

**New Data, new Insights:**

# **The next Generation of Drought Risk Finance Instruments**

International Conference - Drought Risk & Drought Risk Management in Romania & in Europe

Dr. Markus Enenkel, World Bank Global Water Practice ([menenkel@worldbank.org](mailto:menenkel@worldbank.org))



**WORLD BANK GROUP**

Water



**GWSP**

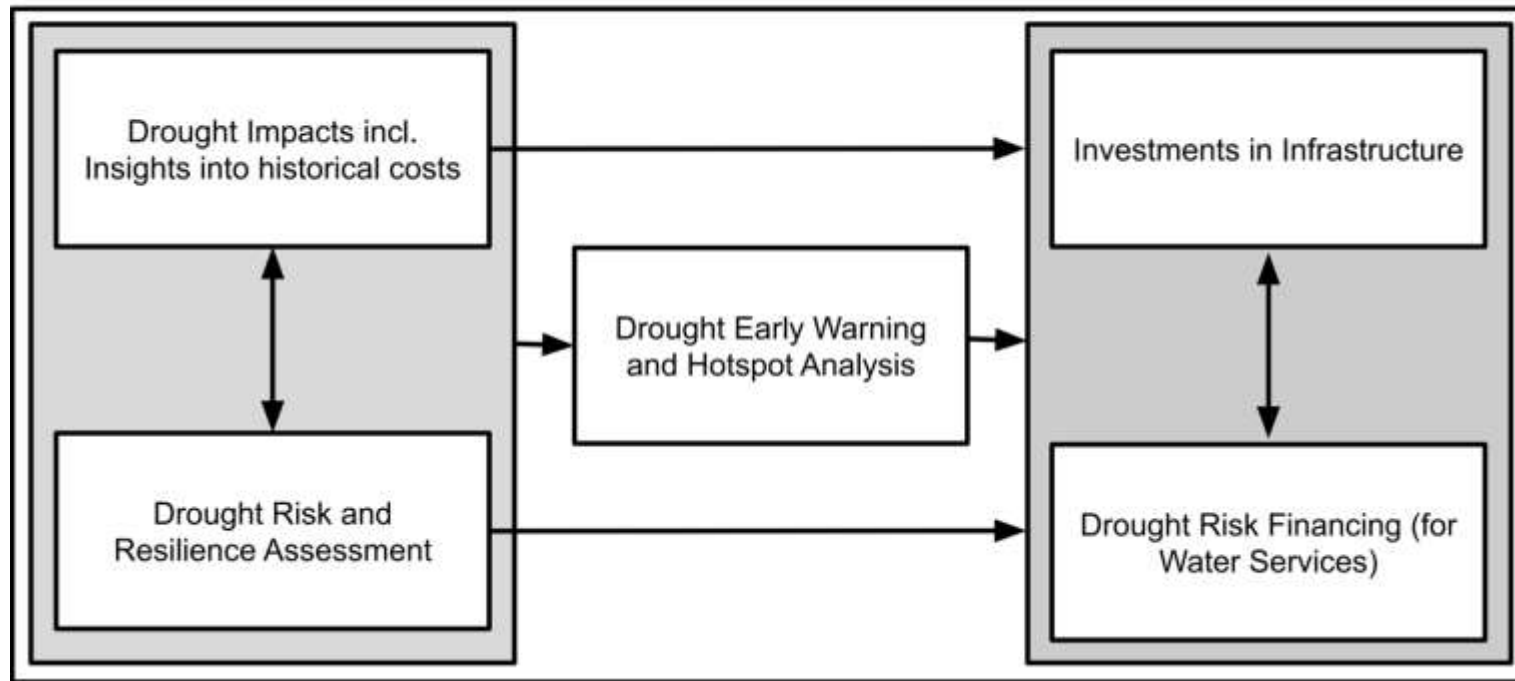
GLOBAL WATER  
SECURITY & SANITATION  
PARTNERSHIP

# Overview

- **Introduction**
- From Data to actionable Knowledge
- Meso-level Risk Financing
- World Bank Drought Bulletins
- Conclusions

# The new Drought Risk Management Program of the Global Water Practice

Partnerships and existing Frameworks



# Intro

- Droughts are the hardest natural hazard to define
  - Not always a slow onset event
  - Time is money
- Links between novel data-driven analytics and drought risk financing could be much stronger



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# From Data to Knowledge

- Convergence of evidence is key (requires independent data sources)
- New root-zone moisture products available for Europe at 1km



# Co-Design Process



Climate Data  
Selection  
and Processing



Climate and Loss  
Data Processing;  
Detrending; Risk  
Modeling



Links to financial  
Product;  
Calibration and  
Validation



Decision-Support  
Product linking  
Data to Expert  
Knowledge

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# Meso-level DRF



Risks can be mitigated and transferred,  
but will never be zero



Transparent models



Faster payouts; lower basis risk

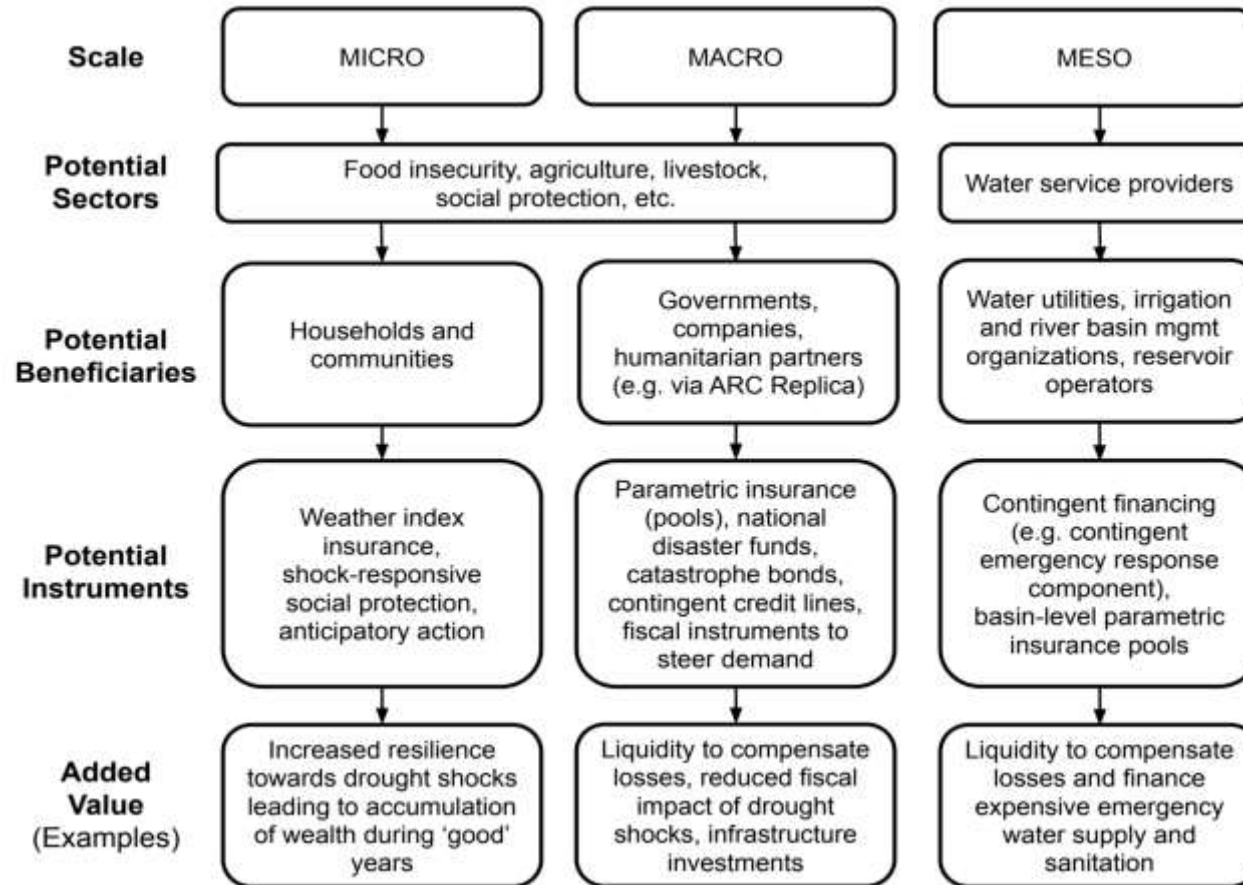


Future-proofing

# Meso-level DRF

- 1 Risk Data and Analytics**  
Stakeholders need a good understanding of needs, vulnerabilities and available instruments; co-design is key.
- 2 Timeliness of Funding**  
Earlier payouts tend to reduce disaster-related costs in later stages; well calibrated/validated models are essential.
- 3 Disbursement of Funds**  
How money reaches project partners is as important as where it comes from and when it is available.
- 4 Disaster Risk Layering**  
No disaster risk finance instrument can cover all return periods at once; risk layering can be powerful, but sometimes hard to communicate.
- 5 Monitoring and Evaluation**  
Ongoing monitoring and evaluation are vital to generate insights into the performance of the instrument to allow iterative improvements.

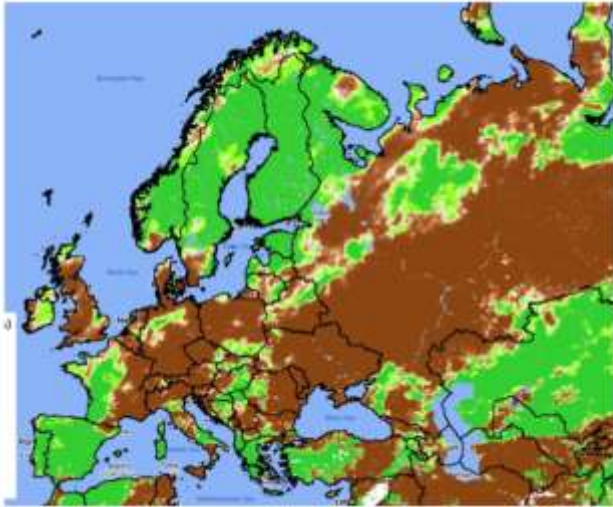
# Meso-level DRF



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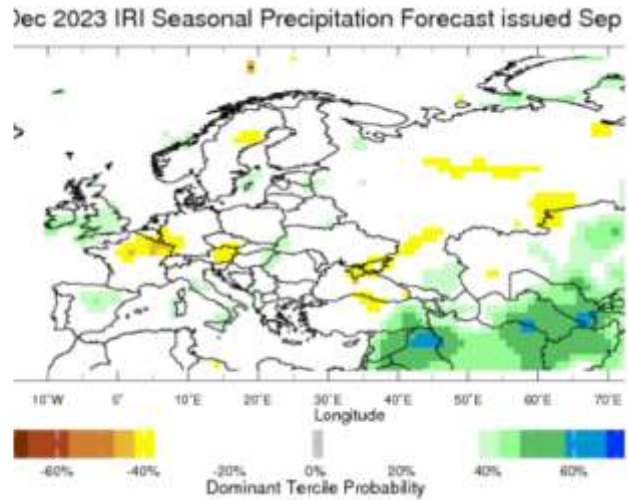
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# New Drought Bulletins



## Current Drought Conditions

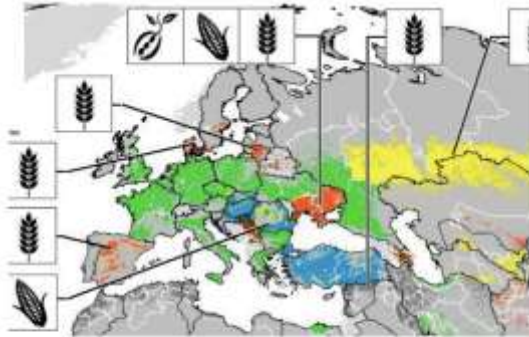
NASA GPM Rainfall Anomaly  
(September 2023)



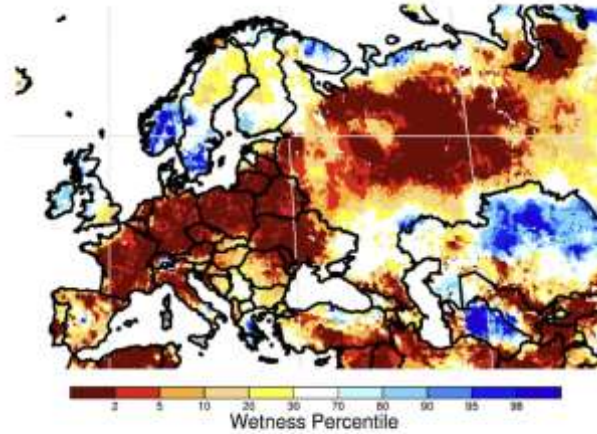
## Future Drought Conditions

Predicted Rainfall Anomaly (Oct-Dec 2023)  
Columbia University (IRI)  
Interactive maproom: click [here](#).

# New Drought Bulletins



**AGRICULTURAL STRESS  
HOTSPOTS**



**GROUNDWATER CONDITIONS**



**WATER STRESS PROJECTIONS**

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# Conclusions

- We need to prepare for scenarios that might not mimic drought conditions of the past
- Challenges arise from extreme events and consecutive non-extreme events
- Risk financing requires the right mix of instruments for different return periods → national risk (data) ownership → national data/service providers
- Meso-level stakeholders are often a blind spot
- DRRRA process can serve as the basis for in-depth discussions about promising DRF instruments
- Better loss reporting → Better financial products