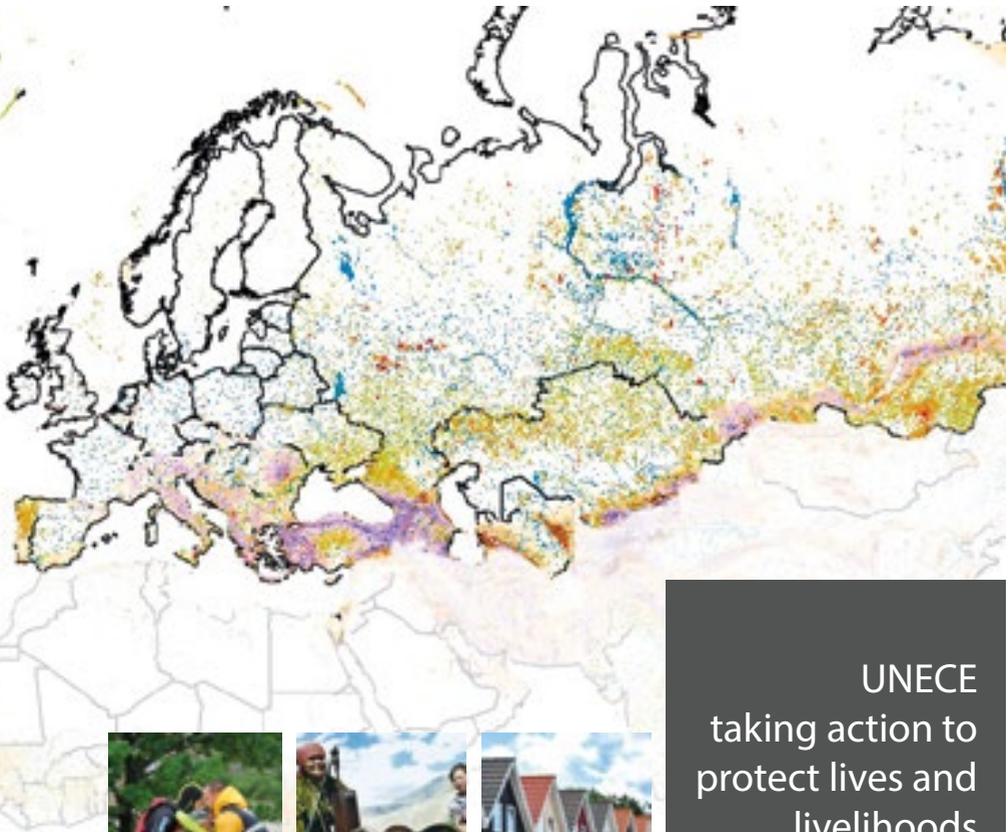


**UNECE**

# **Resilience to disasters for sustainable development**



**UNECE**  
taking action to  
protect lives and  
livelihoods



**UNITED NATIONS**

**UNECE**

# **Resilience to disasters for sustainable development**

UNECE  
taking action to  
protect lives and  
livelihoods



**UNITED NATIONS**



# RESILIENCE TO DISASTERS FOR SUSTAINABLE DEVELOPMENT: UNECE ACTIVITIES

All the countries of the United Nations Economic Commission for Europe (UNECE) region, including the most developed, are vulnerable to disasters. As one example, in 2019, the June and July heatwaves in Europe set all-time high temperature records in Belgium, Germany, Luxembourg, the Netherlands, and the United Kingdom and are estimated to have killed close to 1500 people across the continent.

Because disasters such as floods know no borders, effective response requires transboundary or regional coordination and cooperation. The UNECE supports the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR), adopted at the Third UN World Conference in Sendai, Japan, on March 18, 2015 (<http://www.wcdr.org/conference>) and endorsed by the UN General Assembly in June 2015.

In particular, the UNECE contributes to the United Nations Plan of Action on Disaster Risk Reduction for Resilience. The Plan calls on the United Nations system, both as individual organizations and collectively, to “make disaster risk reduction a priority.”

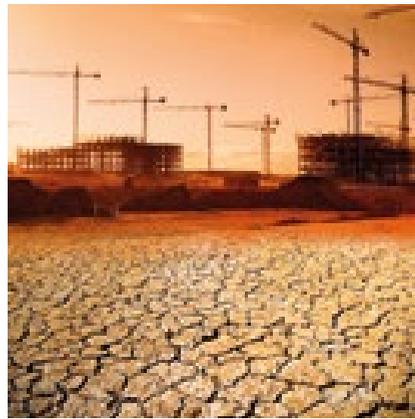
Within this framework, UNECE plays a crucial role in disaster preparedness in its region and – through its recommendations, treaties and best practice – well beyond its boundaries, particularly in the following areas:

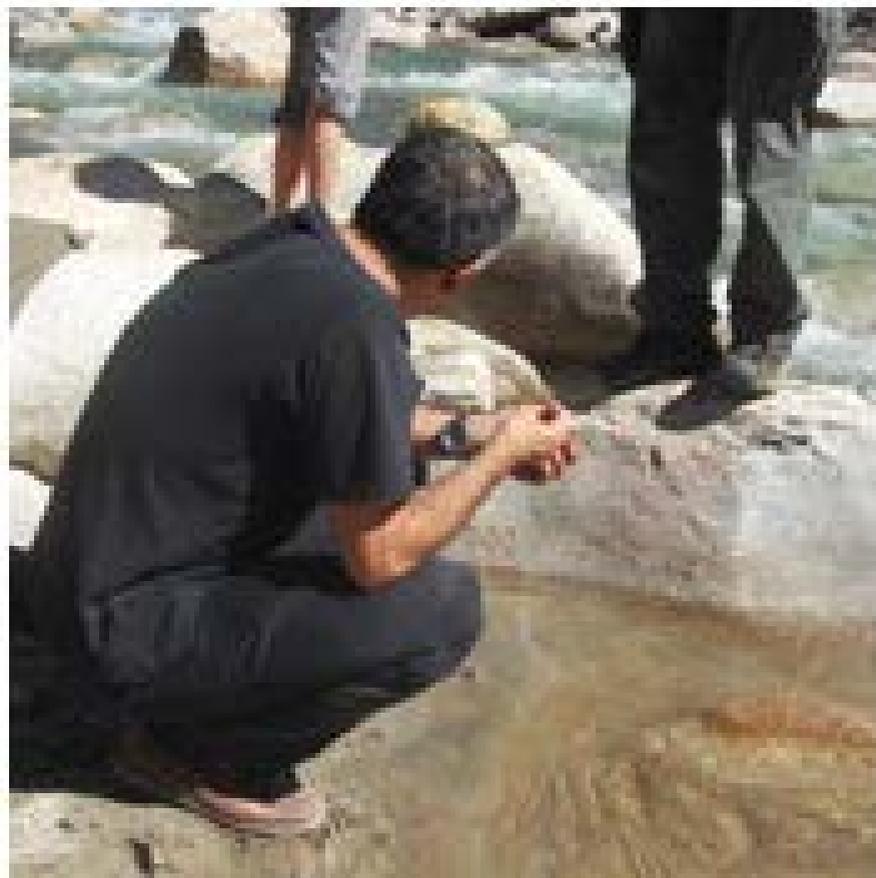
1. Standards and regulatory frameworks
2. Housing and Land Management
3. The Water Convention
4. Industrial Accidents Convention
5. Access to Information
6. Measurements
7. Forests

## 1. Standards and Regulatory Frameworks for DRR

Through its Group of Experts on Risk Management in Regulatory Frameworks, UNECE works with the United Nations Office for Disaster Risk Reduction (UNDRR) as well as with standards-setting organizations to make standardized guidelines supporting disaster risk reduction more readily available and accessible to authorities, policymakers, small and medium-sized enterprises, non-governmental organizations, universities and local communities. Deliverables under this programme include:

- A portal that allows the identification of voluntary standards developed by 10 different standards bodies that can be used in support of SDG 11.5 on disaster risk reduction.
- A booklet on Standards for DRR, whose aim is to “help bring voluntary standards into the toolbox of disaster risk reduction, both by encouraging their use of business and by enhancing their role in regulatory practice and policy-making more generally.”
- A task force under the ISO Technical Committee 292, coordinated by UNECE and UN-HABITAT, that works to enhance cooperation between the standards community and policymakers in support of the SFDRR and the SDGs.
- A background paper on Standards and Normative Mechanisms for Disaster Risk Reduction for the 2015 edition of the Global Assessment on Disaster Risk Reduction (GAR 2015).







## 2. Housing and Land Management

Cities, infrastructures and buildings are constantly and increasingly exposed to hardships posed by natural phenomena and human-induced disasters, including weather-related events, such as floods, landslides, sea level rise and erosion. Unpredictable events such as earthquakes will also continue to hit cities hard. Sound urban planning and safe building prevent disastrous effects and save lives.

Through its Committee on Housing and Land Management, UNECE is addressing disaster risk prevention and mitigation in cities by promoting the integration and mainstreaming of DRR considerations into relevant policies and building standards. Activities include regional forums and urban planning guidelines for DRR, in particular for coastal cities.

Recent UNECE work in this area also includes:

- Capacity-building activities carried out in cooperation with the United Nations Office for Disaster Risk Reduction (UNDRR) in Serbia and Albania. Resources permitting, this will be repeated in other countries of the South-East Europe (SEE) and the CIS regions.
- UNECE country profiles on housing and land management feature DRR-related considerations and UNDRR has given expertise and analysis to the profiles. This cooperation is extremely valuable, and UNECE has completed the profile for Belarus in 2019, following the guidelines drafted by UNECE Committee on Housing and Land Management in 2017.
- National workshops organized over the two-year period 2017–2019 in Albania, Georgia, Kyrgyzstan and Ukraine to develop evidence-based sustainable housing and urban development policies and to elaborate the national guidelines for the data collection to monitor the implementation of policies on housing, urban development and land administration in cooperation with the United Nations Human Settlements Programme (UN-Habitat) and the United Nations Development Programme (UNDP).
- United for Smart Sustainable Cities (U4SSC), launched by the International Telecommunications Unit (ITU) and UNECE in support of the SDG 11 – Make cities and human settlements inclusive, safe, resilient and sustainable. This initiative includes the ongoing work to establish smart sustainable cities standards and to develop smart city profiles.
- Working towards the implementation of both the New Urban Agenda and the 2030 Agenda for Sustainable Development, helping member States develop efficient monitoring and review mechanisms.
- Collaborating with the University of Geneva to integrate the natural sciences into urban planning in order to build resilient communities.

### 3. The Water Convention

Addressing water-related disasters under climate change is one of the biggest challenges nowadays. Floods, droughts and storms have caused around 6,000 deaths in 2018 and 1.3 trillion USD of economic losses since 1992. They do not recognize national boundaries; therefore, addressing them often requires joint action of the riparians. The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes, entered into force in 1996 and opened for accession to all United Nations Member States in 2016, aims to ensure the sustainable use of transboundary water resources by facilitating cooperation. UNECE recent activities in this domain feature:

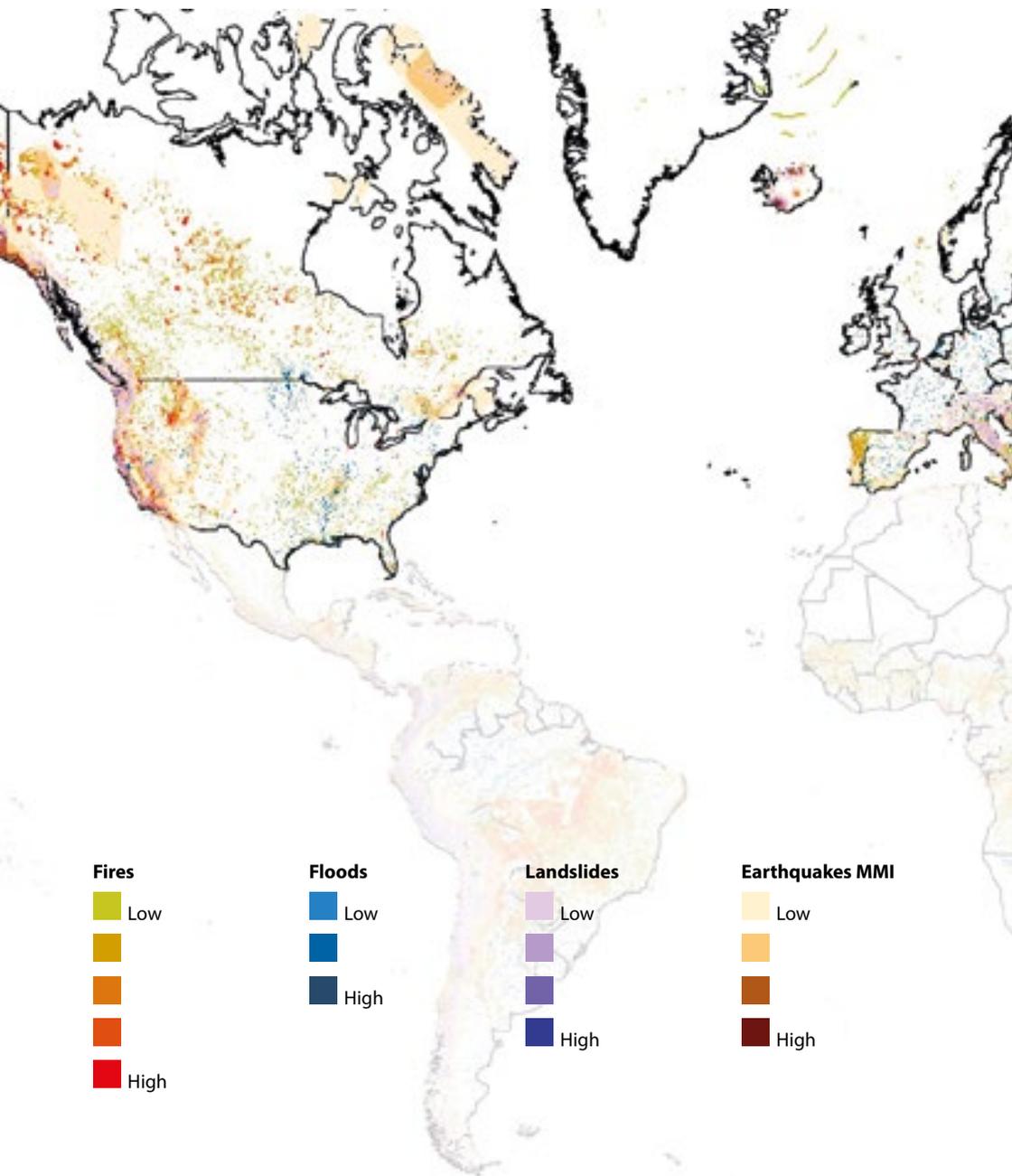
- “Words into Action” Implementation Guide for Addressing Water-Related Disasters and Transboundary Cooperation in support of the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 and in light of the 2030 Agenda for Sustainable Development and the Paris Agreement, was published in 2018 in cooperation with UNDRR;
- The coordination of a series of pilot projects and a global platform for sharing knowledge and experience on climate change adaptation and DRR in transboundary basins. Strategic Frameworks for Adaptation to Climate Change in the Dniester (including its Implementation Plan) (Republic of Moldova and Ukraine, 2017) and Neman (Belarus, Lithuania, Russian Federation, 2015) River Basins were developed as one of the first transboundary adaptation strategies of this kind are now partly implemented by the riparians. In addition, climate change analysis and adaptation measures were developed for the Chu-Talas basin (Republic of Kazakhstan and Kyrgyz Republic) in consultation with the Chu-Talas Water Commission, its dedicated Working Groups as well as other stakeholders;
- New publication on preparing bankable project proposals for climate change adaptation in transboundary basins was developed by the World Bank in cooperation with the UNECE and others in 2019. Capacity building activities on the same topic were organized on the global level as well as for selected basins (for the Drin and Lake Chad basins) in 2017-2018;
- The Water Convention’s Protocol on Water and Health aims to protect human health and well being by better water management, including the protection of water ecosystems, and by preventing, controlling and reducing water-related diseases. Parties are required to establish national and local targets for the quality of drinking water and the quality of discharges, as well as for the performance of water supply and waste-water treatment.



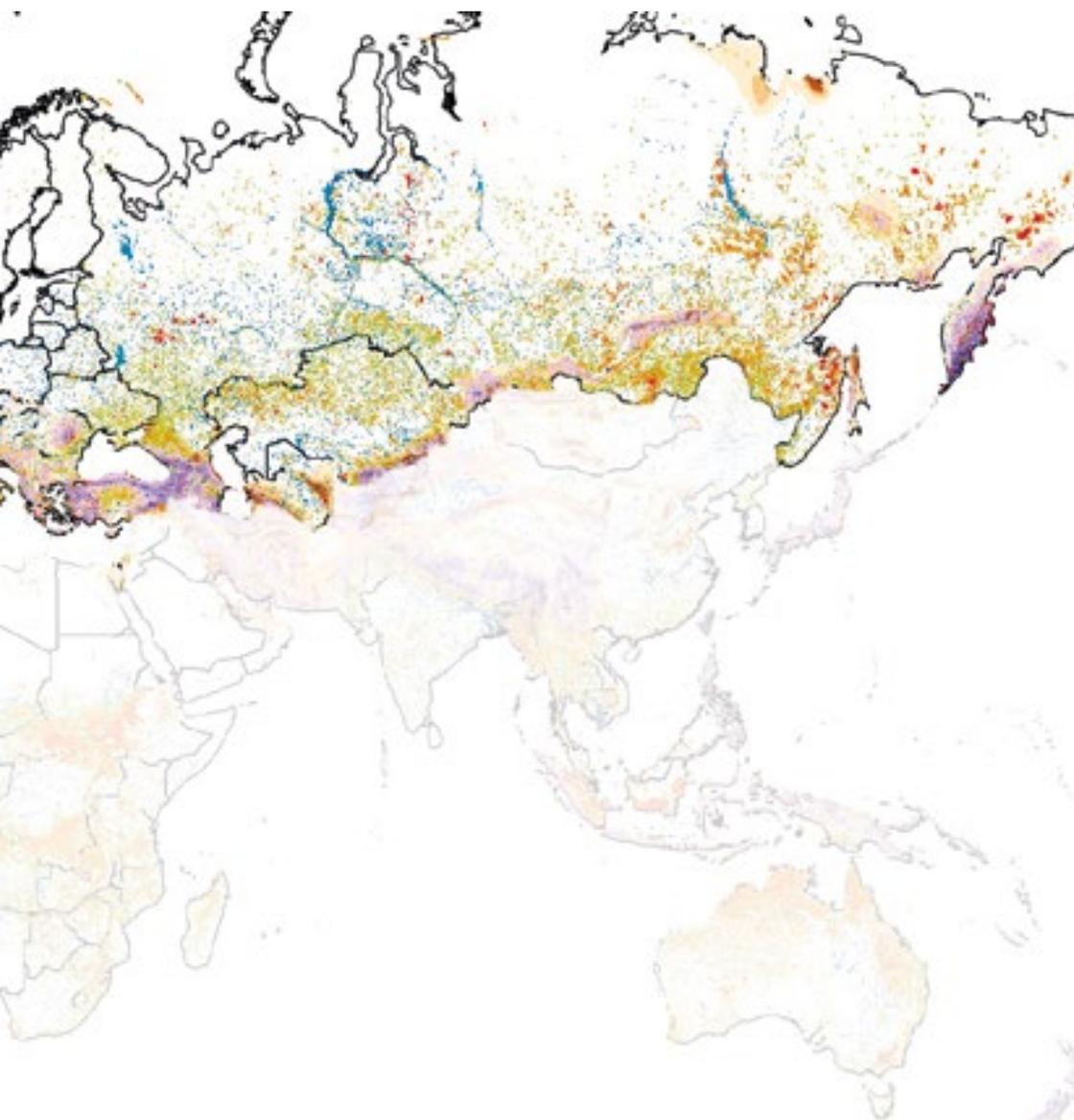
They are also required to reduce outbreaks and the incidence of water-related diseases. These measures are essential for securing water related life support systems during or after an incident.



## Disaster prone areas in the UNECE region



Source: UNDRR: Preventionweb, compiled by UNECE (multiple hazards: earthquakes, fires, landslides and floods)



## 4. Industrial Accidents Convention

The 41 Parties to the Convention on the Transboundary Effects of Industrial Accidents— from Western, Eastern and South-Eastern Europe, the Caucasus and Central Asia — work together to prevent, prepare for and respond to industrial accidents, especially those with transboundary consequences. These accidents may be the consequence of human activity, or triggered by natural disasters. The Industrial Accident Convention is the only legal instrument for reducing the risk of technological disasters, and enhancing disaster risk governance. As such, it supports countries in meeting their related commitments under the Sendai Framework for the Disaster Risk Reduction.

Under the Industrial Accidents Convention, Parties have to work on two levels:

- At the national level, by setting up early warning systems, mandating the operators of large industrial installations to take precautionary measures, or by preparing contingency plans for immediate response. This includes public participation in the decision-making process and in emergency planning and exercises.
- At the international level, on joint emergency plans, mutual assistance, and public awareness, as well as on ensuring that the public can take part in decision-making. Parties to the Convention also exchange information and technology, and identify actions that may save lives in the event of an accident, such as how to facilitate the transport of equipment and personnel across borders during emergencies.

Information on the Industrial Accidents Convention is available via a “summary in cartoons”, a short film, and the video “From Sandoz to Sendai,” launched at the occasion of the International Day for Disaster Risk Reduction in 2017. Online training has been developed in cooperation with partner organizations to further raise awareness and postcards on the linkages of the Convention with the Sendai Framework on Disaster Risk Reduction 2015-2030 and the 2030 Agenda for Sustainable Development and the Sustainable Development Goals have been created. Since 2004, the Convention has been complemented by an Assistance Programme, to support countries with economies in transition in implementing the Convention’s provisions.



As per the decision of the tenth meeting of the Conference of the Parties (Geneva, 4-6 December 2018) and in accordance with the Convention's Long-term strategy until 2030, the Assistance Programme was revised and rebranded to ensure that it remained an effective instrument for delivering assistance and building capacity at all levels.

**UNECE DRR-related activities under the Industrial Accidents Convention include:**

- The contribution to the development of the UNDRR Words into Action guidelines: Implementation Guide on man-made/technological hazards, in cooperation with the Joint UN Environment/OCHA Unit, OECD, the EU Joint Research Centre and other organizations
- The contribution to the development of the UNDRR 2019 Global Assessment Report (GAR), notably, as coordinating lead authors for Chapter 3.1.8 on chemical/industrial risk
- The engagement in the UNDRR Scientific and Advisory Group (STAG) on natural-hazard triggered technological accidents (NATECH)
- Awareness-raising through communication and promotional materials, such as the postcard on linkages between the Convention and the Sendai Framework and the DRR voices blog "From "disaster" to "risk" management: Ensuring a multi-hazard, multi-stakeholder, and integrated approach for man-made/technological hazards"
- A United Nations/OECD workshop on NATECH risk management, held in September 2018 in Potsdam, Germany, with UNECE in the lead of the organization of Session 6 on "Transboundary and international cooperation"
- A joint UNECE/OECD Seminar, held in November 2016 in Ljubljana, Slovenia, in the framework of the Ninth Meeting of the Conference of the Parties to the Convention. The seminar aimed at fostering the implementation of the sustainable development agenda for industrial accidents prevention, preparedness and response, in particular in view of the Sendai Framework for Disaster Risk Reduction
- The facilitation and implementation of transboundary preparedness exercises, e.g. a Trilateral field exercise in the Danube Delta region between the Republic of Moldova, Romania and Ukraine in September 2015 and a Bilateral exercise between Poland and Germany on the Oder River in September 2017 and an Accidental water pollution exercise on the Danube River with possible transboundary effects in October 2018
- Capacity-building on land-use planning and industrial safety through subregional workshops in Eastern Europe and Caucasus, held in May 2019, and planned for South-Eastern Europe (March 2020)
- Capacity-building activities to support the identification and notification of hazardous activities in Central Asia, South-Eastern Europe and the Caucasus and Eastern Europe
- Initiation of and participation in the Inter-Agency Coordination Meetings on Industrial Accidents, held annually in April or May since 2013.

More information about the Convention's contribution to support Parties in their attainment of the 2030 Agenda for Sustainable Development and the priorities for action set out in the Sendai Framework for Disaster Risk Reduction 2015–2030, is available on its dedicated webpage: <http://www.unece.org/environmental-policy/conventions/industrial-accidents/activities/sdgs-and-sendai.html>

## 5. Access to Information

Effective DRR is only possible as long as the public has timely access to adequate information on the potential risks of and actions for mitigating disasters; if they can effectively participate in decision-making on proposed DRR projects, plans and laws; and if those responsible can be held accountable for all matters related to potential and past disasters.

Parties to the UNECE Aarhus Convention and its Protocol on Pollutant Release and Transfer Registers (PRTRs) are obliged to disseminate all relevant information that would help the public take measures to prevent or lessen harm in the event of an imminent threat to human health or the environment. These treaties thereby help Governments to pursue a number of SDGs in particular **SDG 3** (Health), **SDG 6** (Water), **SDG 9** (Resilient Infrastructure), **SDG 11** (Resilient and Sustainable Cities), **SDG 12** (Sustainable Consumption and Production), **SDG 13** (Climate Action), SDG 15 (Life on Land) and **target 10 of SDG 16** (Ensure Public Access to Information).

In this context:

- The Convention's Task Force on Access to Information at its sixth meeting in 2019 is expected to take stock of case studies and good practices to advance work in the area and contribute to the implementation of the Sendai Framework;
- Some 60 Aarhus Centers operational in 14 UNECE countries are currently developing activities to raise awareness and strengthen national capacity for disaster preparedness and risk reduction in cooperation with the Organization for Security and Cooperation in Europe (OSCE).
- The Aarhus Convention has also inspired civil society actors beyond the UNECE region to apply its principles in various areas, including violations of access to information in the event of disasters. In particular, the Santa Fe Declaration on Disaster Risk Reduction of 12 November 2014, which calls upon States to set up a culture of resilience based on access to information at all stages of disaster, acknowledges the usefulness of the Aarhus Convention in disaster situations.







## 6. Measurements

Monitoring of hazardous events and disasters is key for disaster risk reduction and adaptation to climate change. Statistical information about occurrence, magnitude, population and infrastructure at risk, physical and economic impacts, adaptation measures etc. is needed in all phases of disaster risk management and, in case of hydro-meteorological events, important for managing climate change.

In emergency situations, National Statistical Offices (NSO) have to be able to quickly provide data on the population, areas and businesses affected as well as information on the impacts. The coordinated delivery of good quality data helps to define the type of actions to be taken for an effective recovery of the affected areas.

National Statistical Systems (NSS) in every country holds a wealth of information that may be applied in all phases of disaster risk management. In addition, national statistical systems have other competencies that are useful in the work in this area; notably, experience in coordinating different data producers; use of common standards and classifications; and adherence to strict professional principles and quality criteria.

Even if the importance of Official Statistics in Disaster Risk Management is undisputed, the role of NSOs and their National Statistical Systems remains unclear in many countries, thus the full potential of official statistics is often not used.

A UNECE “Task Force on measuring extreme events and disasters”<sup>1</sup> has been established in 2015 by the Bureau of the Conference of European Statisticians (CES) with the main objective to clarify the role of National Statistical Offices in measuring extreme events and disasters.

The report also includes case studies from 10 countries where NSOs are already taking an active role in measuring hazardous events and disasters and/or having a clear institutional role in national disaster risk management: Armenia, Belarus, Brazil, France, Ireland, Italy, Mexico, the Philippines, Turkey and the United States.

The Task Force also identified a set of unresolved issues that should be addressed to further improve HED-related information. This includes the need for statistical operationalisation of certain terms and definitions used in international policy frameworks, such as the Sendai Framework for Disaster Risk Reduction. For example, there is lack of international guidance on how to delineate hazardous events in terms of time and space, which leads to data sets which are internationally not comparable.

The “UNECE Recommendations on the Role of Official Statistics in Measuring Hazardous Events and Disasters” will be made available for download from the UNECE website in October 2019.

<sup>1</sup> The Task Force comprised experts from the statistical offices of Armenia, Italy (Chair), New Zealand, Republic of Moldova, Mexico, South Africa and Turkey, and the following international organisations: Economic Commission for Latin America and the Caribbean (ECLAC); European Space Agency (ESA), Eurostat, Food and Agriculture Organization of the United Nations (FAO), United Nations Office for Disaster Risk Reduction (UNDRR), Joint Research Centre of the European Commission, United Nations Economic Commission for Europe (UNECE), United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), World Health Organization (WHO) and the World Meteorological Organization (WMO). Furthermore, the Group on Earth Observations (GEO) participated in the work of the Task Force.



## 7. Forests

Forests face growing challenges and risks from natural disasters. Climate change is expected to increase the frequency and intensity of natural disaster events in the future. In addition, demands driven by population expansion and economic development have often impact on forests and forestland. Trees, forests, and the ecosystem services they provide, have a fundamental role to play in addressing the underlying causes of natural disasters. Therefore, Sustainable Management of Forests (SFM) has a crucial role in mitigating natural disasters and their impacts as well as enhancing the post-disaster reconstruction and recovery.

Integrated approaches to disaster risk reduction are the most effective. Forestry can be one of effective contributors to disaster risk management, especially when combined with appropriate land-use planning, mitigation measures and early warning systems. Forest ecosystems exercise key protective functions to prevent disasters, including protection from erosion, landslides and avalanches, conserving local climate conditions, filtering air and water and protecting from floods.

When appropriately managed, forests can withstand and protect people and ecosystems against natural disasters of varying degrees and types. SFM is not only a widely used tool to maintain healthy and growing forests in the ECE region, it also allows forests to provide all forest functions in the long term.

To promote the role of Sustainable Forest Management in mitigating natural disasters and their impacts, UNECE implements, in partnership with the United Nations Food and Agriculture Organization (FAO) a joint programme of work which includes monitoring of the state of forests and provision of statistical information for evidence-based policies in support to Sustainable Forest Management at the national level. The joint programme of work also includes policy support and capacity building activities supporting countries of the region in their work on strengthening vulnerable ecosystems, restoring degraded landscapes and through this increasing their resilience and protective capacity against biotic and abiotic threats.

Recent outputs include:

- Development of a Forest Sector Outlook Study for the ECE region including an analysis of the effect of natural disasters on wood supply, an overview of climate change adaptation strategies for forests, and an analysis of the forest sector's role in climate change mitigation (publication foreseen for 2020).
- Study on Forest Landscape Restoration in the Caucasus and Central Asia (2018).
- Study on the State of Forests of the Caucasus and Central Asia (2019).
- Ministerial Roundtable on Forest Landscape Restoration in the Caucasus and Central Asia (Astana, 21-22 June 2018).
- A study on forest-water related payments for ecosystem services schemes (2018) highlighting the benefits of such approaches towards more resilient ecosystems providing services like erosion control, wind and flood protection.
- Mid-term review of the Rovaniemi Action Plan for the Forest Sector in a Green Economy: providing information on the implementation of concrete on the ground actions in Pillar B Low carbon Forest Sector and Pillar D Long Term Provision of Forest Ecosystem Services (2018).

## A UNECE toolkit for the implementation of the Sendai framework

Prosperity can only be built on a solid foundation of security and stability, but can be wiped away in minutes as a consequence of both natural and man-made disasters, not counting the immeasurable human suffering and environmental degradation that may result.

Sustainable development in its economic, environmental and social dimensions also relies on the solid management of disaster risks. This is because disasters exacerbate poverty, affecting disproportionately the most vulnerable, who often live in exposed areas such as informal settlements erected with no regard to building codes. Disasters also have a devastating impact upon fragile eco-systems, destroy schools and hospitals affecting health and educational outcomes, and result in increased social tensions and weakened institutional support systems for social policy.

UNECE works to ensure that social and economic progress go hand in hand with a better disaster risk management. Weak and under-resourced systems and infrastructure in sectors ranging from housing to energy networks, from trade and transport hubs to information technology, compromise the capacity to manage any risk, including disaster risks. UNECE activities not only strengthen these systems' capacity to deliver services in normal times, they also reduce disaster risks, build resilience and enable countries to cope with and recover from disasters when they occur.



**Resilience to disasters for  
sustainable development** UNECE  
taking action to protect lives and livelihoods

