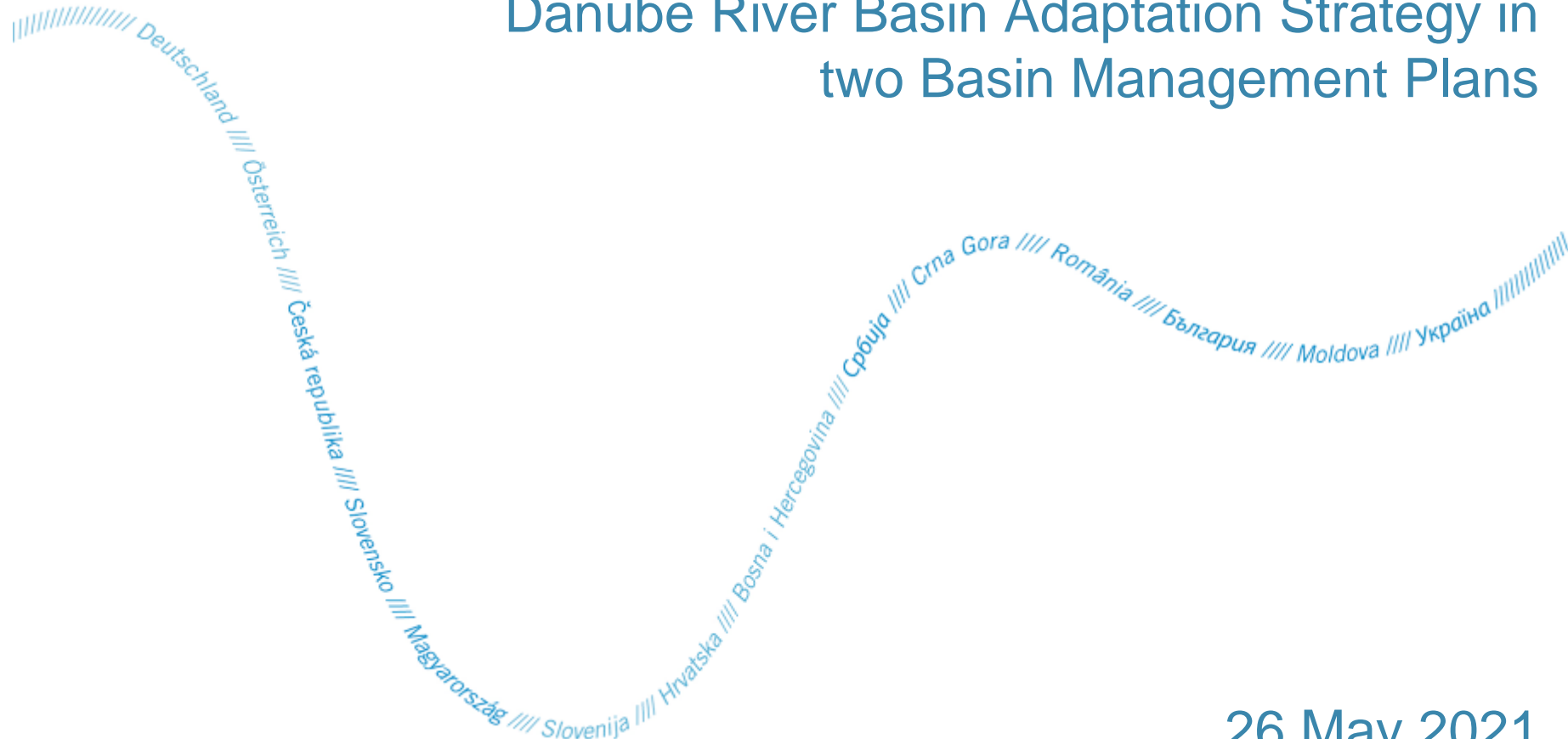

ERS 2021 Session 2

Adaptation to climate change: the interest of basin management planning



Danube River Basin Adaptation Strategy in two Basin Management Plans



26 May 2021

Ivan Zavadsky, ICPDR Executive Secretary

Danube River Basin

- 19 countries including more than 79 million people and a catchment of 800.000 km², which makes it the world's most international river basin. Length of the Danube: 2,857 km.
- **Contracting parties to ICPDR**
 - Nine EU-MS: DE, AT, CZ, SK, HU, SI, HR, RO and BG and European Union.
 - Five non-EU Member States: BiH, RS, ME, MD, UA.



Danube River Protection Convention (DRPC)



signed 29 June 1994, Sofia (Bulgaria)



Protection of water & ecological resources



Sustainable use of water



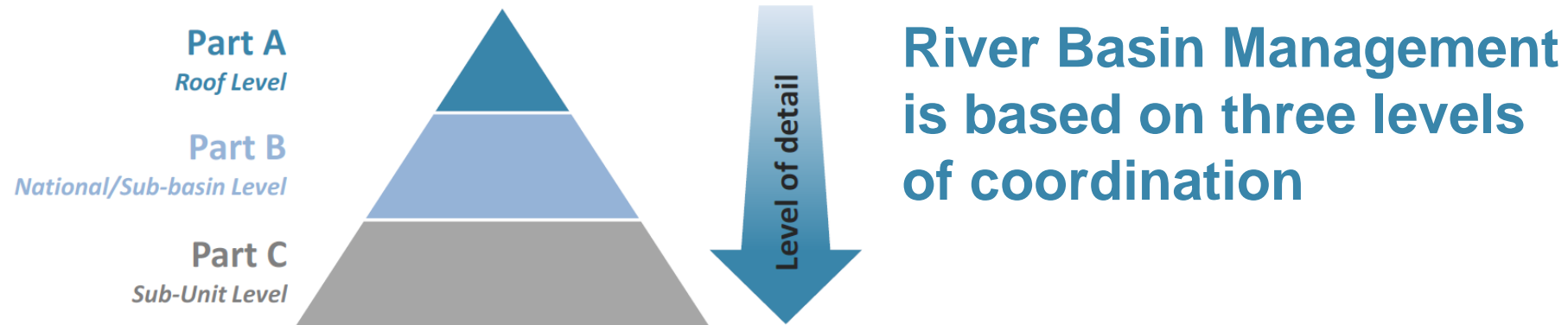
Reduce nutrients & hazardous substances



Manage floods & ice hazards

- Forms the overall **legal instrument** for co-operation on **transboundary water management** in the Danube River Basin
- Applies to countries with **territories of more than 2000 km²** within the Danube Basin

Water Framework Directive Coordination mechanisms



Part A International, **basin-wide level** - the roof level (**ICPDR**)

Part B **National level** and/or the internationally coordinated sub-basin level for selected sub-basins (e.g. Sava and Tisza)

Part C **Sub-unit level**, defined as management units within the national territory

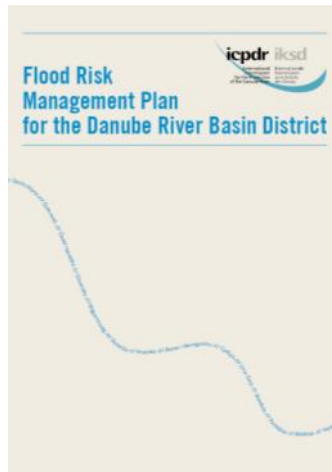
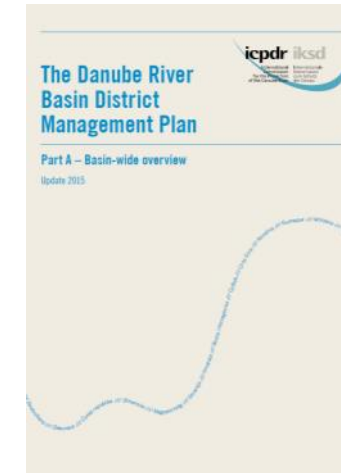
The information increases in detail from **Part A** to **Parts B** and **C**, **Part A covers**

- rivers with catchment areas > 4,000 km²;
- lakes > 100 km²;
- transitional and coastal waters;
- transboundary groundwater bodies of basin-wide importance.

Two Management Plans for the Danube River Basin



Danube River
Basin Manage-
ment Plan Update
2015 (update
2021 in progress)



Danube Flood
Risk Management
Plan 2015 (update
2021 in progress)



Significant Water Management Issues

Main pressures on basin-wide level



Organic
Pollution



Nutrient
Pollution



Hazardous
Substances
Pollution



Hydromorphological
Alterations



Effects of Climate
Change (drought,
water scarcity,
extreme hydrological
phenomena and other
impacts)

- **Priority pressures for actions** requiring **joint actions** by Danube countries
- Updated **every 6 years** (2 years before deadline for next River Basin Management Plan)
- **Effects of Climate Change newly identified in 2019/2020**

ICPDR Strategy on Adaptation to Climate Change (2018)



- As a **leader and pioneer among transboundary river basin commissions** in responding to climate change, the ICPDR adopted the first ICPDR Strategy on Adaptation to Climate Change in 2012
- **Danube Ministerial Meeting in February 2016**, Ministers from the ICPDR member countries asked *“the ICPDR to foresee an update of its strategy, in particular with regard to its knowledge base, in 2018 in order to prepare the updated strategy in time for the next planning cycle of the EU Water Framework Directive and EU Floods Directive”*.
- The ICPDR nominated **Germany, Austria and Serbia** to steer the update and selected the River Basin Management Expert Group as the responsible expert group within the ICPDR. **Additional experts** were nominated by the Danube countries to support and advise on updating the strategy.

ICPDR Strategy on Adaptation to Climate Change in 2018 (1)



Process

- Update of the **knowledge base and scientific Danube Study** including scenarios, impacts on water resources and adaptation measures (2017)
- **Discussion of key findings** and conclusions of the updated Danube Study at the **ICPDR Climate Change Adaptation Workshop** (March 2018)
- Update of the existing strategy based on **scientific results and legislative and policy instruments in place** (2018)
- **Broad participation of relevant ICPDR EGs and TGs** including nominated experts and ICPDR observer organizations

ICPDR Strategy on Adaptation to Climate Change in 2018 (2)

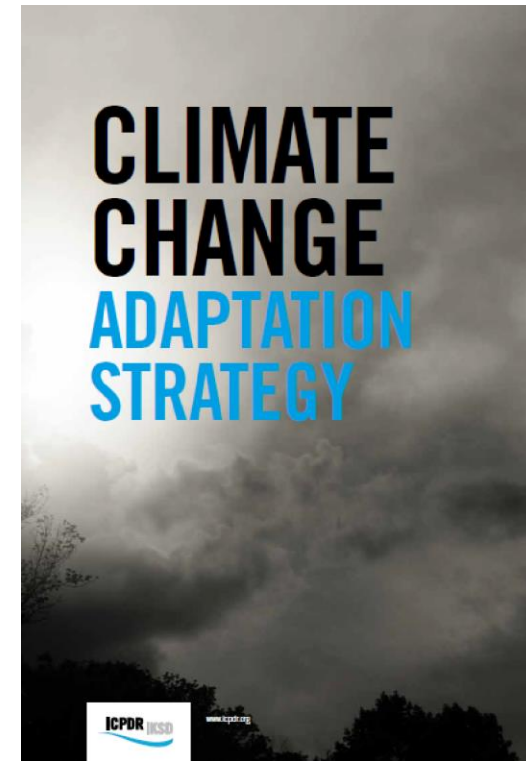


ICPDR Strategy on Adaptation to Climate Change 2012 was **updated** in 2018 taking into account

- **new scientific results** and
- **implementation steps** taken in the Danube countries

Aim and objectives

- Offering **guidance** on the integration of climate change adaptation into ICPDR planning processes
- Promoting **action** in a multilateral and transboundary context
- Serving as **reference document** influencing national strategies and activities



ICPDR Strategy on Adaptation to Climate Change in 2018 (3)



- **Preparation measures** aim to support planning processes. This includes monitoring, evaluating changes, identifying risk areas, elaborating on warning systems and emergency plans and supporting further research where needed.
- **Ecosystem-based measures** aim to reduce the negative effects of a changing climate by enhancing the capacity of the ecosystem to adapt. These measures help to conserve or restore ecosystems. Healthy ecosystems can thus increase resilience to slow changes, such as increasing summer temperatures, or sudden impacts, such as floods.
- **Behavioural and managerial measures** aim to raise awareness about possible future conditions and to support sustainable management, with a focus on efficient use of water and conserving good water quality. This includes, among other things, elaborating risk management plans for water scarcity and advancing best practices, where the exchange of knowledge plays an important role.
- **Technological measures** aim to help implement individual projects. The focus is on infrastructure that has to be built or improved, such as dams, reservoirs, fish ladders or water networks.
- **Policy approaches** aim to support the national, international and basin-wide coordination of activities. Common transnational threshold values, limits, restrictions, expansions (e.g. for protection areas or nature reserves), etc. should be considered. An overview of the most important potential adaptation measures is included in the strategy with a link to an online tool that helps users obtain detailed information on measures of interest.

7 OVERVIEW OF POSSIBLE CLIMATE CHANGE ADAPTATION MEASURES

Following the UNECE Guidance, when climate change adaptation measures are being planned, climate change impacts on water resources should always be considered together with other pressures or stressors, such as population growth or changing consumption patterns. As a result, adaptation measures with respect to climate change can often build on planned or already implemented water management measures. Adaptation planning in general should consider and prevent possible conflicts and provide adequate trade-offs.

Adaptation should start now with a priority on win-win, no-regret and low-regret measures that are flexible enough for various conditions. The adaptive approaches within the management framework also require flexibility so they can be modified if new information or understandings become available. This way of working has the benefit of increasing resilience and decreasing vulnerability for the whole Danube ecosystem. For a common understanding of some keywords, definitions are provided in Table 11.

ICPDR Approach for Integrating Climate Change Adaptation (1)



- **Joint understanding** of scenarios, impacts and adaptation measures and sharing a scientific knowledge base is essential
- Strategy does not include a separate programme of measures, but relevant action is **incorporated in the DRBMP and DFRMP** (ongoing process, six years cycle)
- **Key cross-cutting issue** all ICPDR Expert Groups and Task Groups are mandated to fully integrate climate change adaptation in the development of DRBMP and DFRMP
- Strategy focuses on issues relevant at the Danube basin-wide level (level A) and **needs to be complemented** with further detailed planning on adaptation at sub-basin, national and/or sub-unit level

ICPDR Approach for Integrating Climate Change Adaptation (2)



- **Consultation on competing uses and priorities** to prevent potential conflicts is needed to take into account potential target conflicts and competition between different water-related users and sectors such as *agriculture, navigation, water supply, energy, industry, tourism, environment and nature protection*
- **Communication, coordination and stakeholder involvement** on climate change adaptation issues is ensured at the national level, through the ICPDR and also through different projects
- Building resilience against climate change impacts on water resources through **capacity building, transboundary cooperation and benefit-sharing** is a key priority to address climate change in the Danube River Basin

For more information:

<https://www.icpdr.org/main/activities-projects/climate-change-adaptation>

