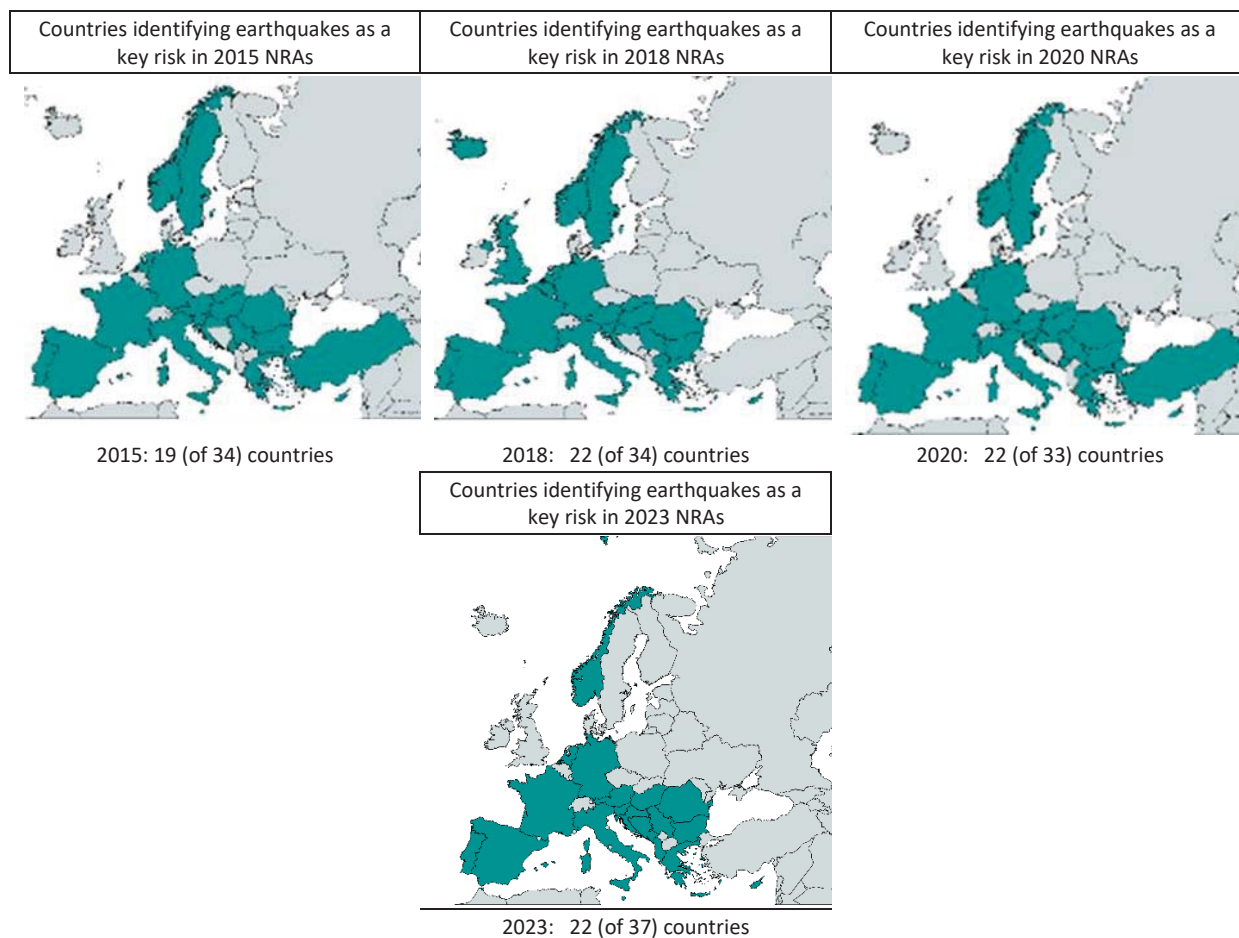


Figure 21. Countries indicating earthquakes as a risk in the reports submitted for the four reporting periods: 2015, 2018, 2020 and 2023.



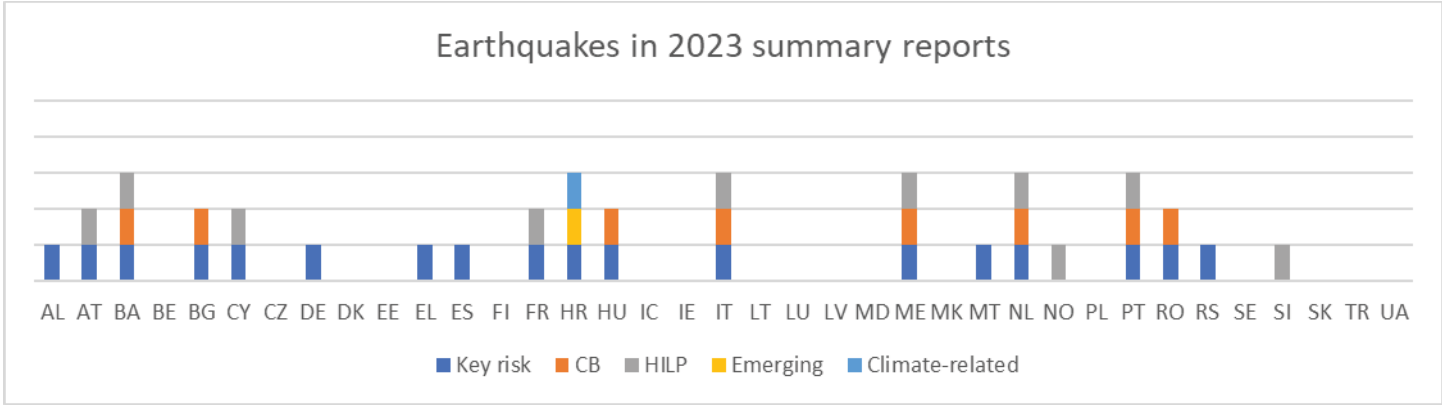


Figure 22. Countries reporting earthquake in the 2023 DRM summary reports as a key risk, a cross-border risk, a high-impact low-probability risk, an emerging risk or a climate-related risk.

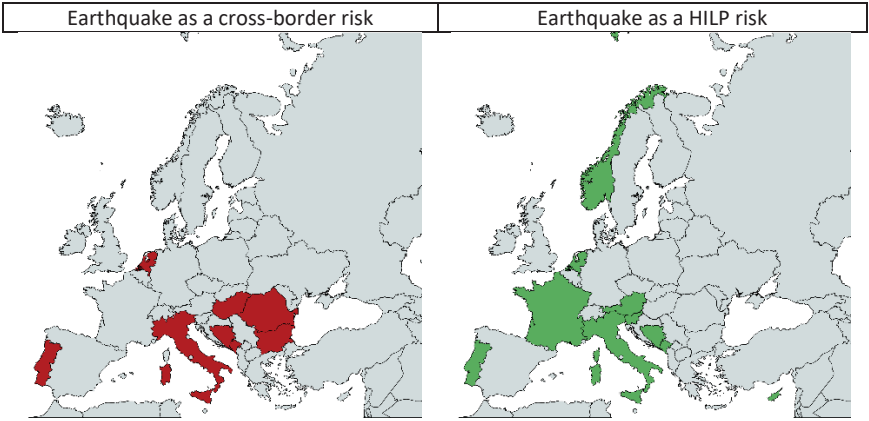


Figure 23. Geographic distribution of earthquakes indicated as a relevant risk by type of risk as reported in the 2023 DRM summary reports.

# 1.8.2 Tsunamis

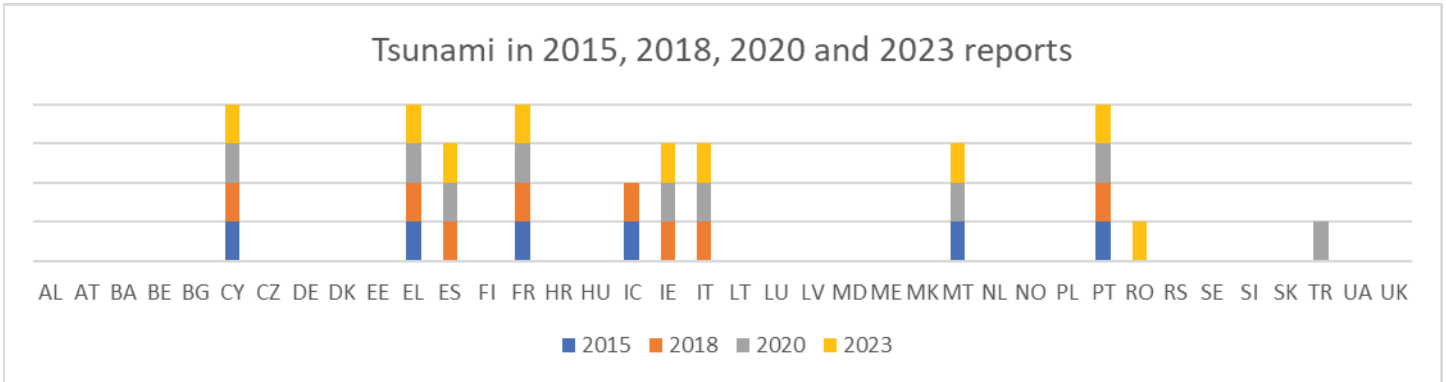
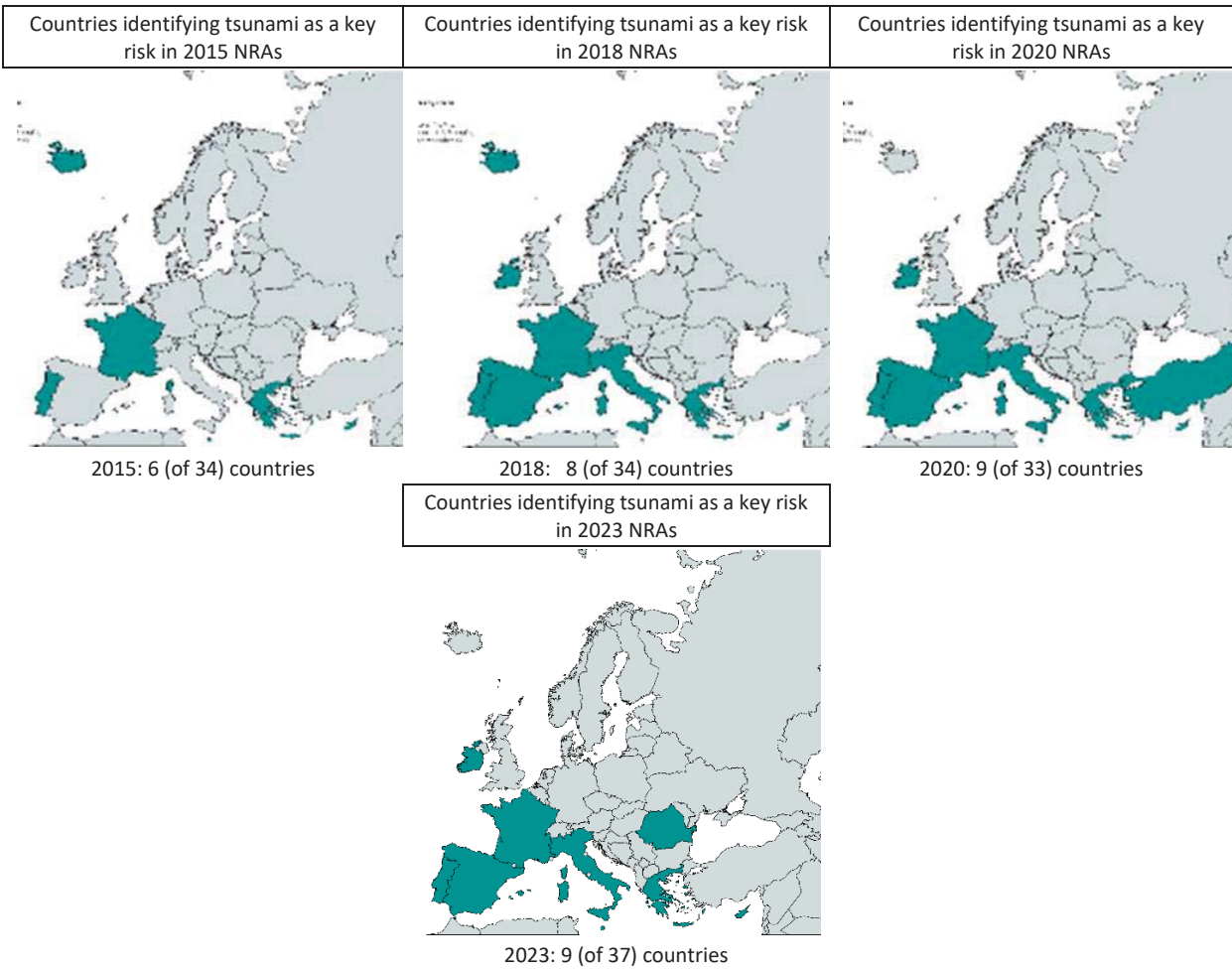


Figure 24. Countries indicating tsunamis as a risk in the reports covering the four reporting periods: 2015, 2018, 2020 and 2023.

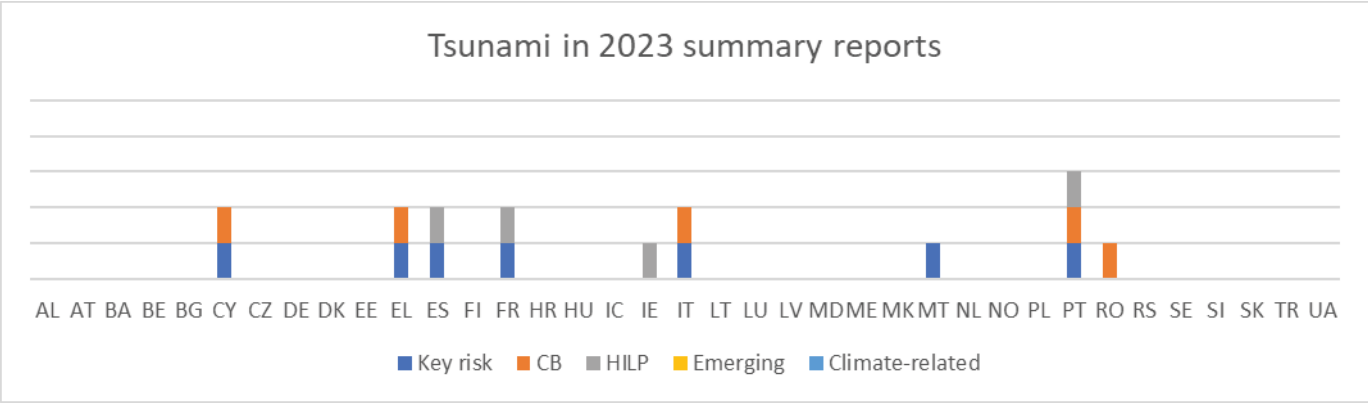


Figure 25. Countries indicating tsunamis in the 2023 DRM summary reports as a key risk, a cross-border risk, a high-impact low-probability risk, emerging risk or a climate-related risk.

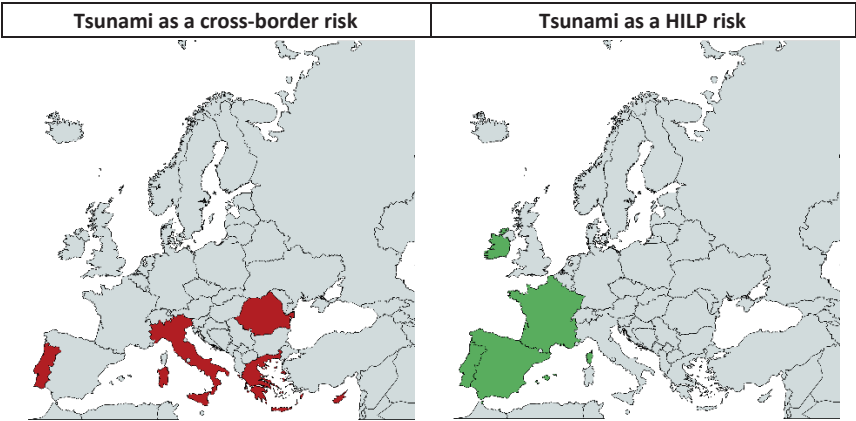


Figure 26. Geographic distribution of tsunamis reported as a relevant risk by type of risk as reported in the 2023 DRM summary reports.

### 1.8.3 Volcanic eruption

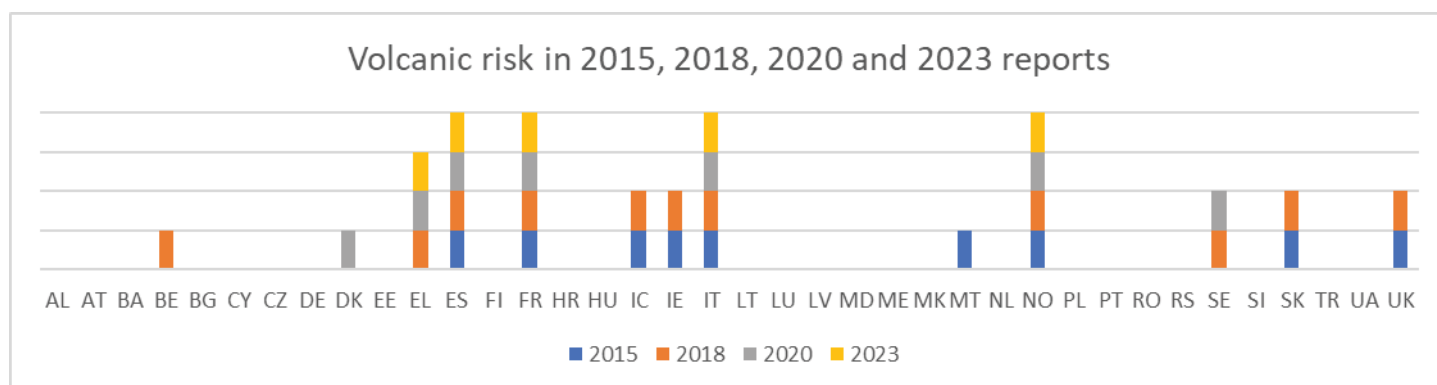
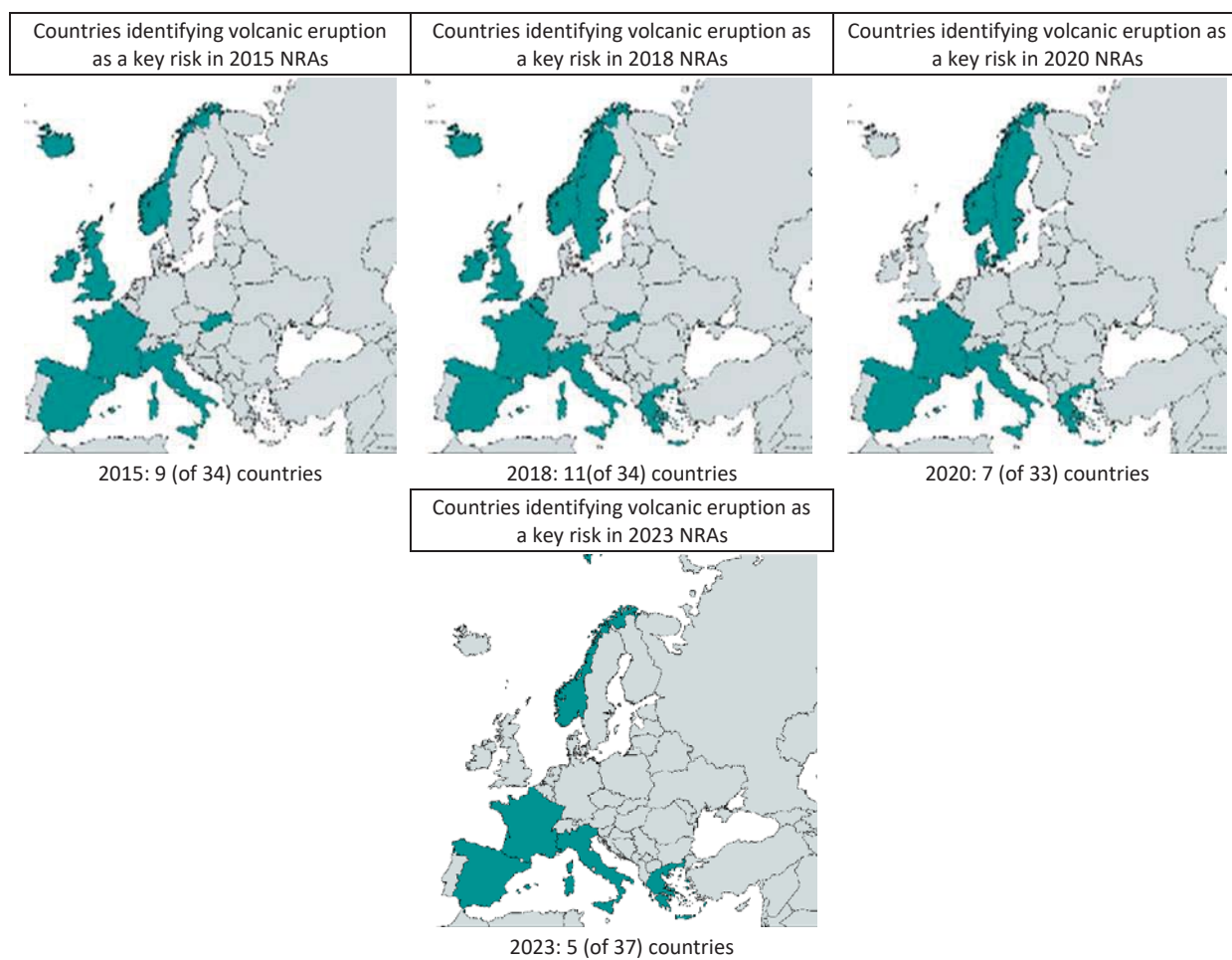


Figure 27. Countries indicating volcanic eruptions as a risk in the reports covering the four reporting periods 2015, 2018, 2020 and 2023.

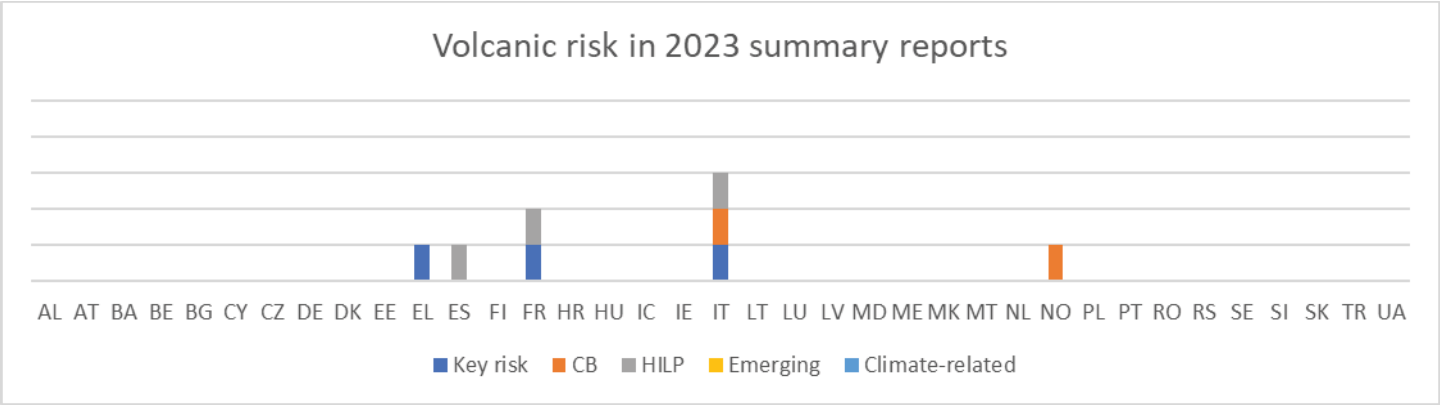


Figure 28. Volcanic eruptions identified in the 2023 DRM summary reports as a key risk, a cross-border risk, a high-impact low-probability risk, an emerging risk or a climate-related risk.

## 1.9 Human health risks

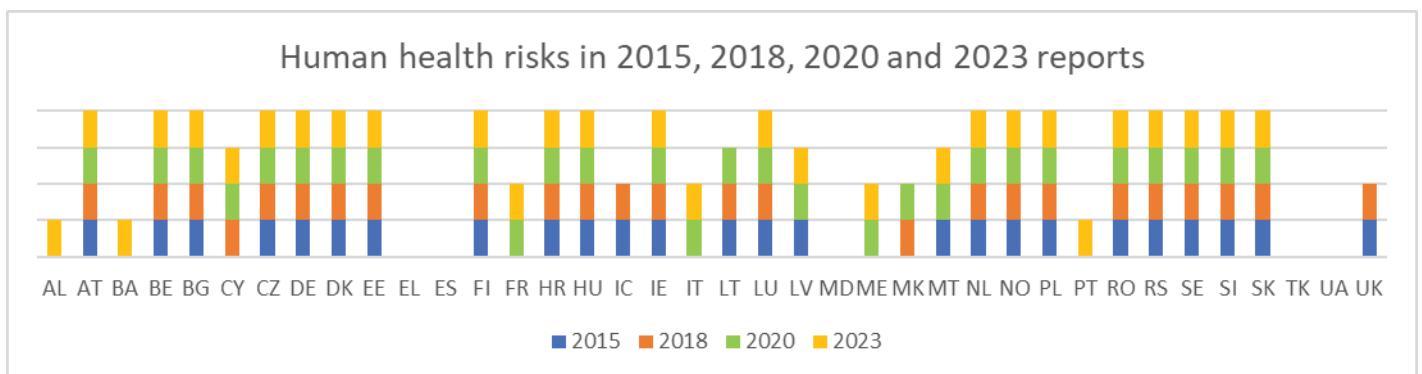
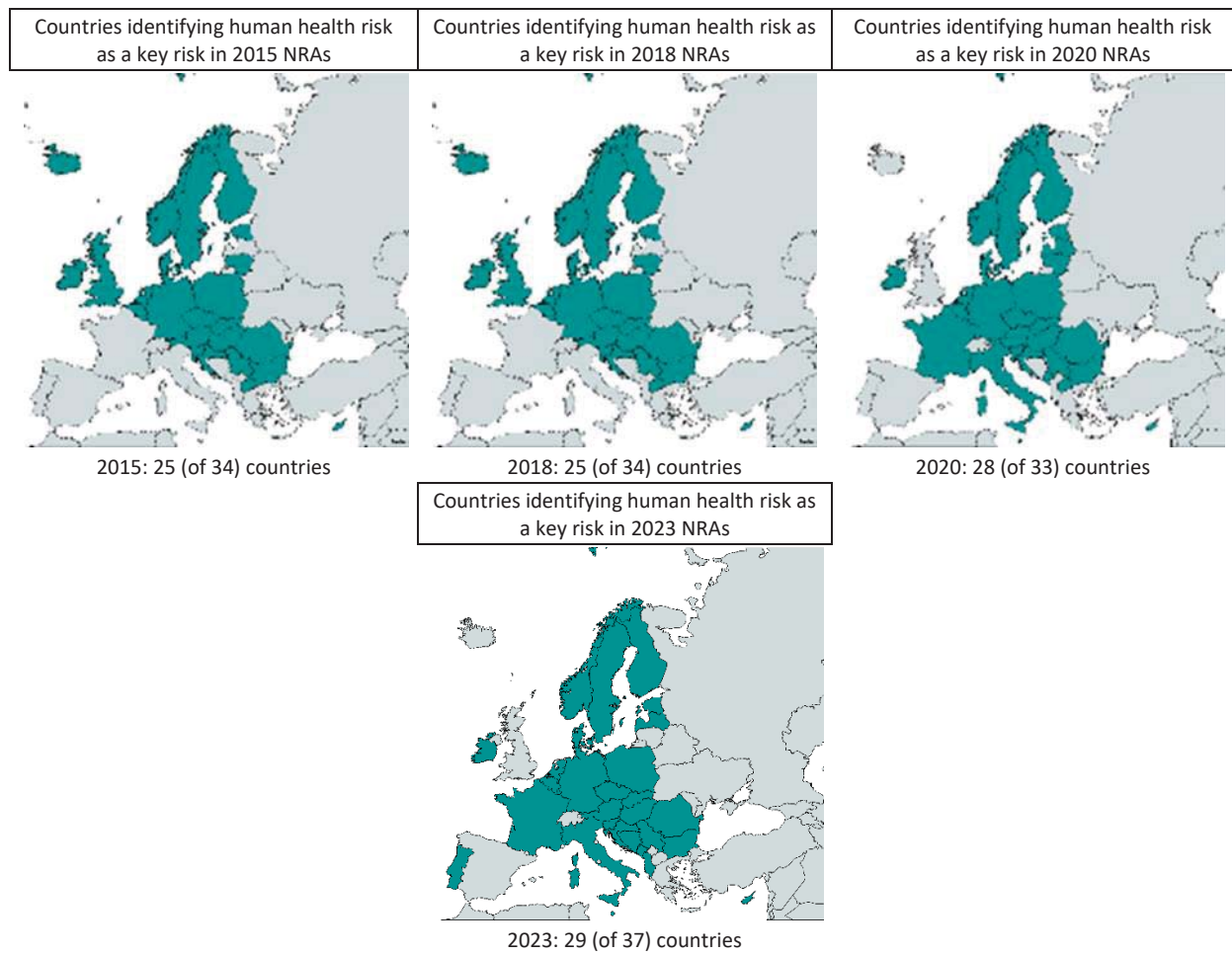


Figure 30. Countries indicating human health as a risk in the reports covering the four reporting periods: 2015, 2018, 2020 and 2023.

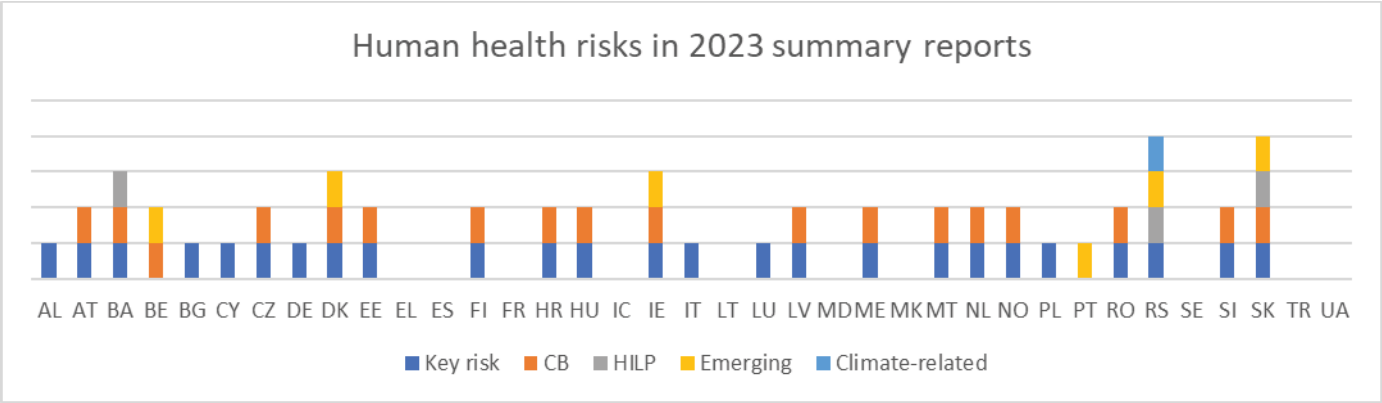


Figure 31. Human health risks indicated in the 2023 DRM summary reports as key risk, a cross-border risk, a high-impact low-probability risk, emerging risk or a climate-related risk.

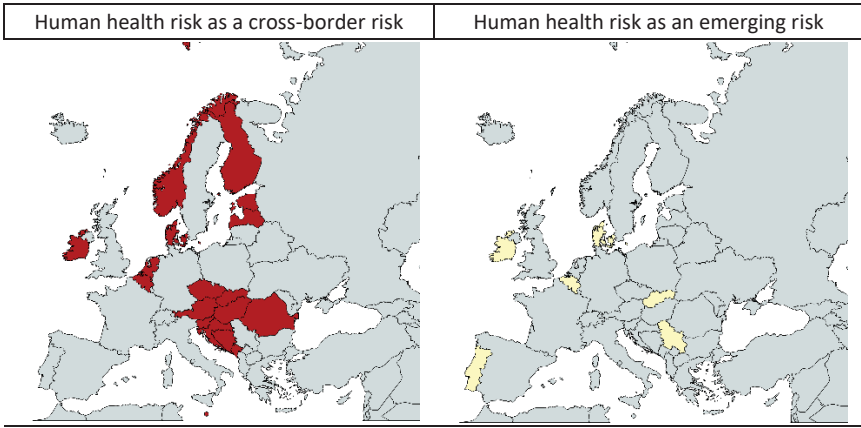


Figure 32. Geographic distribution of floods identified as a relevant risk by type of risk as reported in the 2023 DRM summary reports.



## 1.10 Industrial accidents

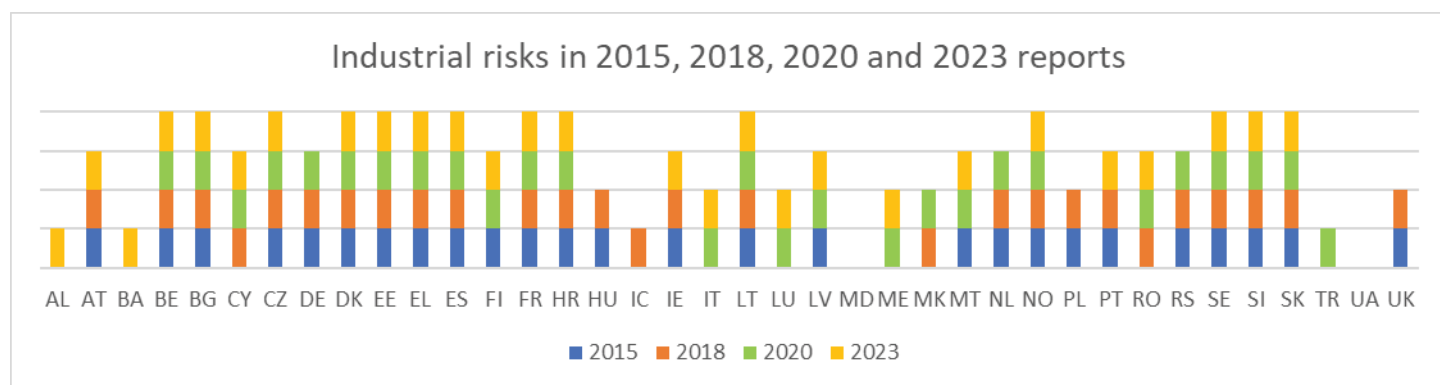
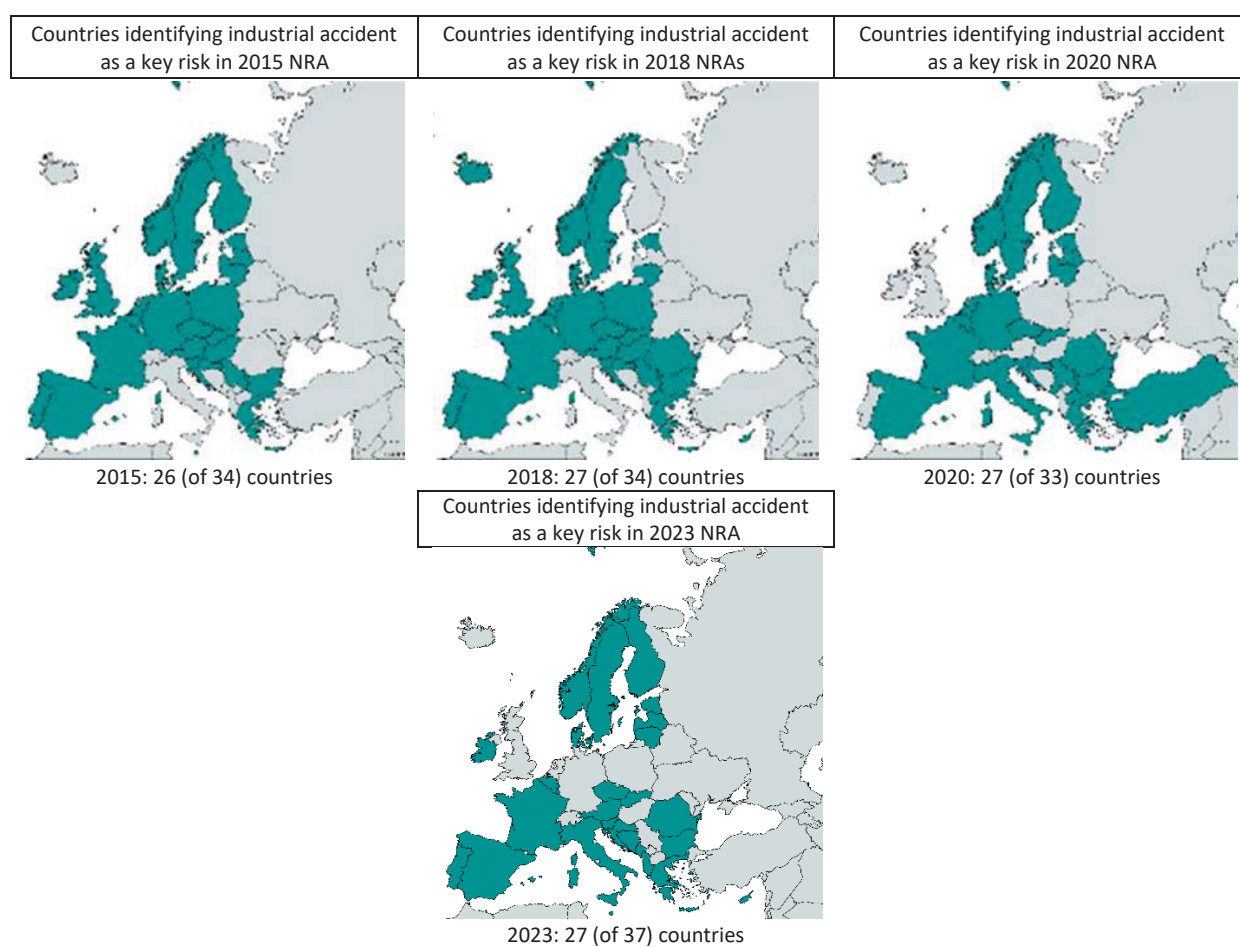


Figure 33. Countries indicating industrial accidents as a risk in the reports covering the four reporting periods 2015, 2018, 2020 and 2023.

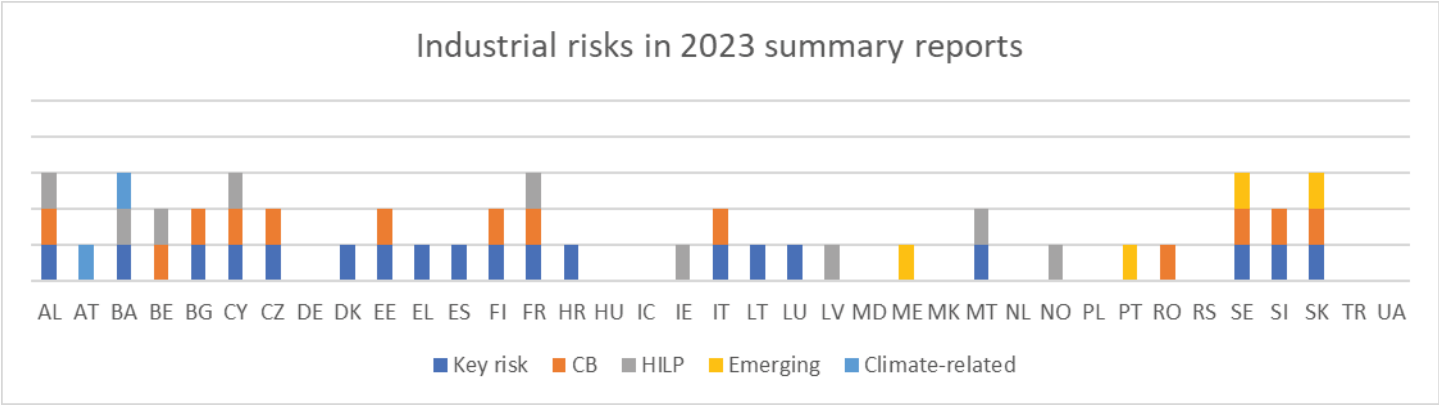


Figure 34. Industrial Accidents in the 2023 DRM summary reports as key risk, a cross-border risk, a high-impact low-probability risk, an emerging risk or a climate-related risk.

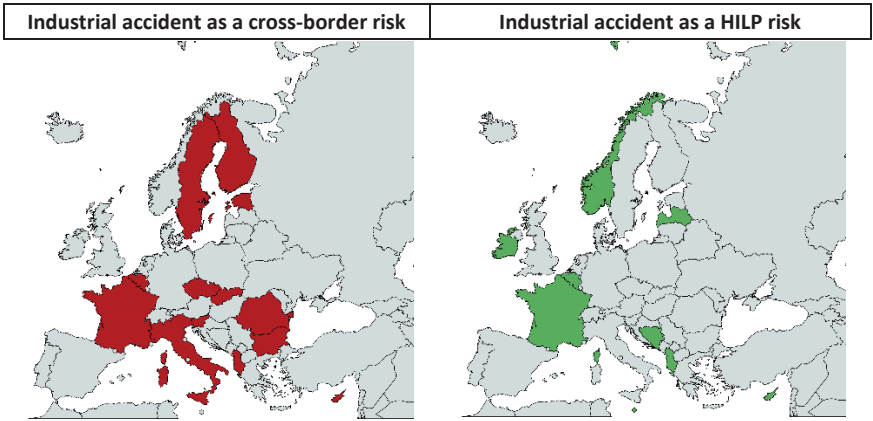


Figure 35. Geographic distribution of industrial accidents identified as a relevant risk by type of risk as reported in the 2023 DRM summary reports.

## 1.11 Mass migration

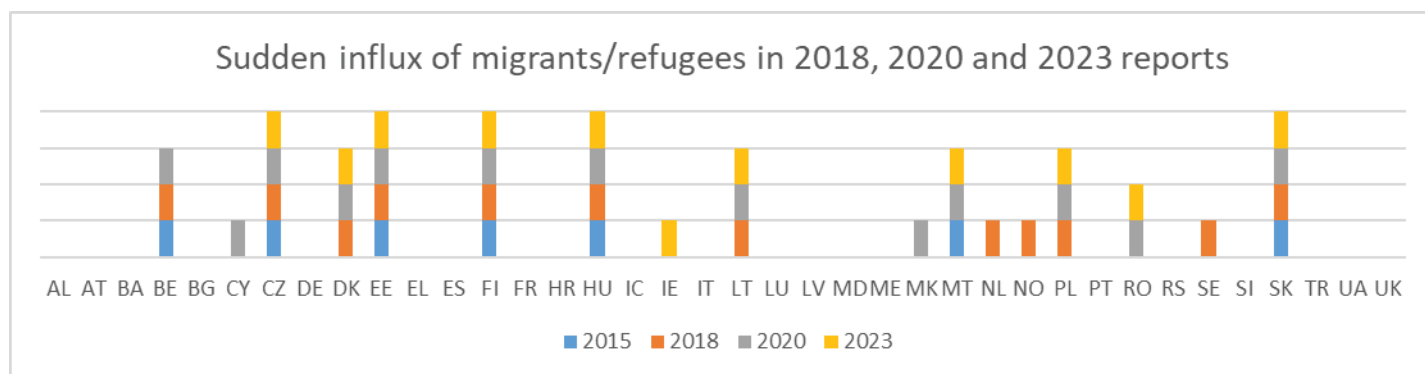
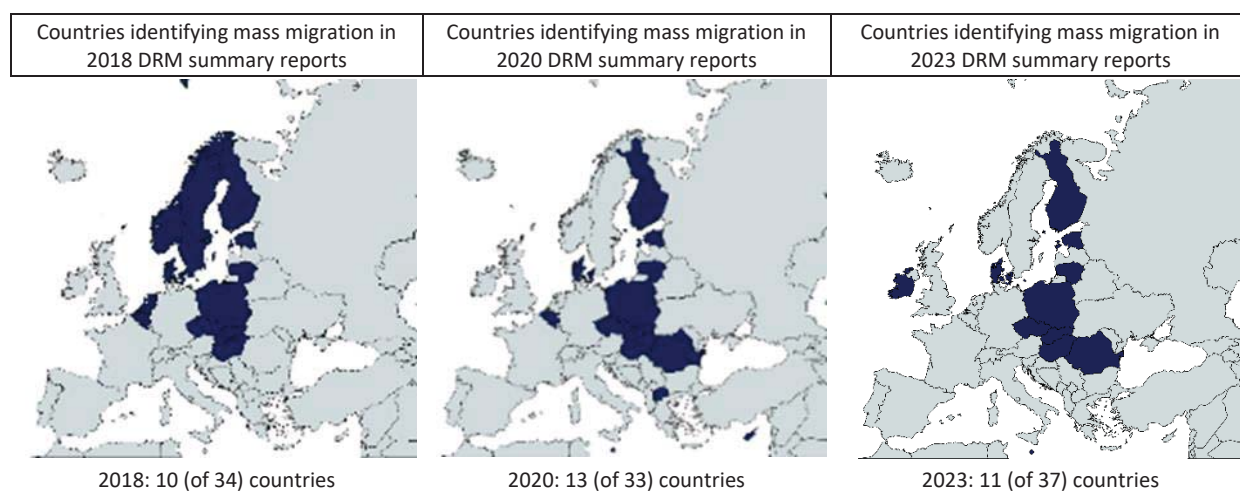


Figure 36. Mass migration indicated as a risk in the reports covering the four reporting periods 2018, 2020 and 2023.

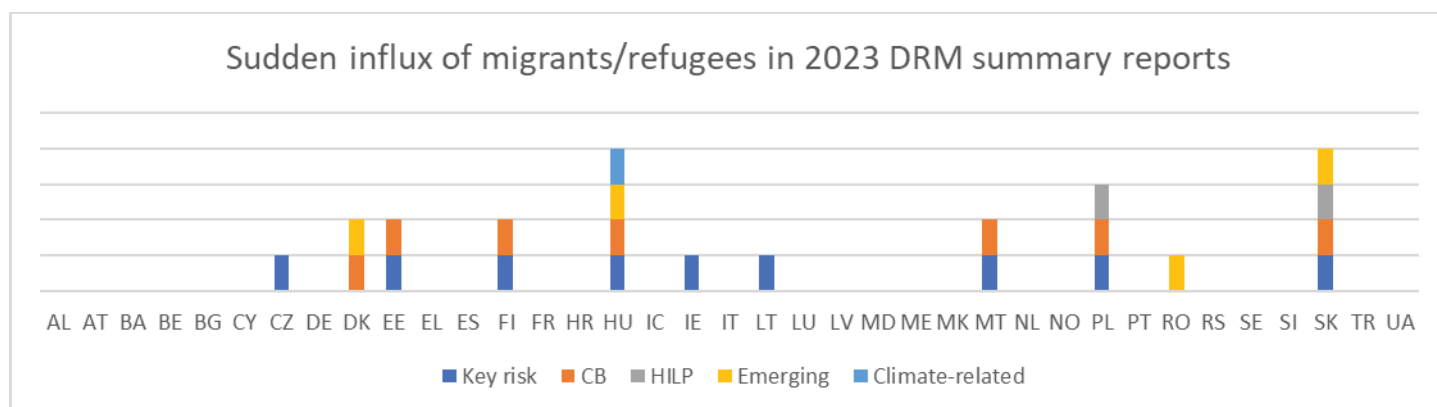


Figure 37. Mass migration identified in the 2023 DRM summary reports as a key risk, a cross-border risk, a high-impact low-probability risk, an emerging risk or a climate-related risk.

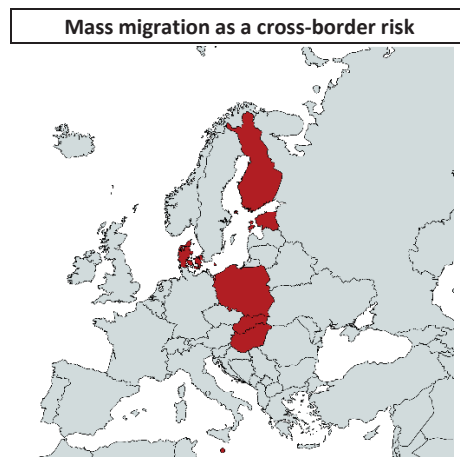


Figure 38. Mass migration in the 2023 DRM summary reports as a cross-border risk.

## 1.12 Nuclear and radiological risk

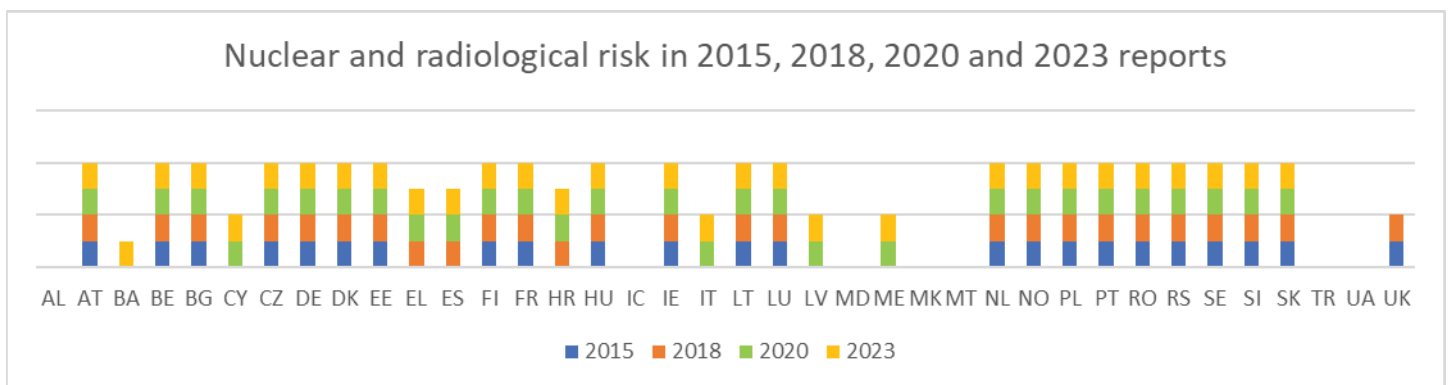
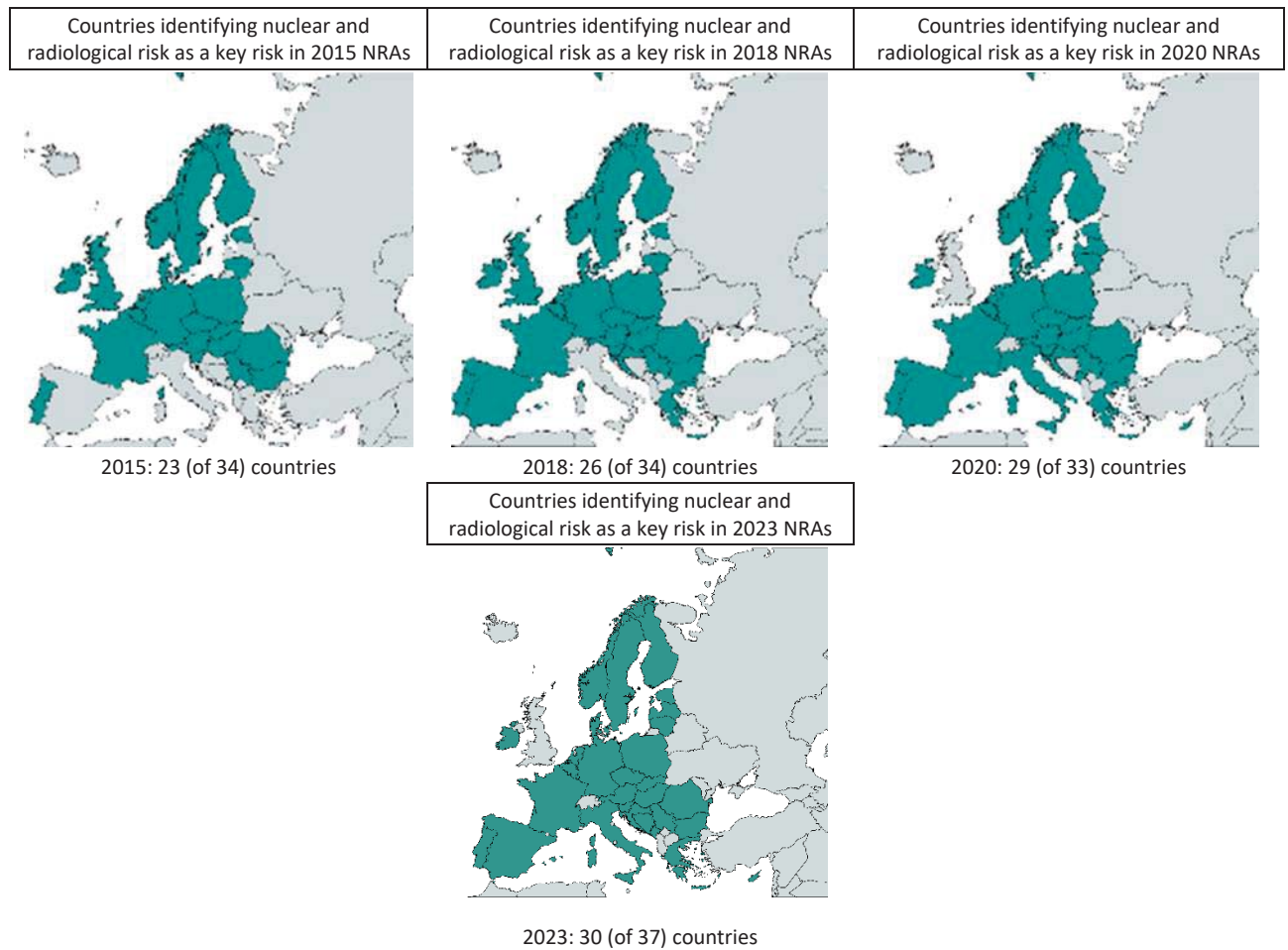


Figure 41. Countries indicating nuclear and radiological risks as a risk in the reports covering the four reporting periods 2015, 2018, 2020 and 2023.

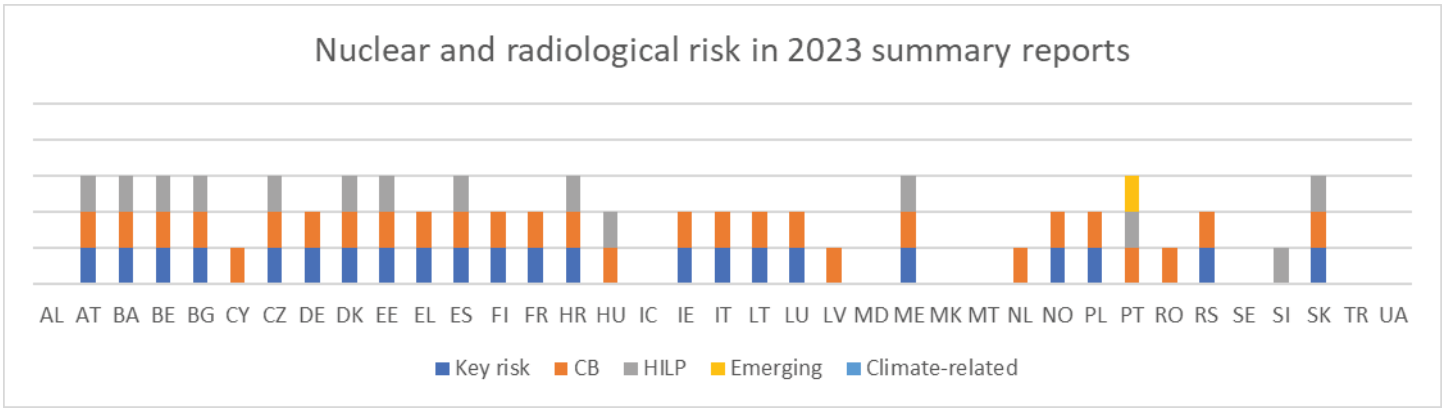


Figure 42. Countries reporting nuclear and radiological risks in the 2023 DRM summary reports as a key risk, a cross-border risk, a high-impact low-probability risk, an emerging risk or a climate-related risk.

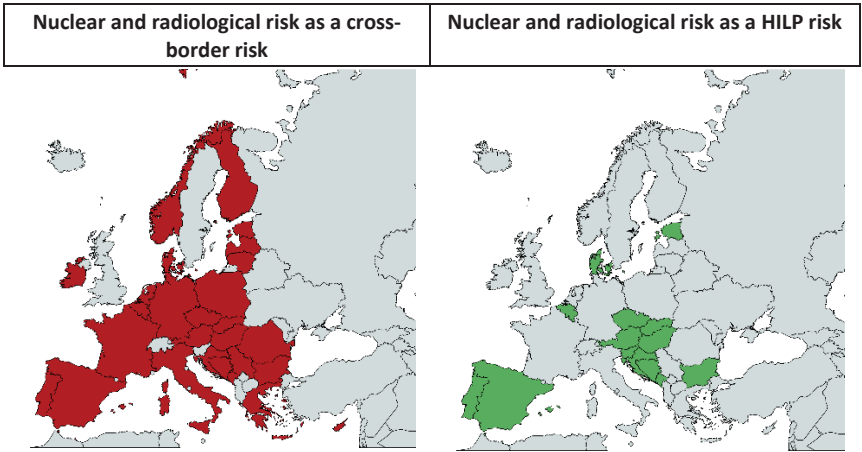


Figure 43. Geographic distribution of nuclear and radiological risk identified as a relevant risk by type of risk.

### 1.13 Other environmental and chemical risks

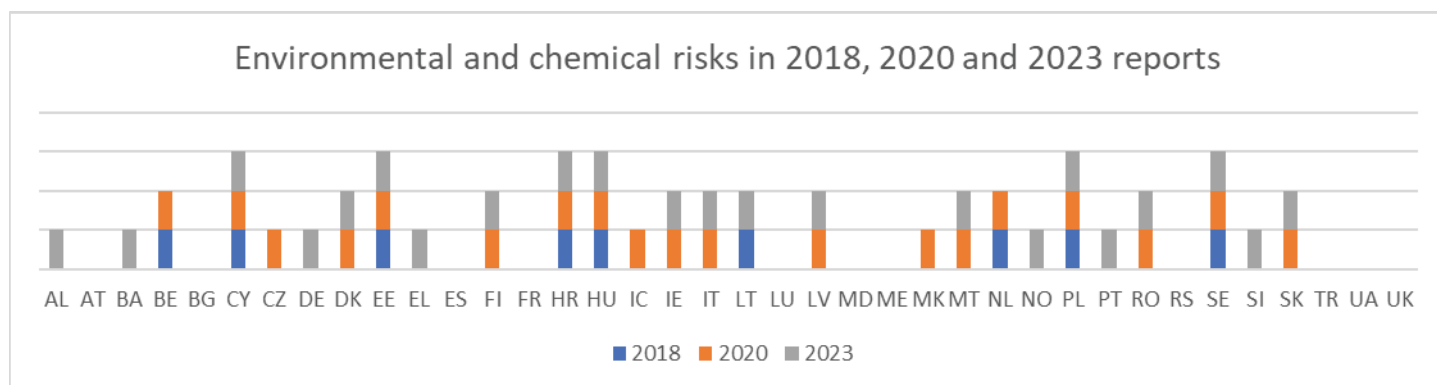
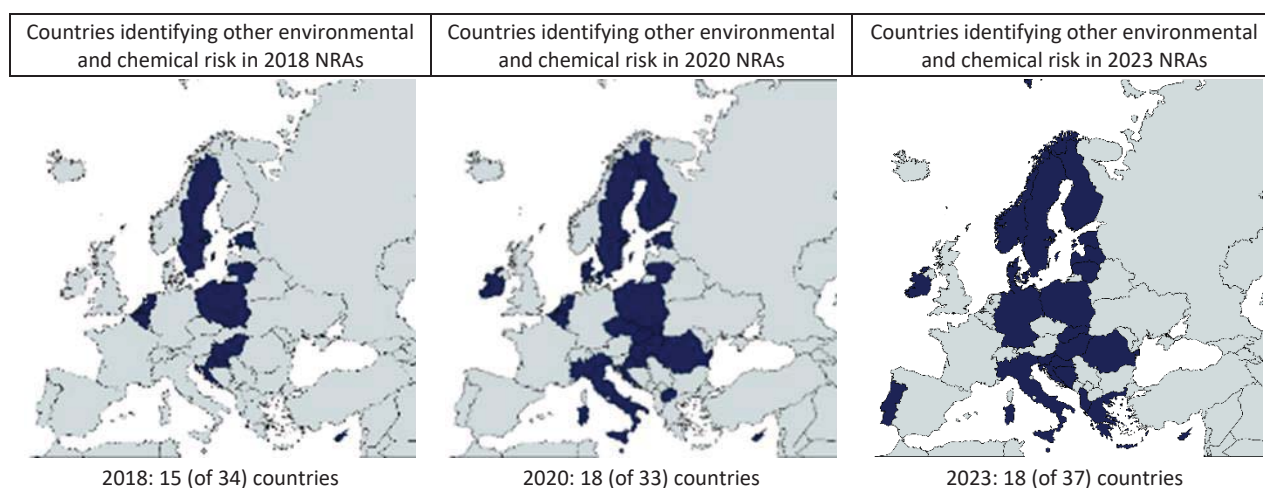


Figure 44. Environmental and chemical risks indicated as a risk in the reports covering the reporting periods 2018, 2020 and 2023.



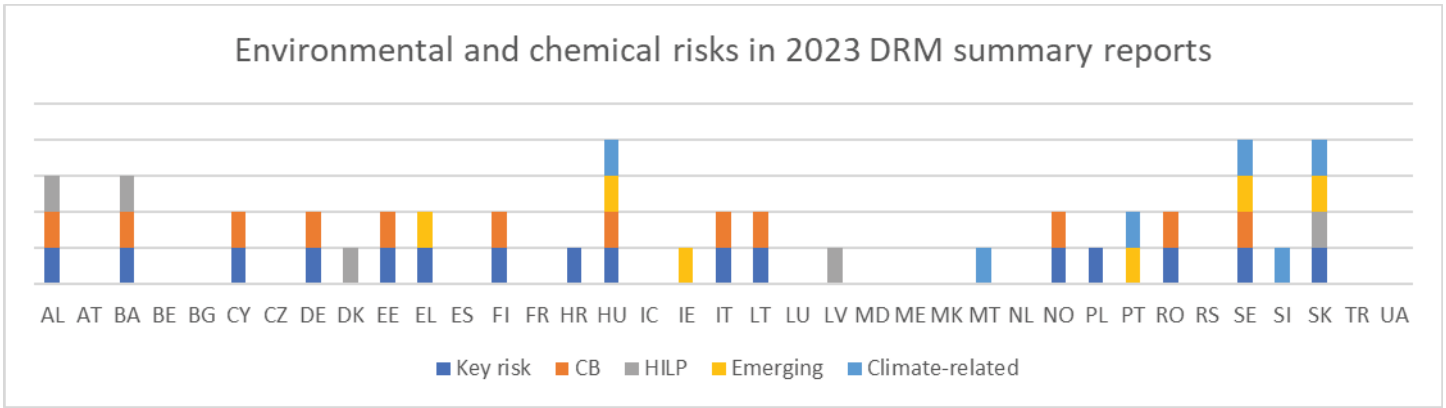


Figure 45. Environmental and chemical risks identified in the 2023 DRM summary reports as a key risk, a cross-border risk, a high-impact low-probability risk, an emerging or a climate-related risk.

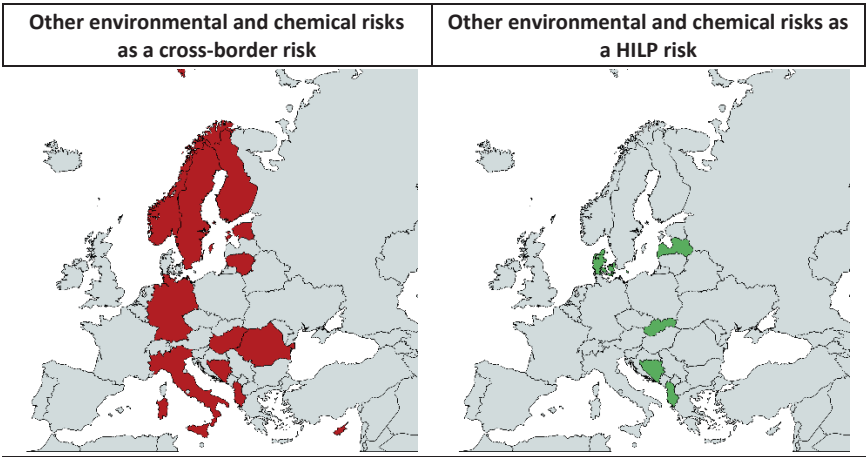


Figure 46. Geographic distribution of environmental and chemical risks identified as a relevant risk by type of risk.

## 1.14 Political and geopolitical risks

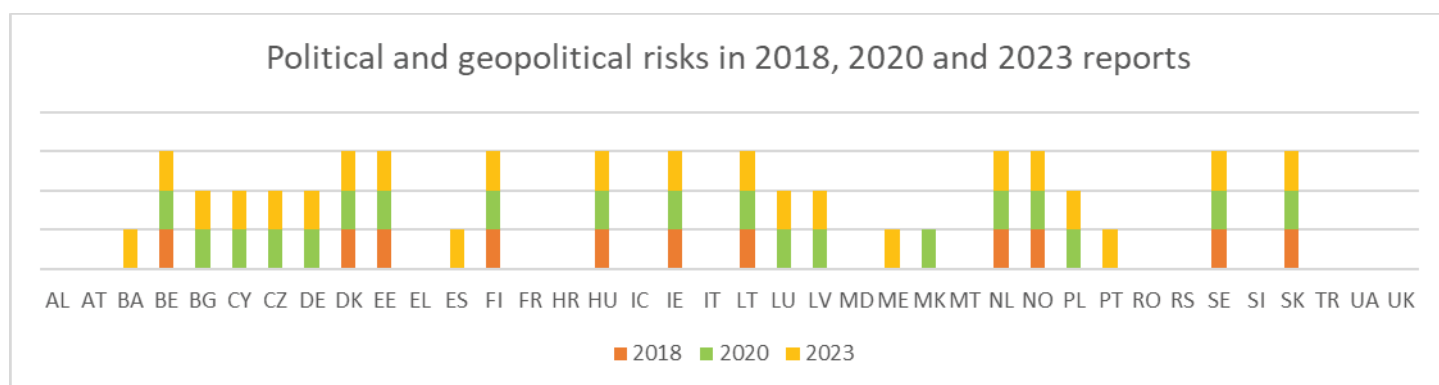
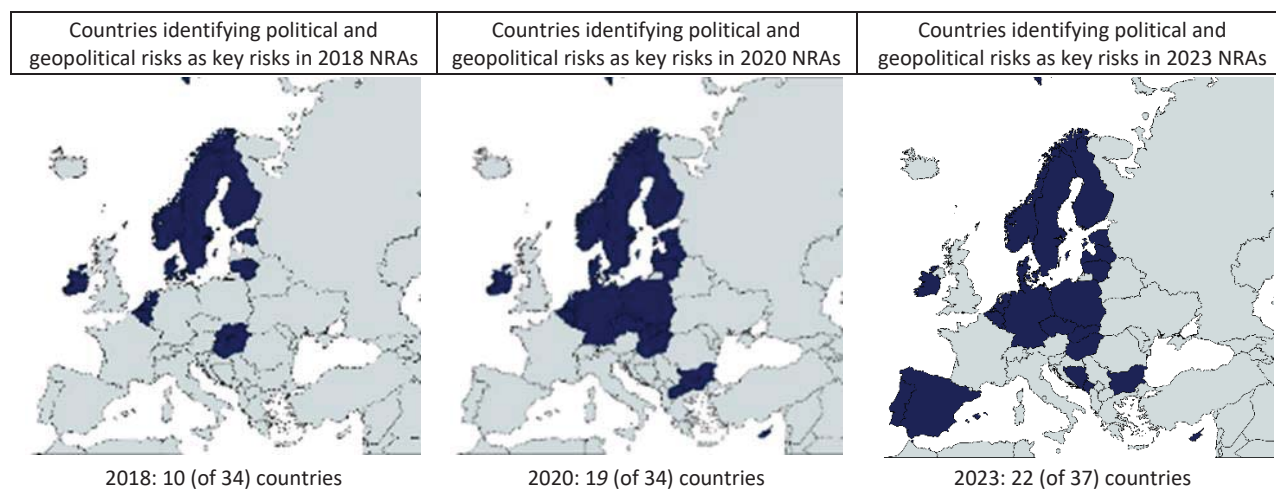


Figure 47. Political and geopolitical risk indicated as a risk in the reports covering the reporting periods 2018, 2020 and 2023.

## Political and geopolitical risks in 2023 summary reports

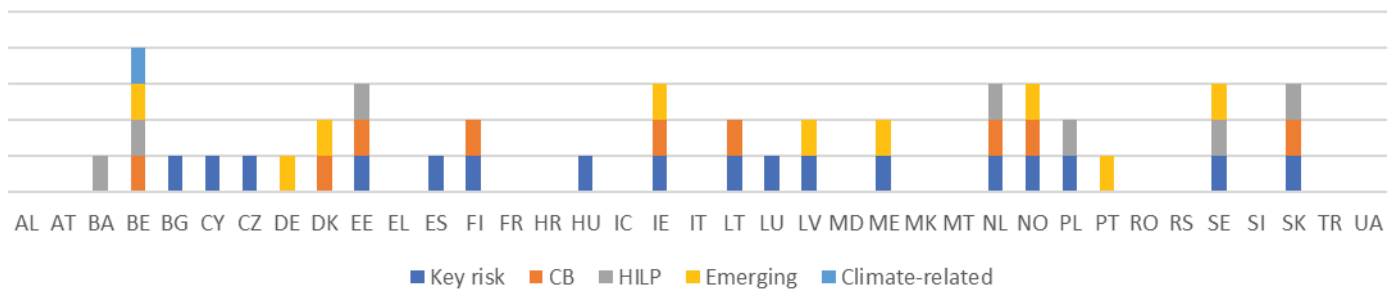


Figure 48. Political and geopolitical risks in the 2023 DRM summary reports as a key risk, a cross-border risk, high-impact low-probability risk, an emerging risk or a climate-related risk.

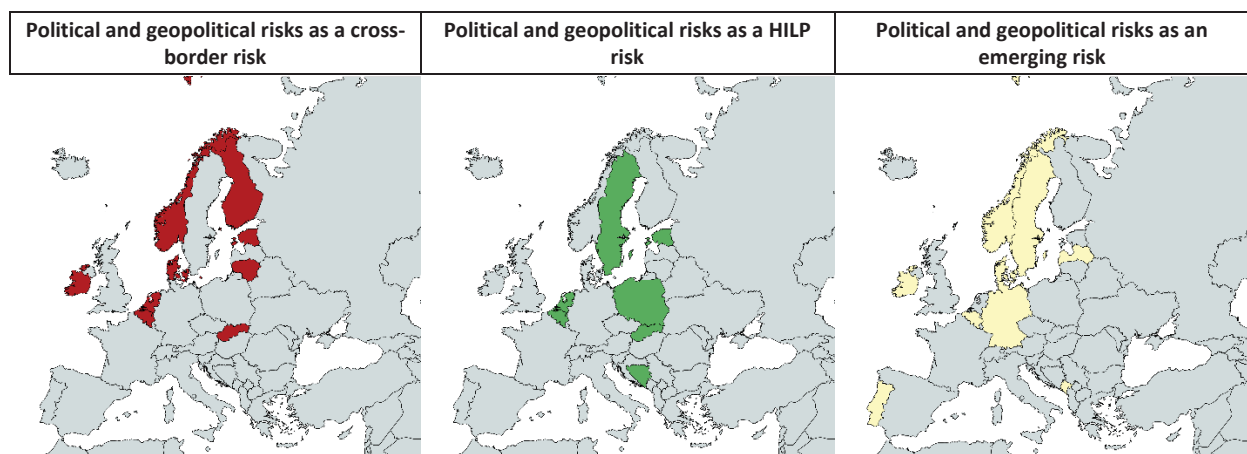
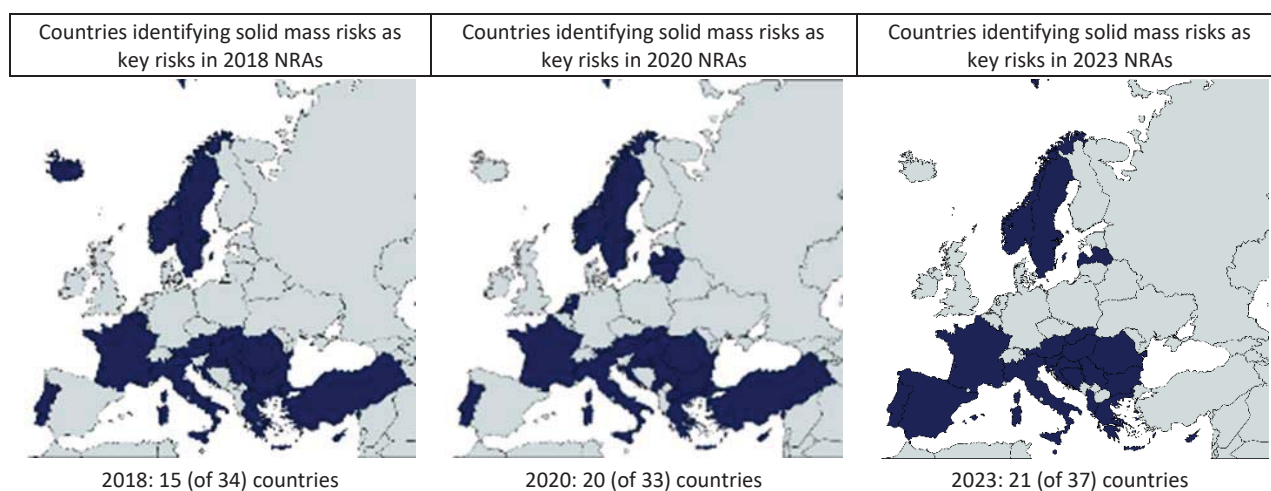


Figure 49. Geographic distribution of political and geopolitical risks identified as a relevant risk by type of risk.

## 1.15 Solid mass risks



Solid mass risks in 2018, 2020 and 2023 reports

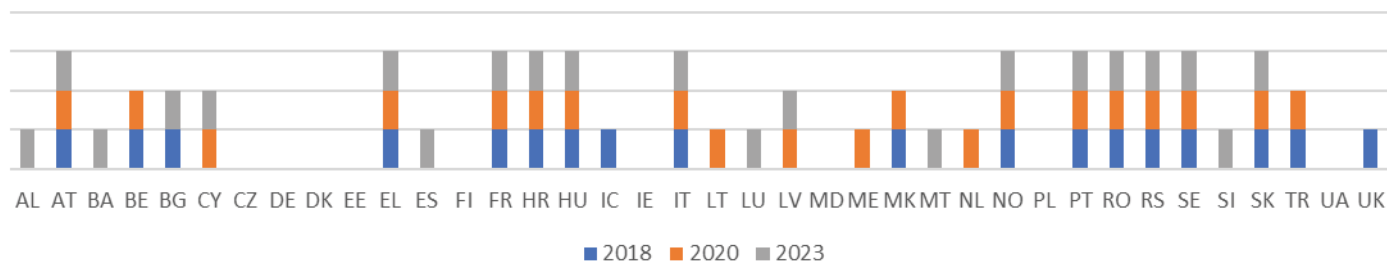


Figure 50. Solid mass risks indicated as a risk in the reports covering the reporting periods 2018, 2020 and 2023.

Solid mass risks in 2023 summary reports

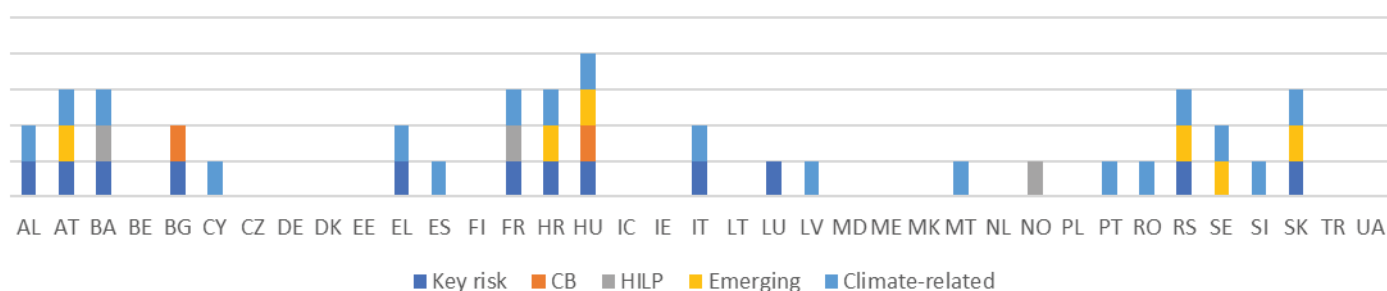


Figure 51. Solid mass risks identified in the 2023 DRM summary reports as a key risk, a cross-border risk, high-impact low-probability, an emerging risk or a climate-related risk.

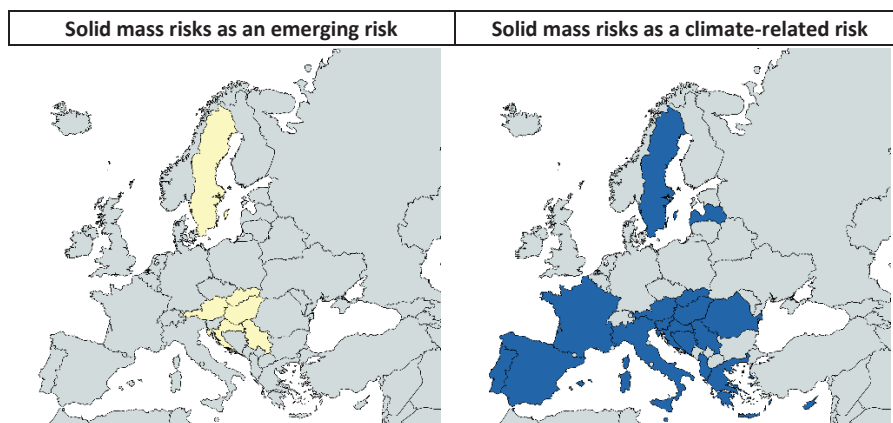


Figure 52. Geographic distribution of solid mass risks identified as a relevant risk by type of risk.

## 1.16 Terrorism

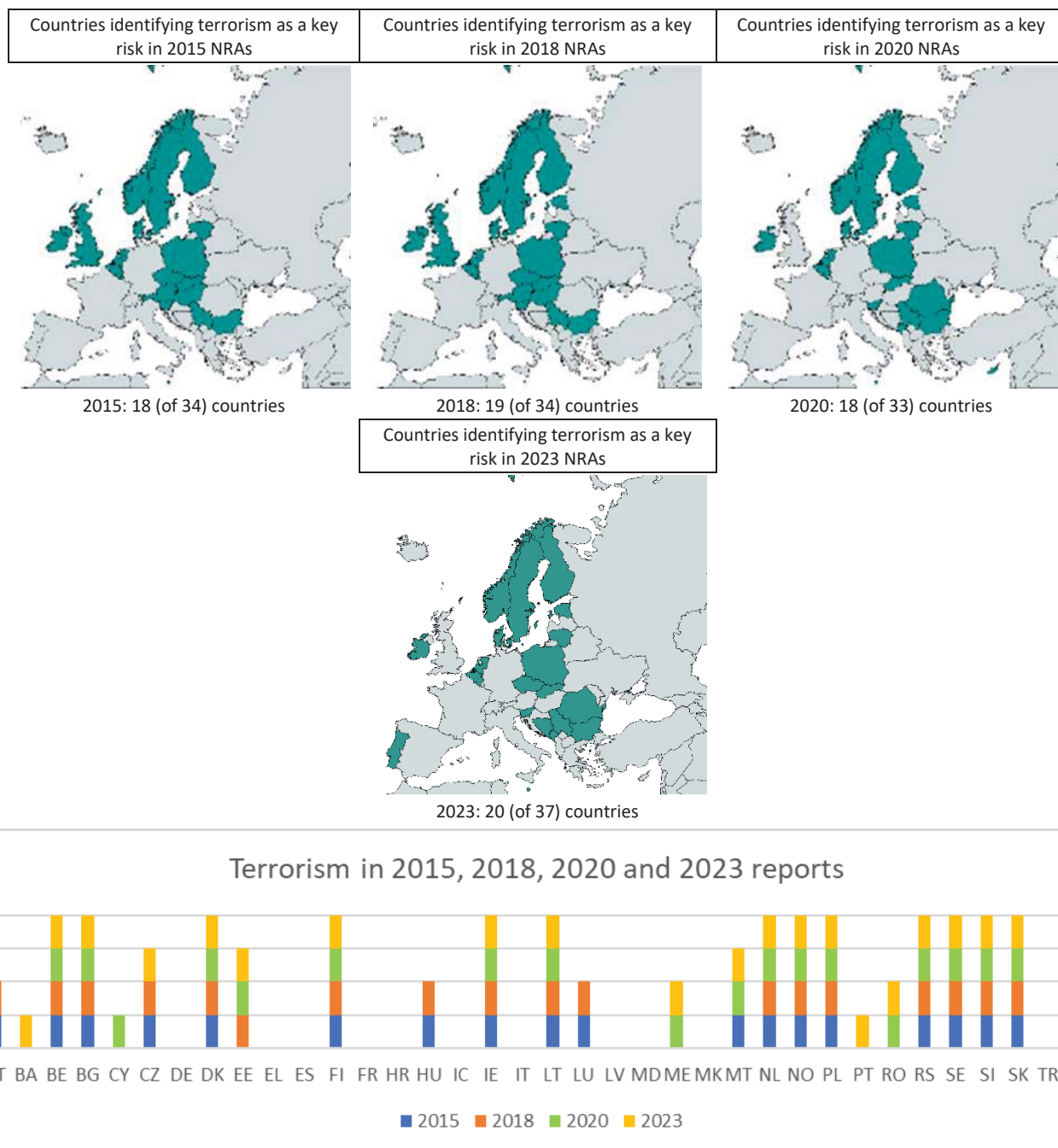


Figure 53. Terrorism indicated as a risk in the reports covering the four reporting periods 2015, 2018, 2020 and 2023.

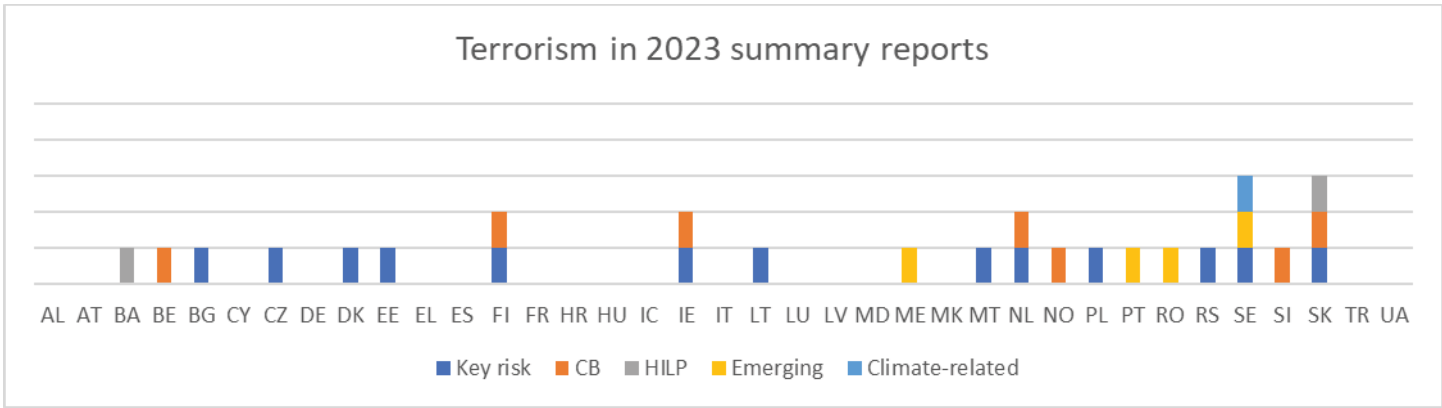


Figure 54. Terrorism in the 2023 DRM summary reports as a key risk, a cross-border risk, a high-impact low-probability risk, an emerging risk or a climate-related risk.

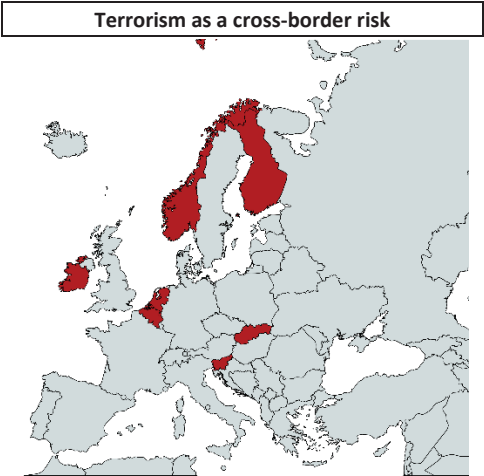
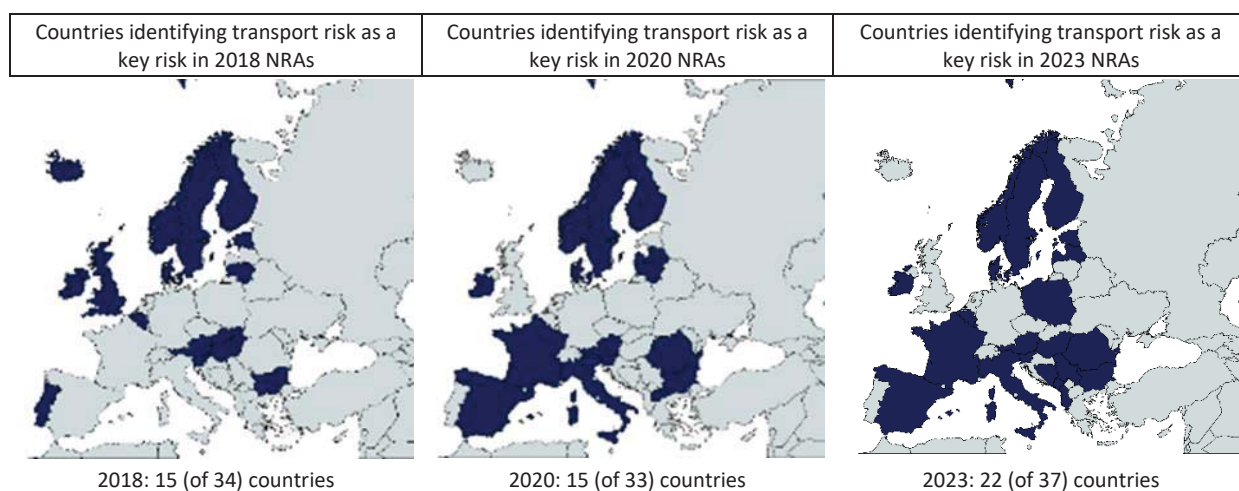


Figure 55. Terrorism in the 2023 DRM summary reports as a cross-border risk.



## 1.17 Transport related risks



Transport risks in 2018, 2020 and 2023 reports

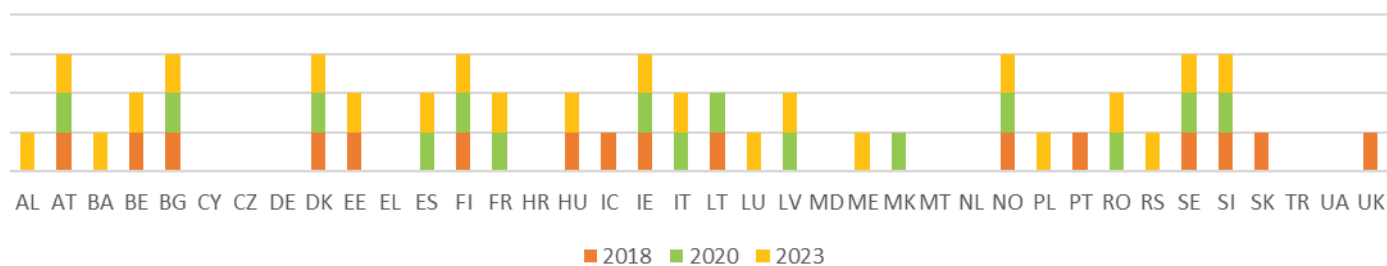


Figure 56. Transport risks indicated as a risk in the reports covering the reporting periods 2018, 2020 and 2023.

Transport risks in 2023 summary reports

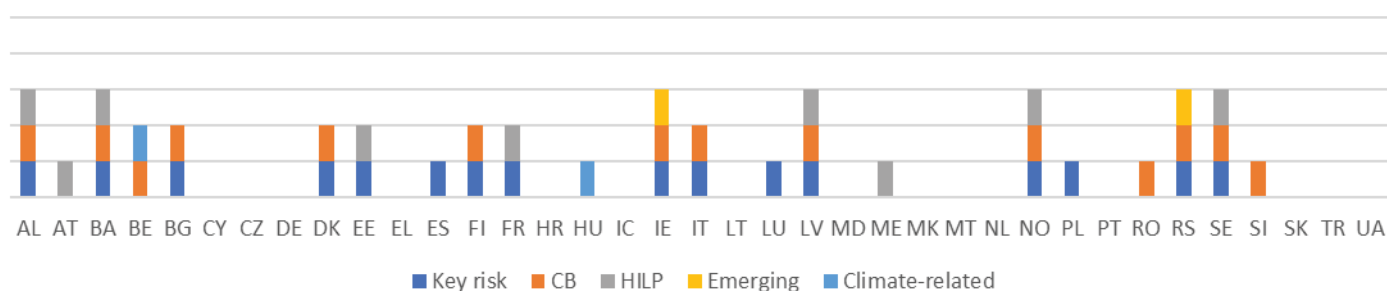


Figure 57. Countries indicating transport risks in the 2023 DRM summary reports as a key risk, a cross-border risk, a high-impact low-probability risk, an emerging risk or climate-related risk.

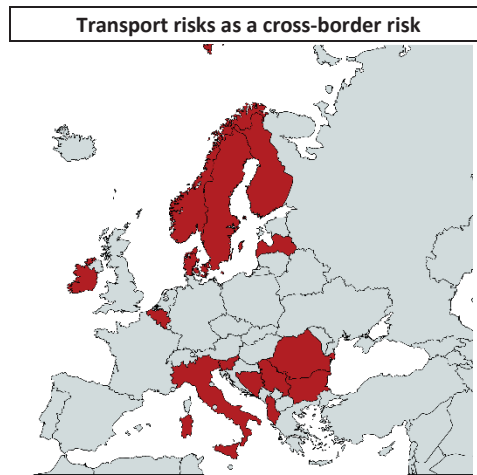


Figure 58. *Transport risks in the 2023 DRM summary reports as a cross-border risk.*

## 1.18 Wildfires

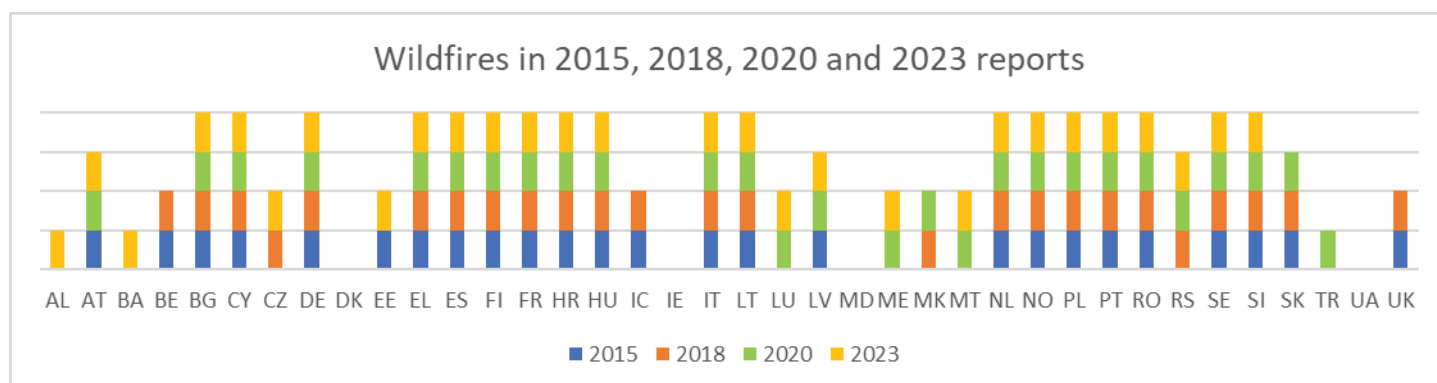
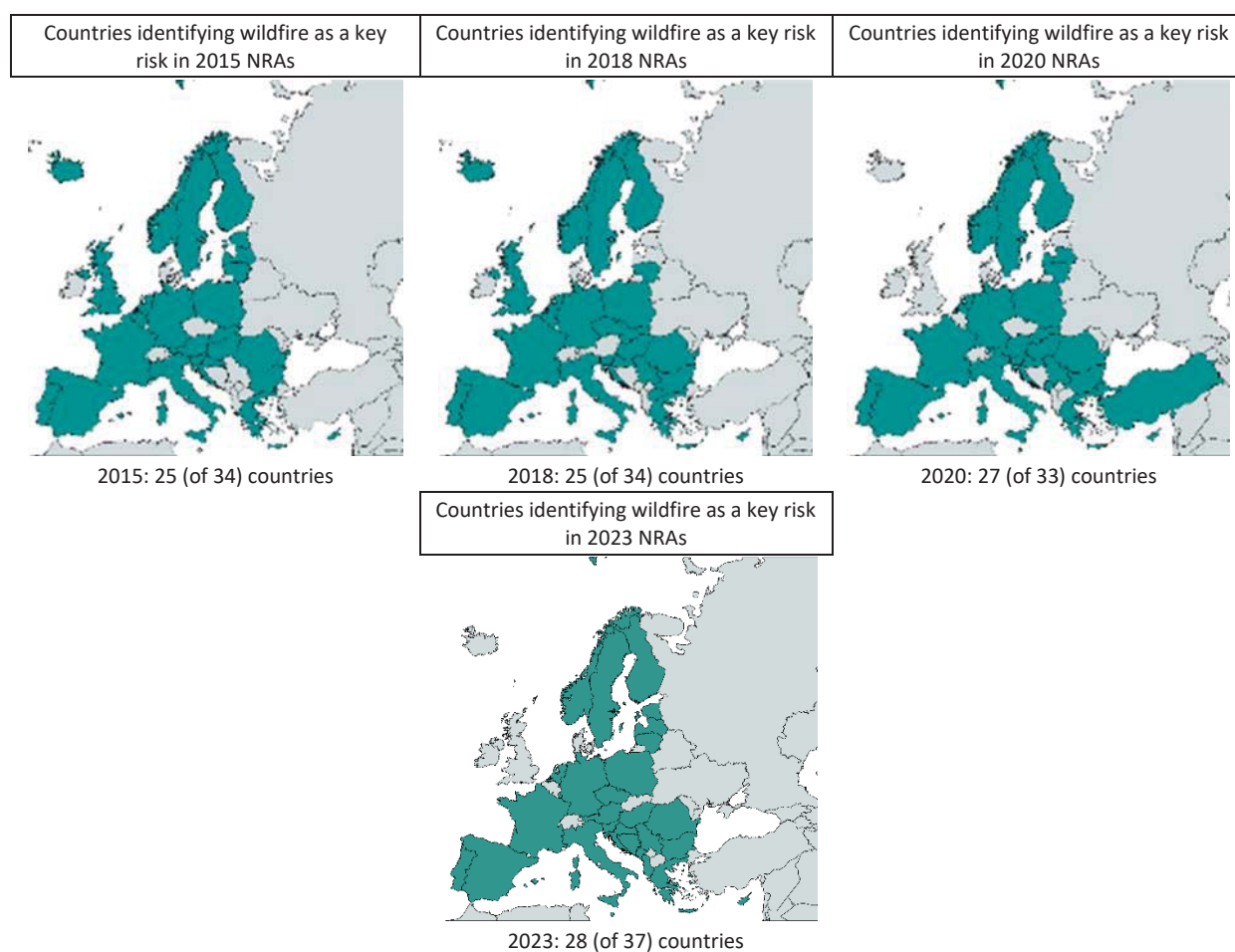


Figure 59. Countries indicating wildfires as a risk in the reports covering in the four reporting periods 2015, 2018, 2020 and 2023.

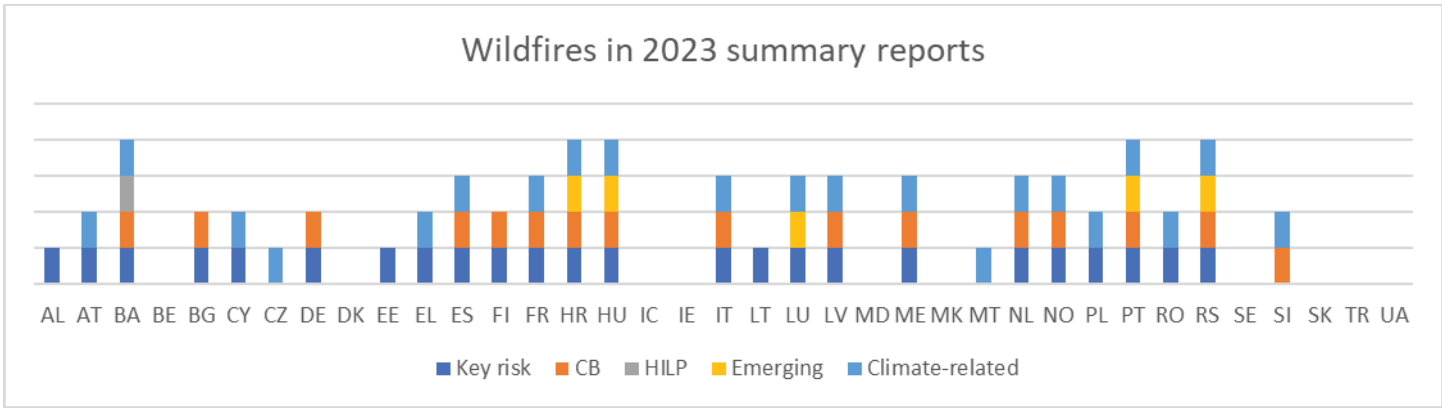


Figure 60. Countries indicating wildfires in the 2023 DRM summary reports as a key risk, a cross-border risk, high-impact low-probability risk, an emerging risk and a climate-related risk.

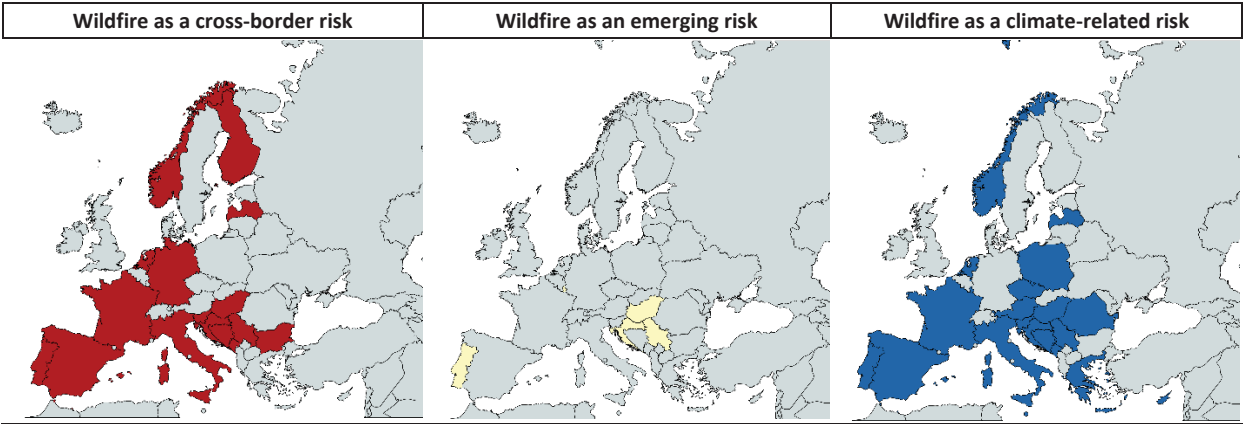


Figure 61. Geographic distribution of wildfires identified as a relevant risk by type of risk.