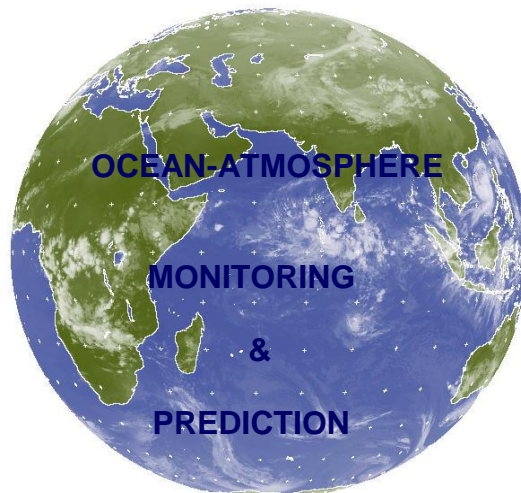


CLIMATE DIAGNOSTIC BULLETIN FOR AFRICA

NO. 5
MAY, 2022



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SUMMARY OF MAY 2022 AND OUTLOOK FOR JJA 2022

The precipitation during May 2022, above-average to well above average was observed over Guinea, Côte d'Ivoire, Ghana, southern Togo, eastern Cameroon and Gabon, southern Chad, much of CAR, Congo, western and eastern parts of DRC, most parts Burundi, northernmost and southern Tanzania and eastern Madagascar.

Below to well below-average precipitation was observed over southern Mali, western Burkina Faso, northern Benin, southern Nigeria, western Cameroon, Gabon, central of northern part of DRC, Uganda, Ethiopia, Kenya, Tanzania northern Angola.

The precipitation in the percent of average for March-April-May 2022 season was above to well above average over the northern Algeria, central of Guinea Gulf Countries, western parts of the Central Africa, northern South-Sudan, much of Rwanda, Burundi, Tanzania and most parts of SADC region.

Below-average precipitation was observed over south-eastern Nigeria, southern Cameroon, western Gabon, central of northern DRC, south-western Ethiopia and eastern Kenya.

Positive temperature anomalies, greater than or equal to 1.5°C were observed during May 2022 over Senegal, Guinea, Guinea Bissau, southern Niger, northern Nigeria, southern Mali, much Mauritania, Morocco, Algeria, while over the northern South Angola and north Namibia -1°C.

During the March-April-May 2022 season, positive temperature anomalies greater than or equal to 1.5°C were observed over Morocco, Algeria, Mauritania, Senegal, Guinea, Gambia, Mali, Burkina Faso, Nigeria, Sudan, Ethiopia and Somalia.

Below average to Normal-to-below normal rainfall is expected over south-eastern Nigeria, western Cameroon, much of Guinea Equatorial, north-eastern Gabon, southern Ethiopia and northern Kenya during the June to August 2022 season.

Normal to above precipitation is very likely over much of Senegal, Gambia, Guinea Bissau, northern Guinea, southern Mauritania, Mali, Niger, most parts of Burkina Faso, southern Niger, northern Benin, Nigeria, southern parts of Chad, Sudan, and northern South-Sudan and Ethiopia during June to August; and during July to September 2022 expected to observed over much of Senegal, Gambia, Guinea Bissau, northern Guinea, southern Mauritania, Mali, Niger, most parts of Burkina Faso, southern Niger, northern Benin.

Near to above average is expected over Morocco, Algeria, Tunisia, Mauritania, Libya, Egypt and northernmost of Sudan and near to below average is very likely eastern Botswana, western Zimbabwe, most parts South Africa from June to August 2022.

Above average Temperature is very likely over northern Morocco and Algeria during June to August 2022

1. SYNOPTIC SITUATION FOR MAY 2022

This section shows the intensity of pressure centres, circulation and the associated anomalies at 850hPa, the wind direction and speed at the middle and higher levels, relative humidity at 850hPa and 700hPa, Sea Surface Temperature (SST) and El Nino/Southern Oscillation (ENSO).

1.1 Pressure Centres:

Figure 1 shows the locations and status of the surface pressure systems.

- **The Azores high:** The pressure systems at the Azores high recorded 1021hPa, intensifying by 2hPa when compared to the previous month and by 4hPa than its climatology mean (1991-2020). The centre was located at 46°W, 29°N. It moved westward of its climatological position over the North Atlantic Ocean.
- **St. Helena High:** Observed a central value of 1022hPa, weakened by 3hPa when compared to the previous month and by intensifying 11hPa than its climatological mean (1991-2020). The centre was located at 30°S, 1°W, and it moved Northward of its climatological position over South Atlantic Ocean.
- **Mascarene High:** The Mascarene high-pressure system observed a value of 1022hPa, weakened by 1hPa when compared to the previous month and intensifying by 15hPa compared to its climatological mean (1991-2020). It moved Northward and was located at 88°E and 35°S.
- **Heat Low:** Twin heat-low located over Chad and the Mali had central values of 1007hPa respectively. The central values deepened compared to the previous month of 1007hPa. The heat-lows were located at 15°E and 11°N and also at 1°E and 17°N respectively.

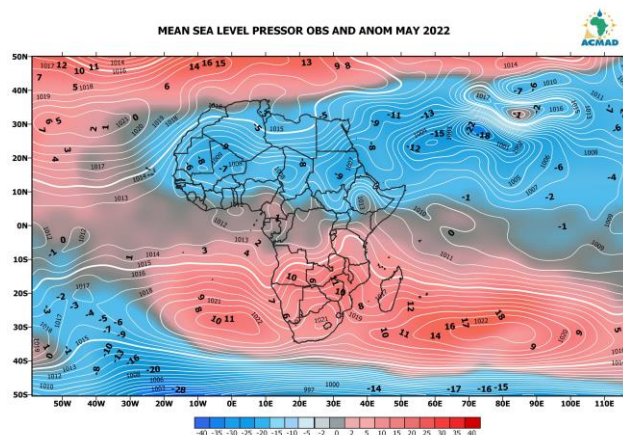


Figure 1. Observed Mean Sea Level Pressure (Contour) and anomaly (shaded) for May 2022 (Source: NOAA/NCEP)

1.2 Wind Anomalies (m/s) at 850hPa

Figure 2 shows wind anomalies at 850hPa. Light to moderate westerly winds was observed over Mauritania, Algeria, Libya. The anomalies winds from north-east to eastward weak to moderate over Sudan, Ethiopia, South-Sudan, CAR, Chad, and Niger. while the rest of the continent observed easterly wind anomalies.

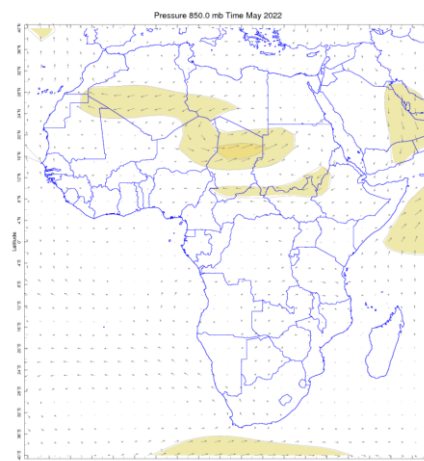


Figure 2a: Wind anomalies (m/s) at 850hPa for May 2022 (source: NOAA/NCEP)

1.2 Relative Humidity (RH) at 850hPa

In April 2022, high RH $\geq 60\%$ at 850hPa (fig.3) was observed over Western African Countries, Central Africa, Eastern Africa region, eastern parts of the SADC region and Madagascar. The rest of the continent observed RH values less than 60%.

Negative anomalies (1991-2020 mean) of relative humidity were observed over Morocco, Algeria, Libya, Mali, south-eastern part of the Guinea Gulf region, Sudan, South-Sudan, DRC, Burundi, Rwanda, Uganda, Kenya, Ethiopia Tanzania, Zambia and Angola. The rest of the continent observed positive anomalies of RH (above 1991-2020 mean) during January 2022.

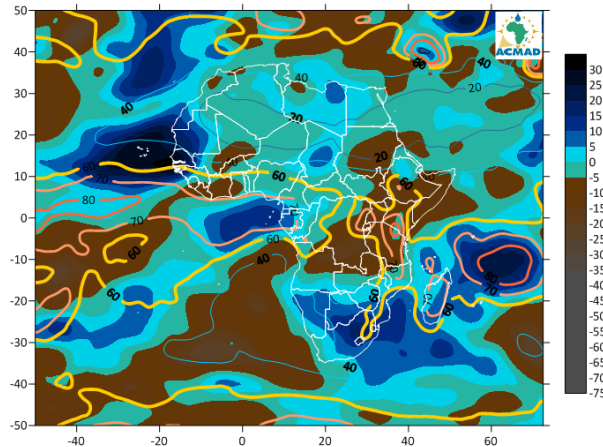


Figure 3. Relative humidity (%) at 850hPa (contour) and anomaly (shaded) for May 2022 (SOURCE: NOAA/NCEP)

1.4 Relative Humidity at 700 hPa

High RH $\geq 60\%$ at 700hPa (fig.4) was observed during May 2022 over most of the Western, eastern, central and southern regions of Africa. The rest of the continent observed RH values were less than 60%.

Negative anomalies (1991-2020 mean) of RH were observed over western Algeria, Libya, western Egypt, much of Sudan, central of Sahel region, south-east of Guinea Gulf region, southern parts of Central Africa, Eastern Africa, and northern of SADC region. The rest of the continent observed positive anomalies (greater than the 1991-2020 mean) of RH during the month under review.

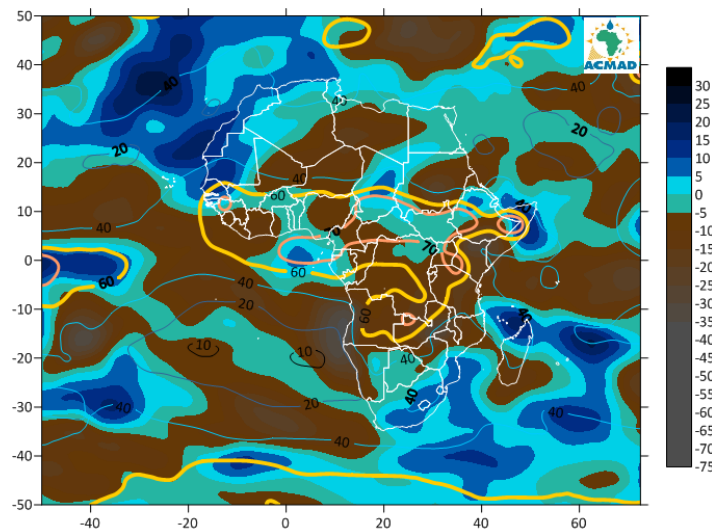


Figure 4. Relative humidity (%) at 700hPa (contour) and anomaly (shaded) for May 2022 (SOURCE: NOAA/NCEP)

1.5 Sea Surface Temperature (SST) and El Nino/Southern Oscillation (ENSO)

Over eastern to central parts of the Equatorial Pacific, near to below-average SSTs were observed during May 2022. Neutral SST were noted over Tropical North Atlantic (TNA) area. In the Gulf of Guinea, neutral conditions prevailed during May 2022 with some negative conditions further south. Over the Indian Ocean, neutral to cold SSTs conditions were recorded over the south-western Indian Ocean and neutral to warm SSTs were observed over the north to the south-eastern Indian Ocean.

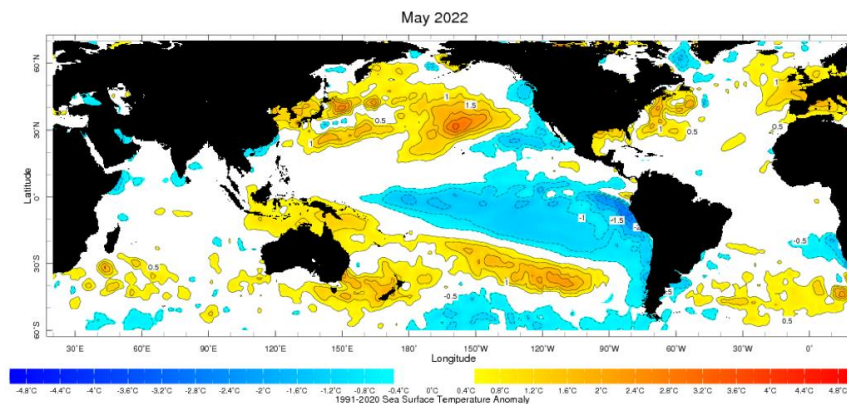


Figure 5: Sea surface temperature anomalies for May 2022 (source: IRI)

2. CLIMATOLOGICAL SITUATION AND IMPACTS DURING MAY 2022

This section provides the general climatological situation and its impacts, covering two major parameters; temperature and precipitation.

2.1 Precipitation

2.1.1 Monthly Precipitation

The precipitation during May 2022, above-average to well above average was observed over Guinea, Côte d'Ivoire, Ghana, southern Togo, eastern Cameroon and Gabon, southern Chad, much of CAR, Congo, western and eastern parts of DRC, most parts Burundi, northernmost and southern Tanzania and eastern Madagascar.

Below to well below-average precipitation was observed over southern Mali, western Burkina Faso, northern Benin, southern Nigeria, western Cameroon, Gabon, central of northern part of DRC, Uganda, Ethiopia, Kenya, Tanzania northern Angola.

2.1.2 Seasonal Precipitation

The precipitation in the percent of average for March-April-May 2022 season was above to well above average over the northern Algeria, central of Guinea Gulf Countries, western parts of the Central Africa, northern South-Sudan, much of Rwanda, Burundi, Tanzania and most parts of SADC region.

Below-average precipitation was observed over south-eastern Nigeria, southern Cameroon, western Gabon, central of northern DRC, south-western Ethiopia and eastern Kenya.

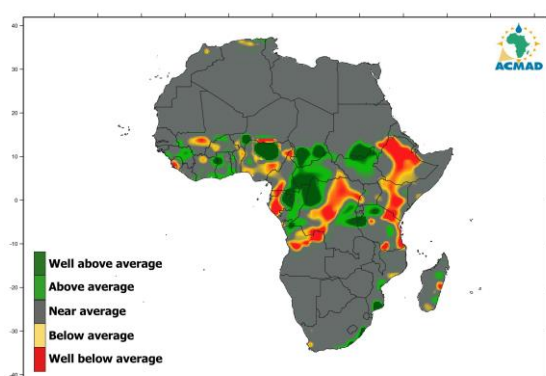


Figure 6a: Monthly precipitation in the percentage of the average for

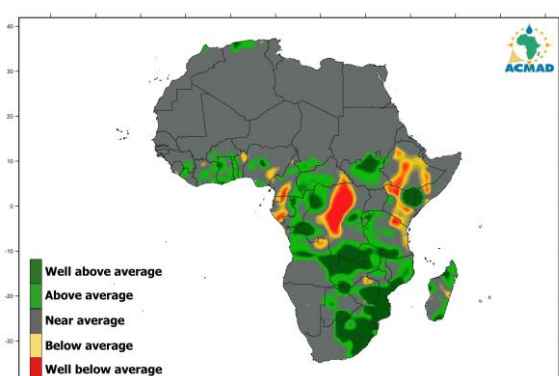


Figure 6b: Precipitation in the percentage of the average for March-April-May

2.2 Surface Temperature

2.2.1 Monthly Temperature Anomalies

Positive temperature anomalies, greater than or equal to 1.5°C were observed during May 2022 over Senegal, Guinea, Guinea Bissau, southern Niger, northern Nigeria, southern Mali, much Mauritania, Morocco, Algeria, while over the northern South Angola and north Namibia -1°C.

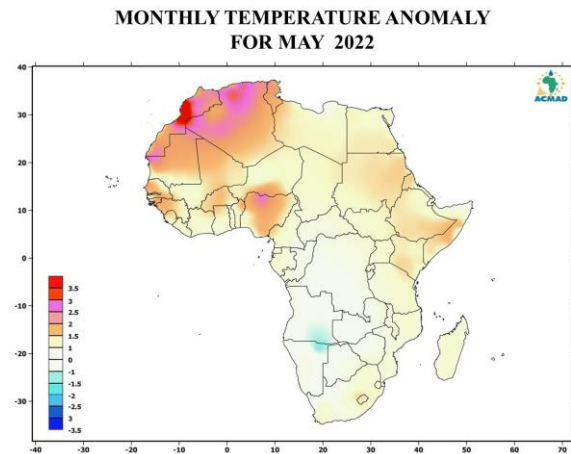


Figure 7: Temperature anomaly for May 2022 (Source: NOAA/NCEP)

2.2.2 Seasonal Temperature Anomalies

During the March-April-May 2022 season, positive temperature anomalies greater than or equal to 1.5°C were observed over Morocco, Algeria, Mauritania, Senegal, Guinea, Gambia, Mali, Burkina faso, Nigeria, Sudan, Ethiopia and Somalia.

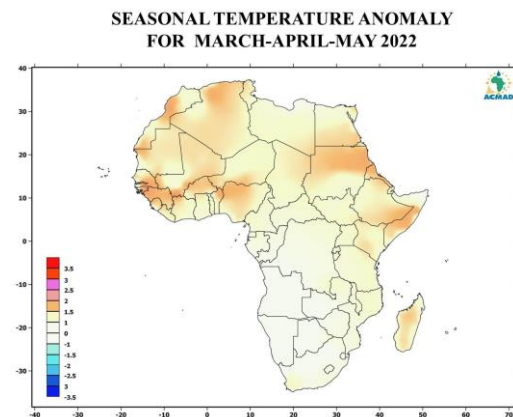


Figure 8: Seasonal temperature anomaly March-April-May 2022 (Source: NOAA/NCEP)

3. OUTLOOK

3.1 El Niño/La Niña

This section provides the predicted Sea Surface Temperature (SST) anomalies, exhibiting the future characteristics of ENSO and the precipitation outlook for the coming months.

Figure 12 shows the forecasts by dynamic and statistical models over Niño3.4 (5°N–5°S, 120°W–170°W).

In mid-April, Sea Surface Temperatures remain below average in the central-eastern equatorial Pacific. A large majority of the models in the plume predict SSTs to stay below-normal at the level of a weak La Niña until April and then return to ENSO-neutral levels in June-September 2022. Similar to the most-recent official CPC/IRI ENSO Outlook issued on May 10, 2022, this objective model-based ENSO outlook also predicts a continuation of the weak La Niña event with a high probability during May-July.

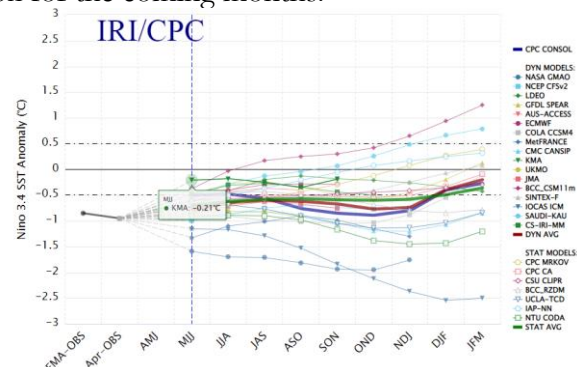


Figure 12: Ensemble multi-model forecast from May 2022 (Source: IRI)

3.2. Seasonal Precipitation Forecast for June-July-August 2022

The precipitation forecast for June-July-August 2022 season (fig.13), issued on May 31, 2022, reveals that:

Below average to Normal-to-below normal rainfall is expected over south-eastern Nigeria, western Cameroon, much of Guinea Equatorial, north-eastern Gabon, southern Ethiopia and northern Kenya during the June to August 2022 season.

Normal to above precipitation is very likely over much of Senegal, Gambia, Guinea Bissau, northern Guinea, southern Mauritania, Mali, Niger, must parts of Burkina Faso, southern Niger, northern Benin, Nigeria, southern parts of Chad, Sudan, and northern South-Sudan and Ethiopia during June to August; and during July to September 2022 expected to observed over much of Senegal, Gambia, Guinea Bissau, northern Guinea, southern Mauritania, Mali, Niger, must parts of Burkina Faso, southern Niger, northern Benin.

SEASONAL PRECIPITATION FORECAST
FOR JUNE-JULY-AUGUST 2022
ISSUED ON MAY 31, 2022

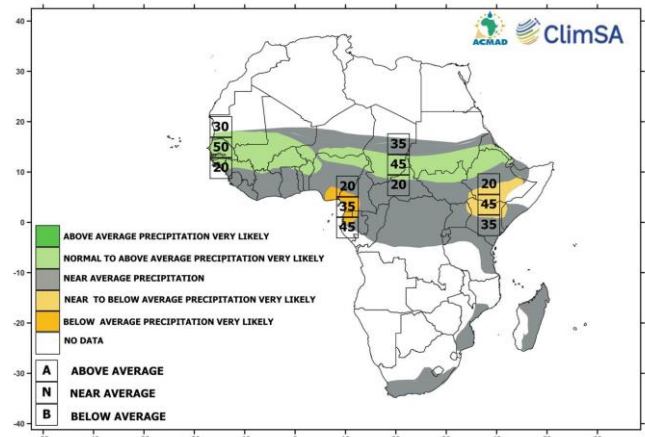


Figure 13: Seasonal precipitation forecast for June-July-August, 2022

3.3. Seasonal Temperature Forecast for June-July-August 2022

The temperature forecast for June-July-August 2022 season (fig.14), issued on May 30, 2022, shows that:

Near to above average is expected over Morocco, Algeria, Tunisia, Mauritania, Libya, Egypt and northernmost of Sudan and near to below average is very likely eastern Botswana, western Zimbabwe, most parts South Africa from June to August 2022.

Above average Temperature is very likely over northern Morocco and Algeria during June to August 2022

SEASONAL TEMPERATURE FORECAST
FOR JUNE-JULY-AUGUST 2022
ISSUED ON MAY 31, 2022

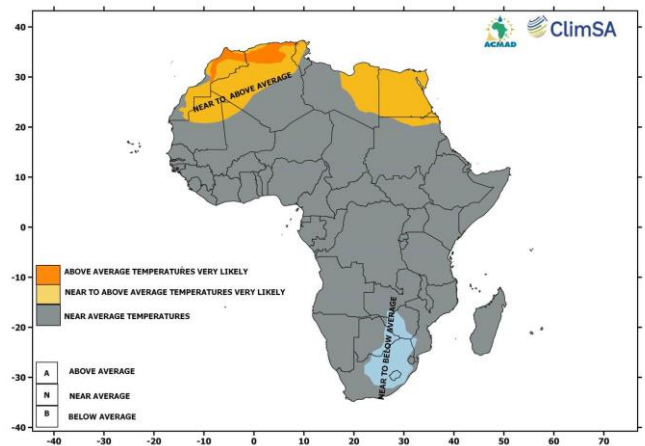


Figure 14: Temperature forecast for June-July-August, 2022