

STATE OF CLIMATE AND REGIONAL CLIMATE DRIVERS AFFECTING THE SADC REGION



PERIOD:

Monitoring: April – June 2023

Forecast: August to December 2023

ISSUE DATE: July 2023

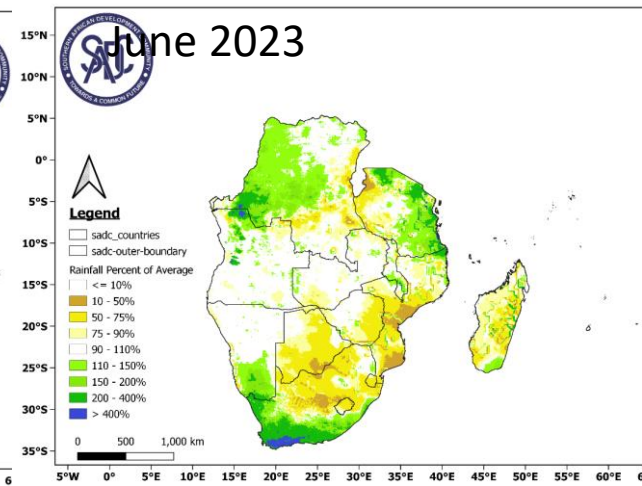
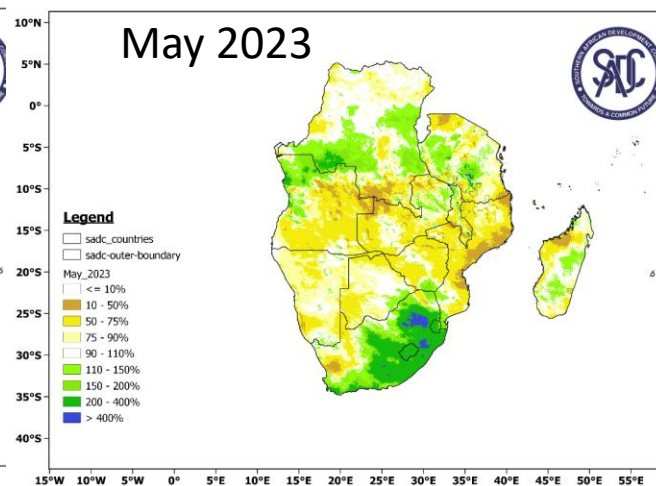
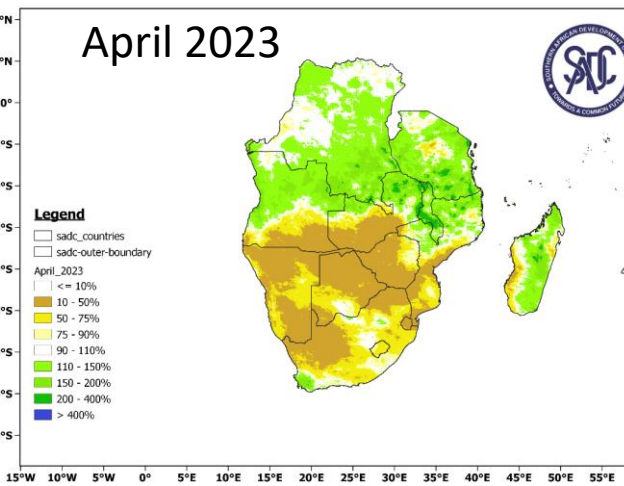
	Name	Position
PREPARED AND PRESENTED BY	Sunshine M. Gamedze	Climate and Seasonal Forecaster
CONTRIBUTIONS	Dr. Obadiah J. Cossa	Climate Modelling
	Mrs. Surekha Ramessur	Climate Monitoring and Diagnostic
	Mathias Rabemananjara	Climate Database and IT

Outline

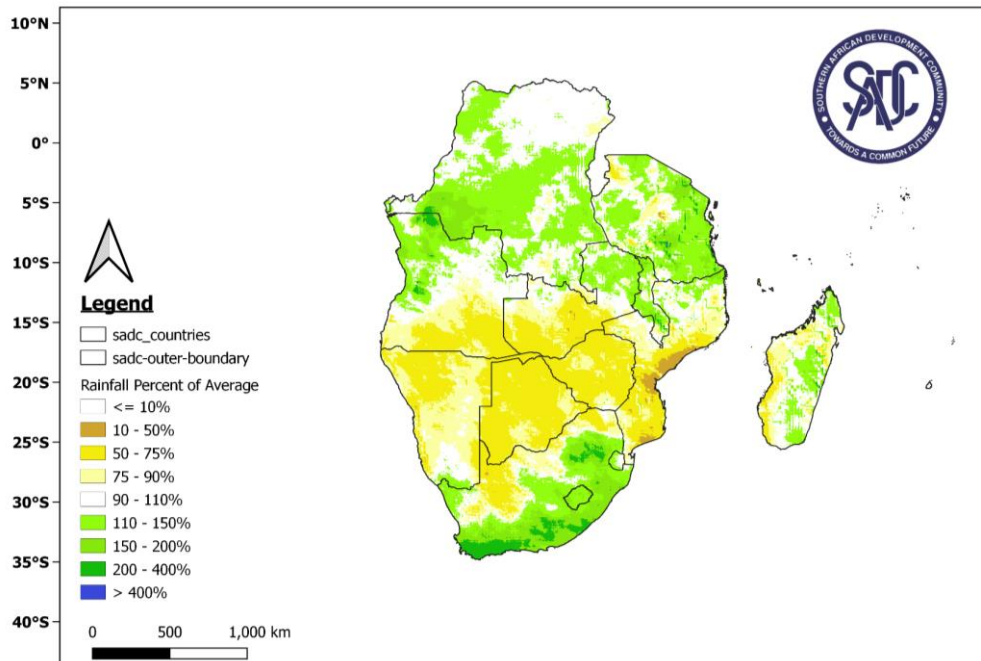
- 1. Performance of the past season over the SADC region**
- 2. Current State of the Sub-regional climate drivers**
- 3. Climate outlook for the upcoming season**



PERFORMANCE OF THE PAST SEASON OVER SADC



April – May - June (AMJ) 2023



GLOBAL AND REGIONAL CLIMATE DRIVERS

Global Drivers:

- El Nino Southern Oscillation (ENSO)

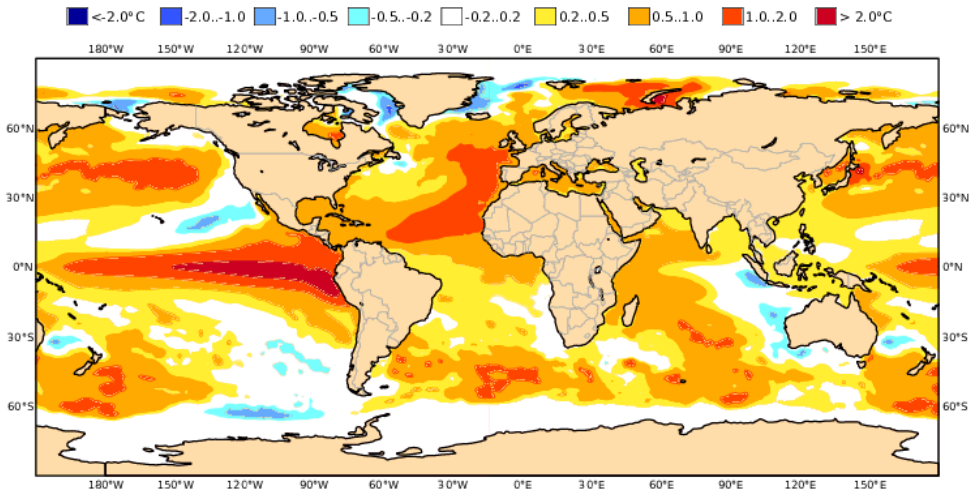
Regional Drivers:

- Indian Ocean Dipole (IOD)
- Tropical South Atlantic (TAS)
- Subtropical Indian Ocean Dipole (SIOD)
- South West Indian Ocean (SWIO)
- Benguala Nino (BN)
- Southern Annual Mode (SAM)
- Quasi-Stationery Pressure Systems
- Tropical Waves

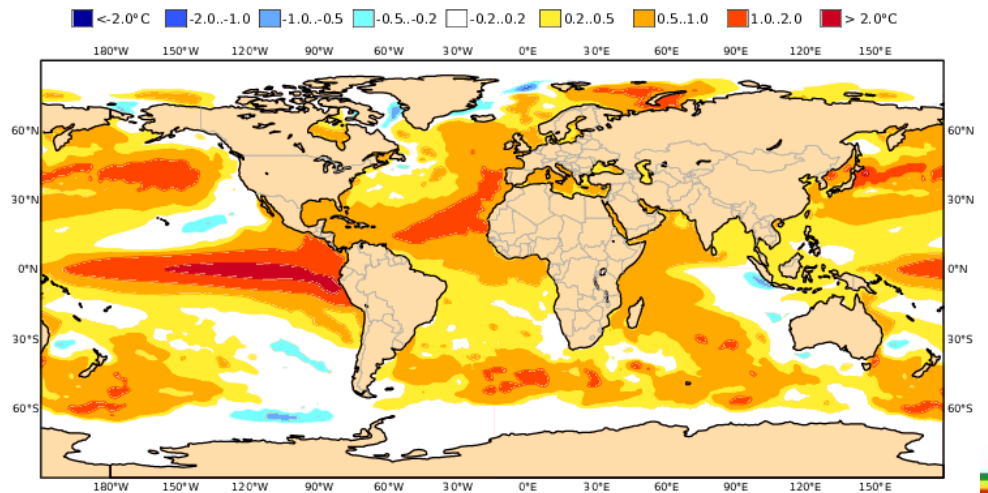


FORECASTED STATE OF CLIMATE DRIVERS

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
 Mean forecast SST anomaly ASO 2023
 Nominal forecast start: 01/07/23
 Variance-standardized mean



C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
 Mean forecast SST anomaly SON 2023
 Nominal forecast start: 01/07/23
 Variance-standardized mean



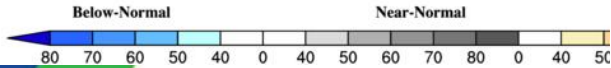
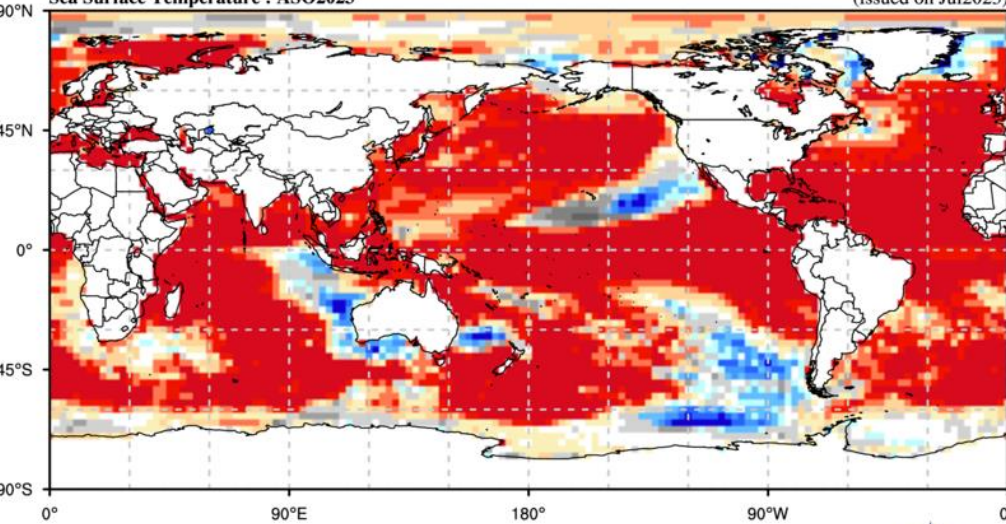
FORECASTED STATE OF CLIMATE DRIVERS

Probabilistic Multi-Model Ensemble Forecast

CMCC,ECMWF,Exeter,Melbourne,Montreal,Offenbach,Seoul,Tokyo,Toulouse,Washington

Sea Surface Temperature : ASO2023

(issued on Jul2023)

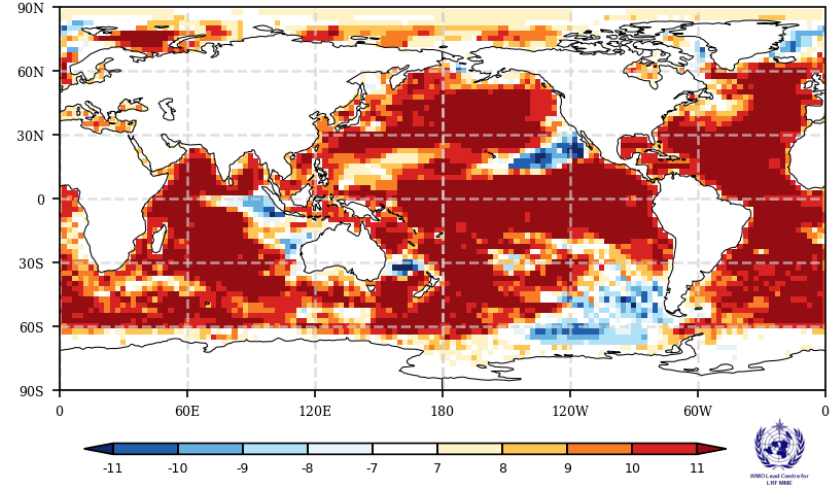


Consistency Map

Beijing,CMCC,ECMWF,Exeter,Melbourne,Montreal,Offenbach,Seoul,Tokyo,Toulouse,Washington

Sea Surface Temperature : JAS2023

(issued on Jun2023)



** where the positive numbers mean the number of models that predict positive anomaly and vice versa. **



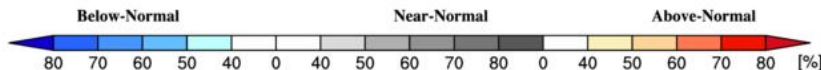
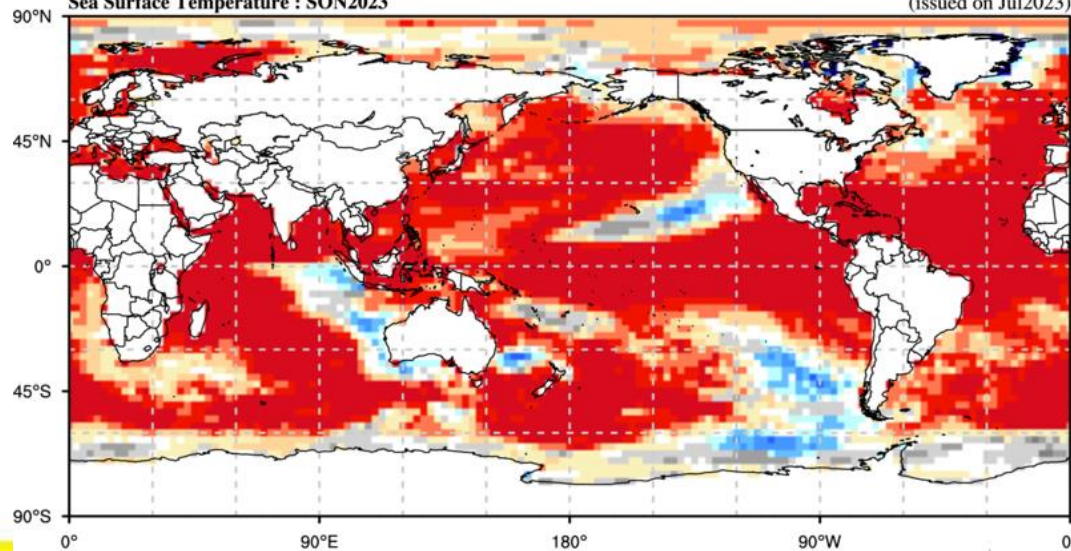
Above-Normal

Probabilistic Multi-Model Ensemble Forecast

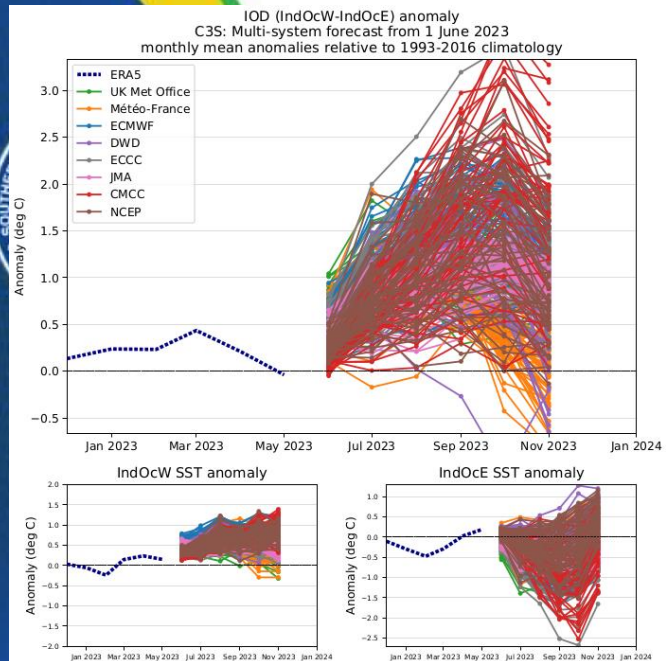
CMCC,ECMWF,Exeter,Melbourne,Montreal,Offenbach,Seoul,Tokyo,Toulouse,Washington

Sea Surface Temperature : SON2023

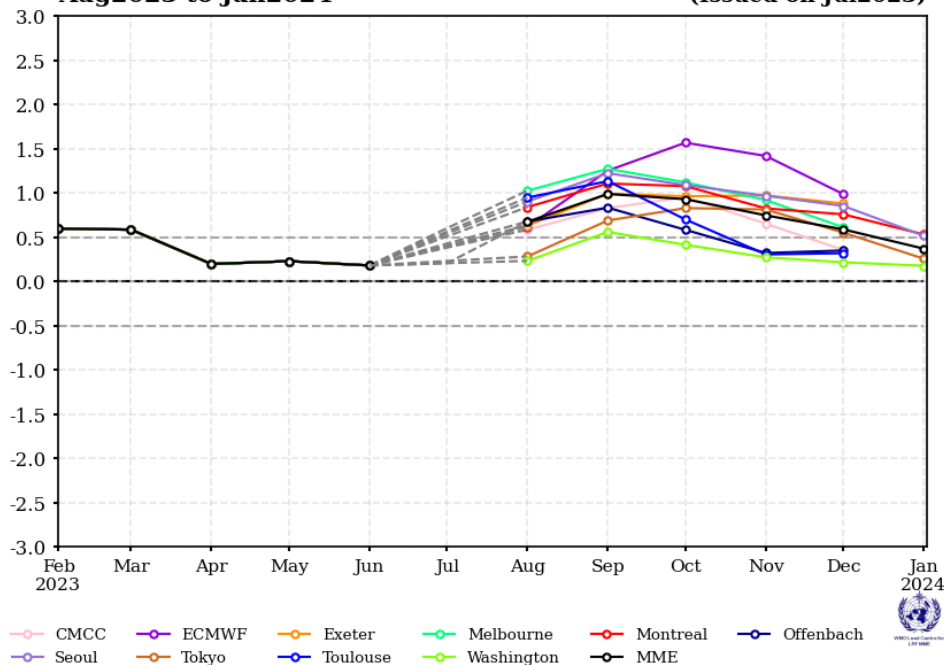
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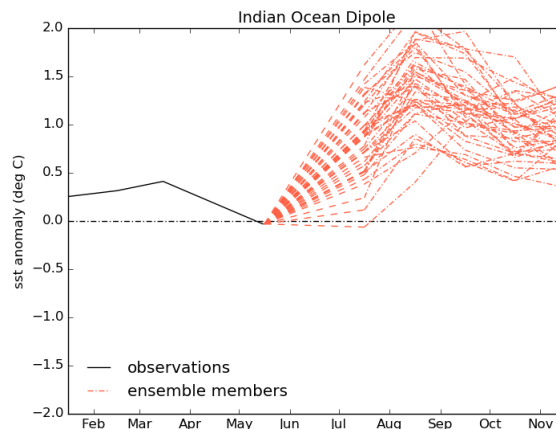
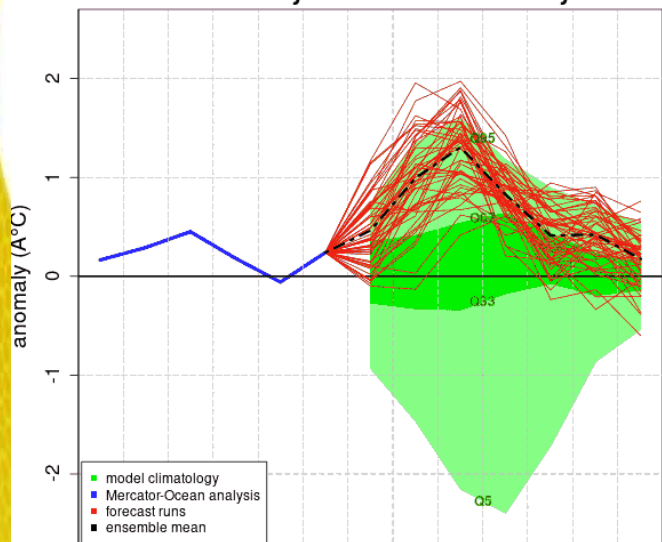
FORECASTED STATE OF CLIMATE DRIVERS



Forecast of DMI (the Indian Ocean Dipole Mode Index) Aug 2023 to Jan 2024 (Issued on Jul 2023)

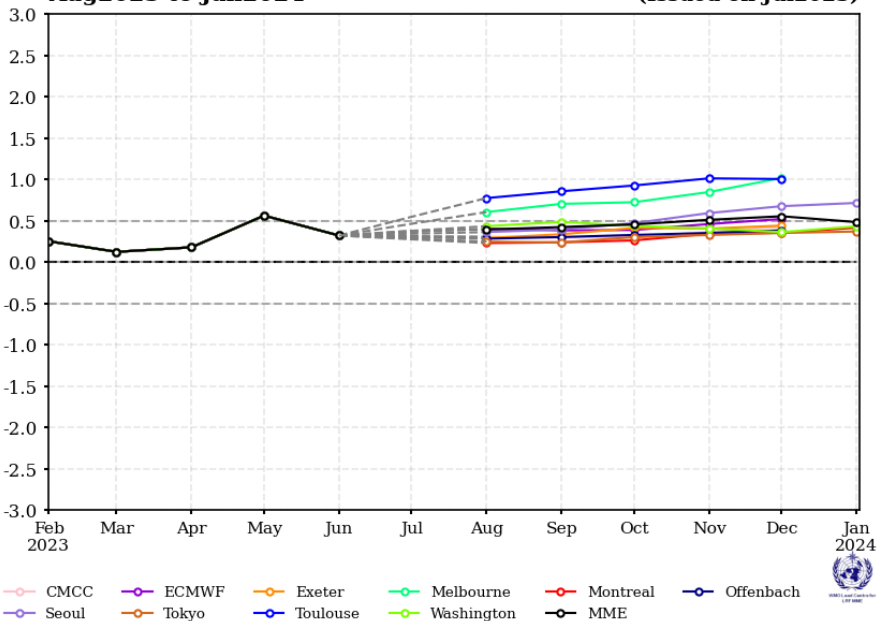


DMI SST anomaly plume Meteo-France system 8 - Issued July 2023

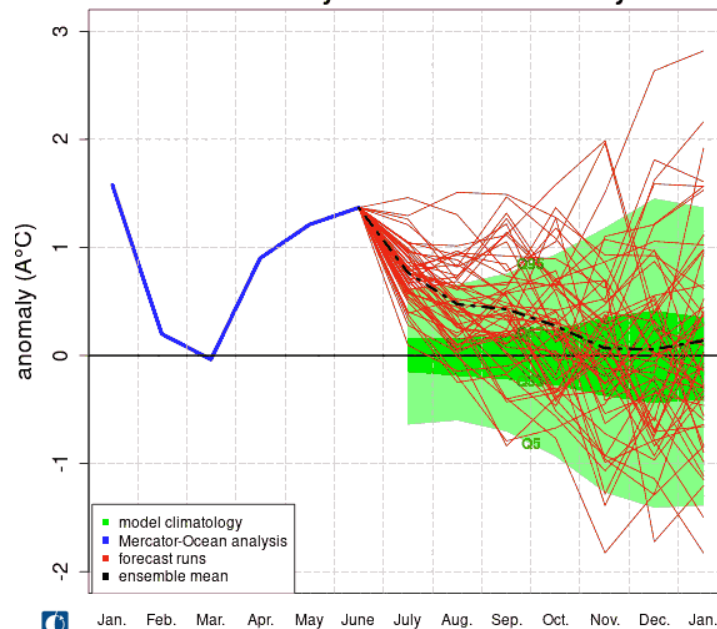


FORECASTED STATE OF CLIMATE DRIVERS –SIOD & TSA

Forecast of TSA(Tropical South Atlantic Index)
Aug2023 to Jan2024 (Issued on Jul2023)

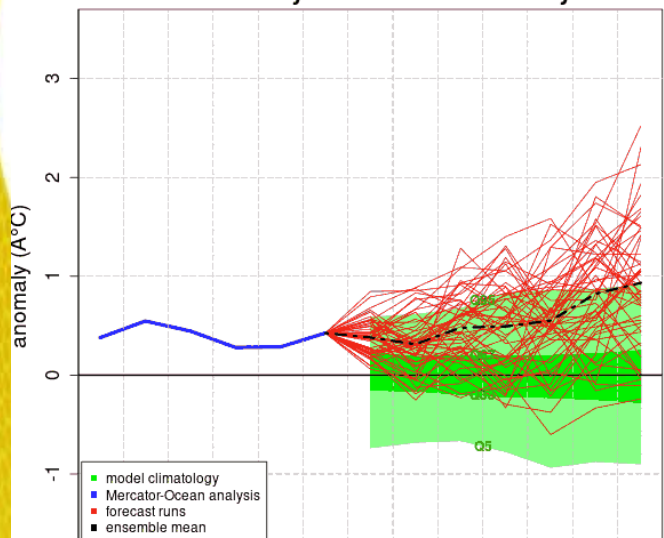


SIOD SST anomaly plume
Meteo-France system 8 - Issued July 2023

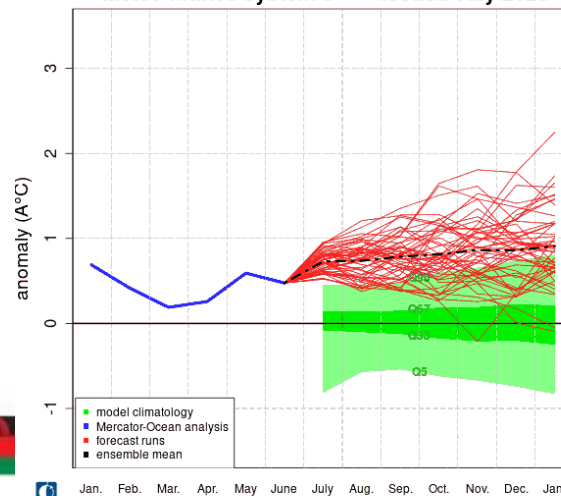


Ref. Mercator-Ocean : Analysis : PSY3V4R2, Climatology 1993-2016 : GLORYS2V4

SWIO SST anomaly plume
Meteo-France system 8 - Issued July 2023



TAS SST anomaly plume
Meteo-France system 8 - Issued July 2023

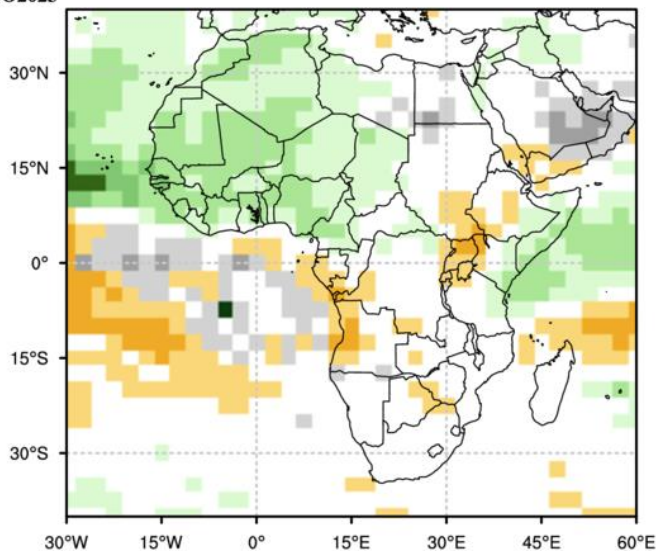


FORECASTED STATE OF CLIMATE - PRECIPITATION

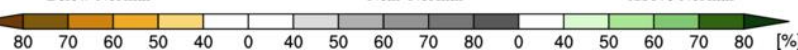
Probabilistic Multi-Model Ensemble Forecast

CMCC, CPTEC, ECMWF, Exeter, Melbourne, Montreal, Moscow, Offenbach, Seoul, Tokyo, Toulouse, Washington

Precipitation : ASO2023



Below-Normal Near-Normal Above-Normal



C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(most likely category of precipitation) ASO 2023

Nominal forecast start: 01/07/23

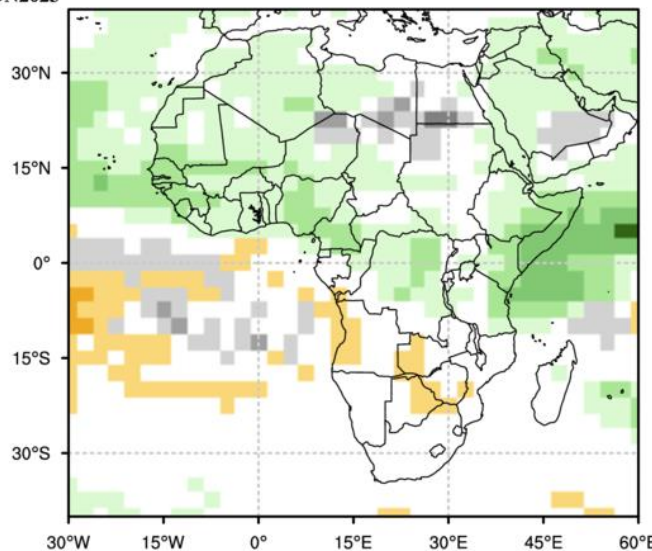
Unweighted mean

Probabilistic Multi-Model Ensemble Forecast

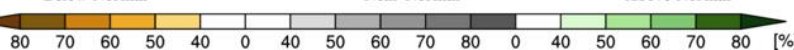
CMCC, CPTEC, ECMWF, Exeter, Melbourne, Montreal, Offenbach, Seoul, Tokyo, Toulouse, Washington

(issued) Precipitation : SON2023

(issued on Jul2023)



Below-Normal Near-Normal Above-Normal



C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
Prob(most likely category of precipitation) SON 2023

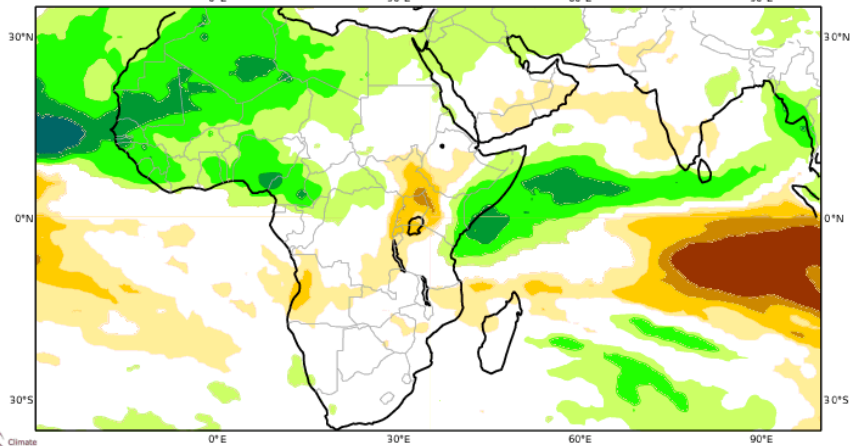
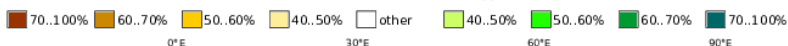
Nominal forecast start: 01/07/23

Unweighted mean

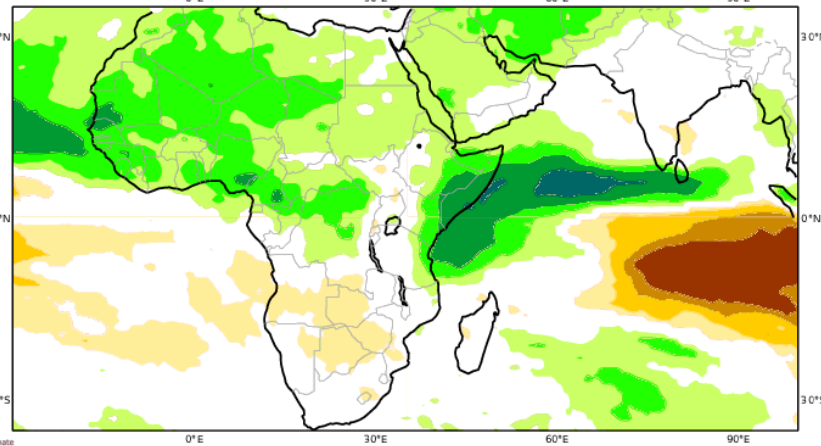
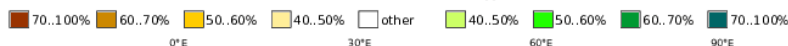


WMO Lead Centre for LFR 6866

below lower tercile above upper tercile



below lower tercile above upper tercile



Forecasted Precipitation Summary

- Normal to above rainfall over northern DRC
- Normal to below Normal Rainfall over western Angola and western Tanzania

Implications of the Forecast:

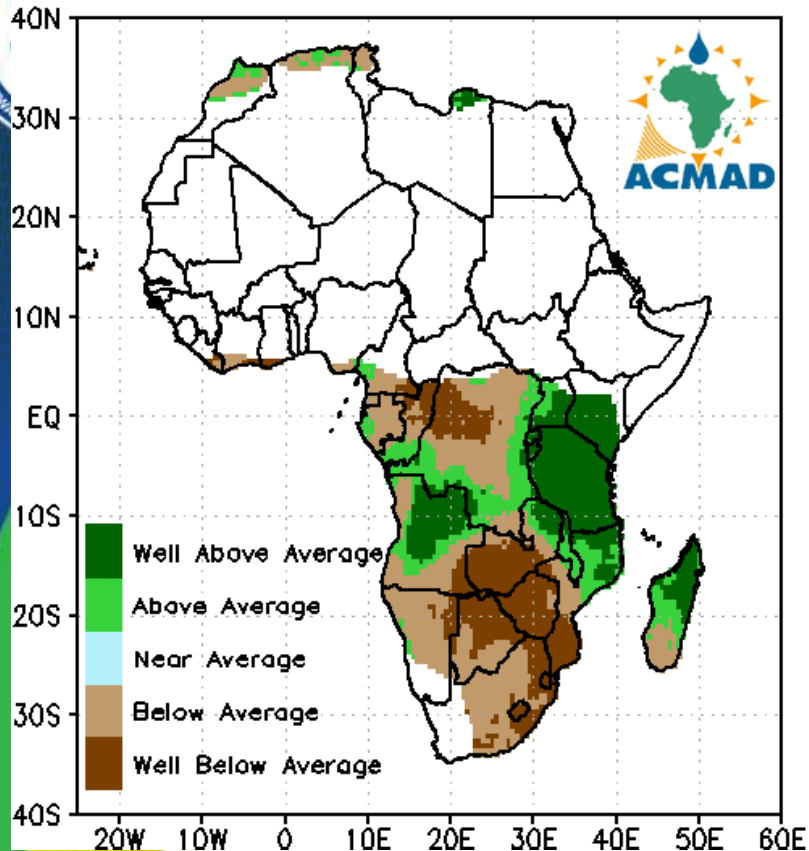
- None at this period of the year for the SADC Region except in parts of Angola, DRC and Tanzania



Climatological Rainfall distribution pattern during El Nino

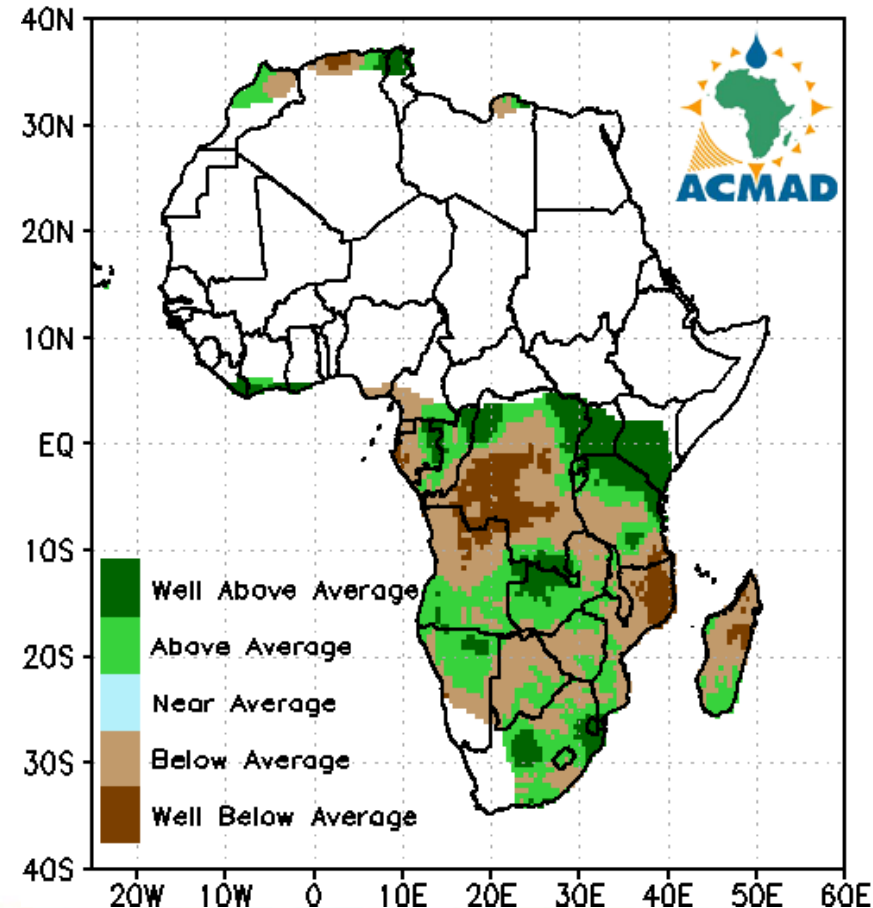
Strong El Nino

CAMS-OPI Precip Obs. Tercile Associated with Strong El Nino Events during the Season DJF



Weak El Nino

CAMS-OPI Precip Obs. Tercile Associated with Weak el Nino Events during the Season DJF





THANK YOU

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