

# Mapping and integration of tailings risks in the DRBMP

**ICPDR** IKSD

International Commission  
for the Protection  
of the Danube River

Internationale Kommission  
zum Schutz der Donau



**UNECE**

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# Danube River Basin (DRB) & ICPDR



International Commission for the Protection of the Danube River  
 Internationale Kommission zum Schutz der Donau



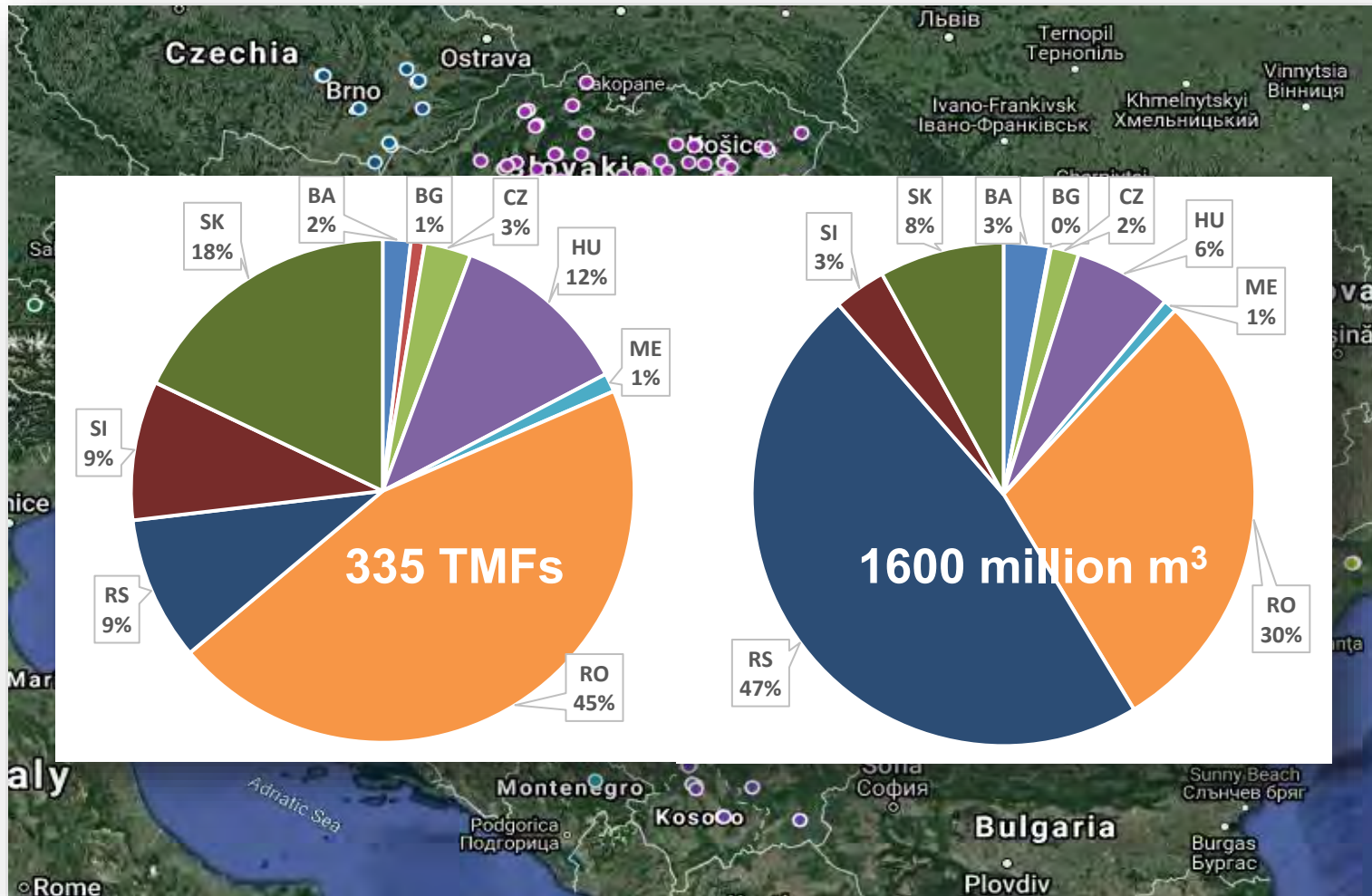


# Why are TMFs important in the DRB?

- Dramatic **TMF accidents** in the DRB (Baia Mare, Ajka)
- TMFs associated with **high risk** of accidental pollution
- Previous **projects** on TMF safety (DE Environment Agency):
  - Methodology for regional **prioritization** (hazard assessment)
  - Checklists and measure catalogue for **detailed investigations**
- Need for **update** and **adjustment** to DRB conditions



# TMF inventory for the DRB



# Index-based assessments

## Tailings Hazard Index

- Simple methodology to map and assess **accident hazard** of high number of TMFs based on basic parameters
- Combining various **hazard aspects**
- **Volume and toxicity** as critical hazard factors

## Tailings Risk Index

- Assessing **accident risk** to simplified impact receptors located within a predefined risk zone
- Combining **hazard and exposure** and turning them into risk
- Simplified impact receptors: **population & water bodies**
- Predefined risk zone: **10 km zone** downstream of the TMF

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# Purpose of the assessments

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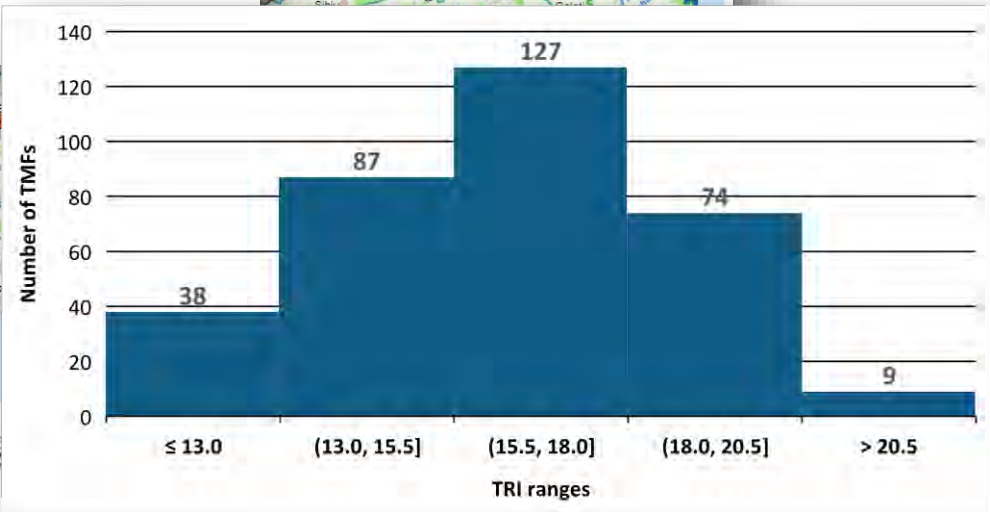
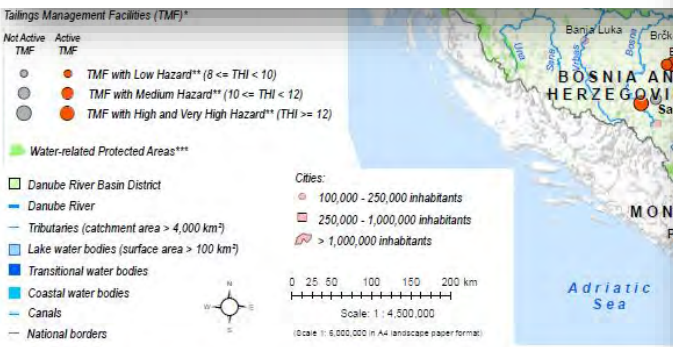
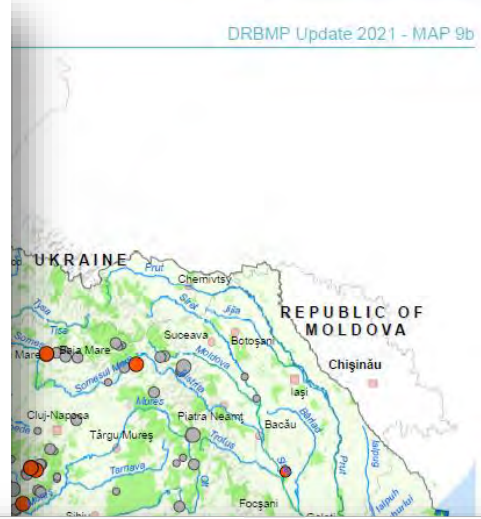
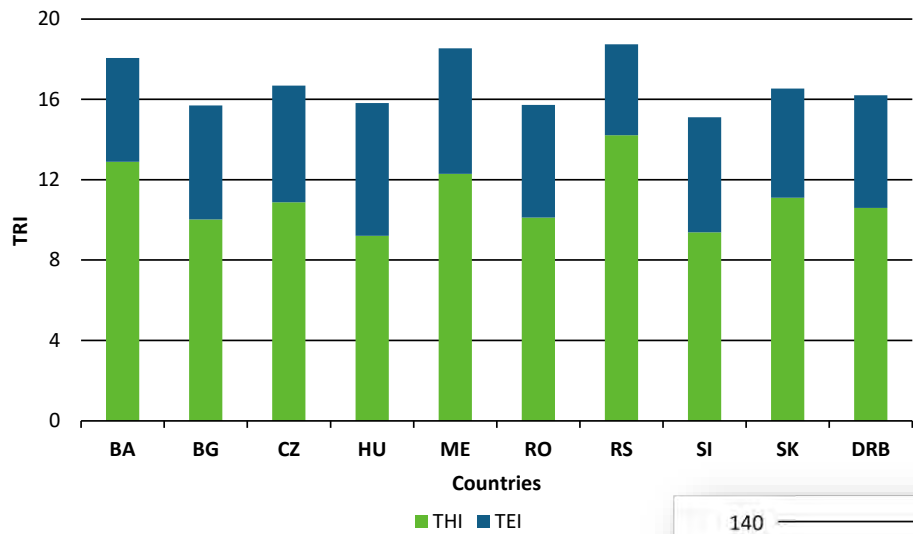
## Hazard

- Assessing potential **danger**
- Prioritization of TMFs to **optimize** resources and **targeting inspections** to critical safety conditions (screening)
- Link to **early warning** systems (transboundary effects)

## Risk

- Assessing **chance** of harm
- **Awareness raising** on accident risk, information to public, putting in place **contingency plans & preparedness measures**
- Link to **land use planning** (new sites, capacity enlargement)

# TMF mapping and analysis in the DRB



\* Preliminary database only, data have not been approved officially by RS and SI yet.  
 \*\* Tailings Hazard Index (THI) quantifies the hazard potential of each TMF, considering the TMF capacity and management conditions, stored tailings toxicity, natural conditions.  
 \*\*\* This ICPDR product is based on national information provided by the Contracting Parties to the ICPDR (AT, BA, BG, CZ, DE, HR, HU, MD, ME, RO, RS, SI, SK, UA) and CIA. ESRI World Countries was used. Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as elevation data layer; data from CIA.



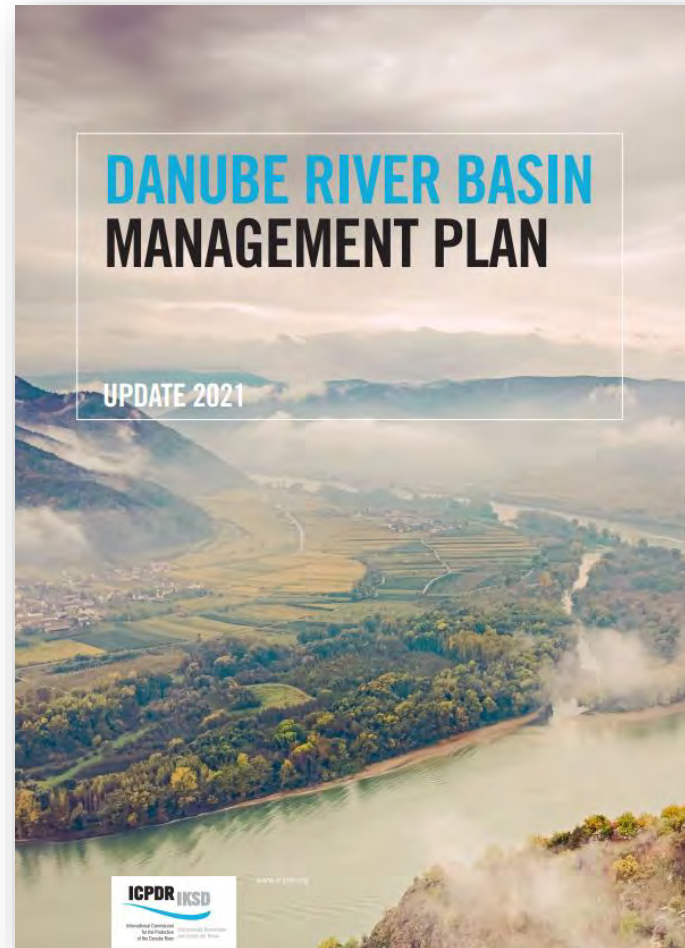
# Inputs to strategic planning



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- Contribution to the 3<sup>rd</sup> Danube River Basin **Management Plan**
- Determining **priorities** for transboundary water management for the period 2022 to 2027
- Hazard and risk assessment incorporated into **Pressure Analysis**
- Recommendations provided for the **Joint Program of Measures**
- **Danube declaration:** commitment





# Keeping the TMF issue high of the agenda...

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# Thank you for your attention!

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For more information about the **ICPDR**:

<http://www.icpdr.org>



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