



9<sup>th</sup> session of the  
**MEETING OF THE PARTIES  
TO THE WATER CONVENTION**  
29 September – 1 October 2021 Geneva & Hybrid



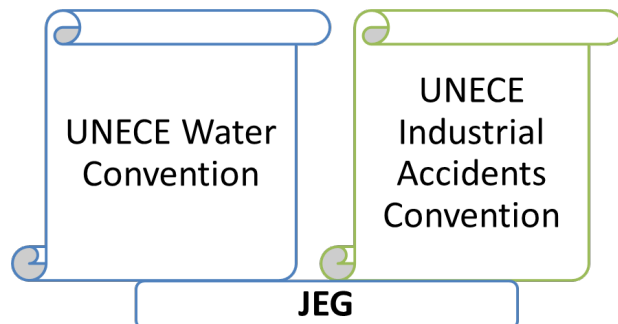
# Water and Industrial Accidents

Bojan Srdic

Co-chair of Joint Expert Group on Water and Industrial Accidents

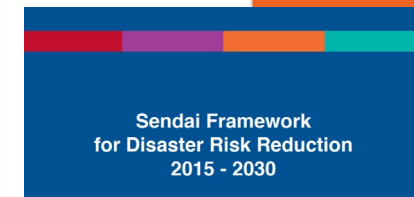
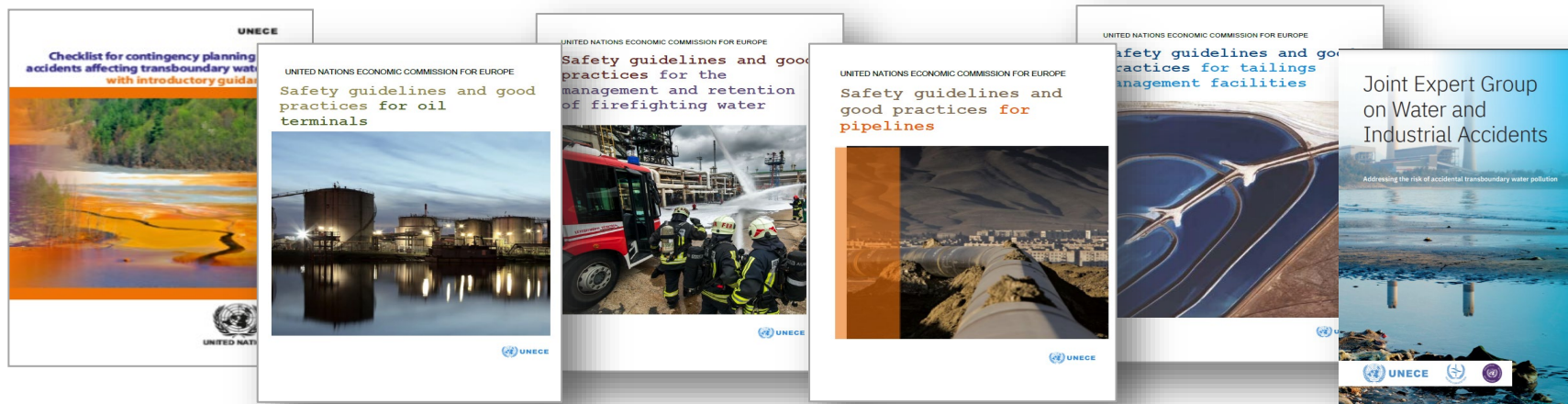


# Joint Expert Group on Water and Industrial Accidents



## Joint Expert Group (JEG)

- Established in 1998
- Focus on prevention of accidental water pollution and its consequences
- Linking integrated water resources management to industrial safety



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# Publication of the Safety Guidelines and Good Practices for the management and retention of firefighting water (2020)



- Developed by the UNECE Joint Expert Group on Water and Industrial Accidents to prevent accidental pollution of soil and water, including transboundary pollution effects
- Aimed to support governments, competent authorities and operators in minimizing the risk of fire and to safely retaining firefighting water



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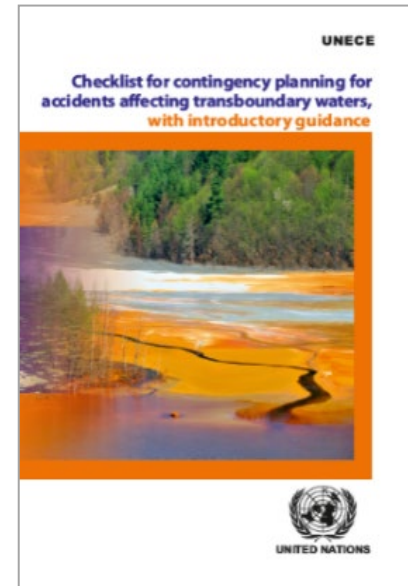
# 2019 Seminar on contingency planning, early warning and mitigation & JEG meeting



- Co-organized by Hungary and UNECE, with ICPDR and JEG in Budapest, November 2019
- Participants from national governments, international river commissions, private sector and NGOs
- **Objective** to exchange experiences, good practices and challenges in (transboundary) contingency planning, early warning systems and the prevention of accidental transboundary water pollution

## Conclusions:

- **UNECE Checklist for Contingency Planning** provides a systematic approach to assess the risks of transboundary pollution and helps to ensure effective transboundary contingency planning
- In using the Checklist, countries work towards fulfilling their obligations under the Industrial Accidents and Water Conventions, and achieving Agenda 2030 (SDG 6) and the Sendai Framework
- The national approaches differ from country to country and the perception of upstream and downstream countries is different regarding accidental water pollution. **Joint strategies and standards are therefore necessary for transboundary warning and alert systems.**
- River basin commissions provide important platforms for exchange, tools, expertise, and for fostering bi- and multilateral agreements on pollution prevention and transb. contingency planning



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# Key risks – Mine tailings accidents and Natech\* accidents

\*Natural hazard-triggered technological accidents



Effects of cyanide spill from a tailings dam breach near [Baia Mare, Romania \(2000\)](#), causing wide-ranging, transboundary water pollution, loss of flora and fauna

By Photo: Délmagyarország/Karnok Csaba - [http://www.delmagyar.hu/szeged\\_hirek/azonnal\\_olt\\_a\\_cian\\_a\\_tiszaban/2415983/](http://www.delmagyar.hu/szeged_hirek/azonnal_olt_a_cian_a_tiszaban/2415983/), CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=42070845>



Accidental spill into Ulba and Filippovka Rivers at a zinc mine in [Ridder, Kazakhstan \(2016\)](#) prompted communities in Kazakhstan and the Russian Federation, incl. in Omsk over 1,000 kilometers away, to take precaution (e.g. stocking up on bottled water supplies)

Source/Image: <https://siberiantimes.com/ecology/others/news/n0671-stinking-poisoned-water-flows-towards-siberia-from-mining-city-ridder-in-kazakhstan/>



Tailings dam breach of a gold mine in [Krasnoyarsk, Russian Federation \(2019\)](#), following days of heavy rainfall, leading to wide-spread water pollution in the Seiba river. The [2020 Norilsk diesel oil spill](#) occurred in the same region, and reportedly resulted partially from consequences of permafrost thaw.

Source/Image: <https://www.bbc.com/news/world-europe-50108413>

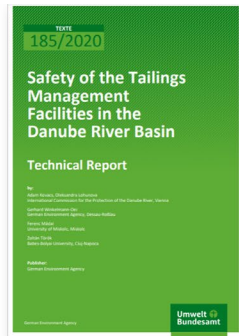


Tailings Dam disaster in [Brumadinho, Brazil \(2019\)](#), causing over 250 tragic deaths

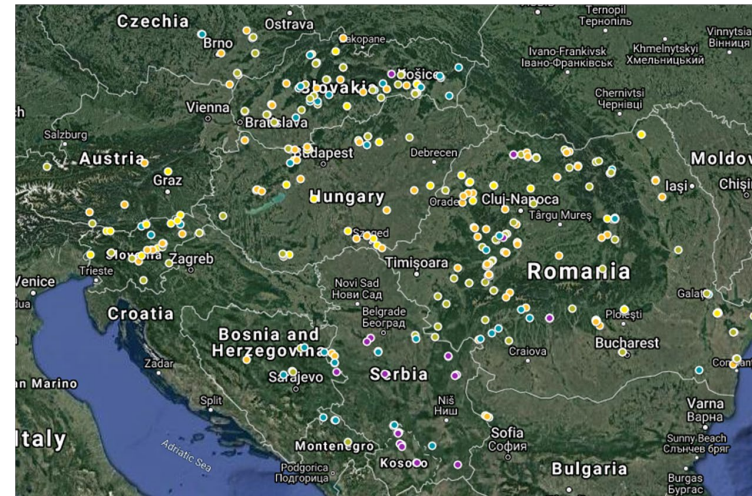
Image: 'Catástrofe socioambiental provocada pelo rompimento de barragem da mineradora Vale em Brumadinho (MG)' by Felipe Werneck/Ibama (2019) ([CC BY-SA 2.0](#)), available at <https://www.flickr.com/photos/ibamagov/32132222657/>

# TMF Mapping in the UNECE region

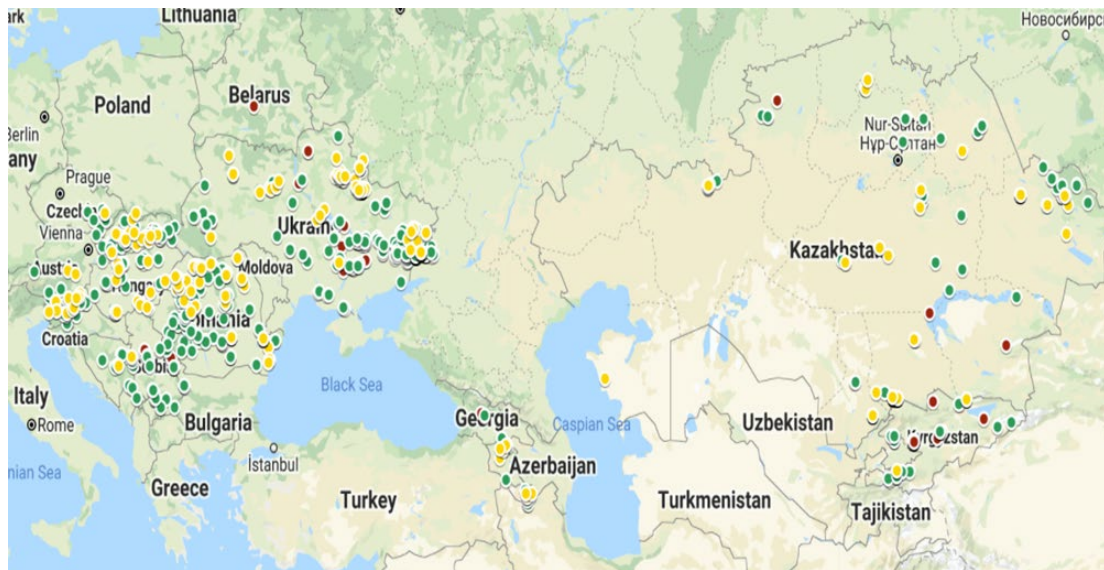
## -Need to integrate tailings risks into RBMP-



TMF map of the Danube River Basin countries\*



Methodology applied in Dniester River Basin



The map was developed in the frame of the project "Capacity development to improve safety conditions of tailings management facilities in the Danube River Basin – Phase I: North-Eastern Danube countries" (Reference number: Z6 - 90 213-51/79, Project number: 118221). The project is funded by the German Federal Environment Ministry's Advisory Assistance Programme (AAP) for environmental protection in the countries of Central and Eastern Europe, the Caucasus and Central Asia and other countries neighbouring the European Union. It was supervised by the German Environment Agency (UBA).



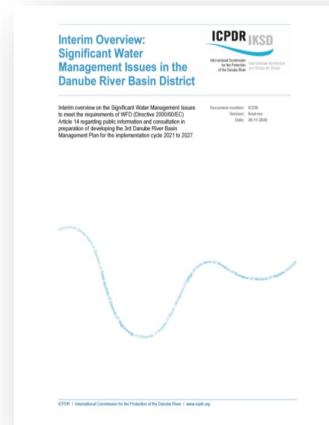
- Colour scheme:**
- lilac – very high hazard (THI > 14)
  - blue – high hazard (12 < THI ≤ 14)
  - green – medium hazard (10 < THI ≤ 12)
  - orange – low hazard (8 < THI ≤ 10)
  - yellow – very low hazard (THI ≤ 8)

**Tailings Risk Index (TRI)**

- **Very high** ( TRI ≥ 20)
- **Medium** ( 15 < TRI < 20)
- **Low** ( TRI ≤ 15)



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# UNECE Online seminar, Decision and Online Toolkit on strengthening mine tailings safety



- 43 countries, 115 participants, 37 organizations
- Preparedness and response are important, but prevention is key
- Mine tailings safety is a regional issue, not just a national matter

## Decision on strengthening mine tailings safety

– adopted at CoP-11 (Dec 2020) actions agreed by Parties and recommended to other countries:

- Use *Safety guidelines and good practices for TMFs and methodology to achieve harmonized application*
- *Improve inter-institutional and stakeholder coordination – nationally & across borders*
- *Review legislation and policies on mine tailings against int. GP, e.g. the SG – work towards setting a standard of GP*
- **Increase efforts to strengthen tailings safety and prevent failures, in view of more extreme weather events due to climate change**
- *Preparation of orientation paper for further action, taking account of activities of other los and in relation to UNEA 5.2*

## Online Toolkit and Training for Strengthening Mine Tailings Safety

- Practical training → 3-step approach
- Available at <https://unece.org/environment-policy/industrial-accidents/online-toolkit-and-training-strengthening-mine-tailings>

Includes Training Video on Mine Tailings Safety (ENG, RUS)





# UNECE Global Workshop on Building Climate-resilience through improving water management and sanitation at national and transboundary levels



Held in Geneva and online, 29-31 March 2021

## **Session 3: Disaster risk reduction through transboundary cooperation**

- Integrated multi-hazard risk approach required to address multiple disaster risks which happen in the same basin
- Natural hazards (e.g. floods, earthquakes) can trigger technological/ industrial accidents (Natech accidents) and cause accidental water pollution → with climate change and more extreme weather events, Natech accidents will become more frequent and severe
- Integration of industrial risks (e.g. from tailings facilities) into river basin management plans and basin-wide contingency planning crucial
- Cooperation at the regional and transboundary levels is important in addressing disaster risks

Natech  
accidents



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# JEG activities for 2021-2022 (Industrial Accidents Convention) and 2022-2024 (Water Convention)



Follow-up to 2019 contingency planning seminar



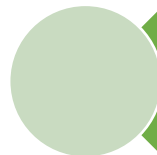
Promotion and translation of guidance developed by the JEG



JEG meeting (Meeting 2022 / teleconference 4<sup>th</sup> quarter 2021)



Development of a catalogue/web page for accidental pollution events and good practice (subject to financing)



Organization of a workshop on good practices for preventing accidental water pollution (subject to financing)



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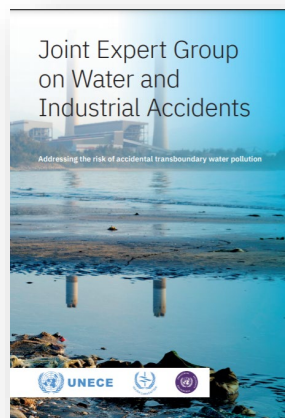


# Members of the Joint Expert Group on Water and Industrial Accidents (JEG)



## • 2019-2020

1. **Belarus** (Ms. Lubov Hertman)
2. **Czechia** (Mr. Pavel Danihelka)
3. **Czechia** (Mr. Pavel Dobes)
4. **Germany (Mr. Gerhard Winkelmann-Oei, co-Chair, Industrial Accidents Convention)**
5. **Hungary (Mr. Peter Kovacs, co-Chair, Water Convention)**
6. **Kazakhstan** (Mr. Serik Akhmetov)
7. **Kyrgyzstan**(Mr. Medetbek Omurbekov)
8. **North Macedonia** (Ms. Lendita Dika)
9. **Republic of Moldova** (Mr. Vitalii Mutaf)
10. **Romania** (Mr. Zoltan Török)
11. **Serbia** (Mr. Bojan Srdic)
12. **Sweden** (Mr. Claes-Hakan Carlsson)
13. **ICPDR** (Mr. Adam Kovacs)



## • 2021-2022 (to date)

1. **Belarus** (Ms. Lubov Hertman)
2. **Czechia** (Mr. Pavel Danihelka)
3. **Czechia** (Mr. Pavel Dobes)
4. **Finland** (Ms. Tuuli Tulonen)
5. **Germany** (Mr. Gerhard Winkelmann-Oei)
6. **Hungary (Mr. Peter Kovacs, co-Chair, Water Convention)**
7. **North Macedonia** (Ms. Lendita Dika)
8. **North Macedonia** (Mr. Ylber Mirta)
9. **Republic of Moldova** (Mr. Vitalii Mutaf)
10. **Romania** (Mr. Zoltan Török)
11. **Serbia (Mr. Bojan Srdic, co-Chair, Industrial Accidents Convention)**
12. **Serbia** (Ms. Dobrila Kujundžić)
13. **Serbia** (Ms. Radojka Radojevic Stojilovic)
14. **Serbia**(Ms. Tamara Kacar)
15. **Slovakia** (Ms. Danka Thalmeinerova)
16. **Ukraine** (Mr. Taras Polichuk)
17. **Ukraine** (Ms. Iryna Grokhovetska)

**→ Invitation to submit  
JEG nominations still  
by end Oct 2021**

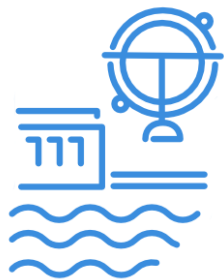


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# Thank you



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For more information on the Joint Expert Group on Water and Industrial Accidents:  
<https://unece.org/joint-expert-group-water-and-industrial-accidents>

For more information on JEG guidance and good practice:  
<https://unece.org/environment-policyindustrial-accidents/overview>

A brochure on the Joint Expert Group and its outputs is available at:  
<https://unece.org/environment-policy/publications/brochure-joint-expert-group-water-and-industrial-accidents>

Online Toolkit and Training for Strengthening Mine Tailings Safety; Mine tailings video:  
<https://unece.org/environment-policyindustrial-accidents/online-toolkit-and-training-strengthening-mine-tailings>



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