



Ten Days Climate Diagnostics Bulletin

N°15

Dekad 2, 11th – 20th June 2022

HIGHLIGHTS

- ✓ *During the second dekad of June 2022, rainfall activities were observed over central parts of the Continent, with above-average to well above-average rainfall conditions observed over eastern to central parts of Western Africa, central of Central Africa region and western parts of Eastern Africa. Below-average to well below-average rainfall was recorded over western and south-eastern parts of Western Africa, northern DRC, western Cameroon and Ethiopia.*
- ✓ *The dekad was characterized by neutral to warm SSTs conditions in the eastern parts of the Atlantic Ocean closer to the western coastline of the Continent. These SST conditions contributed to above average precipitation in some parts of Central African countries. In addition, in the equatorial pacific region, La Nina conditions have persisted for the past four weeks. Over the Indian Ocean, the SSTs were mostly dominated by neutral to cold conditions led to reduced rainfall over parts of East African countries.*
- ✓ *The outlook for 27 June to 9 July 2022, depict a general tendency of deficit precipitation over western parts Of the Western Africa region central parts of the Eastern Africa. During the same period very wet to wet precipitation are expected Benin, much of Nigeria, northern parts of Cameroon, southern Chad, western Ethiopia.*

1.0 GENERAL CLIMATOLOGICAL SITUATION

Subsection 1.1 provides the strength of the surface pressure systems, ITD, CAB and ITCZ displacements, while subsection 1.2 is discussing the state of the troposphere and gives a summary of monsoon and relative humidity thresholds.

1.1 SURFACE

Pressure Systems

- **The Azores High** observed a central value of 1025hPa, strengthened by 2hPa when compared to the previous dekad and 2hPa compared to the climatological mean (1991-2020). The Azores high moved to the western to the climatology over the North Atlantic Ocean and was located at 37°W and 34°N.
- **St. Helena High** observed a central pressure value of 1021hPa, a 5hPa weakened from the previous dekad and 1hPa to the climatological mean (1991-2020). It was located at 26°E/26°S. It was moved to eastern of its climatological position over the South Atlantic Ocean.
- **Mascarene High:** The central value for Mascarene High was 1024hPa. It was stable from the previous dekad and strengthened by 1hPa to the climatological mean (1991-2020). Positioned at 63°E and 28°S, it moved to the West over the south Indian Ocean.
- **Heat Low:** Thermal low was observed with the value of 1007hPa over the western parts of Chad, located at 16°E and 115°N, deepened to previous dekad and stable compared to last dekad and its climatological mean.

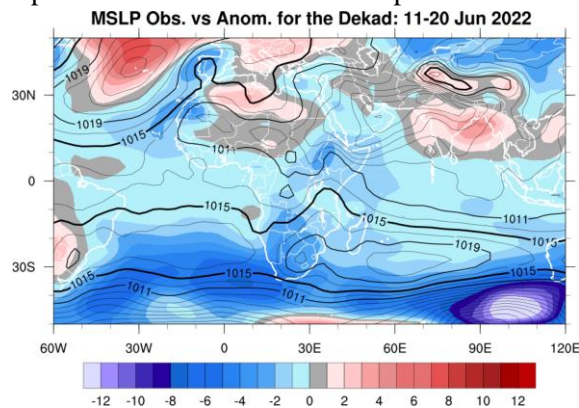


Figure 1. Observed Mean Sea Level Pressure (Contour) and anomaly (shaded) from 11th to 20th June 2022

1.2 TROPOSPHERE

1.2.1 African Monsoon

Figure 2a: This figure shows the dekadal average wind at 850hPa. Moderate to weak wind from north to north-easterly and east anomalies of about 6m/s - 8m/s average wind speeds were observed over parts of Libya, Egypt, and south-easterlies over coastal Kenya and Somalia.

Figure 2b: At the 700hpa level, western wind anomalies of 8m/s-14m/s dominated parts of Egypt, Libya, Algeria, Tunisia and Morocco, while north-easterlies were observed over south-western parts of West Africa and Central Africa, while the rest of the continent observed light to moderate wind anomalies of about 2m/s to 8m/s.

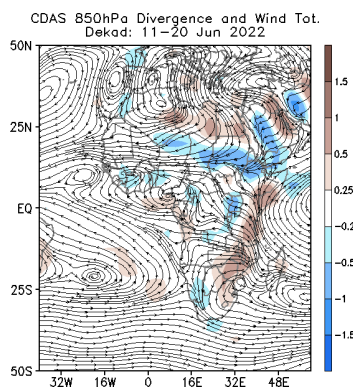


Figure 2a: Mean wind (m/s) at 850hPa from 11th to 20th June 2022
Source: NOAA/NCEP

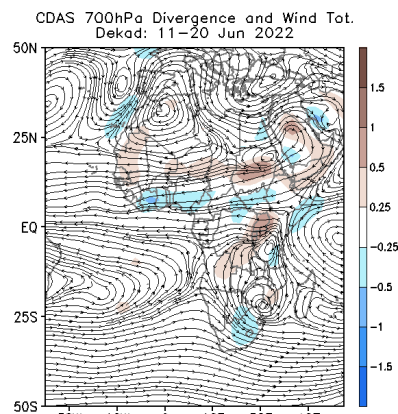


Figure 2b: Mean wind (m/s) at 700hPa from 11th to 20th June 2022
Source: NOAA/NCEP

Figure 2c: shows very strong westerly wind vector anomalies $\geq 14\text{m/s}$ at 200hPa observed mainly over the continent except for much of the Gulf of Guinea and parts of central, east and southern Africa that observed moderate wind speeds of about 6m/s - 8m/s .

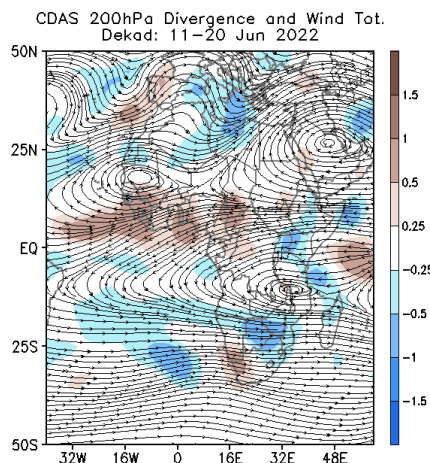


Figure 2c: Mean wind at 200 hPa (m/s) during 11th to 20th June 2022
(Source: NOAA/NCEP)

1.2.3 Relative Humidity (RH) at 850hPa

Figure 4 shows the dekadal observed relative humidity and anomalies at 850hPa pressure level for the second dekad of June 2022 for the reference period 1991-2020. Wet atmospheric conditions (relative humidity $\geq 60\%$) were observed over most of the Gulf of Guinea countries, Central Africa and East African countries namely; Uganda, Kenya, Tanzania, Ethiopia, and parts of southern African countries such as Malawi, Mozambique and Madagascar. The rest of the continent observed RH values $\leq 60\%$.

Negative anomalies were observed during the second dekad of June 2022 over Morocco, Algeria, Ethiopia, Somalia, Kenya, Uganda, DRC, Rwanda, Burundi, Tanzania, Zambia, Malawi and Mozambique. Positive anomalies were recorded over the other parts of the continent

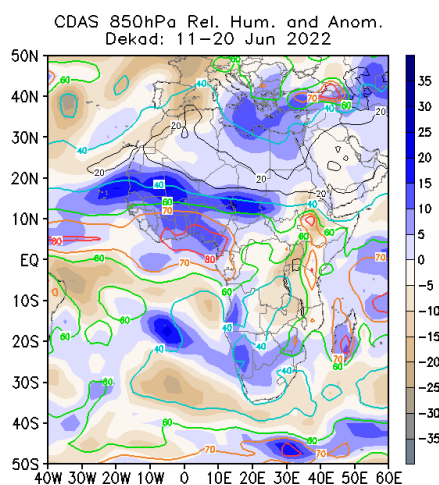


Figure 4. RH (%) at 850hPa (contour) and anomaly (shaded) during the period 11th to 20th June 2022
SOURCE/. NOAA/. NCEP-CAR/. CDAS1)

1.2.4 Relative Humidity at 700hPa

Figure 5 presents the dekadal observed and anomalies of relative humidity at 700hPa. The figure shows that high relative humidity values $\geq 60\%$ at 700hPa were observed over much of the Western, Eastern and Central African regions. The rest of the continent observed RH values $\leq 60\%$.

The relative humidity anomalies for the first dekad of June 2022 were negative over Algeria, Tunisia, Ethiopia, Somalia, Kenya, Uganda, DRC, Angola, Tanzania, Zambia, Zimbabwe, Namibia and South Africa. The rest of the continent observed positive anomalies.

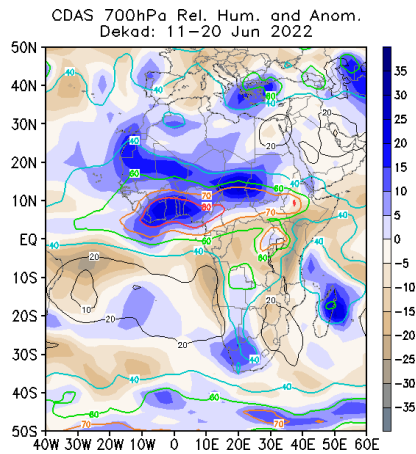


Figure 5. RH (%) at 700hPa (contour) and anomaly (shaded) during the period 11th to 20th June 2022

(SOURCE/. NOAA/. NCEP-CAR/. CDAS1)

2.0 PRECIPITATION

Figure 6 shows the observed precipitation as a percentage of average for the second dekad of June 2022.

2.1 Precipitation

During the second dekad of June 2022, rainfall activities were observed over central parts of the Continent, with above-average to well above-average rainfall conditions observed over eastern to central parts of Western Africa, central of Central Africa region and western parts of Eastern Africa. Below-average to well below-average rainfall was recorded over western and south-eastern parts of Western Africa, northern DRC, western Cameroon and Ethiopia..

Details:

- **North Africa:** This region experienced mostly near average rainfall conditions.
- **Sahel:** Near average rainfall conditions were experienced in this region and below average to well below average observed over parts of Mali. Only Senegal, Burkina Faso and Niger Sudan received above to well above average rainfall.
- **Gulf of Guinea countries:** Most eastern parts of the sub-region received Above-average to well above-average precipitation while below-average to well below-average rainfall were observed in parts of Guinea, Sierra Leone, Liberia, southern-eastern Cote d'Ivoire and South-eastern Nigeria.
- **Central Africa countries:** northern Cameroon, southern Chad, Congo, received above-average to well above-average precipitation. The rest of the sub-region received below-average to well below-average precipitation.
- **East African countries:** most of eastern parts observed below average to well below average rainfall conditions west parts of Ethiopia, and the western received above to well above precipitation.
- **Southern Africa countries:** most parts of the SADC region are off-season except coastal fringes of western South Africa which observed below average to well below-average rainfall.

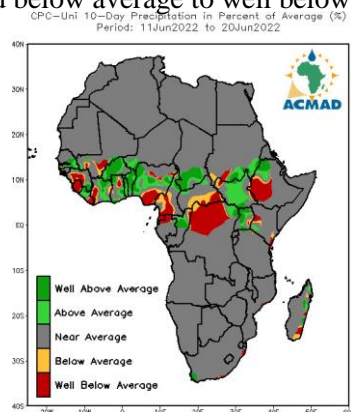


Figure 6: Precipitation in the percentage of the average for the first dekad 11th to 20th June 2022. The reference period used is 1991-2020. Source: NOAA/. NCEP/. CPC/. UNIFIED/. Africa/. DAILY/)

3.0 OUTLOOK RAINFALL VALID FOR 27 JUNE TO 9 JULY 2022

3.1 PRECIPITATION

The outlook for 27 June to 9 July 2022, depict a general tendency of deficit precipitation over western parts of the Western Africa region central parts of the Eastern Africa. During the same period very wet to wet precipitation are expected Benin, much of Nigeria, northern parts of Cameroon, southern Chad, western Ethiopia.

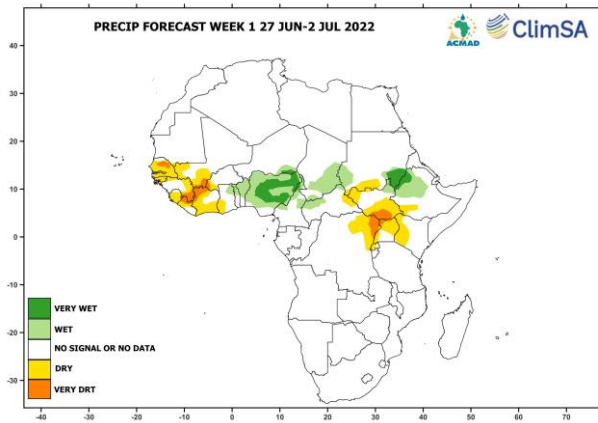


Figure 7a: Precipitation forecast for 27 June -2 Jul 2022

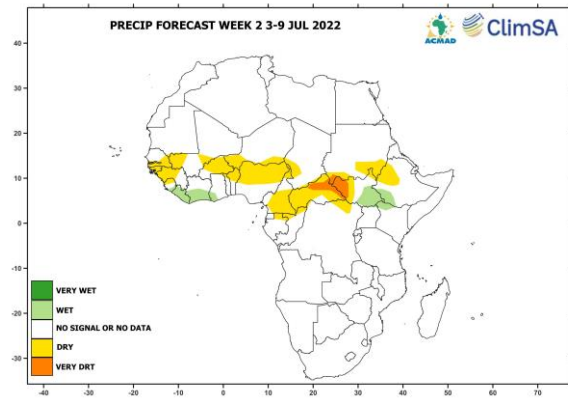


Figure 7b: Precipitation forecast for 3-9 July 2022