World Meteorological Organization

Global Water Partnership Central and Eastern Europe

Integrated Drought Management Programme in Central and Eastern Europe

The fourth meeting of the Coordination Committee of the National Policy Dialogue on IWRM in the Republic of Moldova

Dumitru Drumea, GWP Moldova

Managing Water Extremes

- WMO/GWP Associated Programme on Flood Management (APFM) – *established in 2001*
- WMO/GWP Integrated Drought Management Programme (IDMP) – *established in 2013*

IDMP
Integrated Drought Management Programme

IDMP in Central and Eastern Europe

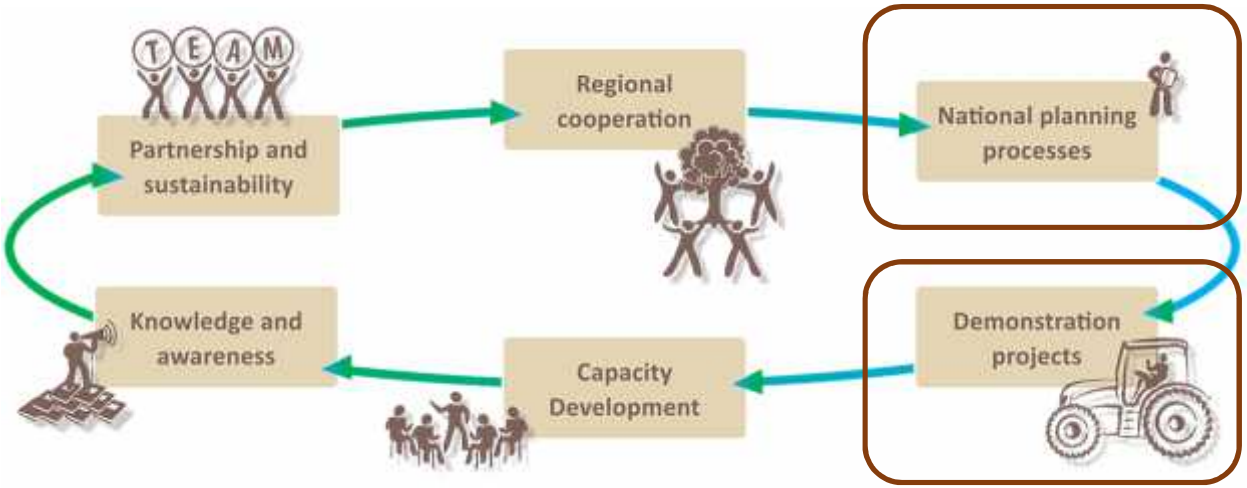
1st phase: started in March 2013

2016 – preparation of project proposals and 3-year workplan

2nd Phase: 2017 - 2019

Focus

Increase the capacity of the CEE region to adapt to climatic variability by enhancing resilience to drought.



- ✓variability and change in precipitation
- ✓increased frequency of extreme weather events in the future
- ✓well developed meteorological and hydrological monitoring but not as a support for decision makers
- ✓limited sharing of information among countries
- ✓lack of political will to solve the problem – drought was not considered as a relevant issue

Approach

From reactive to proactive drought management

Knowledge management: best practices in early warning and drought planning management

Guidance on technical and institutional aspects: tools and methodologies to support better drought risk management and response

Advocacy: stakeholder participation in integrated drought management through regional and country dialogues

Capacity building: drought risk awareness raising through vulnerability assessments and risk mapping to develop preventive action against drought

Regional cooperation

10 countries & 28 institutions cooperating:

- ✓ Drought Management Center for Southeastern Europe
- ✓ Universities
- ✓ Hydro-meteo services
- ✓ Research institutes
- ✓ Ministries & state agencies

Cooperation with national governments

Main challenges:

Lack of political will to solve the problem – drought was not considered as a relevant issue.

Solutions:

cooperation with national governments to help incorporate drought management issues into national programs, policies and plans

National Consultation Dialogues

- **1st round – setting the stage**
  review of the current status
- **2nd round – how to overcome gaps** in the current drought management; developing Guidelines; national experiences and examples
- **3rd round – action plan**/update for preparation of the Drought Management Plan

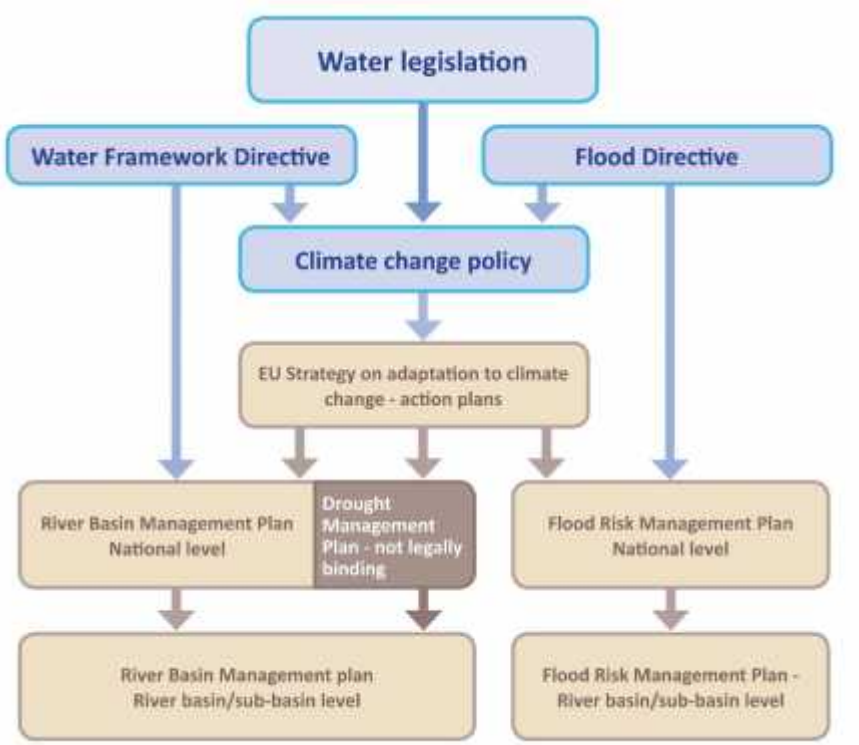
Cooperation with national governments

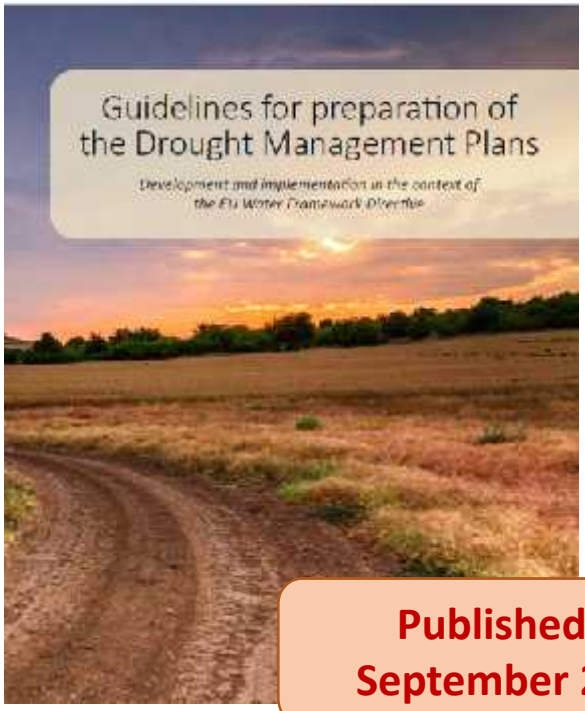
Main challenges:

Gaps in the implementation of the EU Water Framework Directive (WFD).

Solutions:

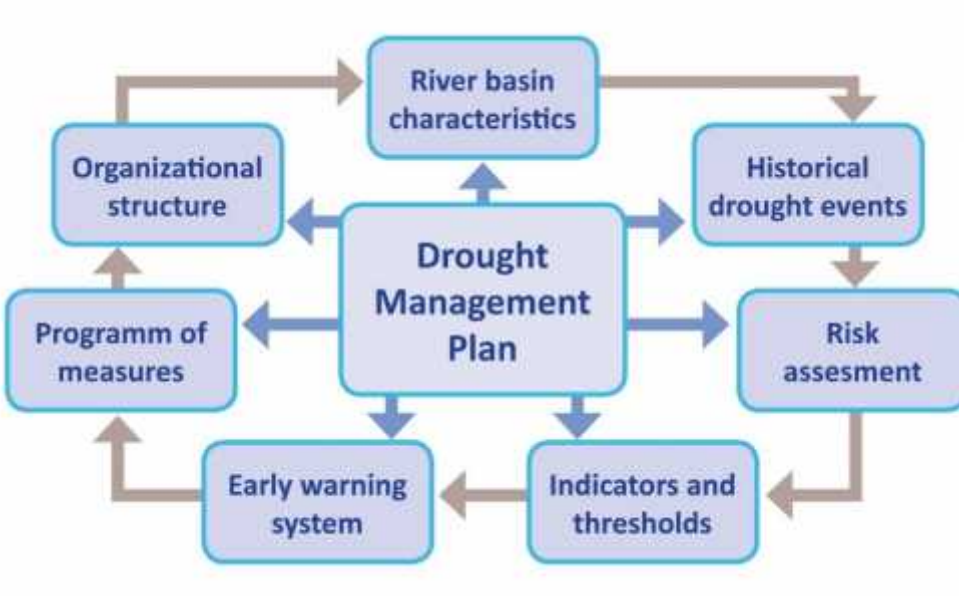
Preparation of guidance document





Published in September 2015

Guidance for preparation of drought Management Plans



Parts of the Drought Management Plan

7 steps to integrate drought into planning process for development of the RBMPs

Testing and describing new approaches towards proactive drought management

focusing on agricultural sector as one of the most vulnerable ones in the region

- Natural Small Water Retention Measures
- Increasing soil water holding capacity
- Drought impact on forest ecosystems
- Remote sensing agricultural drought monitoring methods
- Updating agricultural drought monitoring and forecasting in Ukraine and Moldova

Natural Small Water Retention Measures

adaptive measure which serves to adjust to extreme climate variability

Retain water in the land during wet periods **and make this water available for ecosystems, agriculture and forestry during drought periods**

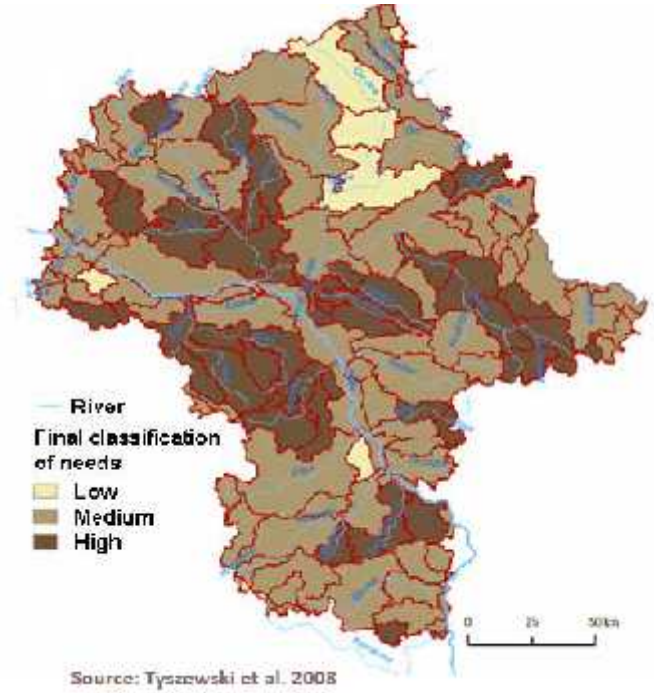
&

slows down flood waves during flood periods

- 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, including habitats and species of a great natural value

Guidelines on Natural Small Water Retention Measures

- What are **technical and non-technical measures** to increase water retention?
- How to **choose the catchment** for the retention measures?
- How can we **evaluate the results** of NSWRM in terms of flood protection, drought mitigation, and biodiversity increase?
- How can we **incorporate** the natural water retention measures in the RBMP, FPMP and DMP?



GIS based tool for identifying the areas which
are most suitable for the NSWRMs

Follow-up of the Natural Small Water Retention Measures

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

Drought Risk in Danube Region
DriDanube

- Project financed by European fund for regional development (85%)
- Lead partner: ARSO/DMCSEE
- Project budget: 1.974.750,00€
- Duration of project: 30 months **(January 2017 – June 2019)**

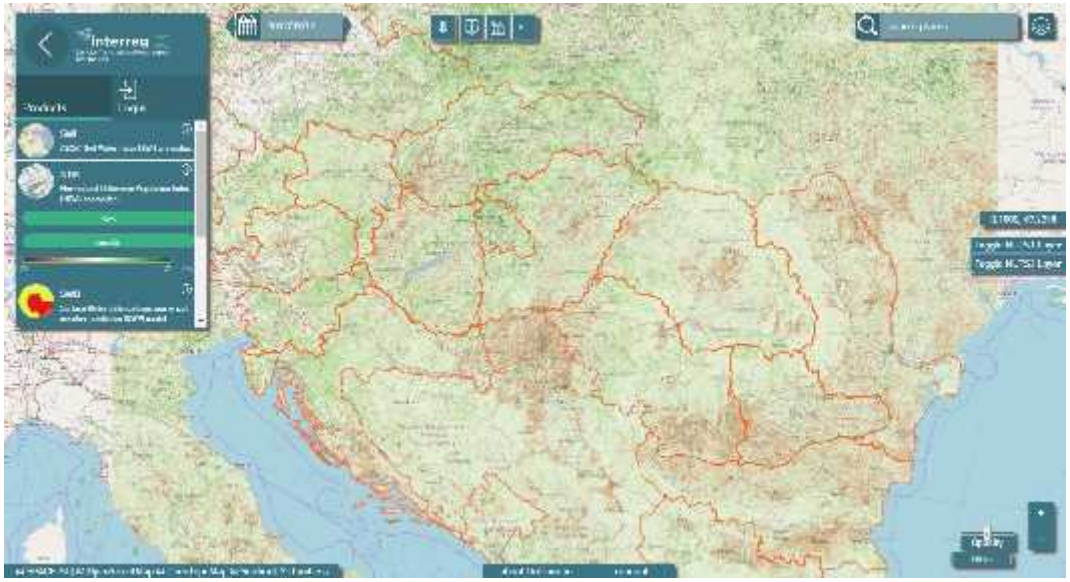
7 EU countries
3 Non-EU countries
15 partners
8 Strategic partners

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

Main Outputs

Drought User Service

- User interface, combining remote sensing data from CGLS and drought impact assessment models



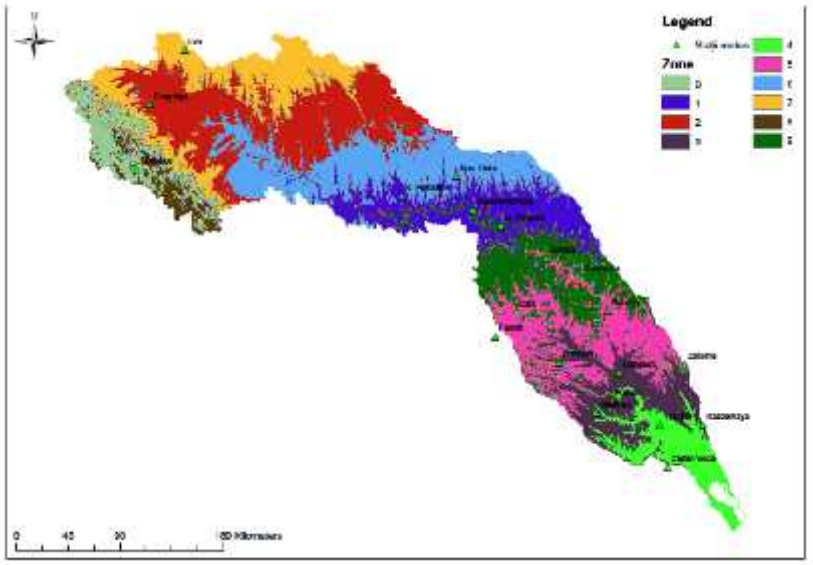
NDVI anomaly, 1.7.2017

NDVI anomaly, 1.8.2017

Agricultural drought monitoring and forecasting in Ukraine and Moldova

Upgrade data assessment and forecasting tools to support drought management and monitoring

- Upgraded climate-zoning of Ukraine territory and Dniester River Basin territory
- Drought risk maps for agro sector of Ukraine and Dniester river basin



Agroclimatic zoning for May- September (1961-2013) according to Selyaninov's hydrothermal coefficients

Agricultural drought monitoring and forecasting in Ukraine and Moldova

- Working with rural authorities, farmers, local stakeholders
- Upgrading of forecasting models for identification of crop yield losses caused by droughts
- Guide on best practices on soil conservation

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

Achievements of the IDMP CEE 2013-2016

- **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.

IDMP CEE 2017 – 2019 focus

Improve the drought monitoring and **unification of drought impacts and risk assessments** for the whole region

Built capacities to monitor, forecast, evaluate and respond during drought development with **better accuracy and faster response time**

Integrate water security and drought resilience into **national development planning and decision-making processes**

Thank you for your attention

www.gwp.org/GWP-CEE/IDMPCEE

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http://www.droughtmanagement.info/