

Sustainable and integrated water/river basin management

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Basic philosophy

- The water connected issues based on watersheds
- Largest water input: mountains → mountain/river common analysis
- Danube: Alps and Carpathians
- Carpathians: Tisza river
- Potential: Vistula, Prut etc. (Baltic cooperation)

ICPDR/Tisza Group

- The International Commission for the Protection of the Danube River (ICPDR) works to ensure the sustainable and equitable use of waters in the Danube River Basin. The work of the ICPDR is based on the Danube River Protection Convention, the major legal instrument for cooperation and trans-boundary water management in the Danube River Basin.

ICPDR Action area



Tisza Group

- The ICPDR established the Tisza Group for coordination as well as implementation. The Tisza Group is the platform for strengthening coordination and information exchange related to international, regional and national activities in the Tisza River Basin and to ensure harmonisation and effectiveness of related efforts.

TISZA MINISTERIAL MEETING

- 26th September 2019, Ministry of Interior, Budapest, Hungary
- Memorandum of Understanding for strengthening Tisza River Basin cooperation towards the implementation of the updated Integrated River Basin Management Plan for the Tisza River Basin supporting the sustainable development of the region

MoU

- INVITE the EUSDR to provide further political support and assist the Tisza countries in identifying funds for projects and other follow-up activities related to the implementation of the updated ITRBM Plan;
- INVITE the Carpathian Convention and the ICPDR Tisza Group to further strengthen cooperation in areas of mutual interest;

Topics 1/2

- detection of flood formation areas. The detection of FFA has two large benefits:
 - no need for the investigation of the whole Carpathian area
 - dealing with the most vulnerable territories, where the protection/adaptation actions are the most relevant and urgent
- climate change impacts on hydrological regime and forests (wetlands, grasslands) in the mountains
 - the special situation of the Carpathian Basin (even the sign of change of precipitation sum is not certain), impact of precipitation phase and intensity changes on the hydrological regime of the Carpathians
 - use of uncertainties in the adaptation measures
 - connection of the past land cover type changes with the climate change and variability

Topics 2/2

- land use, land use changes in the mountains:
 - natural (climate change caused) changes in the ecosystems
 - direct anthropogenic changes: logging, road constructions
 - remote sensing based observing system to follow the land use changes
- runoff modelling
 - estimation of the different land cover structure on the runoff and erosion
 - model calculations and their evaluation based on measurements
- effects of the LUC on the streamflow and sedimentation of rivers
 - effect of the changes on the river characteristics on downstream situation, flatland studies

TG/CC timetable

- Actualizing the topics
- GA and CCIC agenda points
- Workshop in 2020
- Project submission in 2021

PA4

- Priority Area 4 of the EUSDR "To restore and maintain the quality of waters"
- Achieve the management objectives set out in the Danube River Basin Management Plan
- Reduce the nutrient levels in the Danube River to allow the recovery of the Black Sea ecosystems to conditions similar to 1960s
- Elaborate a Danube Delta Analysis Report as a step towards completion of the Delta management Plan
- Secure viable populations of Danube sturgeon species
- Elaborate, adopt and implement the sub-basin management plans, such as Sava, Tisza and Prut sub-basin

Ideas for activities

- - Microplastic in the Carpathians
- Establishing biomonitoring
- Waste water treatment in small settlements
- Agricultural good practices in mountainous areas
- Natural Water Retention Measures including urban water retention
- Water balance, erosion
- Soil degradation
- Flashfloods

PA5

- **Priority Area 5 of the EUSDR "To manage environmental risks"**
- To address the challenges of water scarcity and droughts in line with the Danube River Basin Management Plan – Update 2015, the report on the impacts of droughts in the Danube Basin in 2015 (due in 2016) and the ongoing work in the field of climate adaptation.
- Provide and enhance continuous support to the implementation of the Danube Flood Risk Management Plan – adopted in 2015 in line with the EU Floods Directive – to achieve significant reductions of flood risk events by 2021, also taking into account potential impacts of climate change and adaptation strategies.
- To continuously update the existing database of accident risk spots (ARS Inventory), contaminated sites and sites used for the storage of dangerous substances.

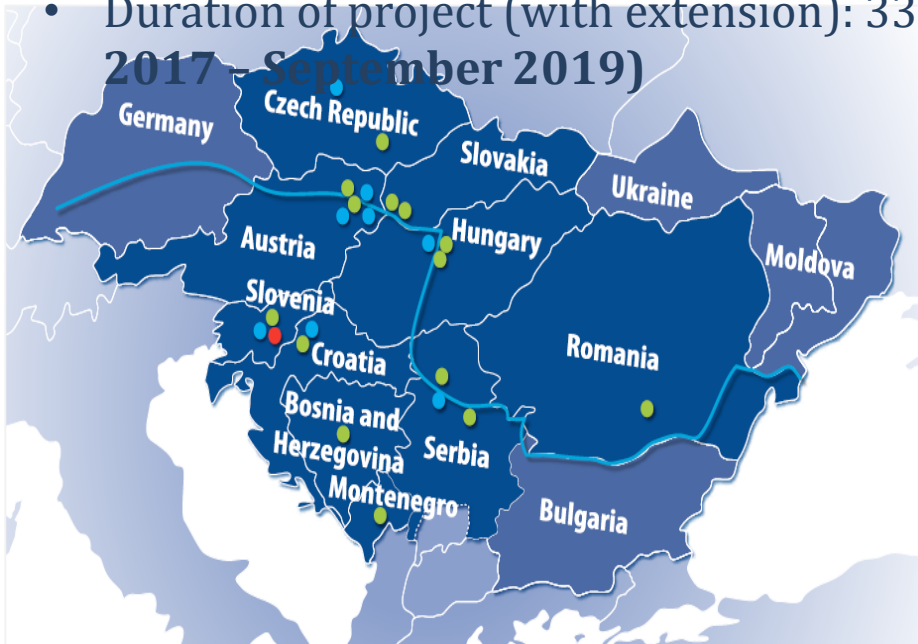
PA5

- More detailed topics for cooperation under development (preferably before the next SG meet in in 18 December)

DriDanube project has finished its work on 30. September 2019

www.interreg-danube.eu/dridanube

- Project financed by European fund for regional development (85%)
- Lead partner: ARSO/DMCSEE
- Project budget: 1.974.750,00€
- Duration of project (with extension): 33 months (January 2017 – September 2019)



Partners:

- EODC Earth Observation Data Centre for Water Resources Monitoring GmbH (EODC), Austria
- Global Change Research Institute CAS, (CzechGlobe), Czech Republic
- Global Water Partnership Central and Eastern Europe (GWP CEE), Slovakia
- Hungarian Meteorological Service (OMSZ), Hungary
- Vienna University of Technology (TU Wien), Austria
- Szent Istvan University (SZIU), Hungary
- National Meteorological Administration (NMA), Romania
- Centre of Excellence for Space Sciences and Technologies (SPACE-SI), Slovenia
- Meteorological and Hydrological Service (DHMZ), Croatia
- Slovak Hydrometeorological Institute (SHMU), Slovakia
- Faculty of Agriculture, University of Novi Sad (FAUNS), Serbia
- Republic Hydrometeorological Service of Serbia (RHMS), Serbia
- Institute of Hydrometeorology and Seismology (IHMS), Montenegro
- Republic Hydrometeorological Service of Republic of Srpska (RHMZ RS), Bosnia and Herzegovina

Associated Strategic Partners:

- International Commission for the Protection of the Danube River (ICPDR), Austria
- Administration of the RS for Civil Protection and Disaster Relief (URSZR), Slovenia
- The State Land Office (SLO), Czech Republic
- Agricultural Station/Forecasting and Warning Service of Serbia in plant protection (PIS), Serbia
- Environment Agency Austria (EAA), Austria
- Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW), Austria
- Ministry of Environment and Energy, Water management directorate (MZOE), Croatia
- Ministry of Agriculture (FM), Hungary

7 EU countries
3 Non-EU countries
15 partners
8 Strategic partners

Slovenia 2
Austria 2
Czech Republic 1
Slovakia 2
Hungary 2
Romania 1
Croatia 1
Serbia 2
Montenegro 1
Bosnia and Herzegovina 1

DriDanube innovations

Monitoring

Drought User Service

An innovative tool integrating all available data, including large volume of remote sensing products and serving the authorities to monitor, forecast and respond during drought development faster and with higher precision.

Impacts and risk assessment

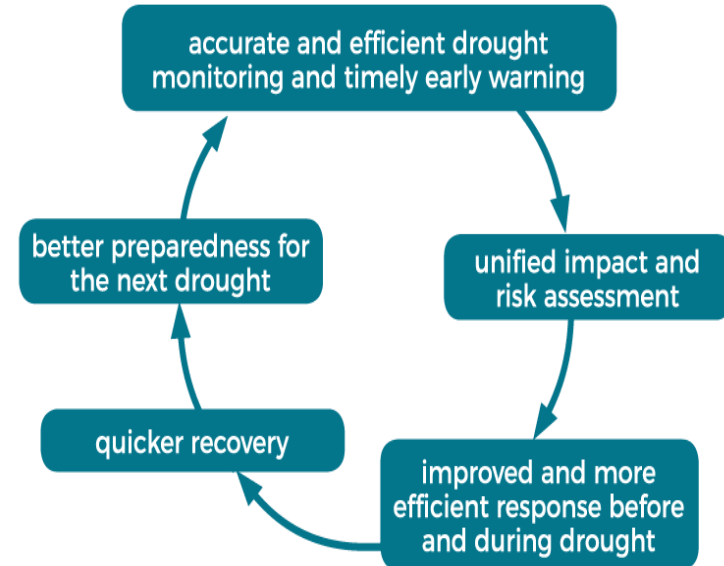
Methodologies for drought impact and risk assessment

Unification and cross-border coherence of drought Risk and Impact assessments. Establishment of network of reporters as additional source of information for drought impacts in agriculture.

Management

DriDanube Strategy

A clear guidance for overcoming the gaps in the drought decision-making processes and improvement of drought emergency response in the Danube region.



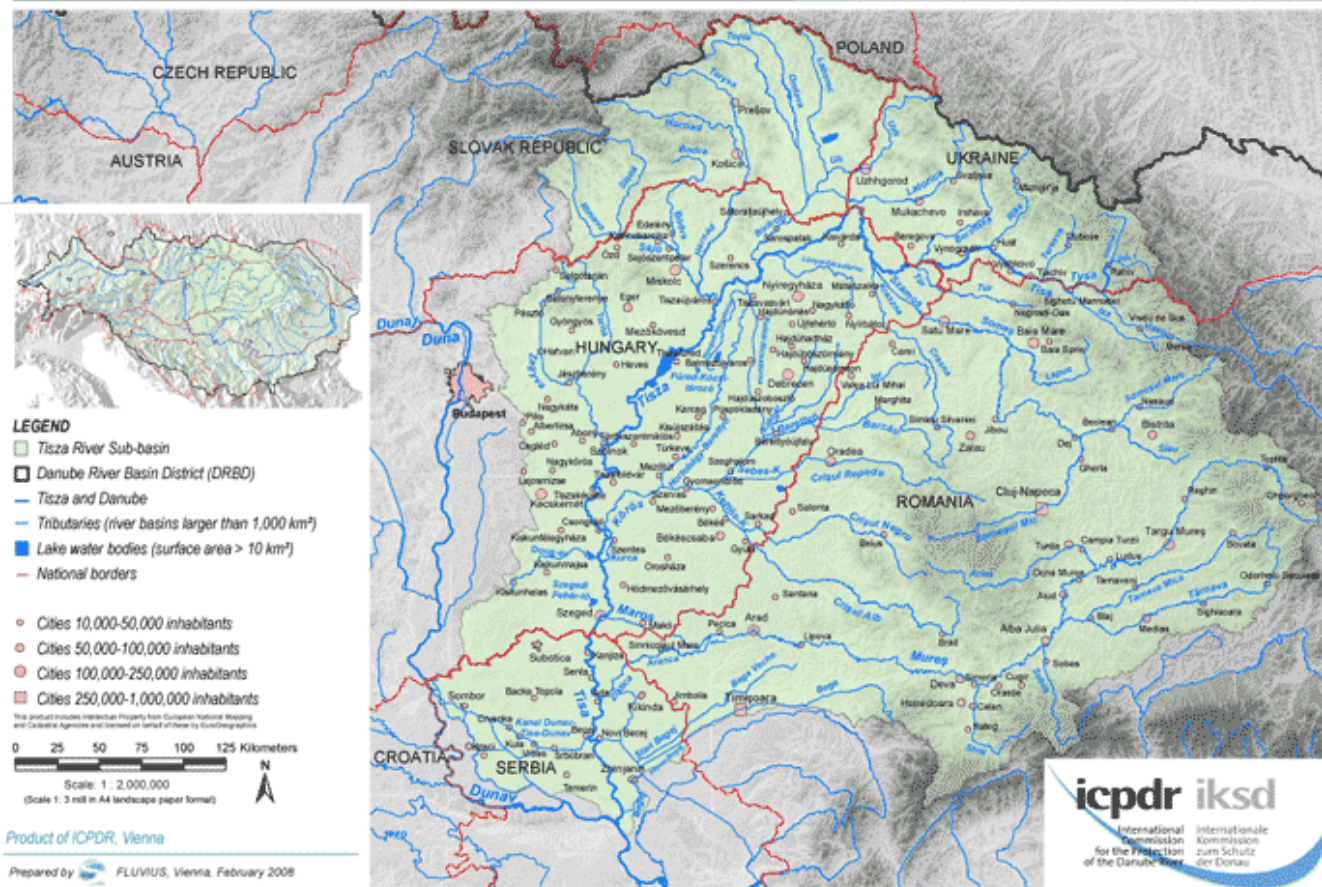
<https://droughtwatch.eu/>

JoinTisza project

The Tisza is the longest tributary of the Danube (966 km) and drains an area of 157,186 km² in five countries (SK, UA, HU, RO, RS)

Tisza River Sub-basin: Overview

MAP 1



JOINTISZA workflow

Project Management (WP1)

Basin
Characterisation –
surface water
(WP3)

Water Quantity
Issues (WP4)

Flood
Management
(WP5)

Synthesis (WP6)

Final draft updated ITRBMP

Communication Activities (WP2)

Public participation

Public participation

Thank you for your attention!