



# Catalyze actions for drought management planning and projects

*Towards climate resilient drought risk  
management*

15 September 2021

**HELP Flagship Report on Droughts**

Coordination Team



Government of the Netherlands

**Deltares**



# Joint collaborative HELP-initiative

## Main objective:

- Delivering practical advice (principles) to all stakeholders to formulate and implement strategies and actions with respect to drought management

## Key activities:

- Collect and review existing cases to deduce and share best practices
- Formulate guiding best practice principles
- Promoting implementation of the best practice principles to work towards the drought risk management ambitions

## First draft ready by the end of year 2021:

- Flagship report on guiding principles based on best practices and lessons learned from cases all over the world

# What is this initiative about?

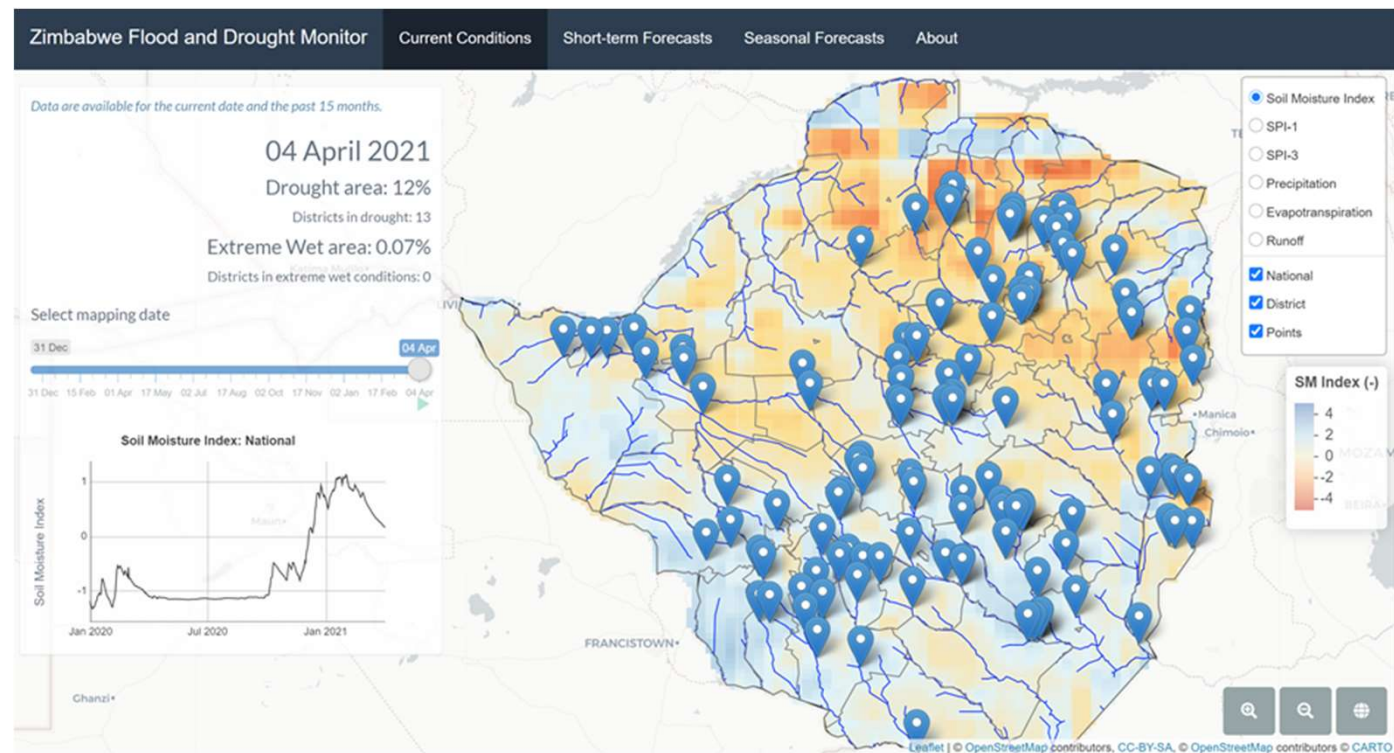
- Joint collaborative effort:
  - ADB, GWP, WMO, Unesco-IHP, WMO, FreshThought, Stanford University, EMGRISA, UBA, ADBI, RWS, NL MinlenW, AGWA, Deltares, CEH-UK, ....
- Collected and reviewed case studies over the world to develop guiding principles
- Reviewing recent reports on drought risk management
- Flagship report: 30 pages, including case studies to illustrate best practices and guiding principles

# Case studies collected: an overview

- Slovakia: Drought Action Plan
- Spain: Water scarcity and drought planning
- Spain: Medina del Campo aquifer: nature based solution demonstration site for enhancing drought resilience
- Netherlands: staged drought hazard planning
- Netherlands: Coastal aquifer recharge and recovery for agriculture
- Rhine basin: transboundary drought risk management
- California: flood managed aquifer discharge
- Southern Africa Region: high resolution drought monitoring and early warning
- Africa: drought risk insurance: African risk capacity
- Argentina: preparing for droughts in Alta de la Picassa
- Chili: Climate risk informed decision making on droughts in Limari basin
- Columbia: active ground water management in Cauca Valley to minimise drought risks
- South Africa: climate resilience of Western Cape water supply
- Iraq and Syria: droughts and water scarcity in the context of displacement risks

# Drought monitoring over Southern Africa

Combining significant recent improvements in climate and hydrological modelling with satellite and ground information to provide high-resolution information on historic risk, current conditions and forecasts of future changes in drought, through an Open Science framework.

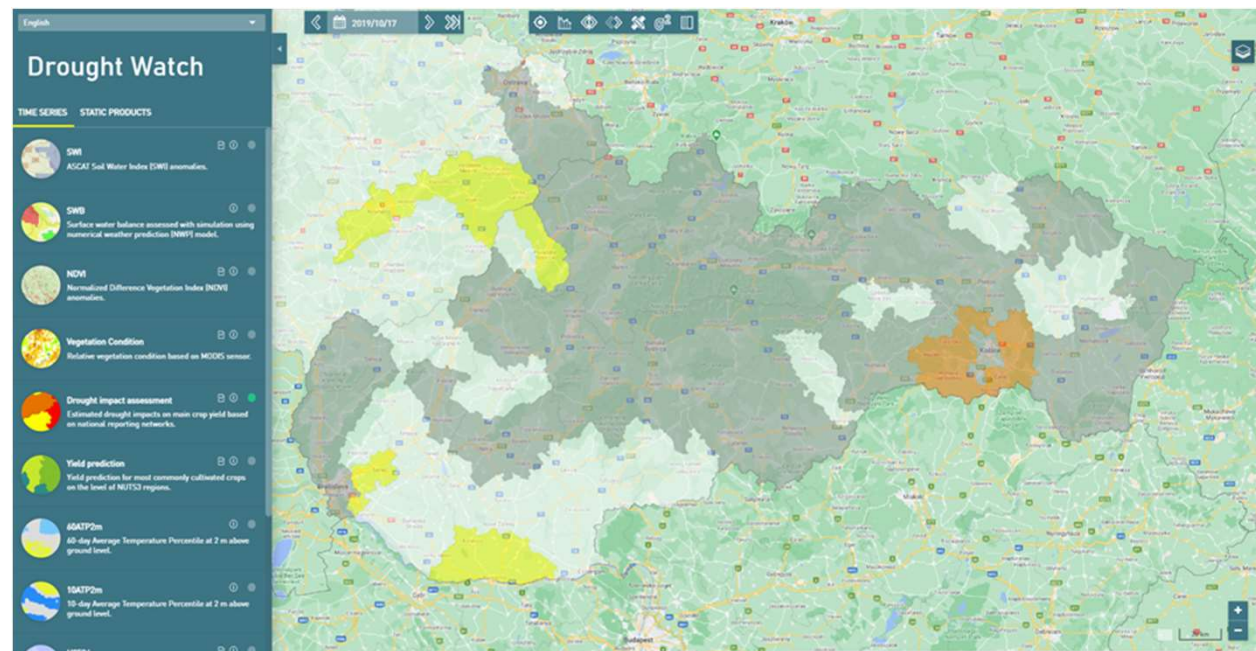




# Integrated Drought Management Programme in Central and Eastern Europe

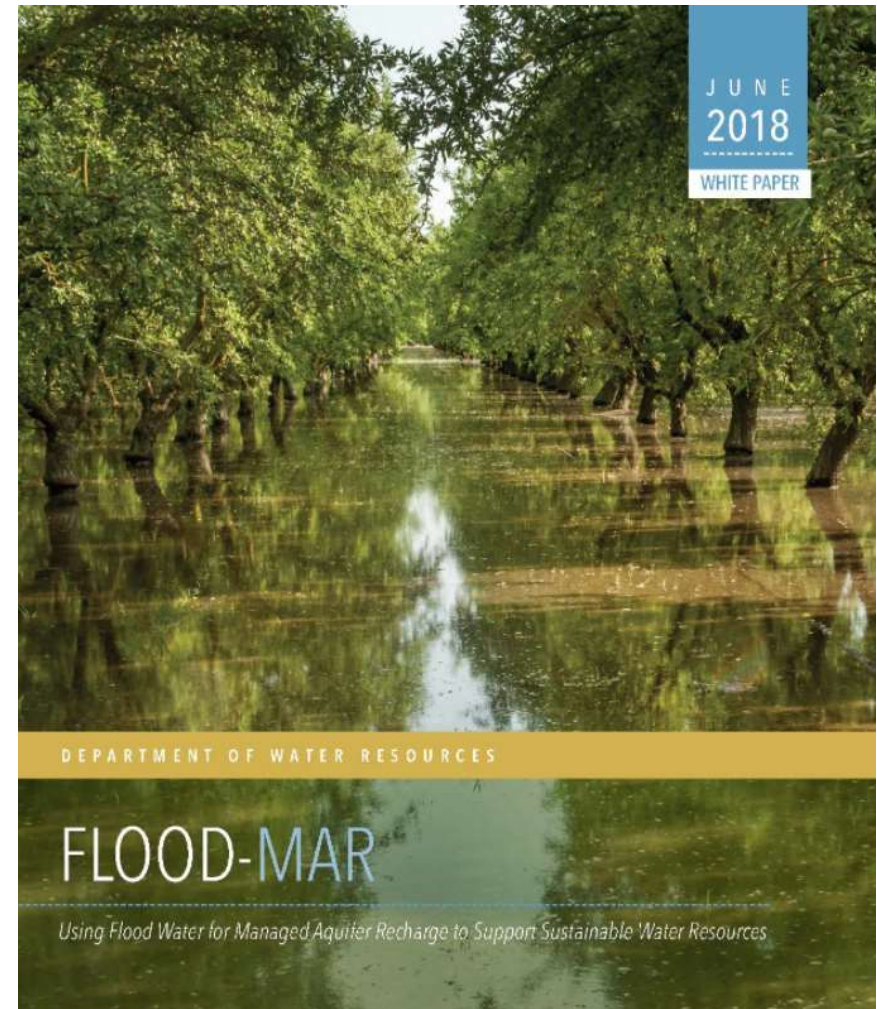
The plan contains preventive, operational, and crisis measures needed.

Among these measures were identifying drought-resistant tree species, surveying groundwater, designing new irrigation canals, expanding the monitoring network, and developing triage processes for disaster conditions.



# Flood Managed Aquifer Recharge in California

Flood Managed Aquifer Recharge (or Flood MAR) is a strategy to use high flows for groundwater recharge and doing it in a way that provides terrestrial ecosystem benefits as well as aquatic ecosystem benefits.





# Water, Peace and Social Security in Iraq

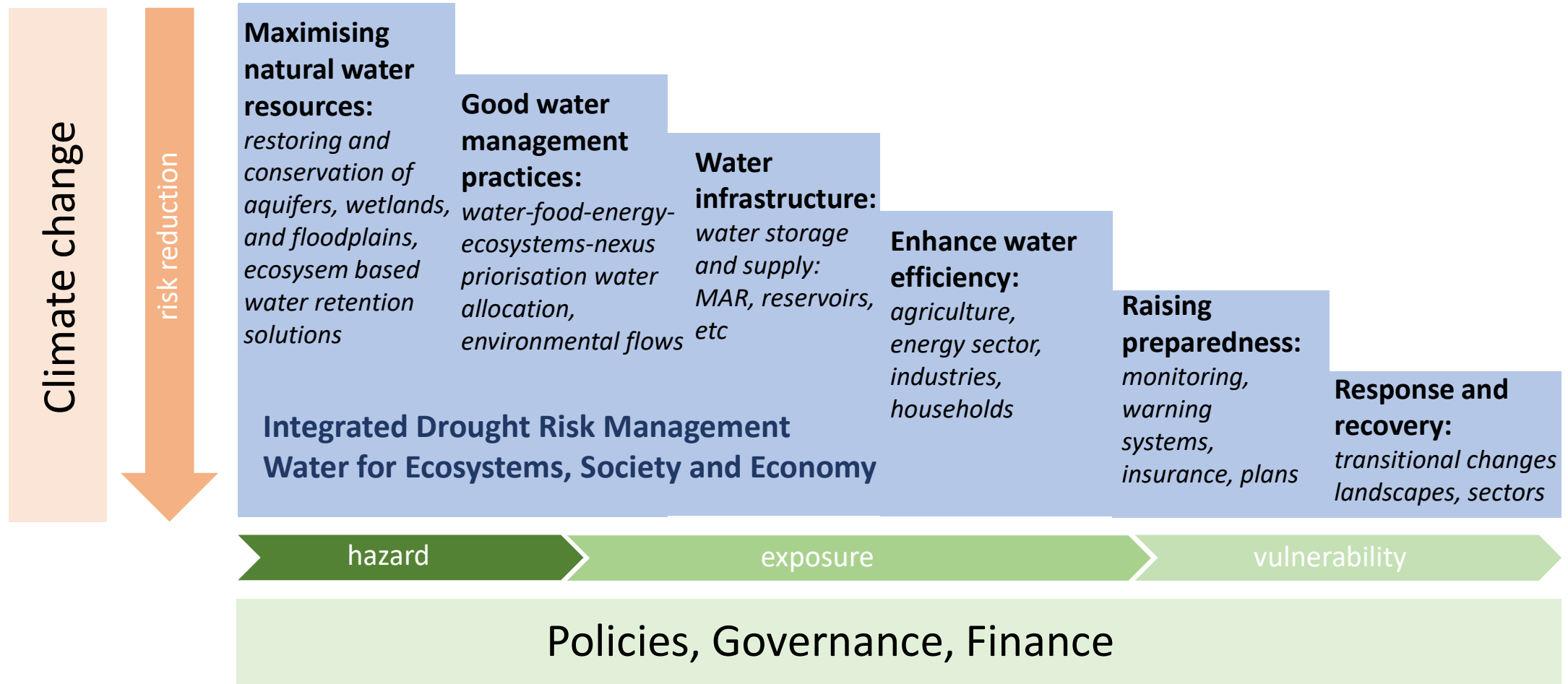
Developing drought risk management strategies in Southern Iraq to turn vicious water-conflict cycle into a more virtuous water-peace cycle.



*Source: International Organisation for Migration*



# Integrated approach for drought risk management



# Main guiding principles

- Be pro-active and precautionous
- Plan from the bottom-up and co-design planning and response measures with affected communities
- Respect ecological limits
- Integrated planning approach (both drought and floods)
- Tap into public-private finance

## Next steps:

- Preparing first draft of Flagship report
- Uploading case studies to the online World Water Atlas ([www.worldwateratlas.org](http://www.worldwateratlas.org))
- Presenting draft report at HELP meeting in November
- Final version ready in Spring 2022

***Thank you for your attention***

You are welcome to join this Flagship initiative on droughts:  
please contact [harm.duel@deltares.nl](mailto:harm.duel@deltares.nl)

