



African Union 

AMHEWAS

Agenda
2063
The Africa we Want

African Union 

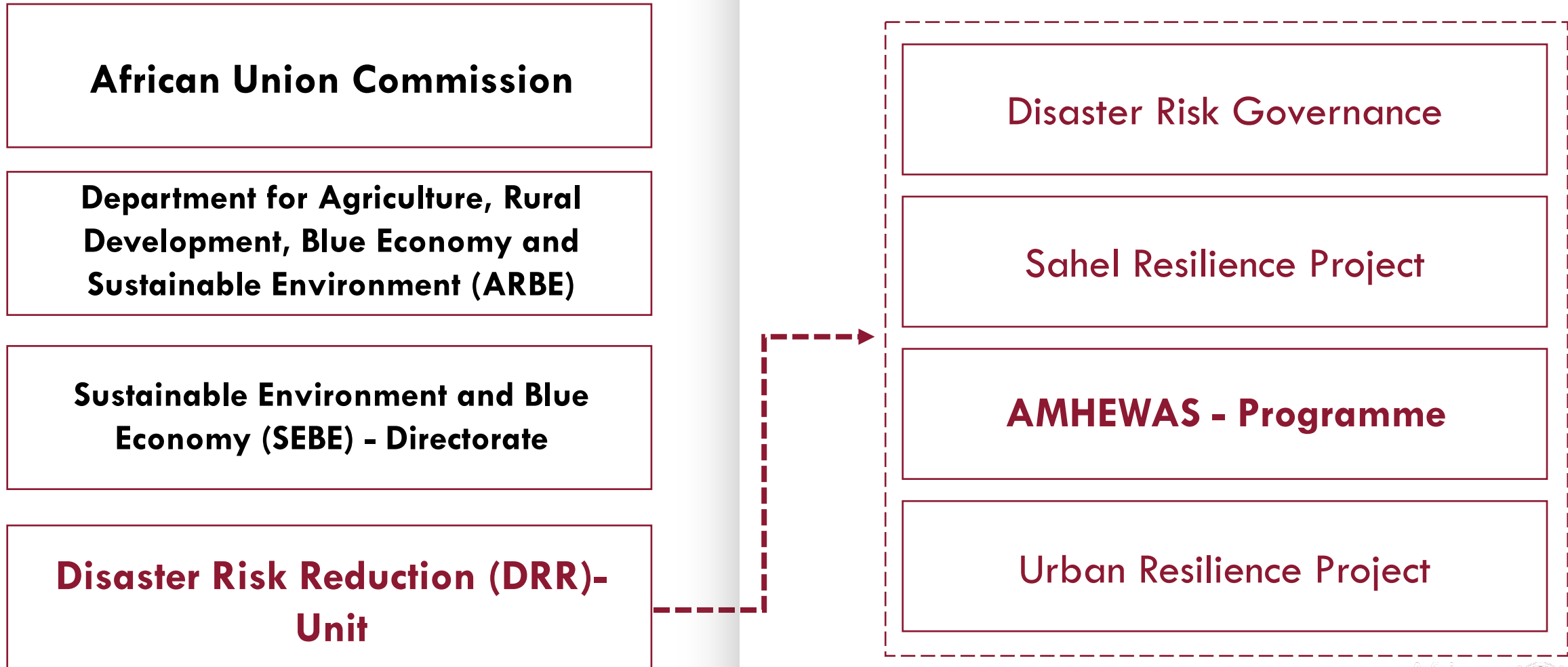
Department for Agriculture, Rural Development,
Blue Economy and Sustainable Environment (ARBE)

Africa Multi-Hazard Early Warning & Early Action Systems (AMHEWAS)

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Early Warning Expert

16th EUMETSAT User Forum for Africa
Cotonou, Benin
17th September 2024

Disaster Risk Reduction within the AUC



DRR – Programmes & Projects

DRR Governance

- **Objective:** Strengthen DRR governance in Africa
- **Outcome:** reduced disaster losses, facilitate implementation of Plan of Action for Sendai Framework for Disaster Risk Reduction & the Africa Regional Strategy for Disaster Risk Reduction (ARSDRR)

Sahel Resilience

- **Objective:** Foster risk-informed solutions for sustainable development in Western Sahel and Lake Chad Basin countries: Burkina Faso, Chad, Mali, Mauritania, Niger, Nigeria and Senegal
- **Phase II:** (June 2023 – March 2025)
- **Outcome:** increased capacity for monitoring and tracking SFDRR progress, enhanced regional recovery and resilience, enhanced innovations and knowledge on risk-informed development

Urban Resilience (AURP)

- **Objective:** Address urban disaster risk in Africa to promote resilient cities and urban centers
- **Endorsed:** 5th STC-ARDWE (Nov 2023), AU Executive Council (Feb 2024), following technical validation (2023)
- **Outcome:** Improved capacity for disaster risk assessment; functional MHEWAS; DRR integrated into development; functional recovery, adaptation and building back better mechanisms; improved risk transfer

Africa Multi-hazard Early Warning & Early Action Systems (AM-EWAS)

- **Objective:** Strengthen capacity of AU and MS to build, utilize and integrate Multi-Hazard Early Warning & Early Action Systems
- **Endorsed:** AU Executive Council (2019 & 2022); Nairobi, Tunis Decl.
- **Outcome:** Multi-hazard risk knowledge is strengthened; Multi-hazard risk information accessible to African public; Detection, monitoring, analysis and forecasting capacities are strengthened; Early Action and preparedness and capabilities strengthened; Coordination and governance of MHEWS strengthened

DRR – Platforms & Mechanisms

Africa Working Group on Disaster Risk Reduction (AWGDRR)

- **AWGDRR** advisory group providing technical support to AUC, RECs, Member States and Partners;
- Guide implementation of priority programmes of the Africa Regional Strategy for DRR and Programme of Action for Sendai Framework
- **Secretariat:** AUC & UNDRR
- **Core members:** AUC / NPCA; AfDB; 8 RECs; One MS Expert per Region ; UNISDR; World Bank GFDRR; One Representative of Regional Specialized Entities; One Representative of the Civil Society, One Representative of Academia and Research Institutes
- **Non-core members:**
- **Modality:** Twice a year
- **Reporting:** Africa Regional Platform for DRR
- 21st AWGDRR held in May 2024

Monitoring and Reporting Framework (MRF)

- **Objective:** guide AUC coordination and reporting role by facilitating standardized monitoring and reporting on implementation of the POA for Sendai Framework
- Adapted in Oct 2018, through Tunis Declaration
- Operates at 3 levels: AUC, REC and Member State
- **Biennial Report:** 2015-2018; 2019-2020 and 2021-2022
- MRF: defines indicators for systematic data collection; database under development

African Continental Civil Capacity Mechanism for Disaster Preparedness and Response (3CMDPR)

- 3CMDPR Act of 2024
- **Objective:** Facilitate and strengthen cooperation among MS in disaster prevention, preparedness and response; MS request assistance through 3CMDPR
- Coordinate disaster response in Africa; facilitate rapid deployment of resources within framework of pan-African and international solidarity
- Stature to be presented at the next STC Justice and Legal affairs



AMHEWAS

**On the ground:
Same people. Different disasters.**

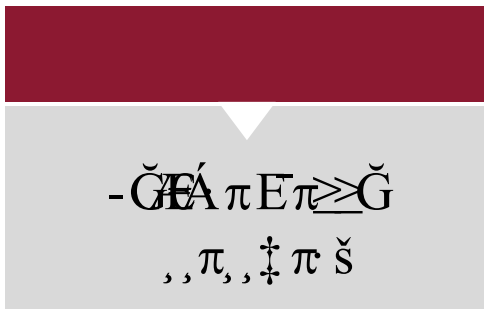
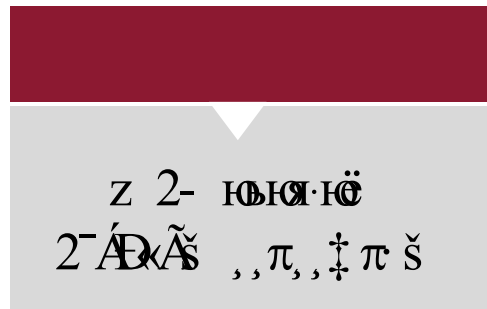
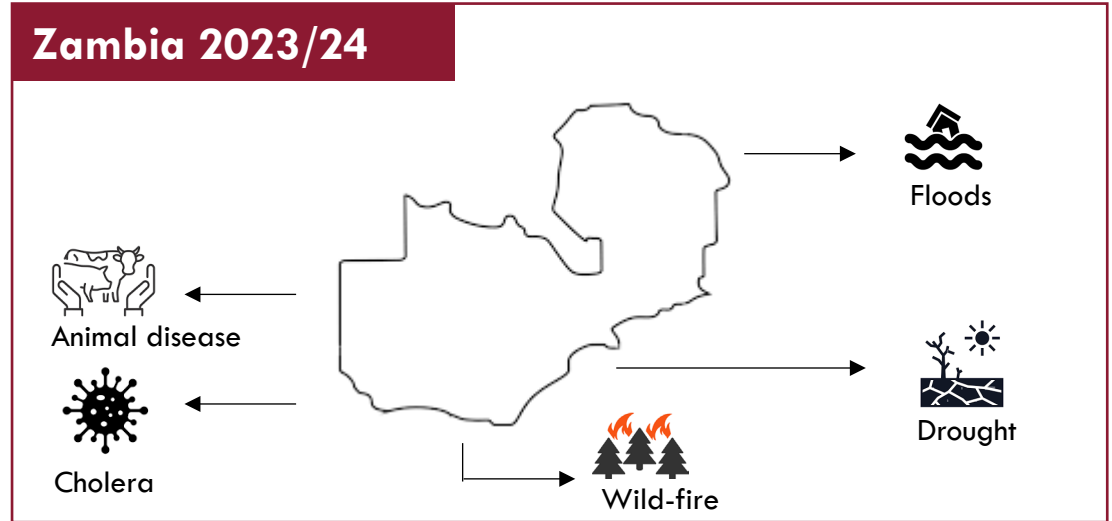
**Challenge:
Translating early warning into early action**

**Sendai Framework for DRR (2015 - 2030):
Substantial reduction in disaster risk and losses**

Multi-Hazard Early Warning & Early Action

On the ground. Same people. Different disasters

- Compounding and cascading disaster impacts
 - Multi-sectoral impact monitoring and analysis
- Collaboration
 - Minimize duplication, promote synergies
 - RECs, RCCs, ACMAD, MS, AUC organs
 - WMO, UNDRR, Partners
- Coordination (transboundary):
 - Intervention
 - Policy

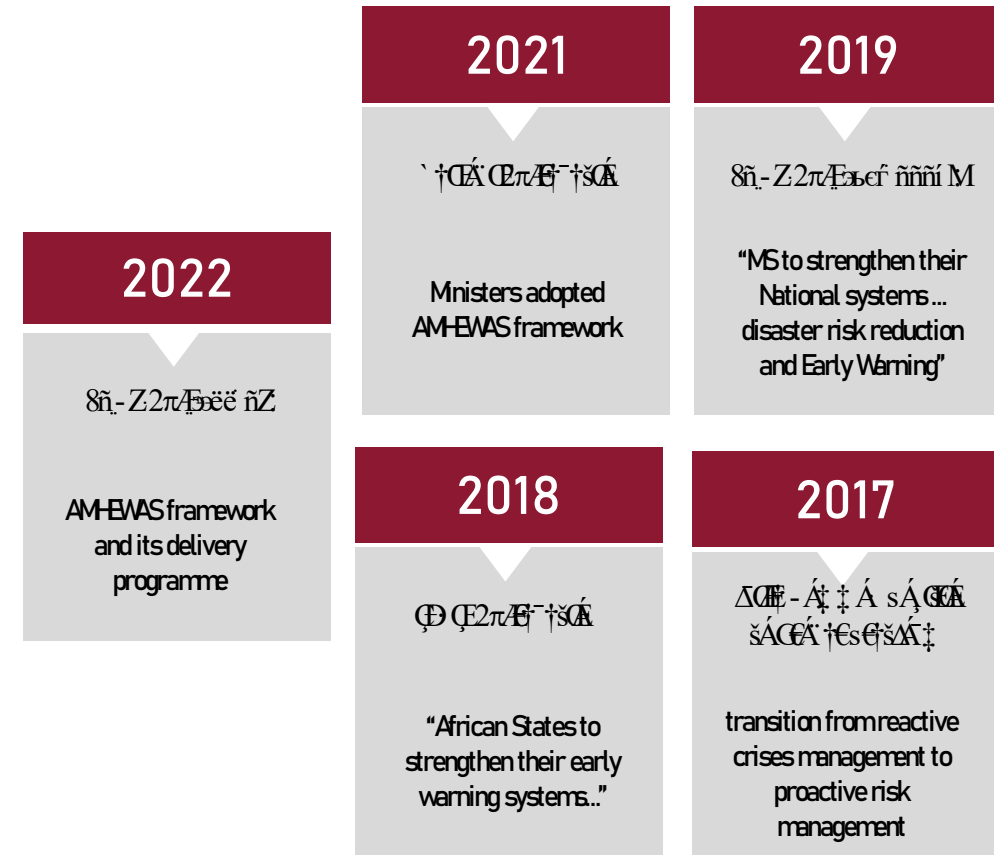


Contextualizing AMHEWAS

Africa Multi-hazard Early Warning & Early Action Systems (AMHEWAS)

- Pan-Africa continental programme - endorsed by AU Executive Council through 2 decisions
 - 2019 EX.CL/Dec. 1076(XXXVI)
 - 2022 EX.CL/Dec.1144(XL)

Objective: strengthen the capacities of the continent to develop, utilize and integrate **multi-hazard** early warning systems as a key tool in disaster risk reduction and in climate change adaptation



Background: Policies & Frameworks

Global

The Sendai Framework for Disaster Risk Reduction (2015–2030)

- **Target G:** Substantially increase availability and access of multi-hazard early warning systems and disaster risk information and assessment
- Increase the number of countries with...risk-informed preparedness plans, and, response, and post-disaster recovery and reconstruction mechanisms

The Hyogo Framework (2005–2015)

- Priority 2: Identify, assess and monitor disaster risks and enhance early warning – multi-hazard

Continental

Africa Programme of Action (PoA) for the Implementation of Sendai Framework (2015–2030)

- **Target G:** Substantially increase availability and access of multi-hazard early warning systems and disaster risk information and assessment
- **Harmonize multi-hazard Early Warning System & effective response mechanism**

Africa Regional Strategy for Disaster Risk Reduction (2006–2015)

- Objective 2: strengthen early warning systems, institutions, capacities and resource base, including observational and research sub-systems

Programme Outcome

1

Multi-hazard risk knowledge is strengthened

2

Detection, monitoring, analysis and forecasting capacities are strengthened

3

Multi-hazard risk information accessible to African public

4

Early Action and preparedness and capabilities strengthened

5

Coordination and governance of MHEWS strengthened



AMHEWAS

**Multi-Hazard:
Flood, Drought, Landslides, Wildfire, Tropical
Cyclone, Heat wave, Cold wave, Earthquake,
Disease Outbreaks, Conflicts,**

**Transboundary Coordination
Interventions
Policy**

**Common Continental Position:
Global Discourse (DRR, Climate Change,
Development)**

Implementation: Situation Rooms



State-of-the-art centers, also referred to as Disaster Operations Centre
365/24/7 monitoring and early warning at continental, regional and national level

- ▶ **AUC** - African Union Commission (Addis Ababa – Ethiopia)
- ▶ **ACMAD** - Africa Centre of Meteorological Application for Development (Niamey, Niger)
- ▶ **ICPAC** - IGAD Climate Prediction and Applications Centre (Nairobi, Kenya)
- ▶ **ECDWAS** – Economic Community of West African States (Abuja, Nigeria)
- ▶ **ECCAS** – Economic Community of Central African states (Doula, Cameroon)
- ▶ **SADC** - Southern Africa Development Community SHOC (Nacala, Mozambique)

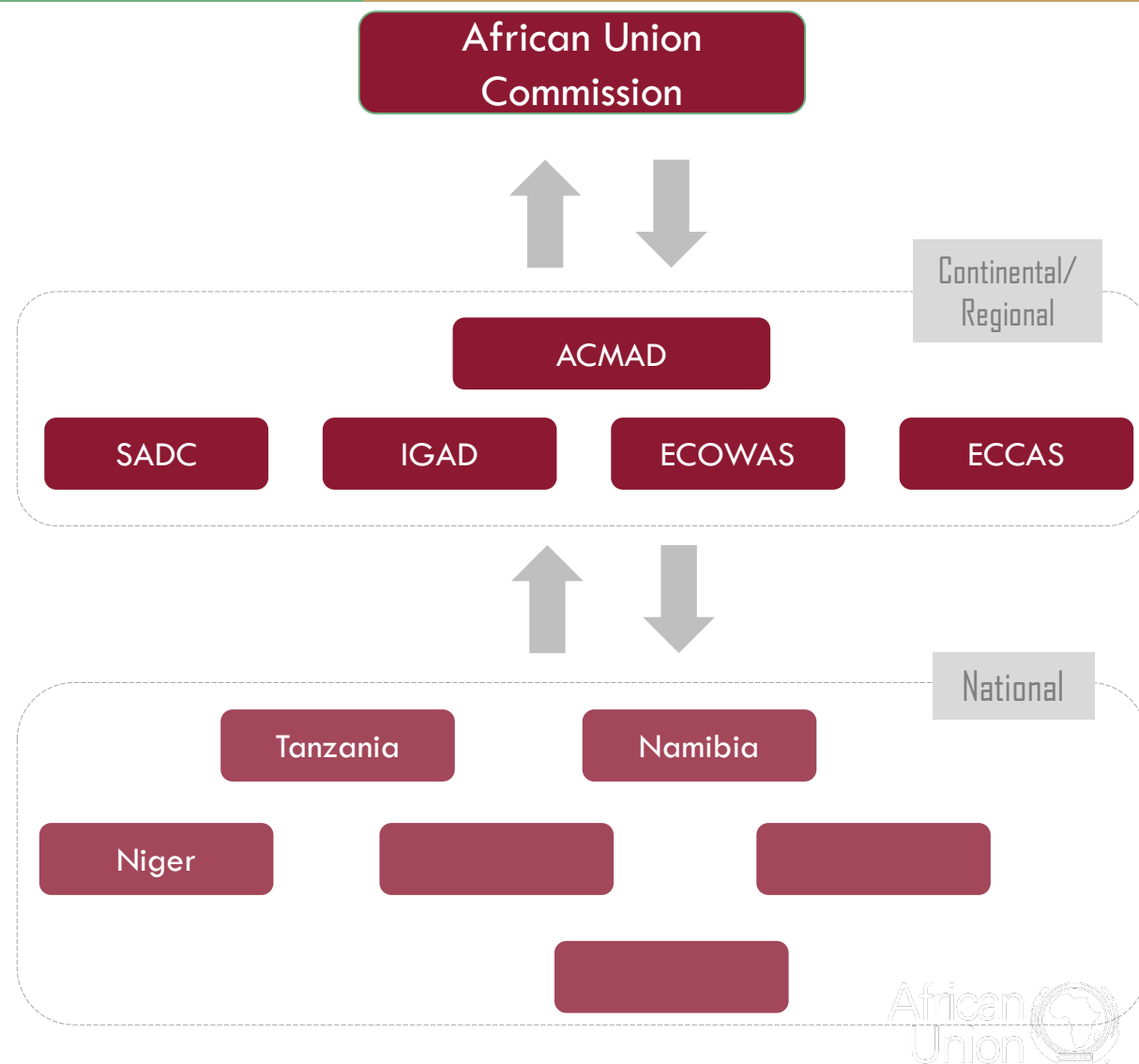


Implementation: Situation Rooms

AMHEWAS is network of Situation Rooms

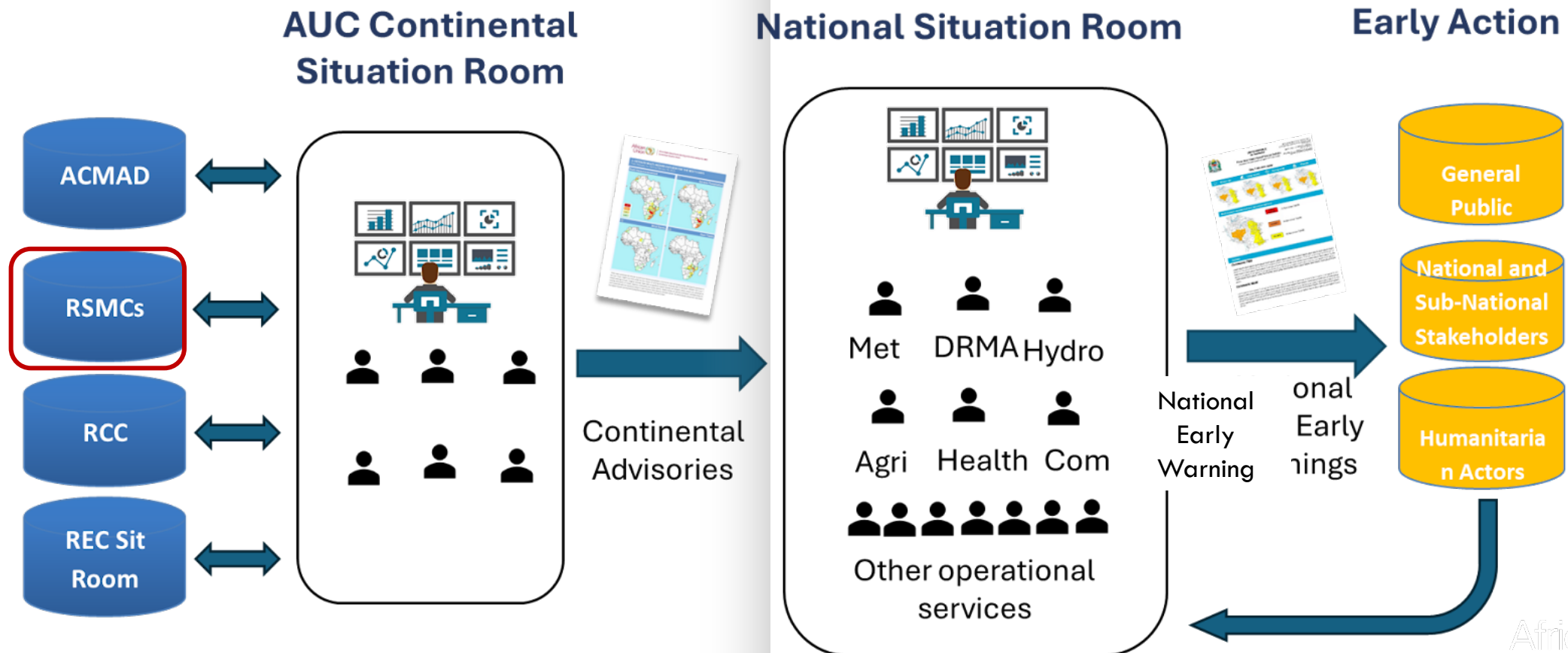
- Infrastructure (*hardware*)
- Systems (*software, analytics, data*)
- Connectivity/Interoperability
- Technical capacity (*on-the-job, secondments*)

- Disasters are border agnostic (transboundary)
- Coordination (breaking silos)
- Effective interventions within and across borders



AMHEWAS Products: Flow Continental to National

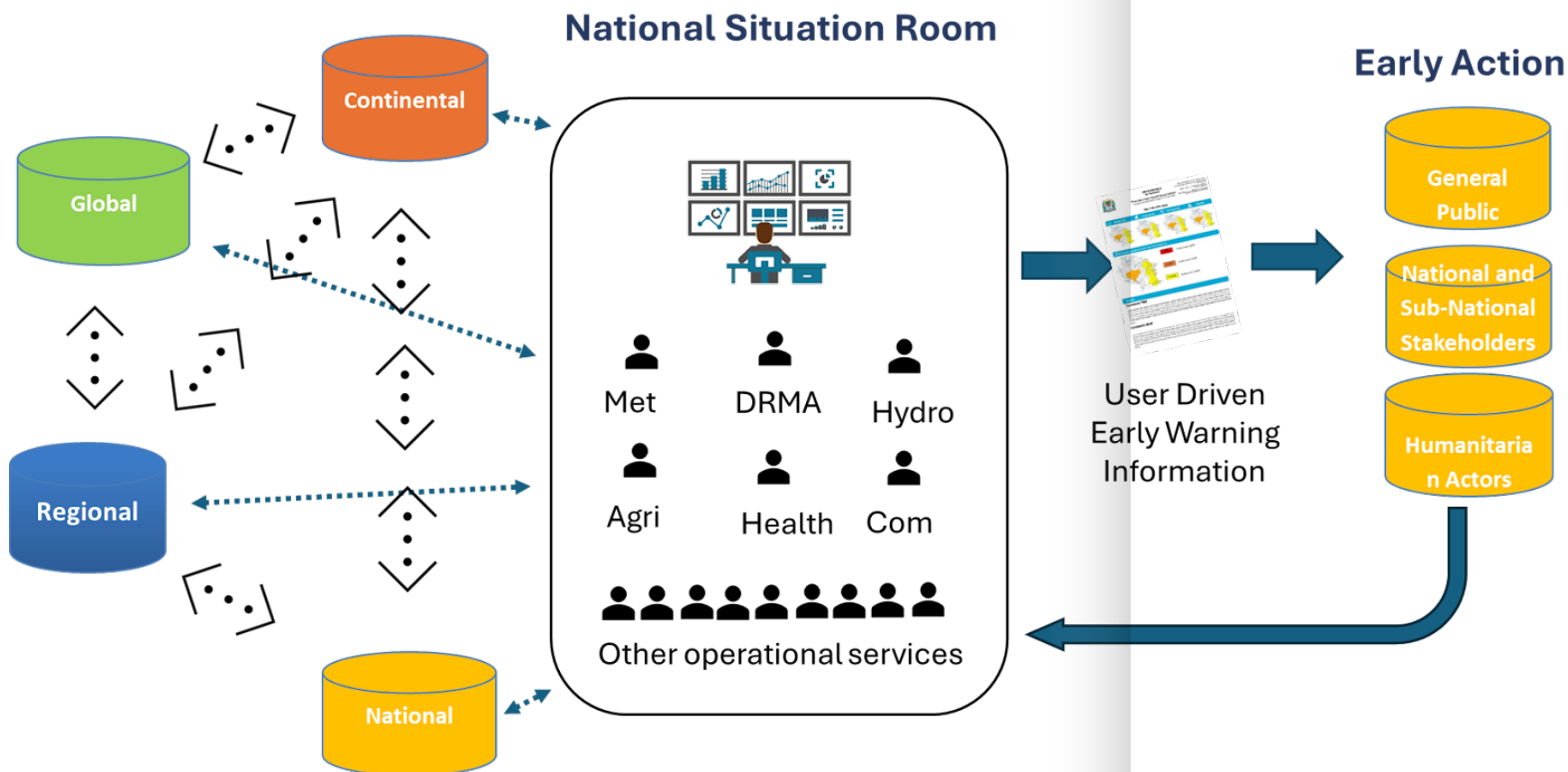
Use Case: Conceptual Flow on the use of AMHEWAS products for National Early Warnings



Source: Draft technical guidelines under development

National Situation Rooms

National Situation Room



- Technical Guidelines for co-production of AMHEWAS products
 - Coordination mechanisms at continental, regional, national

Source: Draft technical guidelines under development

AMHEWAS Products

1. Continental Watch

- **Fast onset disasters** (Floods, extreme precipitation, wind storms)
- **Frequency:** Twice a week
- **Distribution:** Email
- **Co-production:** AUC, ACMAD, RECs, RCCs, **RMSC**

2. Drought in Africa

- **Slow onset** (drought)
- **Frequency:** Monthly
- **Distribution:** Email*
- **Co-production:** AUC, ACMAD, RECs, RCCs

Africa Multi-Hazard Early Warning & Action System
Continental Situation Room

2. DETAILED MULTI-HAZARD OUTLOOK FOR THE NEXT 5 DAYS

From May 3, 2024 to May 7, 2024

Multi-Hazard assessment

Extreme Precipitation

Wind Storms

Riverine Floods

Continental Watch

From Friday, May 3, 2024 to Tuesday, May 7, 2024

1. HIGHLIGHTS

Observed events over the last five days:
(From Sunday, April 28, 2024 to Thursday, May 2, 2024)

- **Tanzania - Tropical cyclone**
 - A new tropical storm named 'Hidaya' formed off the east coast of Madagascar, Comoros and Mayotte (France). On 3 May at 0.00 UTC its center was located southeast of the area of Dar es Salaam city with sustained winds of 137 km/h (tropical cyclone).
- **Kenya - Floods, Update**
 - Heavy rainfall continues to affect most of the country during the rainy season (from March to May), causing flooding in the Mara rivers, floods, flash floods, and additional loss of lives and severe damage.
 - The Kenya Red Cross reports, as of 1 May, that approximately 117,000 households (approximately 219,440 individuals) have been displaced.
 - On 29 April, the Old Kijabe dam, located in the region, burst amid torrential rainfall. At least 10 people were killed and the death toll might increase. Rescue efforts are ongoing.

Drought in Africa February 2024

2. Current Drought Conditions

Drought Severity and Extent across Africa
As of March 2024 (2nd dekad)

Legend

Combined Drought Index - CDI (Severity)

- **No drought:** Rainfall deficit (Watch)
- **Moderate:** Rainfall deficit (Warning)
- **Severe:** Soil moisture deficit (Warning)
- **Extreme:** Reduced vegetation productivity following rainfall & soil moisture deficit

Figure 1 Drought conditions across Africa based on Combined Drought Index (CDI) showing persistent drought conditions in southern and northern Africa regions.

Persistent drought conditions are observed in southern and northern regions of the continent (Figure 1) as affected countries continue to grapple with impacts of the ongoing drought including food insecurity, higher food prices and water scarcity. Higher temperatures, below average rainfall and erratic temporal and spatial rainfall distribution characterize the ongoing drought with southern Africa experiencing the driest Jan-Feb in over 40 years. Zambia, Malawi and Zimbabwe have declared the ongoing wide-spread drought national state of emergency and disaster appealing for urgent humanitarian assistance.

Southern Africa: severe to extreme drought conditions attributed to El Niño phenomenon are observed over large expanse of Zambia, Zimbabwe, Malawi, northern Botswana, central Mozambique, Lesotho, eastern Angola and southern South Africa marked by significant soil moisture deficit and reduced vegetation productivity leading to reduced agricultural production even as the rainfall season comes to an end. Failed cropping season is reported across Zambia, Zimbabwe and Malawi as also

Africa Multi-Hazard Early Warning and Action System - AMHEWAS

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Continental Watch - 13th Sep 2024

Continental Watch

From Friday, September 13, 2024 to Tuesday, September 17, 2024

1. HIGHLIGHTS

Observed events over the last five days:

(From Sunday, September 8, 2024 to Thursday, September 12, 2024)

Cameroon – Floods

- Heavy rainfall has been affecting the Far North region of Cameroon and Nigeria since mid-August, causing widespread floods that have caused significant damage to critical infrastructure.
- UN OCHA reports, as of 10 September, 11 fatalities, a total of 110 people and over 12,500 damaged or destroyed houses across the region: Logone and Chari, Mayo-Danay, Diamaré, Mayo-Tsanagoua. Logone and Chari department is the worst affected with more than 100 people.

Nigeria - Floods and Dam Overflow, Update

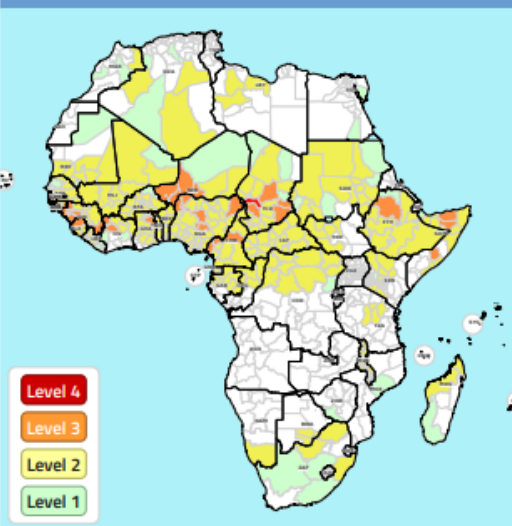
- The humanitarian impact due to the heavy rainfall, floods and dam overflow that have been affecting north-eastern Nigeria since 7 September.
- According to media, as of 12 September, the overflow of the Aji River occurred on 10 September, and flooded Maiduguri city, in eastern Nigeria. At least 30 people died, more than 414,000 have been affected, and approximately 1 million people had been affected, and thousands of houses were destroyed.
- The Borno State government has appealed for humanitarian support and UN/humanitarian partners' needs assessments are ongoing to support to address priority needs in shelter, clean water, and food.

South Sudan - Floods, Update

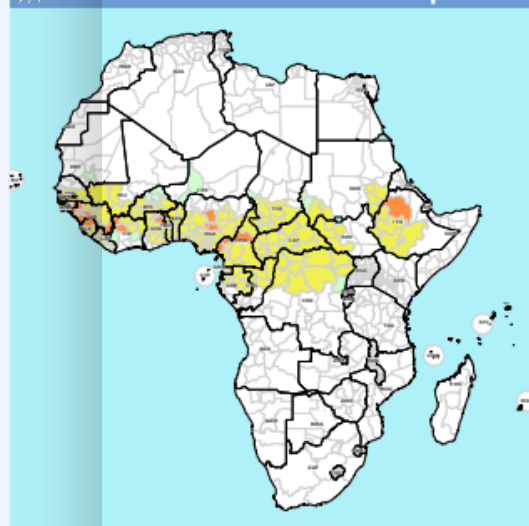
2. DETAILED MULTI-HAZARD OUTLOOK FOR THE NEXT 5 DAYS

From September 13, 2024 to September 17, 2024

Multi-Hazard assessment



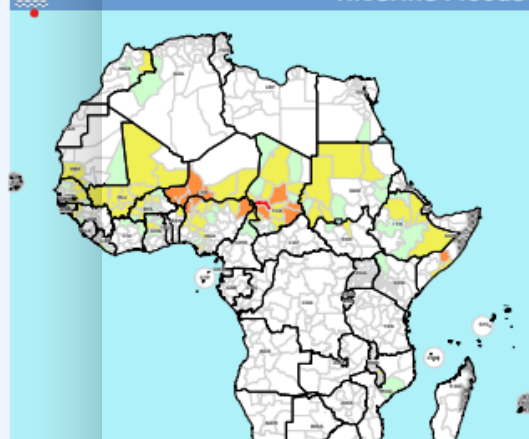
Extreme Precipitation



Wind Storms



Riverine Floods

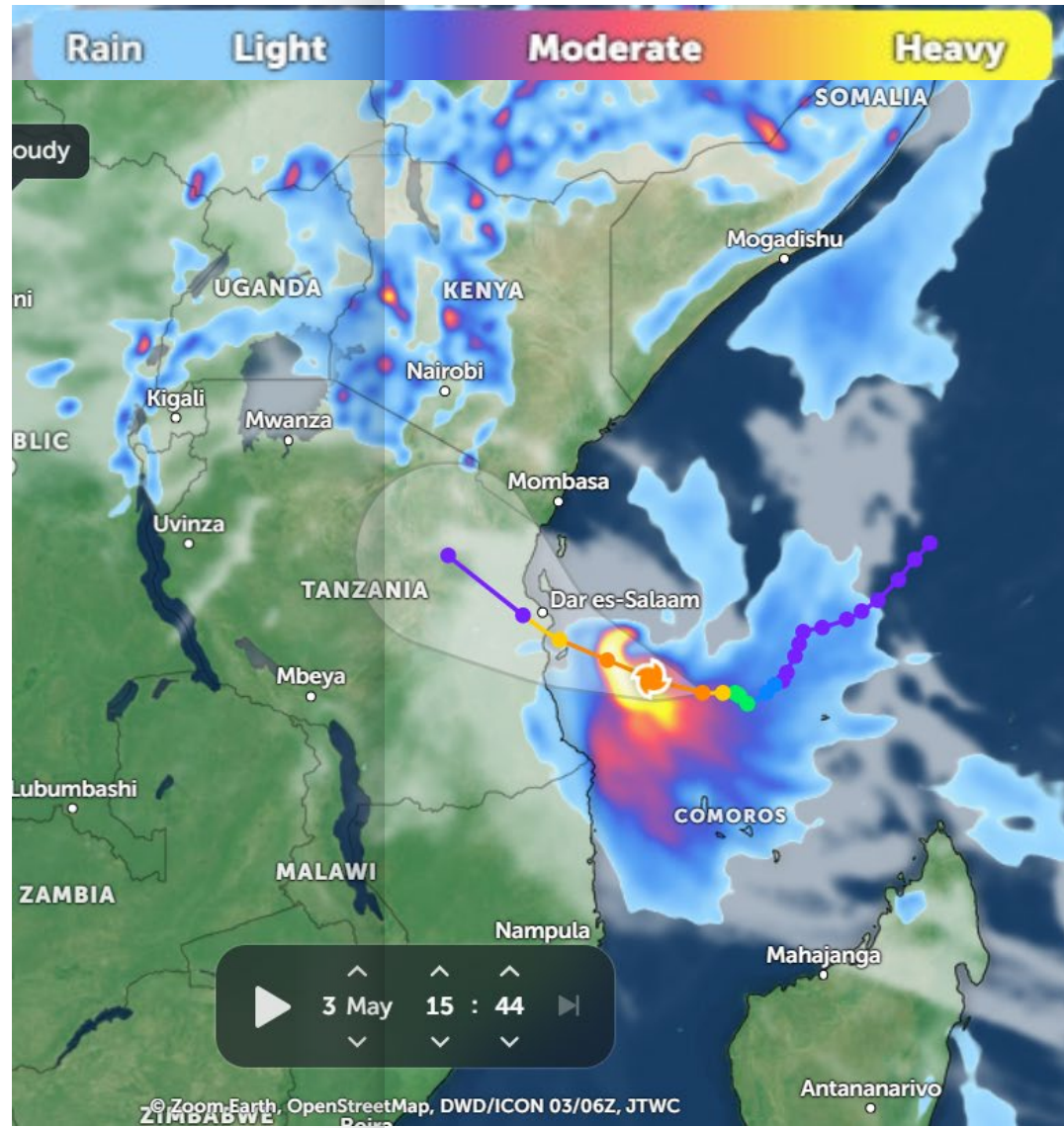
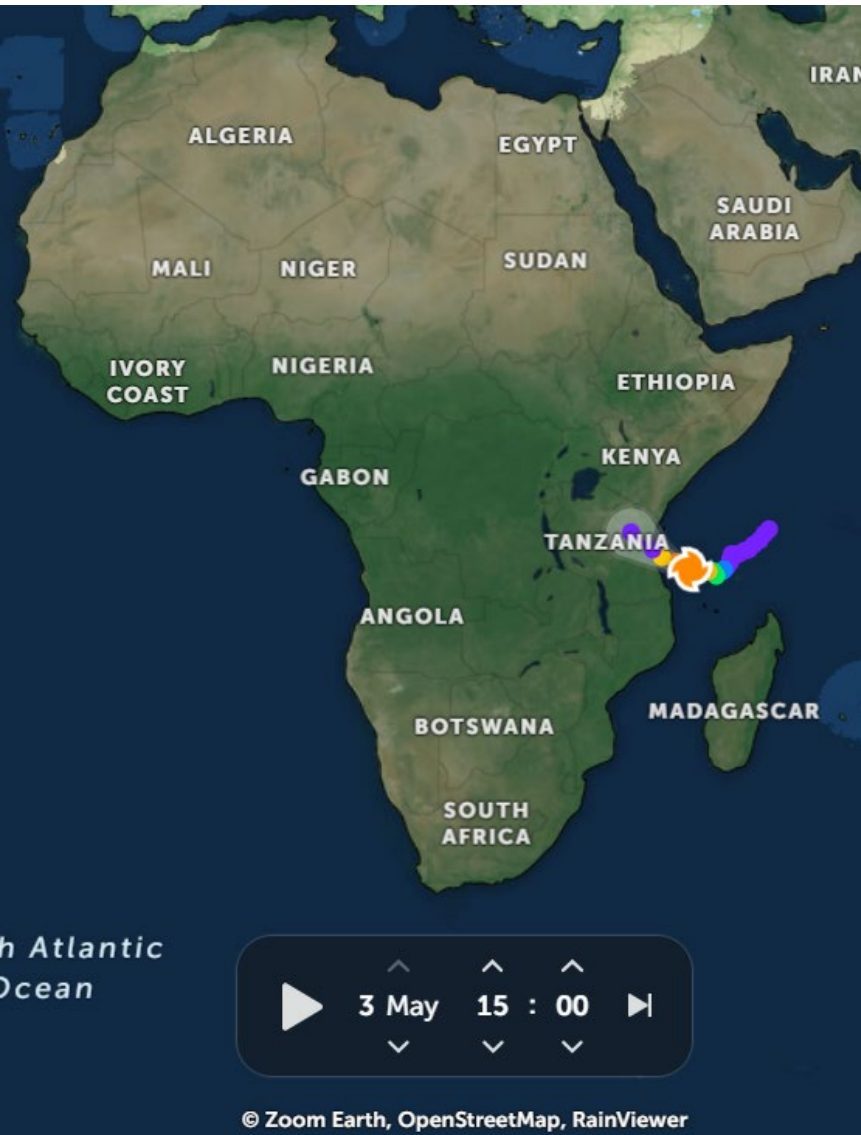


1. Multi-Hazard*

2. Transboundary

3. Continental Position

Cyclone Hidaya



Tropical Cyclone Hidaya

DATE UTC+3	TIME	TYPE	WIND km/h	PRESSURE hPa
6 May	03:00	R	55	Forecast
5 May	03:00	R	75	Forecast
4 May	15:00	SS	110	Forecast
4 May	03:00	C	165	Forecast
3 May	15:00	C	165	Forecast
3 May	03:00	C	140	977
2 May	21:00	SS	110	990
2 May	15:00	S	95	994
2 May	09:00	S	85	996
2 May	03:00	S	75	996
1 May	21:00	D	65	997
1 May	15:00	D	65	1000
1 May	09:00	B	55	1002
1 May	03:00	B	55	1003
30 Apr	21:00	B	45	1005
30 Apr	15:00	B	45	1005
30 Apr	09:00	B	45	1005

C Tropical Cyclone
Forecast: 165 km/h winds

⚠️ Latest Warnings and Information

ICON 14 km GFS 28 km

Highlights – Drought in Africa

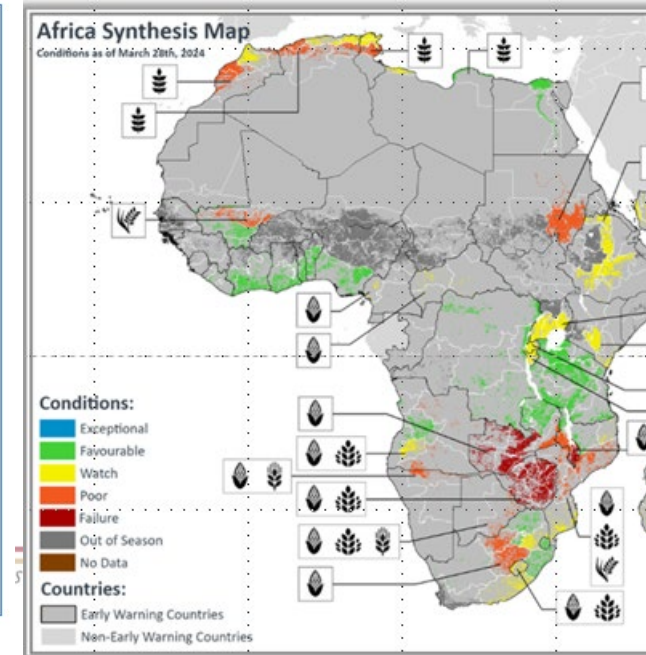
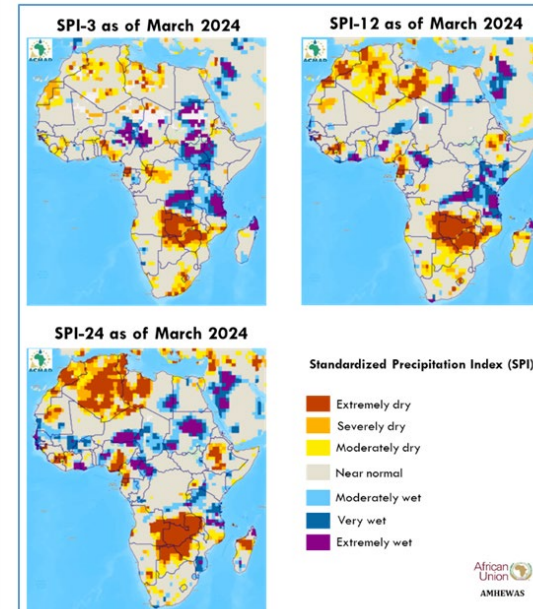
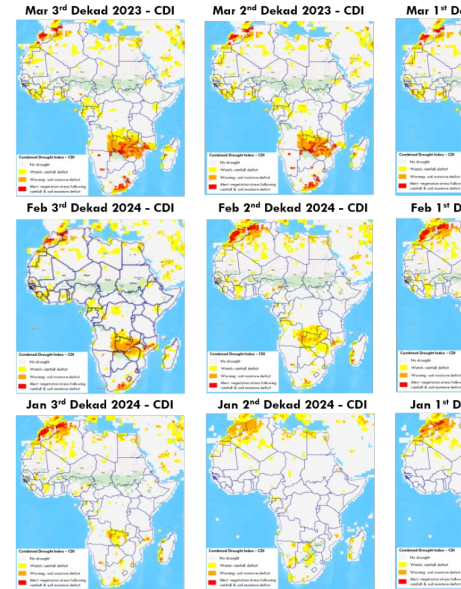
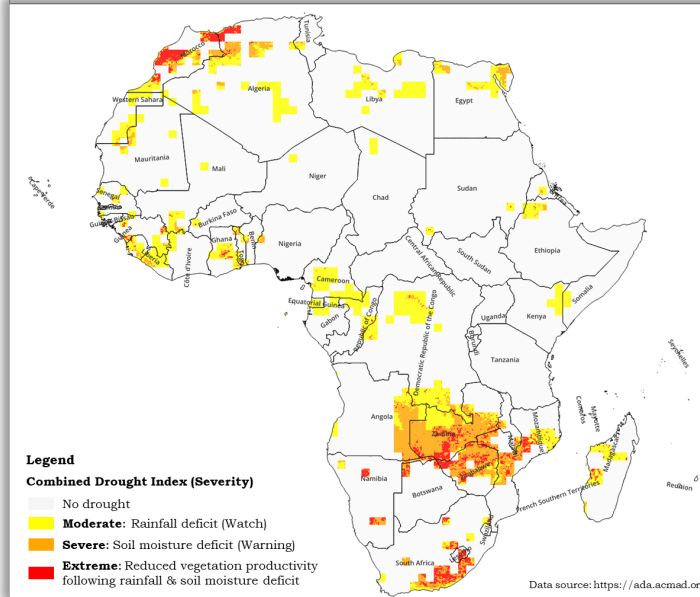
Northern Africa

- Countries affected:** Morocco, Algeria and Tunisia
- Characteristics:** Below average rainfall, above average temperatures
- Duration:** Multi-year drought
- Impacts:** Water use restrictions, wheat import subsidy, high food prices,

Southern Africa

- National declaration:** Zambia, Malawi and Zimbabwe, Namibia, declared national state of disasters
- Other countries:** Botswana, Angola, Mozambique, Lesotho, South Africa
- Characteristics:** El Nino driven prolonged dry spells, below average rainfall, very high temperatures
- Impacts:** Failed crops, water shortage

Drought in Africa March 2024



MHEWS

- ▶ **The Gap:** *still remains* translating early warning to action
- ▶ **Synergies** across initiatives & frameworks: AMHEWAS, EW4All, CREWs, DRR and Climate Change Frameworks
- ▶ **Cross-sectoral** multi-sectoral approach to MHEWS and for effective action (immediate, short-term, long-term)
- ▶ **Multi-hazard** early warning systems key priority, a systems of systems approach is required
- ▶ **Investments** across the whole value chain; ground stations, forecasting methods, multi-hazard systems, impact-based forecasting, analytics, dissemination, communication
- ▶ **Opportunity:** Leverage emerging technology to analyze and understand **compounding and cascading** impacts of hazards across time and space



African Union

Collaboration

- Situation Rooms
 - Hydromet hazards forecasting (NHMS)
- AWDRR Technical Working Group
- Technical Experts Task Force (Draft guidelines)

Collaboration, Coordination, Conversation



Potential areas of collaborations?



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Thank You

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