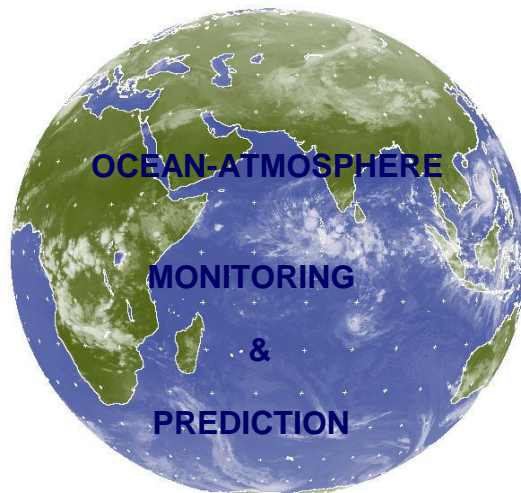


# CLIMATE DIAGNOSTIC BULLETIN FOR AFRICA

NO. 6  
JUNE, 2022



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## SUMMARY OF JUNE 2022 AND OUTLOOK FOR JAS 2022

*The precipitation during June 2022, above-average to well above average was observed over Senegal, Gambia, Burkina Faso, eastern Côte d'Ivoire, most of Ghana, Togo, Benin, Nigeria, northern Cameroon and Gabon, southern Chad, central of Congo, north-western Tanzania and southern Sudan.*

*Below to well below-average precipitation was observed over central of Mali, Guinea, much Sierra Leone, western Côte d'Ivoire, south-eastern Nigeria, western Cameroon, northern and central DRC, western parts of South Sudan, Ethiopia, Kenya and eastern Uganda.*

*The precipitation in the percent of average for April-May-June 2022 season was above to well above average over southern Senegal, western Burkina Faso, eastern Côte d'Ivoire, much of Ghana, Togo, Benin, western and northern Nigeria, southern Chad, most parts of CAR, western Cameroon, much of Congo, western and eastern DRC, southern Sudan, north and southern Tanzania.*

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

*Positive temperature anomalies, greater than or equal to 1.5°C were observed during June 2022 over Morocco, Algeria, Tunisia, Libya, Egypt, Sudan, Chad and Niger, while over the northern South Angola and north Namibia -1°C.*

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

*Below normal precipitation was experienced over northern Morocco, Algeria, Tunisia, south-western Mali, north Guinea, western Côte d'Ivoire, southern-east Nigeria, central Cameroon, north and central DRC, western parts South-Sudan, southern Ethiopia, Somalia, much of Uganda and Kenya and Tanzania. Above average precipitation was observed over Senegal, Gambia, Guinea Bissau, Liberia, Côte d'Ivoire, central southern Niger, Nigeria, central and western parts of Central Africa region and eastern SADC region.*

*Below average to Normal-to-below normal rainfall is expected over south-eastern Nigeria, western Cameroon, much of Guinea Equatorial, north-eastern DRC, south-western South-Sudan, western Uganda, southern Ethiopia and northern-west Kenya during the July to October 2022 season.*

*Above average 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 July to October 2022.*

*Near to above average is expected over Morocco, Algeria, Tunisia, Mauritania, Libya, Egypt and northernmost of Mauritania, Mali, Niger, Chad, Sudan and near to below average is very likely southern Namibia, most parts South Africa from July to October 2022.*

*Above average Temperature is very likely over northern Morocco, Algeria and Egypt during July to October 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 1026hPa, intensifying by 5hPa when compared to the previous month and by 8hPa than its climatology mean (1991-2020). The centre was located at 33°W, 37°N. It moved north-westward of its climatological position over the North Atlantic Ocean.
- **St. Helena High:** Observed a central value of 1026hPa, intensifying by 4hPa when compared to the previous month and by 15hPa than its climatological mean (1991-2020). The centre was located at 28°S, 26°W, and it moved eastward of its climatological position over South Atlantic Ocean.
- **Mascarene High:** The Mascarene high-pressure system observed a value of 1021hPa, weakened by 1hPa when compared to the previous month and intensifying by 14hPa compared to its climatological mean (1991-2020). It moved eastward and was located at 119°E and 30°S.
- **Heat Low:** Twin heat-low located over western Chad with 1007hPa respectively. The central values remained when compared to the previous month. The heat-lows were located at 15°E and 16°N respectively.

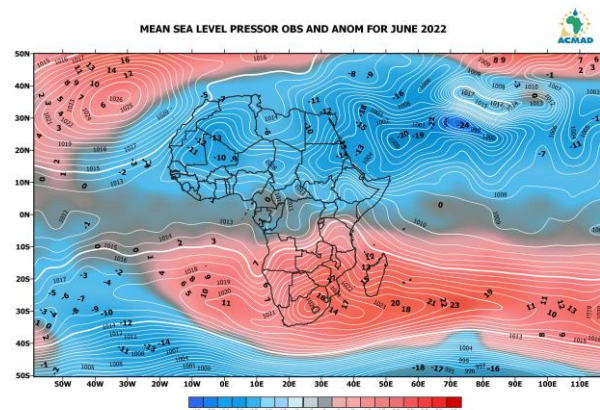


Figure 1. Observed Mean Sea Level Pressure (Contour) and anomaly (shaded) for June 2022 (Source: NOAA/NCEP)

### 1.2 Wind Anomalies (m/s) at 850hPa

Figure 2 shows wind anomalies at 850hPa. Light to moderate easterly winds was observed over Algeria, Libya, Mali, Chad, Sudan, Ereatrea, Djibouti, Ethiopia, DRC, Zimbabwe, Mozambique, South Africa, Botswana and Namibia.

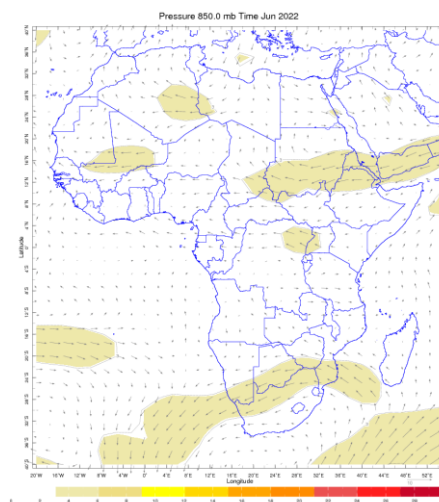


Figure 2a: Wind anomalies (m/s) at 850hPa for June 2022 (source: NOAA/NCEP)



## 1.2 Relative Humidity (RH) at 850hPa

In June 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, Tunisia, DRC, Angola, Tanzania, Burundi, Rwanda, Uganda, Kenya and Ethiopia. The rest of the continent observed positive anomalies of RH (above 1991-2020 mean) during January 2022.

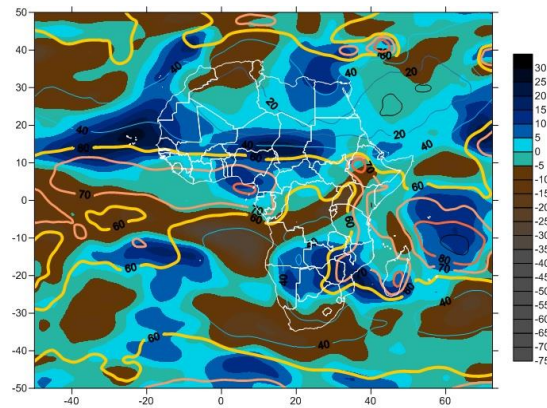


Figure 3. Relative humidity (%) at 850hPa (contour) and anomaly (shaded) for June 2022 (SOURCE: NOAA/NCEP)

## 1.4 Relative Humidity at 700 hPa

High RH  $\geq 60\%$  at 700hPa (fig.4) was observed during June 2022 over southern and Western Africa, central parts of the Central Africa and Eastern Africa region. The rest of the continent observed RH values were less than 60%.

Negative anomalies (1991-2020 mean) of RH were observed over northern Morocco, Algeria, most parts of Central Africa, Eastern Africa, and SADC region. The rest of the continent observed positive anomalies (greater than the 1991-2020 mean) of RH during the month under review.

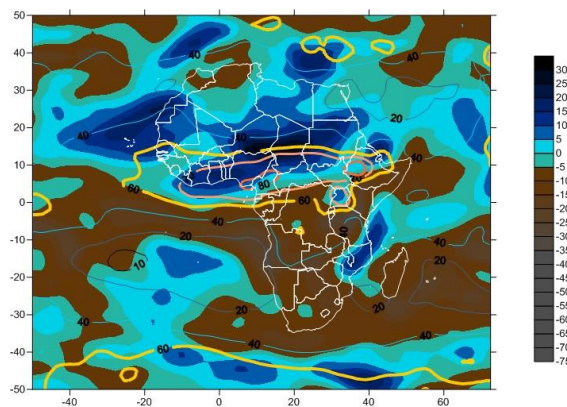


Figure 4. Relative humidity (%) at 700hPa (contour) and anomaly (shaded) for June 2022 (SOURCE: NOAA/NCEP)

## 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 June 2022. Neutral to warm SST were noted over Tropical North Atlantic (TNA) area. In the Gulf of Guinea, neutral conditions prevailed during June 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.

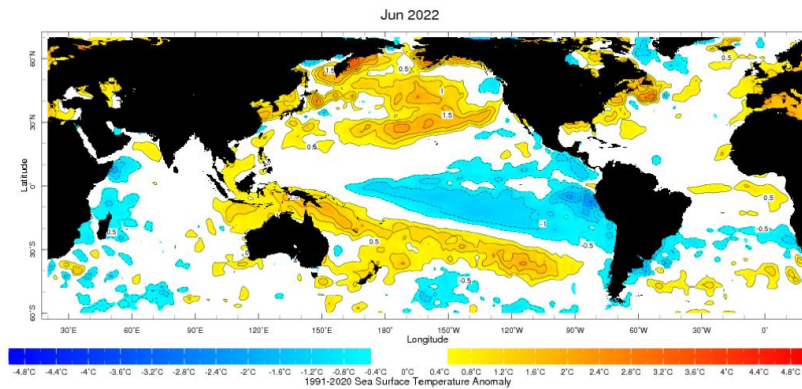


Figure 5: Sea surface temperature anomalies for June 2022 (source: IRI)

## 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 June 2022, above-average to well above average was observed over Senegal, Gambia, Burkina Faso, eastern Côte d'Ivoire, most of Ghana, Togo, Benin, Nigeria, northern Cameroon and Gabon, southern Chad, central of Congo, north-western Tanzania and southern Sudan.

Below to well below-average precipitation was observed over central of Mali, Guinea, much Sierra Leone, western Côte d'Ivoire, south-eastern Nigeria, western Cameroon, northern and central DRC, western parts of South Sudan, Ethiopia, Kenya and eastern Uganda.

#### 2.1.2 Seasonal Precipitation

The precipitation in the percent of average for April-May-June 2022 season was above to well above average over southern Senegal, western Burkina Faso, eastern Côte d'Ivoire, much of Ghana, Togo, Benin, western and northern Nigeria, southern Chad, most parts of CAR, western Cameroon, much of Congo, western and eastern DRC, southern Sudan, north and southern Tanzania.

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

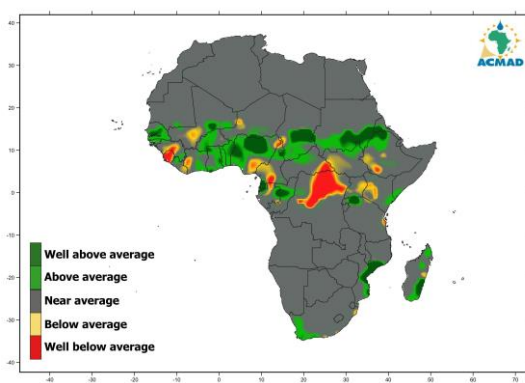


Figure 6a: Monthly precipitation in the percentage of the average for June 2022 (Source: NOAA/NCEP)

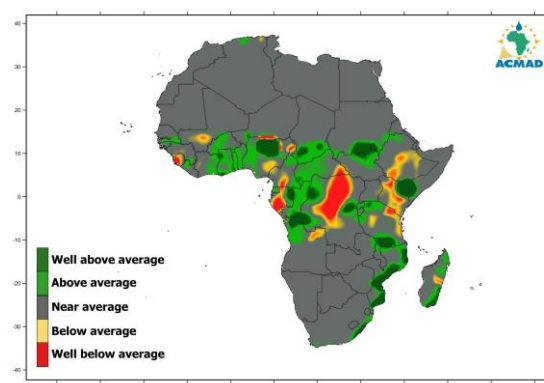


Figure 6b: Precipitation in the percentage of the average for April-May-June 2022 (Source: NOAA/NCEP)

## 2.2 Surface Temperature

### 2.2.1 Monthly Temperature Anomalies

Positive temperature anomalies, greater than or equal to 1.5°C were observed during June 2022 over Morocco, Algeria, Tunisia, Libya, Egypt, Sudan, Chad and Niger, while over the northern South Angola and north Namibia - 1°C.

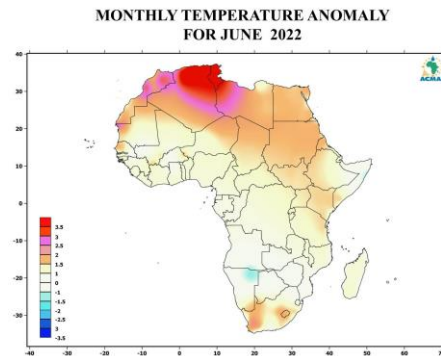


Figure 7: Temperature anomaly for June 2022 (Source: NOAA/NCEP)

### 2.2.2 Seasonal Temperature Anomalies

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

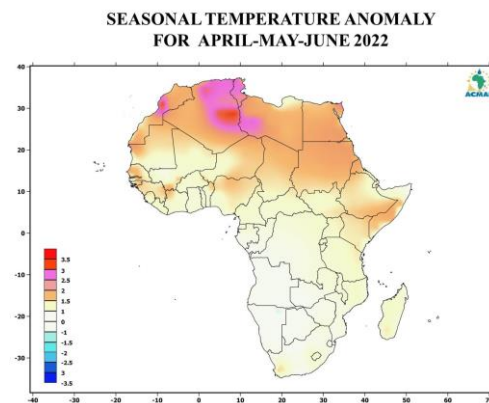


Figure 8: Seasonal temperature anomaly March-April-May 2022 (Source: NOAA/NCEP)

## 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 Niño 3.4 (5°N–5°S, 120°W–170°W).

In mid-June, 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 July-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 July-September.

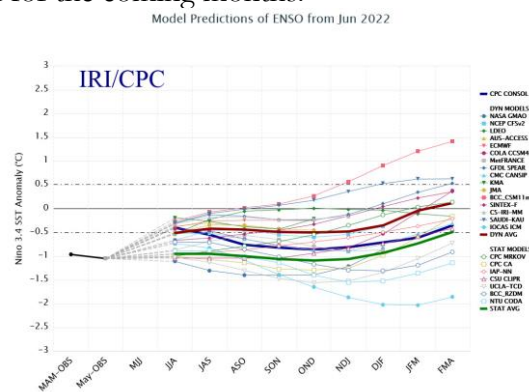


Figure 12: Ensemble multi-model forecast from June 2022 (Source: IRI)

### 3.2. Seasonal Precipitation Forecast for July-August-September 2022

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

Below normal precipitation was experienced over northern Morocco, Algeria, Tunisia, south-western Mali, north Guinea, western Côte d'Ivoire, southern-east Nigeria, central Cameroon, north and central DRC, western parts South-Sudan, southern Ethiopia, Somalia, much of Uganda and Kenya and Tanzania. Above average precipitation was observed over Senegal, Gambia, Guinea Bissau, Liberia, Côte d'Ivoire, central southern Niger, Nigeria, central and western parts of Central Africa region and eastern SADC region.

Below average to Normal-to-below normal rainfall is expected over south-eastern Nigeria, western Cameroon, much of Guinea Equatorial, north-eastern DRC, south-western South-Sudan, western Uganda, southern Ethiopia and northern-west Kenya during the July to October 2022 season.

Above average 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 July to October 2022.

### 3.3. Seasonal Temperature Forecast for July-August-September 2022

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

Near to above average is expected over Morocco, Algeria, Tunisia, Mauritania, Libya, Egypt and northernmost of Mauritania, Mali, Niger, Chad, Sudan and near to below average is very likely southern Namibia, most parts South Africa from July to October 2022.

Above average Temperature is very likely over northern Morocco, Algeria and Egypt during July to October 2022

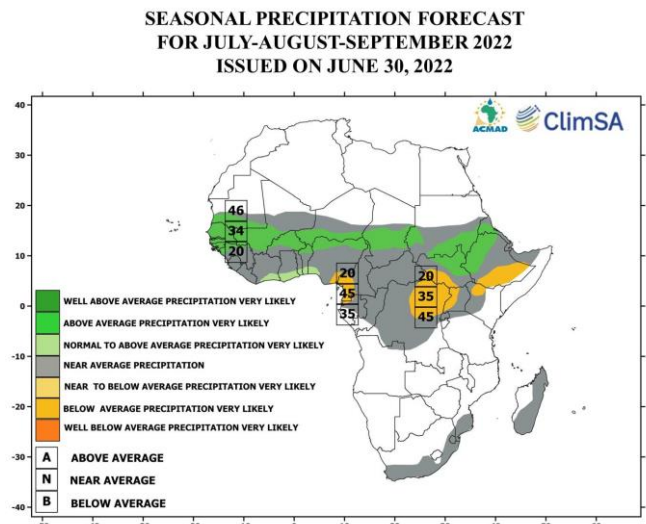


Figure 13: Seasonal precipitation forecast for July-August-September, 2022

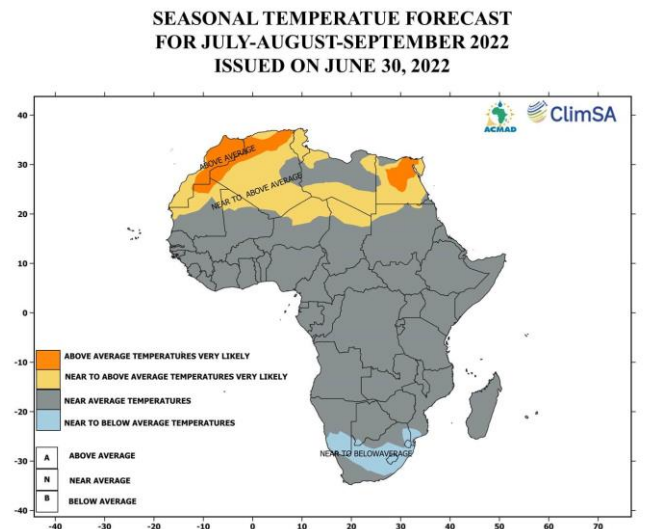


Figure 14: Temperature forecast for July-August-September, 2022