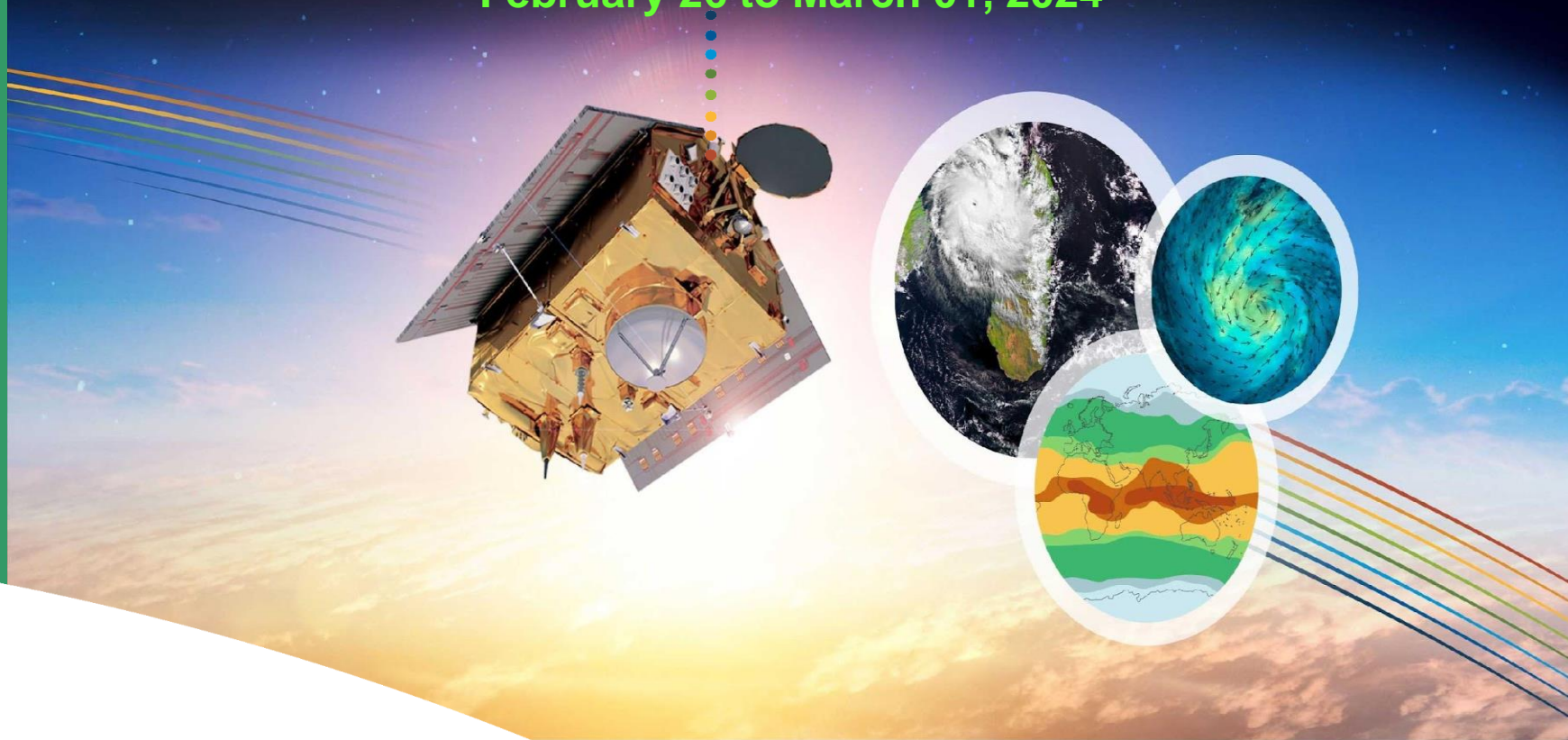


# Seasonal Forecasting Workshop on agro-hydro-climatic characteristics of the main rainfall season in the Gulf of Guinea countries / PRESAGG -11

Accra, GHANA

February 26 to March 01, 2024



## Analysis of LRF products from GPCs

1



Prepared By: ACMAD Team



# Analysis of LRF products from Global Producing Center

- What is it all about?
- Why is it of interest?
- Where to get the products?
- Best when dealing with products from GPCs



# Single Model Ensemble Analysis (i,e ECMWF, MF, NCEP, UKMET)

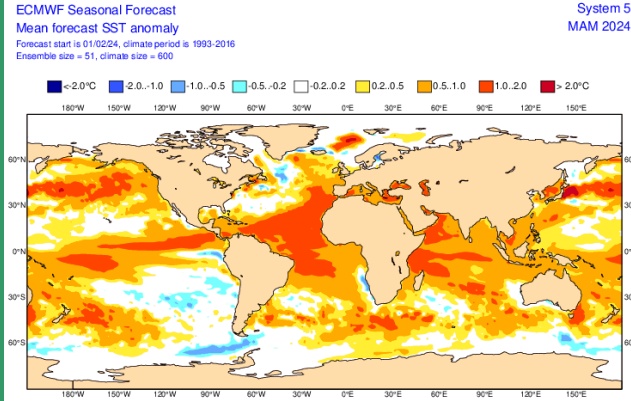
## *SSTs and Precip Forecast*



# MAM Season

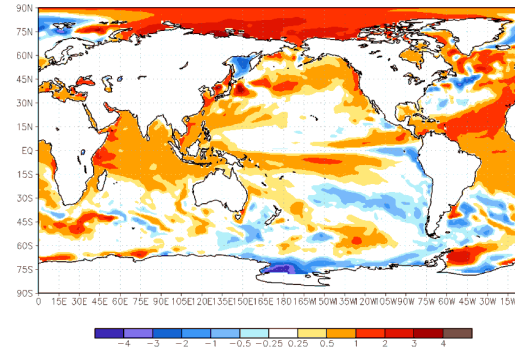
# Single Model Ensemble Analysis (SSTs)

## ECMWF



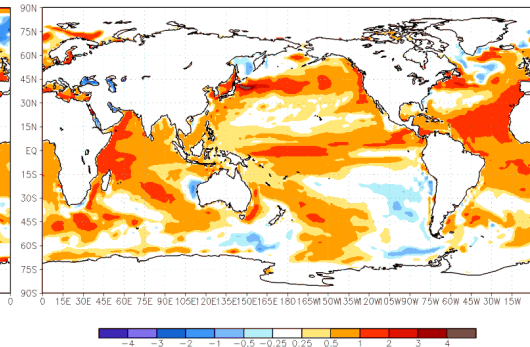
## CFSv2

CFSv2 Sea Surface Temperature Anomalies (DecC)  
Mar2024-May2024  
February2024 initial conditions

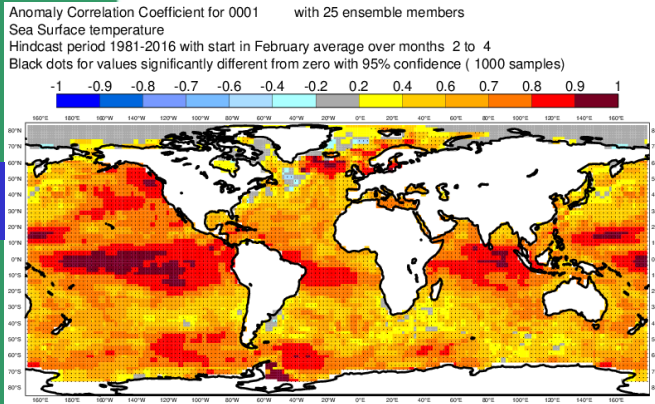


## CanCM4i

CanCM4i Sea Surface Temperature Anomalies (DecC)  
Mar2024-May2024  
February2024 initial conditions

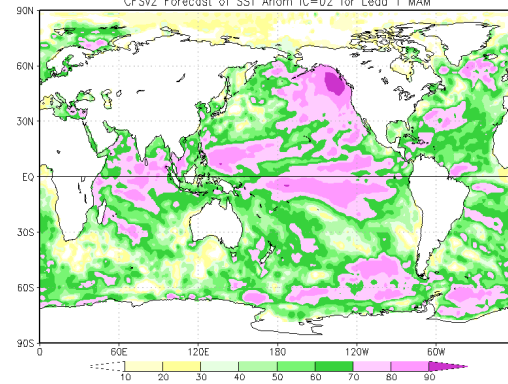


FCST

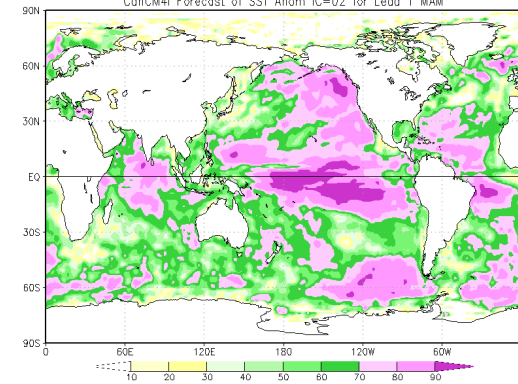


SKILL

CFSv2 Forecast of SST Anom IC=02 for Lead 1 MAM



CanCM4i Forecast of SST Anom IC=02 for Lead 1 MAM

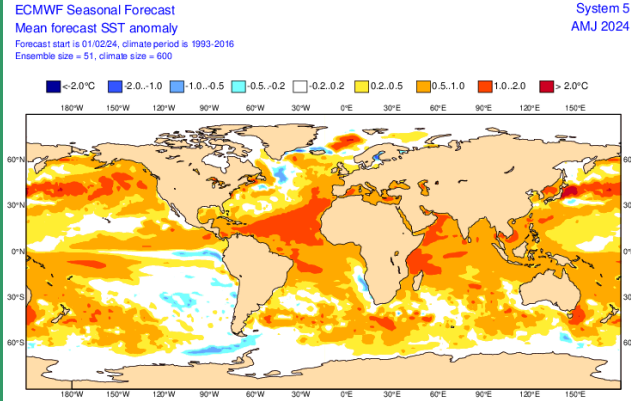


# Single Model Ensemble Analysis (SSTs)



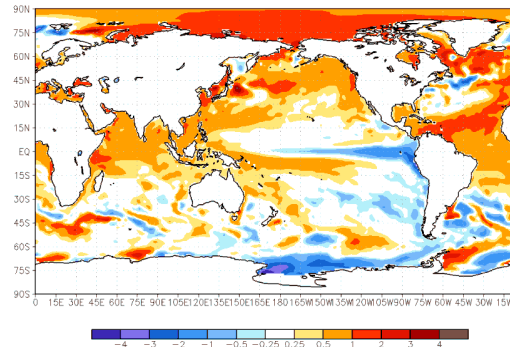
AMJ Season

ECMWF



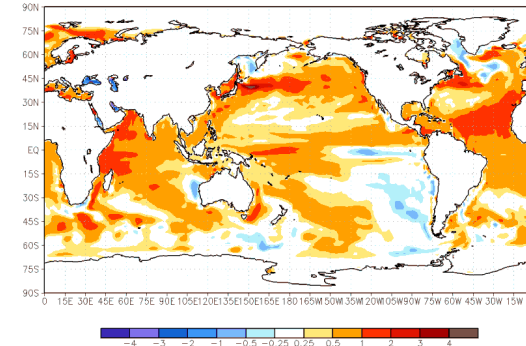
CFSv2

CFSv2 Sea Surface Temperature Anomalies (DecC)  
Apr2024-Jun2024  
February2024 initial conditions

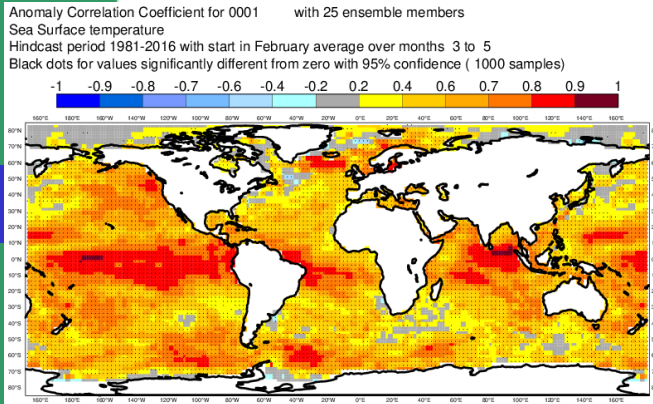


CanCM4i

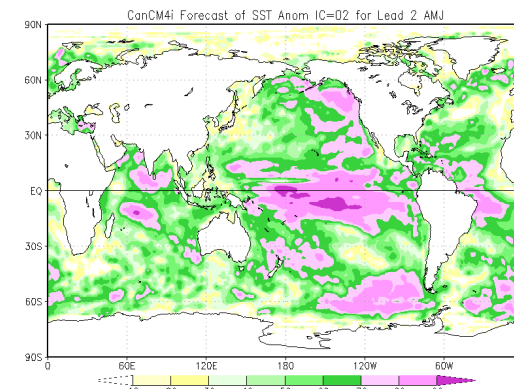
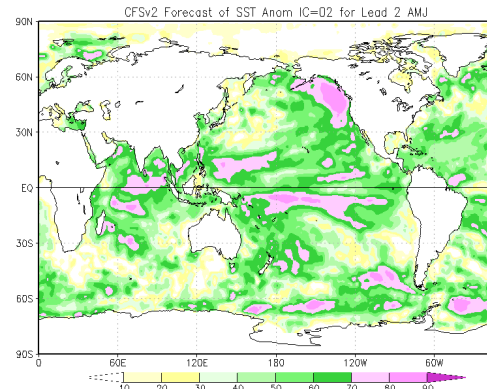
CanCM4i Sea Surface Temperature Anomalies (DecC)  
Apr2024-Jun2024  
February2024 initial conditions



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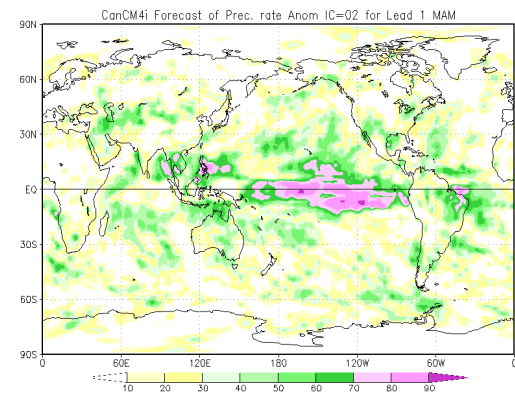
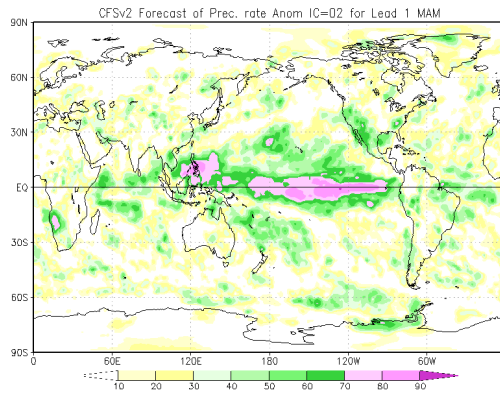
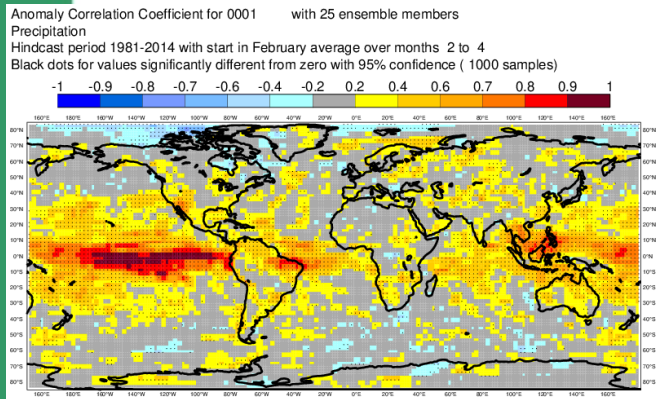
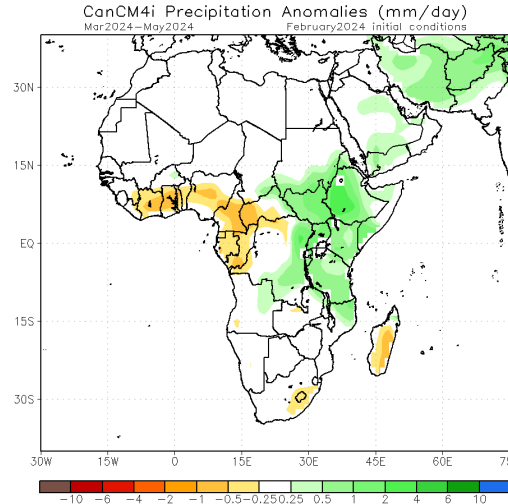
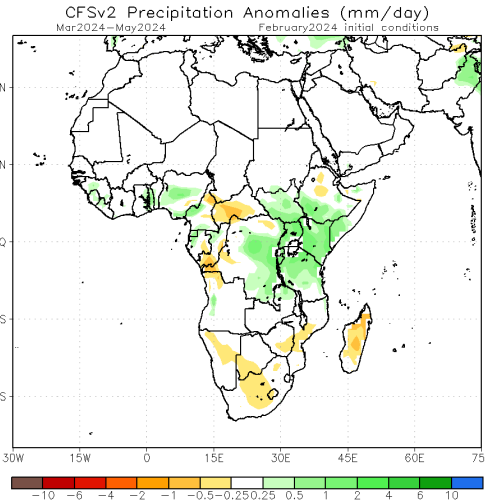
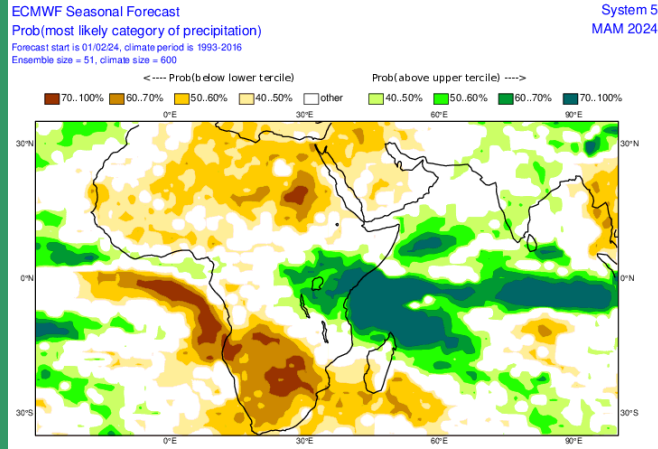
# MAM Season

# Single model Ensemble Analysis (Rainfall)

ECMWF

CFSv2

CanCM4i



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# Single model Ensemble Analysis (Rainfall)

## AMJ Season

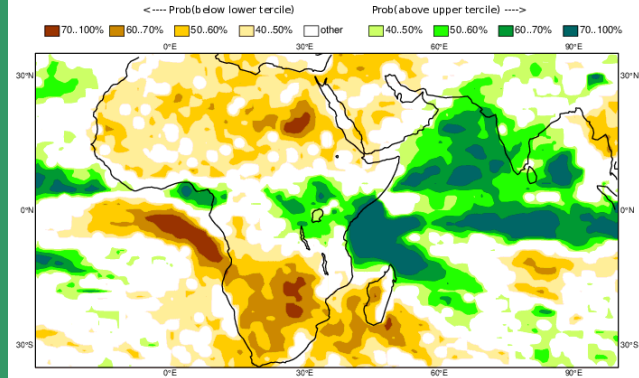
### ECMWF

### CFSv2

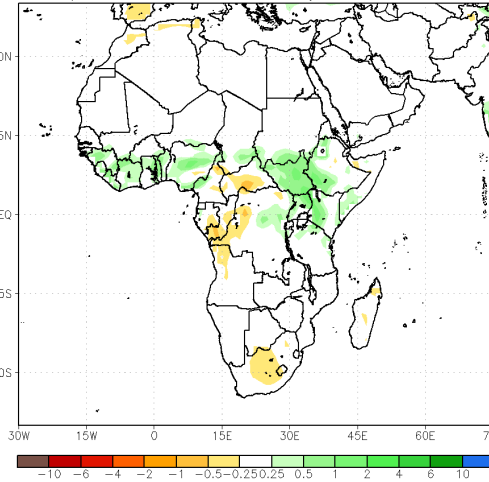
### CanCM4i

ECMWF Seasonal Forecast  
Prob(most likely category of precipitation)  
Forecast start is 01/02/24, climate period is 1993-2016  
Ensemble size = 51, climate size = 600

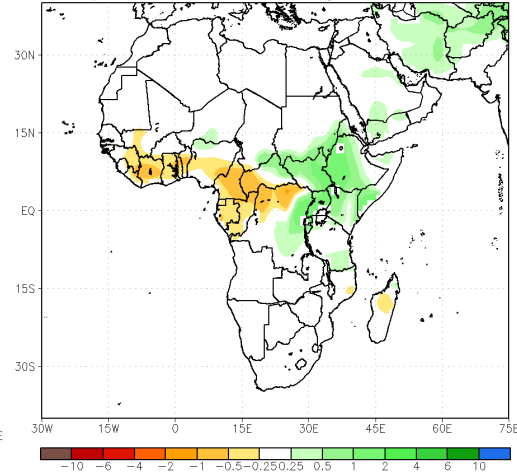
System 5  
AMJ 2024



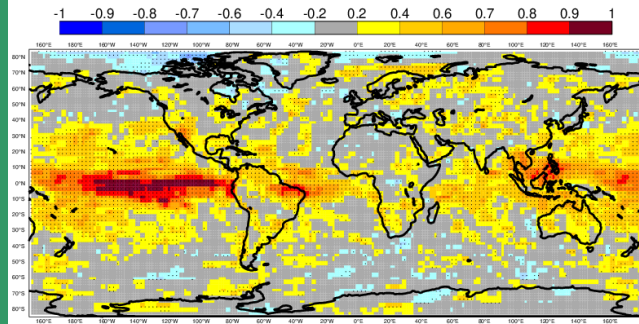
CFSv2 Precipitation Anomalies (mm/day)  
Apr2024-Jun2024 February2024 initial conditions



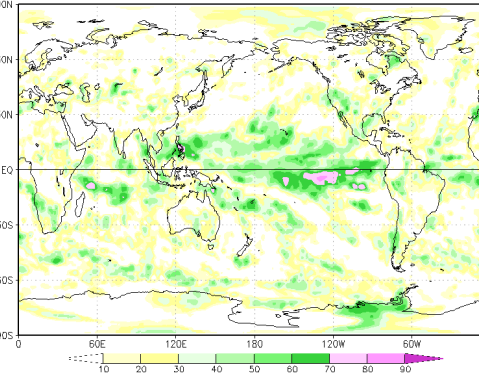
CanCM4i Precipitation Anomalies (mm/day)  
Apr2024-Jun2024 February2024 initial conditions



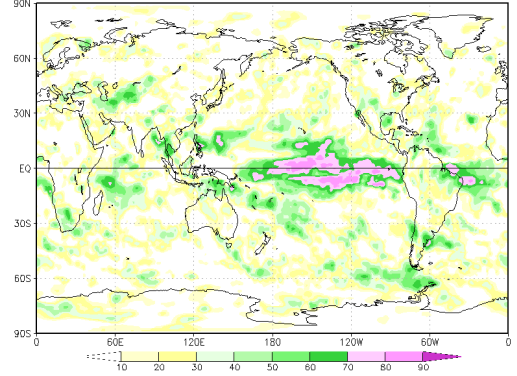
Anomaly Correlation Coefficient for 0001 with 25 ensemble members  
Precipitation  
Hindcast period 1981-2014 with start in February average over months 2 to 4  
Black dots for values significantly different from zero with 95% confidence ( 1000 samples)



CFSv2 Forecast of Prec. rate Anom IC=02 for Lead 2 AMJ



CanCM4i Forecast of Prec. rate Anom IC=02 for Lead 2 AMJ



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# Multi Model Ensemble Analysis (i,e C3S, NMME, WMO-LC) *SSTs and Precip Forecast*

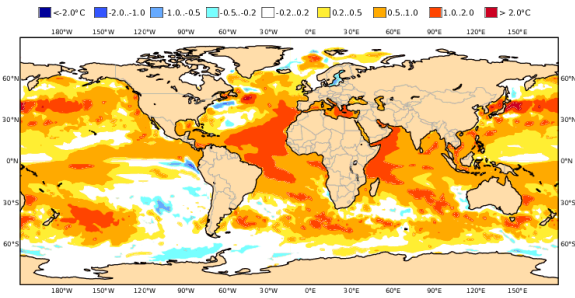


# Multimodel Ensemble Analysis (SSTs)

## MAM Season

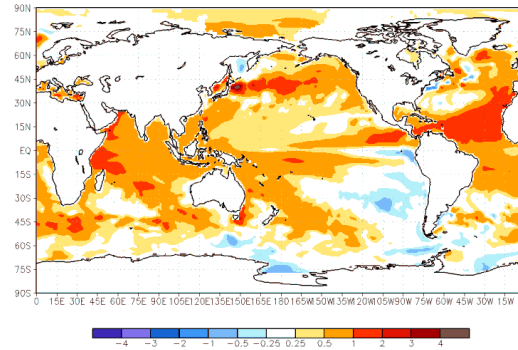
### C3S

C3S: CMCC contribution  
Mean forecast SST anomaly  
Nominal forecast start: 01/02/24  
Ensemble size = 50, climatic size = 960  
MAM 2024

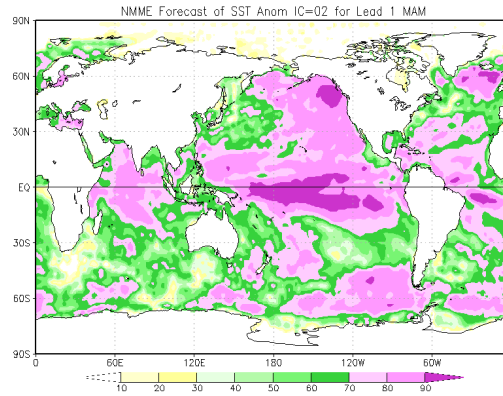


### NMME

NMME Sea Surface Temperature Anomalies (DecC)  
Mar2024-May2024  
February2024 initial conditions



### WMO-LC



FCST

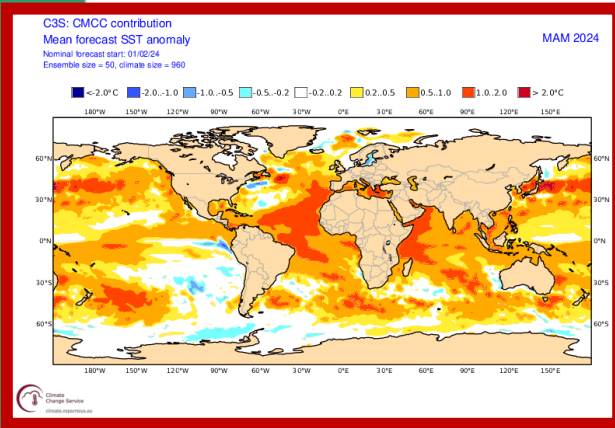
SKILL

# Multimodel Ensemble Analysis (SSTs)



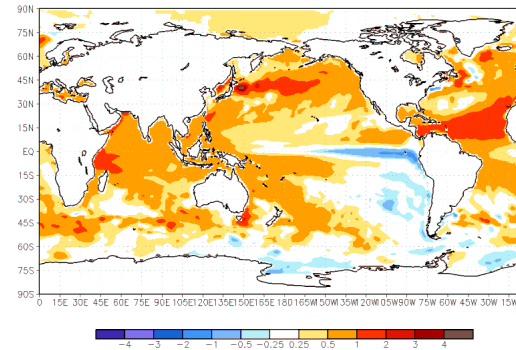
AMJ Season

C3S

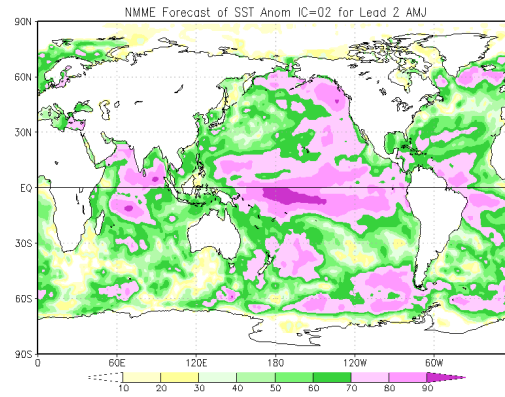


NMME

NMME Sea Surface Temperature Anomalies (DecC)  
Apr2024-Jun2024 February2024 initial conditions



WMO-LC



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# Multimodel Ensemble Analysis(Rainfall)



MAM Season

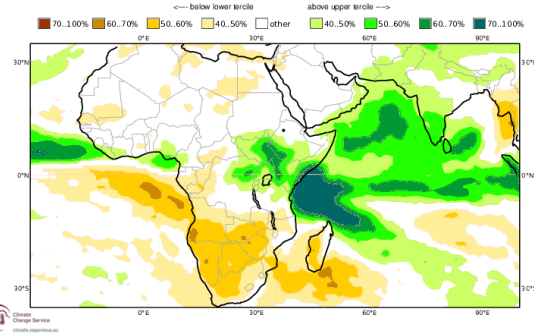
C3S

NMME

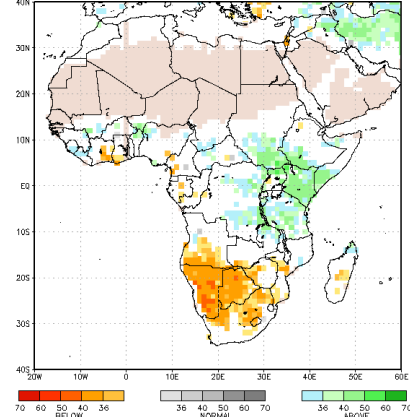
IRI

WMO-LC

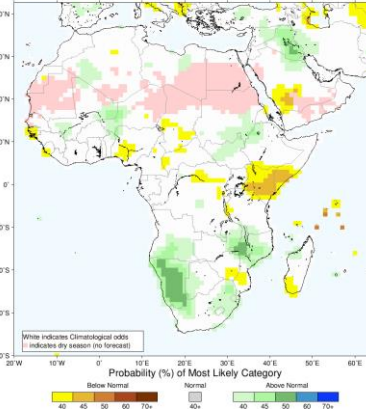
C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC  
 Prob(most likely category of precipitation) AMJ 2024  
 Nominal forecast start: 01/02/24  
 Unweighted mean



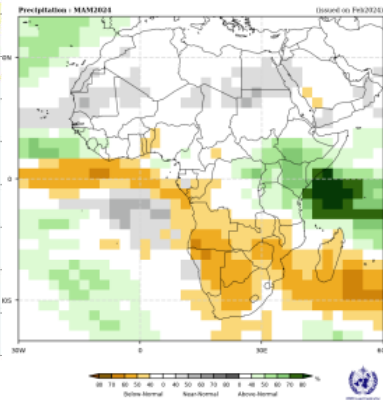
NMME Precip. Prob. Feb16 Mar2024-May2024 Fcst. Sand color; Mar-May Dry/Dim Mask



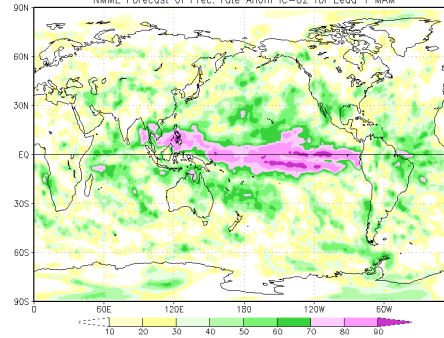
IRI Multi-Model Probability Forecast for Precipitation for March-April-May 2023, Issued February 2023



Probabilistic Multi-Model Ensemble Forecast



NMME Forecast of Prec. rate Anom IC=02 for Lead 1 MAM



FCST

SKILL

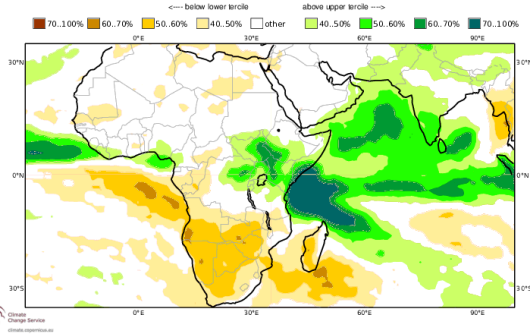
# Multimodel Ensemble Analysis(Rainfall)



AMJ Season

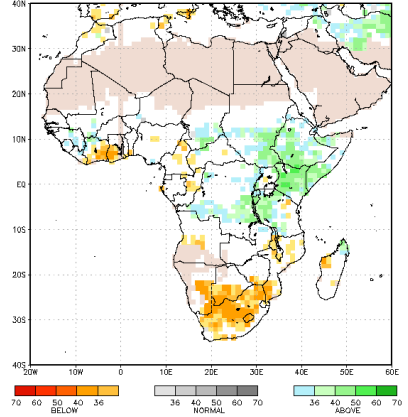
C3S

C3S multi-system seasonal forecast Prob(most likely category of precipitation)  
ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC  
AMJ 2024  
Nominal forecast start: 01/02/24  
Unweighted mean



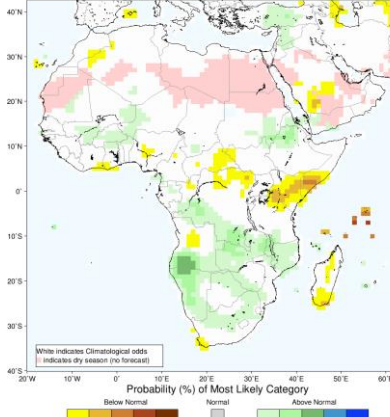
NMME

NMME Precip Prob. Feb1C Apr2024-Jun2024 Feat Sand color: Apr-Jun DryClim Mask



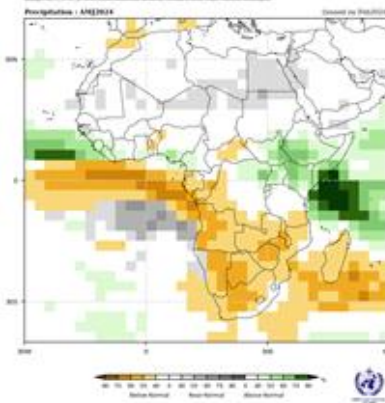
IRI

IRI Multi-Model Probability Forecast for Precipitation for April-May-June 2023. Issued February 2023

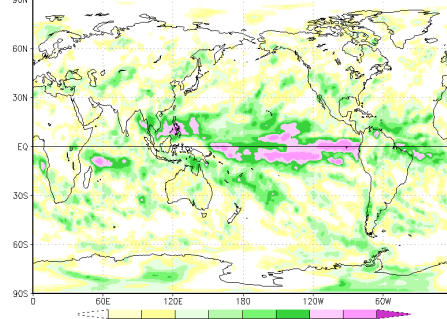


WMO-LC

Probabilities: Multi-Model Ensemble Forecast



NMME Forecast of Prec. rate Anom IC=02 for Lead 2 AMJ



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*THANK YOU*



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