



Ten Days Climate Diagnostics Bulletin

N°15

Dekad 1, 1st – 10th June 2022

HIGHLIGHTS

- ✓ *During the third dekad of May 2022, rainfall activities were observed over central parts of the Continent, with above-average to well above-average rainfall conditions observed over western parts of Western Africa, central of Central Africa region and west side of Eastern Africa, south-eastern of SADC region and northernmost of Madagascar. Below-average to well below-average rainfall was recorded over north-eastern of the Northern Africa, eastern parts of Western and eastern Africa, south-western of Central Africa, north*eastern and southern of SADC region and south of Madagascar.*
- ✓ *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 warm conditions led to reduced rainfall over parts of East African countries.*
- ✓ *The outlook for 08 to 21 June 2022, depict a general tendency of low to moderate precipitation over parts of Central and West Africa; as well as parts of the central of Central Africa and Eastern Africa. During Week 1 to Week 2, moderate precipitation is expected over Guinea, Sierra Leone, central of Côte d'Ivoire, Ghana, southern Togo, Benin and Nigeria, central parts of Cameroon, southern parts of CAR, north-western DRC, Uganda and much of South-Sudan. In the same period the heavy rain are expected over Sierra Leone, Liberia, northern CAR, eastern South-Sudan and 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 1023hPa, Strengthened by 3hPa when compared to the previous dekad and stable 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 32°W and 31°N.
- **St. Helena High** observed a central pressure value of 1028hPa, a 5hPa Strengthened from the previous dekad and 6hPa to the climatological mean (1991-2020). It was located at 26°E/27°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 14 hPa to the climatological mean (1991-2020). Positioned at 106°E and 42°S, it moved to the East over the south Indian Ocean.
- **Heat Low:** Thermal low was observed with the value of 1006hPa over the western parts of Chad, located at 15°E and 14°N, deepened to previous dekad and stable compared to last dekad and its climatological mean..

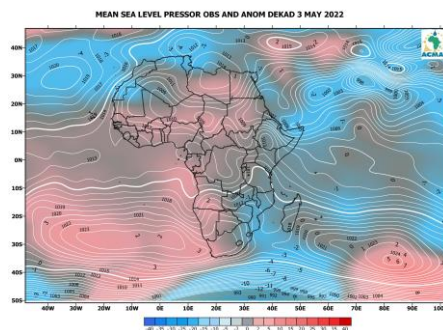


Figure 1. Observed Mean Sea Level Pressure (Contour) and anomaly (shaded) from 11th to 20th May 2022

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 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.

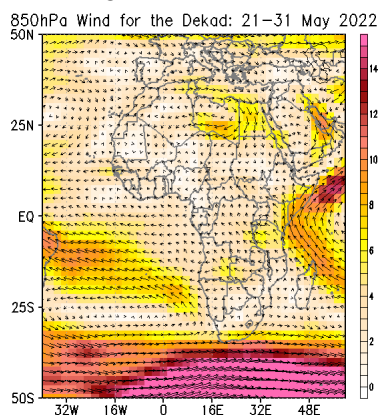


Figure 2a: Mean wind (m/s) at 850hPa from 21th to 31st May 2022
Source: NOAA/NCEP

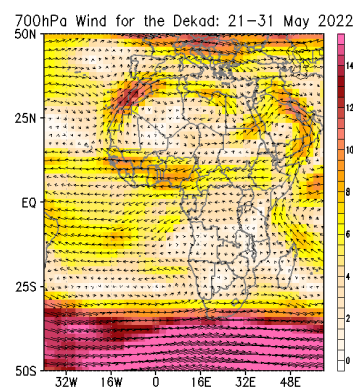


Figure 2b: Mean wind (m/s) at 700hPa from 21th to 31st May 2022
Source: NOAA/NCEP

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.

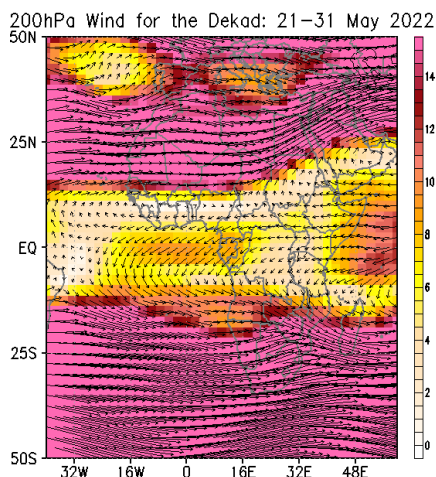


Figure 2c: Mean wind at 200 hPa (m/s) during the period 21th to 31st May 2022
(Source: NOAA/NCEP)

1.2.3 Relative Humidity (RH) at 850hPa

Figure 4 shows the dekadal observed relative humidity and anomalies at 850hPa pressure level for the third dekad of May 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 Malawi, Mozambique and Madagascar in southern African countries. The rest of the continent observed RH values $\leq 60\%$.

Negative anomalies were observed during the second dekad of May 2022 over Morocco, Algeria, Tunisia, Libya, Sudan, Ethiopia, Somalia, Kenya, DRC, Tanzania, Zambia, Zimbabwe, Botswana, Namibia and Angola. Positive anomalies were recorded over the rest of the continent

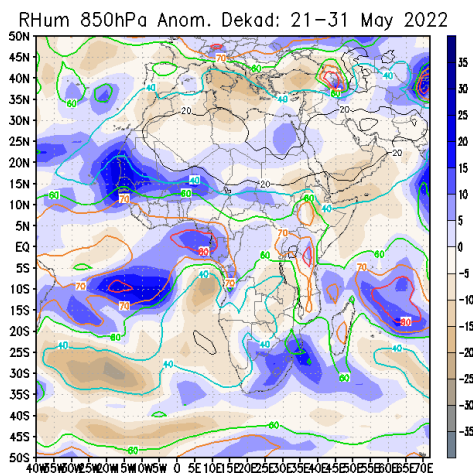


Figure 4. RH (%) at 850hPa (contour) and anomaly (shaded) during the period 21th to 31st May 2022
SOURCE/. NOAA/. NCEP-CAR/. CDAS1)

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 eastern, central and southern African regions. The rest of the continent observed RH values $\leq 60\%$.

The relative humidity anomalies for the third dekad of May 2022 were negative over Algeria, Tunisia, Libya, Egypt, Sudan, Ethiopia, Somalia, Kenya, Uganda, DRC, Angola, Tanzania, Zambia, Zimbabwe, Botswana, Namibia, South Africa and Madagascar. The rest of the continent observed positive anomalies.

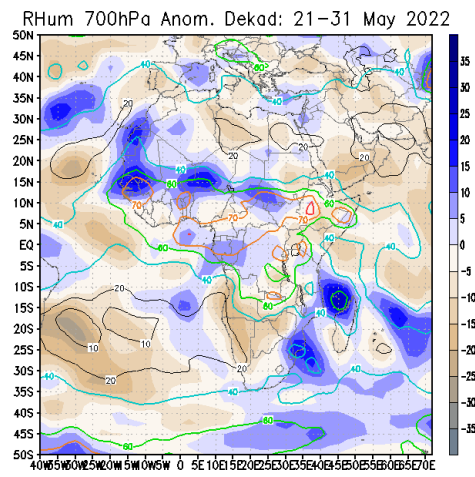


Figure 5. RH (%) at 700hPa (contour) and anomaly (shaded) during the period 21th to 31st May 2022 (SOURCE/. NOAA/. NCEP-CAR/. CDAS1)

2.0 PRECIPITATION

Figure 6 shows the observed precipitation as a percentage of average for the third dekad of May 2022.

2.1 Precipitation

During the third dekad of May 2022, rainfall activities were observed over central parts of the Continent, with above-average to well above-average rainfall conditions observed over western parts of Western Africa, central of Central Africa region and west side of Eastern Africa, south-eastern of SADC region and northernmost of Madagascar. Below-average to well below-average rainfall was recorded over north-eastern of the Northern Africa, eastern parts of Western and eastern Africa, south-western of Central Africa, north*eastern and southern of SADC region and south of Madagascar.

Details:

- **North Africa:** This region experienced mostly near average rainfall conditions but over northern Algeria and Tunisia observed below to well below average..
- **Sahel:** Near average rainfall conditions were experienced in this region and below average to well below average observed over eastern Burkina Faso southern Niger.
- **Gulf of Guinea countries:** Most western parts of the sub-region received Above-average to well above-average precipitation while below-average to well below-average rainfall were observed in south-eastern Sierra Leone, Liberia, southern-eastern Cote d'Ivoire, central Ghana, northern Togo, Benin much of Nigeria.
- **Central Africa countries:** most of CAR, southern-east Chad, Congo, eastern Cameroon, north-western and eastern DRC, eastern Gabon, most parts of Rwanda and Burundi, 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 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, Mozambique and Madagascar which observed below average to well below-average rainfall conditions in some parts with a very few areas receiving above average rainfall.

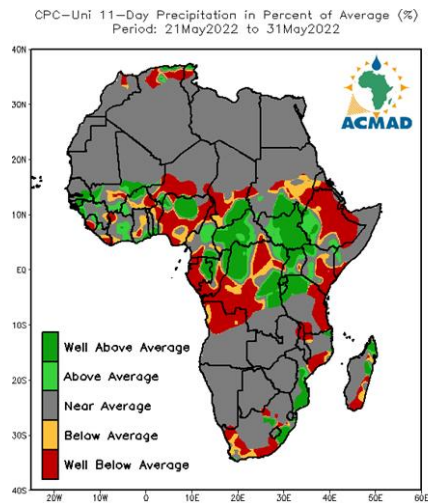


Figure 6: Precipitation in the percentage of the average for the first dekad 21th to 31st 2022. The reference period used is 1991-2020.
Source: NOAA/ NCEP/ CPC/ UNIFIED/ Africa/ DAILY/)

3.0 OUTLOOK RAINFALL VALID FOR 08 TO 21 JUNE 2022

3.1 PRECIPITATION

The outlook for 08 to 21 June 2022, depicts a general tendency of low to moderate precipitation over parts of Central and West Africa; as well as parts of the central of Central Africa and Eastern Africa. During Week 1 to Week 2, moderate precipitation is expected over Guinea, Sierra Leone, central of Côte d'Ivoire, Ghana, southern Togo, Benin and Nigeria, central parts of Cameroon, southern parts of CAR, north-western DRC, Uganda and much of South-Sudan. In the same period the heavy rain are expected over Sierra Leone, Liberia, northern CAR, eastern South-Sudan and western Ethiopia.

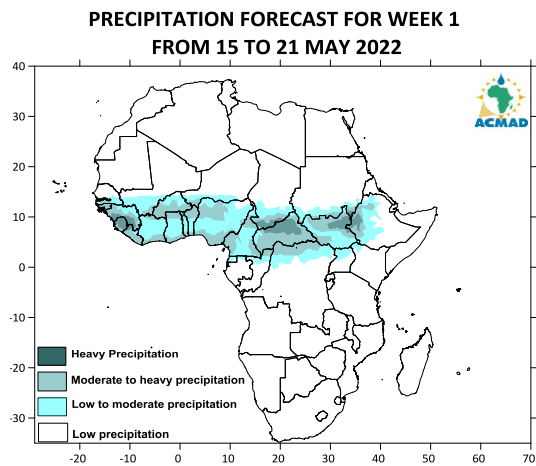


Figure 7a: Precipitation forecast for 08-14 June 2022

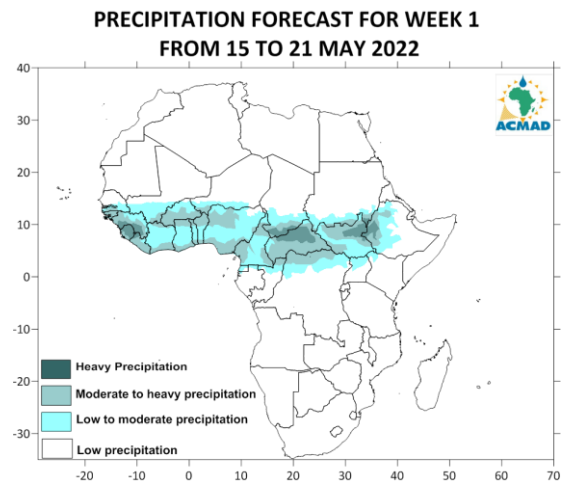


Figure 7b: Precipitation forecast for 15-21 June 2022