



**Towards an efficient and  
operative drought  
management in the CEE**

## Crisis vs. Risk Management: Weighing the costs and benefits

### **Crisis Management**

- Expensive
  - Costs + costs of inaction
  - Repeats past mistakes
- Post-impact
  - Drought relief
- Treats the symptoms of vulnerability, i.e., impacts
- Rewards poor resource management
- Increases vulnerability, reliance on government & donors

### **Risk Management**

- Investment
  - Short-term—EWS, networks
  - Long-term—institutional capacity, structural adjustments
- Pre-impact
  - Mitigation, risk reduction
- Identifies and treats the root causes of vulnerability
- Promotes improved stewardship of natural resources
- Reduces vulnerability, builds self-reliance

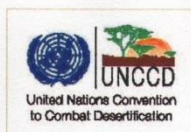
Source: Don Wilhite, 2015 [link](#)

[Link](#) to further work on the Economic Argument by the IDMP and World Bank

# Managing Water Extremes

**WMO/GWP Associated Programme on Flood Management (APFM)**  
**WMO/GWP Integrated Drought Management Programme (IDMP)**

- APFM established in 2001
- IDMP established in 2013
- APFM and IDMP provide a technical resource for water management extremes through:
  - Expert Advice (Joint Technical Support Unit of GWP and WMO in Geneva)
  - Guidelines and Tools
  - Project Preparation support
  - Capacity Development
  - Over 30 partners in each programme



# HIGH-LEVEL MEETING ON NATIONAL DROUGHT POLICY

(HMNDP)

TOWARDS MORE DROUGHT RESILIENT SOCIETIES

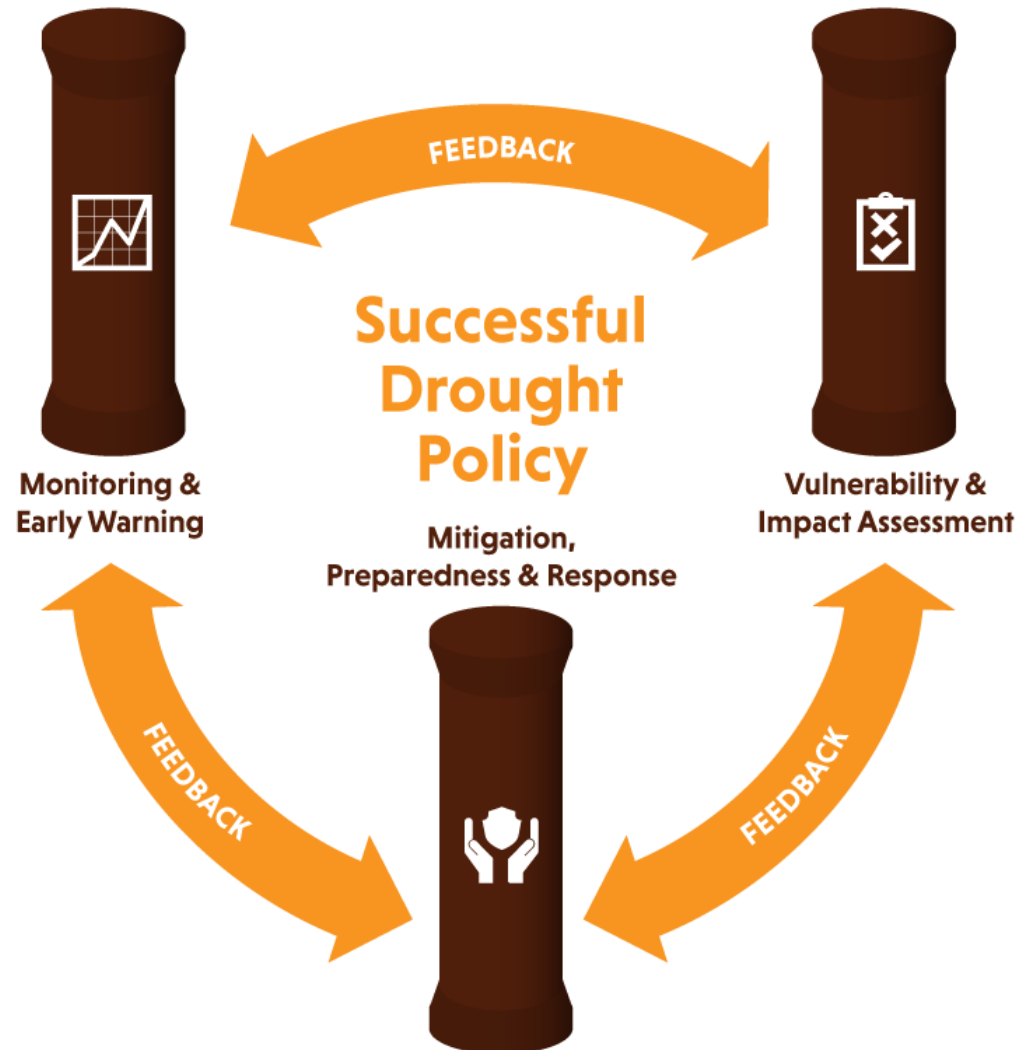
11-15 March 2013

CICG, Geneva

## Final Report



# Three Pillars of Integrated Drought Management



# Integrated Drought Management Programme



Regional activities

National activities

WMO and GWP

[www.droughtmanagement.info/idmp-activities/](http://www.droughtmanagement.info/idmp-activities/)



# Integrated Drought Management Programme in Central and Eastern Europe

... since 2013

In cooperation with:

- WMO
- Drought Management Centre for Southeastern Europe
- Over 40 different partners from the region
- International organization: EU Strategy for the Danube Region, International Commission for the Protection of the Danube River, International Sava River Basin Commission, Carpathian Convention, European Drought Observatory (JRC)



# DriDanube – Drought in the Danube Region

- Project financed by European fund for regional development
- Lead partner: Slovenian Environment Agency/DMCSEE
- Duration: **January 2017 – September 2019**

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



[www.interreg-danube.eu/dridanube](http://www.interreg-danube.eu/dridanube)

## 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:

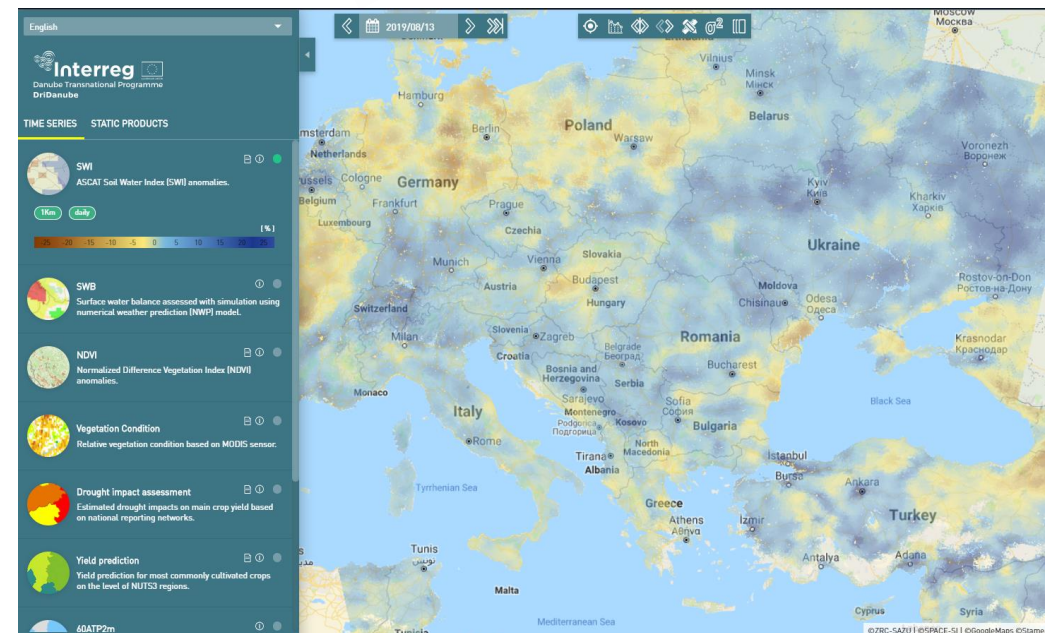
- International Commission for the Protection of the Danube River (ICPDR), Austria
- Administration of the RS for Civil Protection and Disaster Relief (URSZR), Slovenia
- The State Land Office (SLO), Czech Republic
- Agricultural Station/Forecasting and Warning Service of Serbia in plant protection (PIS), Serbia
- Environment Agency Austria (EAA), Austria

- allows for **early** drought detection
- improves response (**proactive**)
- **“triggers”** actions within a drought plan
- **foundation** of a drought plan

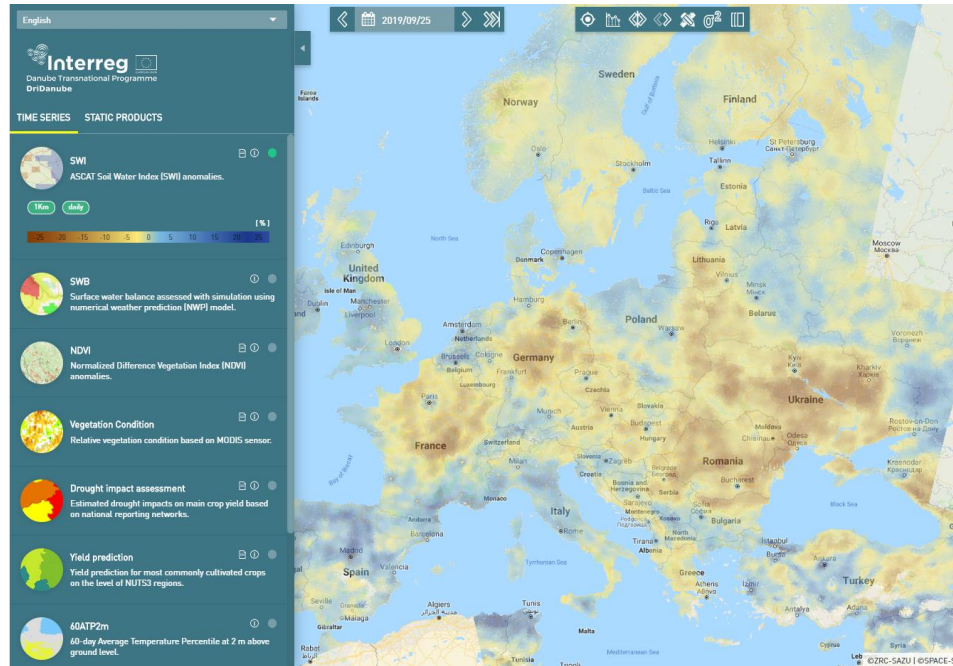
## MONITORING / EARLY WARNING

[www.droughtwatch.eu](http://www.droughtwatch.eu) 

- Enables more accurate and efficient drought monitoring and early warning across the Danube region
- Includes a set of Earth Observation data
- Link to the measured data at meteorological stations
- Improves operational day-to-day work of national authorities and end users in all phases of drought



## Soil moisture anomaly (SWI), 25.9.2019

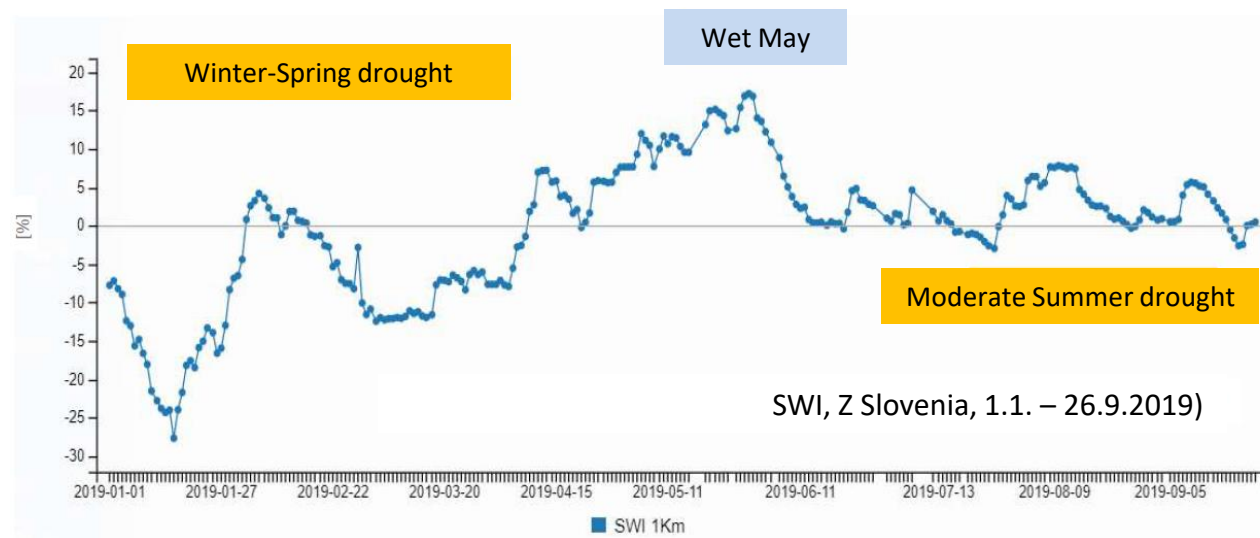


Innovative  
*Wearing the same glasses*



Great functionality  
*drought development at any  
location*

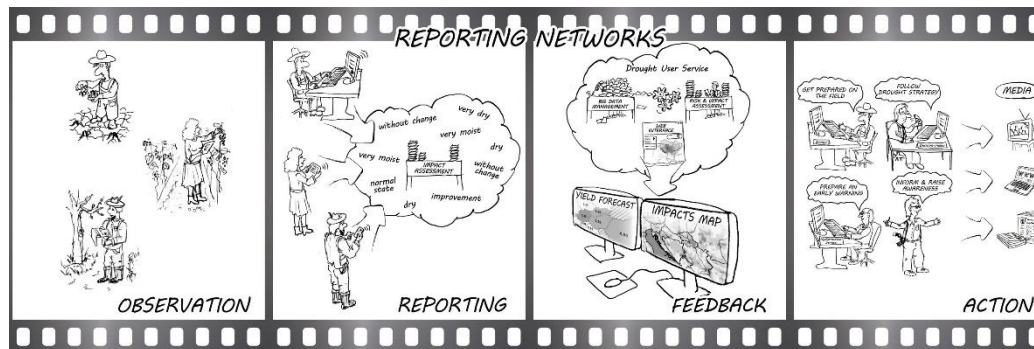
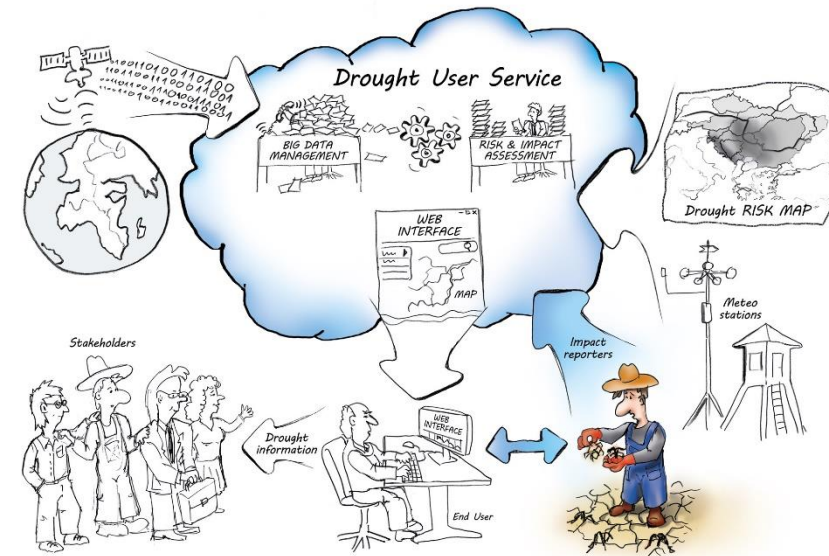
[Video Tutorial](#)  
[Video animation](#)



# UNIFIED APPROACH: near-real-time observations of drought impacts by reporters

- Insights into the situation on the ground
- In support of measured data and verification of satellite data available in Drought Watch
- Established national drought reporting network (700 reporters in the region)

## VULNERABILITY & IMPACT ASSESSMENT



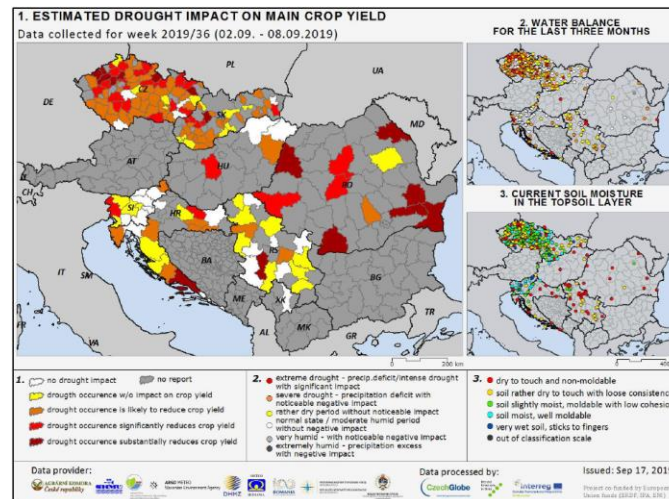


Global Water Partnership  
Central and Eastern Europe

## 1. Reporting from the field



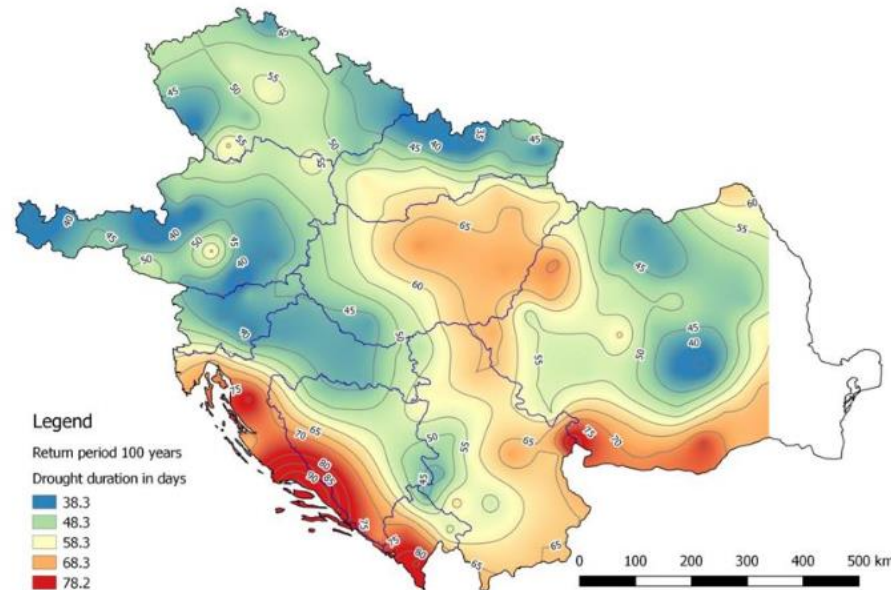
### 3. Data processing



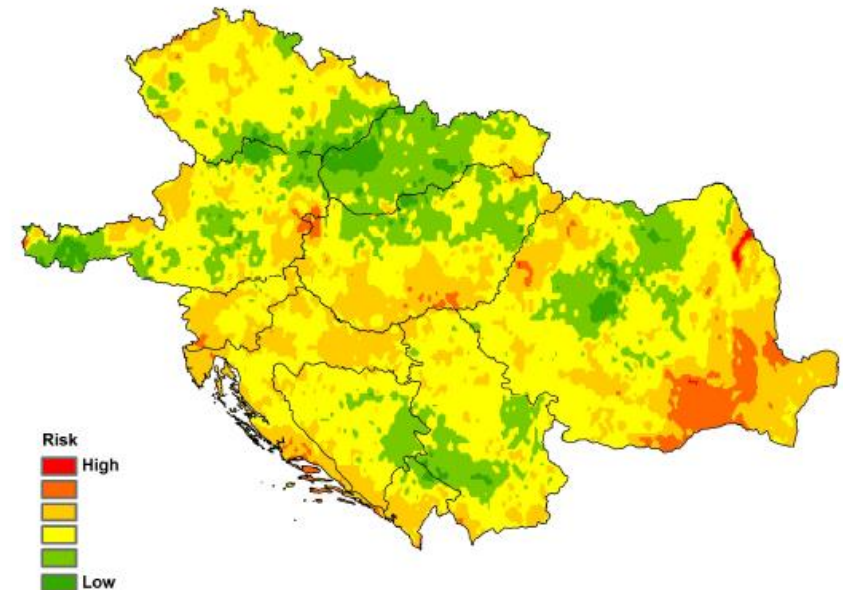
#### 4. Drought Impact maps

# Unified drought risk assessment comparable among countries

Expected lengths of drought (at least 21 consecutive days, when daily rainfall <3mm) at different drought return periods



Risk assessment for crop losses of 4 common crops (wheat, maize, barley, oilseed rape)



# Drought Resilience as part of Decision Making



Source: World Meteorological Organization and Global Water Partnership,  
[National Drought Management Policy Guidelines: A Template for Action](#)



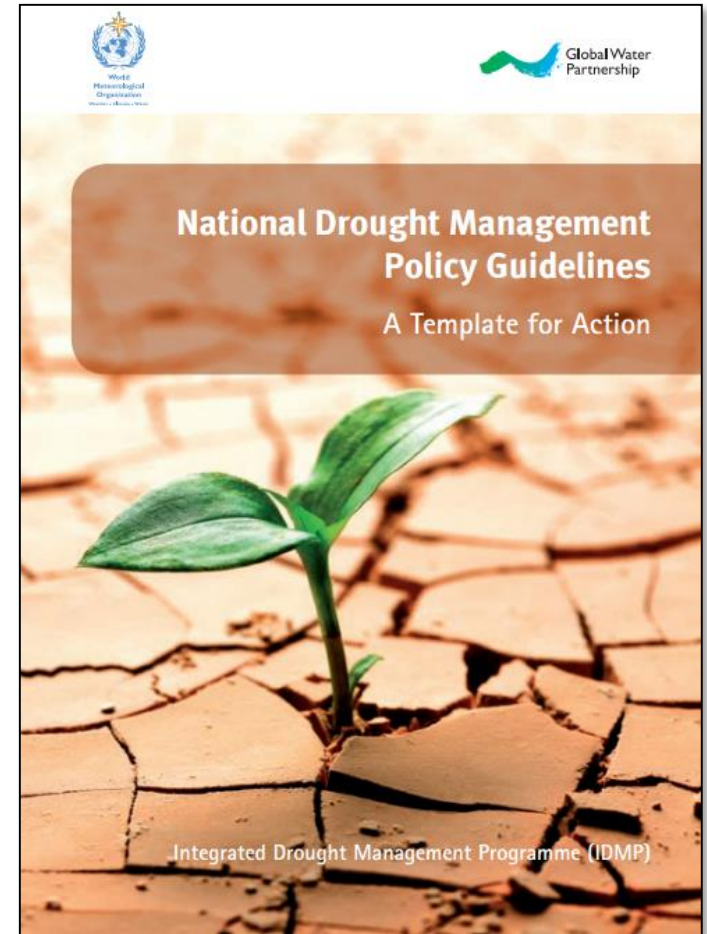
WORLD  
METEOROLOGICAL  
ORGANIZATION



Global Water  
Partnership  
Central and Eastern Europe

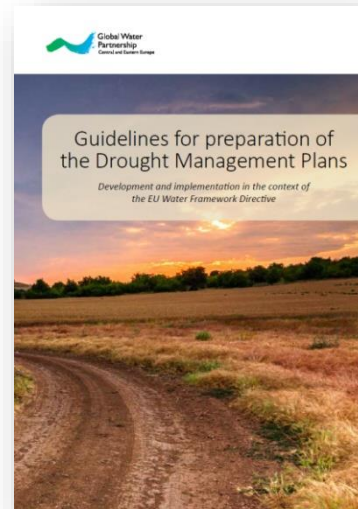
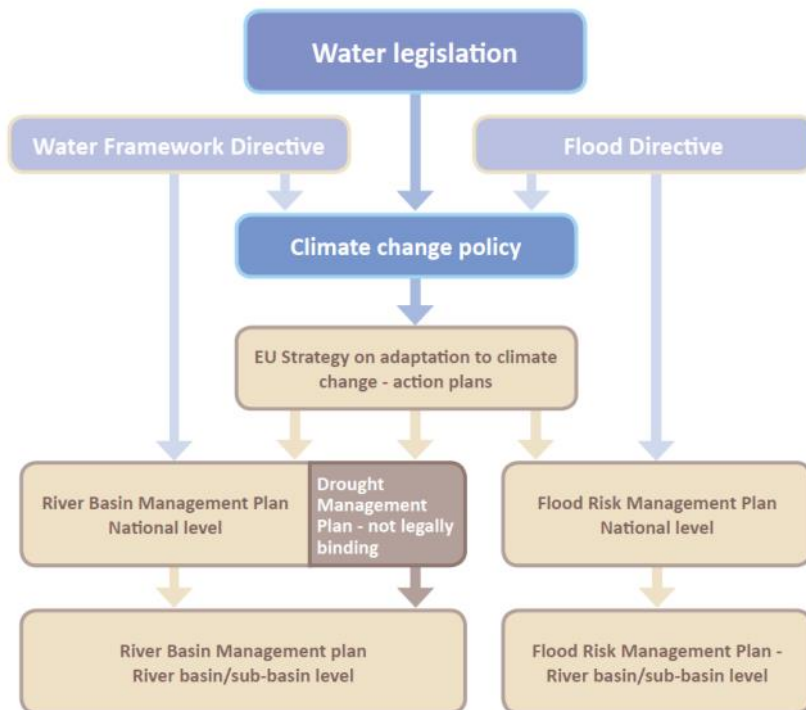
# Policy Guidelines

- Adapting of 10-step process by Don Wilhite (National Drought Mitigation Center at the University of Nebraska-Lincoln)
- Response to need articulated at High-level Meeting on National Drought Policy (HMNDP)
- **Template** that can be adapted to national realities and needs
- Building on **existing risk management capacities**



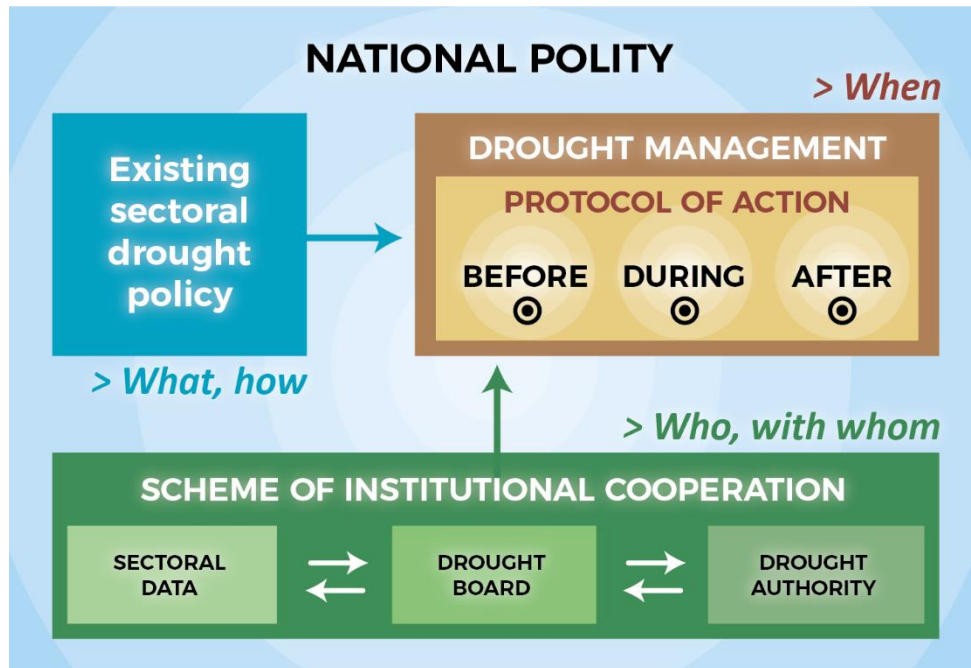
[LINK](#)

# Adapting to regional context – Step-by-step guidance towards a Drought Management Plan in CEE Region



- Step 1** Develop a drought policy and establish a Drought management Committee
- Step 2** Define the objectives of a drought risk-based management policy
- Step 3** Inventory of data needed for Drought Management Plan development
- Step 4** Produce/update the Drought Management Plan
- Step 5** Publicize the DMP to the public for comments and active involvement
- Step 6** Develop a research and science programme
- Step 7** Develop an educational programme

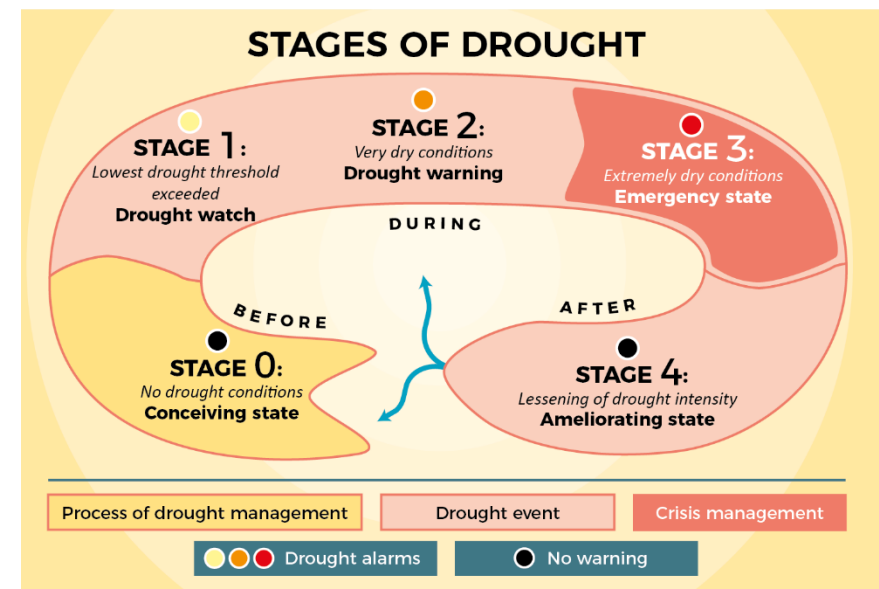
# From Guidelines to Optimal Drought Management Model



## Stakeholders engagement



Organises already existing legislation and institutions in an optimal way of cooperating and reacting at different stages of drought development



# Integrated Drought Management HelpDesk

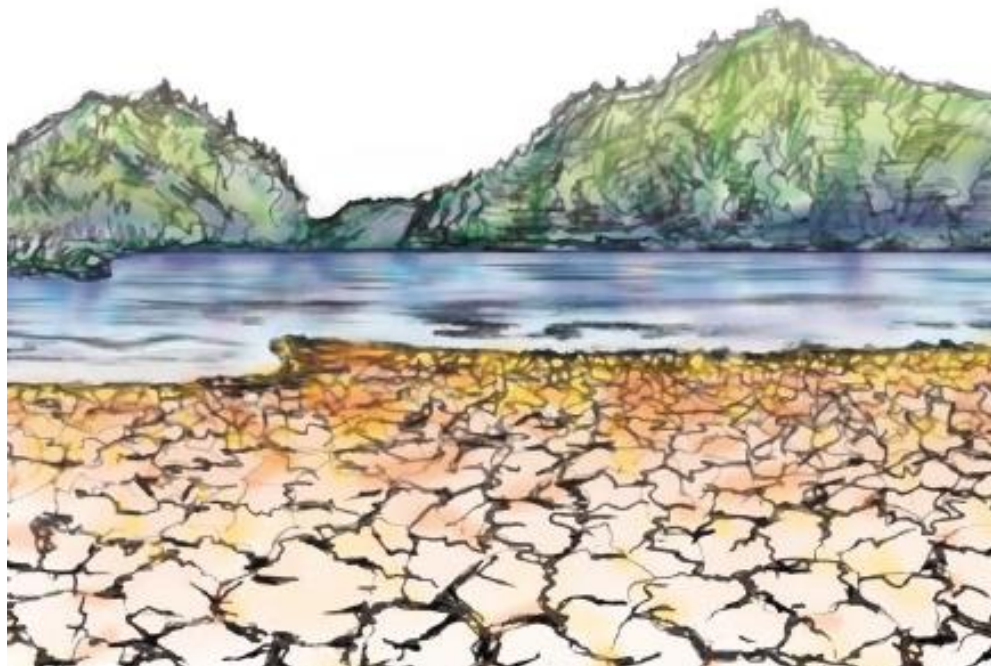


**Tools and Examples of Applications on the 3 pillars of Integrated Drought Management**

**Overview of Drought Management Plans and Policies**



*Be prepared. Know the risks. Take action.*



## [Final DriDanube Video](#)



**Thank you  
for your attention**

**DriDanube**

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**IDMP CEE**

[www.gwp.org/GWP-CEE/WE-ACT/Projects/IDMPCEE/](http://www.gwp.org/GWP-CEE/WE-ACT/Projects/IDMPCEE/)

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