



PEACE, PROSPERITY AND  
REGIONAL INTEGRATION



**Grantham Institute**  
Climate Change and the Environment  
An Institute of Imperial College London



PART OF NORWEGIAN  
REFUGEE COUNCIL



# THE ROLE OF EARLY WARNING, ANTICIPATORY ACTION & EFFECTIVE COMMUNICATION FOR RESILIENCE BUILDING

Monday, 14 November 2022  
15.00 - 16.30 EET  
Hatshepsut Room, Sharm El  
Sheikh, Egypt



00:30







**Chair: Dr Philip Omondi**

Project Manager - RICCAMA -  
GCCA+ Program  
IGAD Climate Prediction and  
Applications Centre  
Climate Prediction and  
Applications Centre- ICPAC



**Dr. Ahmed Amdihun**

Programme Coordinator  
IGAD Disaster Risk Management  
programme, IGAD Climate  
Prediction and Applications Centre  
- ICPAC



**Dr Caroline Wainwright**

Research Fellow  
Grantham Institute – Climate  
Change and Environment at  
Imperial College London



**Ms Benedicte Giæver**

Executive Director  
NORCAP



**Dr Richard Jones**

Science Fellow  
UK Met Office



**Ms Joyce Kimutai**

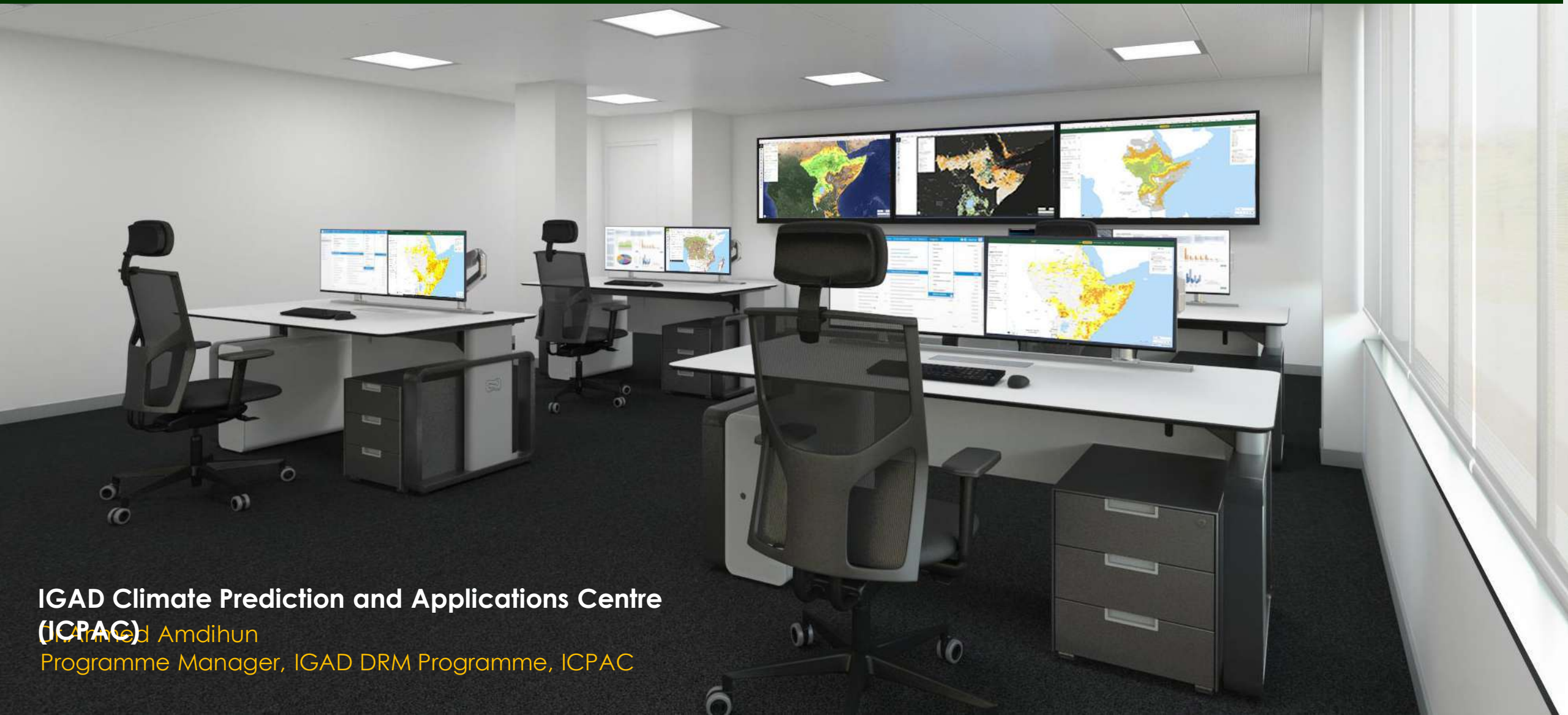
Climate Scientist  
Kenya Meteorological Department



**David Njuguna**

Senior Broadcast Mentor  
BBC Media Action Kenya

# Multi-Hazard Early Warning Systems



**IGAD Climate Prediction and Applications Centre  
(ICPAC)**  
Dr. Ahmed Amdihun  
Programme Manager, IGAD DRM Programme, ICPAC

# ICPAC Services



Climate  
Forecasting



Disaster Risk  
Management



Water Resources



Agriculture and  
Food Security



Environmental  
Monitoring



Capacity Development



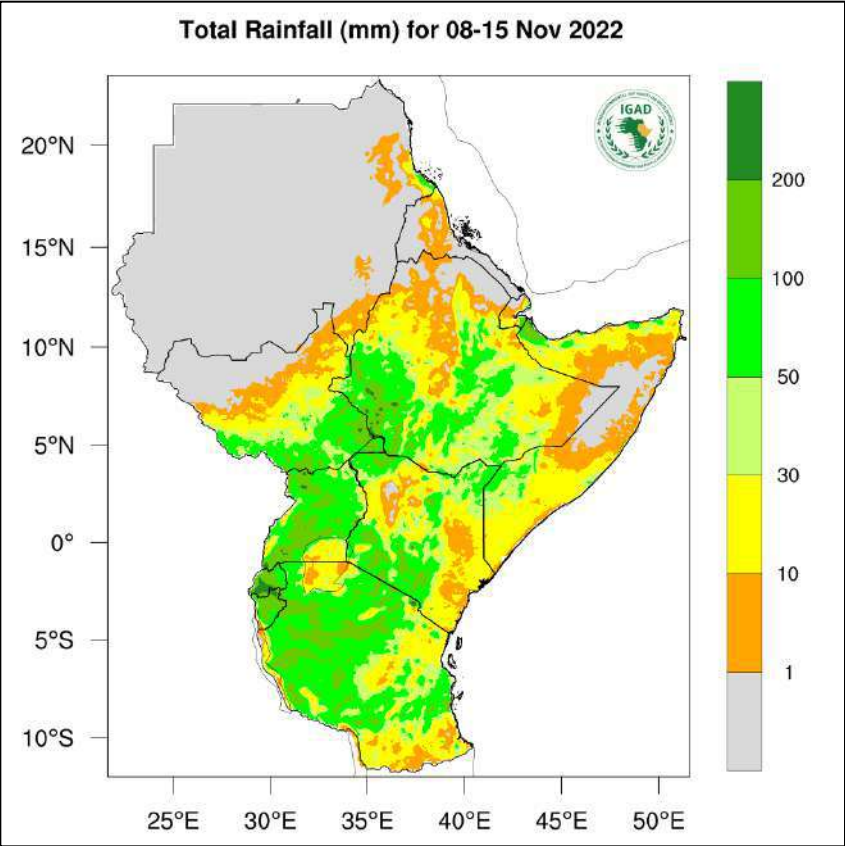
Climate Change



Climate Information  
Dissemination

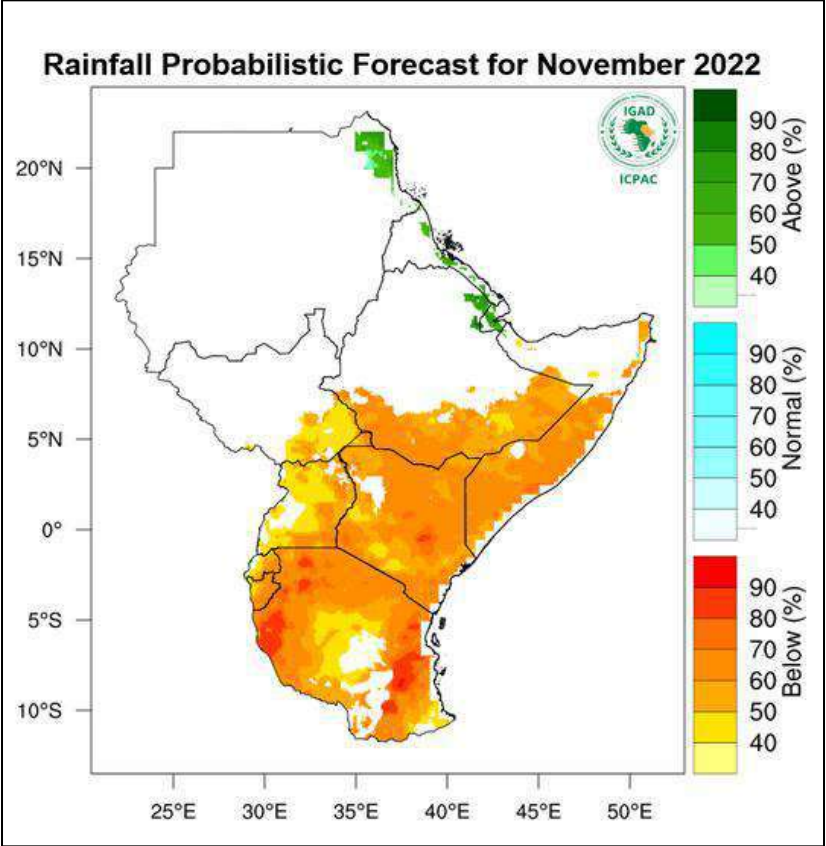
# Sub-seasonal to seasonal forecast

WEEKLY



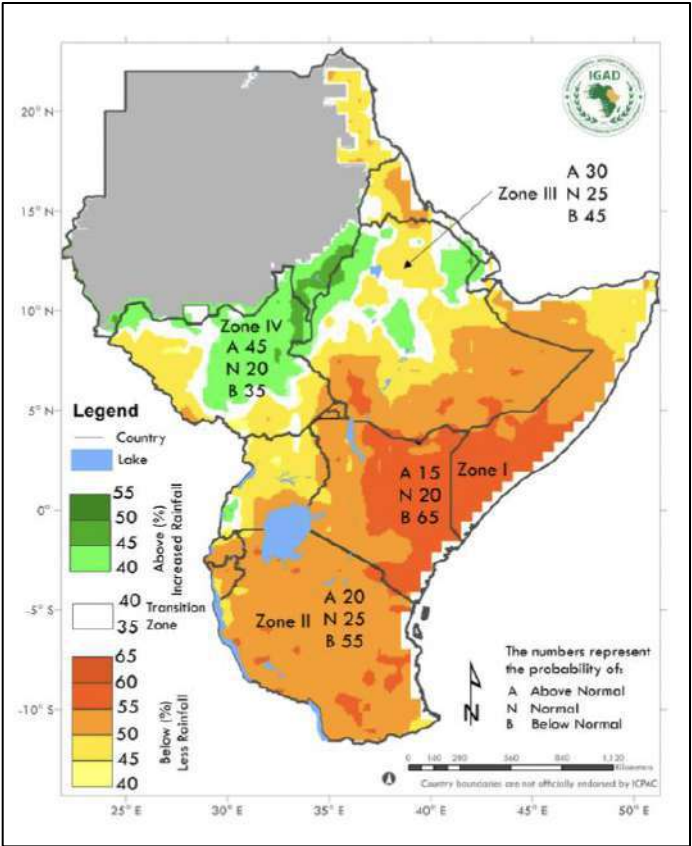
Sunday, November 13, 2022

MONTHLY



ICPAC

SEASONAL – OCTOBER–DECEMBER 2022





# Regional Multi-hazard Early Warning Centre

- IGAD Heads of State and Governments entrusted IGAD to establish and operationalize regional multi-hazard early warning system through IDOC during the 34th IGAD Extra-ordinary summit in December 2020.



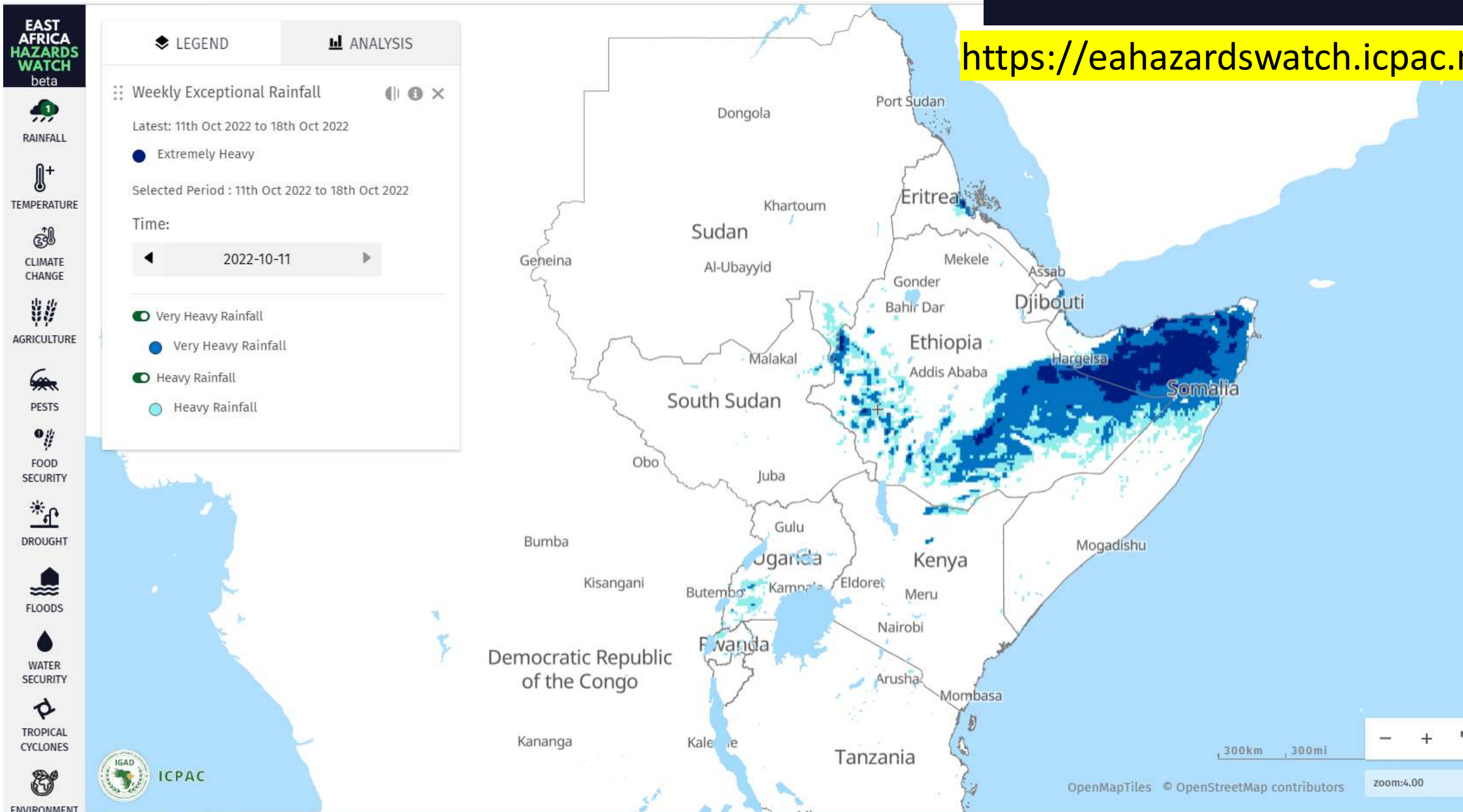
- Monitor major hazards and generate early warning information for the region;
- Coordination with national focal institutions to promote early action/Anticipatory Action;
- Rapid mapping of affected areas and impacts of disasters;
- Strengthen Capacity  
(anticipate risk & timely response)



# Systems and tools

East Africa Hazards Watch

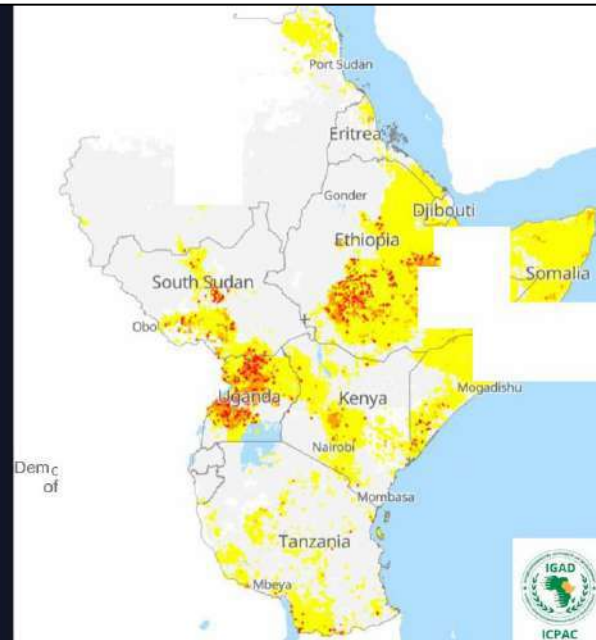
<https://eahazardswatch.icpac.net>



EAST AFRICA HAZARDS WATCH

# DROUGHT

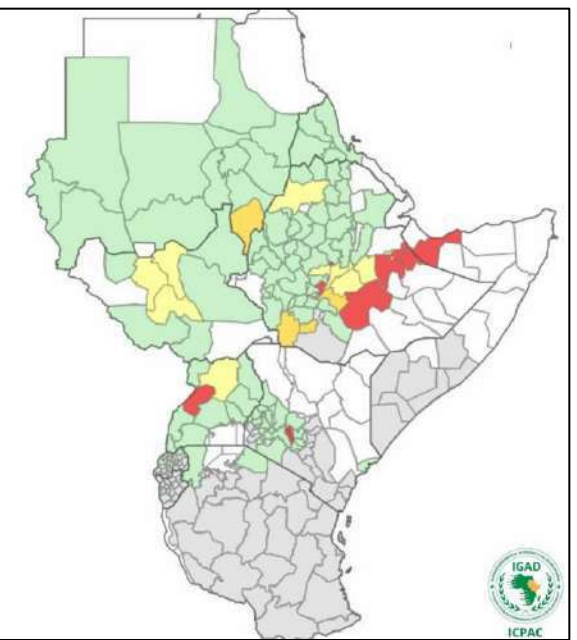
[eahazardswatch.icpac.net](http://eahazardswatch.icpac.net)



EAST AFRICA HAZARDS WATCH

# Crop and Range monitor

[eahazardswatch.icpac.net](http://eahazardswatch.icpac.net)



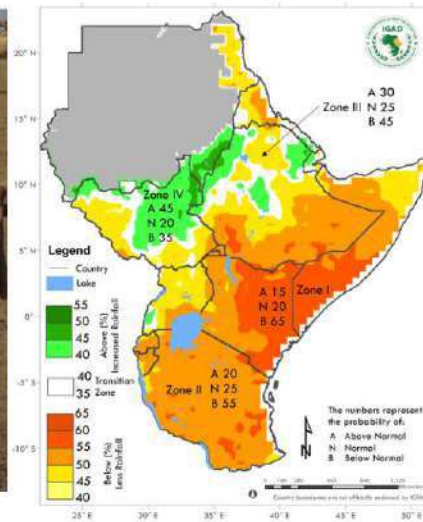
## Climate Outlook Forum

Summary for Decision Makers

# SEASONAL FORECAST

October to December 2022

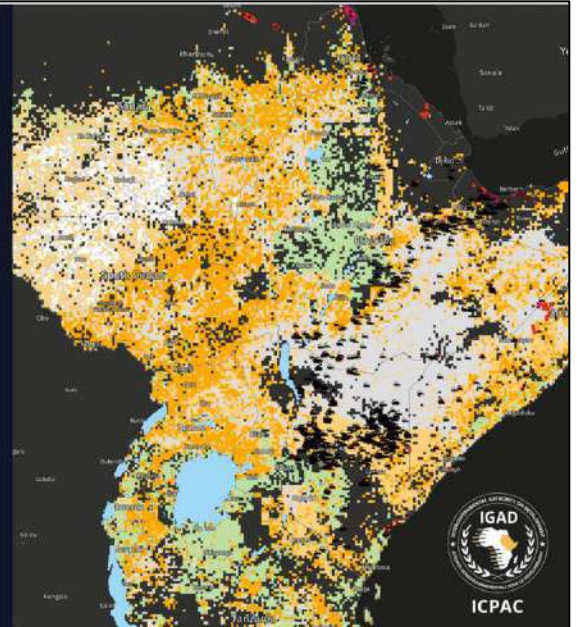
Rainfall Forecast October - December 2022



EAST AFRICA HAZARDS WATCH

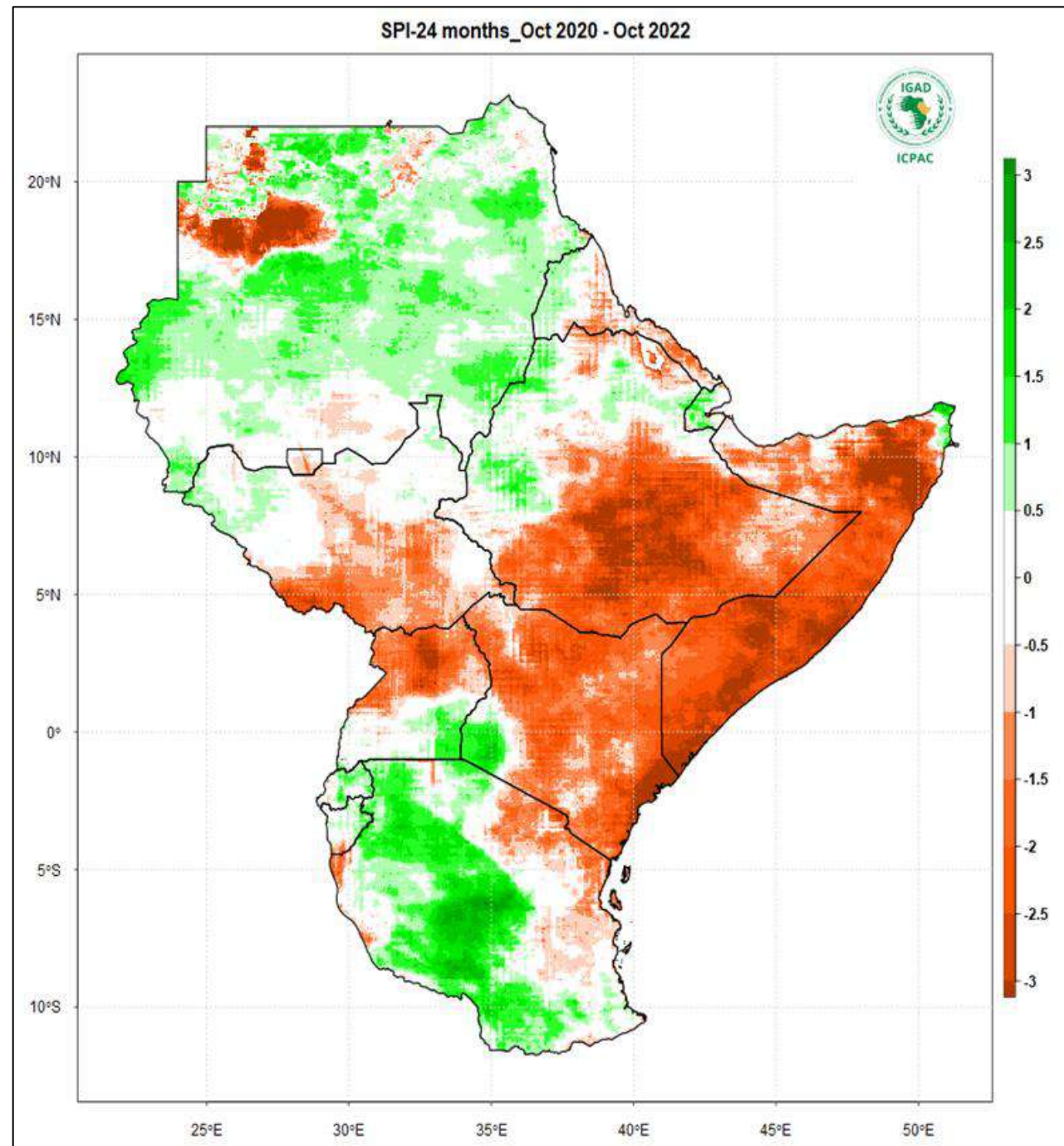
# PESTS

[eahazardswatch.icpac.net](http://eahazardswatch.icpac.net)





**What can we learn from  
the ongoing catastrophic  
drought?**



# Thank You for your attention



**ICPAC**  
[www.icpac.net](http://www.icpac.net)

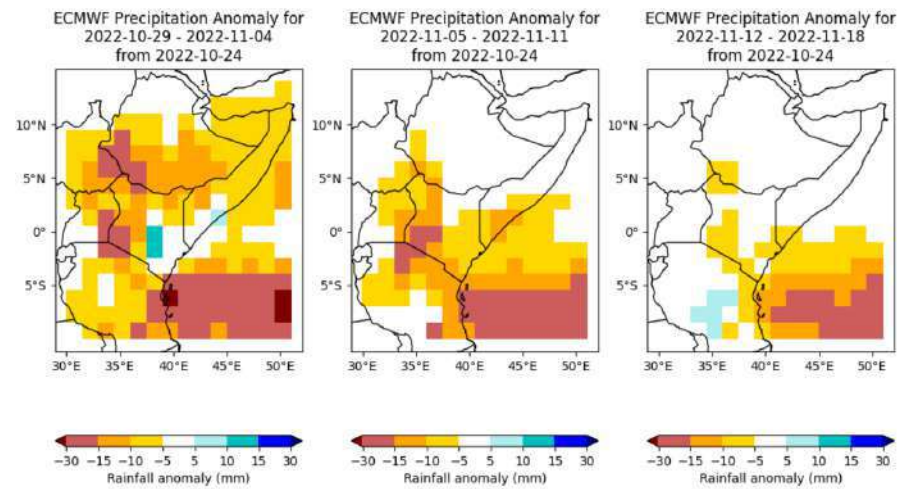


What questions  
can science  
answer?

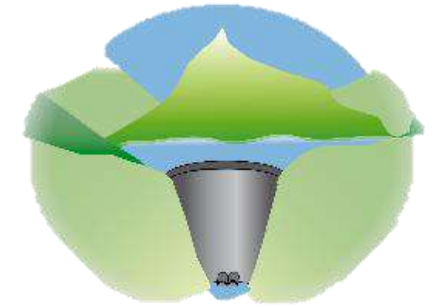


What do users  
need?

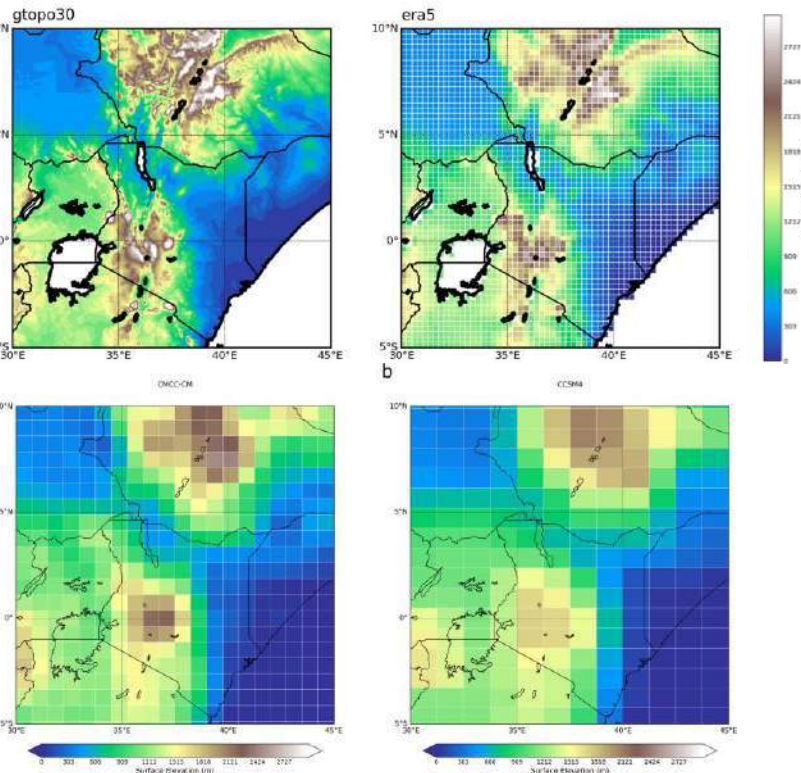
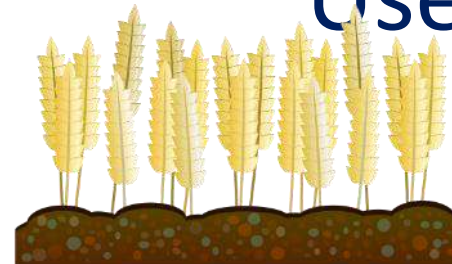
# Forecasts and climate projections are produced on large scales.



## Scale?

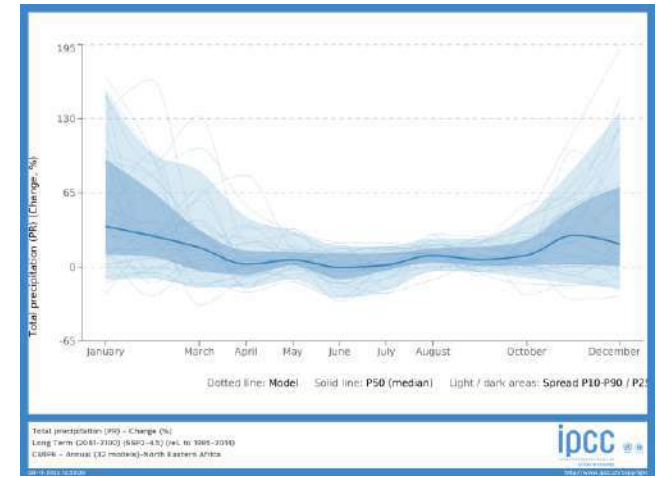
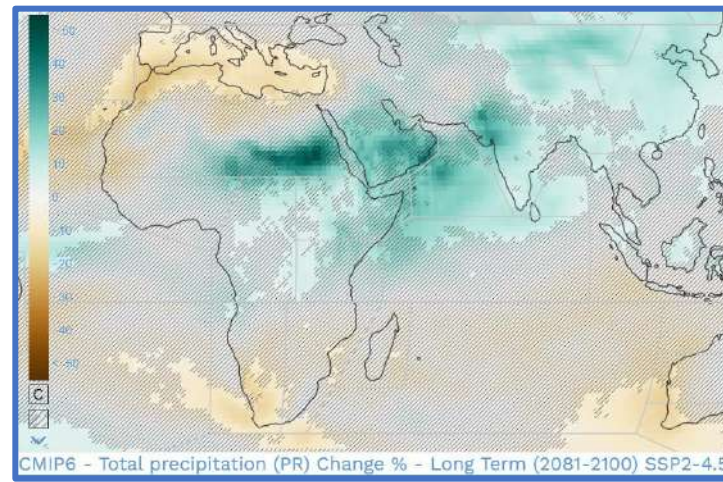


## Users need information on smaller scales.



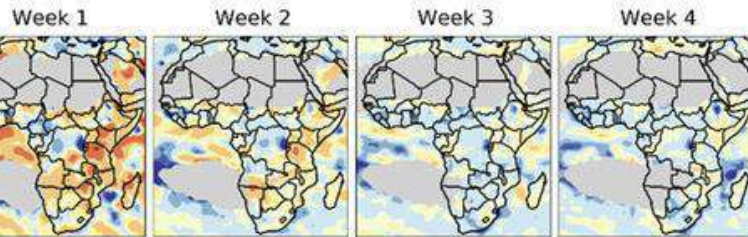


Forecasts and climate projections have associated uncertainty.

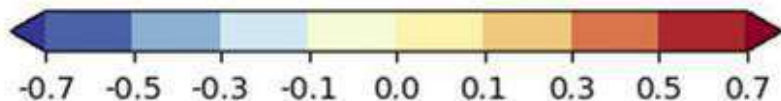
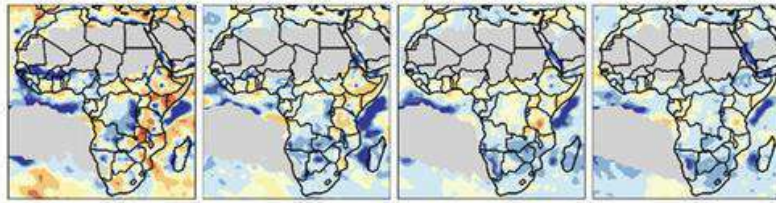


Uncertainty?

(b) MAM



(d) SON



Red/Orange = good skill, <https://doi.org/10.1175/WAF-D-20-0054.1>

Users need reliable  
and actionable  
information.

## Possible futures for Urban East Africa under a changing climate

The impacts of climate change will vary across the region according to a range of local factors.

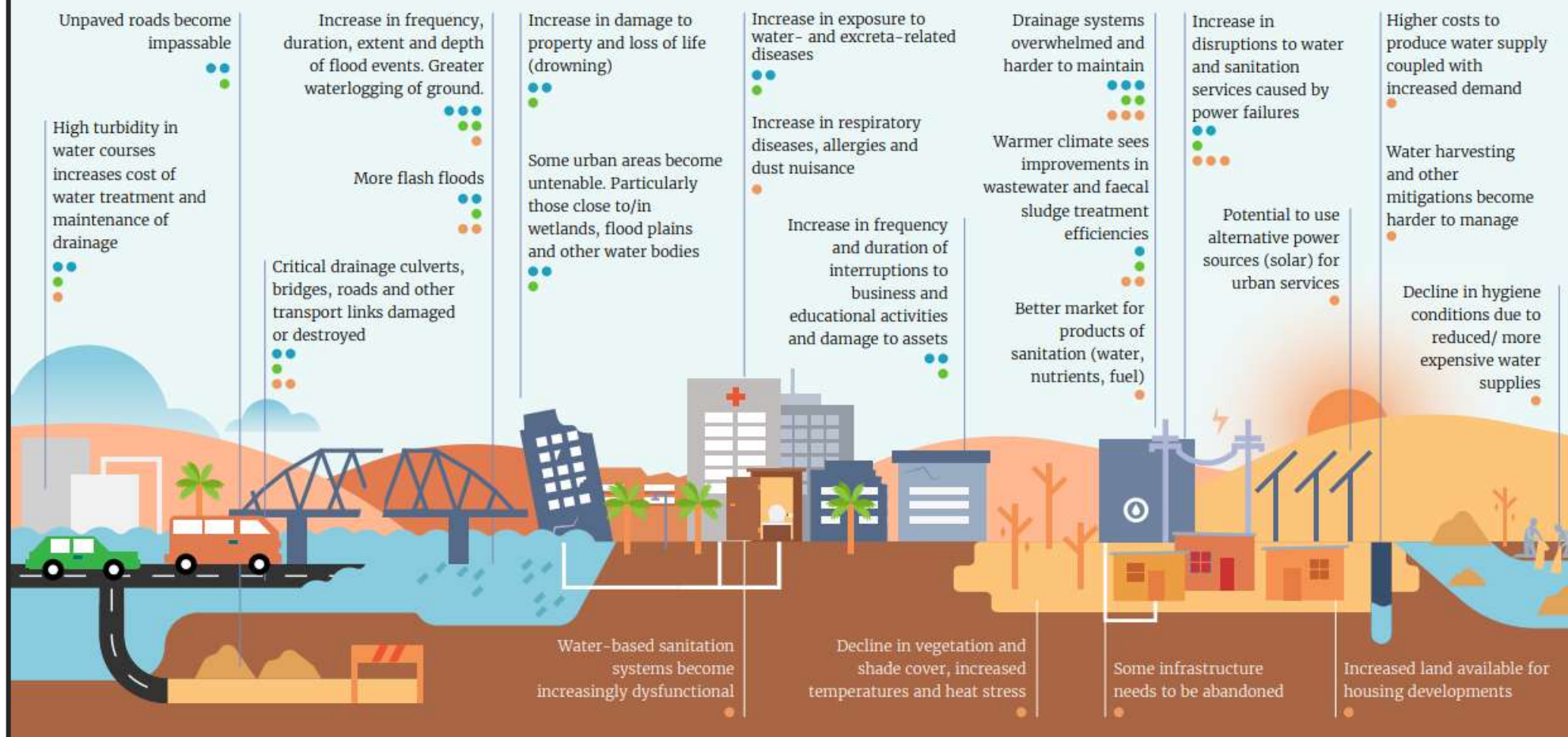
Which of these impacts could be felt in your community in these three different climates?

### Possible Futures

- FUTURE 1** Much wetter, large increase in heavy rainfall and hotter
- FUTURE 2** Increase in extreme rainfall and hotter
- FUTURE 3** Much hotter and drier with more erratic rainy seasons

### Intensity of Impact

- Low**
- Medium**
- High**

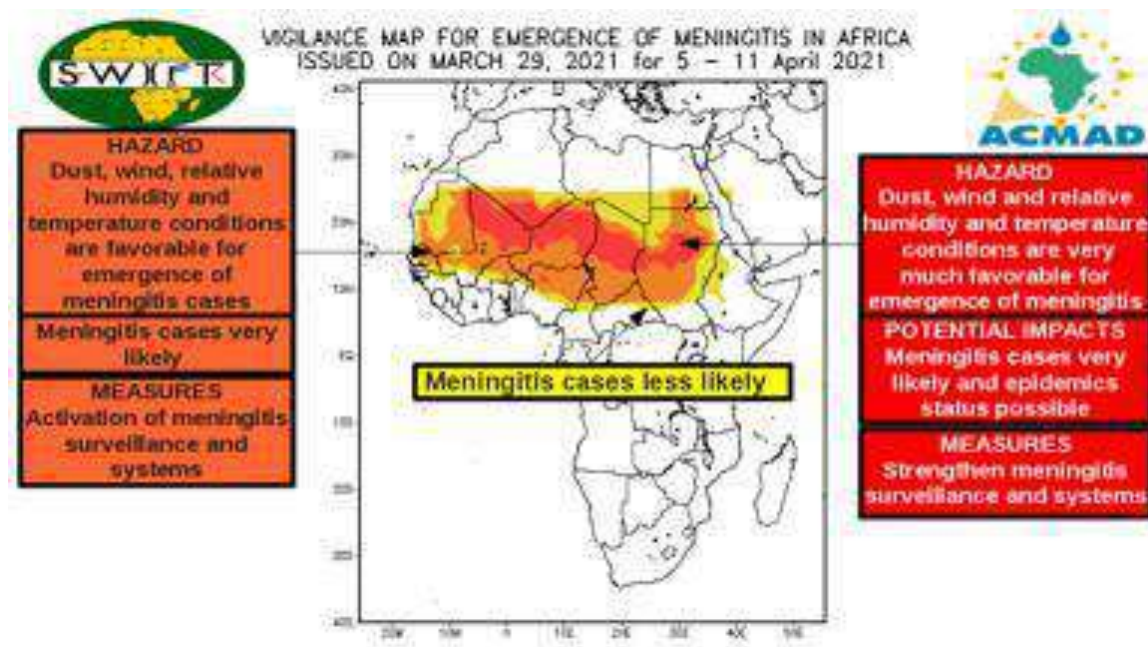






# Meningitis Vigilance for the Sahel

- ACMAD<sup>1</sup> worked closely with the health sector (WHO<sup>2</sup>) to supply bespoke, multi-variable sub-seasonal forecast products for meningitis vigilance across 26 countries in the meningitis belt.
- **ECMWF forecasts of temperature, relative humidity and wind speed and direction** are combined with **dust forecasts** to predict meningitis outbreaks.



## Sub-Saharan meningitis epidemics could be signalled by weather forecasts

Pilot scheme is under way to harness forecasts to predict where conditions that fuel cases are likely to develop



▲ A doctor vaccinates a child against meningitis in Nigeria. Photograph: Deji Yake/EPA

A weather-based surveillance system that could offer advanced warning of outbreaks of meningitis is being piloted across sub-Saharan Africa in a bid to save lives, researchers have revealed.

<sup>1</sup>ACMAD – African Centre of Meteorological Applications for Development

<sup>2</sup>WHO – World Health Organization





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BBC  
MEDIA ACTION



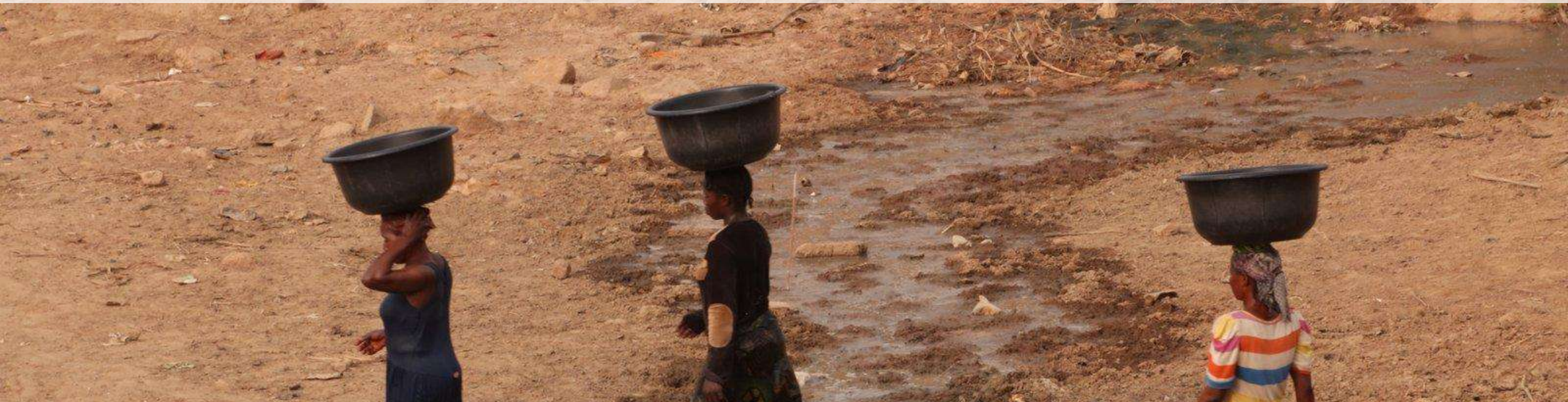
Met Office

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# The Role of Early Warning, Anticipatory Action & Effective Communication for Resilience Building

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# Promoting effective communication for resilience building

14 November, 2022, COP27

Benedicte Giæver, Executive Director of NORCAP

# NORCAP worked with 50 partners in 76 countries in 2021



# Strengthening climate information

- Seek to ensure **accurate, timely, accessible and understandable** climate information is available to all parts of society – from policymakers and media to farmers and fishermen
- Collaborate with regional climate centres, national meteorological and hydrological offices, the WMO and UN agencies
- **Build and strengthen capacities** for predicting, forecasting and delivering weather and climate forecasts
- Feed into **early warning and action** programmes

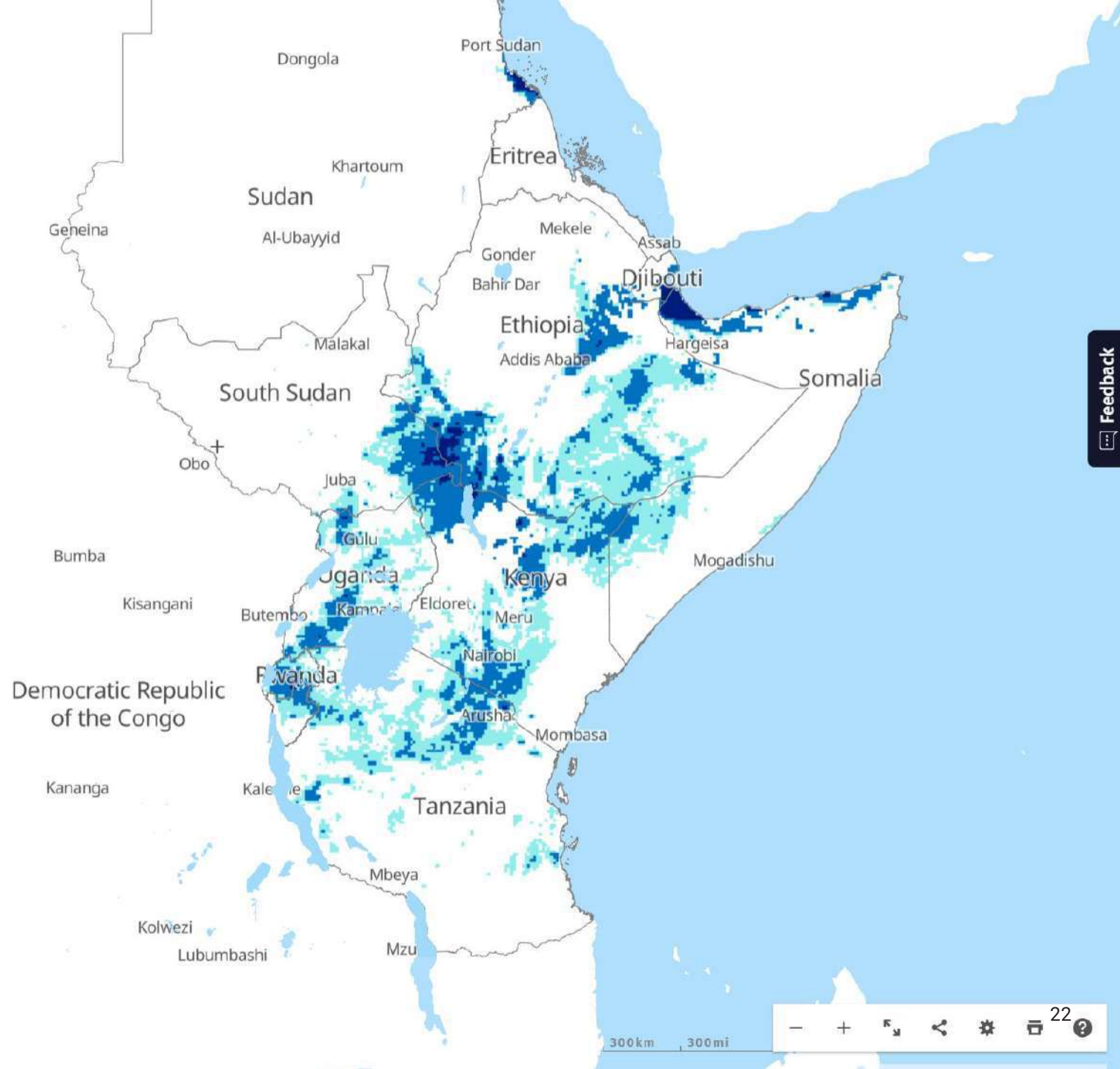




Time:

2022-11-08

- ☒ Very Heavy Rainfall
- ☒ Very Heavy Rainfall
- ☒ Heavy Rainfall
- ☒ Heavy Rainfall



Screenshot of East Africa  
Hazards Watch website





**Reaching a diverse range of  
users with different needs**



# Key challenges

- 1 Forecasts must be regularly and **reliably provided**
- 2 Forecasts must be **easily accessed**
- 3 Forecasts must be **comprehensible**
- 4 Forecasts must be **credible**
- 5 Forecasts must be **co-produced and co-owned**



# Equal access is crucial, but so is opportunity

- Equal access to climate information is crucial to building resilience
- But climate information and advice also need to take account of the end-user's situation
- Is the user in a position to take the necessary action?



# Follow NORCAP



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[facebook.com/norcapweb](https://facebook.com/norcapweb)





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# Impact Based Forecasts:

Moving from what the weather will **be** to what the weather will **do**

## Hazard:

Type, intensity, location and timing.

*E.g. 50mm rain in your City on Monday morning between 9-12*

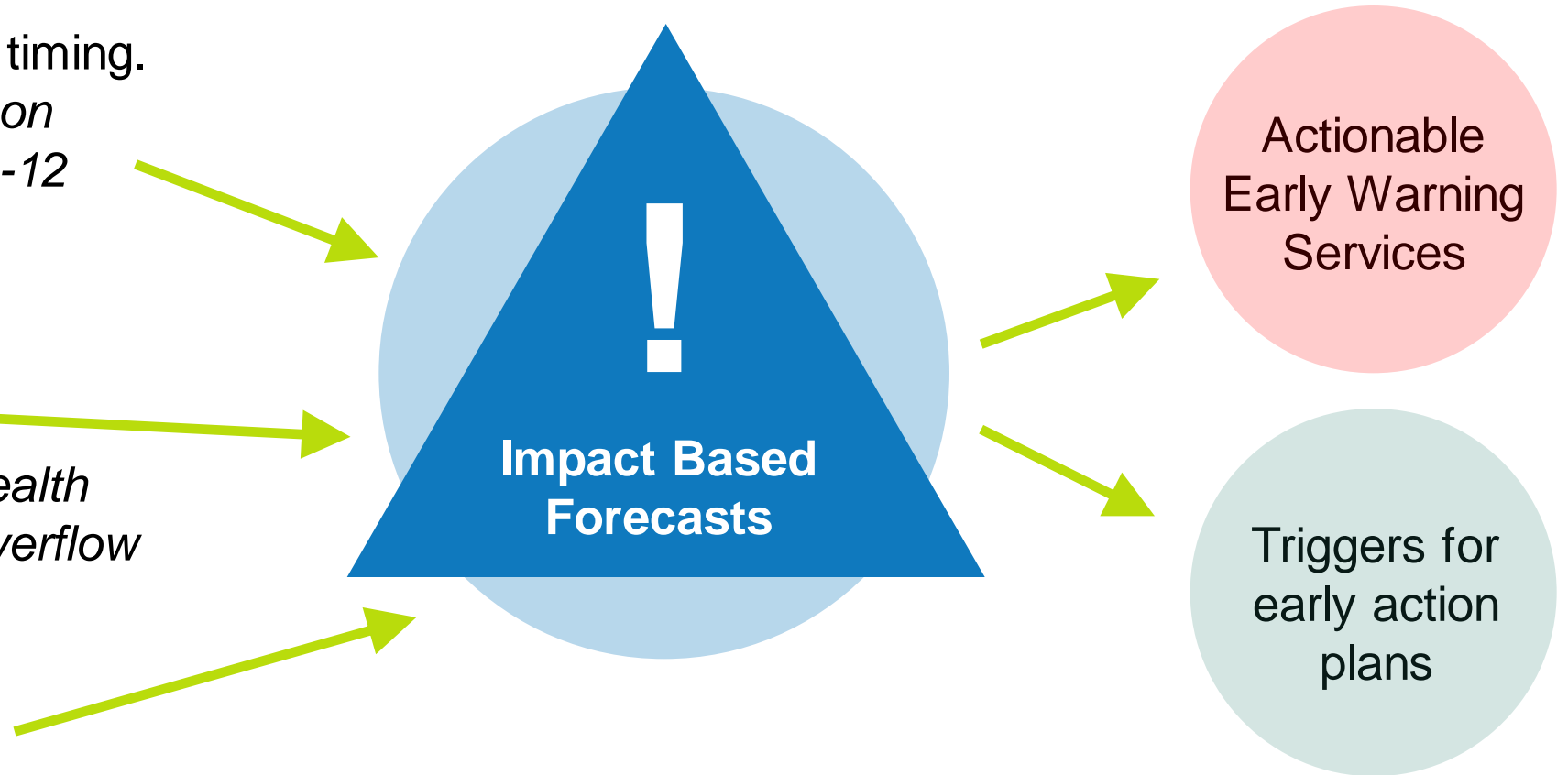
## Impacts:

What are the impacts of heavy rain in your city?

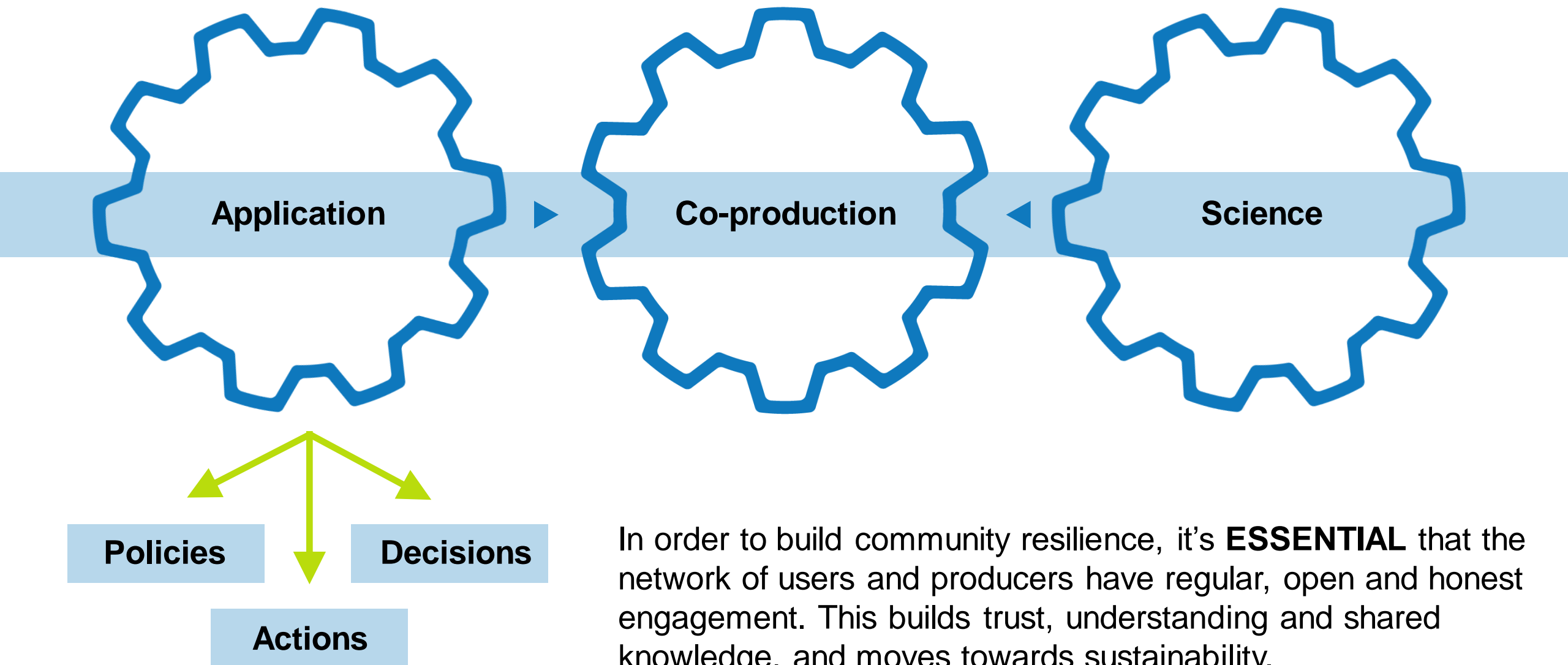
*E.g. flooding, traffic jams, health issues relating to sewage overflow*

## Vulnerability:

Who and how will be affected by these impacts?







# Co-production in action: WISER HIGHWAY Project

The purpose of the HIGHWAY (High Impact Weather Lake System) project was to deliver the provision of regular weather forecasts and severe weather warnings for fishing boats and small transport vessels on Lake Victoria.

## Key outcomes

- Project served 1.6 million beneficiaries
- 30% decrease in weather-related deaths per year
- Marine information generated avoids 312 deaths per year
- \$44 million per year gained in economic benefits for fishing communities







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BBC Media Action Kenya



# EVENT FEEDBACK

Type the link or scan the QR code to answer the following questions:

<https://www.menti.com/al8j89d4fqg8>

Or

[shorturl.at/pCD27](https://shorturl.at/pCD27)

1. What sector/ industry are you working in?
2. After listening to our speakers today, what actions will you take moving forward?
3. What did you learn today that you did not know before?
4. How satisfied were you with the event?

