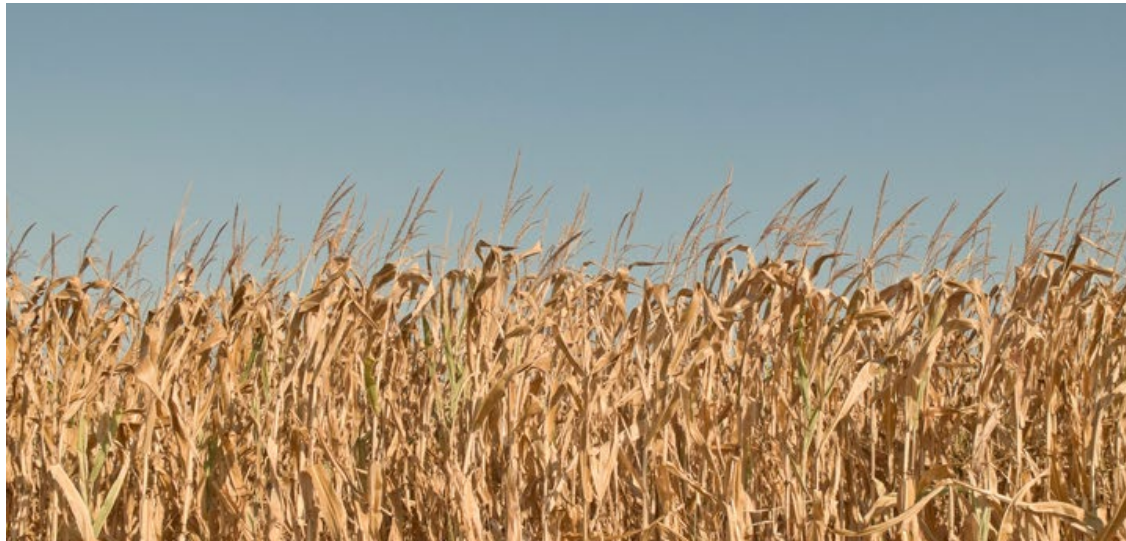




INTEGRATED DROUGHT
MANAGEMENT PROGRAMME

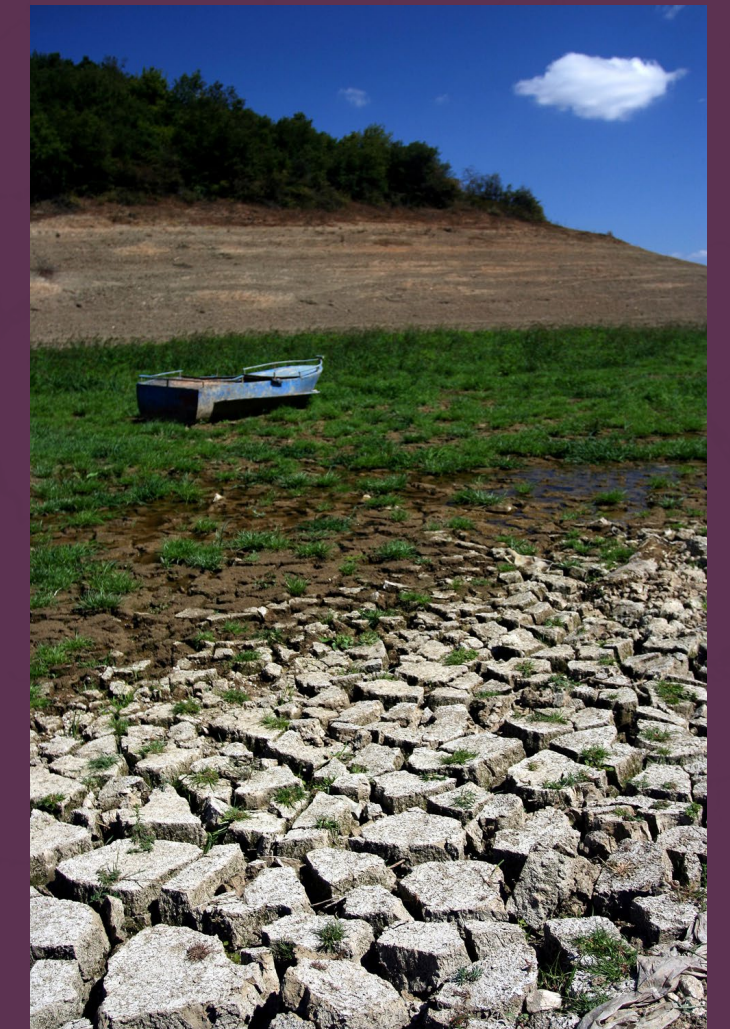


Towards Integrated Drought Monitoring: Bridging Systems, Methods and Decision Making



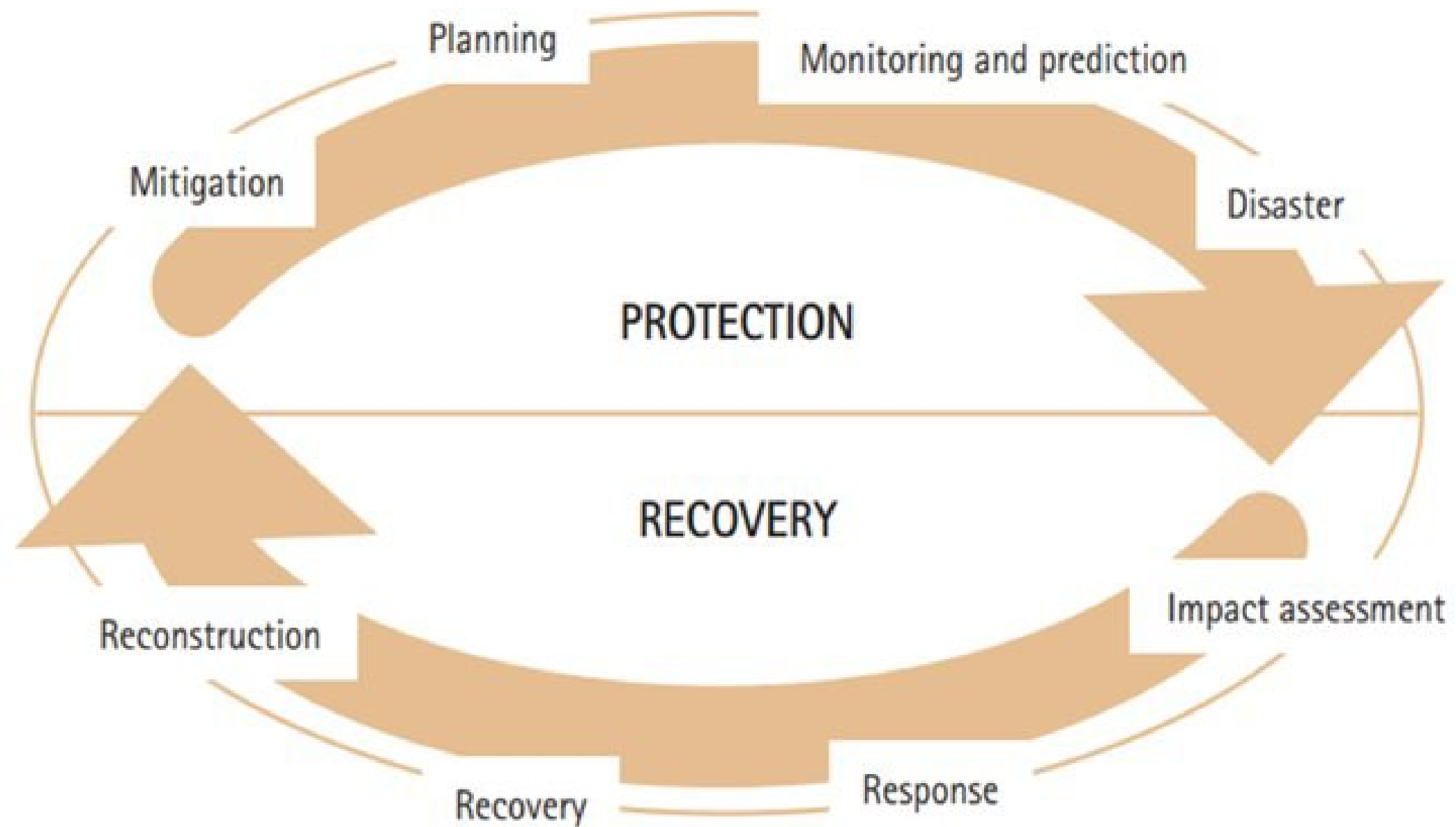
Droughts are among the most complex natural hazards

- Drought is a natural phenomenon, drought disaster are not
- Drought is a creeping phenomenon with a slow onset.
- Lack of a precise and universal definition
- Drought has direct, indirect and remote impacts in many sectors
- Drought is often compounded by other hazards, such as heatwaves, wildfires, floods, etc.



Paradigm shift: from Crisis to Risk Management

Risk Management



Crisis Management

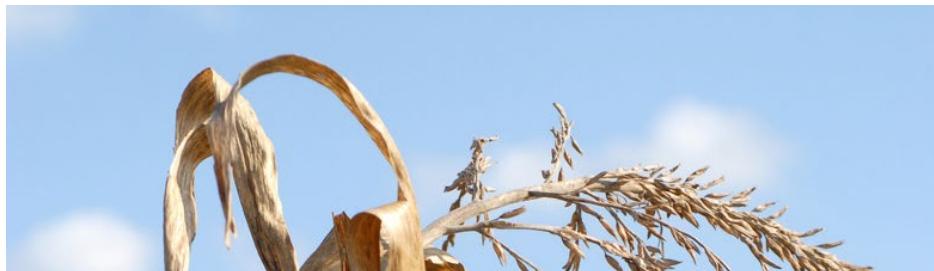


The three pillars of Integrated Drought Management



INTEGRATED DROUGHT MANAGEMENT PROGRAMME

IDMP: 12 Years of Integrated Drought Management



Established in 2013 after a joint High - Level Meeting of WMO, GWP, FAO, UNCCD and other partners.



- Partner base continuously growing: 47 partners in 2025
- 4 Regional Programmes work on IDM implementation



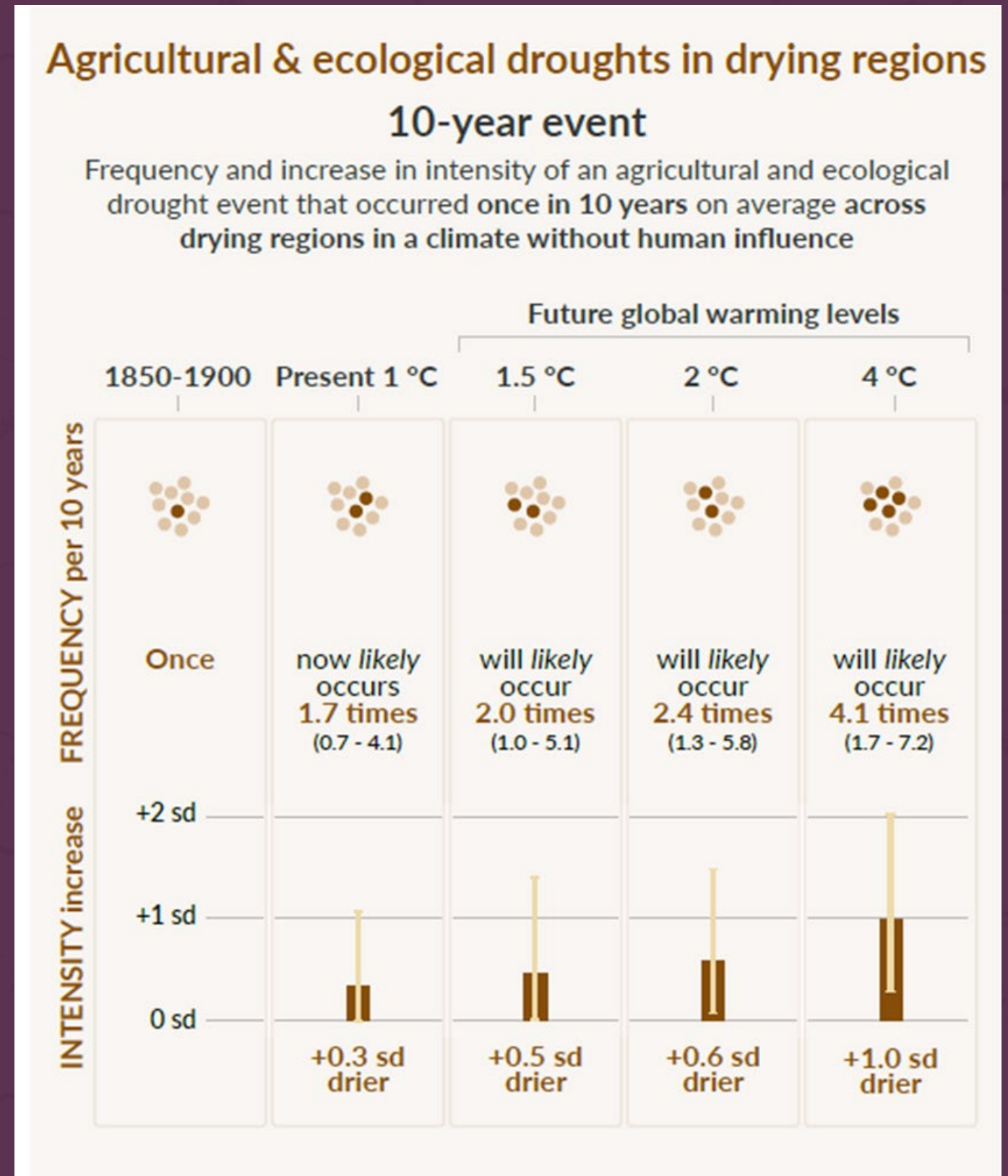
Approach :

- Runs a Help Desk to respond to requests
- Community of Practice
- Develops and contributes to IDM components of projects
- Develops knowledge products
- Capacity building and training on IDM
- Virtual Exchanges 3-4 times a year
- Youth Empowerment

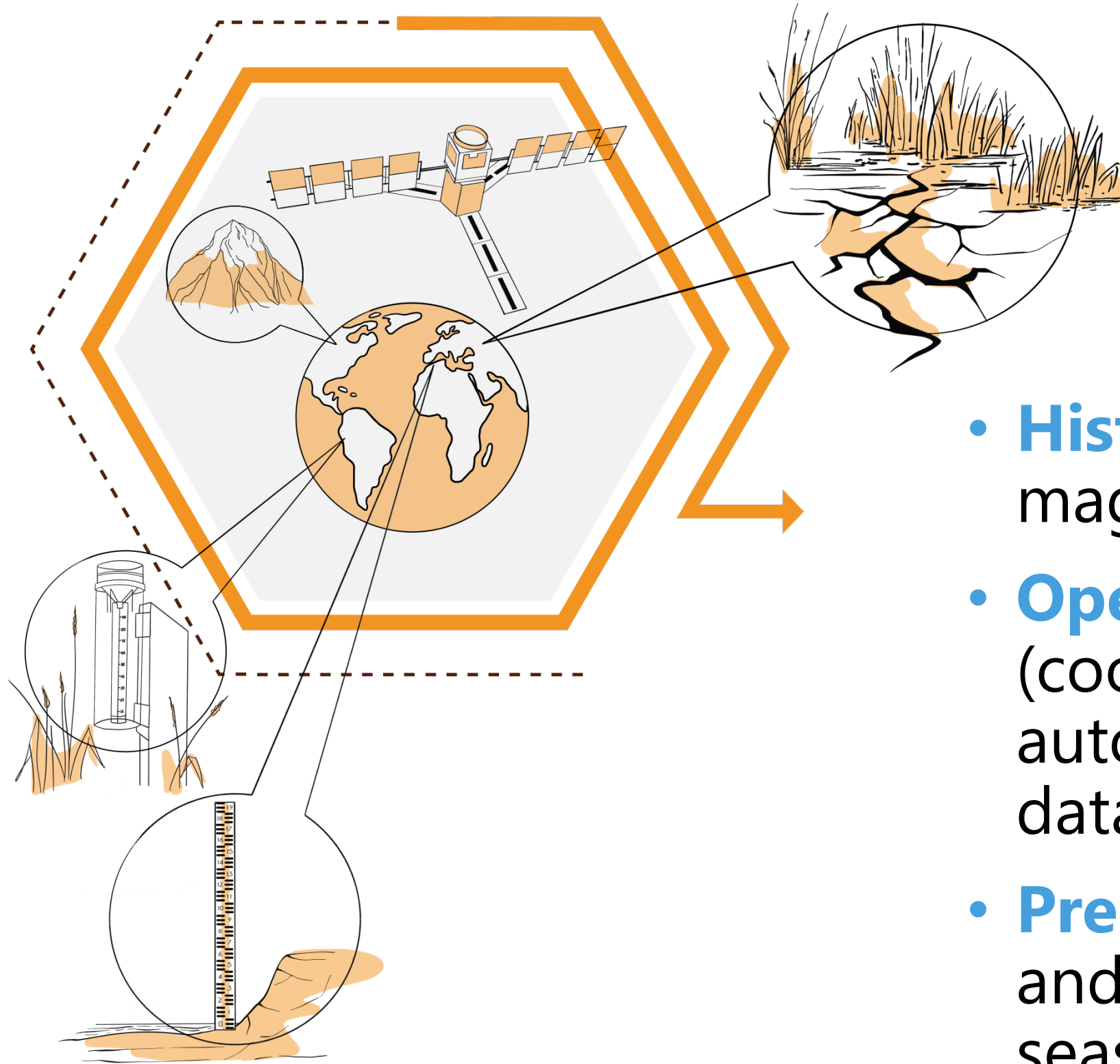
Projections for future drought

Even in a “best case” scenario, when achieving Paris goals (1.5°C warming):

- Drought will occur 2 times more often and will be significantly more severe
- “There will be an increasing occurrence of some extreme events unprecedented in the observational record with additional global warming, even at 1.5 °C of global warming.”



Potential Monitoring System Products and Reports



- **Historical analysis** (climatology, impacts, magnitude, frequency)
- **Operational assessment/Early Warning** (cooperative data, SPI and other indices, automated networks, satellite and soil moisture data, media and official requests)
- **Predictions/Projections /Early Warning** (SPI and other indices, soil moisture, streamflow, seasonal forecasts, SST's)

Monitoring, Early Warning & Information Delivery Systems

Monitored variables

- Precipitation
- Temperature
- Stream flow
- Soil Moisture
- Lake/Reservoir levels
- Snow pack
- Water use
- Ground water
- Remotely-sensed data (e.g., plant water stress)

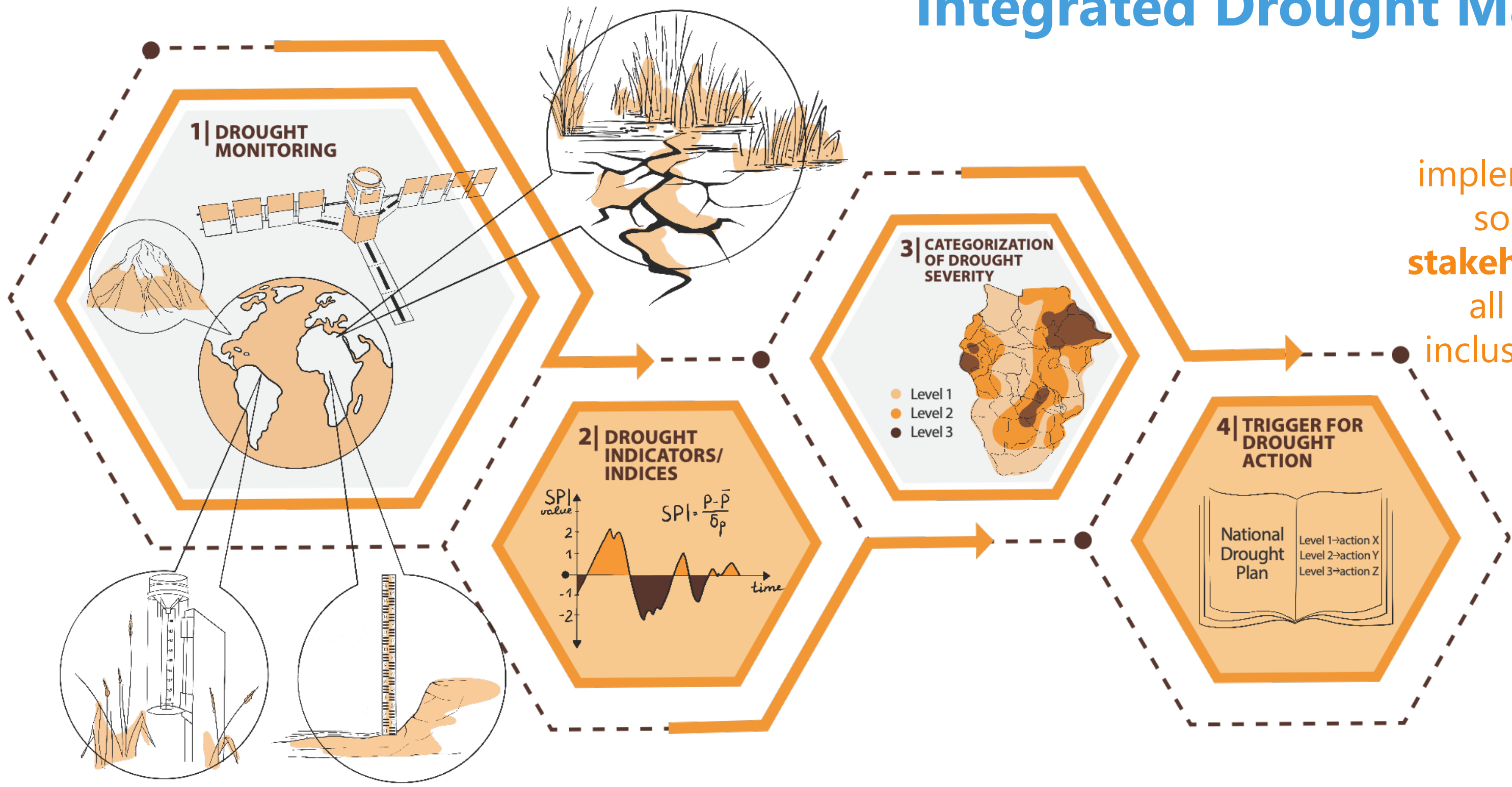
Impacts

By sector, area

Agencies, Ministries, Organizations

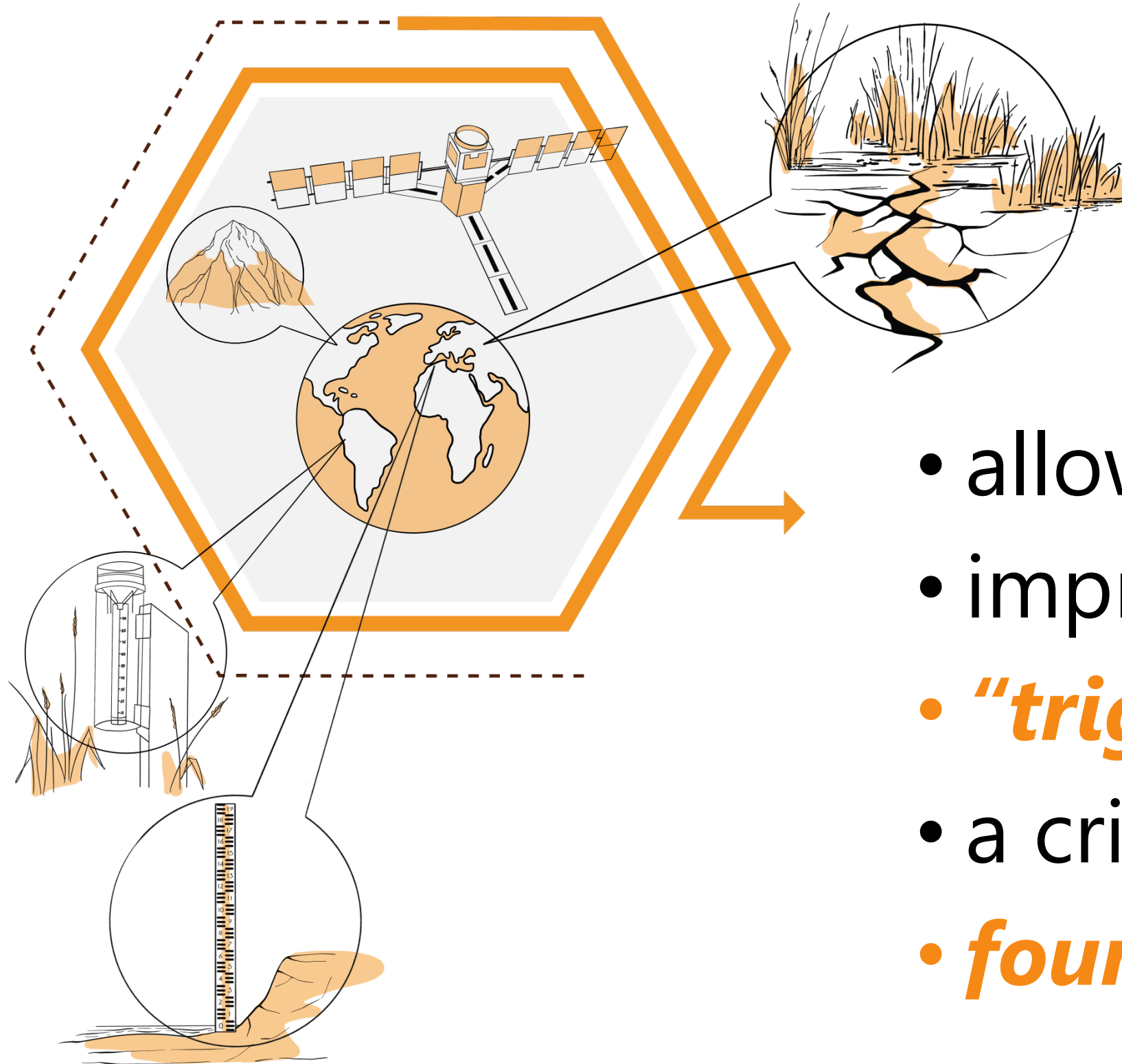
- Water
- Meteorological & Hydrological Services
- Agriculture, Forestry & Fisheries
- Environment
- Health
- Energy
- Transportation
- Commerce
- Social Services
- NGOs
- Others

Drought monitoring for Integrated Drought Management



The design and implementation of technical solutions is based on **stakeholder engagement** at all steps and using an inclusive **whole-of-society approach**

Importance of a Drought Monitoring System



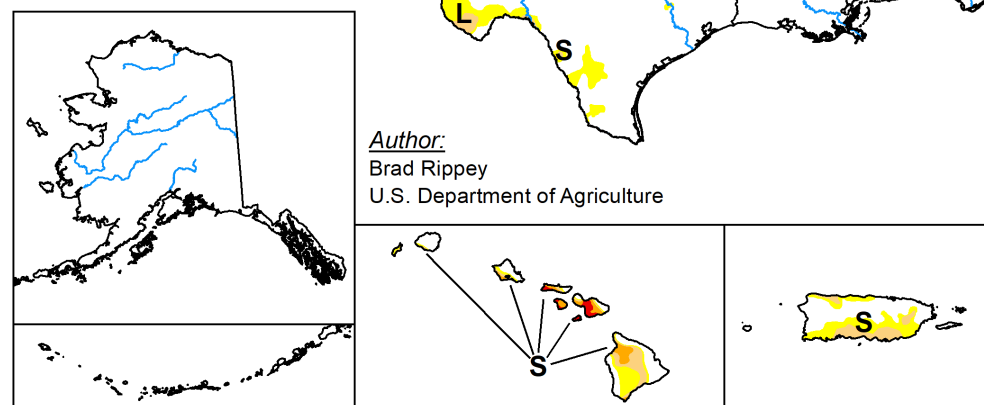
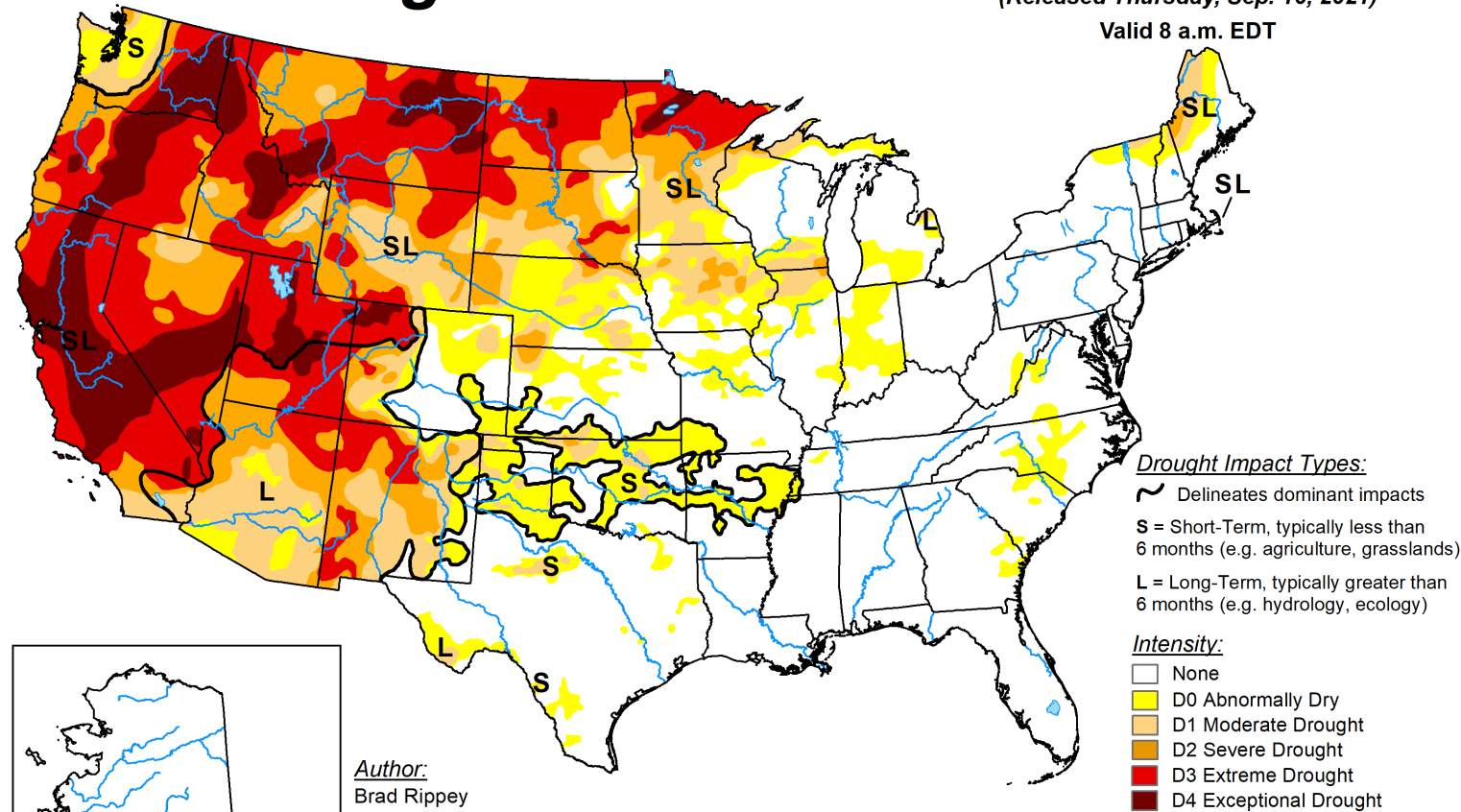
- allows for **early** drought detection
- improves response (**proactive**)
- **"triggers"** actions within a drought plan
- a critical **mitigation** action
- **foundation** of a drought plan

Drought Forecasting is building on the Monitoring

Monitoring Products linked and building on Drought Forecasts

U.S. Drought Monitor

September 14, 2021
(Released Thursday, Sep. 16, 2021)
Valid 8 a.m. EDT



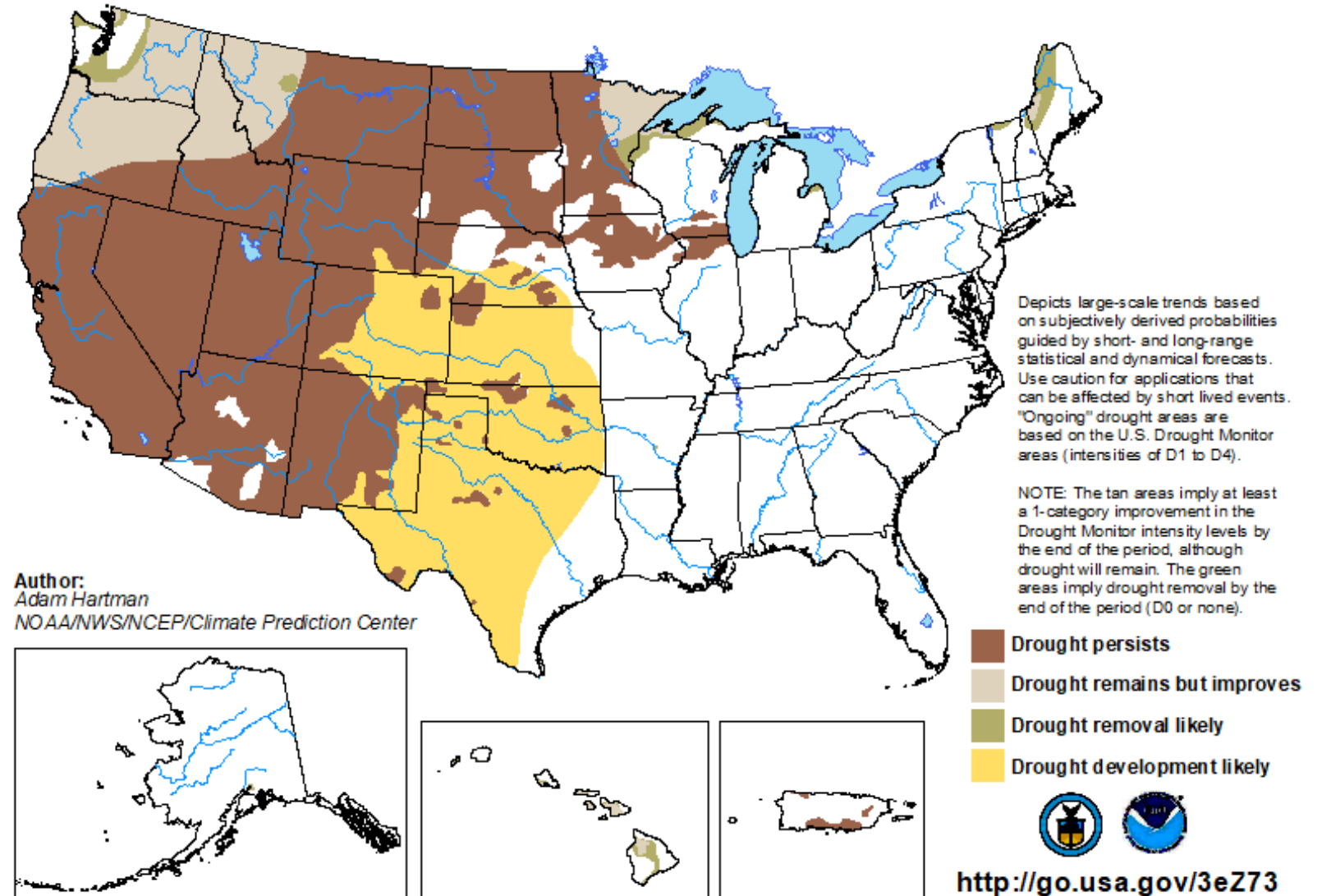
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>



droughtmonitor.unl.edu

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for September 16 - December 31, 2021
Released September 16

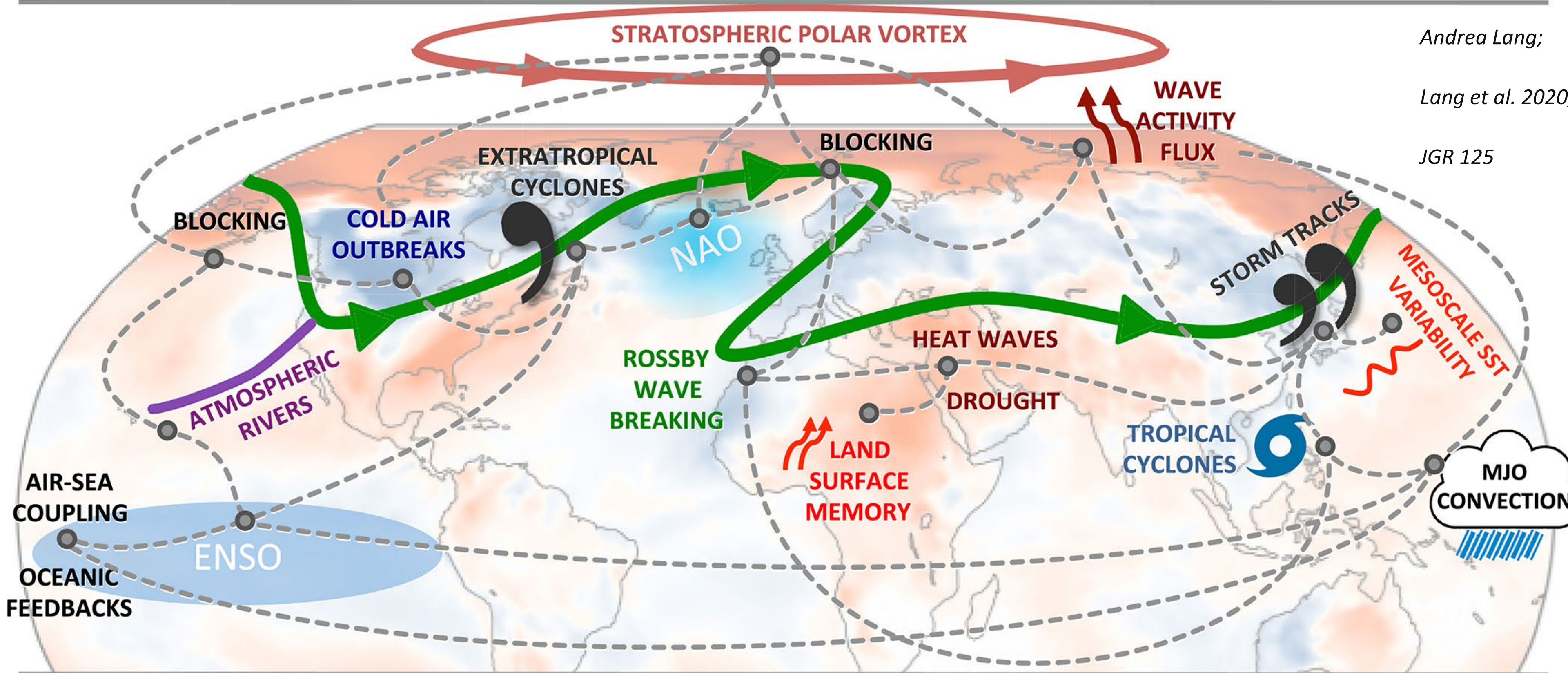


Weather Prediction
Initial Conditions
Data Assimilation

Bridging Weather and Climate: Subseasonal-to-Seasonal (S2S) Prediction

Climate Prediction
Boundary Conditions
Coupled Earth System

← Day Week Month Season Year →



Andrea Lang;
Lang et al. 2020
JGR 125

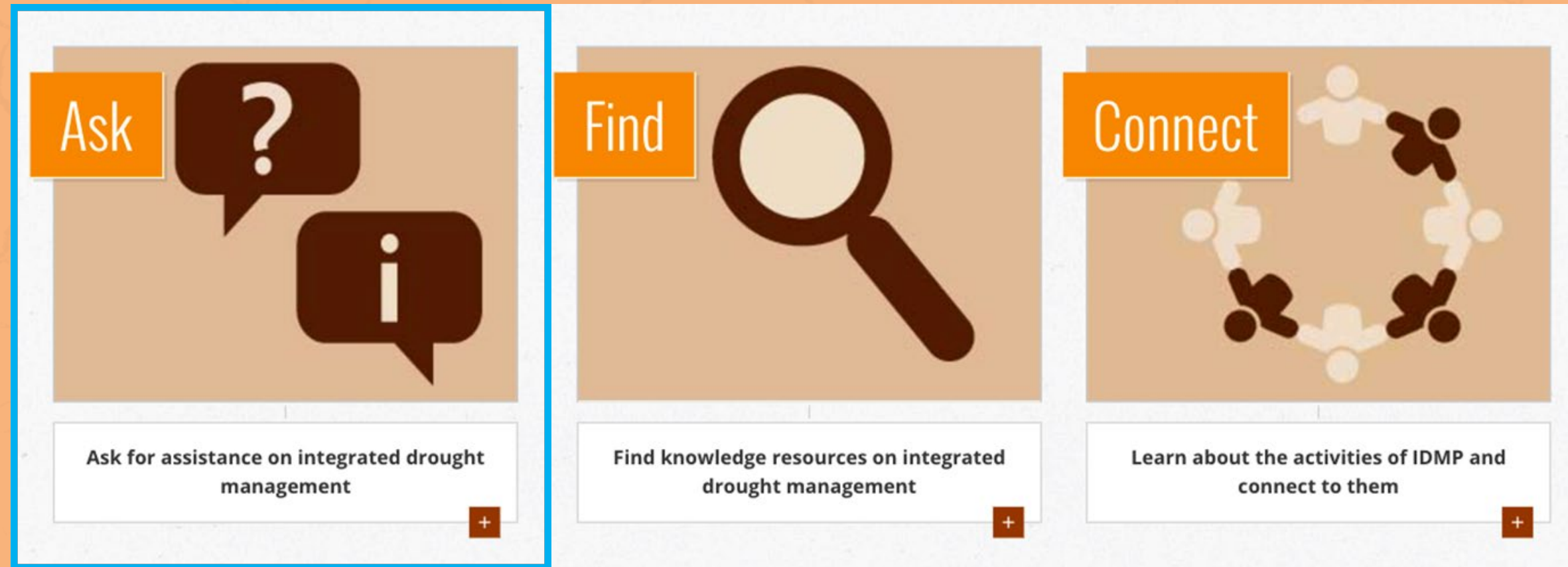
Scale interaction Ensemble generation Resolution Systematic biases Teleconnections Physical Processes Applications Extremes

Information tailored for all affected sectors



Sector-specific Drought Information for Effective Sectoral Decision-Making.

Get in touch: Integrated Drought Management Helpdesk



www.droughtmanagement.info

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