

# CURRENT STATUS OF OPERATIONS OF IGAD-RCC

By  
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**WMO OMM**

World Meteorological Organization  
Organisation météorologique mondiale

WMO International Workshop on Global  
Review of RCC Operations, Pune, India,  
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# IGAD RCC BACKGROUND



## ICPAC MISSION:

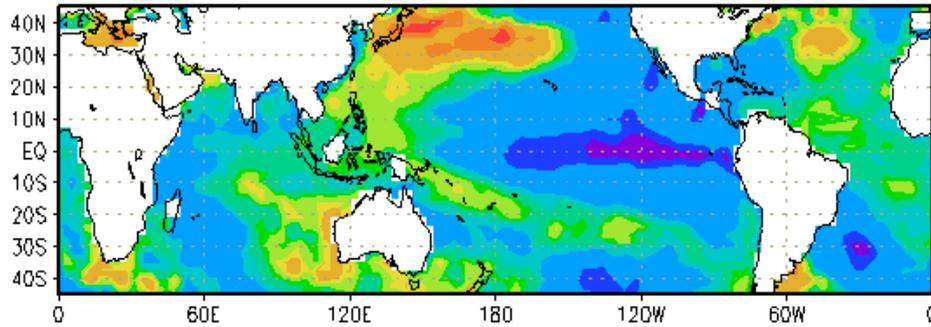
Foster climate services & knowledge to enhance community resilience for prosperity in the region

- A specialised institution of IGAD serving 11 countries
- Was under demonstration phase since 2011 and attained RCC status in May 2017
- A regional Steering Committee provides guidance and approves plans and projects

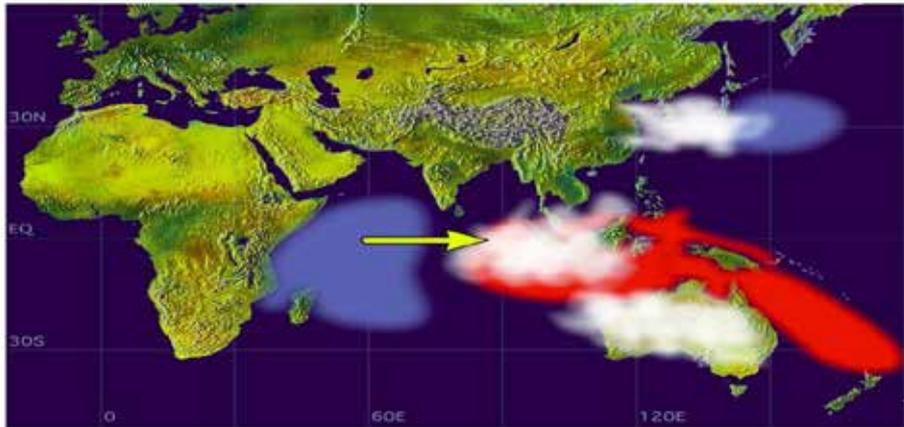
# MAJOR FORCINGS ON THE REGIONAL CLIMATE

Regional climate is strongly influenced by interaction between local factors and large scale systems such as ENSO, IOD, MJO and QBO among others

GLOBAL SST INDEX PATTERNS  
FOR A MATURE PHASE OF LA-NINA

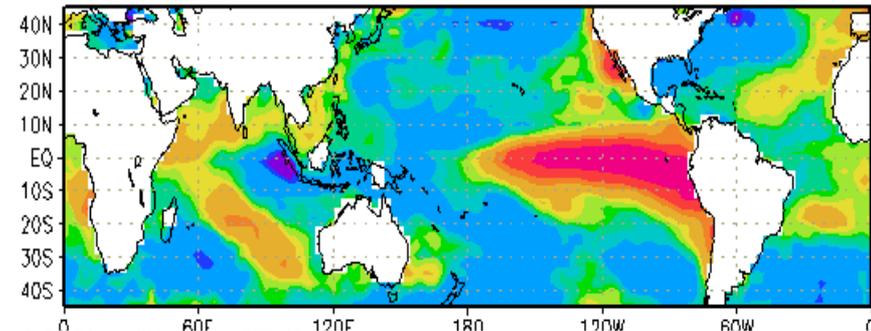


Negative Dipole Mode

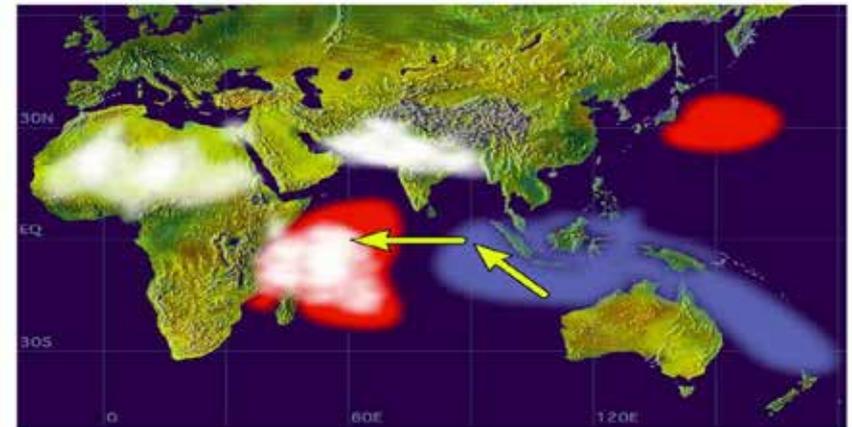


-ve IOD: Drought

GLOBAL OCEAN SST INDEX PATTERNS  
FOR A MATURE PHASE OF EL-NINO



Positive Dipole Mode



+ve IOD: Floods

# IGAD RCC OPERATIONS: MANDATORY FUNCTIONS

## 1. OPERATIONAL DATA SERVICES

### **ICPAC provides the following data services**

- Support to climate database management system development and testing,
- Support in data rescue and archiving of data for member states on request
- Development of gridded Regional Climate Datasets
- Generation of metadata and facilitation of data access
- Quality control of station datasets
- On-line data/product access through data library and maproom and geoportal

### **Major constraints**

- Lack regional climate data sharing framework

# CLIMATE DATASETS AND TOOLS

## USE OF GEO-TOOLS

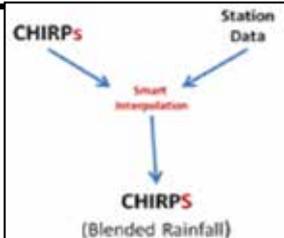


**GeoMOD**



## OUTCOME

- Increased availability and access to climate data
- Improved monitoring of climate extremes (floods and droughts)
- Improved forecast and early warning
- Improved climate services
- Reduction in human life loss and economic damage
- Recognition of ICPAC as WMO Regional Climate Center (RCC)



**Regional gridded  
observed data**

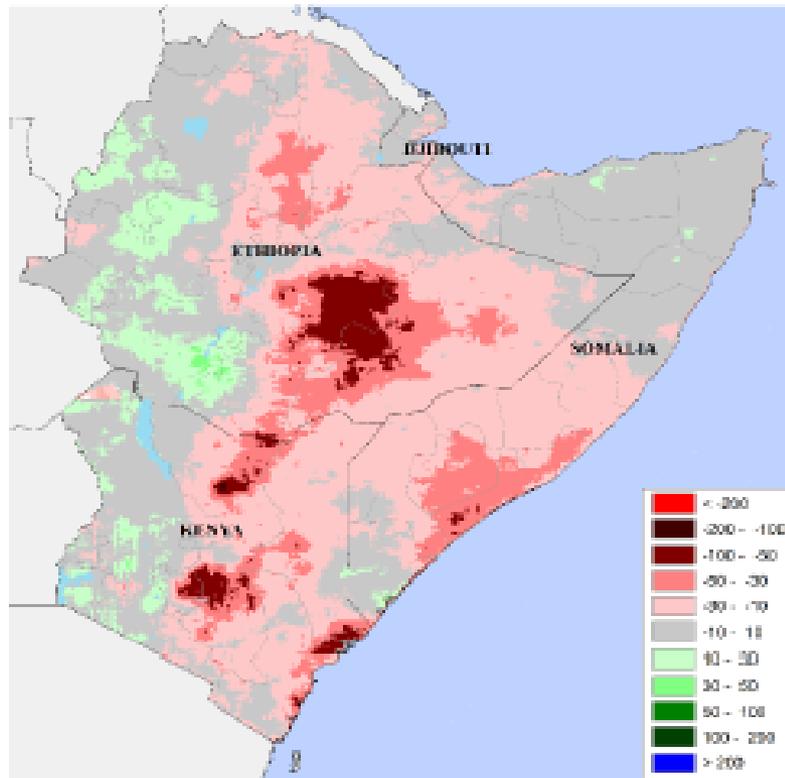
# RCC OPERATIONS: MANDATORY FUNCTIONS

## 2. CLIMATE MONITORING

- Generation of SPI and anomalies for precipitation and temperature on dekadal, monthly and seasonal time scales.
- Monthly and seasonal historical reference climatology for period 1961 to 1990 and 1981 to 2010 which can be accessed on-line.
- Issuance of climate watch whenever there is unique climate phenomenon

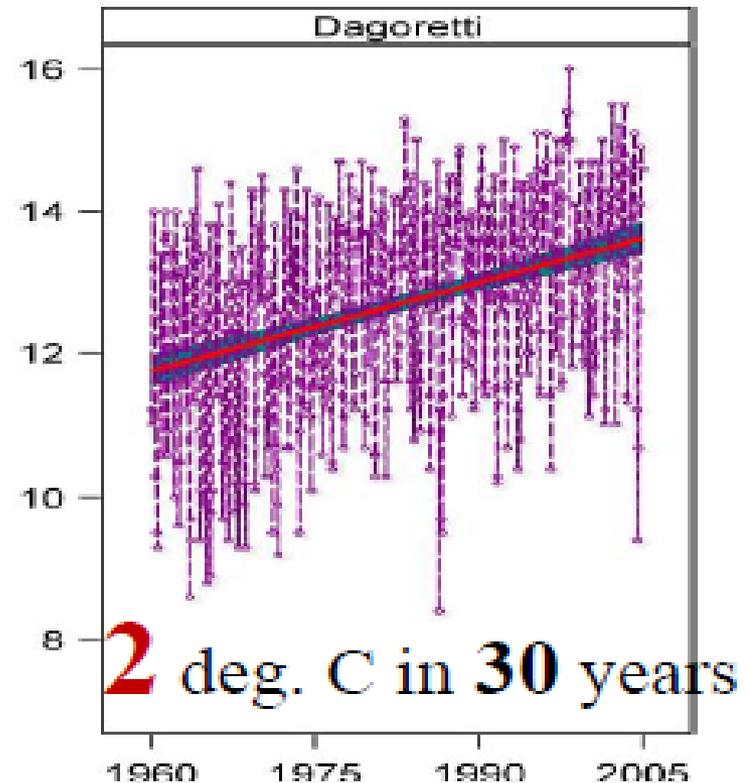
# HISTORICAL CLIMATE ANALYSIS

## Rainfall Trends



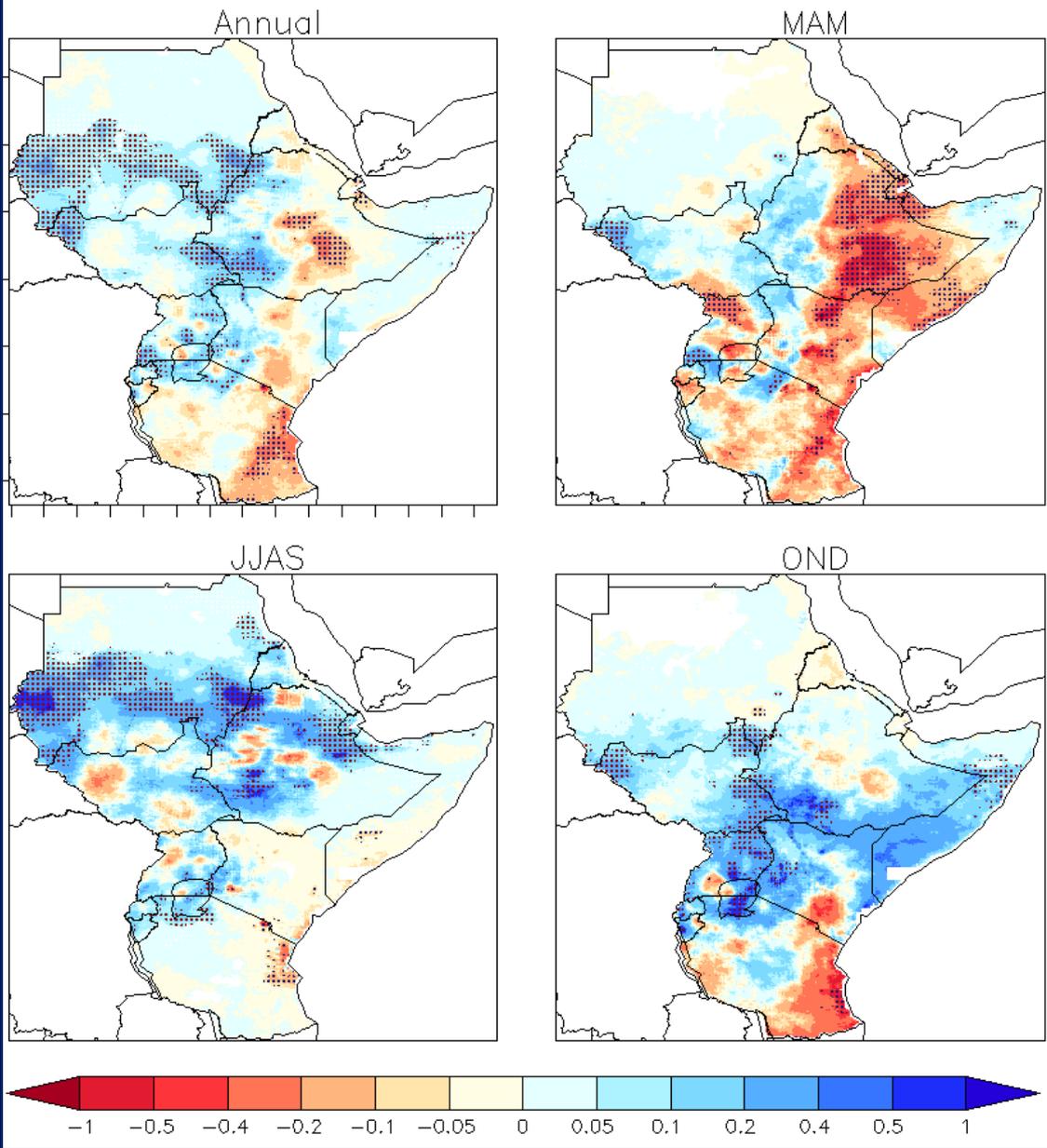
Declining rainfall amounts

## Nairobi Temperature Trends



Getting hotter...

## Spatial historical rainfall trends over GHA (1981-2015).



- q Observed rainfall records show declining trends during MAM (the major season over equatorial sector), with statistical significance in most part of the region
- q OND show increasing trends
- q The annual rainfall shows decreasing trend over equatorial and southern sector

**The contradiction between observation and model signal has been named the '*East African climate paradox*' (Rowell et al. 2015).**

# RCC OPERATIONS: MANDATORY FUNCTIONS

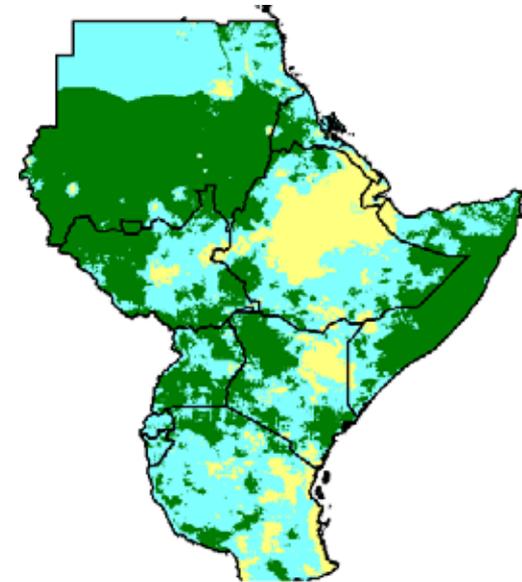
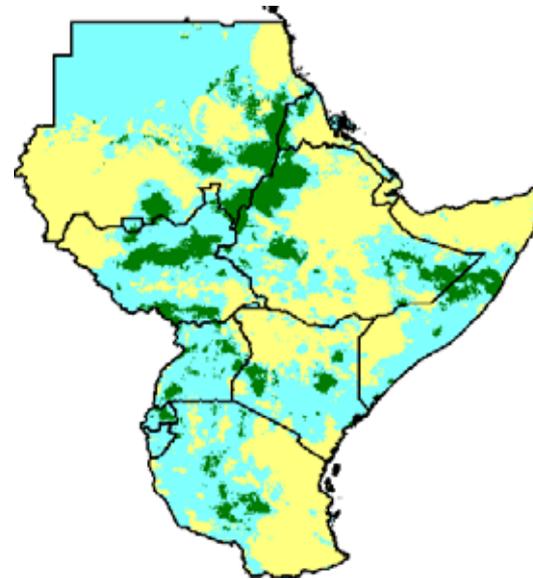
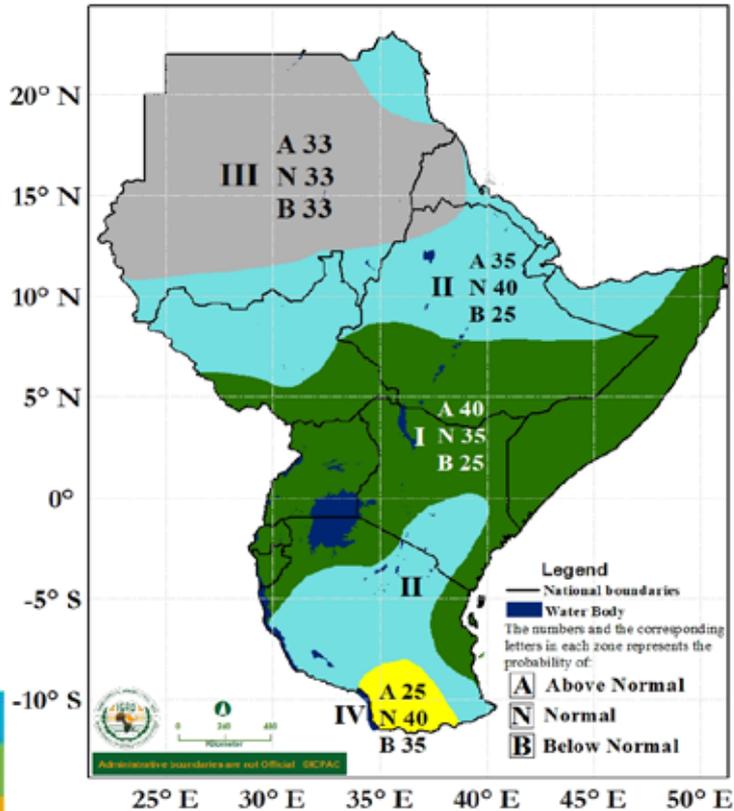
## 3. LONG RANGE FORECASTING

### CONSENSUS OND 2018 RAINFALL OUTLOOK

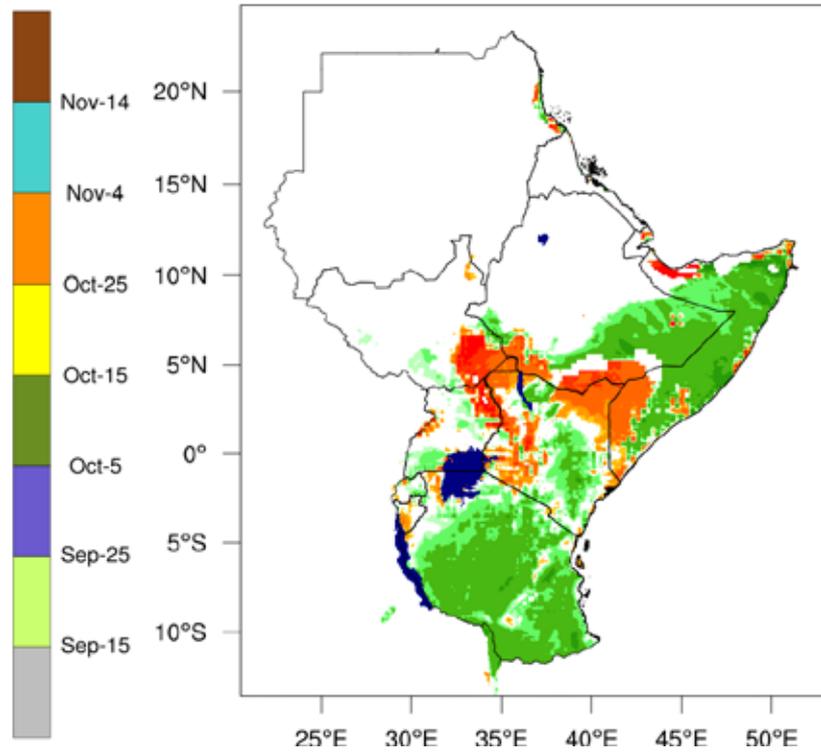
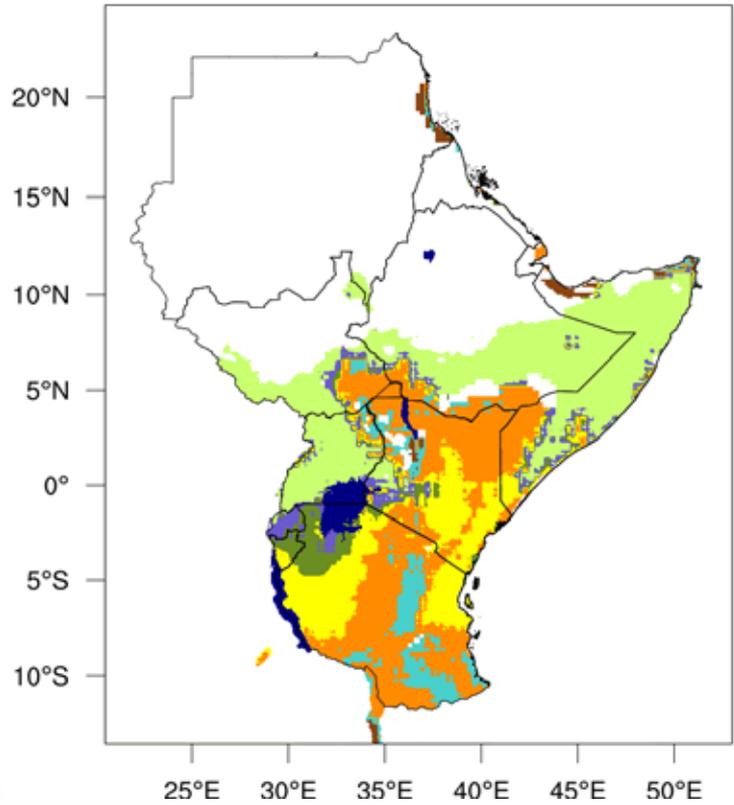
#### Analogue Years

2001

2012

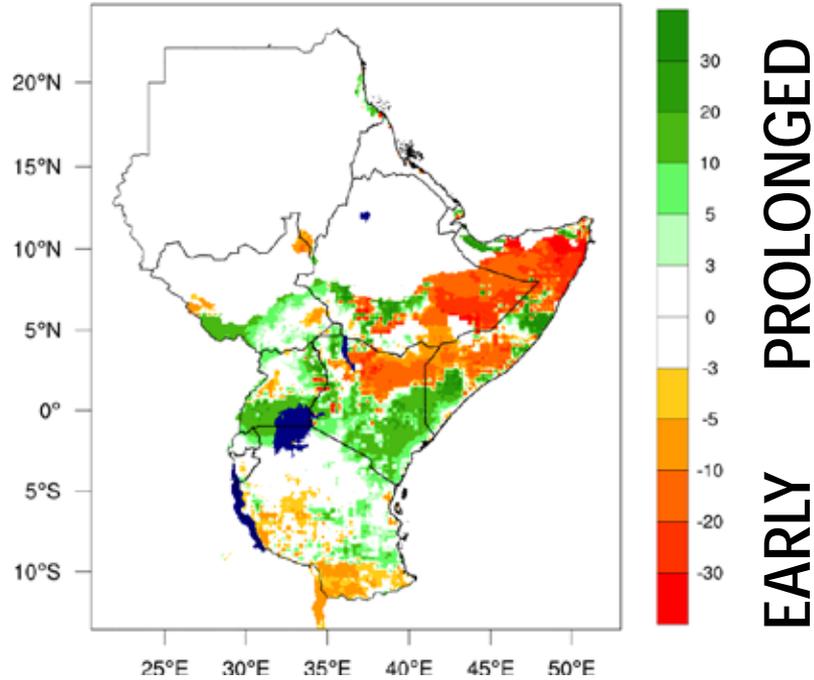
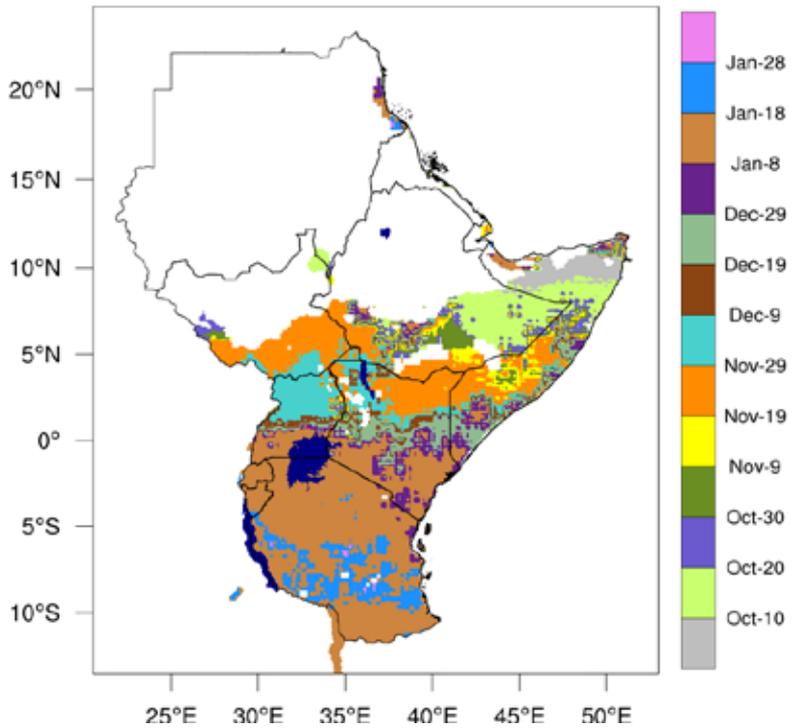


# TAILORED FORECAST



EARLY DELAYED

# TAILORED FORECAST



# RCC OPERATIONS: MANDATORY FUNCTIONS

## 4. TRAINING/GUIDANCE IN THE USE OF RCC PRODUCTS

Pre COF Training Workshop



Regional training workshop on climate data gridding using GeoCLIM and statistical downscaling for climate change scenarios development, Nairobi, 10-15 August 2015



Trainings regularly conducted to both providers & users of climate services

# RCC OPERATIONS: HIGHLY RECOMMENDED FUNCTIONS

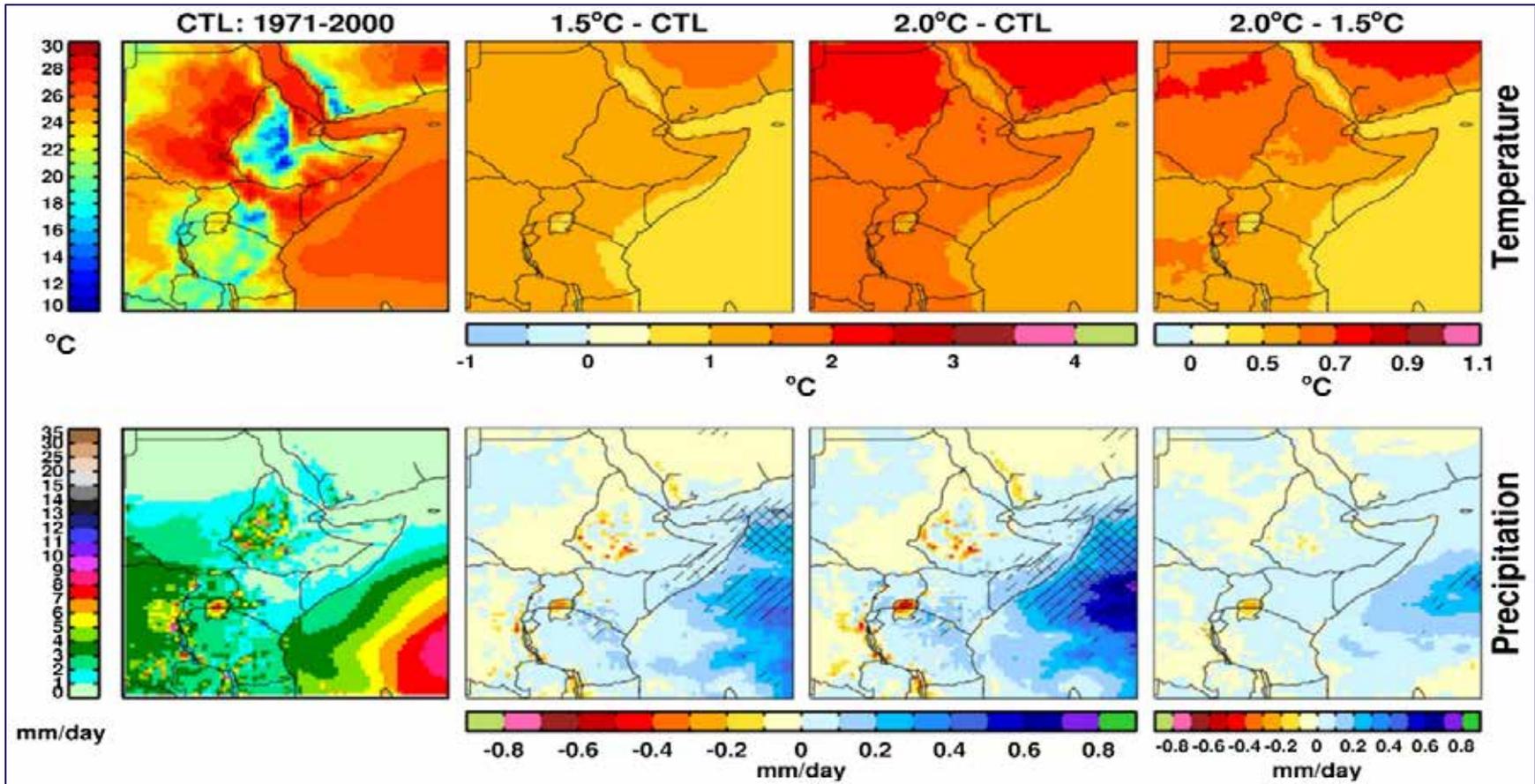
- **Climate change projection:** Offering tailor made services to users on climate change
- **Regional coordination/collaboration (including project implementation):** Coordination of RCOF, disaster risk management and Food Security and Nutrition working group activities.
- **Training/capacity development:** Trainings offered to climate providers and users.
- **Research and Development:** A number of publications have been done in collaboration with partners and universities and are available online



# ROLE IN RCOF ACTIVITIES

- **Technical guidance for RCOF outputs:** Organising meetings to generate the consensus regional climate outlook and assisting NMHSs in downscaling regional forecasts to national and subnational levels
- **Training activities:** Organisation of regular training workshops for both climate scientists and users
- **Inter-session updates of RCOF products/outlooks:** Updates are provided on ten day and monthly basis
- **Resource mobilization for sustaining RCOFs:** ICPAC develops project proposals to generate funds to support organization of GHACOFs
- **Major constraints, if any**
  - Dependence on development partners in funding of RCOFs

# PROJECTED CLIMATE OVER GHA UNDER 1.5 AND 2 OC GWL CONTRIBUTION TO IPCC 1.5 DEGREE SPECIAL REPORT



§ The effect of global warming under 2 °C level over GHA is higher than that of 1.5°C

§ GHA region warms faster than the global mean



# USER ENGAGEMENT

- RCOFs are key platforms to engage the user community and get feedbacks on the use and challenges, or to identify alternative and simpler ways of packaging and communicating products.
- Users have requested tailored seasonal forecasts to be provided at least two months before the start of the season.
- Need to provide gender sensitive climate services.
- ICPAC currently addressing development of tailored climate services.



# SWOT ANALYSIS

- **Strengths:** Skilled human resources and good working relationships with member states and regional institutions
- **Weaknesses:** Lack of a data sharing framework and Limited financial resources, and dependence on development partners
- **Opportunities:** Growing demands for climate services and increasing partnerships and stakeholders in the region
- **Threats:** Insufficient resources to develop the service that exceed competitors

# WAY FORWARD

Actions planned to be undertaken are in;

- **Operations:** fast tracking the formation of regional Data sharing framework and increasing data storage capacity
- **User engagement:** Capacity building in user engagement
- **Sustainability and research:** Demonstration of impacts to enhance ownership and political will

Key requirements for enhanced RCC operations include fast internet and funds for organising RCOFs

# Thank you Merci

## Key RCC Contacts:

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