



**Valentin Aich**

Senior Water and Climate Specialist,  
Global Water Partnership

**Katrin Ehlert**

**Robert Stefanski**

Applied Climate Services Division,  
World Meteorological Organization

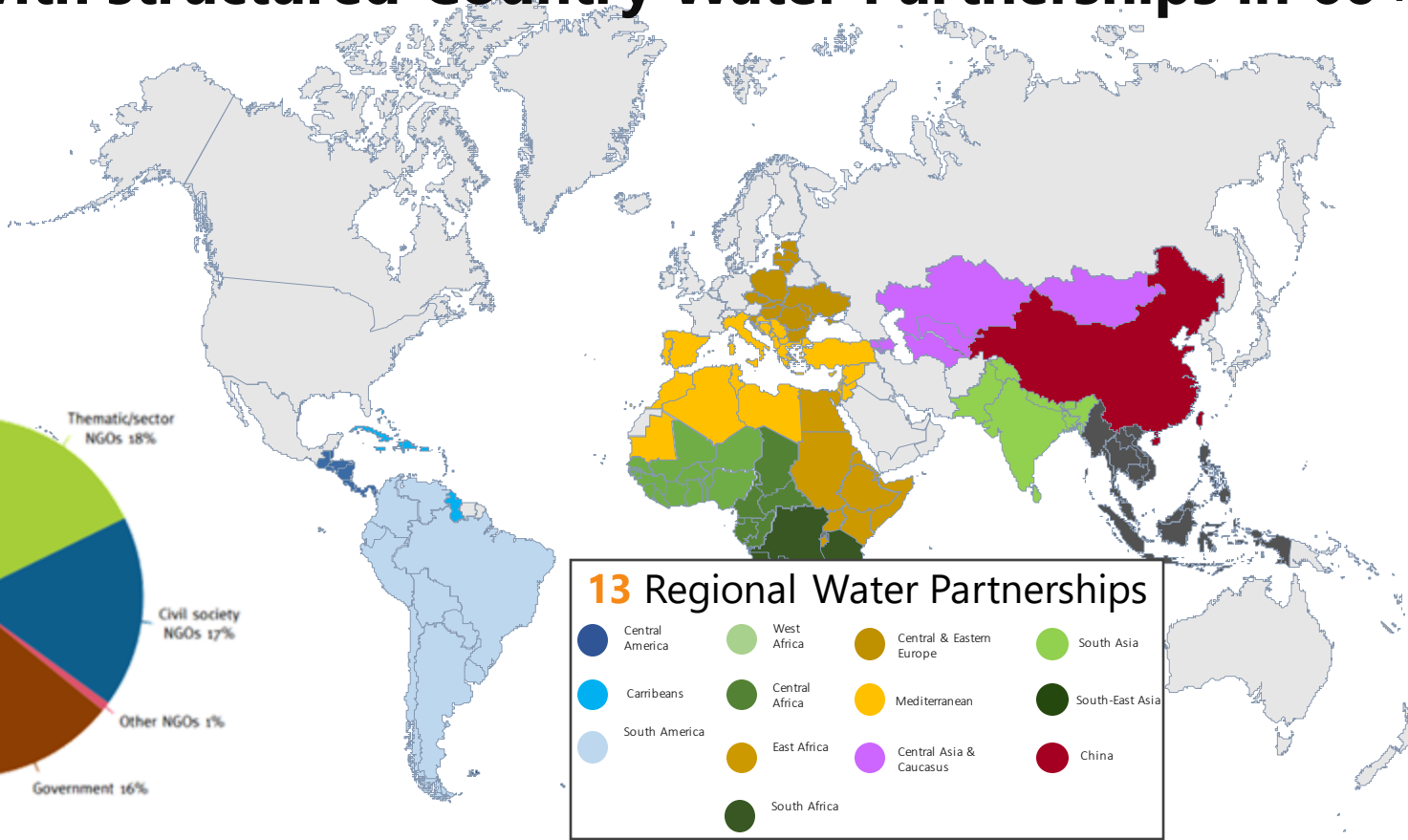
**Drought risk management:  
The Three Pillars**

**FAO ONLINE ADMINISTERED COURSE  
30 MARCH 2021**

## WMO is the United Nations system's authoritative voice on Weather, Climate and Water:

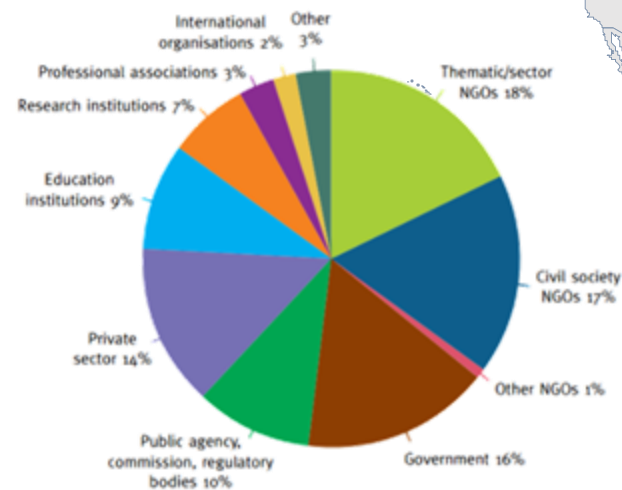
- Founded in 1873 and since 1950 a United Nations organization
- 193 countries and territories are members
- Secretariat is based in Geneva, Switzerland (~200 staff)
- Core task: Coordination of National Meteorological and Hydrological Services (NMHSs) because weather, climate and water know no national or political boundaries.

**We work in 181+ countries  
with structured Country Water Partnerships in 60+ countries**

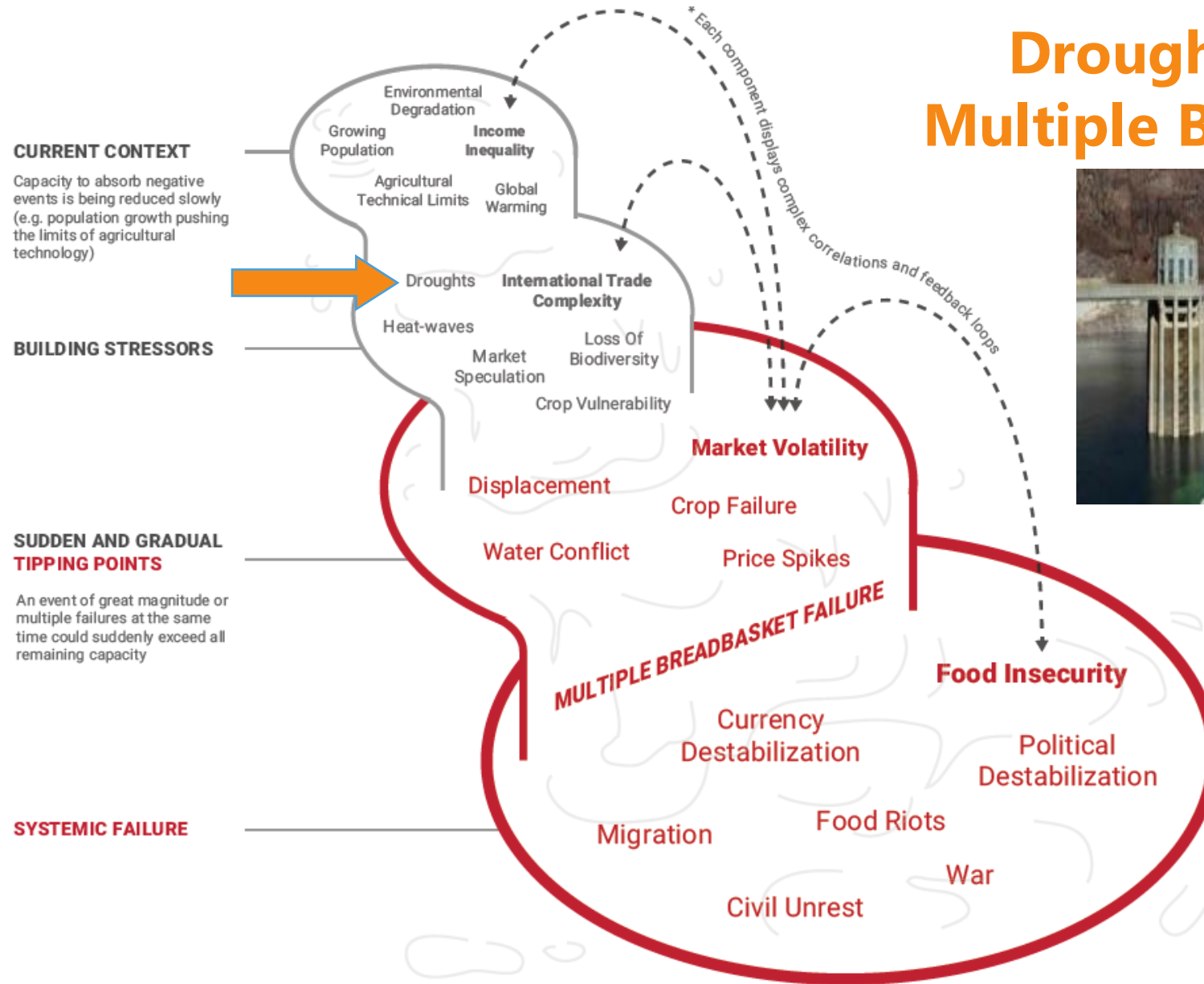


**Since 2014:**  
**220+** water governance outcomes  
**1 billion €+** water related investments influenced  
**20m€+** investments directly mobilized from climate finance sources through project preparation

GWP Partners by type



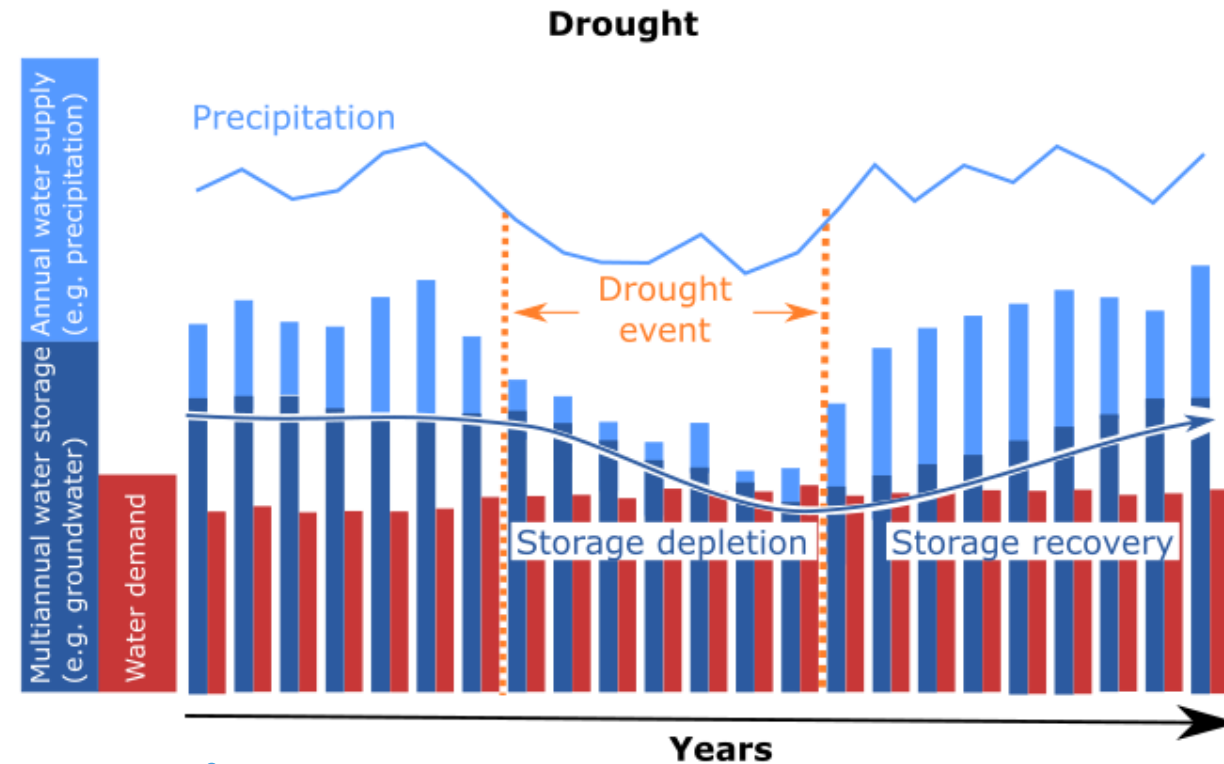
# Drought in the context of Multiple Breadbasket Failure



Source: UN DRR GAR19

## Multitude of definitions: application and region specific

1. Drought is a deficiency of **precipitation (intensity)**
2. ...from expected or "normal" that extends over a season or longer period of time (**duration**)
3. ...and is insufficient to meet the demands of human activities and the environment (**impacts**).



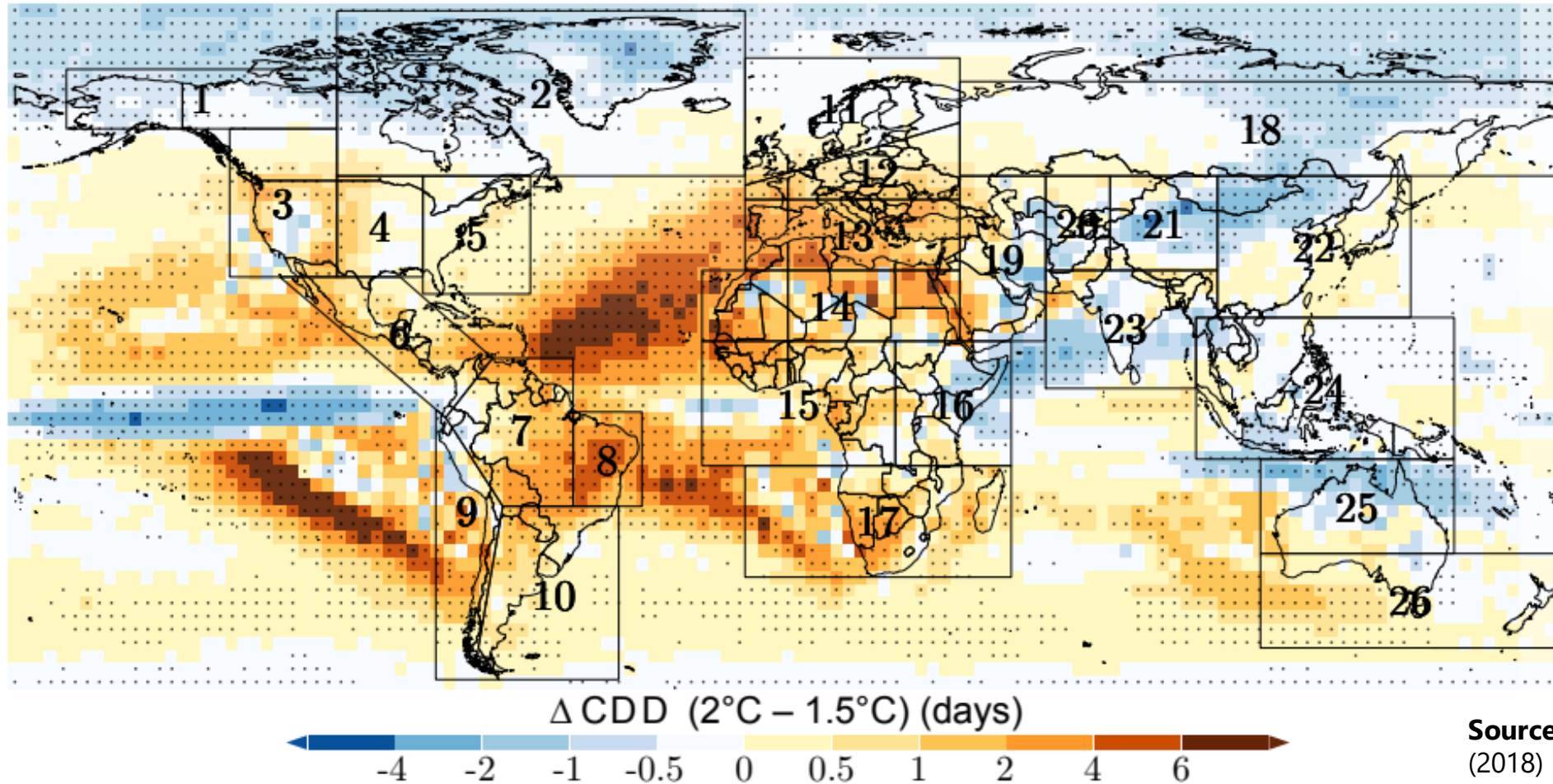
- **Agricultural, Hydrological and Socio-Economic Impacts**
- **Effective drought management must be INTEGRATED across sectors and within and between levels of government as well as with NGOs.**

# Droughts are among the most complex natural hazards



- Drought is a creeping phenomenon with slow onset
- Impacts of drought can accumulate gradually
- Lack of precise and universal definition for drought leads to confusion about when a drought begins and when it ends
- Leads to uncertainty on precise time to implement emergency response actions or mitigation measures.
- Drought expected to increase due to climate change

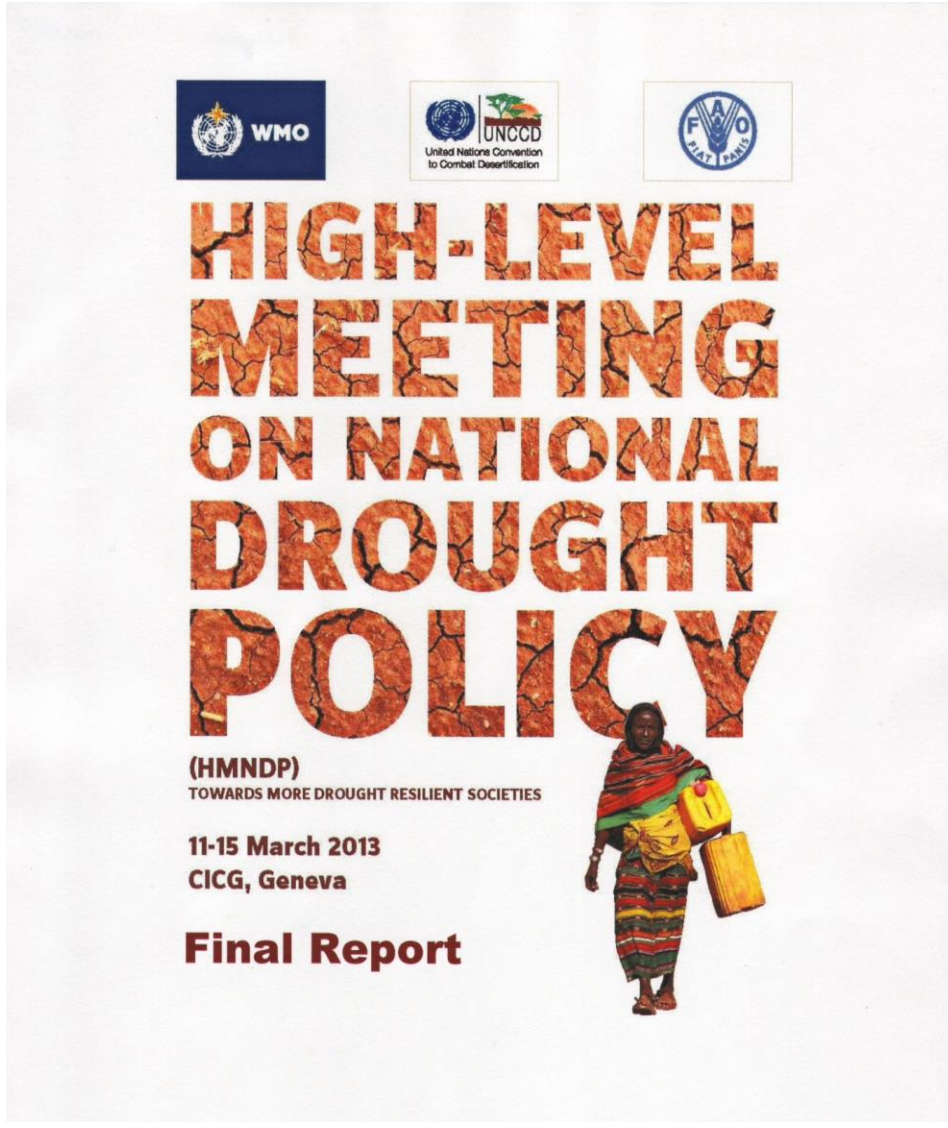
## Projected changes in consecutive dry days (CDD)



Source: IPCC 1.5 Degree Report (2018)

➤ Largest Changes over Land in Mediterranean, NE Brazil, and Southern Africa

# The Integrated Drought Management Programme





# Overcoming bad habits: 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 management of resources
- Increases vulnerability, reliance on government & donors

### Risk Management

- Investment
  - Short-term—EWS, networks
  - Long-term—institutional capacity, structural adjustments
- Pre-impact
  - Mitigates and reduces risks
- Identifies and treats the root causes of vulnerability
- Promotes improved stewardship of natural resources
- Builds self-reliance, reduces vulnerability




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

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

# Coming of Age of Integrated Drought Management

## Regional National Drought Management Policy Workshops and other Initiatives (WMO, FAO, UNCCD, UNCBD, UNW-DPC)

- **Central and Eastern Europe (2013):** Bulgaria, Czech Republic, Hungary, Lithuania, Moldova, Poland, Romania, Slovakia, Slovenia, Ukraine
- **Central America (2013):** Regional training workshop leading to training on SPI and assessment of current drought and assessment of economic impacts of droughts.
- **Horn of Africa (2014):** Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda.
- **South Asia Drought Monitoring System (2014):** with IWMI in Afghanistan, Bhutan, Bangladesh, Nepal, India, Pakistan and Sri Lanka
- **West Africa (2015):** First in Burkina Faso, Niger and Mali, and then share lessons learned with region through WMO partners, GWP Country Water Partnerships and other partners.
- **South America (2015 & 2017):** Regional workshops in Bolivia and Argentina (MoU with Argentinian Government signed 2017) leading to follow-up activities with partners on drought management planning and monitoring.
- **Pacific Islands (2016-17):** Draft National Drought Policies developed In Solomon Islands, Tuvalu and Kiribati
- **UNCCD Drought Initiative (2018-19): National Drought Policies:** Benin, Burkina Faso, Ethiopia, Niger, Sudan, and Serbia



A UN-Water Initiative

UN WATER

Moving from crisis to risk management

Capacity Development to Support National DROUGHT Management Policies

Find out more on the initiative: [www.ais.unwater.org/droughtmanagement](http://www.ais.unwater.org/droughtmanagement)

# IDMP's Integrated Drought Management Helpdesk

The image displays three interactive buttons for the IDMP helpdesk, each with a distinct icon and a description. The 'Ask' button features a question mark and an information icon. The 'Find' button features a magnifying glass icon. The 'Connect' button features an icon of people in a circle. Each button has a small plus sign in the bottom right corner. The 'Ask' button is highlighted with a blue border.

**Ask**  
Ask for assistance on integrated drought management

**Find**  
Find knowledge resources on integrated drought management

**Connect**  
Learn about the activities of IDMP and connect to them

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

# The heart of IDMP: The Partners



## Guidelines and tools created by Experts

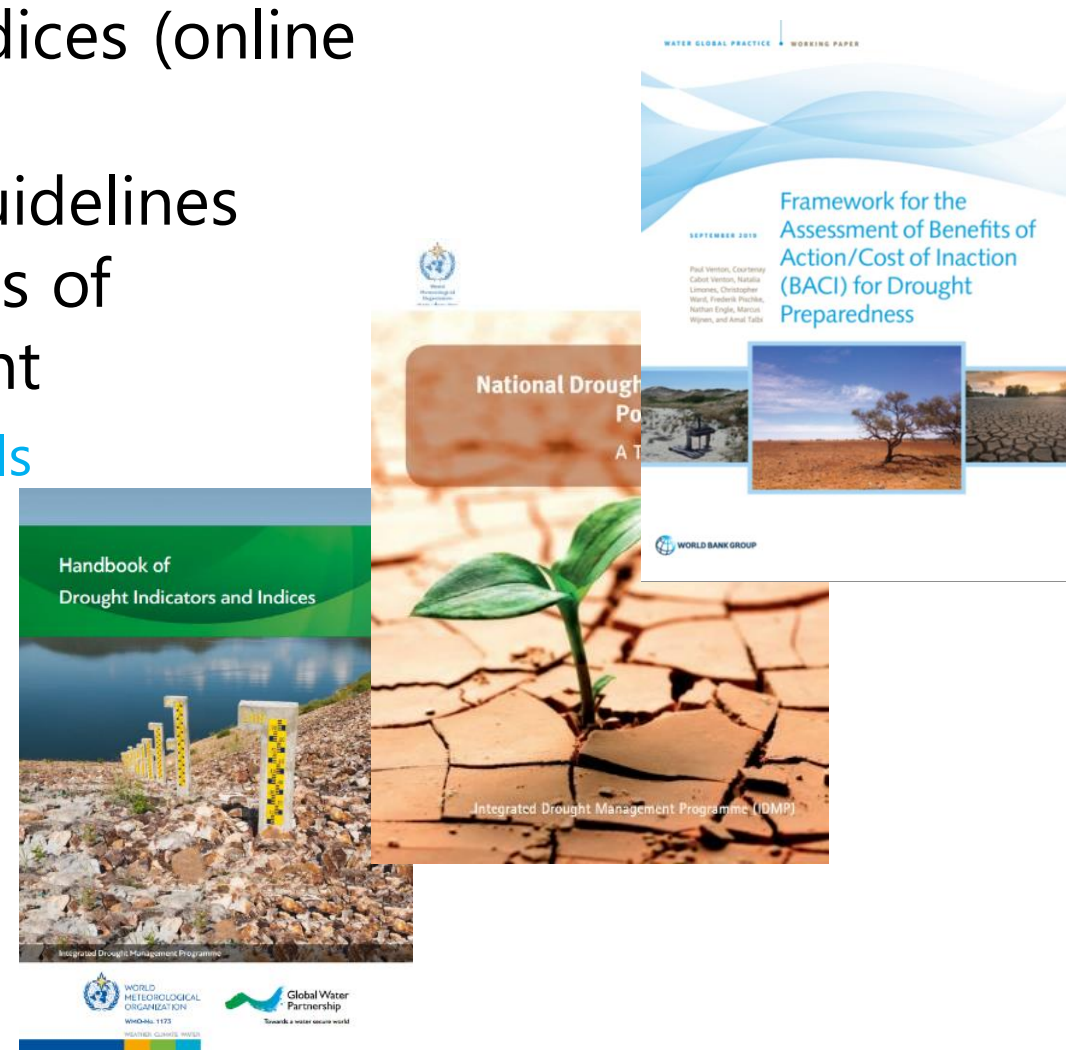
- Handbook on Drought Indicators and Indices (online tool)
- National Drought Management Policy Guidelines
- Framework for the Assessment of Benefits of Action/Cost of Inaction (BACI) for Drought

[www.droughtmanagement.info/find/guidelines-tools](http://www.droughtmanagement.info/find/guidelines-tools)

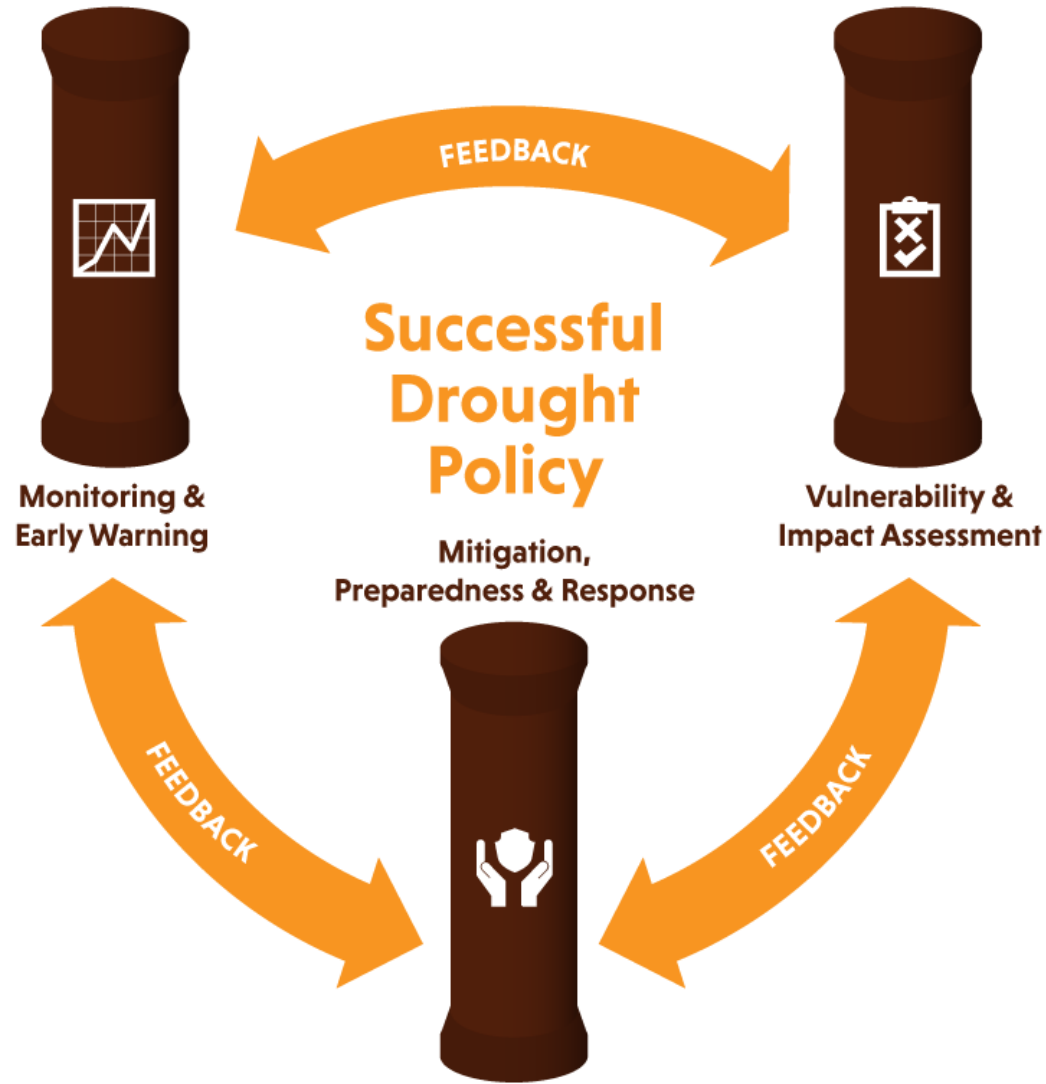
## Drought Management Library

- Over 300 publications
- Vetted by IDMP Partners
- Ongoing updates

[www.droughtmanagement.info/library](http://www.droughtmanagement.info/library)



# The Three Pillars of Integrated Drought Management



# The National Framework of the Three Pillars Approach



## Monitoring and early warning systems

- (NMHS, NDMO, WMO)



## Vulnerability and impact assessments

- (Ministry of Agriculture, Fisheries/Marine Resources, Livestock, Environment/Climate Change Division, Health, Finance, NDMO, NMHS, Water Authority and Internal Affairs, FAO, UNCCD, GWP)



## Drought preparedness, mitigation and response

- (NDMO, NMHS, WMO, Agriculture, Environment/Climate Change Division, Health, Finance and Internal Affairs, Red Cross, FAO, UNCCD, GWP)



# Pillar 1: Monitoring and Early Warning Systems

## Monitoring/early warning, prediction and information delivery systems

- **Integrated** monitoring of key indicators
  - Precipitation, temperature, soil moisture, streamflow, snowpack, groundwater, **impacts**, etc.
- Use of appropriate indices
- **Used to trigger actions in drought plans**
- Reliable seasonal forecasts
- Development/delivery of information and sector-specific decision-support tools







## Risk/Vulnerability and Impact Assessment

- Conduct of risk/vulnerability assessments
- Monitoring/archiving of impacts/losses
- Critical for evaluating progress in risk reduction and also for vulnerability assessment



## Preparedness, Mitigation and Response

- Proactive measures to increase coping capacity
- Response measures that support the principles of drought risk reduction

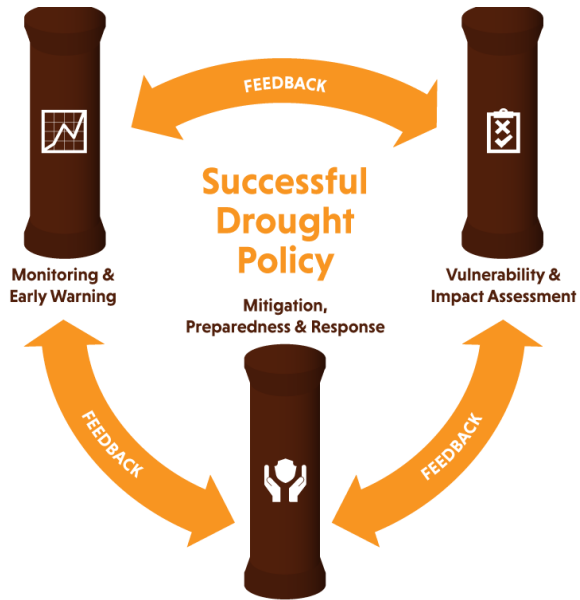


# Tools and Resources on the 3 Pillars of IDM

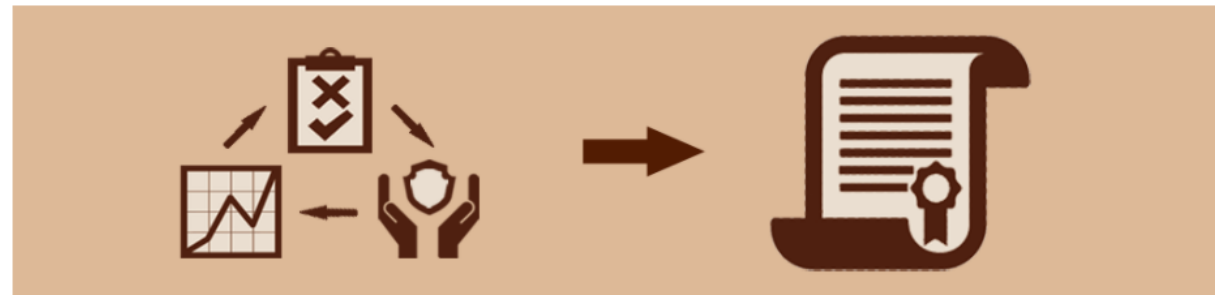
Monitoring  
Early  
Warning

Vulnerability  
& Impact  
Assessment

Mitigation,  
Preparedness &  
Response



Drought Policies and Plans

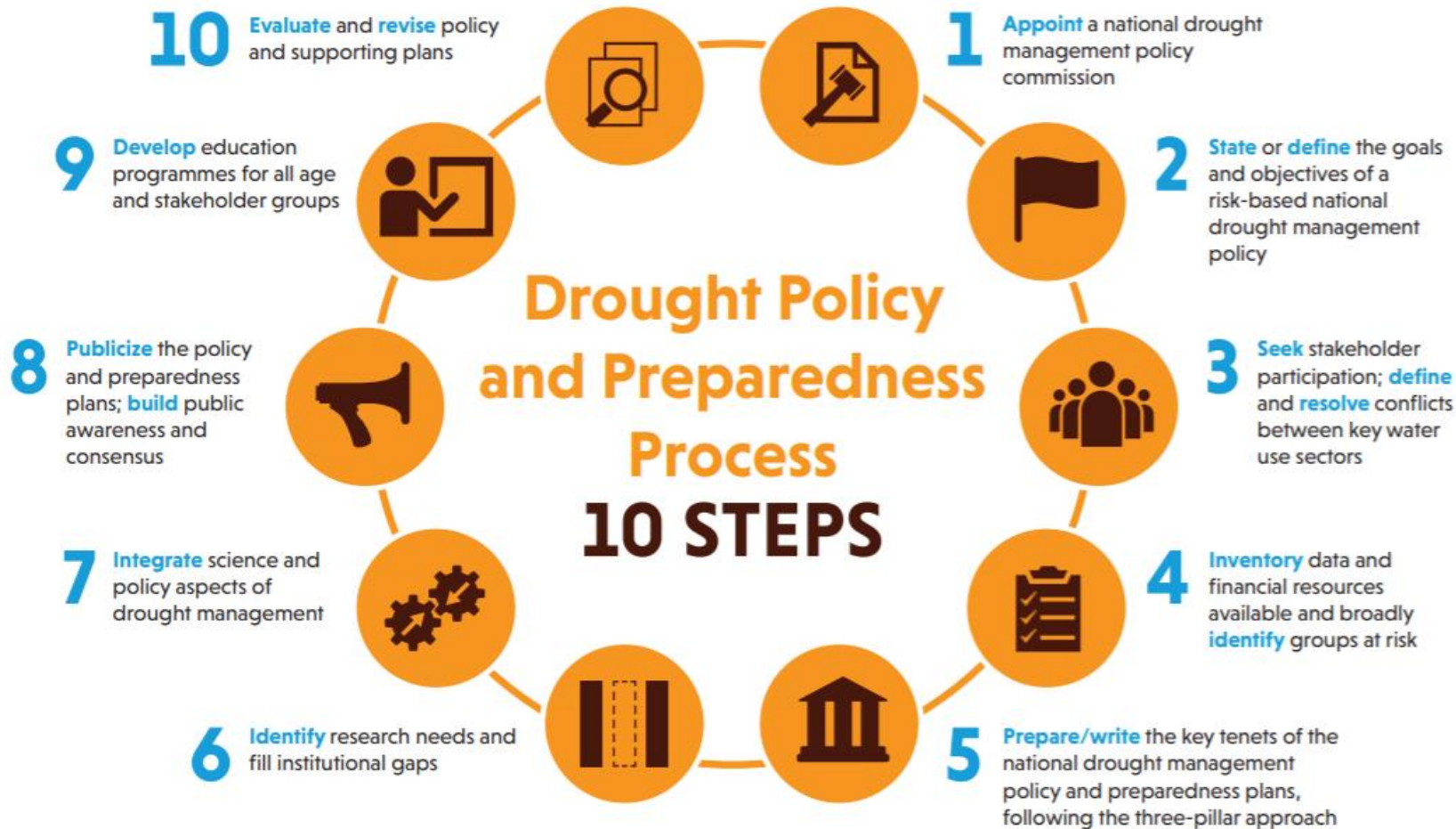


**Tools and Examples  
of Applications on  
the 3 pillars of  
Integrated Drought  
Management**

**Overview of Drought  
Management Plans  
and Policies**

[www.droughtmanagement.info/pillars](http://www.droughtmanagement.info/pillars)

# Connecting the Three Pillars: The 10-step process



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

Adapting of 10-step process by Don Wilhite (National Drought Mitigation Center at the University of Nebraska-Lincoln)

- It is a one approach to assist nations with NDP process
- It can/should be modified/adopted according to local conditions
- Requires political will and coordinated approach; diverse stakeholders must be engaged in the process.
- It has been fundamental in guiding drought mitigation and preparedness plans in the USA, Brazil, Mexico, Morocco, and guided the approach of the UNCCD Drought Initiative in 70+ countries.

- The Three Pillars of Integrated Drought Management:
  1. Monitoring/Early Warning
  2. Vulnerability & Impact Assessment
  3. Mitigation and Preparedness
- It's easy to connect with **IDMP** via the **HelpDesk: droughtmanagement.info**
- Past drought management efforts have been **reactive** — ineffective, poorly coordinated & poorly targeted (**crisis management**)
- **Integrated Drought Management** requires a collaborative approach **within and between levels** of government, civil society and the private sector for monitoring and early warning, risk/vulnerability assessment and mitigation and response
- Time is **NOW** to change the paradigm **from crisis to drought risk management** through **Integrated Drought Management**

# Get in touch: Integrated Drought Management Helpdesk

The image shows three interactive cards arranged horizontally. Each card has a title in an orange box, an icon, a description, and a small orange plus sign in the bottom right corner. The first card, 'Ask', features a question mark and an information 'i' icon. The second card, 'Find', features a magnifying glass icon. The third card, 'Connect', features an icon of people in a circle. Below the cards is a blue banner with the website URL.

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idmp@wmo.int  
valentin.aich@gwp.org  
rstefanski@wmo.int  
kehlert@wmo.int