Fostering Regional User Interface Platform for Informed Climate Decision-Making

Water and Health Users Interface Platforms and Continental Climate Outlooks: Expected Products and Contributions from the RCCs and Hydrological Community.

Presented by
Dr Romeo Sosthène Nkurunziza

"Thousands have lived without love, not one without water." -H. Auden

06/12/2023

Credit: ACMAD/NORCAP Team

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ACMAD

Created through resolution 540 of the United Nations Economic Commission for Africa (UNECA) Conference of Ministers in April 1985 following the droughts of the 70s and 80s, ACMAD is established in Niamey-Niger since October 1992

- **Enhance** African countries / NMHs' capability to understand, anticipate and manage the impacts of weather and climate fluctuations to support the achievement of sustainable development and poverty reduction;

- **Consolidate** weather/climate monitoring efforts in Africa, better understand the African weather systems (monsoon) and improve forecasts;

- **Facilitate the** exchange of information, experience and expertise; and strengthen sustainable institutional mechanisms;

- **Provide** advanced notice on potential weather and climate-related hazards and information for the implementation of policies for vulnerability reduction and adaptation to climate variability and change.

Continental User Interface Platform for the Health and Water Sectors

- Establish during the first workshop on the continental User Interface Platform for DRR, Agriculture, Water and Health.
- *Terms of References and rules of procedure, using WMO guidance documents for the platforms, have been established and are available to support their operationalization. Reference*

Structured interaction between the users, researchers and climate services providers in Africa region through User Interface Platforms (UIP)

ACMAD and Partners organised a workshop in Cameroon Yaoundé from 26-29/07/2022 during which continental User Interface Platforms for **Agriculture, Water**, **DRR** and **Health** were created.

Products and Services for Response to Identified Risks

- Monitoring heavy rains, dry/wet spells, floods and droughts, high-temperature watches, and issues warnings/alerts;
- Conduct Impact based daily to seasonal forecasts of precipitation, temperature, high/low flow or water levels;
- Climate risk assessments over water basins and develop risk profiles over these basins;
- Develop web application/AI that manages, monitors, and detect extremes in real-time and issues warnings and alert, thereby, enhancing the Common Alerting Protocol CAP;
- Hydrological Status and Outlook System – monitoring and predicting global freshwater and hydrological conditions.

Activities

- Assessment of water availability (surface and groundwater)
- Climate risk assessment for the water sector
- Floods, drought watches, warnings and alerts
- Prepare advices on water levels for water management in dams, lakes, rivers etc.
- Training and exchanges between climate services providers and water experts
- Development and update of climate and water information systems with climate, stream flow, water levels data, and available infrastructure for water management.
- Update, tailor and share climate/water data and information among stakeholders
- Monitoring and evaluation of activities above.

Rules of procedures

Chair AU/AMCOW: Secretariat: ACMAD/ANBO frequency of Meetings: quarterly and ad hoc

Institutions making up the WUIP:

Group 1: Decision Makers; Group 2: Knowledge Producers; Group 3: Users

List of organisations making up the WUIP

Group1: Decision Makers	Level of Operations			
	Local	National	Regional	Continental
Government		X	X	
River Basins (Transboundary River Basin)	X			
RECS (ECOWAS, SADAC, CEMAC, IGAD, CEEAC)			X	
AUC				X
AMCOW				X
Financial and Technical partners	x	x	x	x

List of organisations making up the WUIP

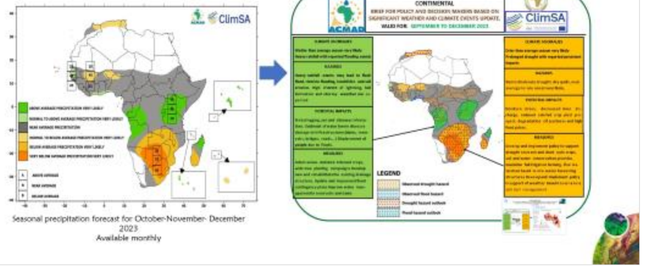
Group2: Knowledge Producers	Level of operations			
	Local	National	Regional	Continental
WMO			x	x
ACMAD			x	x
UNESCO			x	x
FAO			x	x
UNECE			x	x
CIWA			x	x
TWMO /African Network of Basin Organisation			x	x
RCCs		x	x	x
GWP		x	x	
NMHSs	x	x	x	x
Universities	x	x	x	x

Group3: Users	Level of operations			
	Local	National	Regional	Continental
Ministries	x	x		
River Basin Organisation			x	
Dam Authority		x		
Civil Societies	x	x		
Decision Makers	x	x		
Humanitarian Agency	x	x		
Civil Protection	x	x		
Disaster Risk Reduction Committee	x	x		
Electricity, Water Companies	x	x		
Irrigation Scheme	x	x		
NGOs	x	x		
Communities	x	x		

Water User Interface Platform

Expected products and contributions from the RCCs and hydrological community.

Seasonal precipitation forecast to Brief for Policy and Decision Makers

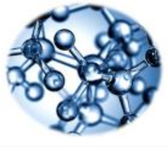


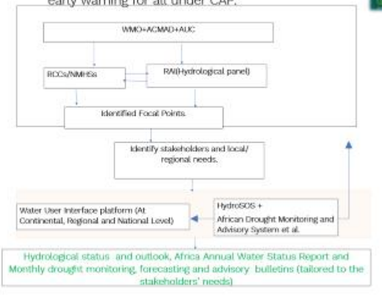
Seasonal precipitation forecast for October-November- December 2023
Available monthly

Operationalization of the WUIP: Synergizing tools and systems to work towards delivering precise and concise information to inform early warning for all under CAP.

Way forward & collaboration for the future

Proposed WUIP Operationalisation Blueprint:
ACMAD, WMO and AUC to coordinate the implementation of the following blueprint





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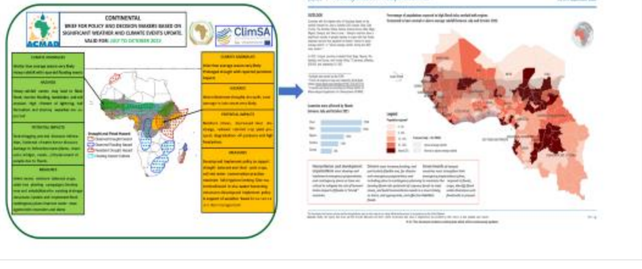
OUTLOOK AND IMPACTS IN THE HUMANITARIAN SECTOR, MORE VALUABLE WITH BETTER OPERATIONAL COORDINATION WITH NATIONAL DRR PLATFORMS



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Civil Protection	x	x		
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Electricity, Water Companies	x	x		
Irrigation Scheme	x	x		
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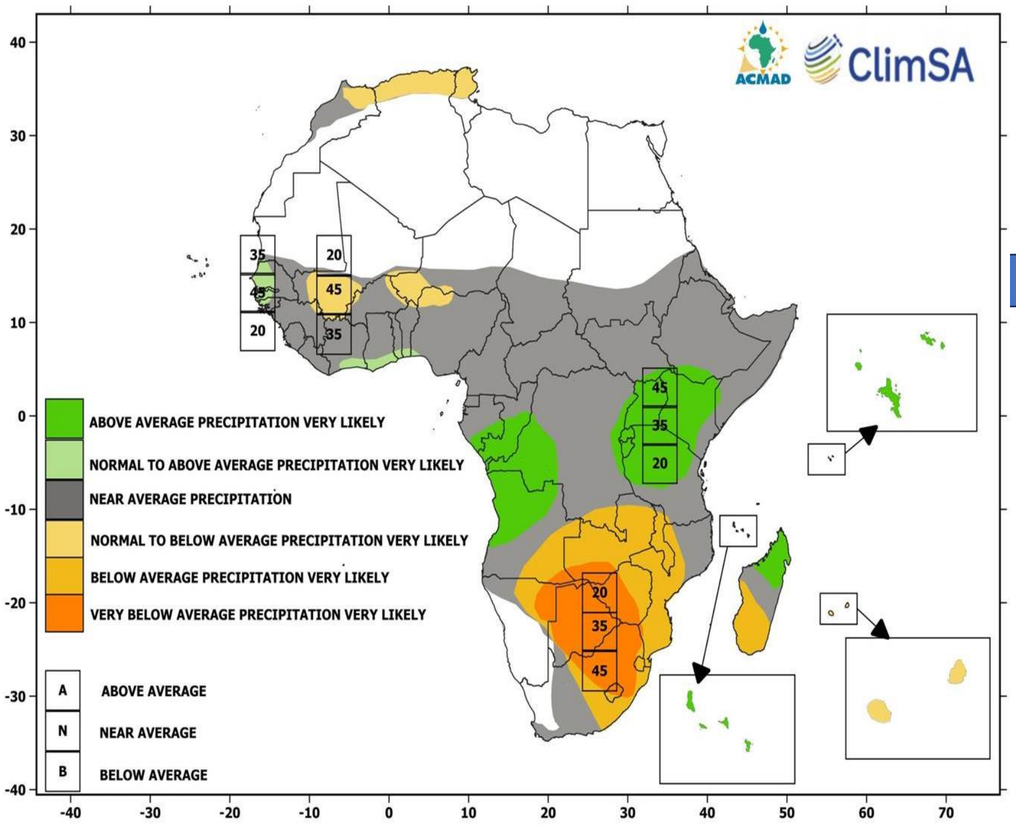
Communities	x	x		

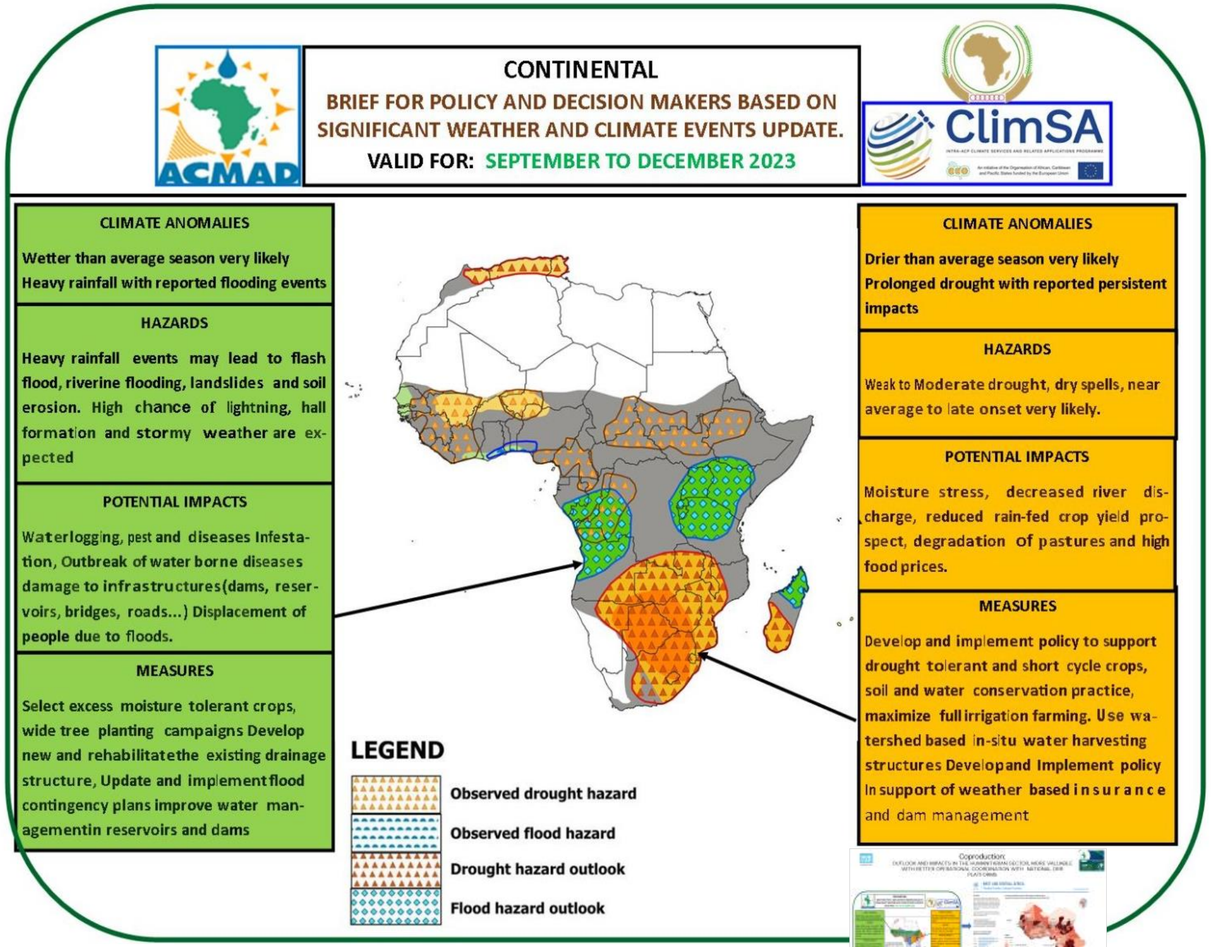
Expected products and contributions from the RCCs and hydrological community.

Seasonal precipitation forecast to Brief for Policy and Decision Makers

PRODUCTS FOR DECISION MAKERS



Seasonal precipitation forecast for October-November- December 2023
Available monthly



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OUTLOOK AND IMPACTS IN THE HUMANITARIAN SECTOR, MORE VALUABLE WITH BETTER OPERATIONAL COORDINATION WITH NATIONAL DRR PLATFORMS

CONTINENTAL

BRIEF FOR POLICY AND DECISION MAKERS BASED ON SIGNIFICANT WEATHER AND CLIMATE EVENTS UPDATE.

VALID FOR: JULY TO OCTOBER 2022

CLIMATE ANOMALIES

Wetter than average season very likely
Heavy rainfall with reported flooding events

HAZARDS

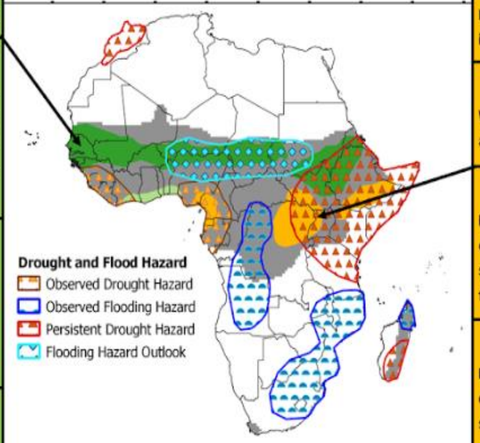
Heavy rainfall events may lead to flash flood, riverine flooding, landslides and soil erosion. High chance of lightning, hall formation and stormy weather are expected

POTENTIAL IMPACTS

Waterlogging, pest and diseases Infestation, Outbreak of water borne diseases damage to infrastructures(dams, reservoirs, bridges, roads...) Displacement of people due to floods.

MEASURES

Select excess moisture tolerant crops, wide tree planting campaigns Develop new and rehabilitatethe existing drainage structure, Update and implementflood contingency plans improve water management in reservoirs and dams



CLIMATE ANOMALIES

Drier than average season very likely
Prolonged drought with reported persistent impacts

HAZARDS

Weak to Moderate drought, dry spells, near average to late onset very likely.

POTENTIAL IMPACTS

Moisture stress, decreased river discharge, reduced rain-fed crop yield prospect, degradation of pastures and high food prices.

MEASURES

Develop and implement policy to support drought tolerant and short cycle crops, soil and water conservation practice, maximize full irrigation farming. Use watershed based in-situ water harvesting structures Developand Implement policy In support of weather based insurance and dam management

OCHA

WEST AND CENTRAL AFRICA

Flooding Situation: Hotspot Countries

As of 9 September 2022

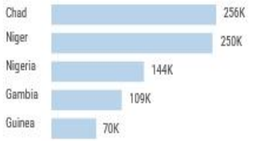
OUTLOOK

Countries with the highest risks of floodings based on the rainfall forecast for July to October 2022 include Chad, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Mali, Niger, Nigeria, Senegal, and Sierra Leone [1]. Hotspot countries have a significant number of people residing in areas with high floods exposure and are thus expected to receive "normal to above average rainfall" or "above average rainfall" during the 2022 rainy season [2,3].

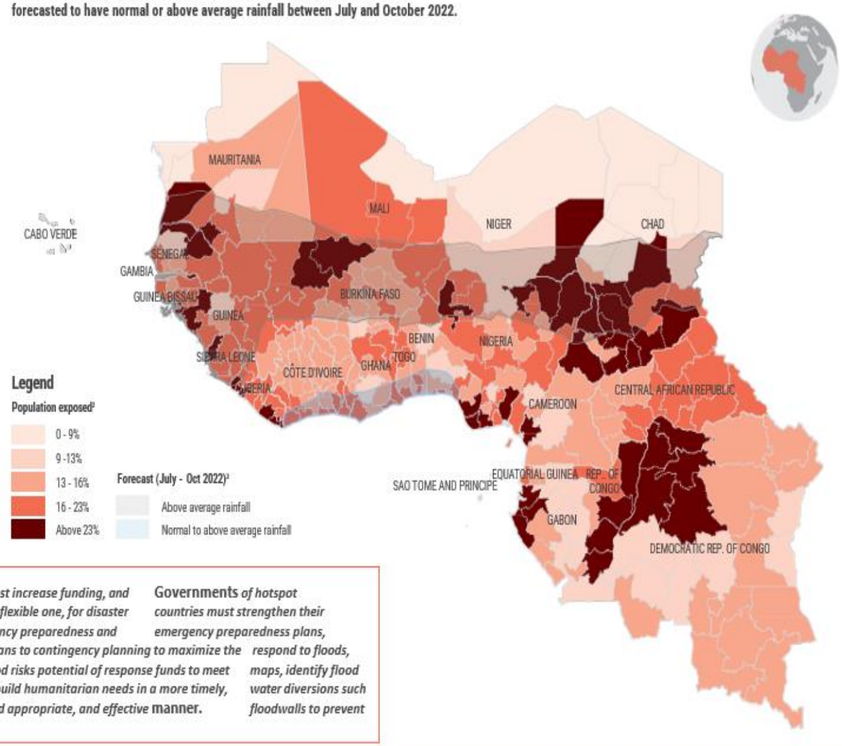
In 2021, hotspot countries included Chad, Niger, Nigeria, The Gambia, and Guinea, with floods killing 172 persons, affecting 828,000, and displacing 311,000.

[1] Analysis was carried out by OCHA
[2] Flood risk exposure map was created by World Bank (https://www.nature.com/articles/s41467-022-30727-4)
[3] Forecast was done by according to African Centre of Meteorological Application for Development (ACMAD)

Countries most affected by floods between July and October 2021



Percentage of populations exposed to high flood risks overlaid with regions forecasted to have normal or above average rainfall between July and October 2022.



Humanitarian and development organizations *must develop and implement emergency preparedness and contingency plans as these are critical to mitigate the risk of humanitarian impact of floods in "at-risk" countries.*

Donors *must increase funding, and particularly flexible one, for disaster and emergency preparedness and including plans to contingency planning to maximize the develop flood risks potential of response funds to meet zones, and build humanitarian needs in a more timely, as dams, and appropriate, and effective* **manner.**

Governments *of hotspot countries must strengthen their emergency preparedness plans, respond to floods, maps, identify flood water diversions such floodwalls to prevent*

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
Sources: Media, UN reports, Red Cross and Red Crescent Movement and NGO reports, Government data. Data on displacement was provided by IOM. Source of data available upon request

N. B : This document contains evolving data which will be continuously updated.

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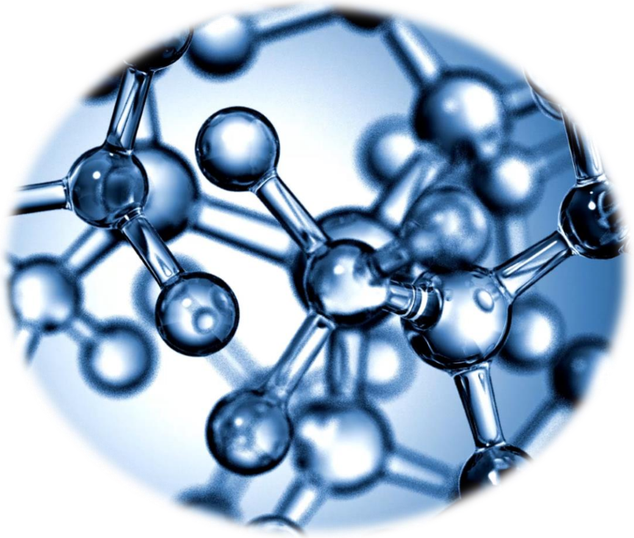
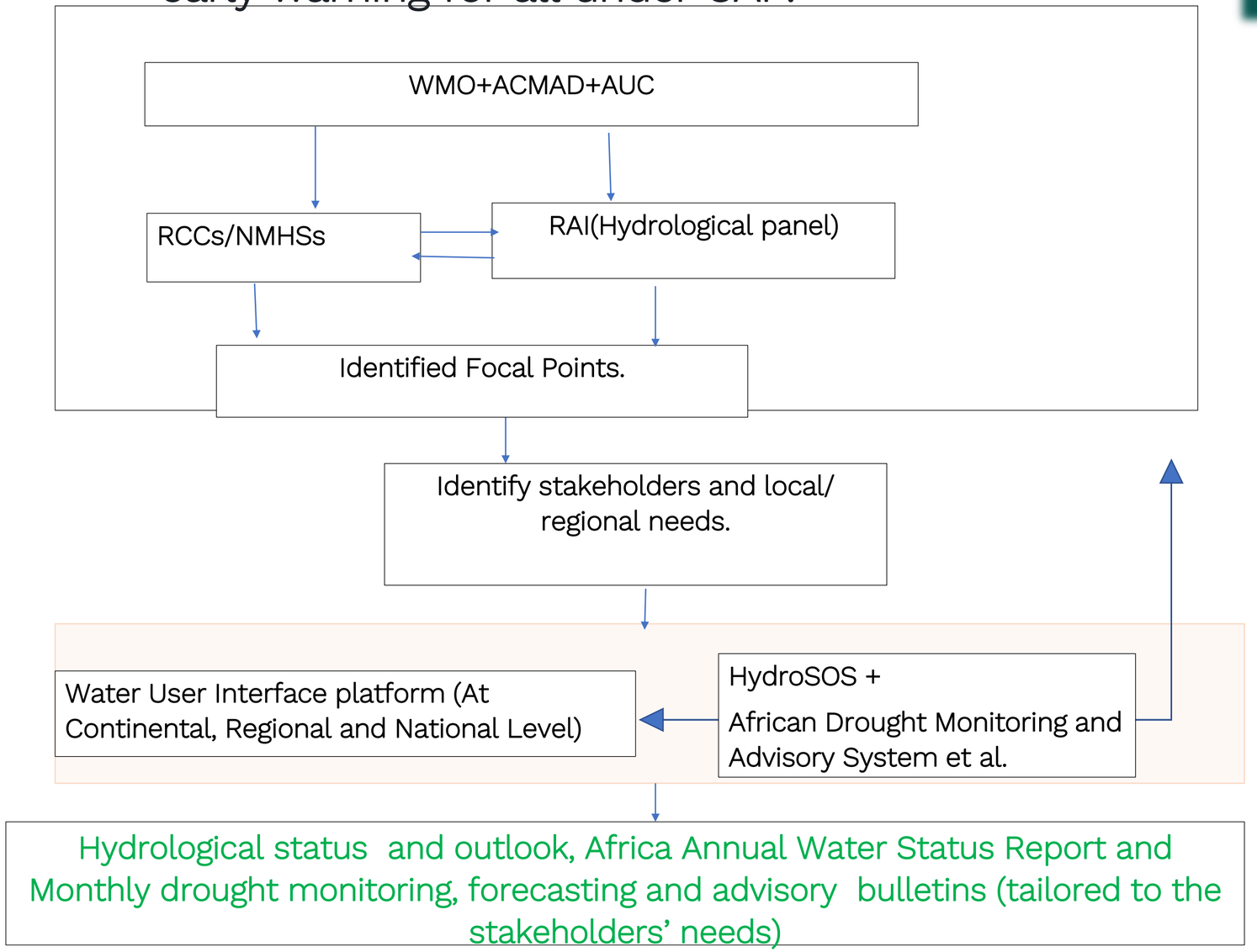
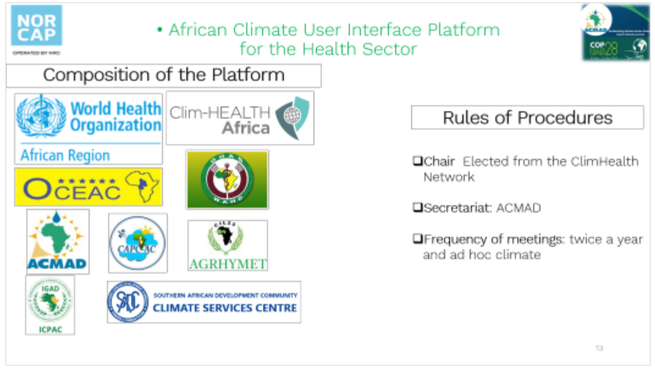
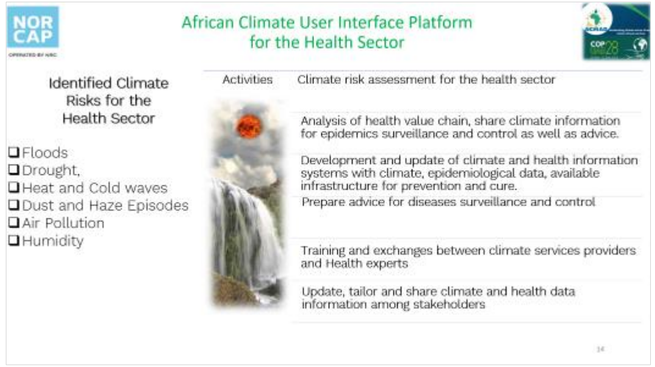
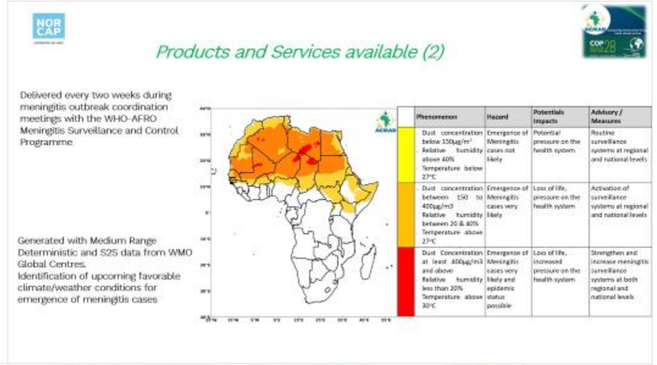


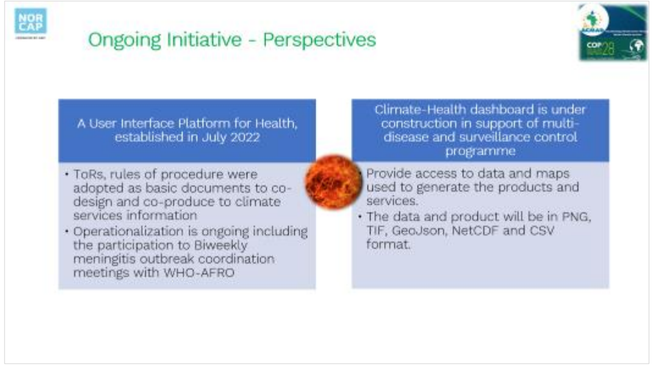


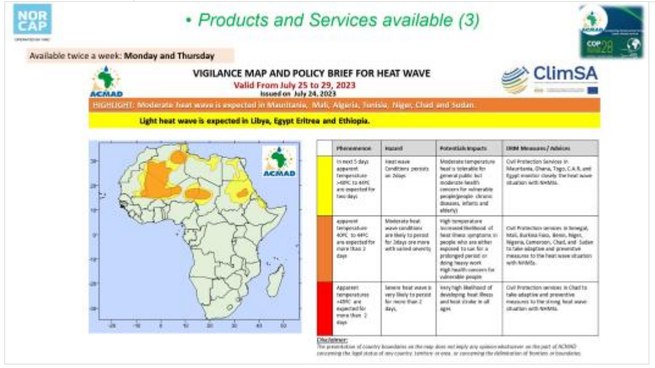
Health Sector User Interface Platform











• African Climate User Interface Platform for the Health Sector

Composition of the Platform

World Health Organization
African Region

Clim-HEALTH Africa

OCEAC

OOAS WAHO

ACMAD

CAPC-AC

CILSS AGRHYMET

IGAD ICPAC

SOUTHERN AFRICAN DEVELOPMENT COMMUNITY CLIMATE SERVICES CENTRE

Rules of Procedures

- **Chair** Elected from the ClimHealth Network
- **Secretariat**: ACMAD
- **Frequency of meetings**: twice a year and ad hoc climate

African Climate User Interface Platform for the Health Sector

Identified Climate Risks for the Health Sector

- ❑ Floods
- ❑ Drought,
- ❑ Heat and Cold waves
- ❑ Dust and Haze Episodes
- ❑ Air Pollution
- ❑ Humidity

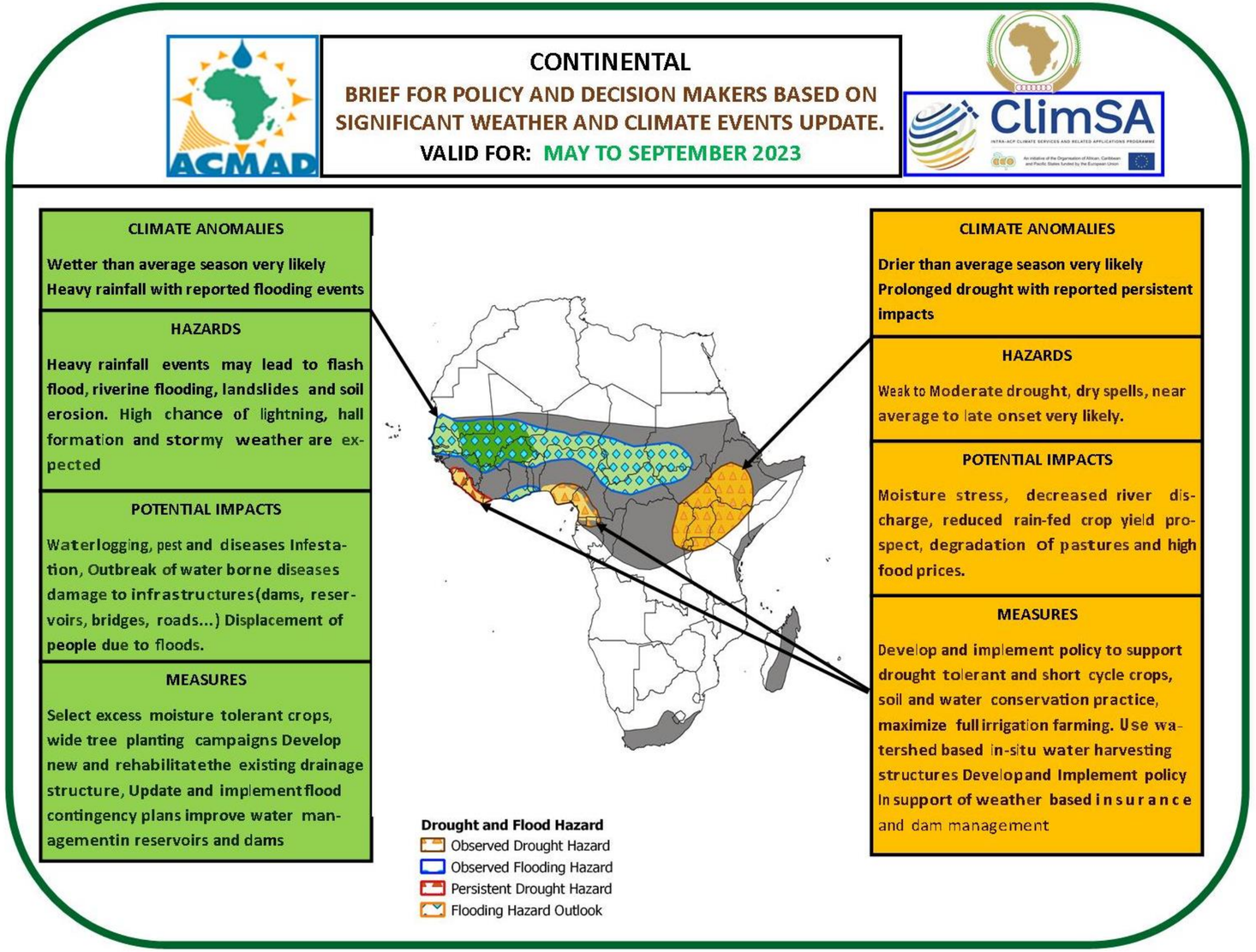
Activities	Climate risk assessment for the health sector
Analysis of health value chain, share climate information for epidemics surveillance and control as well as advice.	
Development and update of climate and health information systems with climate, epidemiological data, available infrastructure for prevention and cure.	
Prepare advice for diseases surveillance and control	
Training and exchanges between climate services providers and Health experts	
Update, tailor and share climate and health data information among stakeholders	

Required Products and Services

- Clear weather forecast on daily, weekly, monthly and seasonal timescales
- Dust and particulate matter concentration in the air
- Seasonal forecasts of precipitation, humidity and temperature: Severity of the expected events
- Meningitis and malaria watches, warnings and alerts
- Risk assessments for meningitis, malaria, cholera and other climate-related diseases
- Projections and historical reviews of climate-health relations

Products and Services available (1)

Contribution to the Food Security Value Chain – Prospects of expected rainfall



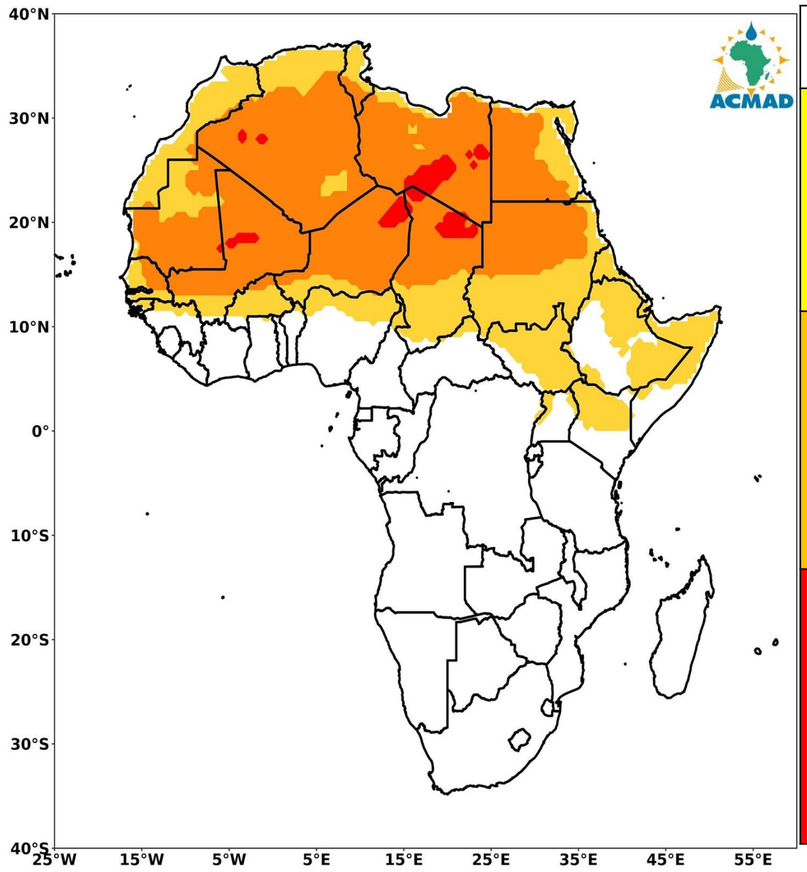
Decision-making tool for managing water surpluses or deficits and identifying areas favorable or unfavorable to good harvests.

Available every month and valid for the next Following 4-months

Products and Services available (2)

Delivered every two weeks during meningitis outbreak coordination meetings with the WHO-AFRO Meningitis Surveillance and Control Programme

Generated with Medium Range Deterministic and S2S data from WMO Global Centres.
Identification of upcoming favorable climate/weather conditions for emergence of meningitis cases



	Phenomenon	Hazard	Potentials Impacts	Advisory / Measures
	- Dust concentration below 150µg/m^3 - Relative humidity above 40% - Temperature below 27°C	Emergence of Meningitis cases not likely	Potential pressure on the health system	Routine surveillance systems at regional and national levels
	- Dust concentration between 150 to 400µg/m3 - Relative humidity between 20 & 40% - Temperature above 27°C	Emergence of Meningitis cases very likely	Loss of life, pressure on the health system	Activation of surveillance systems at regional and national levels
	- Dust Concentration at least 400µg/m3 and above - Relative humidity less than 20% - Temperature above 30°C	Emergence of Meningitis cases very likely and epidemic status possible	Loss of life, increased pressure on the health system	Strengthen and increase meningitis surveillance systems at both regional and national levels

• *Products and Services available (3)*

Available twice a week: **Monday and Thursday**

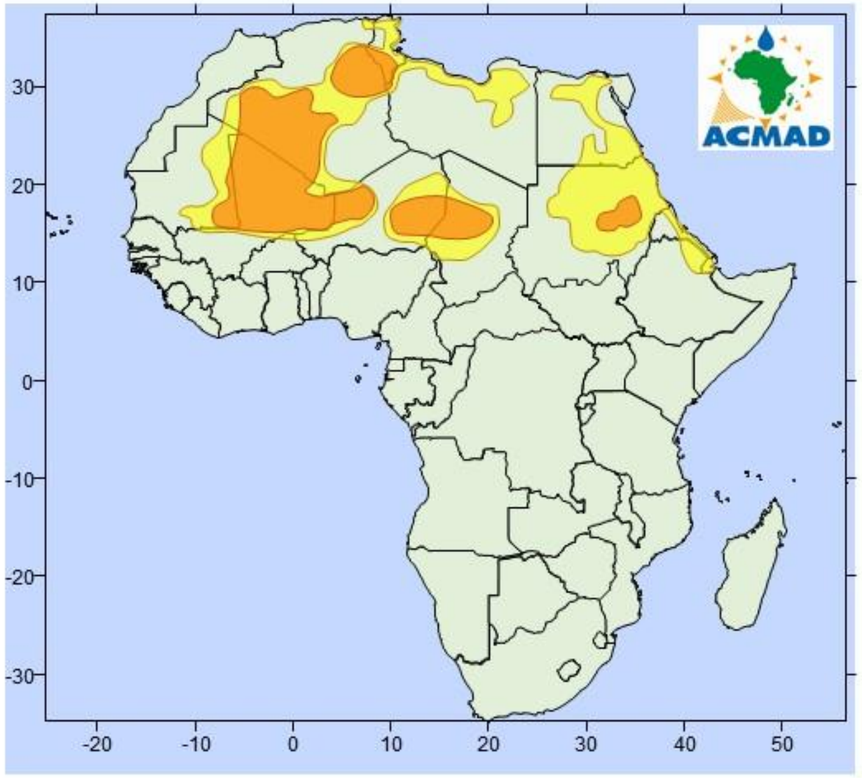
VIGILANCE MAP AND POLICY BRIEF FOR HEAT WAVE

Valid From July 25 to 29, 2023

Issued on July 24, 2023

HIGHLIGHT: Moderate heat wave is expected in Mauritania, Mali, Algeria, Tunisia, Niger, Chad and Sudan.

Light heat wave is expected in Libya, Egypt Eritrea and Ethiopia.



	Phenomenon	Hazard	Potentials Impacts	DRM Measures / Advices
	In next 5 days apparent temperature >40ºC to 44ºC are expected for two days	Heat wave Conditions persists on 2days	Moderate temperature heat is tolerable for general public but moderate health concern for vulnerable people(people chronic diseases, infants and elderly)	Civil Protection Services in Mauritania, Ghana, Togo, C.A.R, and Egypt monitor closely the heat wave situation with NHMSs.
	apparent temperature 40ºC to 44ºC are expected for more than 2 days	Moderate heat wave conditions are likely to persist for 3days ore more with varied severity	High temperature Increased likelihood of heat illness symptoms in people who are either exposed to sun for a prolonged period or doing heavy work High health concern for vulnerable people	Civil Protection services in Senegal, Mali, Burkina Faso, Benin, Niger, Nigeria, Cameroon, Chad, and Sudan to take adaptive and preventive measures to the heat wave situation with NHMSs.
	Apparent temperatures >45ºC are expected for more than 2 days	Severe heat wave is very likely to persist for more than 2 days,	Very high likelihood of developing heat illness and heat stroke in all ages	Civil Protection services in Chad to take adaptive and preventive measures to the strong heat wave situation with NHMSs.

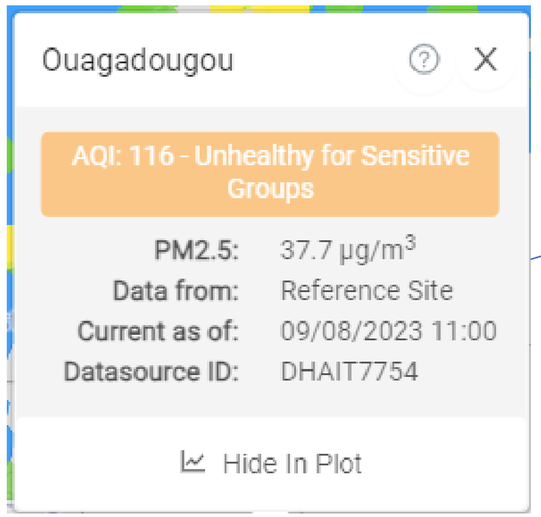
Disclaimer:

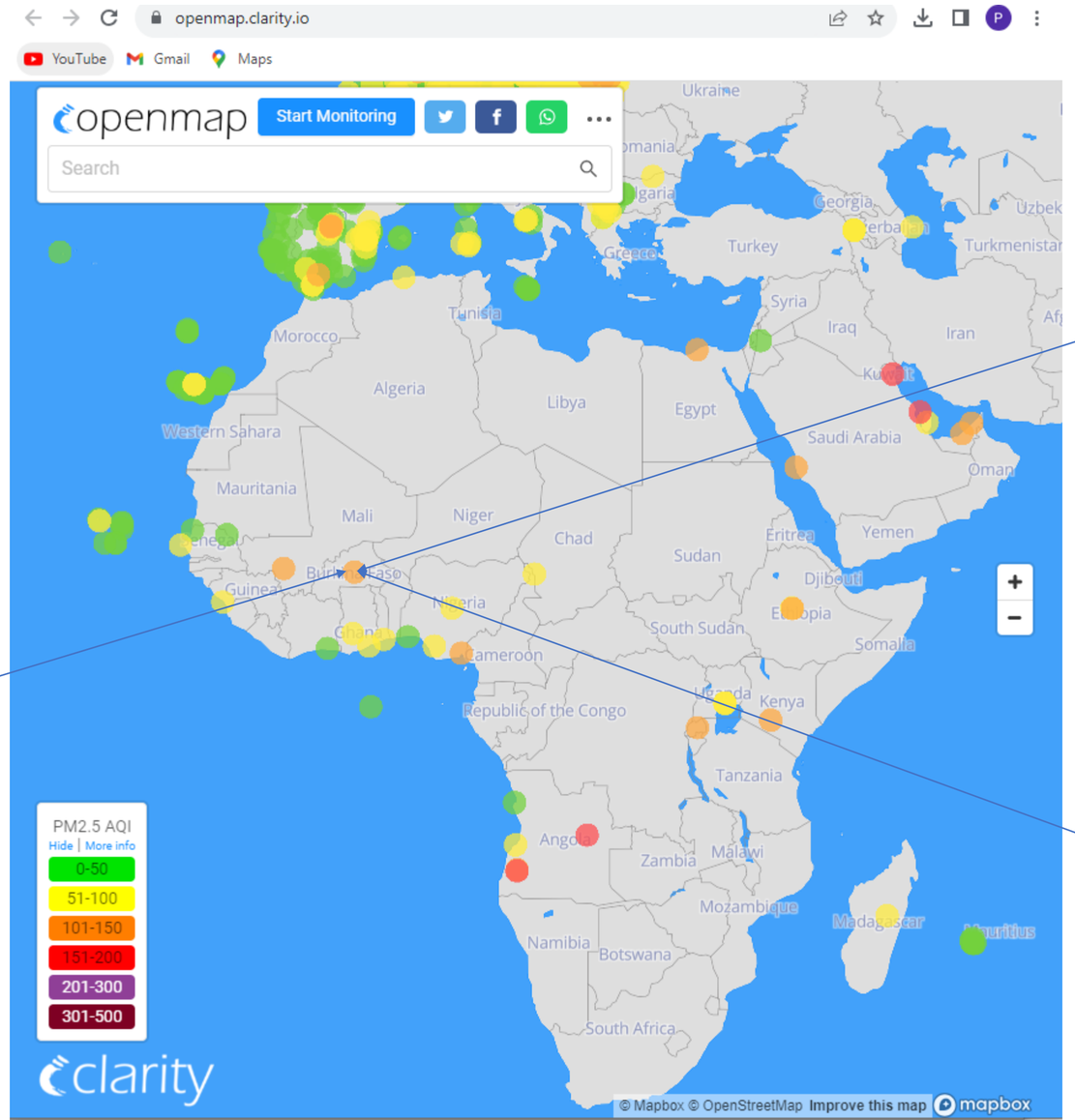
The presentation of country boundaries on the map does not imply any opinion whatsoever on the part of ACMAD concerning the legal status of any country, territory or area, or concerning the delimitation of frontiers or boundaries.

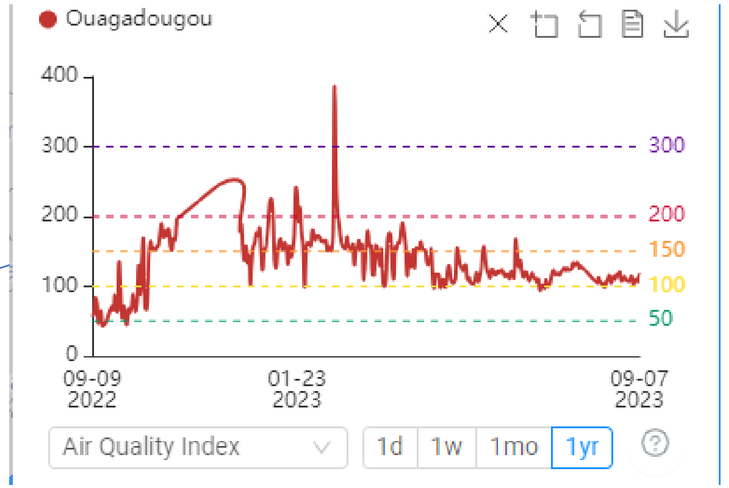
Products and Services available (4)

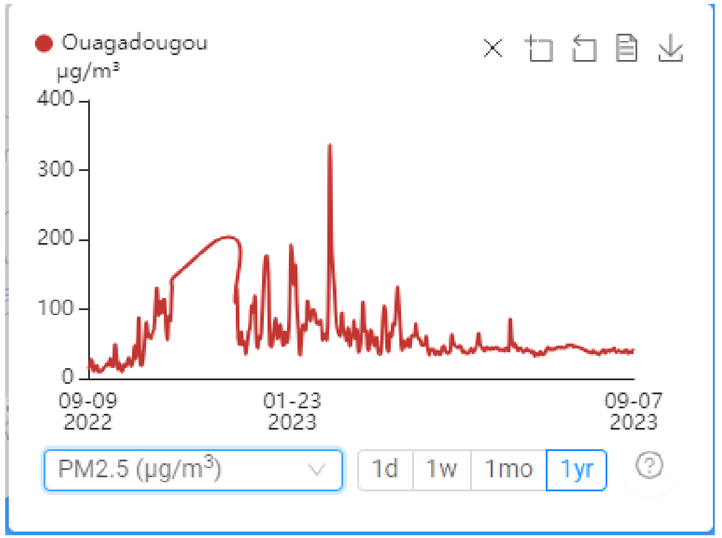
Air Quality Monitoring in collaboration with Pen. State University

https://openmap.clarity.io/









Ongoing Initiative - Perspectives

A User Interface Platform for Health, established in July 2022

- ToRs, rules of procedure were adopted as basic documents to co-design and co-produce to climate services information
- Operationalization is ongoing including the participation to Biweekly meningitis outbreak coordination meetings with WHO-AFRO

Climate-Health dashboard is under construction in support of multi-disease and surveillance control programme

- Provide access to data and maps used to generate the products and services.
- The data and product will be in PNG, TIF, GeoJson, NetCDF and CSV format.

Concluding Remarks and Expectations: UIPs

1. A major barrier to the provision of effective climate services is the lack of effective user and climate service provider interaction.
2. The User Interface Platform is a mechanism to break this barrier.
3. Perception of users of current and future climate-related risk events is to be documented.
4. The climate parameters and actionable indicators which are the cause of the risk to be identified.
5. Develop operational collaboration between HYDROSOS, Africa Drought Monitoring and Advisory services, Climate Stations et al. and WUIP in Africa to develop, deliver and use identified products and services
6. Strengthen TORs and rules of procedure for the WUIP establishment and operations.

- Little awareness of policy makers of the availability of impact-based forecasting.
- Uptaking of the information in operations of user organizations are limited
- Limited data access,
  - due to restrictions from some data centre.
  - Low access to observation (climate and Health) data – when available national policies are very restrictive.

Thank you for your attention

- Any questions?