



# Large scale climate background

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***SAWS, South Africa / Météo-France, La Réunion***

***Regional Outlook Forum for South-West Indian Ocean countries***

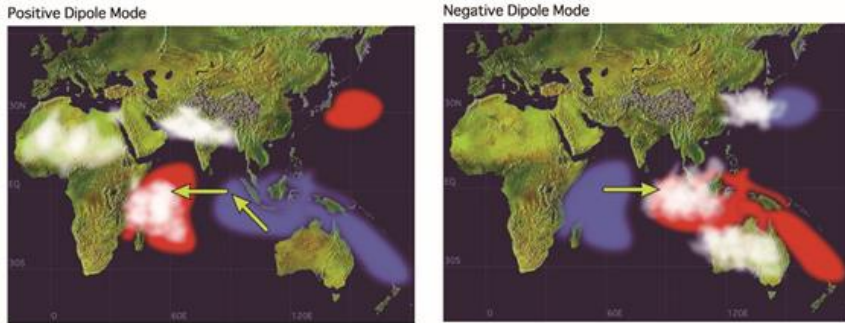
*September 20-23 2021*

*- WebConference -*

# What are the most relevant climate drivers

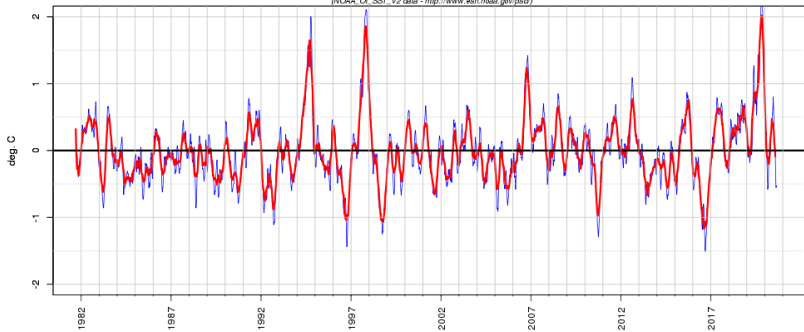
Sources of climate variability at seasonal scale mainly lies in the tropical ocean

## IOD/SIOD in the Indian Ocean

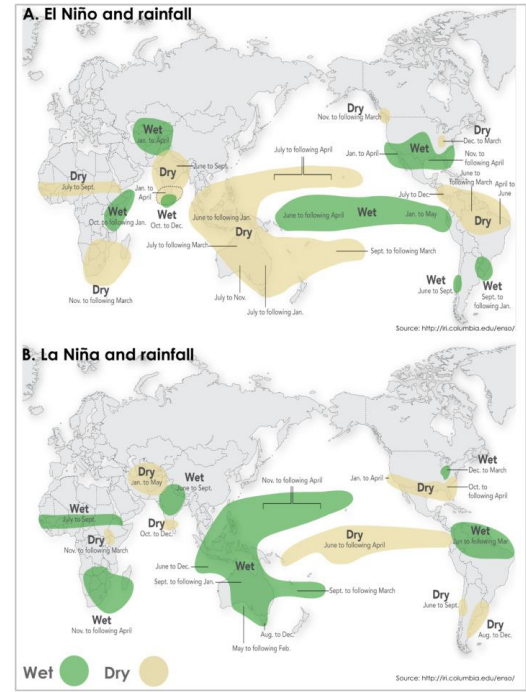
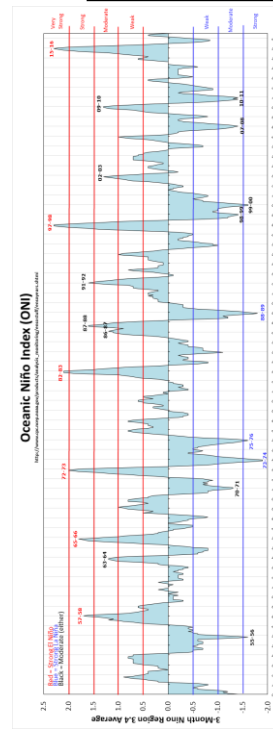
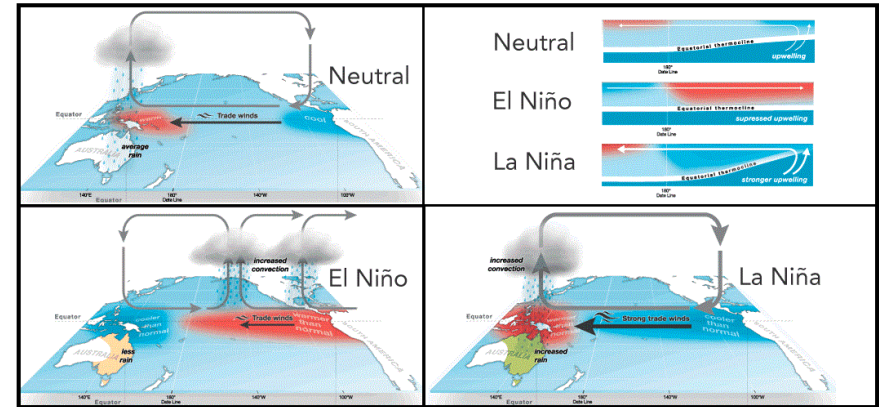


Indice IOD

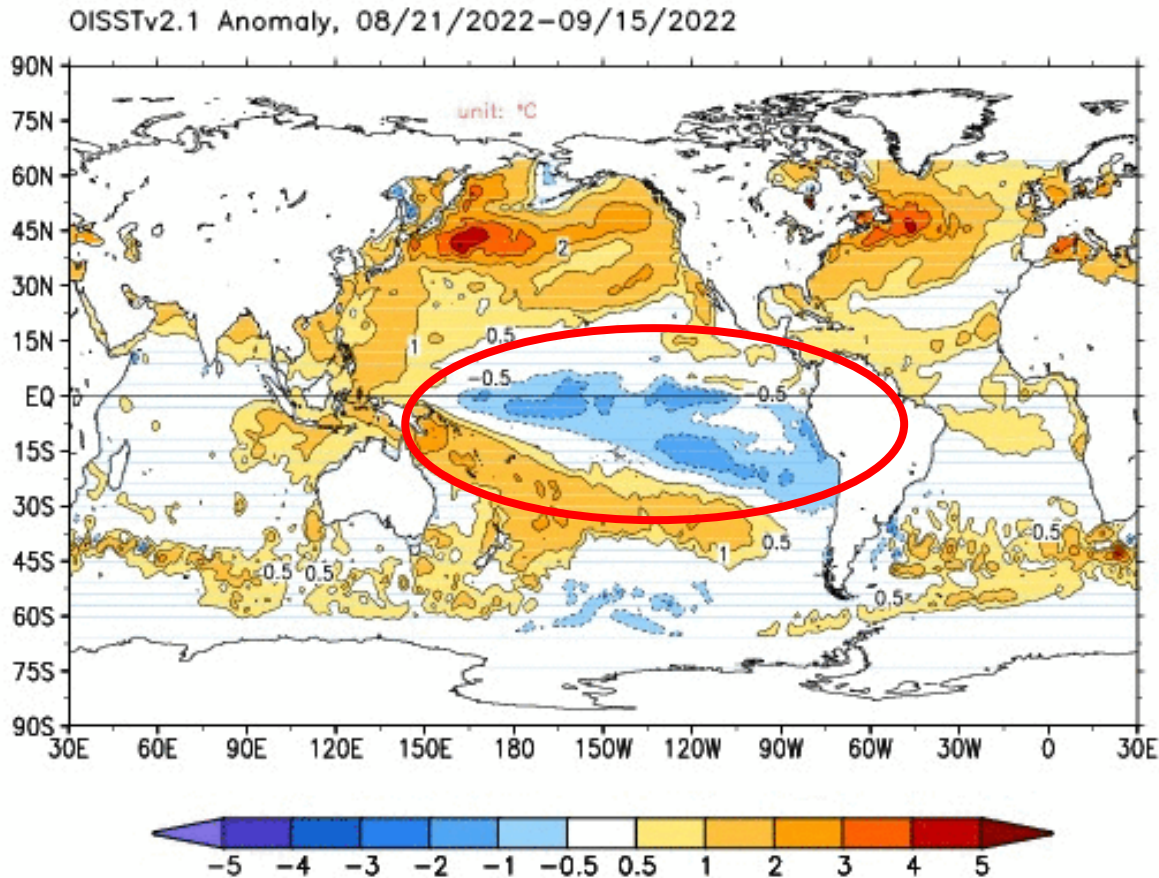
(NOAA OI\_SST\_V2 data - <http://www.esrl.noaa.gov/iod/>)



## ENSO in the Pacific



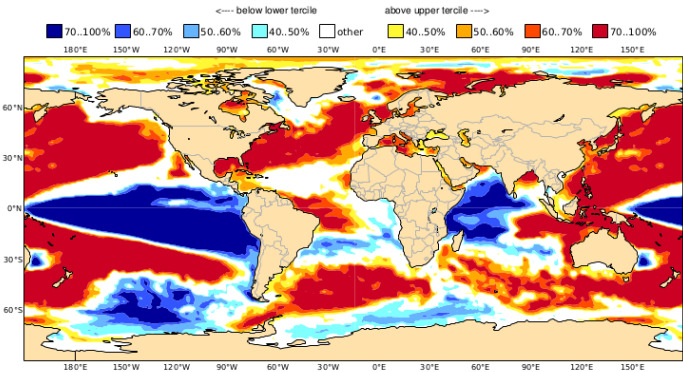
# Climate drivers : Observed ENSO (pacific)



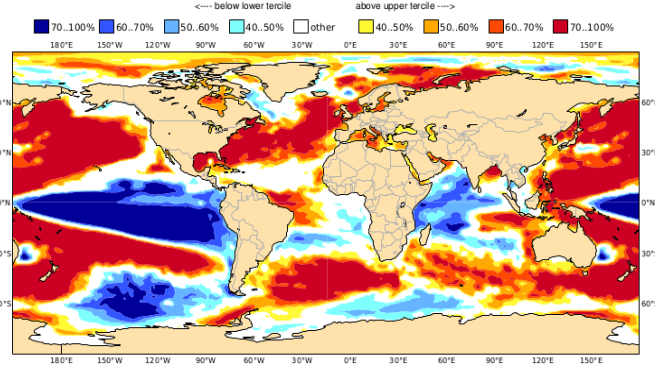
Tendency of cooling  
observed in the central  
Pacific

# Climate drivers : ENSO latest forecast

C3S multi-system seasonal forecast  
 Prob(most likely category of SST)  
 Nominal forecast start: 01/09/22  
 Unweighted mean  
 ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC  
 OND 2022



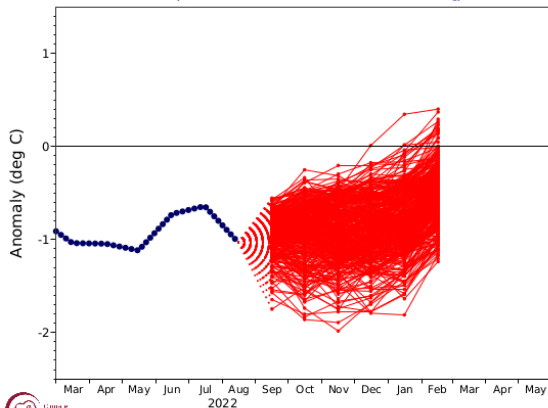
C3S multi-system seasonal forecast  
 Prob(most likely category of SST)  
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 ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC  
 NDJ 2022/23



**Probabilistic Forecast**  
 La Niña threshold is likely (70-100%) to be exceeded from november until the end of the year.

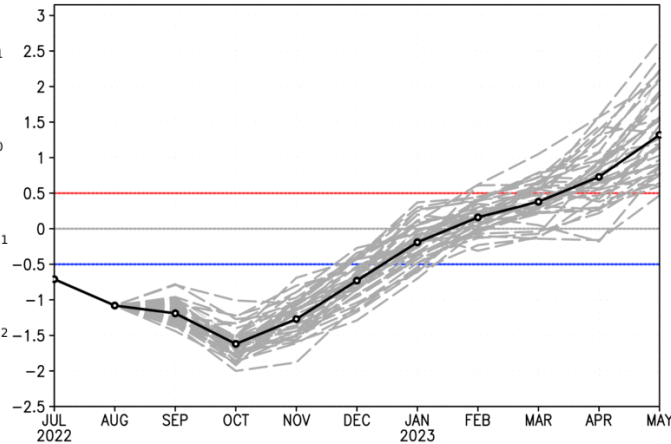
NINO3.4 SST anomaly plume

C3S multi-system forecast from 1 Sep 2022  
 ECMWF, Met Office, Météo-France, CMCC, DWD, NCEP, JMA, ECCC  
 Monthly mean anomalies relative to NCEP ON2 1981-2010 climatology



SAWS OPERATIONAL ENSEMBLE PREDICTION SYSTEM

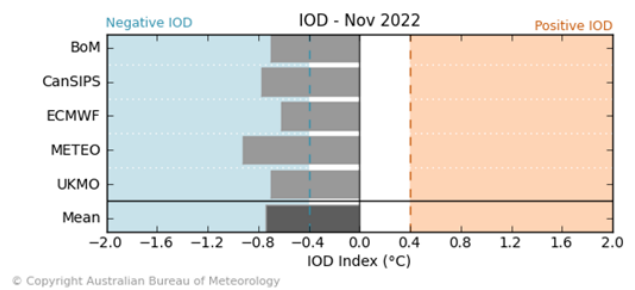
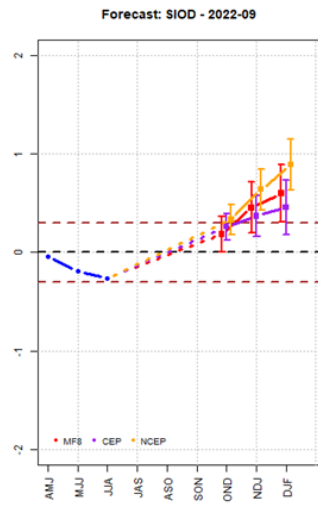
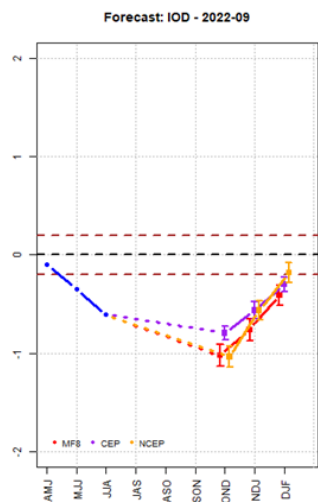
SCM Seasonal Forecasts  
 Nino3.4 SST anomaly plume  
 Ensemble size 40  
 Last Updated 16 Sep 2022



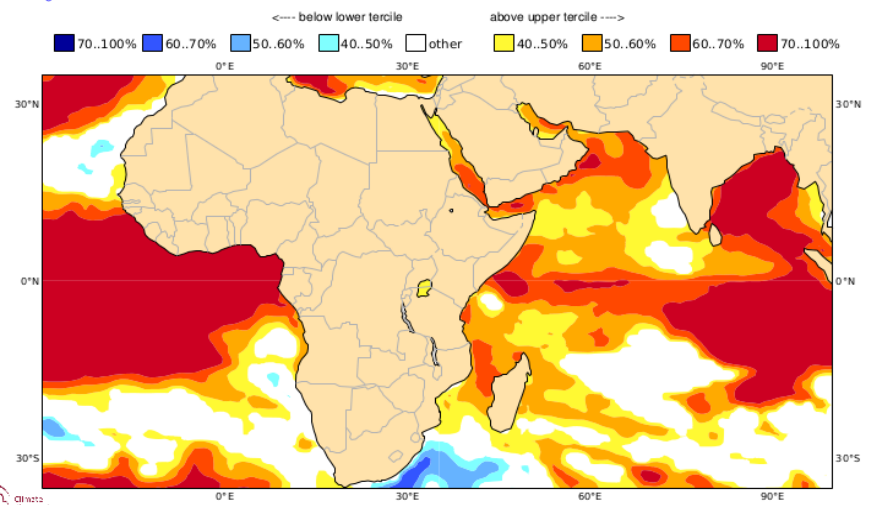


# Climate drivers : IOD/SIOD latest forecast

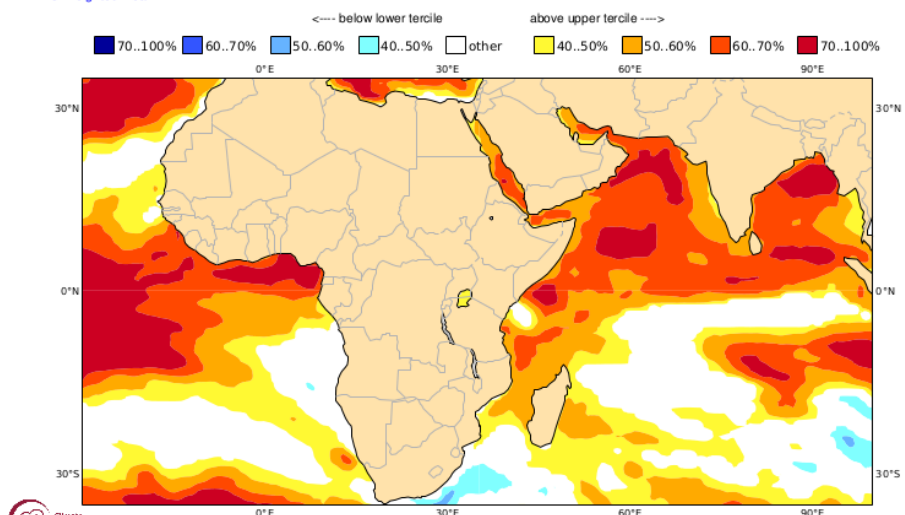
IOD back in neutral values by oct-nov.  
Positive SIOD event likely by the end of the year.



C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC  
Prob(most likely category of forecast SST) OND 2021  
Nominal forecast start: 01/09/21  
Unweighted mean

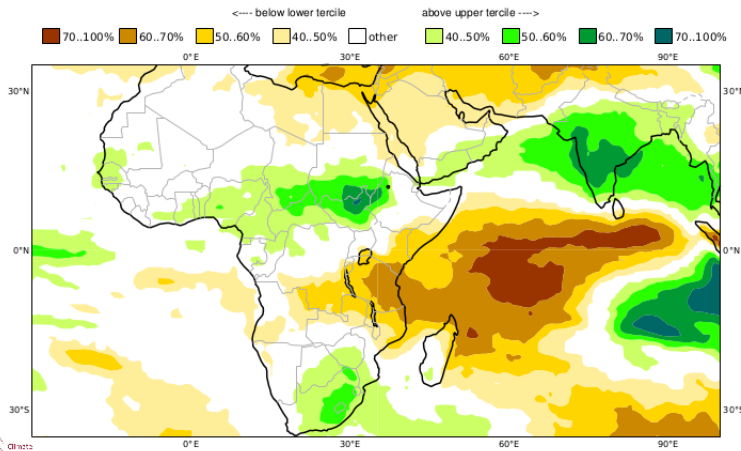


C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC  
Prob(most likely category of forecast SST) DJF 2021/22  
Nominal forecast start: 01/09/21  
Unweighted mean

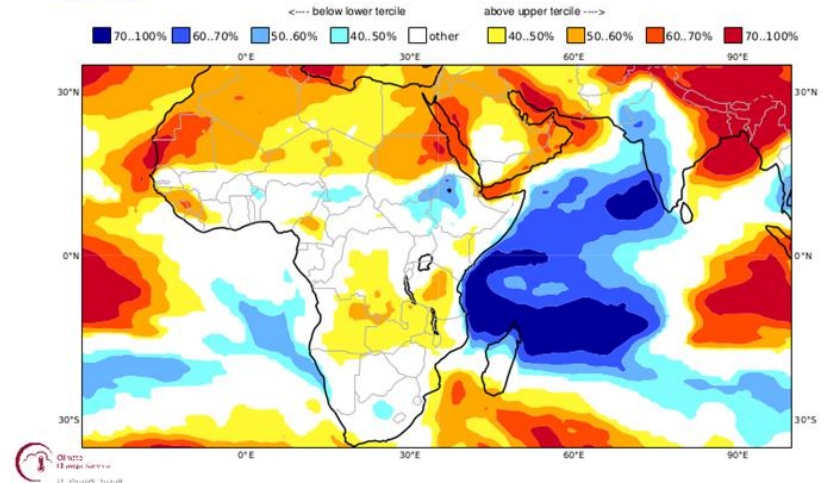


# Climate Drivers Impacts : Rainfall and Temperature anomalies (OND-NDJ)

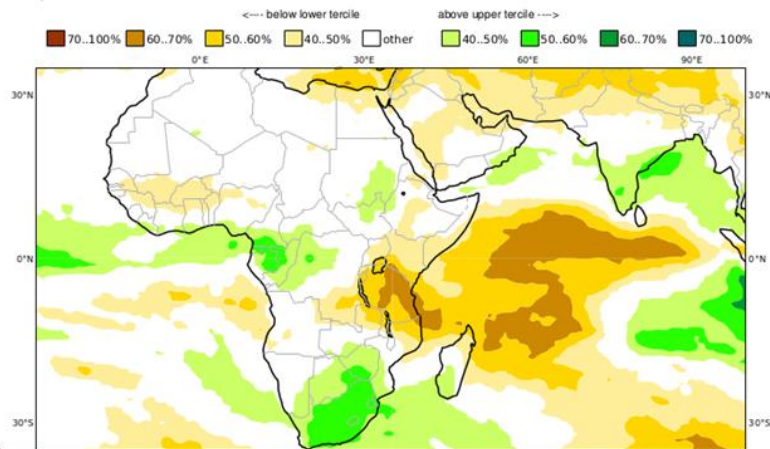
C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC  
 Prob(most likely category of precipitation)  
 Nominal forecast start: 01/09/22  
 Unweighted mean



C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC  
 Prob(most likely category of 2m temperature)  
 Nominal forecast start: 01/09/22  
 Unweighted mean



C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC  
 Prob(most likely category of precipitation)  
 Nominal forecast start: 01/09/22  
 Unweighted mean



C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC  
 Prob(most likely category of 2m temperature)  
 Nominal forecast start: 01/09/22  
 Unweighted mean

