



**COP 26 STRUCTURED EXPERT DIALOGUE 2  
Meeting**



# **CLIMATE TRENDS AND IMPACTS FOR AFRICA**

**PREPARED BY: WMORA I/RCC- Africa at ACMAD  
PRESENTED BY: Andre KAMGA FOAMOUHOUE**

**<http://acmad.net/rcc/>**

**Time 15h00-18h00 GMT**

**DATE:NOVEMBER 02, /2021**



# OUTLINE

- 1. TEMPERATURE AND PRECIPITATION TRENDS**
- 2. TRENDS ON EXTREMES**
- 3. IMPACTS OF OBSERVED TRENDS**



## MISSION AND VISION

### **Mission:**

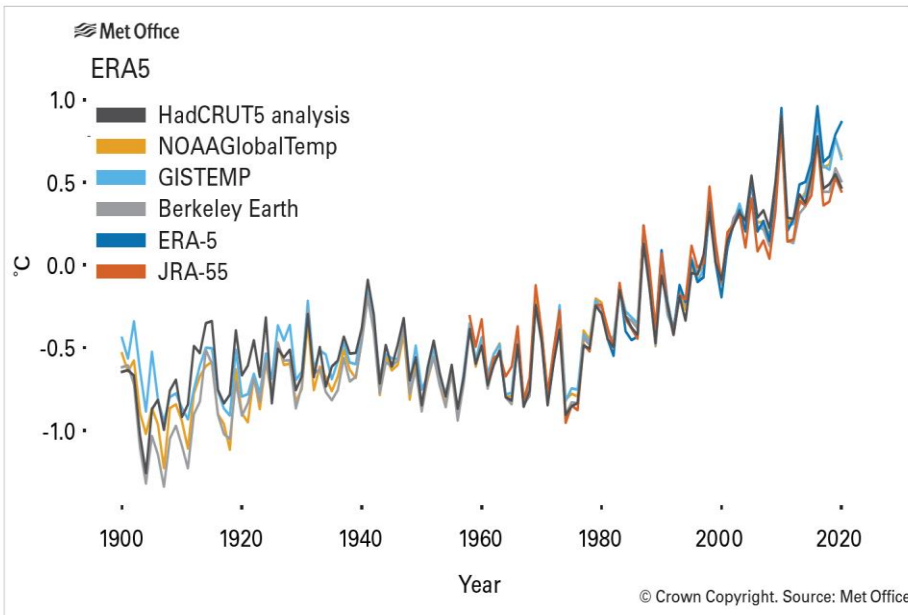
**A Continental Weather and Climate Watch Centre and Institution of Excellence for the Applications of Meteorology for Development**

### **Vision:**

**A World Class operational Continental Centre providing weather and climate services for sustainable development of Africa**

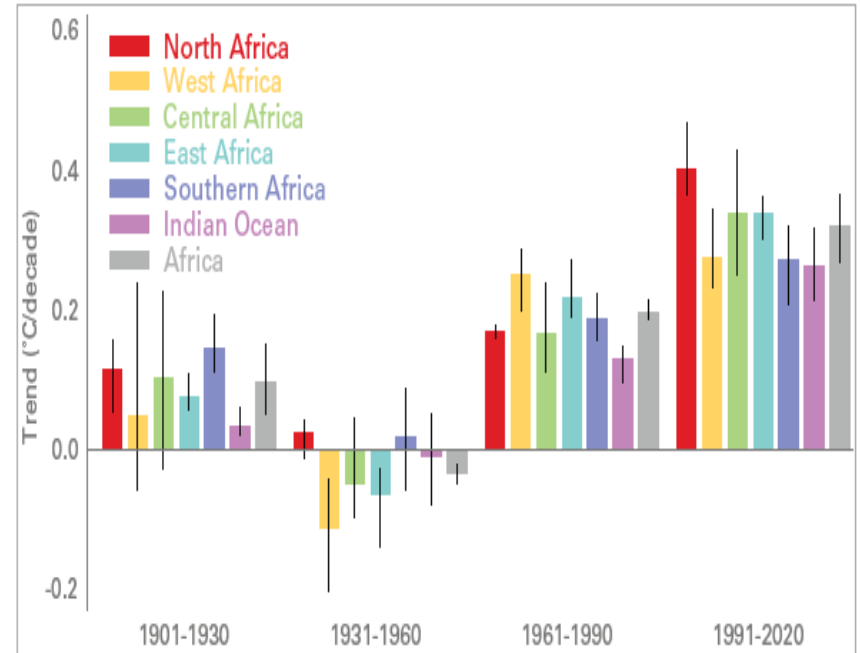


# AFRICA WARMS FASTER THAN THE GLOBE, NORTH AFRICA HAS THE HIGHEST WARMING RATE ( around 4° C per Century during the last 30 years) OVER THE CONTINENT



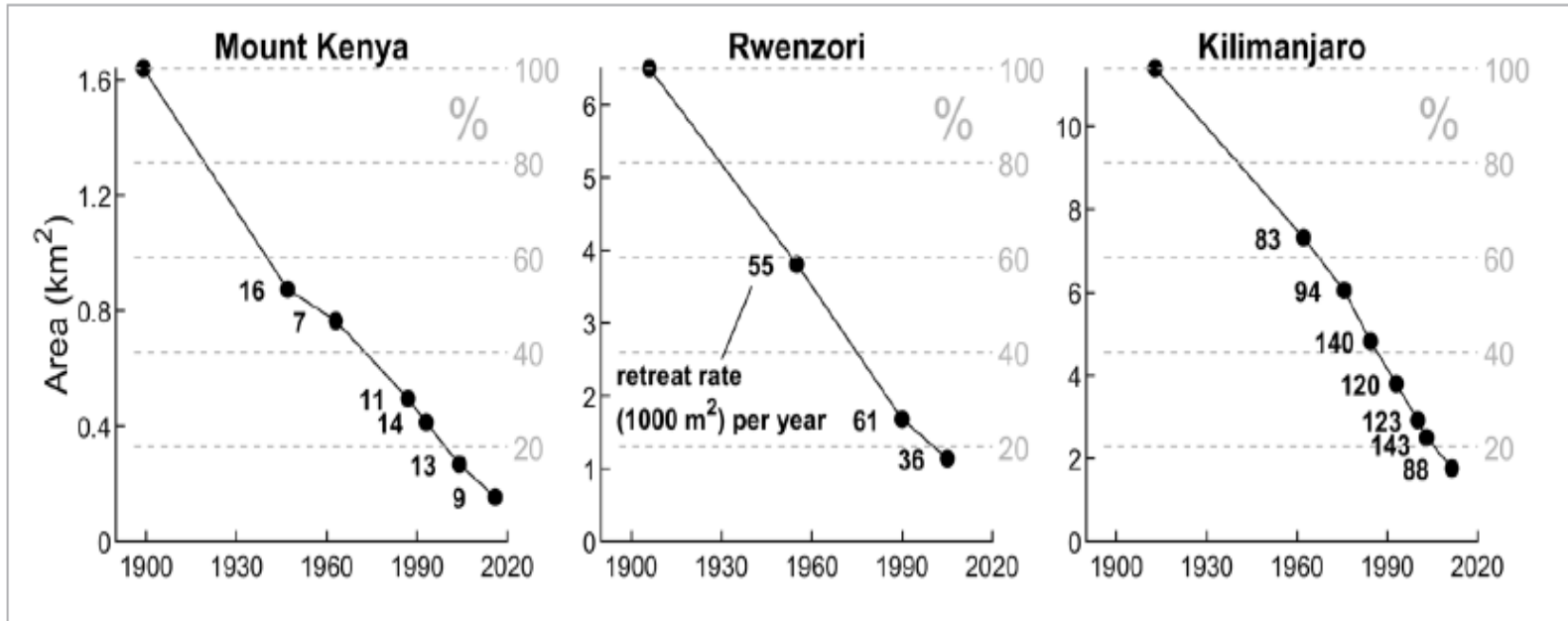
**Figure 2.** Area average land air temperature anomalies in °C relative to the 1981–2010 long-term average for Africa (WMO Regional Association I) based on six temperature data sets.

Source: Met Office, United Kingdom





## CHANGES OF THE GLACIER AREA ON AFRICAN MOUNTAINS, GIVEN THESE TRENDS THE MOUNTAINS WILL BE DEGLACIATED BY THE 2040s



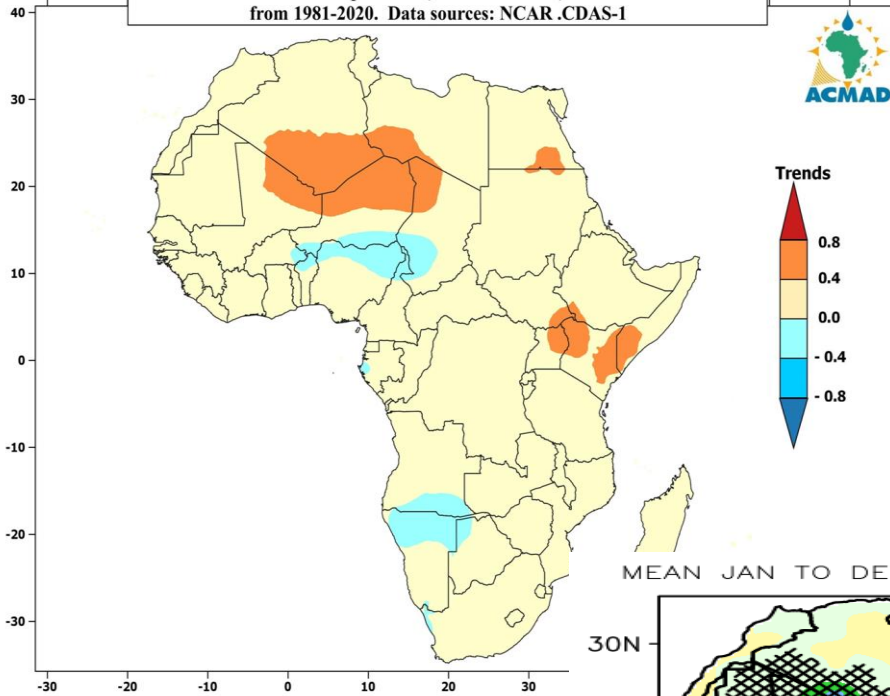


# Near Surface Land Air Temperature and precipitation trends

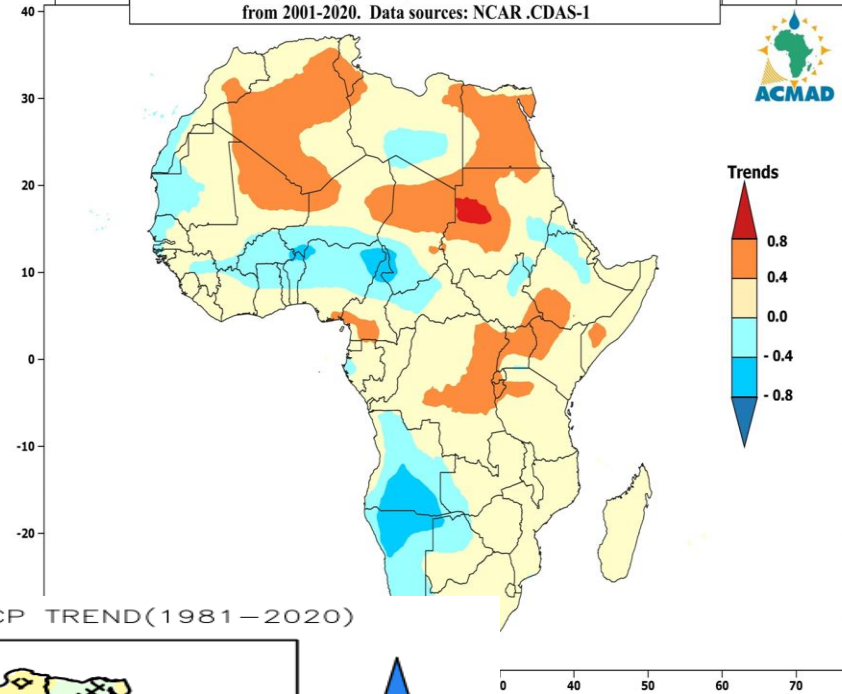
Recent Past 20 years

Past 40 years

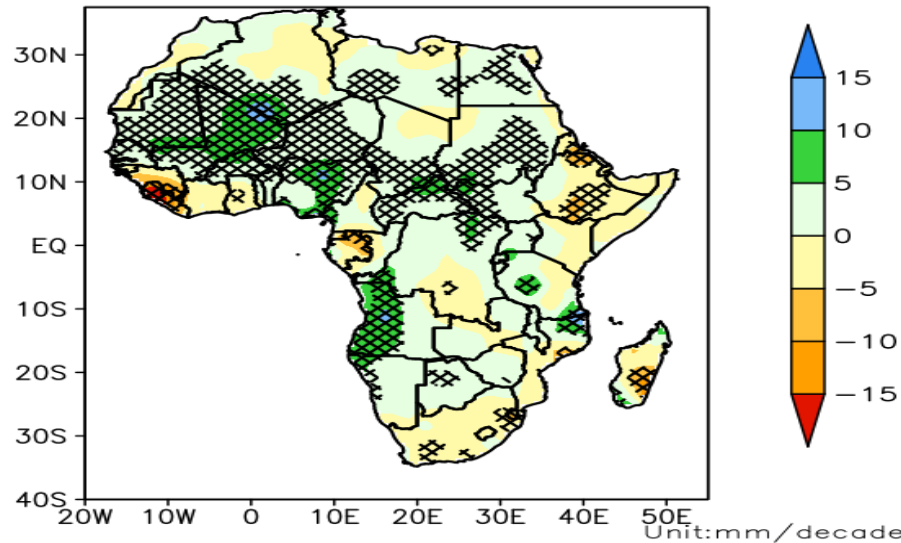
Tend for near surface temperature (mean JAN-DEC) of African land masses from 1981-2020. Data sources: NCAR .CDAS-1



Tend for near surface temperature (mean JAN-DEC) of African land masses from 2001-2020. Data sources: NCAR .CDAS-1

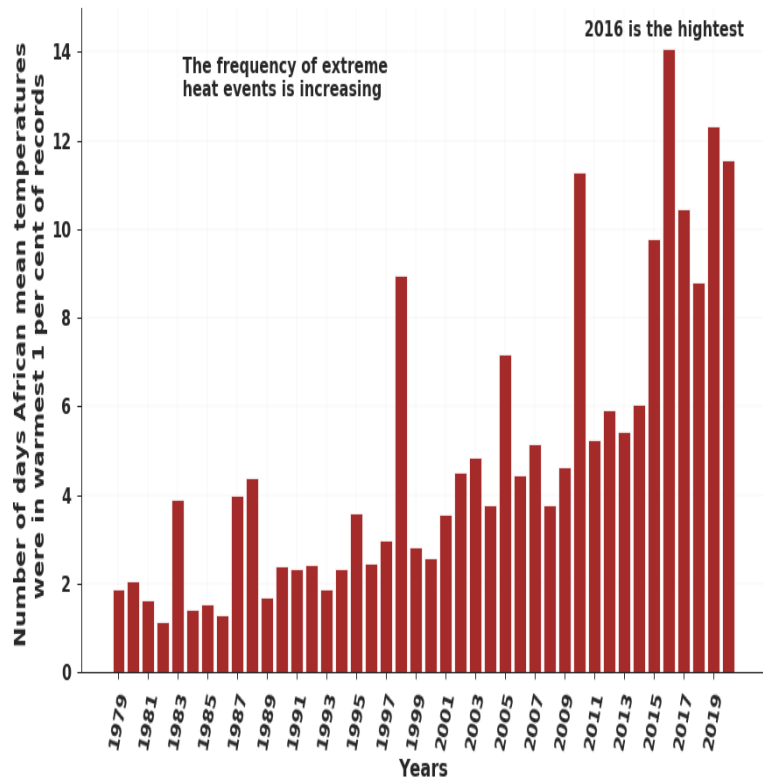


MEAN JAN TO DEC PRCP TREND(1981-2020)

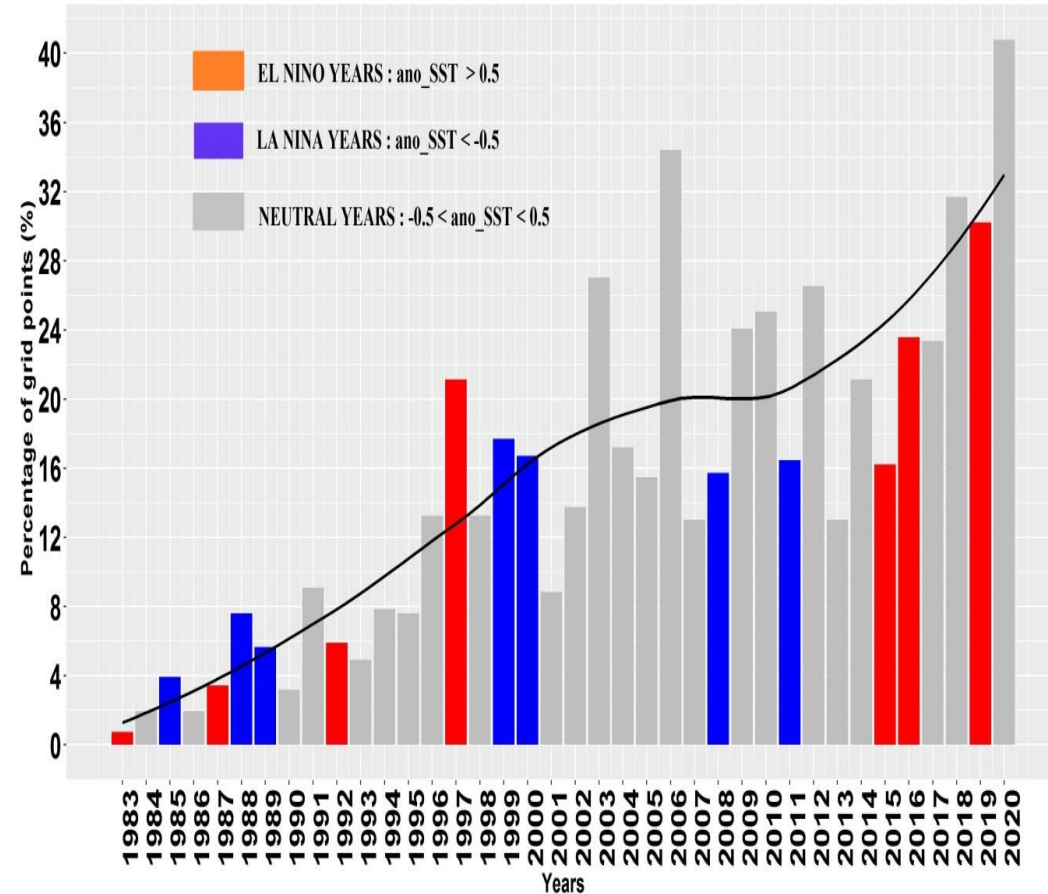




# Extreme Temperature and Precipitation events



Percentage of grid points over African land masses with daily rainfall above the 90th percentile For the period 1981-2020, from January to December

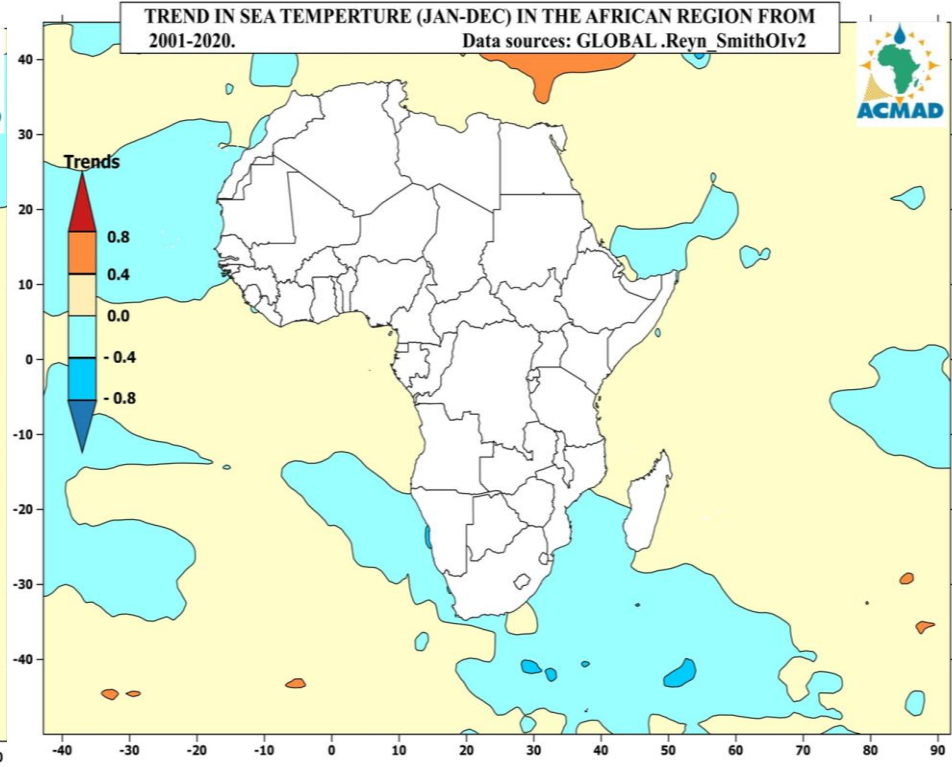
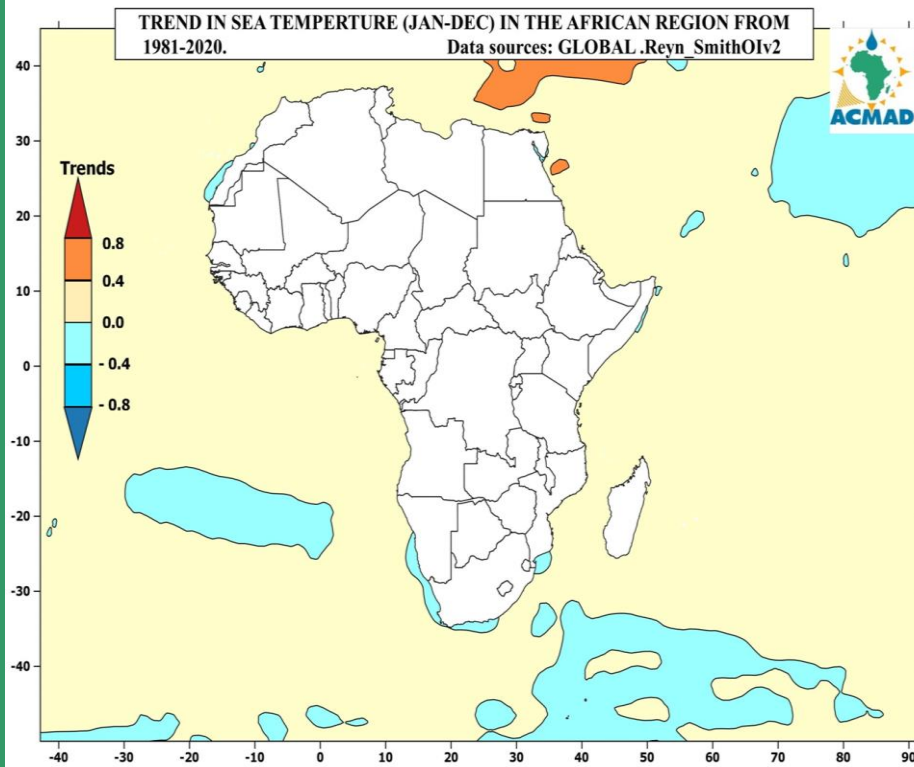


# Near Surface Air Temperature trends



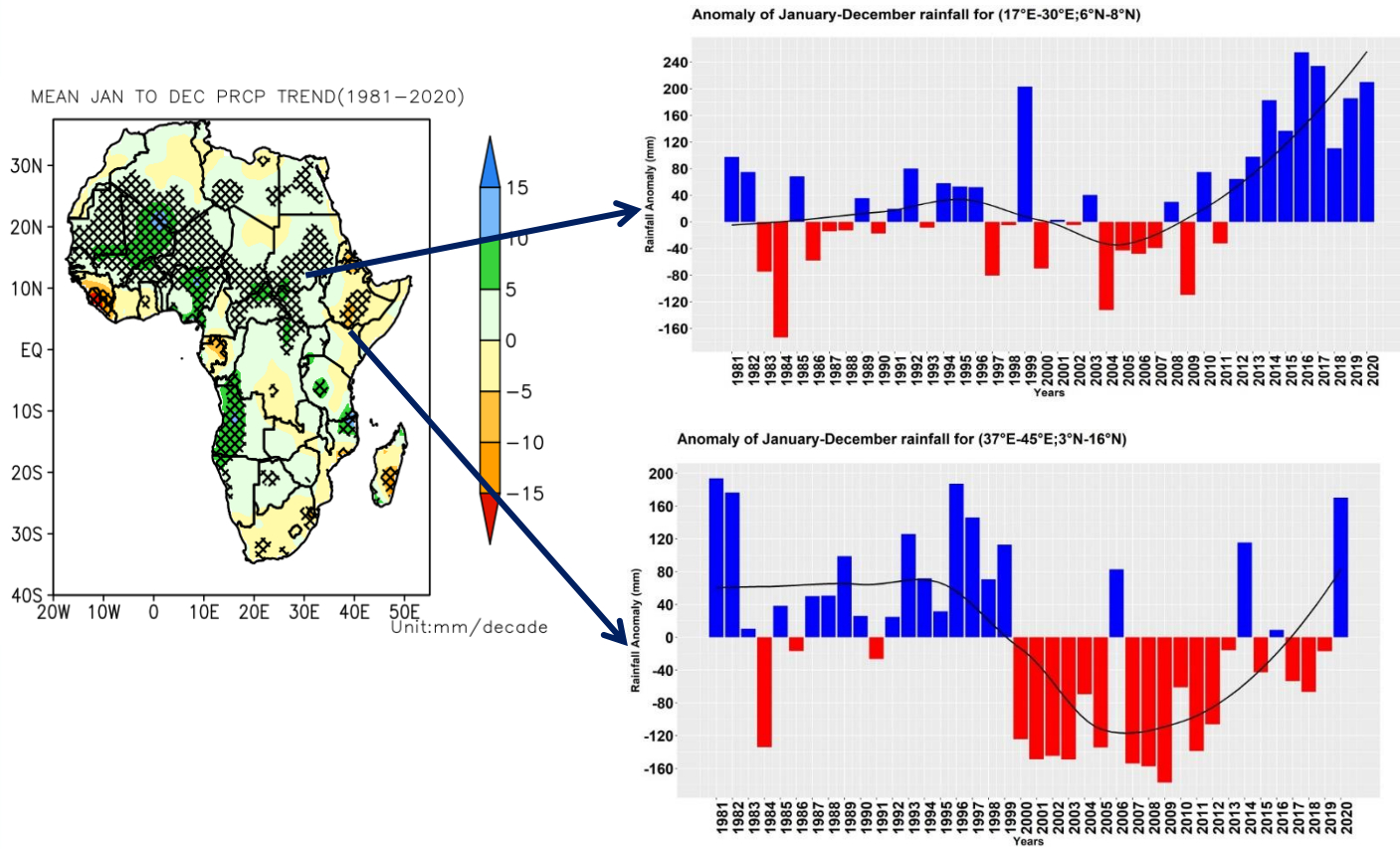
Past 40 years

Recent Past 20 years





# Precipitation Anomalies over Areas with Significant trends, No trends but multidecadal variability

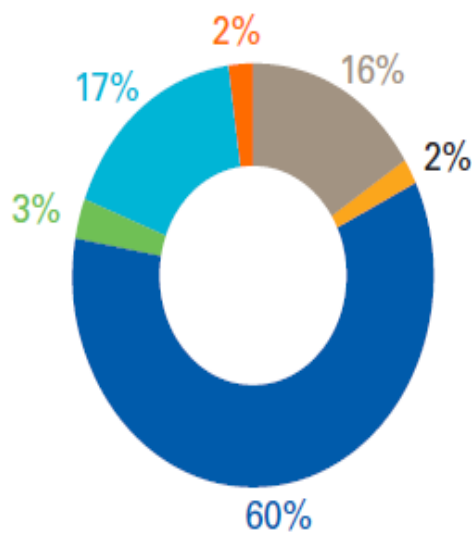


[http://iridl.ldeo.columbia.edu/expert/expert/SOURCES/\\_NOAA\\_NCEP\\_CPC\\_CAMS\\_OPI/v0208/mean/prcp](http://iridl.ldeo.columbia.edu/expert/expert/SOURCES/_NOAA_NCEP_CPC_CAMS_OPI/v0208/mean/prcp)

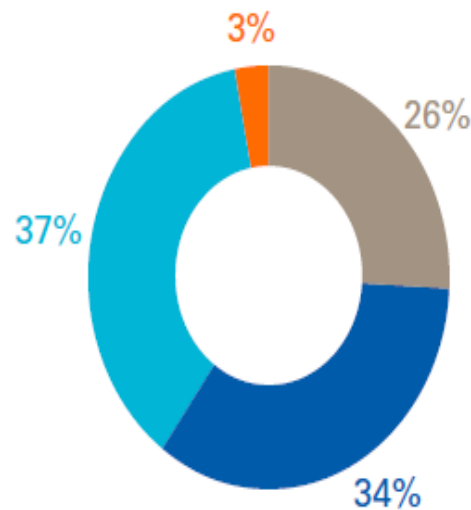


# Overview of disasters, economic losses, deaths reported in Africa (1970-2019), Source WMO No. 1267

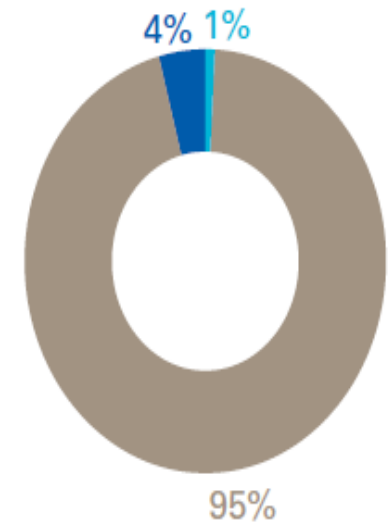
(a) Number of reported disasters total = 1 695 disasters



(b) Reported economic losses in US\$ billion total = US\$ 38.5 billion



(c) Number of reported deaths total = 731 747 deaths



■ Drought ■ Extreme temperature ■ Flood ■ Landslide ■ Storm ■ Wildfire

# Natural Disasters and Associated Impacts

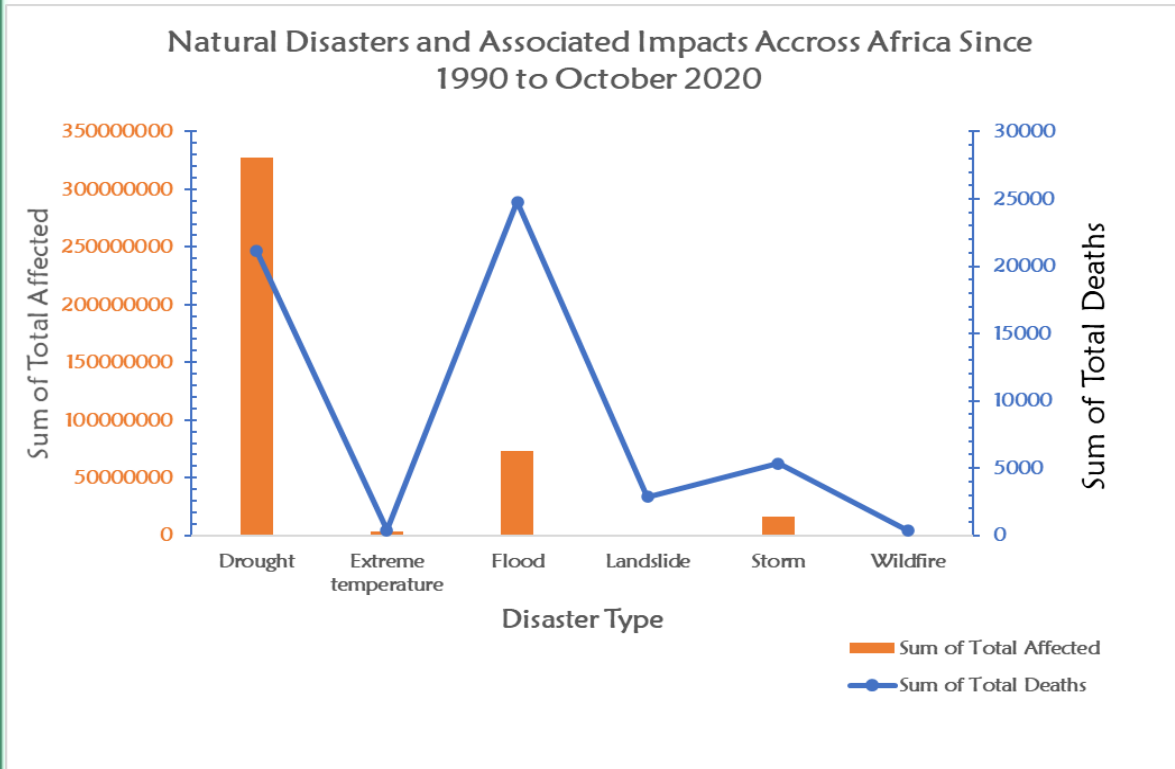
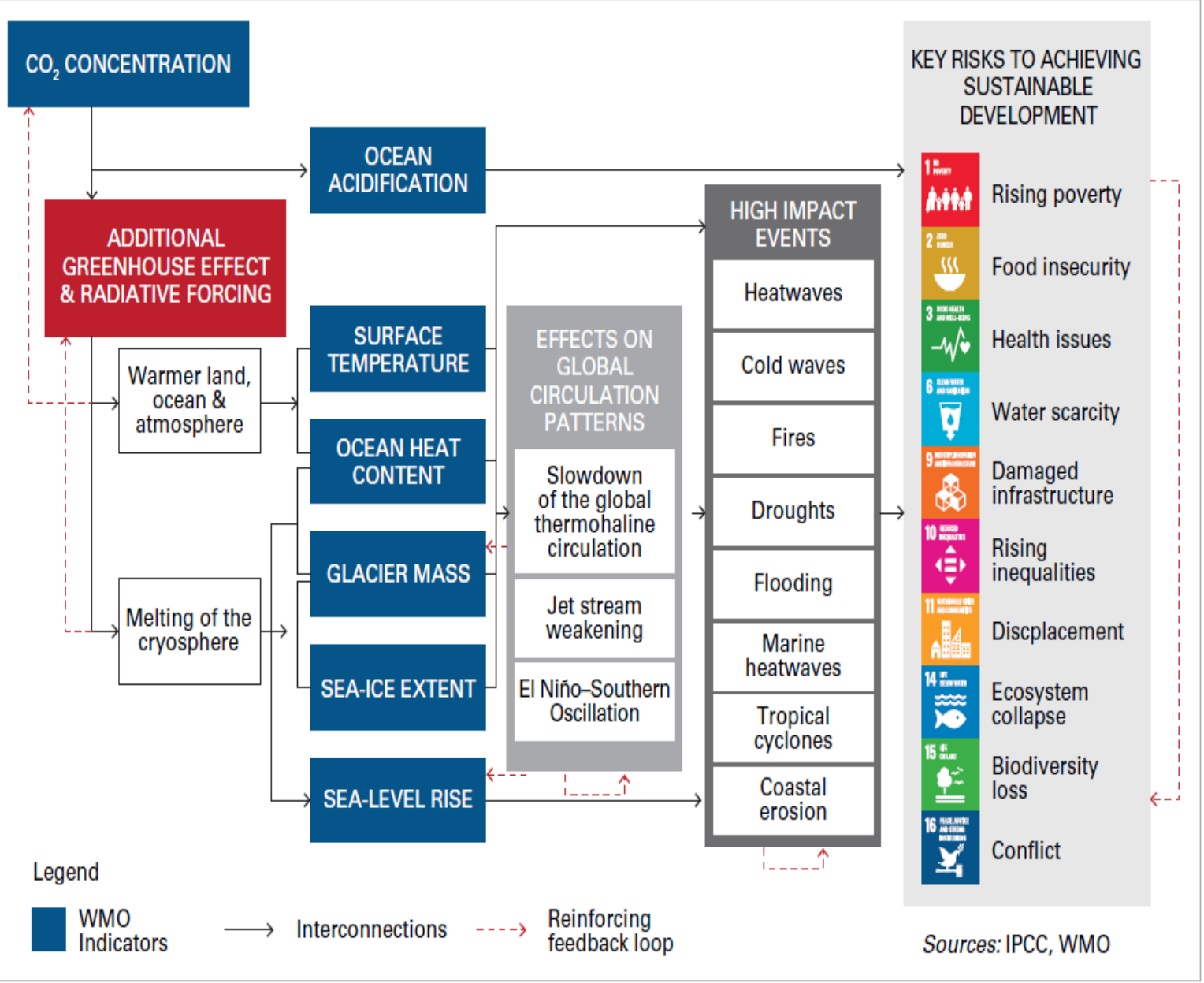


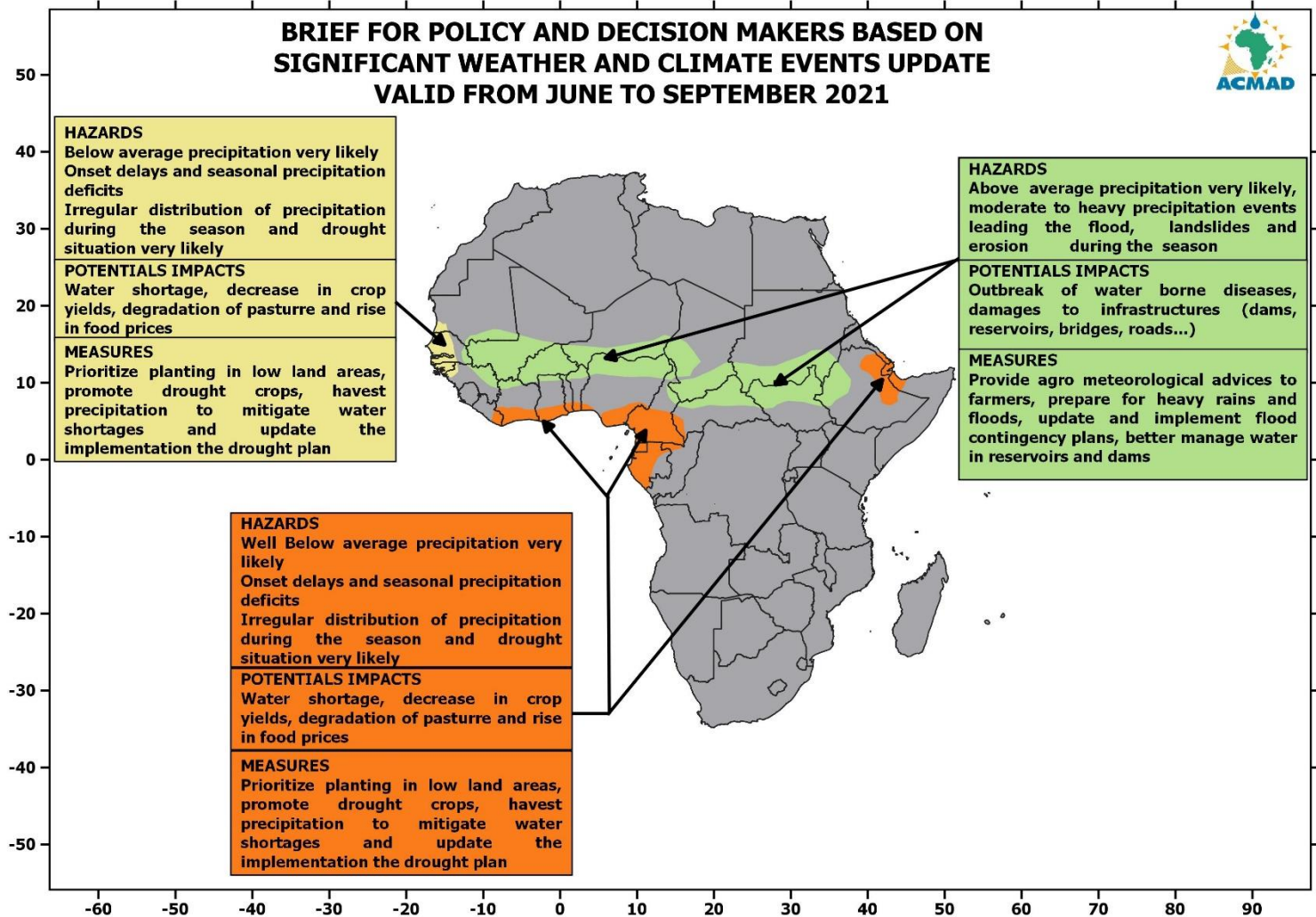
Figure 31: Natural Disasters and Associated Impacts Across Africa Since 1990 to October 2020 .  
Data: source: <https://public.emdat.be/data>

Since 1990 to October 2020, drought has affected more people than any other disasters. However, flood is the leading killer compared to the others. Others disasters to be aware of are storm, extreme temperature and wildfire.



**Figure 24.** Selected climate change-related risks to the achievement of the SDGs. *Source:* WMO, 2021: Climate Indicators and Sustainable Development: Demonstrating the Interconnections (WMO-No. 1271).

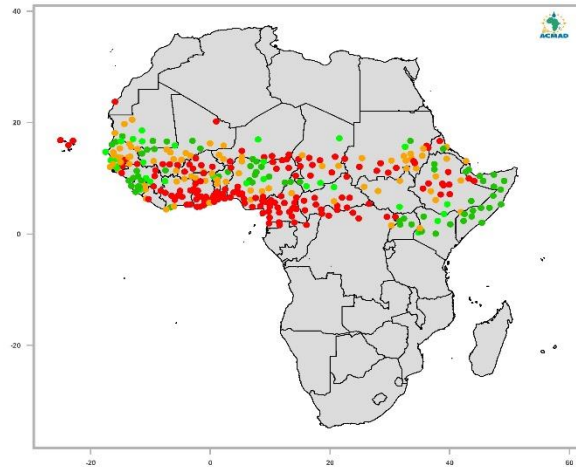
# IMPACT BASED SEASONAL FORECASTING AND RESPONSE MEASURES FOR DISASTER MANGEMENT PLANS UPDATE





# AGRICULTURE CALENDAR UPDATE SERVICE

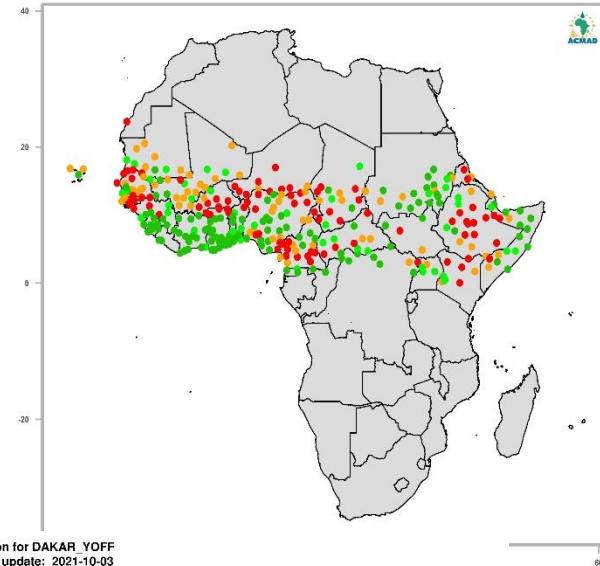
START OF THE AGRICULTURE SEASON FROM JANUARY TO JULY IN 2020.



Observed start of the Agriculture Season departure from Average.

- LATE
- NEAR AVERAGE TO LATE
- NEAR AVERAGE TO EARLY
- EARLY

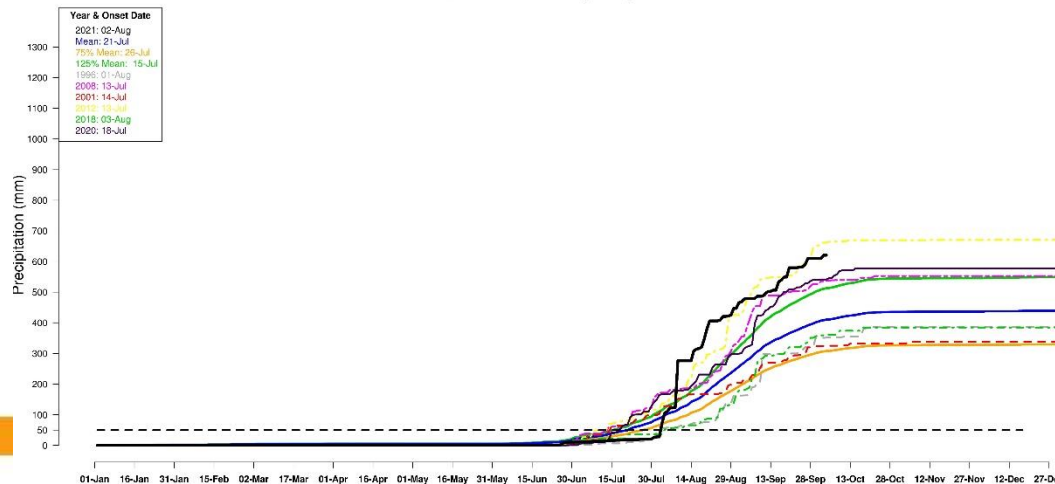
START OF THE AGRICULTURE SEASON FROM JANUARY TO JULY IN 2021.  
Data source: ARC2 & Unified



Observed start of the Agriculture Season departure from Average.

- LATE
- NEAR AVERAGE TO LATE
- NEAR AVERAGE TO EARLY
- EARLY

Senegal - Cumulative precipitation for DAKAR, YOFF  
Data source: Unified PRCP, Last update: 2021-10-03





**THANKS**