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Union Civil Protection Knowledge Network

Hadja Lahbib, Commissioner for Preparedness, Crisis Management and Equality © EU

INTRODUCTION

Inspiring, challenging, and hugely rewarding. This is how I would describe my first few months as Commissioner for Preparedness, Crisis Management and Equality.

Inspiring – because I have the privilege of working with a team of civil protection and humanitarian colleagues who live and breathe their passion for preparing and helping others. Challenging – because we see the massive work ahead to make our people and societies ready for today's increased threats. And rewarding – because I have seen in the eyes of kids, women and men, living in horrific conditions, what our work means to them and their families.

I would like to thank each of you for what you do every day – to save lives, provide support, and bring hope. Your passion inspires me, and so many others. It touches the lives of so many vulnerable people around the world. You embody our European values. You are Europe at its best.

In recent weeks, I visited Ukraine, Syria, Jordan, and Turkey, where I witnessed the immense needs. Families living in shelters who had lost their homes, women and girls supporting generations of family members, kids trying to learn in shelters and refugee camps. But in all these places I also found the EU, with sleeves rolled up, working to help others with generosity and solidarity. These were all sharp reminders of the vital work we do to improve lives and bring hope. It also brought into focus the challenges our civil protection and humanitarian colleagues face every day.

Climate change is also rocking our planet. We are facing more intense and more frequent disasters than ever, as we have seen with the record number of Union Civil Protection Mechanism (UCPM) activations in recent years due to floods and forest fires.

Only together can we tackle these complex challenges. That is why I am honoured to have such a dedicated team by my side. I have heard from so many people that DG ECHO is a community. And I have seen it time and again in my first weeks on the job. Civil protection is a vocation with a shared community spirit.

The Knowledge Network is a vital hub of this community, where we can all learn from each other – sharing research and best practices and ramping up our ability to act effectively. This newsletter is an excellent example.

Preparedness, as you know, will be a key priority in the coming months, with our new strategy. The **interview with President Niinistö** will delve into the rationale behind our preparedness strategy. The **articles on science in civil protection** – and our valuable teamwork with the Joint Research Centre – are also a fascinating window into how science saves lives by turning data into actionable solutions for managing crises.

Thank you again for your warm welcome into your Civil Protection family. I look forward to meeting you in the coming months.

Together – we will achieve great things.

Hadja Lahbib

Commissioner for Equality, Preparedness and Crisis Management

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#CivProKnowNet

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FEATURED

War in Ukraine triggered largest ever EU Civil Protection Mechanism operation

Russia's full-scale war of aggression against Ukraine started three years ago on 24 February 2022. The war has triggered the largest, longest-running, and most complex operation of the Union Civil Protection Mechanism (UCPM) since its creation in 2001.

When an emergency hits, any country can request assistance through the UCPM. All EU Member States and a further six countries participating in the UCPM – Iceland, Moldova, North Macedonia, Norway, Serbia, and Türkiye – have offered assistance to Ukraine. The country itself joined the UCPM as a participating state in April 2023.

Ukrainian emergency responders tackle a massive fire with support from EU Civil Protection Mechanism © EU

To date, over 154 000 tonnes of in-kind assistance have been channelled to Ukraine, including fire trucks, ambulances, transport vehicles, power generators, pumps, mobile hospitals and medical supplies, protective equipment, and communication items.

A specific UCPM focus is the support to the Ukrainian energy sector, which suffers widespread destruction because of Russia's systematic targeting of energy infrastructure.

For an extra layer of crisis support, the EU has also deployed its own rescEU emergency stockpiles to Ukraine. Power generators, medical equipment, temporary shelter, water treatment stations, and specialised equipment for public health risks such as chemical, biological, radiological, and nuclear threats have been sent.

Concurrently, over 4 000 patients from Ukraine have benefited from medical evacuations to hospitals in 22 EU Member States and Norway since 2022.

Meanwhile, cooperation with the private sector and third countries has been stepped up to complement the assistance.

Ukraine is an active member of the Union Civil Protection Knowledge Network, which enhances cooperation between national civil protection authorities. It connects first responders, disaster risk managers, scientists, and decision-makers, and matches their needs for expertise and good practices with methodologies, tools, solutions and resources.

EU assistance beyond civil protection

In addition to civil protection measures, the EU and its Member States have mobilised over EUR 3.6 billion in humanitarian assistance for Ukraine since February 2022, chiefly providing access to food, water, sanitation, hygiene, healthcare, essential household items, shelter, and education in emergencies.

In 2025, an estimated 12.7 million people will need humanitarian assistance across Ukraine, which is almost 36 % of the population living in the country. Around 3.7 million are internally displaced. Over 6.8 million Ukrainians have fled the country.

The European Commissioner for Preparedness, Crisis Management and Equality, Hadja Lahbib, visited Ukraine in January 2025. She said: 'We will continue to do everything in our power to help those affected by this crisis with all our partners and the Ukrainian authorities. This war is a threat to all of us. We must stand together at this critical moment for Europe.'

In total, EU support to Ukraine since the beginning of Russia's war of aggression amounts to almost EUR 135 billion. It includes Team Europe support to Ukraine's overall economic, social and financial resilience as well as military assistance measures.

An interview with President Niinistö

European Commission President Von der Leyen appointed former President Niinistö of Finland as special adviser to the EU, tasked with presenting a broad strategic vision of EU crisis preparedness. In October 2024, President Niinistö presented his report '[Safer Together – Strengthening Europe's Civilian and Military Preparedness and Readiness]'. This sets out a thorough analysis of the challenges and calls for a whole-of-government, whole-of society, all-hazard approach, making a series of far-reaching recommendations for the EU. We asked President Niinistö to highlight some key points for European civil protection.


Sauli Niinistö, Former president of Finland © EU

President Niinistö, what do you see as the biggest challenges for a better prepared Europe?

Stronger preparedness of the EU requires a new mindset: understanding that we share a single security and that preserving it is the precondition for maintaining our values and democratic political system, as well as our economic success and competitiveness. We need fully joined-up action to ensure that our societies can continue to function under all circumstances. Together we need to invest massively in civilian and defence capacities, anticipatory analysis, intelligence and coordination. Easier said than done. This is why I have been talking tirelessly to EU leadership, Ministers and key stakeholders about the urgent need to scale up and pull together all strands of preparedness.

We are living with increasing uncertainty and complexity and with more frequent disasters. In the EU we have high levels of interdependence and shared values, so together we must shape a clear vision and work hard to reinforce the building blocks of our societal resilience to disasters, shocks and disruption.

We heard you speak passionately at the European Civil Protection Forum last year about the need to engage citizens in crisis preparedness. Why do you think this is important?

Engaging citizens provides necessary skills to improve their own level of preparedness but also builds social cohesion as well as trust between the public and the authorities. When people understand the importance of preparedness and see their role in it, they can better protect themselves, cooperate with emergency measures and are more likely to support efforts bolstering preparedness.

We need all EU citizens to be better aware of risks and to take basic household and community preparedness measures. Here I hope other parts of the EU can learn from the Finnish experience, where we have an active whole of society approach to readiness, including maintaining emergency shelters, strategic stockpiling and a 72-hour home preparedness recommendation.

In my report, I call for EU action to support young people to become actively involved, through volunteering and through incentives to join the emergency and defence services workforce.

Finally, what more would you like to see from European civil protection in terms of a fully prepared European Union?

Civil protection authorities are the very backbone of civilian preparedness. I have seen that there is already an impressive degree of EU coordination through the Union Civil Protection Mechanism between the Member States. The area I have highlighted in my report that would need more engagement from you is to prepare for all types of crisis scenarios, including conflict consequences or hybrid attacks. This needs much closer planning and regular operational coordination, including with the military. You all know well that it is better to do this in a preparedness phase, than in the heat of response.

Strengthening communication in civil protection: insights from the Polish presidency workshop

Effective communication is vital in civil protection, ensuring timely alerts, coordinated responses and public trust. Beyond emergency notifications, it involves public awareness campaigns, media engagement and cross-border coordination. However, challenges such as misinformation and technical failures, as well as public reactions, can complicate crisis messaging.

To address these issues, the Polish presidency of the Council of the EU organised a workshop on understanding communication in civil protection from 27 to 29 January 2025 in Warsaw. The event gathered civil protection professionals, communication experts, and policymakers from across Europe to explore best practices, technological advancements and the human factors shaping effective communication.

Participants engage in discussions at a workshop on strengthening communication in civil protection © EU

Key themes and insights

The workshop emphasised that civil protection communication must be comprehensive and adaptable, covering all phases of disaster management – from prevention to response and recovery. Discussions focused on technology, public trust and crisis messaging in chemical, biological, radiological, and nuclear (CBRN) emergencies.

Discussions were structured around three key themes including:

1. technological aspects, including innovations in early warning systems, digital platforms and artificial intelligence;
2. non-technological factors, such as public trust, psychological responses and media engagement;
3. communication challenges in CBRN emergencies, where misinformation and public fear can escalate risks.

A dedicated panel featuring experts from Belgium, Germany, Poland, and DG ECHO examined how AI, digital alerting and data-driven decision-making are transforming crisis communication. While these tools enhance speed and accuracy, concerns over misinformation, cybersecurity and accessibility persist.

Experts stressed the need for clear, culturally sensitive and timely crisis communication, ensuring messages reach everyone, particularly vulnerable groups.

CBRN incidents pose additional challenges, as misinformation and fear can escalate risks. Representatives from Lithuania, Denmark, Ukraine, and DG ECHO highlighted the importance of precise messaging, well-trained responders, and media coordination to prevent panic and improve public safety.

Testing crisis communication in practice

A CBRN emergency simulation game, designed by the State Fire Service of Poland and the University of Warsaw, allowed participants to experience the complexities of crisis communication in a fictional emergency.

Lessons covered the importance of pre-prepared communication templates, reaching diverse audiences with clear messages, and training responders in effective public messaging beyond technical responses. The simulation highlighted the importance of clear roles, trusted messengers, and coordinated communication in shaping public perception and response during crises.

Future actions and policy implications

Participants identified ideas for key actions to enhance civil protection communication across the EU. Suggestions included developing communication guidelines with best practices, creating an EU risk communication knowledge hub, and establishing an annual 'EU Preparedness Day'. Developing fact-checking tools for crisis communication was also prioritised.

The workshop concluded with a voting session on these proposals, ensuring that insights will inform Working Party on Civil Protection (PROCIV) meetings, director general meetings on civil protection, and future EU policy discussions. The event underscored that strong communication strategies are as essential as emergency planning. Civil protection authorities must embrace technology, clear messaging, and trust building to ensure communities remain safe.

Latest news on EU calls for proposals in disaster prevention and preparedness

New calls for proposals are published on the EU Funding & Tenders Portal and the Knowledge Network platform. Those interested in applying for these calls are invited to watch the information sessions at KAPP call for proposals and Technical Assistance for Disaster Risk Management.

The Knowledge for Action in Prevention and Preparedness (KAPP) call for proposals co-finances projects that strengthen cooperation among EU Member States and UCPM participating states on disaster prevention and preparedness (requiring at least three countries to participate) as well as full-scale field exercises. The budget for the call in 2024 was EUR 11.8 million, divided into three topics: prevention, preparedness and full-scale exercises. Out of 53 applications received (with a total budget of EUR 44 million), 14 were selected for funding. Five projects are financed under the preparedness topic and seven under prevention as well as two full-scale exercise projects.

The consortia of successful proposals brought together various organisations from 23 countries, with the most active participation of stakeholders from Greece, Spain and Italy.

Another funding instrument, the Technical Assistance for Disaster Risk Management (Track 1) provides financial support to the national disaster risk management authorities for developing strategic activities including feasibility studies, proposals, policies and plans. These efforts aim to strengthen capacities and leverage investments for greater disaster risk management impact. The available budget for the 2024 call was EUR 5.4 million. A total of 21 proposals were submitted for this call (with a total budget of EUR 8 million), of which 12 were selected for funding.

A university breakout session on disaster prevention © EU

The new projects under the umbrella of these two UCPM calls are starting their activities now.

For more information and to follow their progress, visit the Knowledge Network platform.

The kick-off meeting for 2024 projects takes place on 13 March, where funded projects will come together with DG ECHO (European Commission) to receive information on implementation. It is also an opportunity to look at synergies between projects and opportunities for collaboration.

New EU Host Nation Support guidelines and implementation measures

The first version of EU Host Nation Support Guidelines (HNSG) was adopted on 1 June 2012 as a European Commission staff working document (SWD (2012) 169). The document addresses assistance provided to external capacities and personnel of the Union Civil Protection Mechanism (UCPM) operating in the territory of a requesting country, the host nation, or transiting through the territory of another country to reach the affected country.

The EU HNSG is a non-binding tool designed to provide guidance and support for effective and efficient delivery of international assistance to countries affected by major emergencies. A series of workshops with national Host Nation Support (HNS) experts took place in June 2023, September 2023, and May 2024, focusing on identifying updates and improvements to the 2012 version, and prioritising supporting actions for their promotion, uptake and implementation.

Dr Alessandro Carrotta, Policy Officer responsible for Host Nation Support, at last year's Civil Protection Forum © EU

The main outcome of these workshops was a revised version of the EU HNSG, which was adopted as a Commission Recommendation by the College on 29 September 2024 and is now publicly available in all official EU languages on a dedicated page of the UCPM Knowledge Network. Key updates in the revised HNSG include the establishment of national HNS Cells or an HNS Liaison Contact Point in cases where a country chooses not to set up a full HNS Cell. These units, operating within the competent national authority/authorities, coordinate HNS for international response efforts. They oversee the coordination, reception, and assistance for incoming international response capacities during emergencies. The importance of having at least one HNS Liaison Contact Point in each country has been reflected in Implementing Decision 2014/762/EU.

Checklists have also been updated, while forms and templates have been modified with a view of being integrated into the workflow of the new version of a common emergency communication and information system (CECIS).

Successful uptake of HNSG's principles and recommendations requires strong promotion and dissemination. HNS must be mainstreamed into the UCPM training programme, advisory missions and peer reviews, and promoted at national level by means of national seminars and workshops.

Dr Alessandro Carrotta, the Policy Officer who has led the revision process of the HNSG, welcomed the publication of the document, defining it as an important milestone to improve coordination and preparedness for international assistance. 'Host Nation Support requires sound planning and organisation among all actors involved in disaster management at national, regional, and local levels. The revised guidelines help remove existing obstacles between organisations with different competences during disaster response. To ensure effective HNS, it is essential that each country raises awareness of national plans and roles among all involved actors, supported by proper training and exercises. The Commission is ready to support countries' endeavours to develop HNS plans, structures and procedures', he stated.

Towards an EU Critical Communication System

The Commission and Member States continue their efforts to establish the European Critical Communication System (EUCCS), connecting the communication networks of law enforcement, civil protection and public safety responders across Europe. This system aims to enable seamless critical communication and operational mobility within the Schengen area. By doing so, EUCCS will enhance the resilience of public communication infrastructure and strengthen Europe's capacity to respond in times of crisis.

The creation of EUCCS directly aligns with the conclusions of the Council of the European Union from 7 June 2021, which emphasised 'the importance of secure operational and EU-interoperable communication for law enforcement agencies …', and invited EU Member States to further support EU initiatives aiming at improving existing systems and EU-wide interoperable communication systems for public security …'

Participants engage in a strategic discussion during workshop © EU

It was recently announced in the Commission White Paper – How to master Europe's digital infrastructure needs? that the system was to be established by 2030. The paper outlines the main initiatives for secure digital infrastructures and networks, as one of the four pillars of the 2030 EU Digital Decade policy programme. Furthermore, as laid out in the 2023 EU space strategy for security and defence, the potential role of IRIS², the EU's secure connectivity satellite constellation, and how it can support the establishment of EUCCS, is also being explored.

The technical pillar of EUCCS builds upon Horizon 2020 projects. BroadMap carried out an initial requirement study (2016–2017), followed by BroadWay (2018–2022), which focused on pre-commercial procurement. The ongoing EUCCS Preparation (also known as BroadEU.Net 2022–2026) is a partnership involving the European Commission's 15 representatives of ministries or their delegated agencies from 15 EU and Schengen Member States, funded by the European Commission's Directorate-General Migration and Home Affairs' Internal Security Fund (ISF).

EUCCS will leverage 3GPP Mobile Mission Critical (MCX) Standards*, building on the commercial economy of scale of mobile phone technology while ensuring it remains suitably secure and resilient.

EUCCS Preparation explores and encourages the technical maturity of standardised mobile technologies, bringing them to mission critical quality. Most importantly, EUCCS Preparation brings together responders from all disciplines to determine how this technology can enhance their ability to collaborate, ensuring Europe remains safe and secure.

*3GPP Mobile Mission Critical (MCX) is a set of communication standards developed by the 3rd Generation Partnership Project (3GPP) to enable reliable, secure, and high-priority communication for emergency and public safety responders over mobile broadband networks (such as 4G LTE and 5G).

ESCRIM deployments: a response to global disasters

The Emergency Civil Security Rapid Intervention Medical Team (ESCRIM), part of France's Civil Protection Service, provides immediate medical assistance in the aftermath of global disasters. As part of the Union Civil Protection Mechanism (UCPM), ESCRIM swiftly deploys to deliver medical care, logistical support and infrastructure restoration. Since 2022, ESCRIM has been part of the European Civil Protection Pool (ECPP), further enhancing its capacity to respond to crises across Europe and beyond.

Libya – A rapid response to the 2023 floods

On 10 September 2023, northeastern Libya experienced severe flooding caused by Hurricane Daniel, which led to the collapse of two dams in Derna. The floods resulted in significant loss of life and widespread destruction. At the request of the Libyan authorities, ESCRIM was mobilised to provide medical care. In this deployment, ESCRIM operated as an ECPP team, integrating into the broader European response.

Dr Isabelle Arnaud, an emergency doctor with 25 years of experience, led the mission. She managed the preparation and transport of medical equipment, ensuring readiness for deployment within 24 hours. On 16 September, ESCRIM set up an Emergency Medical Team (EMT2) field hospital in Derna, treating up to 100 patients daily.

'The logistics were challenging, but our teams worked together seamlessly', Dr Arnaud said. 'We coordinated with local authorities and international teams to ensure the hospital's accessibility.'

The mission focused on assessing medical needs, performing surgical interventions, and delivering urgent supplies. This collective approach exemplified the strength of international cooperation within the UCPM framework.

Mayotte – Response to Cyclone Chido

In December 2024, Cyclone Chido struck Mayotte, causing extensive damage and displacing thousands. ESCRIM was mobilised by France to provide medical assistance. France's swift deployment of its own resources through ESCRIM ensured timely aid without the need for external UCPM support.

Dr Arnaud, along with Dr Kerstin Streff, a pharmacist biologist with extensive ESCRIM experience, oversaw the mission. As Dr Arnaud recalls, 'When I arrived, I didn't recognise the island. It's green, tropical, beautiful. But at that point, there wasn't a palm tree left.'

The medical priorities in Mayotte mirrored those in Libya, focusing on treating infected wounds, managing chronic conditions and ensuring adequate medical supplies. Dr Streff described the logistical challenges of transporting supplies from Réunion Island to Mayotte. Despite these challenges, the team swiftly established operations and provided critical surgical care.

A French emergency responder operates a digital medical imaging system © EU

Lessons learnt and future improvements

Both missions highlighted the importance of preparedness, flexibility and coordination. Dr Arnaud and Dr Streff emphasised the need for improved logistical support and enhanced laboratory and radiology modules for future deployments.

As recovery efforts continue in Mayotte, the lessons from Libya and Mayotte will shape ESCRIM's future operations. Through international cooperation, meticulous planning and a commitment to saving lives, ESCRIM exemplifies the solidarity of the UCPM, ensuring it remains prepared to support future crises worldwide.

LEARNING

Finding the right candidates: a National Training Coordinator's perspective

More than 500 trainees from nearly all countries participating in the UCPM successfully completed one or more courses in the 19th UCPM training cycle for deployable civil protection experts. National Training Coordinators (NTCs) play a crucial role in selecting the right candidates. Lisanne Siebel-Achenbach, of the EU Competence Centre within the German Federal Office of Civil Protection and Disaster Assistance (BBK) shares insights.

Lisanne, alongside Dr Susanne Wacht, you serve as the NTC for Germany. What makes this job special?

The NTC role is rewarding because we guide experts through training and into deployment. However, it comes with challenges. The UCPM training programme is highly competitive, with some courses receiving 10 times more applications than available spots, creating bottlenecks – especially for advanced courses.

The biggest challenge is identifying candidates who are not just qualified on paper but also deployable in real missions. Germany's federal structure and volunteer-based civil protection system add another layer of complexity. We coordinate with 16 federal states, five nationally recognised aid organisations, and federal bodies like the Federal Agency for Technical Relief (THW) and the federal police. Our role is to ensure that the right candidates are matched with the right training.

Lisanne Siebel-Achenbach of BBK explaining the trainer selection process, highlighting the key skills and competencies needed for UCPM trainers © BBK

So, what indicators show that your work is effective, and what feedback mechanisms do you use?

Germany successfully filled nearly all its national training quota in the 19th training cycle. As a result, we now have around 120 explicitly trained civil protection experts and another 200 currently in training.

We assess success in several ways. First, training facilitators and lecturers evaluate participants to ensure they meet deployment standards. This helps us validate our nomination criteria.

Participant feedback is also crucial. While there is no structured system yet, we gather input through individual and group discussions to refine processes. Some participants have shared valuable insights, particularly for blended learning and classroom courses, which we pass on to the EU Commission and course conductors.

The improvements of tomorrow are the deficits of past and present. Where do you see the need to smooth out the kinks from your NTC perspective?

At the start of the new training programme, Susanne and I provided feedback on digital tools like the registration platform and course requirements. Now, these processes run more smoothly.

On a national level, we are working on improving planning and course scheduling to help candidates balance training with work and volunteer commitments. With the EU Competence Centre within the Federal Office for Civil Protection and Disaster Relief (BBK) and our partners, we continuously refine processes, map training needs, and maintain an up-to-date expert database.

Looking ahead, we need to engage in long-term discussions with the European Commission and fellow NTCs on future UCPM needs. What technical expertise should we prioritise? What key personnel will be needed in a civil defence scenario? These are key questions shaping the future of civil protection training.

By Stefan Richter. Extract from longer interview which appeared in the TVC (the consortium responsible for UCPM Deployable Training) newsletter.

rescEU CBRN and medical workshop: building cross-border preparedness through integrated implementation

Participants at the rescEU CBRN workshop © EU

'What's the EU stocking up on?' This initial question, formulated to familiarise participants with rescEU stockpile contents, set the stage for an engaging workshop on rescEU chemical, biological, radiological, nuclear (CBRN) and medical stockpiles and capabilities, where enthusiastic participants from 17 EU Member States and one participating state of the Union Civil Protection Mechanism (UCPM) came together to exchange ideas, share experiences and explore new opportunities for cooperation.

The rescEU CBRN medical workshop in Brussels on 2-3 December 2024 brought together:

1. rescEU stockpiles funded since 2020 (Belgium, Croatia, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Lithuania, Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Sweden);
2. rescEU CBRN capabilities, including teams and response equipment for decontamination (Croatia, Germany, Spain) and detection, sampling, identification and monitoring (Italy, Poland, Romania);
3. MedEvac (Norway).

European Civil Protection Pool representatives for CBRN detection and CBRN decontamination teams were also invited to participate. Collaboration was further enriched by the participation of Commission services such as the Directorate-General Migration and Home Affairs (HOME) and the Health Emergency Preparedness and Response Authority (HERA).

Why CBRN and medical together? If a CBRN emergency occurs, medical supplies and specific equipment are essential for an effective response – CBRN contingency plans should address both field response and the healthcare systems' capacity to react and support emergency operations. For this reason, the European Commission gathered relevant CBRN and medical stockpiles and capabilities, which may be activated individually or combined to support field operations in response to disasters.

Prior to the event, representatives of EU Member States and UCPM participating states were encouraged to share priorities for the working sessions and take a leading role in the moderation of key discussions. Participants brought forward dynamic and insightful contributions that helped steer the workshop's collaborative spirit. Workshop sessions focused on the identification of a shared taxonomy for CBRN equipment, the need for complementary secure and reliable operational communication systems, strategies on stockpile sustainability and donation agreements, training and exercises, public communication, strengthening knowledge exchange, logistics and the future of rescEU.

The workshop demonstrated that the impact of rescEU extends well beyond individual grants and that an integrated approach to capability development can enhance cross-border preparedness. Synergies with other programmes are actively sought out and a number of key follow-up actions are scheduled for 2025. For example, thanks to the Exchange of Experts rescEU grant holders are collaborating on different fronts. Italy is hosting an exchange with fellow rescEU disaster scenario integration module (DSIM) implementer Romania on the expansion of virtual training possibilities, while Spain is hosting an exchange with fellow decontamination implementers Germany and Croatia to focus on CBRN decontamination systems.

As a system rooted in cooperation, rescEU thrives on the partnerships formed among implementing EU Member States and UCPM participating states. By uniting expertise and energy under the European flag, the workshop served as a reminder that we are truly stronger together.

Successful EU MODEX earthquake simulation takes place in Portugal

Medical and urban search and rescue EU MODEX exercises took place 27-31 January 2025 in Lisbon and the Vale do Tejo, Portugal. The exercises simulated the response to an 8.5 magnitude earthquake and tsunami that occurred off the coast of Lusitânia (the fictional country that participants were based in for the following four days), on the morning of 25 January.

Scenario and needs

Participants were informed of the reported statistics on arrival: 10 000 deaths, 50 000 injured, 2 500 missing, and 50 000 evacuated. The president of Lusitânia declared a state of emergency, allocating resources to reduce the impact of the event and conduct rescue operations. National forces were activated along with the EU Civil and Protection Mechanism (UCPM), requesting search and rescue capabilities, and Emergency Medical Teams (Type 1 and 2) as well as structural assessment and shelter capacities.

We train together so that when a disaster happens, we can contribute together.

Portuguese National Commander Andre Fernandes

Exercise aims

The objectives of this EU MODEX exercise were fourfold: testing quality requirements for UCPM deployments including cooperation, communication and reporting, and safety and security; providing a learning opportunity for the civil protection community; facilitating the certification process (e.g. on International Search and Rescue Advisory Group (INSARAG), or the EU Civil Protection Pool); and continuously improving the EU MODEX exercise platform.

Search and rescue teams conduct operations in challenging conditions during the EU MODEX exercise in Portugal, simulating response efforts after a catastrophic earthquake and tsunami. © EU

EU MODEX in numbers

The simulation of a UCPM response during an exercise requires extensive work from all stakeholders involved. This EU MODEX in Portugal took nine months to plan and was the result of strong cooperation between the consortium (led by Johanniter) and the local authorities including the National Republican Guard (GNR), National Institute of Medical Emergency (INEM) and Portuguese National Authority for Emergency and Civil Protection (ANEPC). Six response capacities participated in the exercise including three urban search and rescue (USAR) teams from Croatia, Portugal and the Netherlands (the latter was under International Search and Rescue Advisory Group (INSARAG) reclassification) as well as three Emergency Medical Teams from Italy, Germany and Spain. In addition, an EU Civil Protection team (EUCPT) and a technical assistance and support team (TAST) from Italy participated to facilitate the incoming assistance. The UN Office for the Coordination of Humanitarian Affairs (OCHA) and World Health Organization (WHO) were also represented to support the conduct of the exercise.

Look after each other and stay safe.

Steve Gadson, chief exercise controller, kicks off the EU MODEX in Lisbon

The exercise took over nine months to plan and was the result of strong cooperation between the consortium, led by Johanniter, and the Portuguese authorities. Over 1 200 participants took part in total, making it one of the largest ever EU MODEX exercises to take place.

The exercise sites for EU MODEX included a Reception and Departure Centre at Setúbal, Fogueteiro, Almada Hospital, harbour and lift, and abandoned passenger ferries at Setúbal, which provided the backdrop for a heavy search and rescue exercise.

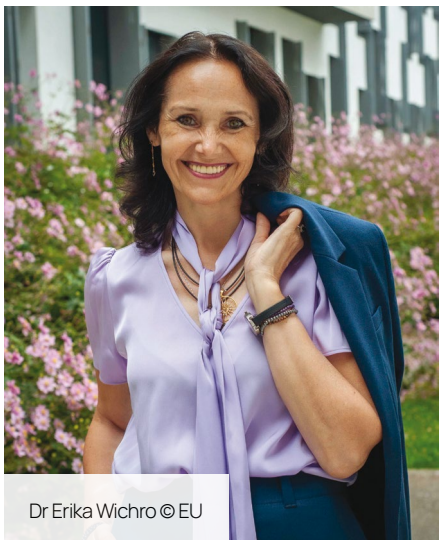
Michela Matuella, director of the European Emergency Response Coordination Centre (DG ECHO, European Commission), joined the visit, together with senior representatives from the Portuguese government.

VR headsets and 'Body Swaps®': integrating diversity and inclusion in civil protection

Dr Erika Wichro, a global health consultant and civil protection trainer, is pioneering an innovative approach to diversity and inclusion in the Union Civil Protection Mechanism (UCPM) Team Leadership Course (TLC). Together with Thomas Abe from BBK – the German Federal Office for Civil Protection and Disaster Relief – she has integrated virtual reality headsets into training sessions, immersing participants in interactive scenarios.

Why is this training important?

'We wanted to bring the close-working spirit of a mission into training sessions', Dr Wichro explains. 'Diversity and inclusion (D&I) are fundamental, yet perceptions vary. Establishing common UCPM definitions ensures these principles run through all courses and beyond.'


Dr Erika Wichro © EU

She is working closely with Grazia Curalli, Angela Beaumont, and THW Neuhausen staff (German Federal Agency for Technical Relief), who oversee UCPM deployable courses, to refine this process.

How does AI enhance training?

'We use Body Swaps®, an immersive AI-powered soft skills training tool – it's great fun! AI listens, analyses responses, and provides immediate feedback', she says.

Participants engage in VR-based assignments on difficult conversations, such as giving feedback, addressing gender and racial biases, navigating microaggressions, and enhancing cultural sensitivity. For instance, simulations might present a scenario where a team member experiences a microaggression, and participants must respond appropriately.

'The beauty of this method is that it provides a safe, judgment-free space to learn and self-reflect. No one else hears how you handle a situation, making it easier to experiment and grow.'

What results have you seen so far?

'As with any new technology, some embrace it more readily than others. But by the end of a session, participants often say they've had eye-opening experiences', she notes. 'This kind of immersive learning fosters self-reflection and hones soft skills in a simulated work environment. It helps break down barriers and develop skills that are critical for effective mission work.'

What drew you to this field?

'I suppose I'm the personification of diversity!' Dr Wichro laughs. 'With a background in medicine, public health, ethics, law, economics, and psychosocial health, I thrive in crisis management and capacity building. Connecting the dots is more important than ever in uncertain times.'

How can civil protection projects be more inclusive?

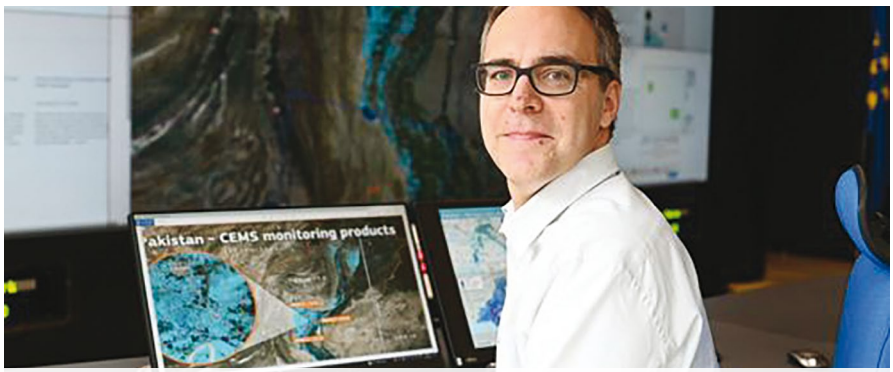
'In UCPM, civil protection is not everyone's primary job, so we can't assume a shared understanding', she explains. 'Recognising each person's unique perspective is mission critical.'

She stresses the importance of context: 'What are the country-specific factors? Diplomacy matters – on mission, we interact with ambassadors and must respect different protocols.'

Linking training with MODEX exercises and real missions ensures sustainability. 'It's about resilience and long-term impact – not just words and recommendations. I feel privileged to contribute to this process.'

SCIENCE

What's new at the Copernicus Emergency Management Service in 2025?



Peter Salamon, CEMS coordinator at the European Commission's Joint Research Centre (JRC), discusses upcoming advancements in flood monitoring and emergency response for 2025 © EU

The Copernicus Emergency Management Service (CEMS) provides timely and accurate geospatial information for emergency response and disaster risk management to support decision-making for impending or ongoing disasters, helping to mitigate their impact and save lives.

We interviewed Peter Salamon, PhD and CEMS coordinator at the European Commission's Joint Research Centre (JRC) about what news to expect regarding early warning systems within CEMS in 2025.

Many civil protection practitioners are on high alert right now with Europe's flood season in full swing. The CEMS is introducing some major changes and new features regarding flood early warning systems and flood mapping. What can users expect?

We are currently working on a major upgrade of our flood early warning system. This will include improvements in the input data, such as using more observations when calibrating the hydrological model used for flood predictions, but also improvements in the hydrological model itself, integrating new scientific developments. For the user this means that the model's ability to predict floods will increase once the upgrade becomes fully operational.

The Global Flood Monitoring (GFM) product of the CEMS released its third version in January 2024. It featured many major changes regarding both the data production and visualisation of output layers. The new fourth GFM version will be introduced in 2025. Can you tell us more about it?

Firstly, we are in the final phase of the release of the next version of GFM, which is foreseen at the beginning of March 2025. This version will include changes in the algorithms used to map floods from the Sentinel 1 satellite images. More precisely, the changes will improve the quality of the GFM particularly for small-scale floods and where the flooded area is very scattered due to the terrain or other factors.

Secondly, we will soon also make the archive of the GFM available through a so-called Spatio Temporal Asset Catalogue. Users will be able to access the GFM archive, containing the Sentinel 1 based flood maps from 2015 to present in a fully programmable way. This allows users to build specific applications or derived products based on the GFM data, such as flood frequency maps for an area.

Finally, in 2025 we will integrate the newly launched Sentinel 1C into the GFM. Unfortunately, Sentinel 1B has not worked since December 2021 and with Sentinel 1C we will get back to the two-satellite constellation. This will significantly increase the availability of flood maps and monitoring capacity of the GFM.

While the focus in Europe is currently on floods, civil protection authorities will have to deal with wildfires soon. The European Forest Fire Information System (EFFIS), 25 this year, supports forest fire protection services. This includes fire danger forecasts, active fire detection, rapid damage assessments, among other things. What is the news on CEMS fires' early warning and mapping services for 2025?

The upcoming years will witness significant changes in the sensors used by the European Forest Fire Information System (EFFIS) for fire and burned-area monitoring.

The MODIS Terra and Aqua sensors, which have been instrumental in EFFIS's burned-area mapping activities since its inception, have surpassed their expected lifespan. MODIS Terra is scheduled to cease operations in December 2025, followed by MODIS Aqua in August 2026.

Meanwhile, the Suomi NPP weather satellite, nearing the end of its expected life, is already experiencing technical issues. To ensure a seamless transition, we will take necessary steps to integrate a new suite of sensors, thereby minimising any potential impact on EFFIS services. Specifically, we plan to incorporate data from the Sentinel 3 satellite, complementing the information already provided by the operational NOAA-20 and NOAA-21 satellites.

Furthermore, we will explore the potential of sensors onboard geostationary satellites, such as the Flexible Combined Imager of the Meteosat Third Generation, for enhanced wildfire monitoring.

In addition to these technological advancements, our recently established partnership between several European Commission services will enable us to leverage artificial intelligence (AI) to bolster the capabilities of the Union Civil Protection Mechanism (UCPM) in the response to wildfires.

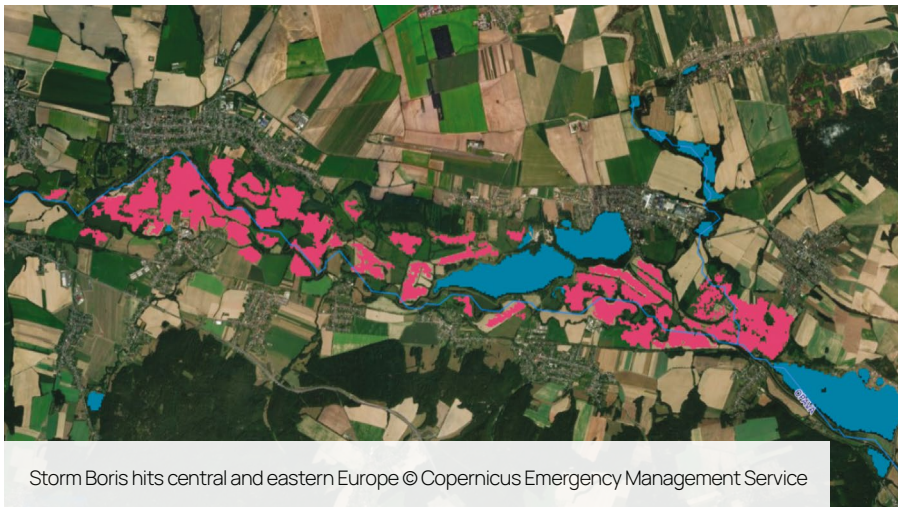
In 2025, we will also include long-term forecasting of the Fire Weather Index into the existing EFFIS services. This information will enable more effective planning and resource allocation to combat wildfires.

Wildfires are often linked to drought. I understand the enhancement of forecasting is one service to be improved in CEMS droughts' early warning and mapping services. What can you tell us?

In the last two years, we have already invested a lot in the enhancement of the prediction component of CEMS European and global drought observatories (European and Global Drought Observatories, EDO and GDO), by advancing our scientific understanding and offering new products that support actionable information. For instance, we have released multi-system seasonal drought forecasts based on all the global modelling systems currently available in the Copernicus Climate Data Store.

In the coming months, a similar product will also be released for heatwaves. In the meantime, we are working on an advanced hybrid approach leveraging AI for the short-term prediction of droughts and extending our drought tracking into the future.

For more information on CEMS: https://emergency.copernicus.eu



Storm Boris hits central and eastern Europe © Copernicus Emergency Management Service

This data visualisation depicts the flood situation near Opava, Czechia, on 15 September 2024, following the impact of Storm Boris on central and eastern Europe. The visualisation is based on satellite image analysis and highlights flooded areas in red and permanent water in blue. The data was produced by the Copernicus Emergency Management Service. This information, provided by the Copernicus Sentinel satellites, is essential for emergency response and future mitigation planning, demonstrating the role of Copernicus data in managing crises caused by extreme weather events.

Global disasters in 2024: a year in review

The Joint Research Centre (JRC), with its European Crisis Management Laboratory (ECML), plays a crucial role in supporting the Emergency Response Coordination Centre (ERCC) with critical information. The laboratory works hand-in-hand with the ERCC to identify, on a daily basis, upcoming or ongoing critical events, such as severe weather events, floods, tropical cyclones, volcanic eruptions, landslides, and wildfires, which require close monitoring by the Union Civil Protection Mechanism (UCPM). It co-designs daily situational awareness reports (ECHO daily flash and ECHO daily maps) with the ERCC. These analyses combine information from conventional and unconventional sources, such as national and international official organisations, international news agencies, satellite imagery, spatial elaborations, and geographical data. They also incorporate geographical data, modelling outputs. They are harmonised and thoroughly put together to ensure high-quality outcomes.

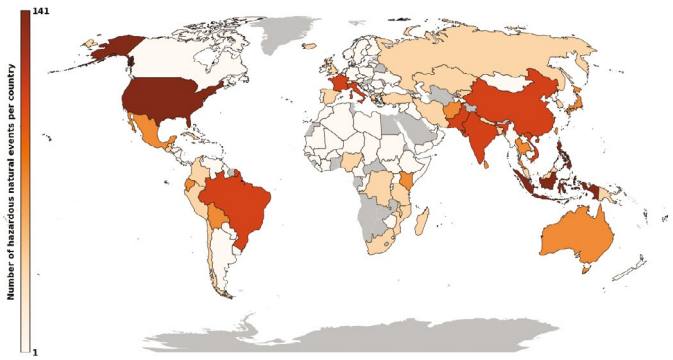
In 2024, more than 1 100 hazardous natural events were reported, of which 66 % were meteorological events including floods, flash floods, severe weather events and tropical cyclones. Landslides accounted for 18.5 % of the total, followed by wildfires (7.3 %), and geophysical events (6.5 %), while tsunamis and snow avalanches accounted for almost 2 %.

For these events, the Copernicus on-demand mapping (EMSR) was activated upon request in 71 cases worldwide, including 50 activations across Europe in 2024.

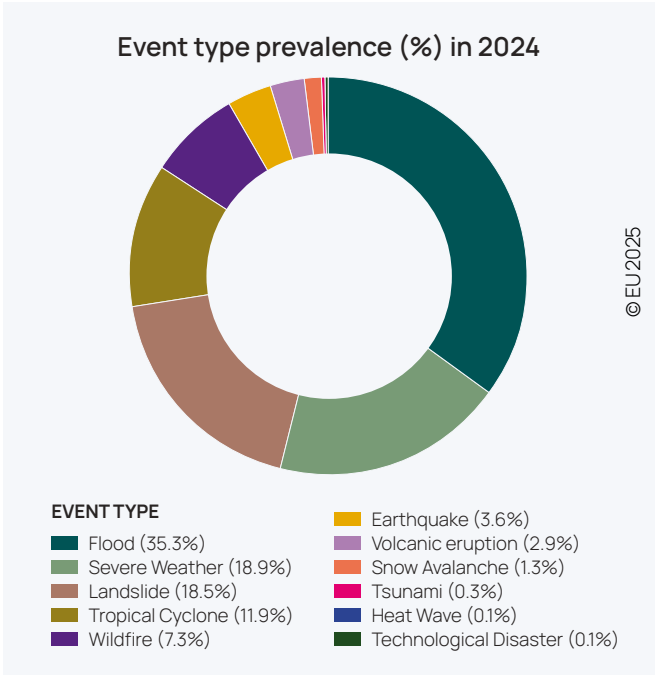
Europe was severely affected by flash floods, floods and wildfires. One of the most devastating meteorological events occurred in the Valencian community, causing a flash flood that resulted in 230 fatalities. As a result of this disaster, Spain requested assistance through the UCPM and the EMSR773 was activated.

Three multi-country flood events struck central and eastern Europe in January, June and September, leading to casualties, evacuations and damage. During the January and September events, most of the affected countries: Czechia, France, Germany, and Poland requested assistance via the UCPM and the EMSR was activated eight times.

Additionally, during the summer of 2024, south-eastern Europe experienced a series of wildfires prompting Albania, Bulgaria, Greece, and North Macedonia to request UCPM assistance and EMSR support (17 activations, including 14 in Greece).



Spatial distribution of events per country © EU



At a global level, 18 named storms, including 11 hurricanes, hit Central and North America, triggering three EMSR activations. Furthermore, 28 tropical cyclones affected South-East Asia, most of which resulted in casualties, evacuations and damage.

Other major global natural events included intense volcanic activity in Indonesia and the Philippines, as well as deadly landslides in Papua New Guinea (over 500 fatalities), India (almost 300 fatalities) and Ethiopia (267 fatalities). Furthermore, the earthquakes in Japan (461 fatalities), Taiwan (18 fatalities) and Vanuatu (14 fatalities) can be considered the most significant seismic events in 2024.

In 2024, several meteorological events had a crushing global impact, particularly in Europe which experienced exceptionally severe weather and flooding events, highlighting the need for increased and continuous monitoring and support from the UCPM and the EMSR.

Full report is now available here.

Data-driven solutions for urban challenges: the *Atlas of the Human Planet* and the Urban Centre Database

Global warming, biodiversity loss, desertification, extreme weather events and various socio-economic challenges are placing increasing pressure on the way our societies are organised. On top of that, the global population keeps growing and adding further pressure to the management of natural resources and societies.

To better understand the complexities of urbanisation, such as identifying areas vulnerable to disasters or providing a reference for environmental management, data is crucial. Satellite information and population censuses provide an abundance of data, while the European Commission's Joint Research Centre (JRC) makes this information accessible and useful for policymaking.

The *Atlas of the Human Planet*: from megacities to disaster-vulnerable communities

The Atlas offers a macro-level understanding of global population dynamics and urbanisation trends over the past 50 years. By combining historical data with projections, it provides valuable insights, including:

1. the global population has nearly doubled since 1975, with cities, towns, and semi-dense areas now housing 80 % of people;
2. the increase in the number of megacities (with over 10 million inhabitants), bringing challenges such as pollution, resource scarcity, and vulnerability to natural hazards;
3. cities accounting for 75 % of global energy use and greenhouse gas emissions, making their decarbonisation essential to tackling climate change.

The Atlas further illustrates how urbanisation influences various aspects of life, from economic growth to disaster risk.

Understanding urban dynamics with the Urban Centre Database

Designed to provide granular data on urban areas worldwide, the Urban Centre Database (UCD) focuses on individual urban centres. First released in 2018, the 2024 update expands the temporal range, offering data from 1975 to 2030. It provides insights into 50 years of urban trends, such as population growth, density changes and urban shrinkage. In total, the database features:

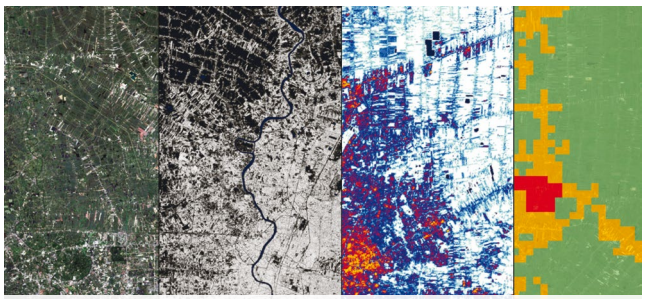
11 400
urban centres

63
indicator groups

470
specific indicators

It integrates data from four Copernicus services and global institutions such as the United Nations, providing a robust and standardised framework for urban analysis.

By offering insights into natural hazards, emissions, and socio-economic vulnerabilities, these data can be of great support when addressing the challenges of urbanisation.



Bangkok (Thailand) in 2020. A sentinel-2 satellite image (left) with added layers to evidence built-up surfaces, population density and settlement types © EU

Science for policies on urbanisation

Both the UCD and the *Atlas of the Human Planet* provide essential knowledge for tackling the challenges of urbanisation. While the UCD identifies vulnerable urban centres, the Atlas contextualises these risks within broader global patterns, enabling informed mitigation strategies.

As urbanisation accelerates, tools like the Urban Centre Database and the *Atlas of the Human Planet* demonstrate the benefits of data-driven approaches to understanding, anticipating and addressing the complexities of human settlements.

Enhancing disaster preparedness with mid-term early warning systems

Severe flooding inundates residential areas, highlighting the urgent need for improved early warning systems and disaster preparedness © Elzbieta Kaps – adobe.stock.com

The European Commission's Joint Research Centre (JRC) has released a new study ('Mid-term early warning – Anticipating crisis six months ahead') examining how to anticipate crises within a six-month timeframe. Scientists emphasise the importance of robust early warning systems and enhanced collaboration to improve disaster preparedness and crisis management.

The increasing frequency and severity of disasters, exacerbated by climate change, socio-economic disparities, and political fragilities that weaken some countries' ability to respond and adapt to these events, make crisis anticipation paramount.

Proactive disaster risk management strategies that save lives and protect livelihoods have never been more crucial. Early warning systems that enable decision-makers to anticipate and mitigate the cross-sectoral impacts of crises play a key role, according to JRC scientists.

Multi-hazard frameworks needing improvement

One of the study's strengths is its emphasis on a multi-hazard framework that integrates diverse risks as follows.

- **Floods** – Enhanced seasonal and sub-seasonal hydrological forecasts through the European and Global Flood Awareness Systems provide critical insights into potential flood risks.
- **Conflict** – Addressing risks within a six-month period at a sub-national level using innovative tools such as the Dynamic Conflict Risk Model, (DCRM) which employs advanced machine-learning techniques.
- **Droughts and food security** – Tools like the Global Drought Observatory forecasts link environmental conditions with food insecurity risks.
- **Tropical storms** – Forecasts utilise various inputs, including large-scale oscillations, sea surface temperatures, and atmospheric patterns.
- **Migration** – Integrating migration monitoring into crisis prediction highlights the growing importance of understanding human mobility in response to disasters and conflicts.
- **Health and nuclear risks** – Monitoring epidemics and nuclear events adds extra preparedness layers to protect public health and safety.

The methodology employed 'signal templates' as a structured framework for collecting data, which was subsequently used to create causal loops. These visual representations provide a concise summary of key findings, elucidate the interconnections between hazards and impacts, and suggest the compound effects of interrelated risks, thereby identifying opportunities for proactive measures.

However, scientists noted that the diverse tools and methodologies used for monitoring and forecasting risks posed challenges due to variations in methods, lead times, update frequencies, and reliance on manual processes. While their approach leveraged a combination of multi-hazard risk knowledge, causal loops, and early warnings, they faced challenges in generating standardised, actionable evidence for decision-makers.

These conclusions underscore the critical need for an integrated, multi-hazard mid-term early warning system, supported by continued efforts in knowledge collection, validation, and model enhancement.

Recommendations to improve disaster risk prevention and preparedness

The report highlights the need to address cascading risks, where one hazard triggers or exacerbates another, such as drought increasing vulnerability to floods. Strengthening collaboration through improved information-sharing and coordination across EU agencies and international partners is also recommended.

Extending the early warning window to six months or more could maximise the efficiency of disaster risk management by unlocking the potential of anticipatory actions, according to the study, thereby reducing the impact of disasters.

The *World Drought Atlas*: a global resource for understanding and addressing drought risks

The *World Drought Atlas* is a new flagship report launched by the European Commission's Joint Research Centre and the United Nations Convention to Combat Desertification (UNCCD). It aims to raise awareness on drought risks and support actions towards drought resilience, globally.

The Atlas aims to reach and benefit both specialist and non-specialist audiences. Developed in collaboration with CIMA Research Foundation, the United Nations University (Institute for Environment and Human Security (UNU-EHS)), the IVM (Free University Amsterdam), and many experts from all continents, the Atlas was officially launched at the UNCCD 16th session of the Conference of the Parties in Riyadh in December 2024.

The Atlas serves as a key resource for national and regional governments and policymakers, providing a scientific foundation for implementing effective adaptation actions and building resilience against increasing drought risks.

Through visual material, the Atlas aims to:

- synthesise, map, and characterise current and future drivers of drought risk at a global scale;
- illustrate effective risk management and adaptation strategies;
- highlight examples from diverse systems and regions of the world.

In the words of Ibrahim Thiaw, Under-Secretary-General and Executive Secretary of UNCCD:

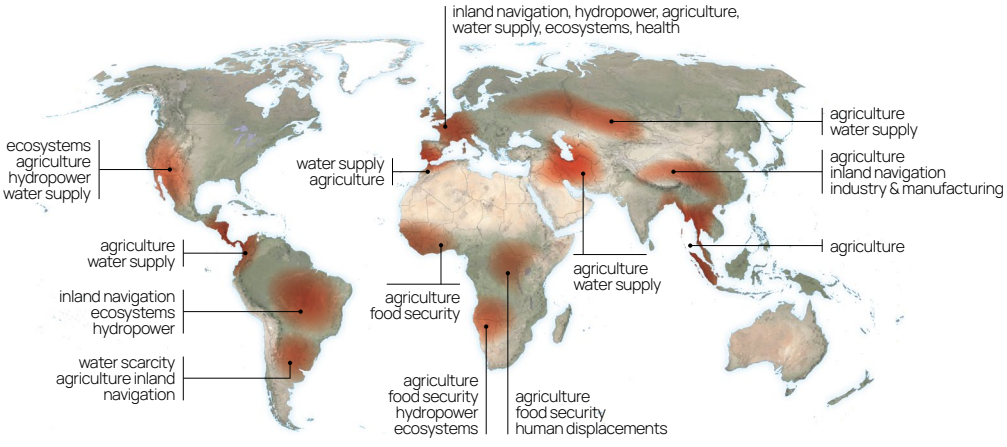
'This *World Drought Atlas* serves as a wake-up call, offering insight into the stark realities of drought and calling for urgency in our response. It reminds us that drought lacks regard for borders, leaving no region or country, regardless of its level of development, immune to its impacts.'

The *World Drought Atlas* explores the links between human activities and drought risks and impacts across five key areas: water supply, agriculture, hydropower, inland navigation and ecosystems.

The Atlas highlights that droughts:

- result from a combination of natural climate variability, human-induced climate change, and poor management of water and land resources;
- impact human populations and various sectors in complex ways, and across different spatial and temporal scales;
- bring significant challenges, with severe consequences for people's lives and livelihoods, and the ecosystems they rely on;
- are predicted to become more frequent and intense according to climate model projections. To improve forecasting and risk assessment, investment is essential to address knowledge gaps and reduce uncertainties.

Effective drought risk management and adaptation require proactive and prospective approaches from communities, regions and nations alike. The Atlas also serves as a tool to empower stakeholders by showcasing proactive strategies and real-world success stories where communities and governments found cutting edge solutions to anticipate, prepare and adapt to drought.



Examples of major drought events that occurred between 2022-24, with examples of impacted systems. Red areas represent the approximate spatial extent of drought impacts highlighting the increasing frequency and severity of droughts due to climate change, human activities, and poor water management. © EU

Wildfires in Europe: a growing threat in a warming world

The rescEU fleet provided assistance to fight wildfires in Portugal in July 2022
© Italian Civil Protection, 2022

Catastrophic wildfires have been frequent in the EU and neighbouring countries, and 2023 was no exception, as highlighted in the new Joint Research Centre report Forest fires in Europe, Middle East and North Africa 2023.

In 2023, Europe, Middle East and Africa (EMEA) experienced wildfires that were extremely difficult to control using traditional firefighting methods. This included the largest single wildfire recorded in the EU since 2000, which occurred near the city of Alexandroupolis in the Greek region of Eastern Macedonia and Thrace.

Fatalities and property damage also made 2023 a critical year with at least 41 deaths reported due to wildfires. These fires affected over 500 000 hectares of natural land – roughly half the size of the island of Cyprus.

Climate change is making wildfires more severe

The wildfires affecting Europe in recent years clearly demonstrate the effects of climate change on wildfire patterns. Rising temperatures and water cycle changes are increasing the size of fire-prone areas and making individual fires more intense.

The fire season is now extending beyond the traditional summer period, and fires are occurring in areas that were previously unaffected. This increase in wildfire frequency, intensity, and duration presents new challenges for firefighting services across Europe and beyond. Aerial firefighting has become more challenging, and ground operations are increasingly difficult or, in some cases, impossible.

The 2024 wildfire season was less severe in the EU until September

Until mid-September, the total area burned by wildfires in the EU remained below the 20-year average. This was largely due to intermittent rainfall across much of the EU during spring and summer.

However, in September, multiple wildfires broke out simultaneously in Portugal, pushing the total wildfire damage in 2024 above the EU average for past decades. Nonetheless, after three consecutive years of devastating fires, the 2024 season can still be considered less severe overall.

The European Commission and EU Member States have been strengthening their prevention, preparedness and firefighting capabilities. These efforts have likely contributed to limiting wildfire damage across the EU in 2024.

Addressing the root cause of wildfire

To minimise wildfires in Europe and globally, reducing the number of wildfire ignitions and carefully managing landscapes in vulnerable regions is crucial.

Education and awareness-raising campaigns are essential in tackling wildfires, as approximately 96 % of wildfires in the EU are caused by human activity.

As the climate crisis worsens and 2024 surpasses 1.5 °C of warming, it is crucial for populations worldwide to prepare for more frequent, intense wildfires.

FROM THE COMMUNITY

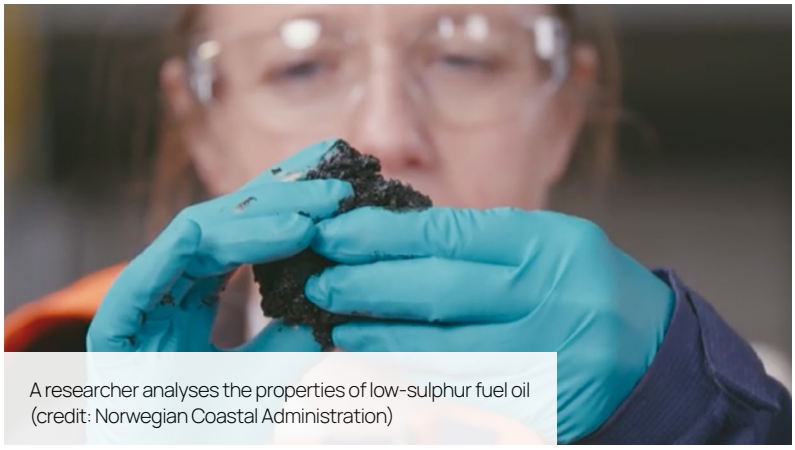
Tackling the challenge of low-sulphur fuel oils: the IMAROS 2 project

As of 1 January 2020, a regulation was introduced requiring marine bunker fuel to contain a maximum of 0.50 % sulphur, globally. This represents a significant reduction from previous levels and is an important step in limiting emissions of sulphur dioxide (SO_2), a major contributor to air pollution and environmental damage.

However, this change has led to the emergence of a 'new generation of fuel oils' with different chemical properties compared to previous oil types. A large variation of properties makes responding to spills more complex. When low-sulphur fuel oils come into contact with water, for instance, during an oil spill, some tend to become clumpy and hard, making recovery with traditional oil spill response methods more challenging.

This challenge is at the core of the IMAROS 2 project, an EU-funded collaboration between Belgium, Denmark, Finland, France, Malta, the Netherlands, Norway, Sweden, and associated partner Oil Spill Response Limited (OSRL). The project builds on the work of IMAROS (2020–2022), which consolidated knowledge and experience from several countries on low-sulphur fuel oils.

'We see that low-sulphur fuel oils behave differently from previous oil types, which poses challenges for oil spill response efforts. IMAROS 2 is about finding solutions to ensure more efficient clean-up after a spill', says project manager Silje Berger at the Norwegian Coastal Administration (NCA).



A researcher analyses the properties of low-sulphur fuel oil (credit: Norwegian Coastal Administration)

Led by the NCA, IMAROS 2 aims to improve mechanical oil recovery as well as shoreline clean-up following a low-sulphur oil spill.

Testing in Norway and Finland

In autumn 2024, three oil spill response equipment providers were invited to Horten, Norway, to test their equipment at the NCA's test facilities. The suppliers were able to observe how low-sulphur fuel oil behaves when interacting with their recovery equipment and, based on these tests, further develop their solutions to optimise the recovery of this challenging oil type.

'Testing the equipment in controlled conditions provides valuable insights, and the collaboration among project partners and industry contributes to the development of better response solutions', says Berger.

The most recent test took place in February 2025 in Kotka, Finland, to test in icy and wintry conditions. A third round of testing will be conducted in Horten later in the year.

Shoreline clean-up of low-sulphur fuel oils

In the event of an oil spill near the coast, oil often washes ashore onto beaches and coastal areas. Therefore, the IMAROS 2 project will also examine which methods are most effective for handling low-sulphur fuel oils on the shoreline. Field trials and laboratory analyses will be conducted to evaluate various clean-up methods, with results aimed at enhancing preparedness and optimising response strategies.

'Shoreline clean-up of low-sulphur fuel oils requires new approaches, and we must adapt our methods to minimise environmental impact', states Berger.

For more information about the project and updates on its activities, visit the IMAROS 2 project page on the UCP Knowledge Network, where news and results are regularly published.

Rescuing cultural heritage from the devastation of Valencia floods

In late October 2024, a high-altitude isolated depression (DANA in Spanish) struck eastern Spain, bringing severe weather, torrential rainfall, and flash floods. The disaster caused widespread damage and led to casualties: 224 people lost their lives, three remain missing.

This article, from the PROCULTHER-net project, looks at the impact of the floods on cultural heritage in the area.

In the immediate aftermath of the floods, residents bravely assisted in cleaning homes. Once access was secured, the Regional Ministry of Education, Culture, Universities and Employment of the Generalitat Valenciana, through the Regional Secretariat of Culture, launched inspections and monitoring of affected sites. Multidisciplinary teams were formed to evaluate damage and prioritise interventions.

On-site teams targeted severely impacted art storage facilities, churches and municipal archives. These archives, often on ground floors and basements, suffered extensive water damage, with metal doors breached and documents inundated by mud.

The initial phase involved carefully unpacking artworks, removing damaged storage boxes, and superficially cleaning mud from pictorial and sculptural pieces. These items were moved to designated warehouses but it soon became clear that the initial space at Feria Valencia was insufficient. This urgency prompted the Ministry of Culture to activate the national plan for emergencies and risk management in cultural heritage.

A restorer carefully handles a water-damaged book as part of emergency preservation efforts following the Valencia floods © IVCR+i

Two and a half weeks post-disaster, the experts from the Institut Valencià de Conservació, Restauració I Investigació (IVCR+i) were joined by technicians from the Archivo del Reino of Valencia, the General Directorate of Culture's archives service, restorers from across Spain, researchers from Pablo de Olavide University, and volunteers, united to rescue books and documents. Initially, documentation was manually collected until the Valencia Provincial Council, Autonomous Police, and the army's Military Emergency Unit could assist.

Given the limited resources, more unconventional drying techniques were implemented using easily accessible materials such as egg cups, which support weight and repel humidity. Blotting paper absorbed moisture, and vacuum packaging machines accelerated the process. Though drying continues, these methods have effectively stabilised the materials.

The next phase will involve vacuuming to eliminate microorganisms. The primary goal is to preserve the information within these volumes. Restoration will then focus on the most valuable and oldest documents, including judicial and parish archives and the Federation of Rice Farmers' sole archive in Alfafar.

In Picanya, one of the hardest-hit areas, the local church suffered severe damage to altarpieces and parish archives. Volunteers worked tirelessly to clean and ventilate the church, reducing microbial growth and enabling the safe return of parishioners.

Rescuing these cultural assets is a monumental task, yet through collective effort and dedication, significant progress is being made. Experts and authorities continue to address this emergency, with lessons learnt and further technical details to be shared in the upcoming July 2025 issue of the PROCULTHER-NET Technical Bulletin, by Gemma Zamorano, Director of the Institut Valencià de Conservació, Restauració I Investigació.

IN CASE YOU MISSED IT

Marking the successful implementation of regional civil protection programme in Eastern Partnership countries

The third phase of the flagship Commission-funded programme Prevention, Preparedness and Response to Disasters in the Eastern Partnership (EaP) countries: phase 3 (PPRD East 3), concluded with a final event held in September 2024 in Chisinau, Moldova. Running from 2020 to 2024 with a EUR 6 million contribution from the EU, the programme aimed to strengthen national civil protection capacities across Armenia, Azerbaijan, Georgia, the Republic of Moldova, and Ukraine, while fostering regional cooperation.

Group photo of participants of the final PPRD East 3 event in Chisinau, Moldova, September 2024 © EU

PPRD East 3 has been pivotal in bringing EaP countries closer to the EU Civil Protection Mechanism and increasing countries' capacities to prevent, prepare and respond to disasters. Notable achievements of PPRD East 3 include the development of national disaster risk assessments, the expansion of early warning systems, improved emergency planning, and strengthened interagency, cross-border and regional cooperation. The full-scale exercise on wildfires organised in Georgia was also one the programme's main highlights, bringing together teams from Armenia, Azerbaijan, Georgia, the Republic of Moldova, Ukraine, Italy and Sweden to collaborate in disaster response.

National Training Coordinators annual meeting takes place in Budapest

From 25 to 28 November 2024, the national training coordinators (NTCs) gathered in Budapest, Hungary, for their annual meeting, organised by DG ECHO in collaboration with the Hungarian presidency of the Council of the EU. The meeting was opened by Brigadier General Dr Balázs Bognár, disaster management director of Vas County and European Commission DG ECHO Head of Unit, Marco Panigalli.

Group photo after the workshop © EU

This gathering involved training contractors and delegates from EU Member States and UCPM participating states, including newcomers Ukraine and Moldova. Discussions focused on the progress of the revamped UCPM training programme, tackling challenges and solutions in identifying and nominating course candidates, feedback and recommendations, and the effective use of supporting tools such as the Online Registration Tool, EU Academy and the Knowledge Network Platform.

The meeting was organised in a participatory way, giving space for group discussions and harvesting of the results. Additionally, a hybrid coordination meeting was held with both contractors responsible for the deployable courses (lead – TVC (consortium responsible for UCPM Deployable Training)) and courses for civil protection and disaster management stakeholders (lead – Directorate-General for Civil Security of Belgium (SPF)) allowing for mutual learning and exchange, followed by separate discussions between the Commission and each contractor.

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Want to keep up to date about events in civil protection and disaster risk management?

Then check out the events section on the Knowledge Network online platform.

European Civil Protection and Humanitarian Aid Operations – Union Civil Protection Knowledge Network

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