



# APFM

ASSOCIATED PROGRAMME  
ON FLOOD MANAGEMENT

# IDMP

INTEGRATED DROUGHT  
MANAGEMENT PROGRAMME

## Virtual Exchange On Flood and Drought Management

25 April 2023



# Agenda

- Welcome and short update (5 mins)
  - Drought Resilience +10 progress
  - UN Water Conference 2023
  - New online course on monitoring and early warning
  - UN Early Warning for All Initiative
- EPIC Response Framework, Greg Bowder, Lead WRM Specialist, World Bank Group (15 mins)
- EPIC Response Assessment Methodology (ERAM Tool) and Application to Assam, India, Ana Nunez Sanchez, Expert Advisor, Deltares (15 minutes)
- Managing flood and drought together - an overview on practical approaches, Valentin Aich, GWP/WMO (10 minutes)
- Partners' initiatives (25 mins)
  - Antea Group
  - UK Centre for Ecology & Hydrology – Wallingford
  - Vortex-IO
  - UNECE
  - Global Change Research Centre Academy of Sciences of the Czech Republic
- Q&A and discussion (10 mins)

- “Integrating Practice and Knowledge for Drought Resilience” - focus on Action
- 3.5 days including High Level Segment, potentially shared with International Drought Resilience Alliance (IDRA)
- Venue and date close to be settled
- 8 Workstreams with 2-page concept notes currently drafted (public review)
- Will include poster session
- A launch for side events will be launched soon



# Drought Resilience



High-level Meeting  
on **National Drought Policy**

N°	Workstream	Lead
1	Drought resilience and global mechanisms	UNDRR/NOAA
2	Drought risk governance: The regional, national, and local challenges	UNCCD/UNESCO
3	Drought Impact monitoring, assessment and forecasting	WMO/NDMC
4	The Need to turn drought policies into action	FAO/UNCCD
5	Ecosystems and Drought	IWMI/IUCN
6	Social Inclusion, climate justice and drought	GWP/IWMI
7	Drought Risk Finance	World Bank/FAO
8	Public-Private-Civil Society Partnerships for integrated drought risk management	WMO/GWP



## UN 2023 Water Conference


22 – 24 Mar 2023, New York

- “The commitments at this Conference will propel humanity towards the water-secure future every person on the planet needs,” (António Guterres)- also for flood and drought?
- YES: Flood and Drought among the most prominent topics
- APFM and IDMP present at many sessions
- UN Early Warning 4 All initiative one of the main topics
- Joint commitment of APFM/IDMP including community input
- Long to mid term impact to be seen

# New IDMP online course


## Integrated Drought Management: Monitoring and Early Warning


Self-paced 


 Time: 8 hours.


<https://cap-net.org/gestion-de-la-secheresse/>

<https://cap-net.org/drought-management/>

 Language: English. **And French!**

 Total time dedication: 4 weeks.

 Structure: 4 modules.


 Institutions: Cap-Net, UNEP-


DHI, World Meteorological

Organisation, Global Water


Partnership, IDMP. Volta Flood and

Drought Management

 Level: Introductory.

 Certification: Attendance and





Completion

 Content: readings, videos,

forums.

# Early Warnings for All

- The UN Global Early Warning Initiative for the Implementation of Climate Adaptation

 <p><b>Disaster risk knowledge</b> Systematically collect data and undertake risk assessments</p> <ul style="list-style-type: none"><li>• Are the hazards and the vulnerabilities well known by the communities?</li><li>• What are the patterns and trends in these factors?</li><li>• Are risk maps and data widely available?</li></ul>	 <p><b>Detection, observations, monitoring, analysis and forecasting of hazards</b> Develop hazard monitoring and early warning services</p> <ul style="list-style-type: none"><li>• Are the right parameters being monitored?</li><li>• Is there a sound scientific basis for making forecasts?</li><li>• Can accurate and timely warnings be generated?</li></ul>
 <p><b>Preparedness and response capabilities</b> Build national and community response capabilities</p> <ul style="list-style-type: none"><li>• Are response plans up to date and tested?</li><li>• Are local capacities and knowledge made use of?</li><li>• Are people prepared and ready to react to warnings?</li></ul>	 <p><b>Warning dissemination and communication</b> Communicate risk information and early warnings</p> <ul style="list-style-type: none"><li>• Do warnings reach all of those at risk?</li><li>• Are the risks and warnings understood?</li><li>• Is the warning information clear and usable?</li></ul>

**APFM and IDMP are part of the initiative**



Today I announce the United Nations will spearhead new action to ensure every person on Earth is protected by early warning systems within five years. I have asked the World Meteorological Organization to lead this effort and to present an action plan at the next UN climate conference, later this year in Egypt.

UN Secretary-General Antonio Guterres on World Meteorological Day 23 March 2022

**Tentative Dates for Annual Meetings in Stockholm:**

**APFM: 18 August AM**

**IDMP: 18 August PM and 19 August**

# Managing flood and drought together - an overview on practical approaches

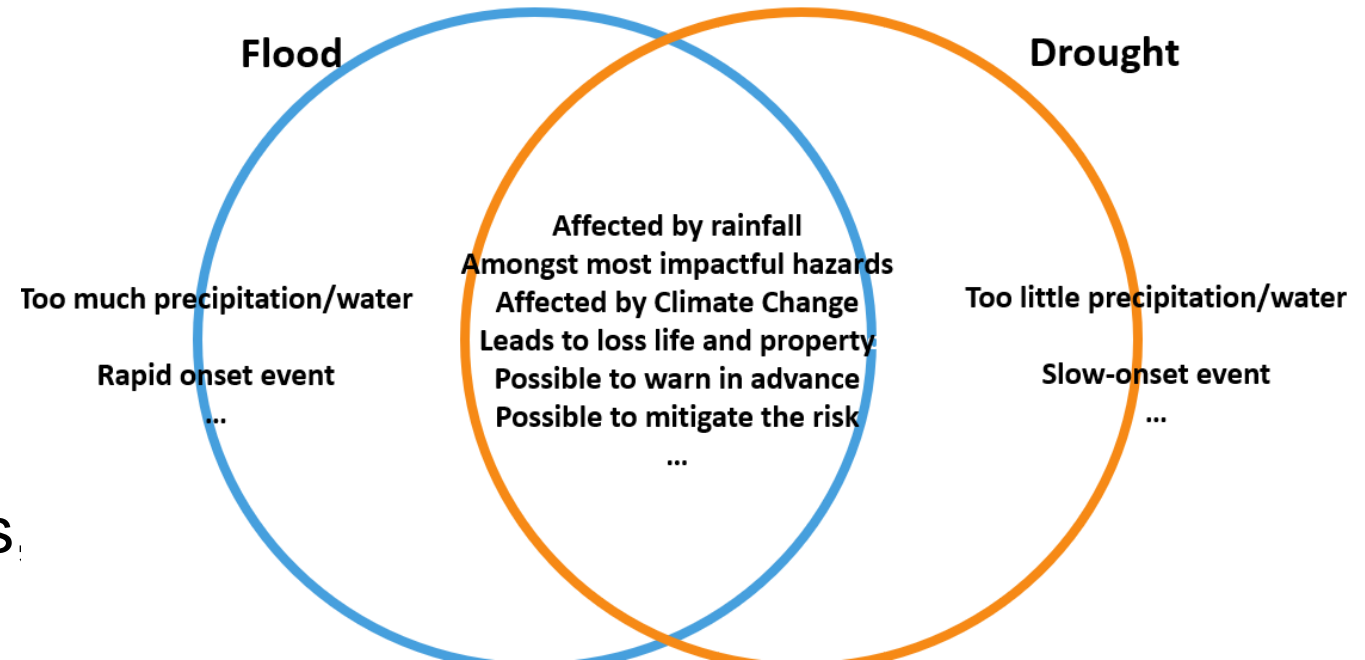
- New joint FAO, APFM, IDMP (WMO,GWP) publication to be launched soon: “Integrating flood and drought management –Practical Common Approaches “
- Complimentary to EPIC Response
- Practical Examples and case studies



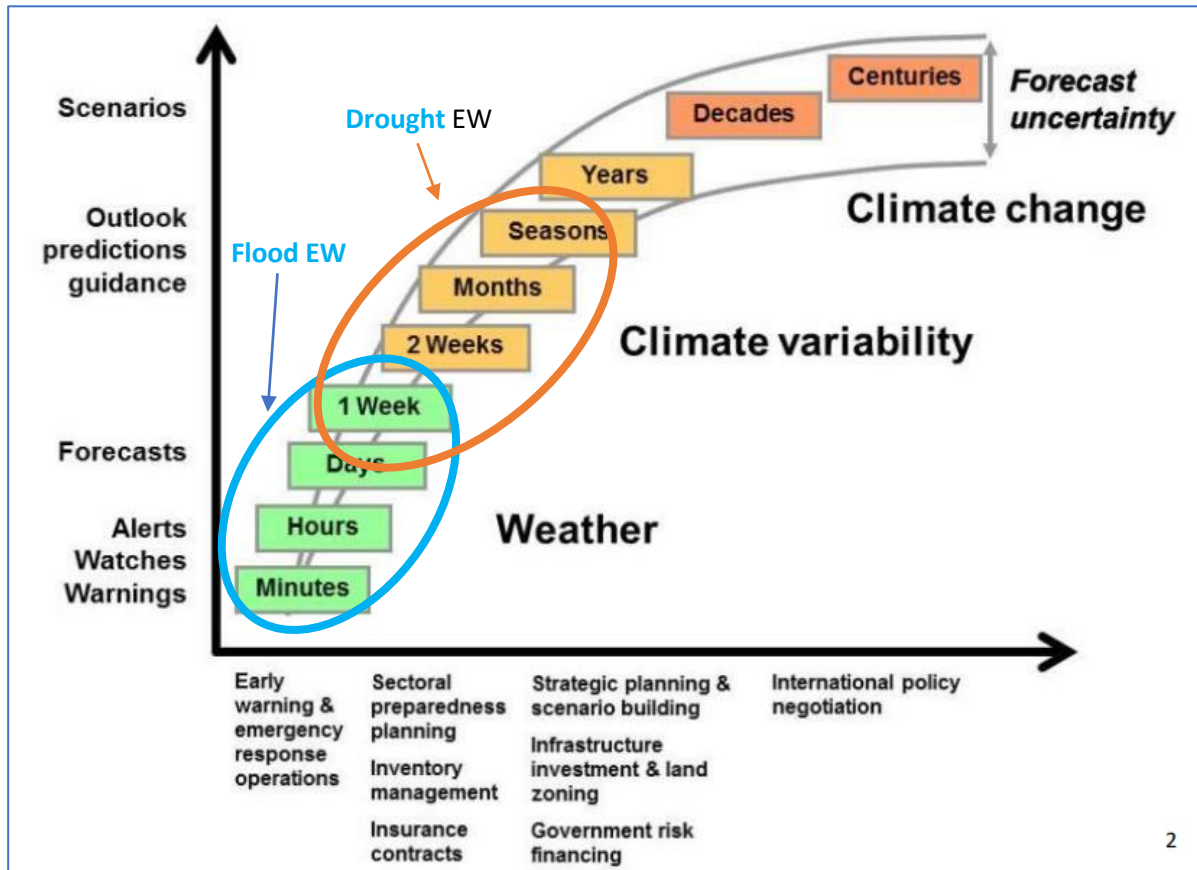


# Components of joint flood and drought management

1. Monitoring, forecasting and early warning of floods and droughts
2. Assessing the risks and impacts of droughts and floods
3. Actions for prevention, preparedness, awareness, and policy development



# Monitoring, forecasting and early warning



Traditionally two different scientific disciplines:

- Flood: Hydrology
- Drought: agricultural meteorology/climatology

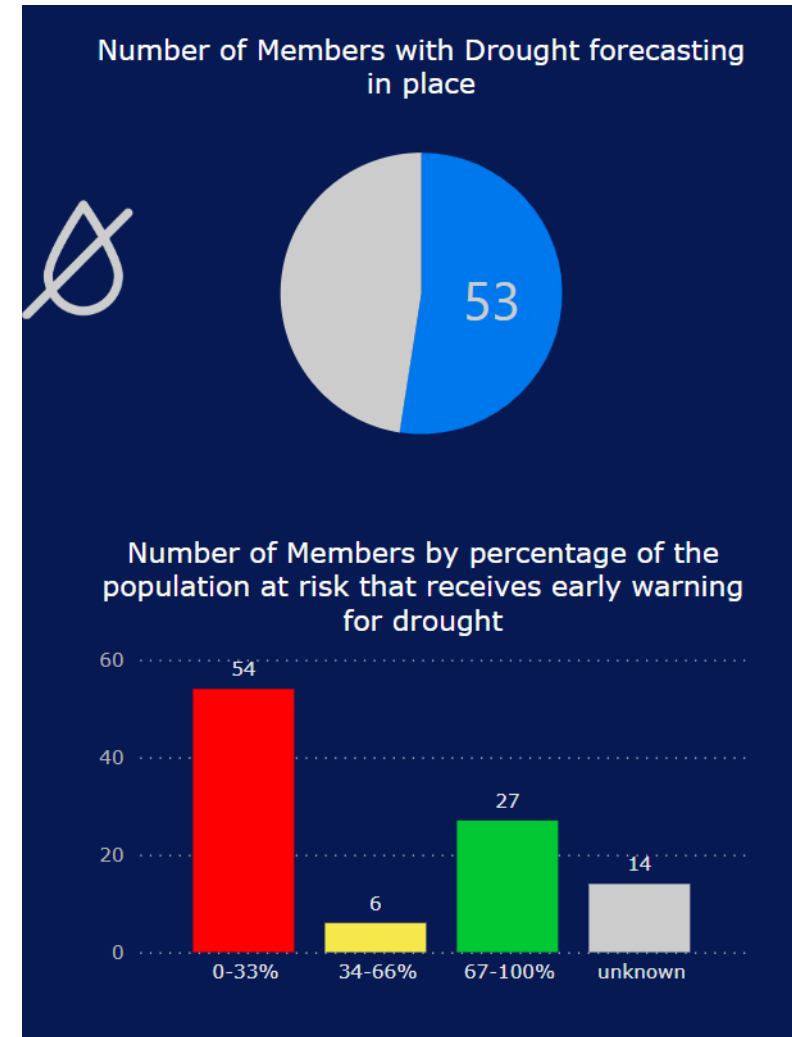
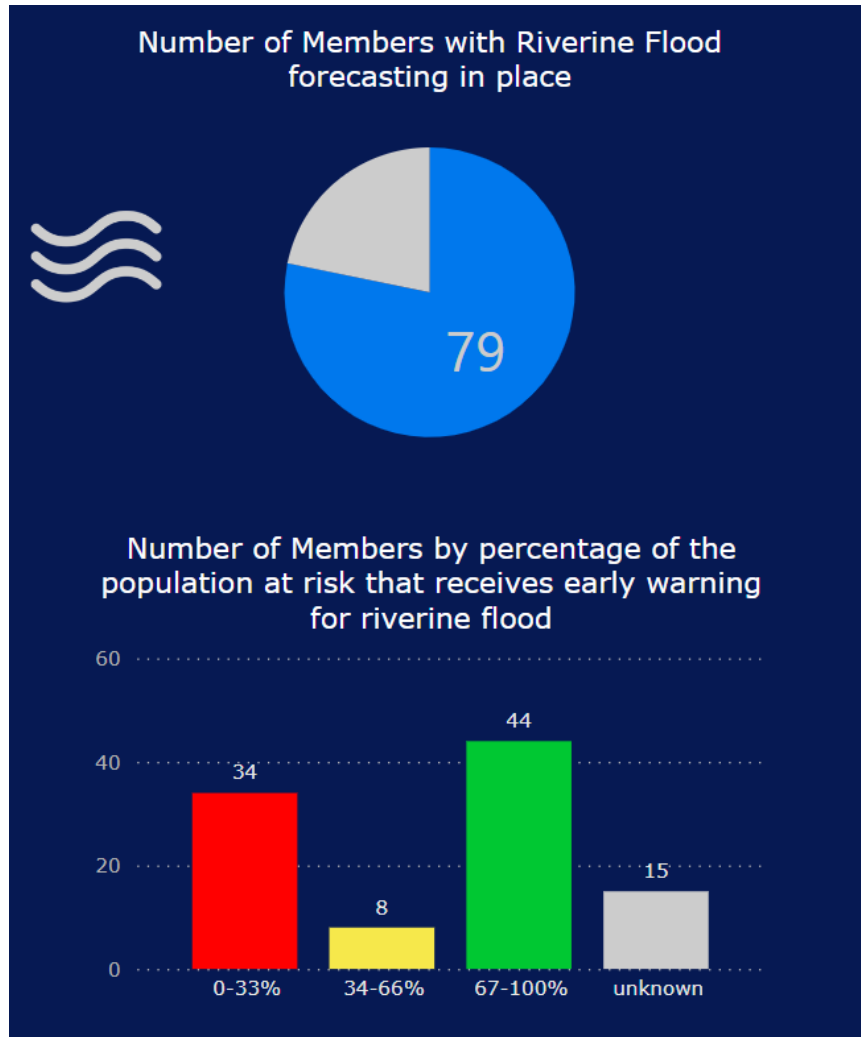
“Short term vs mid-to long term”

## Monitoring, forecasting and early warning

- Most variables to be monitored for both hazards
- The management of both hazards profits from joint approach:
  - Water resources information for drought
  - Longer term forecast and more socio-economic for flood
- Seamless prediction capabilities increasing
- Stakeholder engagement relevant for both

Parameter/variable	Flood	Drought
<b>a) Continuously monitored parameters</b>		
<b>Meteorological variables</b>		
Precipitation	X	X
Air temperature	X	X
Potential Evapotranspiration (depending on formula can include air temperature, wind speed, solar radiation, etc.)	X	X
Wind Speed	X	
<b>Hydrological variables</b>		
River level	X	X
River discharge	X	X
Ground water level	X	X
Soil moisture content	X	X
Reservoir/lake level	X	X
Snow cover/depth/snow water equivalent	X	X
Glacier cover/mass	X	X
Permafrost Active Layer Thickness	X	X
<b>Vegetation/crops</b>		
Crop data		X
Remotely-sensed vegetation indices (NDVI, fAPAR, etc., full list on <a href="#">Handbook of Drought Indicators and Indices</a> )		X
<b>a) Static/slow dynamic parameters for setting up models for simulation and forecast</b>		
Soil texture	X	X
Land cover/land use	X	X
Topography	X	X

# Monitoring, forecasting and early warning



Still a long way to go, but Early Warning for all initiative

## Assessing the risk and impacts of droughts



**RISK** = HAZARD x EXPOSURE x VULNERABILITY

- Overlaps of flood and drought vulnerability/resilience and exposure
- Often similar information needed: age, gender, income, disability, etc.
- INFORM Risk Index developed by Joint Research Center
  - combining 54 indicators into three dimensions of risk
  - Redone on regular basis (bi-annually)
- Main challenge are the separated responsibilities in most countries
- Participatory/community approaches often consider all risks incl. flood and drought
- Big synergies in communication

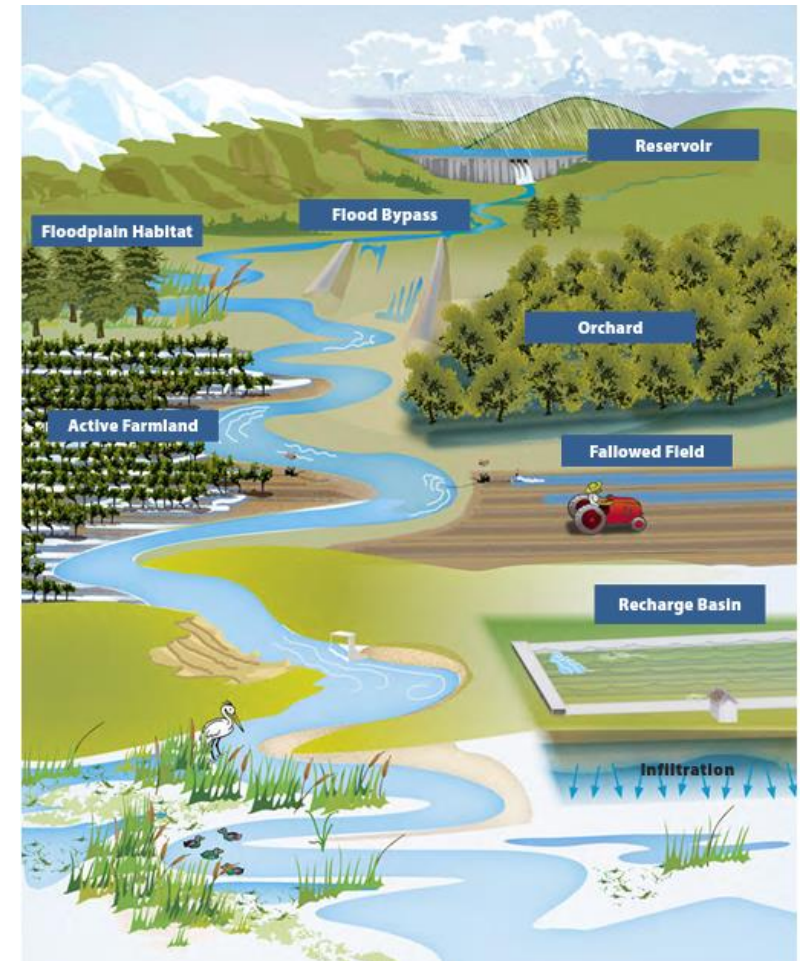
# Actions for prevention, preparedness and awareness



Disaster Risk Cycle holds for floods and droughts (incl. “hydro-illogical cycle”)

# Actions for prevention, preparedness and awareness

- All measure to prevent/mitigate flood and drought hazard aim on balancing excess/lack of water on different spatial and temporal scales:
  - Reservoirs
  - Nature-based solutions on different scales (surface, subsurface aquifers and soil, land cover restauration/protection)
  - Flood-Managed Aquifer Recharge (Flood-MAR)
  - Urban water storages



*Elements of Flood-MAR. California DWR 2018.*

## 8 Recommendations

1. Reiteration of the benefits of integrating drought and flood management
2. Highlight economic benefits
3. Adopt a common risk management framework
4. Stakeholders are the key to the integrated approach – they are the same stakeholders
5. The importance of taking a strategic or proactive approach to reduce BOTH drought and flood risks by effective planning of land and water management (Integrated Water Resources and Land Management)
6. Importance of managing drought and floods at the basin and sub-basin scales (across administrative boundaries) and the related benefits at local level
7. Identifying needs and building the capabilities in the most vulnerable communities
8. Future needs and challenges for successful integration of both flood and drought





# Partners' Marketplace

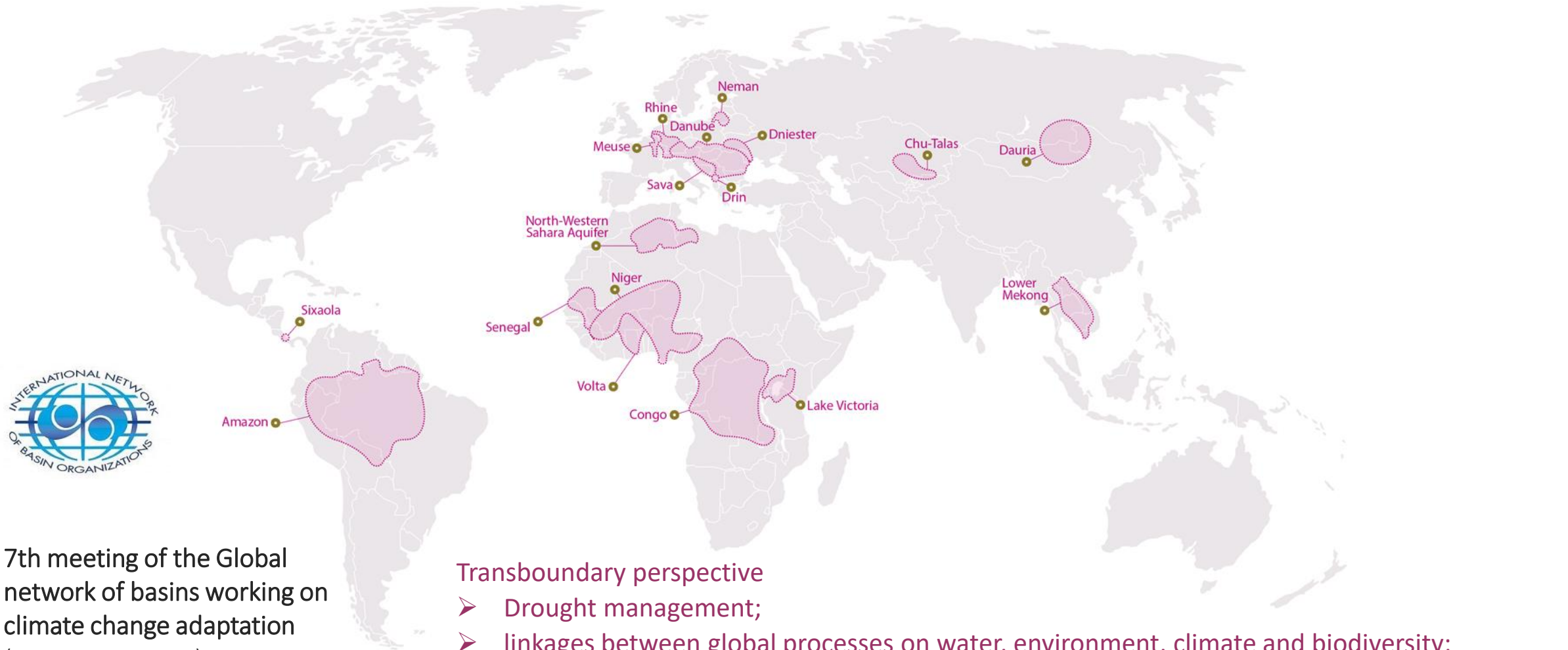
- Antea Group: Tom D'Haeyer
- UK Centre for Ecology & Hydrology – Wallingford: Lucy Barker
- Vortex-IO: Guillaume Valladeau
- UNECE: Hanna Plotnykova
- Global Change Research Centre Academy of Sciences of the Czech Republic: Marketa Podebradska

# Global network of basins working on climate change adaptation (18 basins)

● Global network of basins working on climate change adaptation

○ Transboundary basins or aquifers

● Parties to the Water Convention



7th meeting of the Global network of basins working on climate change adaptation (25-26 May 2023)

<https://unece.org/info/Environmental-Policy/Water-Convention/events/374647>

## Transboundary perspective

- Drought management;
- linkages between global processes on water, environment, climate and biodiversity;
- adaptation of wetlands; and
- financing.

## Recent progress report

[https://unece.org/sites/default/files/2022-04/Global\\_network\\_overview\\_pilot\\_projects\\_progress\\_Apr2022\\_final\\_ENGL\\_update\\_0\\_1.pdf](https://unece.org/sites/default/files/2022-04/Global_network_overview_pilot_projects_progress_Apr2022_final_ENGL_update_0_1.pdf)

# Events in 2023-2024

## 2023

- **25-26 May:** Meeting of the Global network of basins working on climate change adaptation
- **19-21 June:** [Meeting of the Working Group on IWRM](#)
- **16 October:** Global workshop on surface waters and groundwaters
- **17-18 October:** Meeting of the Working Group on Monitoring and Assessment
- **5-6 December:** Global workshop on funding and financing transboundary water cooperation

## 2024

- **26-27 February:** Global workshop on transboundary climate change adaptation and mitigation
- **28 February:** Meeting of the Task Force on Water and Climate
- **3-5 June:** Joint session of the Working Group on Integrated Water Resources Management and the Working Group on Monitoring and Assessment
- **18-19 June:** Workshop on the global water conventions and international water law
- **23-25 October:** Meeting of the Parties to the Water Convention (to take place in Slovenia)



Thanks for  
your attention!

**Water Convention Secretariat contact:**  
Palais des Nations, Geneva, Switzerland

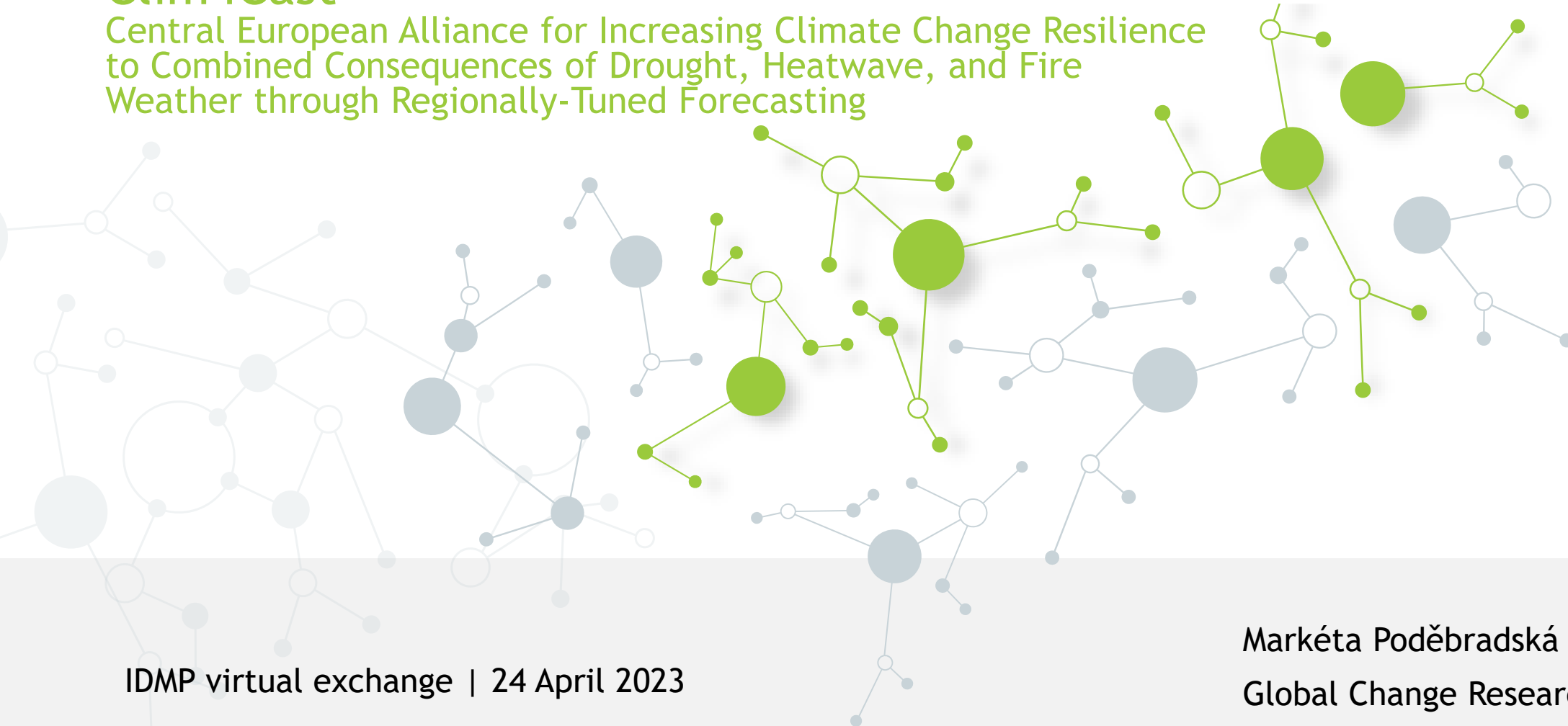
[hanna.plotnykova@un.org](mailto:hanna.plotnykova@un.org) – for climate change

**For more information:**

[www.unece.org/env/water/](http://www.unece.org/env/water/)

# Clim4Cast

Central European Alliance for Increasing Climate Change Resilience to Combined Consequences of Drought, Heatwave, and Fire Weather through Regionally-Tuned Forecasting

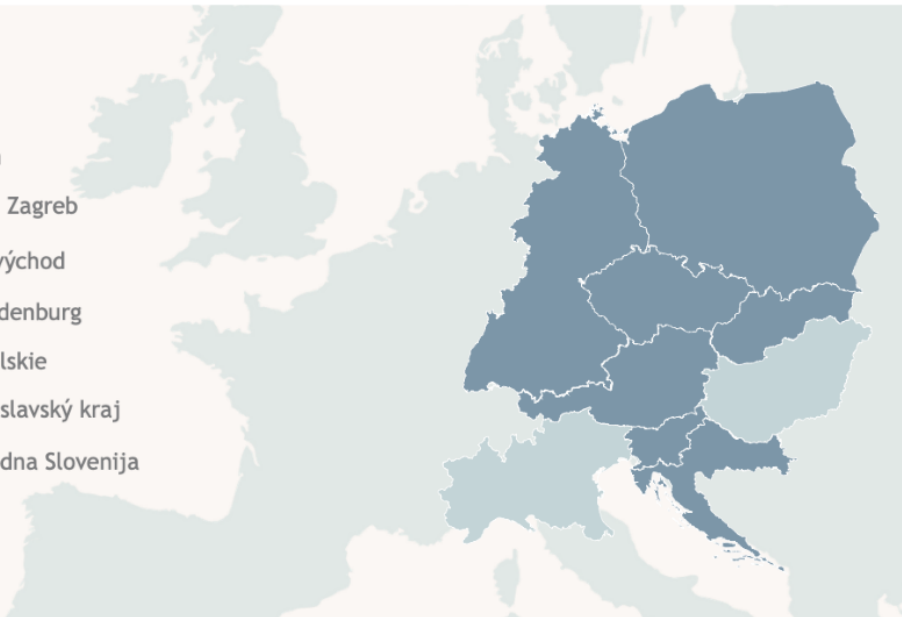


Clim4Cast



COUNTRIES & REGIONS

AUSTRIA	Wien
CROATIA	Grad Zagreb
CZECHIA	Jihovýchod
GERMANY	Brandenburg
POLAND	Lubelskie
SLOVAKIA	Bratislavský kraj
SLOVENIA	Zahodna Slovenija



1.91  
million €  
Project budget



8  
Partners

3  
Pilots

03.2023  
Start date

02.2026  
End date



MASARYK  
UNIVERSITY



# CLIM4CAST OBJECTIVES

- Creating a **step change** in the early warning system for drought, heatwaves, and fire weather (DHF) in Central Europe
  - **CE platform for monitoring and prediction** with a feasible implementation into established national monitoring platforms
- Estimating the effect of climate change on the DHF events and communication of the findings to public to **increase their awareness** of these phenomena through a transnational strategy
- Proper **communication of the risk, mitigation, and response strategies** to key stakeholders and the public through developed national action plans
- Building on existing and diverse partner knowledge, experience, and established network of stakeholders

**Interreg**  
CENTRAL EUROPE



Co-funded by  
the European Union

Clim4Cast



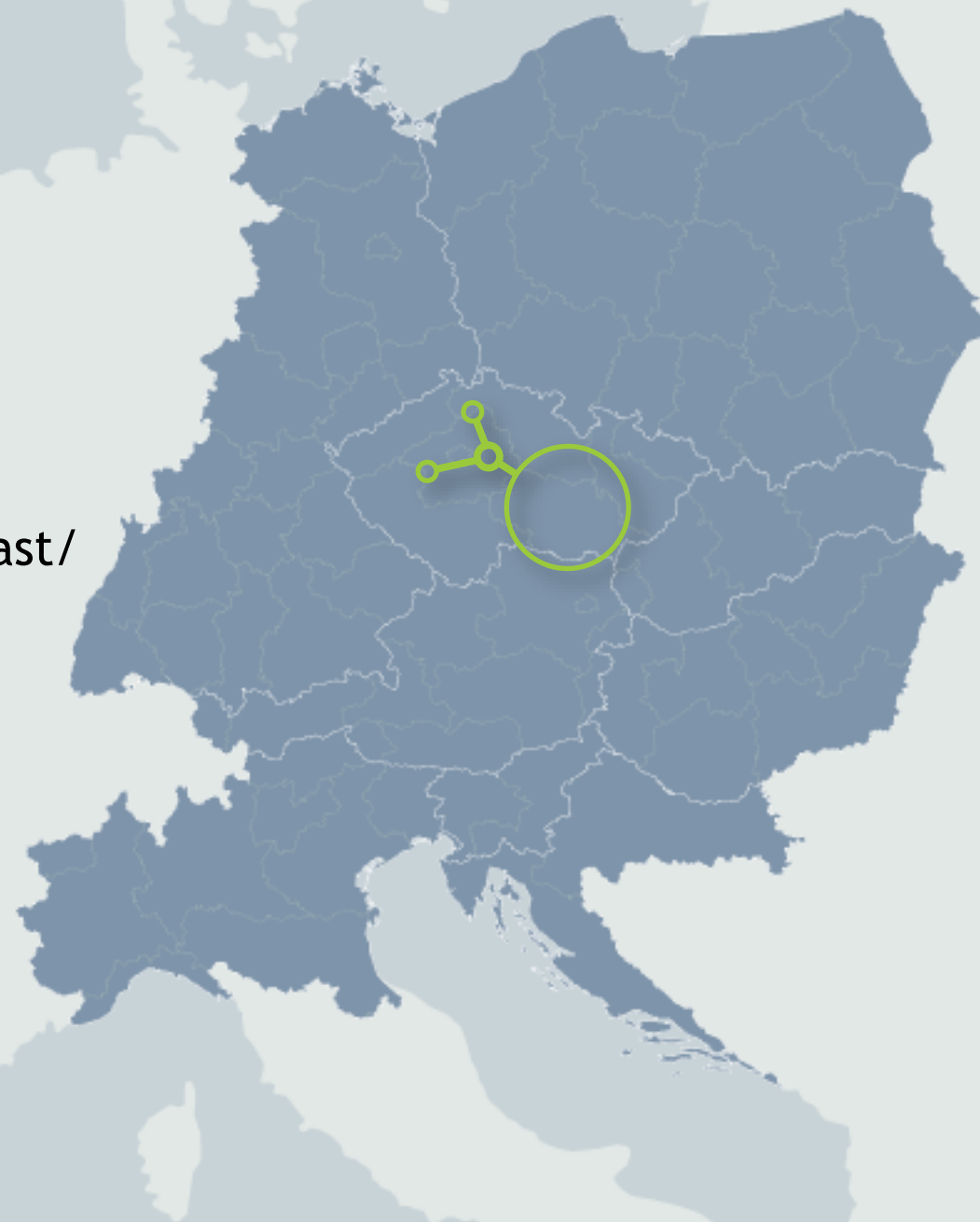
[www.interreg-central.eu/projects/clim4cast/](http://www.interreg-central.eu/projects/clim4cast/)



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[twitter.com/Clim4Cast](https://twitter.com/Clim4Cast)





# Would you like to have another Virtual Exchange before the Annual Meetings in August?

Please scan the QR-code or go to  
[www.menti.com](http://www.menti.com) and use this code:

**8701 1165**

<https://www.menti.com/alfbhihv7wus>



# Thank you!

The image shows three interactive cards arranged horizontally. Each card has a title in an orange box, an icon, a description, and a small '+' button in the bottom right corner.

- Ask:** Features a question mark and an information 'i' icon in speech bubbles. The text below reads: "Ask for assistance on integrated drought management".
- Find:** Features a magnifying glass icon. The text below reads: "Find knowledge resources on integrated drought management".
- Connect:** Features an icon of people holding hands in a circle. The text below reads: "Learn about the activities of IDMP and connect to them".

[www.DroughtManagement.info](http://www.DroughtManagement.info)

[www.FloodManagement.info](http://www.FloodManagement.info)