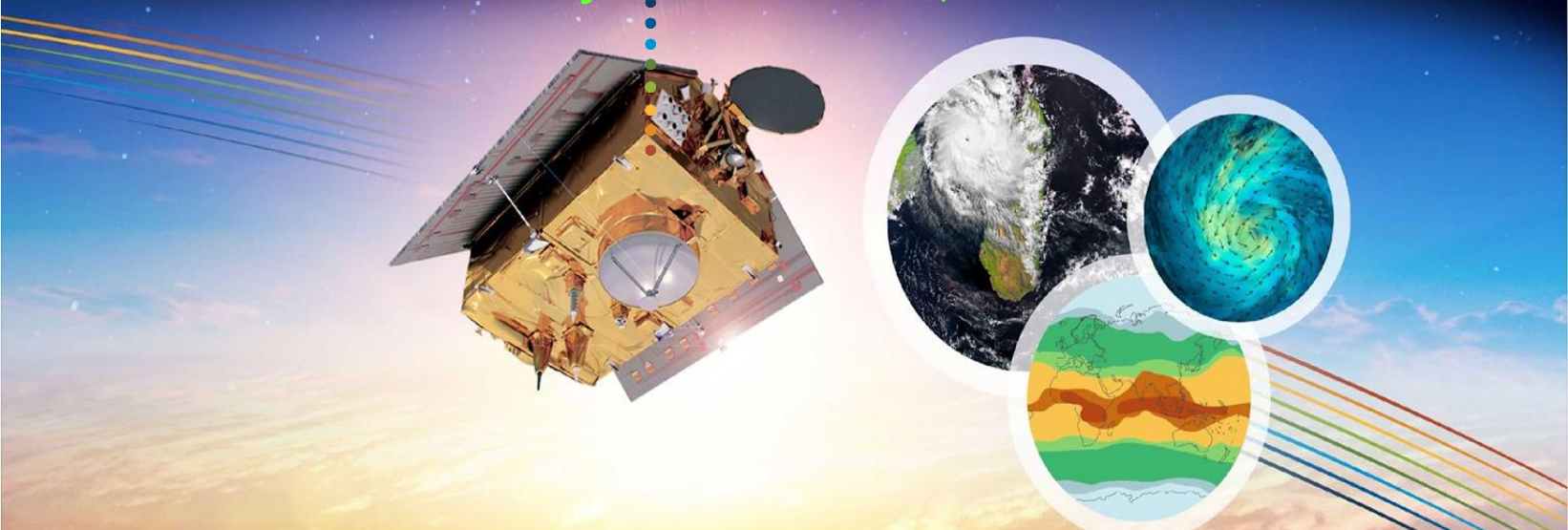
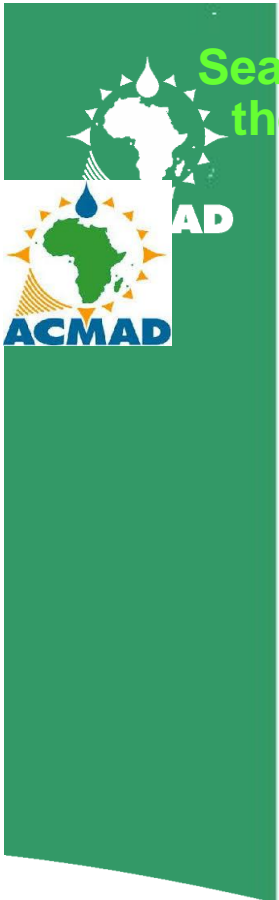


Seasonal Forecasting Workshop on agro-hydro-climatic characteristics of the main rainfall season in the Gulf of Guinea countries / PRESAGG -11

Accra, GHANA

February 26 to March 01, 2024



Climate variability and trends analysis



Prepared By: ACMAD Team

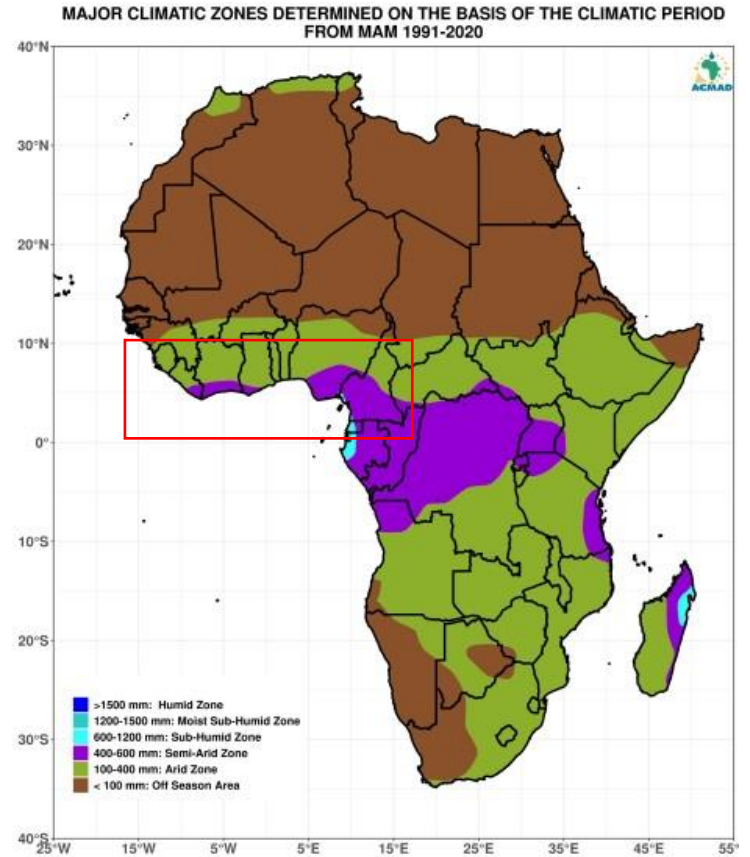
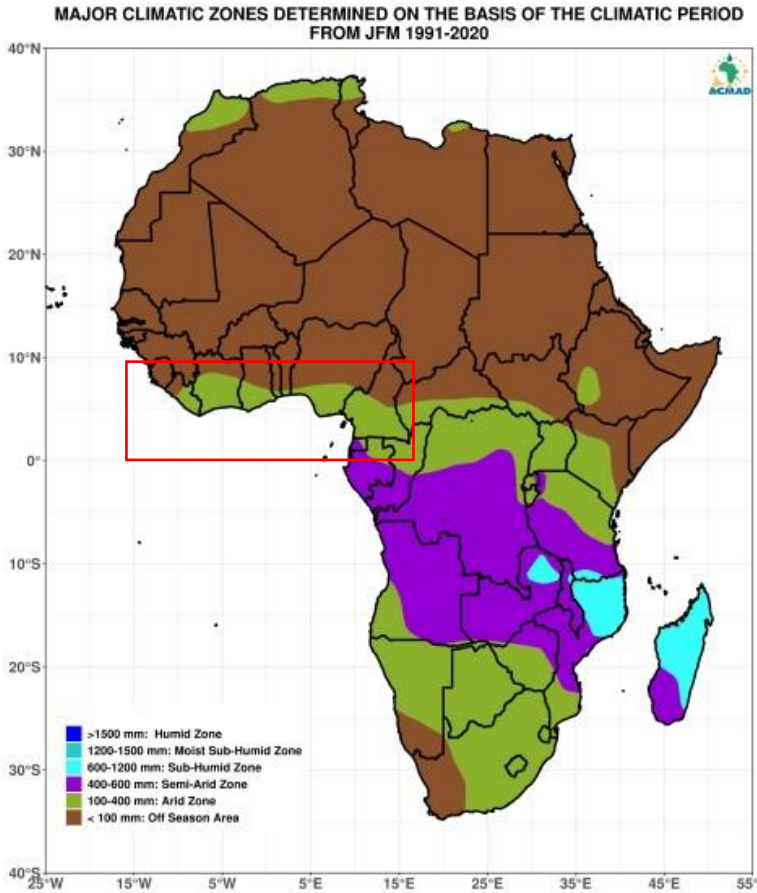


An initiative of the Organisation of African, Caribbean and Pacific States funded by the European Union

Time series analysis of Climate variability and trends (Climatic zones)

Season 1 = MARCH-APRIL-MAY

Season 2 = APRIL-MAY-JUNE





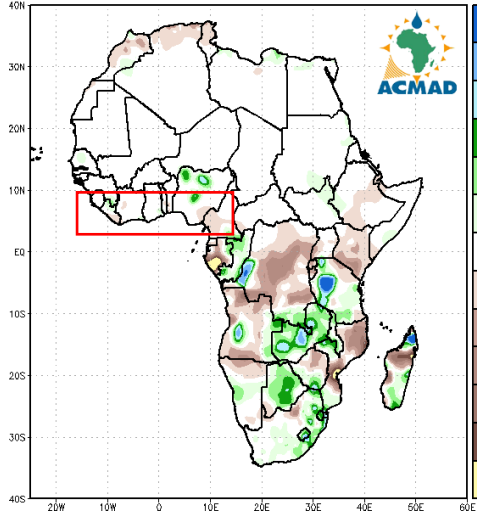
Time series analysis of Climate variability (seasonal and annual cycles, interannual/interdecadal variability) and trends



Time series analysis of Climate variability and trends(Persistence forecast)

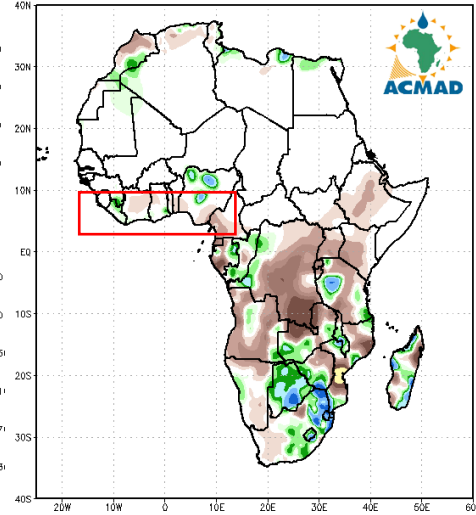
Latest 90-days

CPC-Uni 90day Precip Anomaly (mm)
Period: 22Nov2022 to 19Feb2023



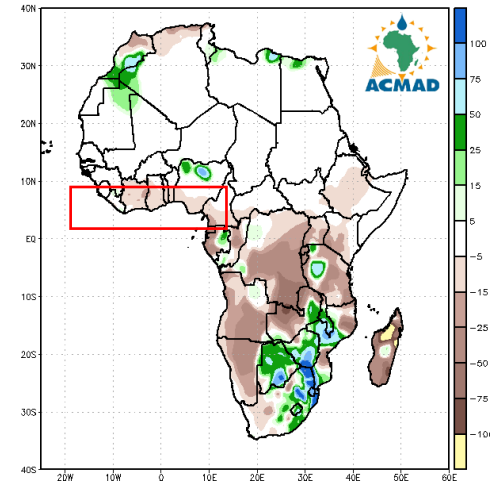
Last 30-days

CPC-Uni 30day Precip Anomaly (mm)
Period: 21Jan2023 to 19Feb2023

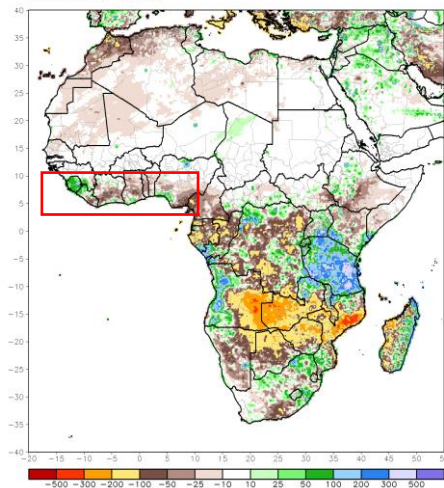


Last 10-days

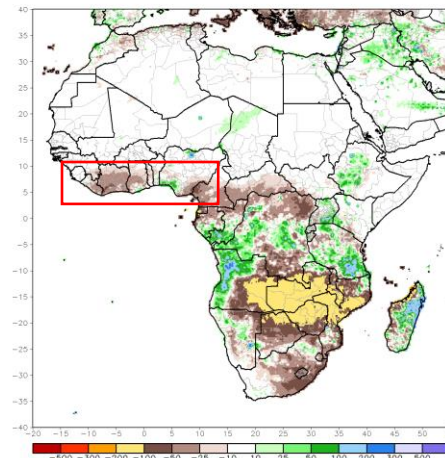
CPC-Uni 10day Precip Anomaly (mm)
Period: 10Feb2023 to 19Feb2023



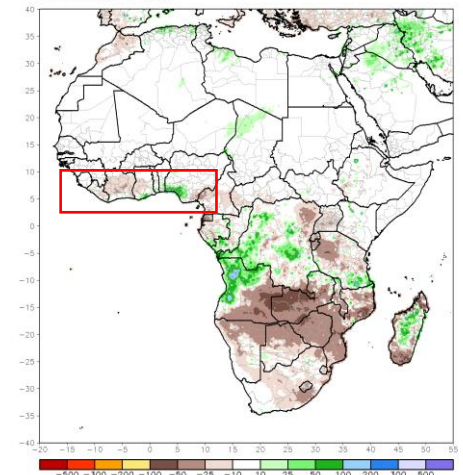
RFE2 90-Day Total Rainfall Anomaly (mm)
Period: 27Nov2023 - 24Feb2024



RFE2 30-Day Total Rainfall Anomaly (mm)
Period: 26Jan2024 - 24Feb2024



RFE2 10-Day Total Rainfall Anomaly (mm)
Period: 15Feb2024 - 24Feb2024



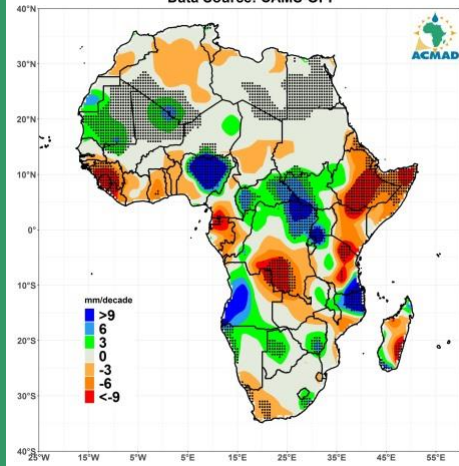


Time series analysis of Climate variability (seasonal and annual cycles, interannual/interdecadal variability) and trends (1/4)

Season 1 MAM

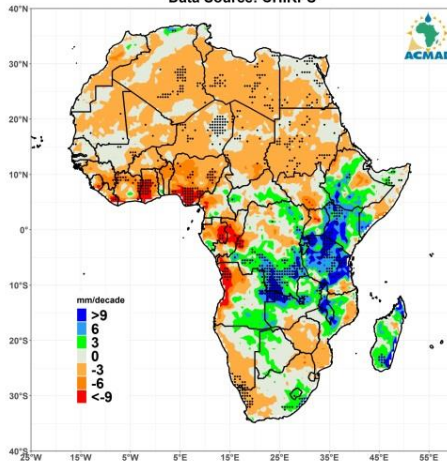
CAMS-OPI

MEAN MAM PRCP TREND 1981-2023
Data Source: CAMS-OPI



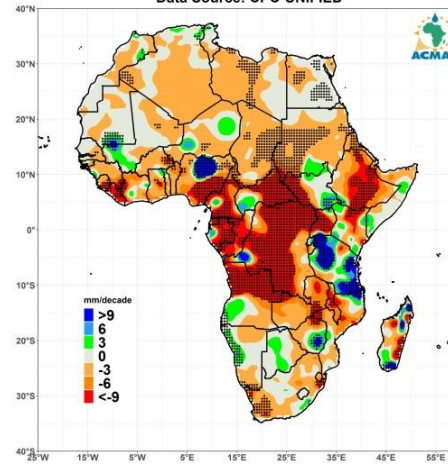
CHIRPS

MEAN MAM PRCP TREND 1991-2023
Data Source: CHIRPS



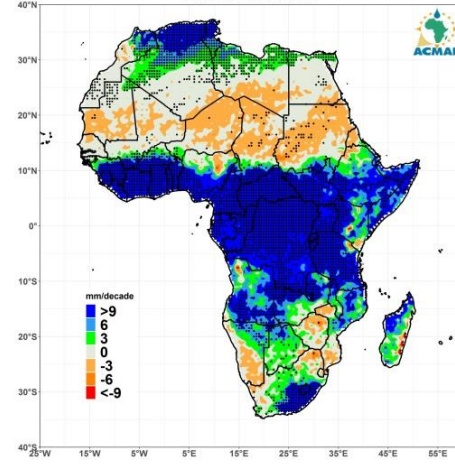
CPC-UNI

MEAN MAM PRCP TREND 1981-2023
Data Source: CPC-UNIFIED



ARC2

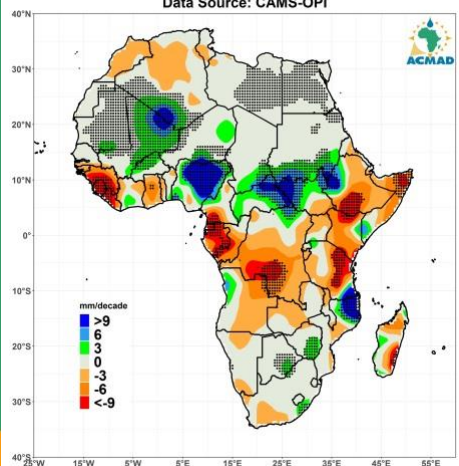
MEAN MAM PRCP TREND 1991-2023
Data Source: ARC2



Season 2 AMJ

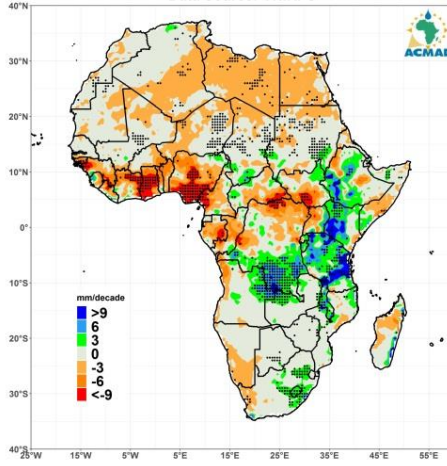
CAMS-OPI

MEAN AMJ PRCP TREND 1981-2023
Data Source: CAMS-OPI



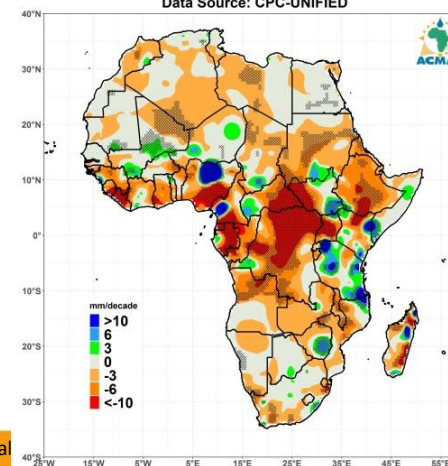
CHIRPS

MEAN AMJ PRCP TREND 1991-2023
Data Source: CHIRPS



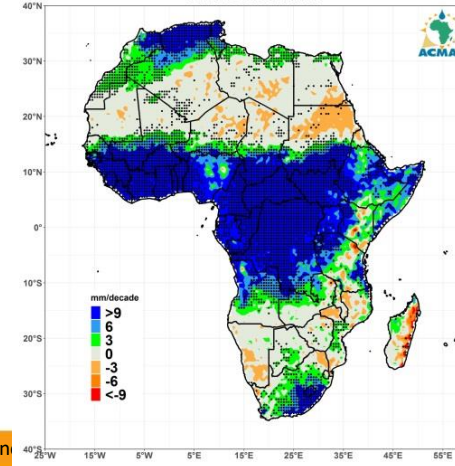
CPC-UNI

MEAN Apr-Jun 2023 PRCP TREND 1981-2023
Data Source: CPC-UNIFIED



ARC2

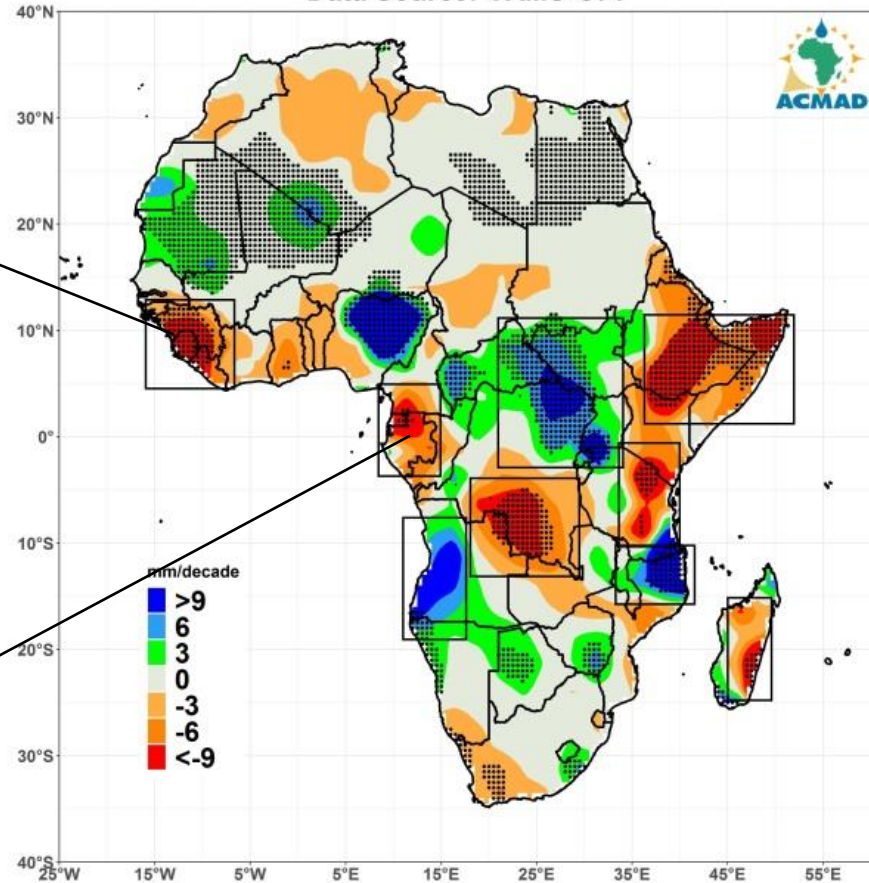
MEAN AMJ PRCP TREND 1991-2023
Data Source: ARC2



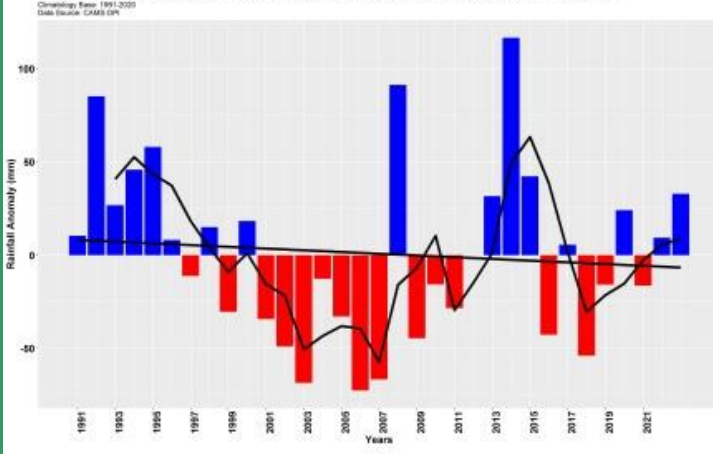
Time series analysis of Climate variability (seasonal and annual cycles, interannual/interdecadal variability) and trends (1/5)

MAM Season 1

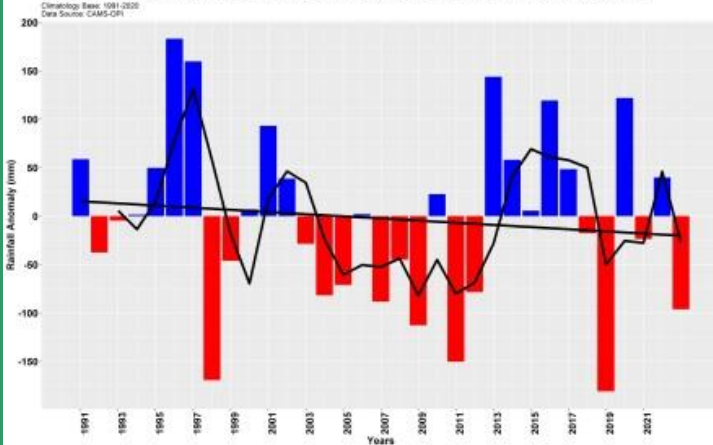
MEAN MAM PRCP TREND 1981-2023
Data Source: CAMS-OPI



Trend in Anomaly of rainfall from MAM_2024_SEASON of Guinea



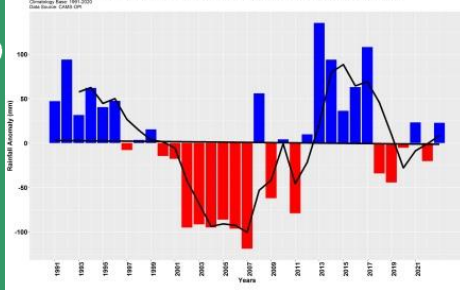
Trend in Anomaly of rainfall from MAM_2024_SEASON of Cam_Gab



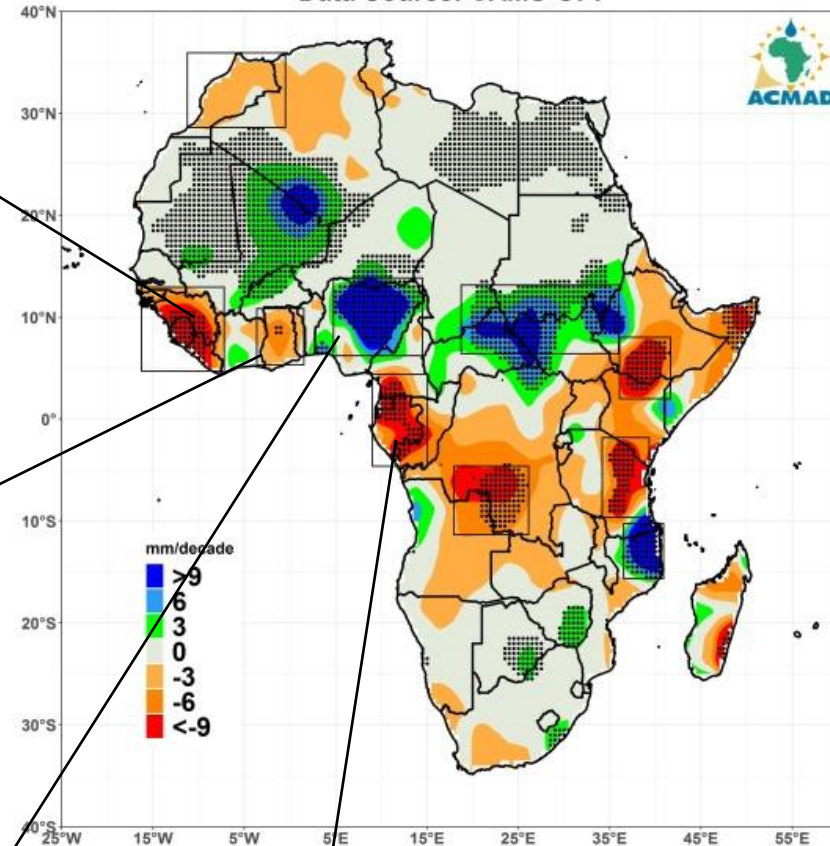


Time series analysis of Climate variability (seasonal and annual cycles, interannual/interdecadal variability) and trends (1/6)

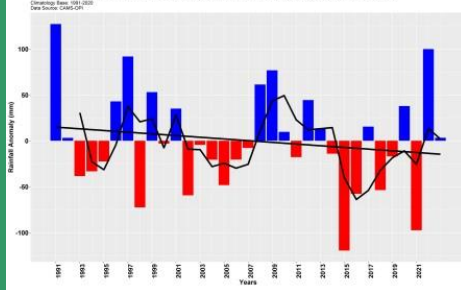
Trend in Anomaly of rainfall from AMJ_2024_SEASON of Guinea



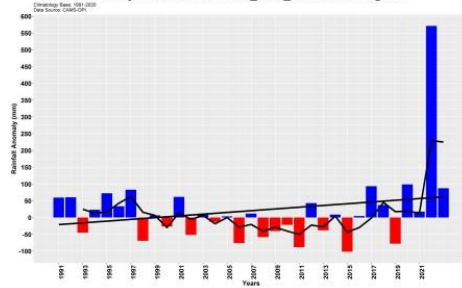
MEAN AMJ PRCP TREND 1981-2023
Data Source: CAMS-OPI



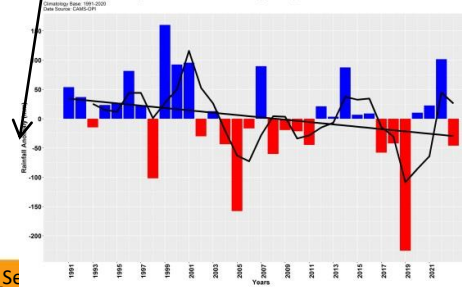
Trend in Anomaly of rainfall from AMJ_2024_SEASON of Ghana



Trend in Anomaly of rainfall from AMJ_2024_SEASON of Nigeria



Trend in Anomaly of rainfall from AMJ_2024_SEASON of CAM-GAB





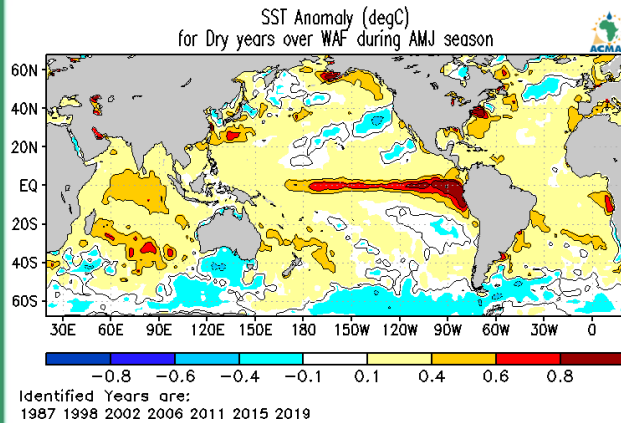
***Identification of wet and Dry and
Analysis of the drivers related patterns***

Composite analysis (Dry Years) – SSTs & Rainfall (AMJ)

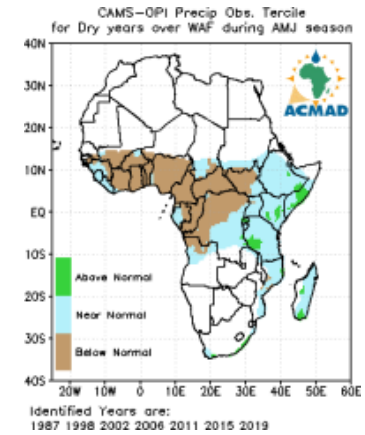
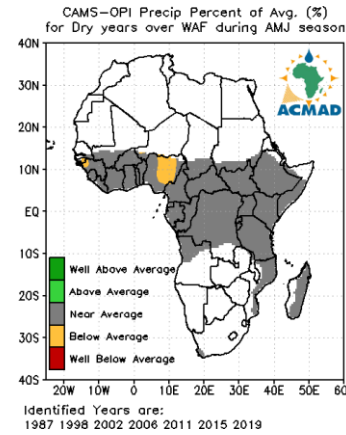


SST Composite

DRY

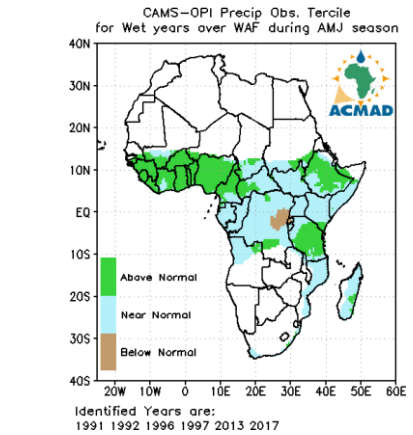
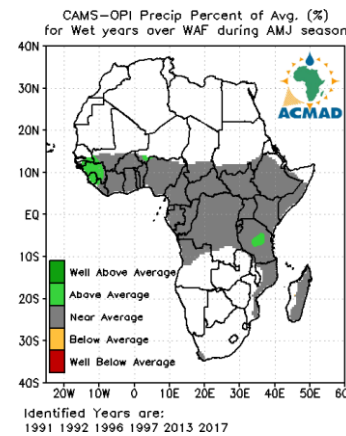
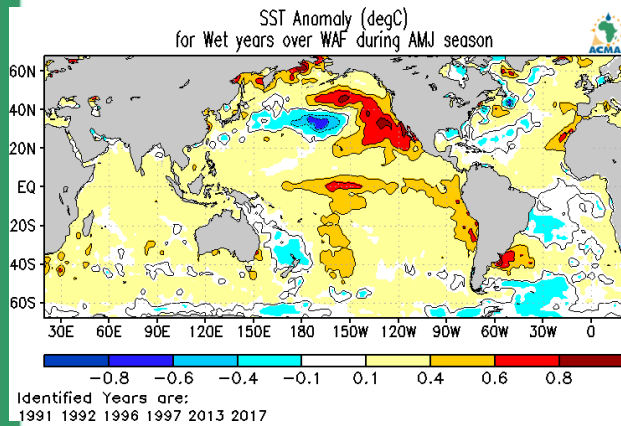


Rainfall Composite



WAF
1987
1998
2002
2006
2011
2015
2019

WET



WAF
1991
1992
1996
1997
2013
2017



Step 7:

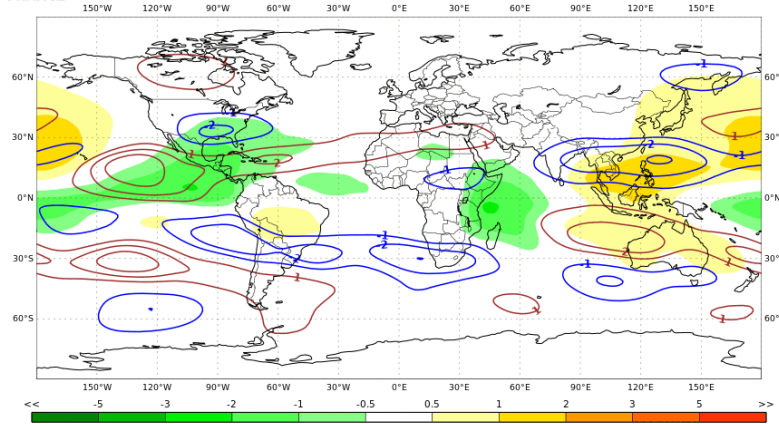
DRIVERS



Interaction with Tropical Activity – Season 1



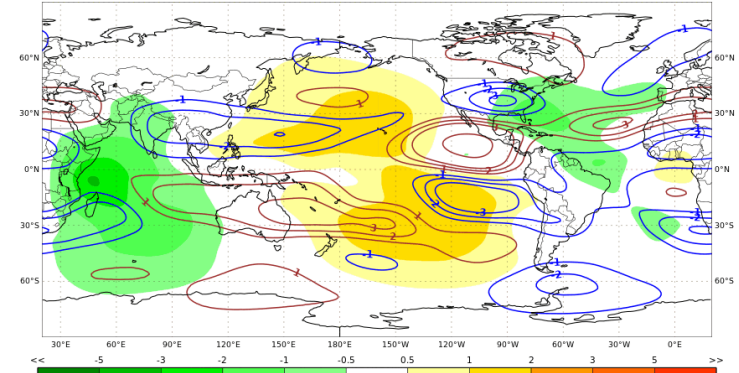
Meteo-France system 8 - Forecast
For MAM 2024 (issued February 2024)



200hPa velocity potential and 200hPa streamfunction - zonal mean
3-months ensemble mean anomaly unit : km2/s



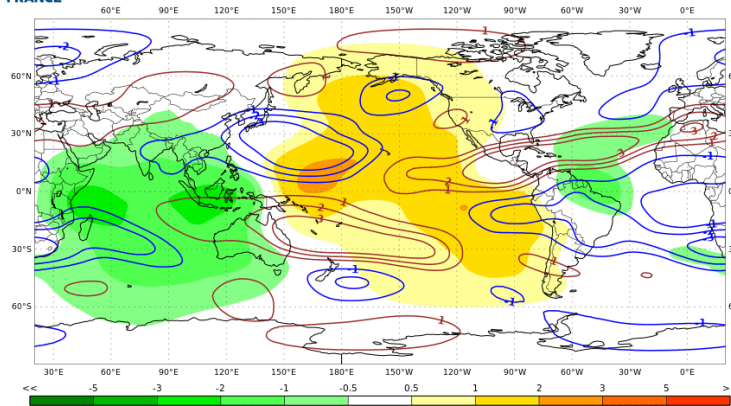
ECMWF SEAS5 - Forecast
For MAM 2024 (issued February 2024)



200hPa velocity potential and 200hPa streamfunction - zonal mean
3-months ensemble mean anomaly unit : km2/s



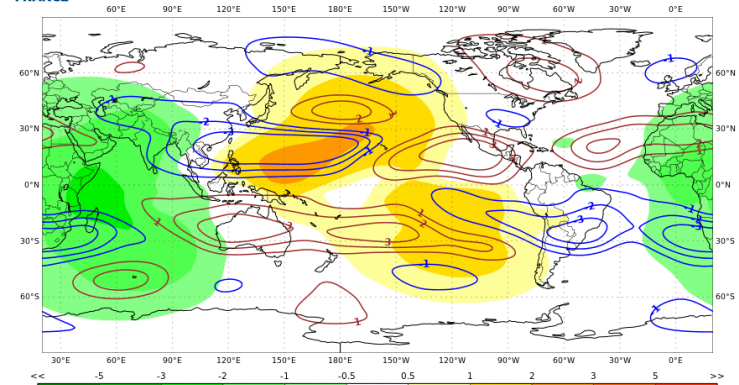
NCEP CFS v2 - Forecast
For MAM 2024 (issued February 2024)



200hPa velocity potential and 200hPa streamfunction - zonal mean
3-months ensemble mean anomaly unit : km2/s



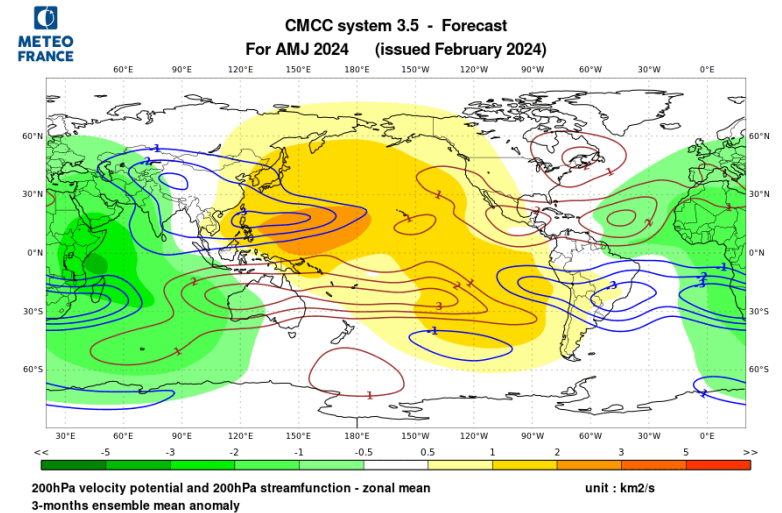
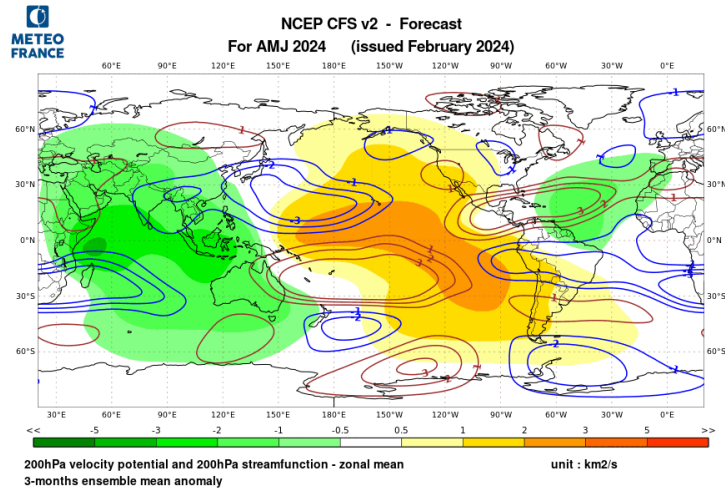
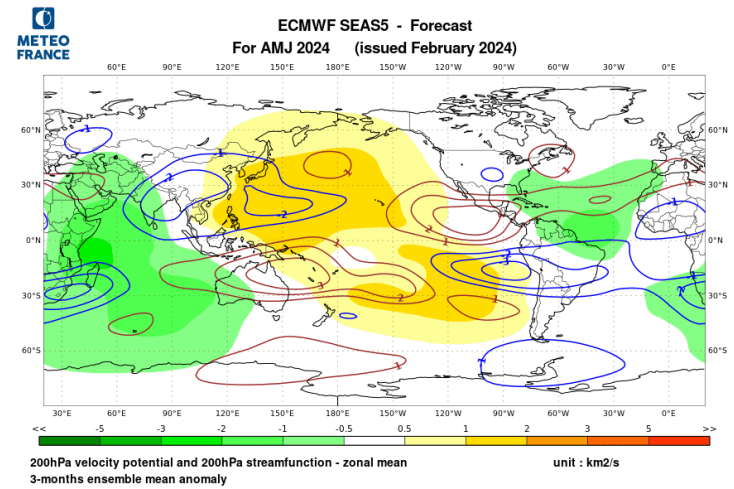
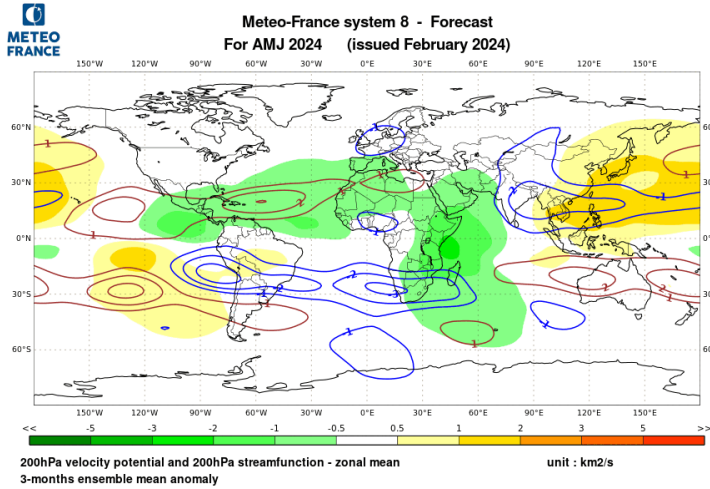
CMCC system 3.5 - Forecast
For MAM 2024 (issued February 2024)



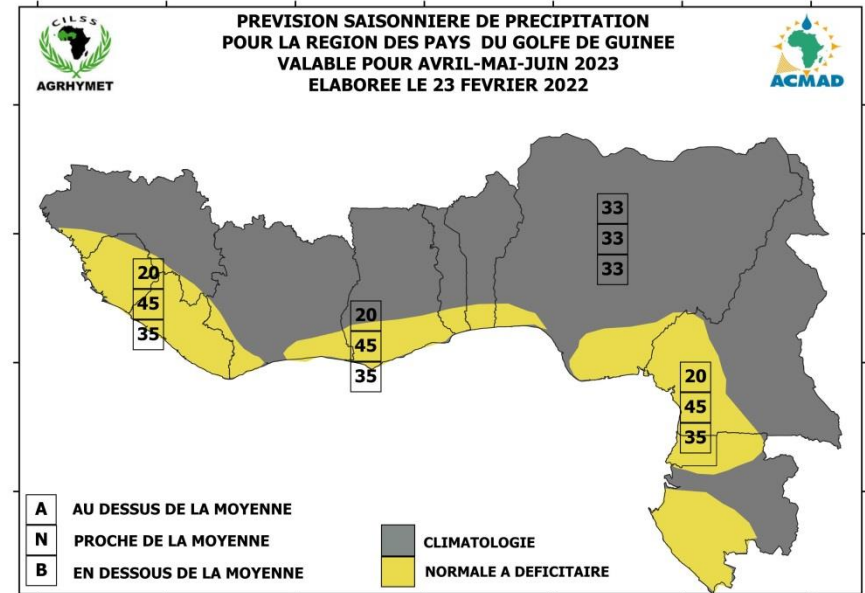
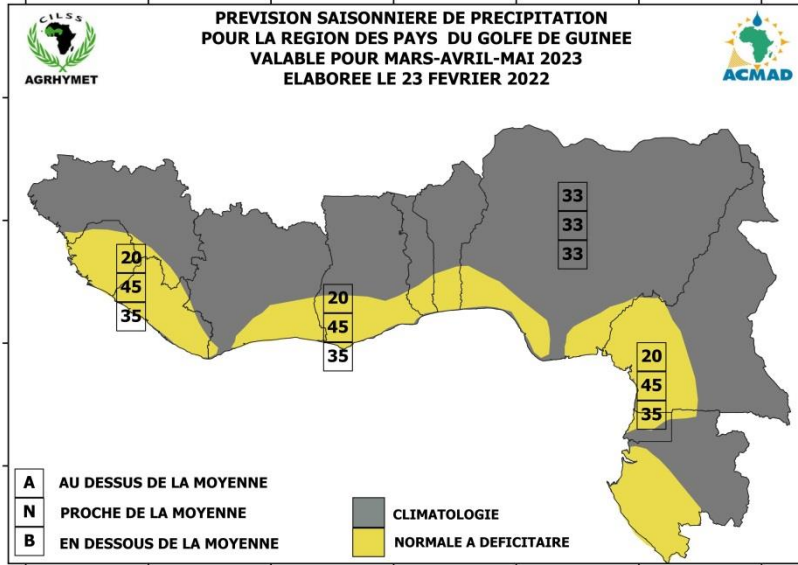
200hPa velocity potential and 200hPa streamfunction - zonal mean
3-months ensemble mean anomaly unit : km2/s



Interaction with Tropical Activity – Season 2



SEASONAL PRECIPITATION OUTLOOK FOR OND 2022





THANK YOU



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