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METEOROLOGICAL
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Global Water
Partnership
Central and Eastern Europe



Integrated Drought Management Programme in Central and Eastern Europe – an integrative approach

Sabina Bokal, GWP CEE

EUSDR Environmental Pillar Stakeholder Seminar

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Integrated Drought Management Programme (IDMP)



- Joint initiative of GWP and WMO
- Launched in 2013 at the High-Level Meeting on National Drought Policies (HMNDP) in Geneva



the **Three Pillars** of drought management

IDMP CEE

1st phase:

started in March 2013 - 2015

2016 – preparation of project proposals and 3-year workplan

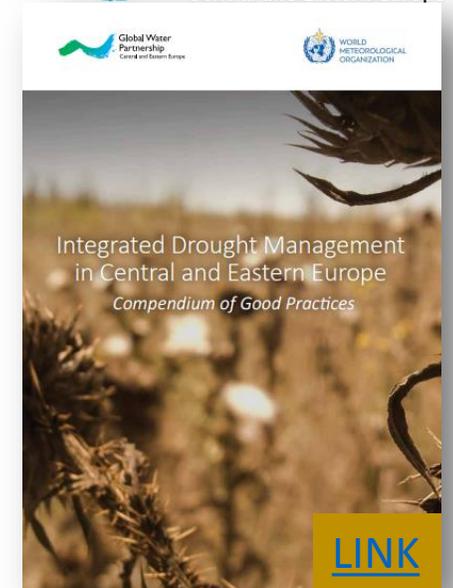
2nd Phase: 2017 - 2019



www.droughtmanagement.info

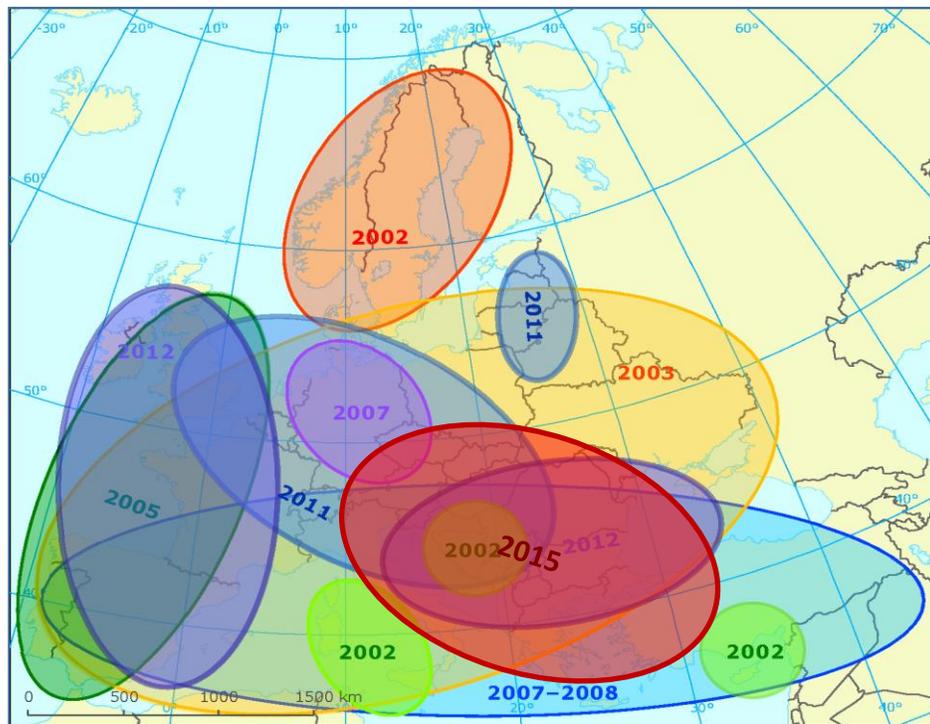
Main achievements 2013 - 2015

- **Overview** of the situation regarding drought management in CEE
- **Guidance document** for preparation of the Drought Management Plan
- **Communication links** between the experts and policy makers
- **Increased capacity** of the key actors to prepare Drought Management Plan
- **Collection** of existing drought monitoring approaches and the establishment of a link with European database and monitoring service (EDO, DMCSEE)
- **Connections and exchange** of information and results, with organizations in the region (DMCSEE, ICPDR, EUSDR, etc.)
- **Demonstration of new, innovative approaches** in drought management linked to: Natural Small Water Retention Measures, soil water holding capacity, drought in forests, remote sensing data, etc.



Vulnerable Danube region

Past droughts 2002 -2015



Source: EEA, 2012; EEA, 2017

Overview of water-related sectors Danube countries experienced impacts from 2015 droughts

TABLE 1

	AT	BA	BG	CZ	DE	HR	HU	RS	SI	SK	MD	ME	RO	UA
Agriculture	XX	XX	/	XX	X	XX	XX	XX	X	XX	XX		X	X
Navigation	XX	0	/	X	X	X	0	0	0	X	X		/	/
Water supply (drinking water)	X	XX	/	X	X	X	0	X	0	X	X		/	XX
Energy (Hydropower)	X	X	/	X	X	0	X	0	0	X	X		/	X
Industry (cooling water)	na	X	/	X	0	0	0	0	0	0	0		/	XX
Water quality	XX	X	/	0	0	0	X	X	0	X	X		/	/
Ecology (Biodiversity)	X	X	/	XX	X	X	X	X	0	X	XX		/	/
Recreation	0	X	/	0	0	0	0	0	0	0	X		/	/
Others	/	/	/	X	0	X	/	/	/	X	/		/	/

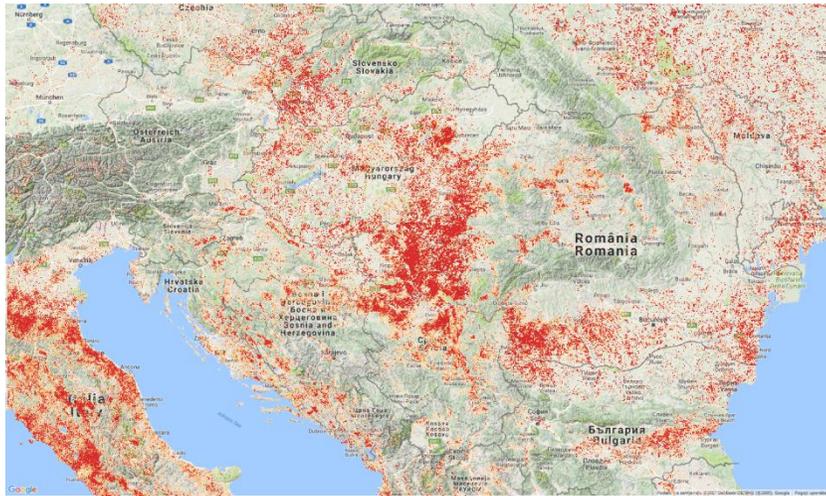
0 – no impacts; X – low impacts; XX – high impacts; na – no information available; / – not relevant

Source: The 2015 Droughts ..., ICPDR, 2017



DROUGHT 2017 in the Danube Region

a bitter reminder of our unpreparedness



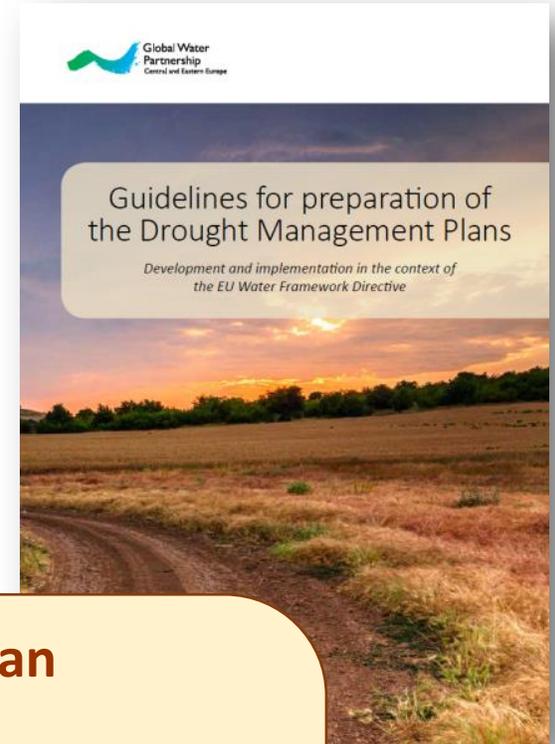
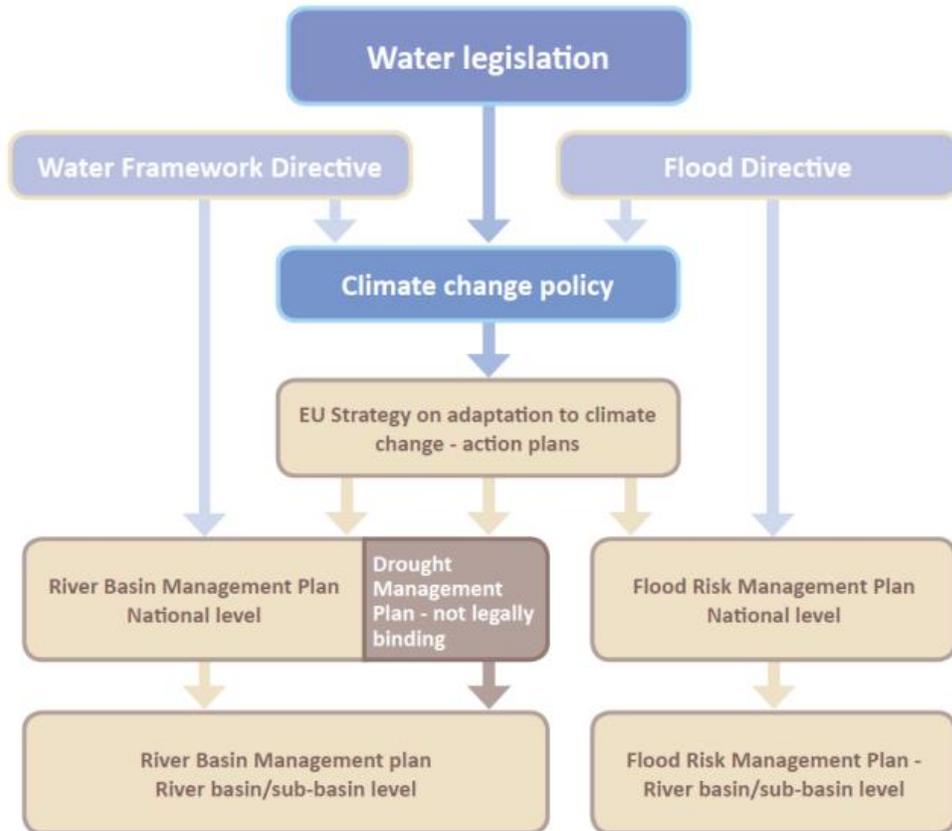
NDVI August 2017

- heavily reduced crops yield in all countries of the region (maize, vine, sunflower, olive trees, fruit yield, grassland, etc...)
- drying up of springs, wells, lakes, rivers and even reduced groundwater level
- local water supply shortages
- creation of an islands in lower Danube region due to alarmingly low stream discharge
- negative effects on livestock farming, fish farming and bee-keeping



Build countries' capacity to implement integrated drought approaches

- ➔ Guidelines for preparation of the Drought Management Plans within RBMP
- ➔ National Consultation Dialogues



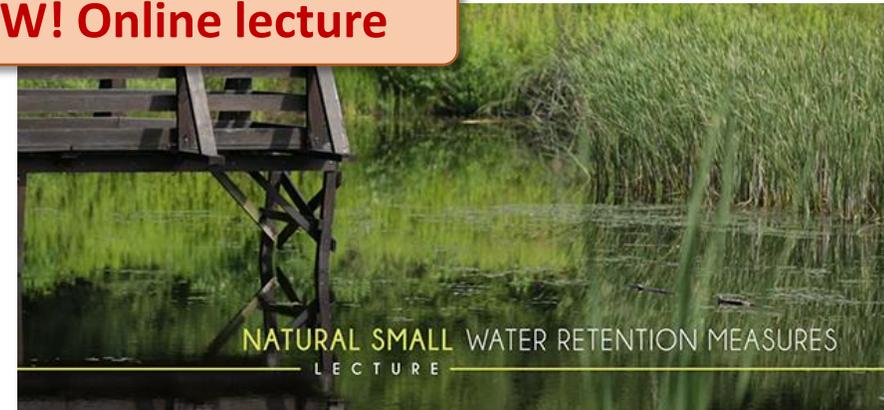
Slovak National Drought Action Plan (Draft version; October 2017)

- inter-ministerial working group
- Focus on green infrastructure and improvement of water retention in the urban environment, agriculture, forestry, and and hydro-morphology
- Inspired by the Guidelines

Natural Small Water Retention Measures

adaptive measure which serves to adjust to extreme climate variability

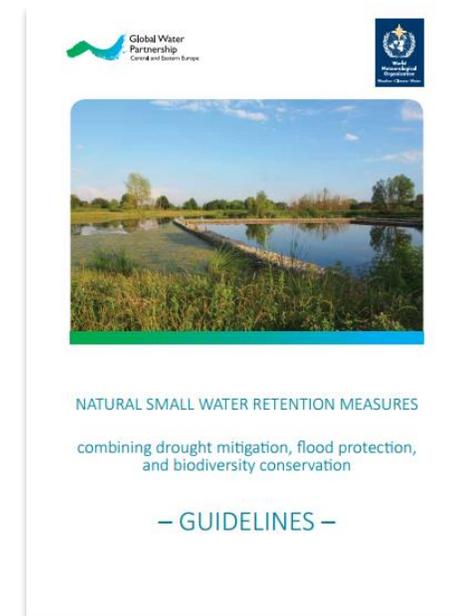
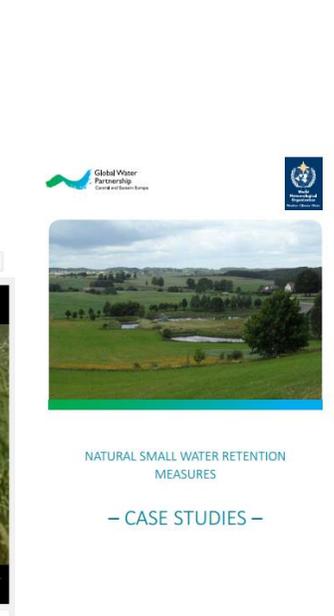
NEW! Online lecture



it helps retain water in the land during wet periods **and make this water more available for ecosystems, agriculture and forestry during drought periods**

Link: <https://www.youtube.com/watch?v=j5hg-0MOhK0>

- improve the water conditions in the river basin
- increase landscape resilience against the effects of climate
- preserve biodiversity of habitats that are strongly related to water resources



Framework to improve water balance and nutrient mitigation by applying small water retention measures (FramWat)

to strengthen regional possibilities for floods, **droughts** and pollution risk reduction by increasing the buffer capacity of the landscape using the N(S)WRM approach in a systematic way.

Topics:

- most precise **localization** of measures (technical and non-technical) in a river basin
- assessment of the **effectiveness** of the system of the measures in the river basin
- connection with implementation of the 2nd **RBMP** and planning of the 3rd RBMP



Lead Partner: Warsaw University of Life Sciences



FramWat

www.interreg-central.eu/FramWat

Drought Risk in the Danube Region - DriDanube

towards an efficient and operative drought management in the Danube region

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.

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.

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.



Lead Partner: Slovenian Environment Agency



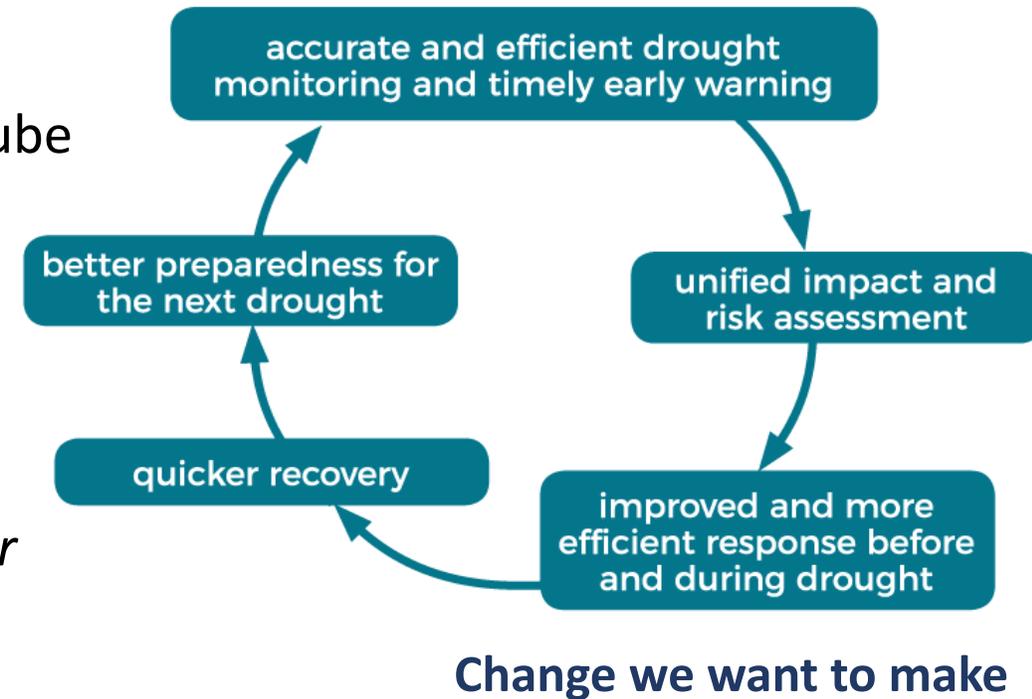
Danube Transnational Programme
DriDanube

www.interreg-danube.eu/dridanube

Regional cooperation

IDMP CEE - connections of „drought initiatives in the region

- EU Strategy for the Danube Region (*cooperation with Priority Area 5 – DTP-PA5 PAC Project*)
- International Commission for the Protection of the Danube River (*Input to the ICPDR analysis on climate change strategies and measures in the region*)
- Drought Management Centre for Southeastern Europe (*DriDanube project*)
- Carpathian Convention (*sharing case study, input to their Climate Change Adaptation strategy, etc.*)
- European Drought Observatory (JRC)
- World Meteorological Organization (WMO)





Thank you for your attention

www.gwp.org/GWP-CEE/IDMPCEE

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sabina.bokal@gwpcee.org