

RMD ENSO Report:

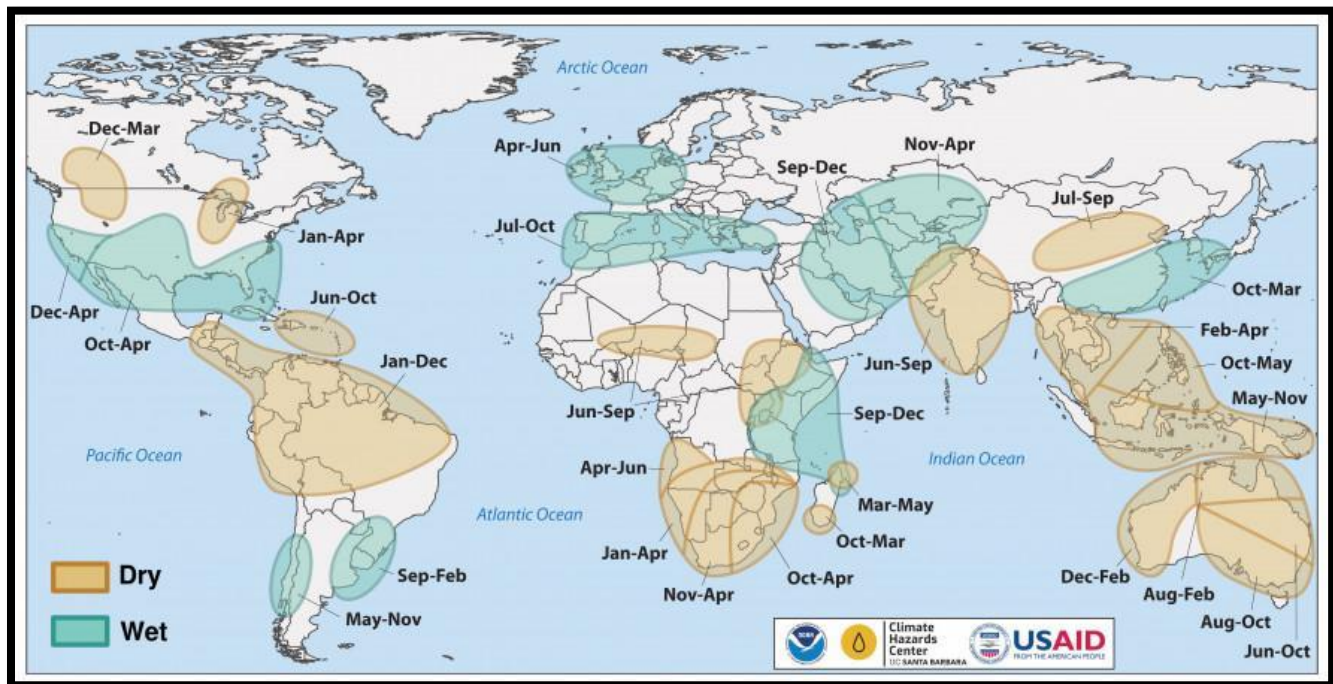
20 February 2024

Compiled by Dirk J Fourie

This is not presented as a commodity trading recommendation. Weather is only one of many factors which can influence the market on any given day.

El Niño continues to weaken, despite recent tropical fluctuations.

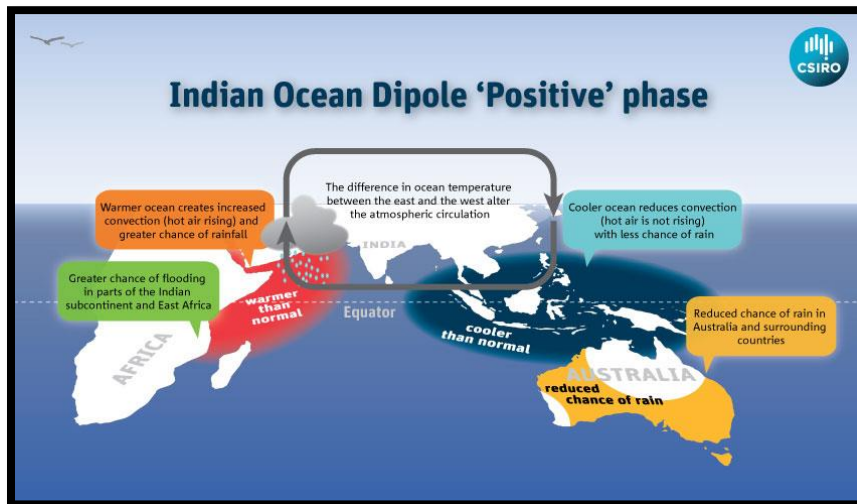
ENSO is the oscillation between El Niño and La Niña states in the Pacific region. El Niño typically produces drier seasons, and La Niña drives wetter years, but the influence of each event varies, particularly in conjunction with other climate influences.



Positive El Niño World map

El Niño persists, although a steady weakening trend is evident in the oceanic indicators. Sea surface temperatures in the central tropical Pacific and temperatures in the Pacific sub-surface show a clear cooling trend, in line with typical event decay. Atmospheric indicators have been mixed over the past fortnight; cloudiness near the Date Line has increased, while the 30-day Southern Oscillation Index (SOI) has returned to negative values (both characteristic of an El Niño state). This is expected to be a temporary fluctuation (often observed during summer) and most likely the result of the slow-moving Madden Julian Oscillation in the region. International climate models suggest the central tropical Pacific Ocean will continue to cool in the coming months, with four of seven climate models indicating the central Pacific is likely to return to neutral El Niño–Southern Oscillation (ENSO) levels in April (i.e., neither El Niño nor La Niña), and all models neutral in May. ENSO predictions made in late summer and autumn tend to have lower accuracy than predictions made at other times of the year. This means that current forecasts of the ENSO state beyond May should be used with caution.

Indian Ocean



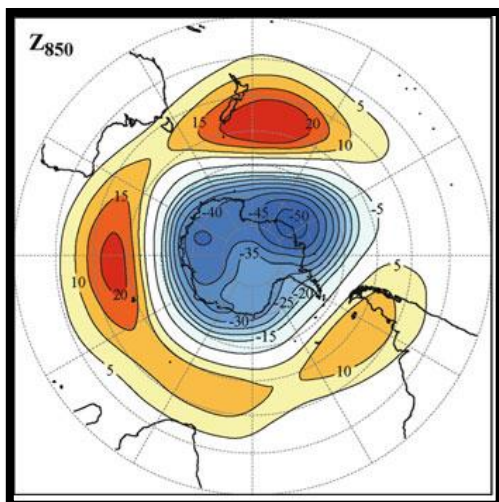
The Indian Ocean Dipole (IOD) is defined by the difference in sea surface temperatures between the eastern and western tropical Indian Ocean. A negative phase typically sees above average summer rainfall in Southern Africa, while a positive phase brings drier than average seasons.

The IOD is currently neutral, with the IOD index being -0.05 °C for the week ending 18 February 2024.

Sea surface temperatures (SSTs) for the week ending 18 February were up to 2 °C warmer than the 1961–1990 average across much of the tropical Indian Ocean, with warm anomalies also extending south-eastwards to eastern Ocean waters. Compared to last fortnight, waters in the eastern Indian Ocean have continued to warm.

Southern Annular Mode (SAM)

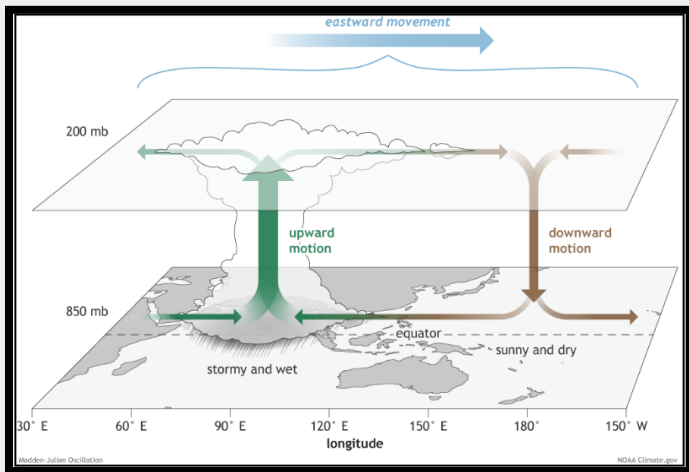
The SAM has three phases: neutral, positive, and negative. Each positive or negative SAM event tends to last for around one to two weeks, though longer periods may also occur. The time frame between positive and negative events is quite random, but typically in the range of a week to a few months. The effect that the SAM has on rainfall varies greatly depending on season and region.



The Southern Annular Mode (SAM) index is currently positive as of 17 February 2024. Forecasts indicate the SAM index will fall briefly to negative SAM values over the coming week, before returning to neutral SAM values for the remainder of the coming fortnight. A neutral SAM has little influence on Southern African rainfall patterns.

Madden–Julian Oscillation (MJO)

The Madden–Julian Oscillation (MJO) is the major fluctuation in tropical weather on weekly to monthly timescales. It can be characterised as an eastward moving 'pulse' of cloud and rainfall near the equator that typically recurs every 30 to 60 days.



The Madden–Julian Oscillation (MJO) has weakened significantly in the central Pacific Ocean in the past week and is now weak or indiscernible. All international climate models indicate the MJO will remain weak in the coming week, with some models suggesting a strengthening in Maritime Continent at the start of March.

Climate Change continues to influence global climates.

The global mean temperature for the 12 months February 2023 to January 2024 was the highest on record, with Copernicus reporting that it was 1.52 °C above the 1850–1900 pre-industrial average. However, the magnitude of global warming is assessed using multi-year averages, and a single 12-month period does not mean that the 1.5 °C target referred to in the Paris Agreement has been exceeded.

There has been an increase in extreme heat events, and extreme fire weather, associated with the warming.

There has also been a trend towards a greater proportion of rainfall from high intensity, short duration rainfall events.

The long-range forecast for the southern hemisphere indicates below average rainfall is more than likely.

Source:

SAWB / GRADS/ NASS / DTN / AWB / CWB / Intellicast / FNMOC / Unisys/ NOAA/ YR / KBWS / Wunderground / TWC / WordPress / WXRisk / Drovers / TWC / AG-BoM / Accuweather / SPC / NOAA / soybeansandcorn / Windy / agrimoney / en sat24 / agweb / blackseagrain / Europa / woerpe / timeanddate / myweather2 / meteox / meteoblue / intellicast / iweather / Columbia / weather-atlas / ec.europa.eu / NASA / nasagrace / usda.gov / USDA/WAOB