



Ten Days Climate Diagnostics Bulletin

N°13

Dekad 2, 11th – 20th May 2022

HIGHLIGHTS

- ✓ *During the second 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 southern Côte d'Ivoire, northern Ghana, Togo, Benin, eastern Burkina Faso, south-to-central Nigeria, southern Chad, south-eastern Cameroon, northern Congo, eastern Gabon, north-western Angola, western DRC and southern CAR. Below-average to well below-average rainfall was recorded over eastern Guinea, Sierra Leone, western Liberia, north-western Côte d'Ivoire, central Burkina Faso, southern Togo, Benin, eastern Nigeria, southern Cameroon, western Gabon, central to eastern DRC, eastern CAR, most of Uganda, Ethiopia, Kenya, and central-northern Tanzania*
- ✓ *The dekad was characterized by 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 conditions led to reduced rainfall over parts of East African countries.*
- ✓ *The outlook for 27 May to 09 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 Liberia, southern Côte d'Ivoire, south-easternmost of Cameroon, northern Congo and north-eastern DRC.*

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, weakened by 3hPa when compared to the previous dekad and Strengthened by 4hPa compared to the climatological mean (1991-2020). The Azores high moved from western to the climatology over the North Atlantic Ocean and was located at 53°W and 31°N.
- **St. Helena High** observed a central pressure value of 1020hPa, a 2hPa weakening from the previous dekad and stable to the climatological mean (1991-2020). It was located at 1°W/28°S. It was stable of its climatological position over the South Atlantic Ocean.
- **Mascarene High:** The central value for Mascarene High was 1023hPa. It weakened by 1hPa from the previous dekad and Strengthened by 7hPa to the climatological mean (1991-2020). Positioned at 46°E and 32°S, it moved to the West over the south Indian Ocean.
- **Heat Low:** Thermal low was over the eastern parts of Sudan with the value of 1005hPa, located at 31°E and 15°N, filled to hPa compared to last dekad and its climatological mean.

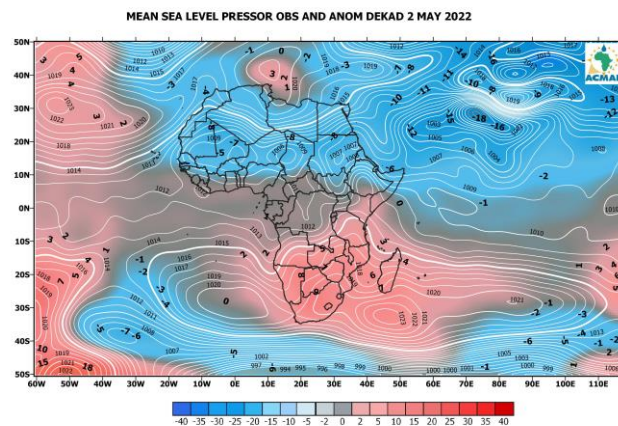


Figure 1. Observed Mean Sea Level Pressure (Contour) and anomaly (shaded) from 11th to 20th May 2022

1.2 TROPOSPHERE

1.2.1 African Monsoon

Figure 2a: This figure shows the dekadal average wind at 850hPa. Moderate to strong wind from north to north-easterly anomalies of about 6m/s - 8m/s average wind speeds were observed over parts of Libya, Niger, Algeria 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.

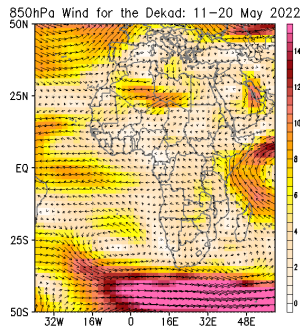


Figure 2a: Mean wind (m/s) at 850hPa from 11th to 20th May 2022
Source: NOAA/NCEP

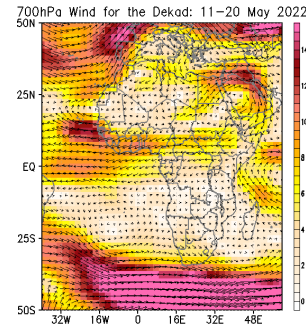


Figure 2b: Mean wind (m/s) at 700hPa from 11th to 20th May 2022
Source: NOAA/NCEP

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.

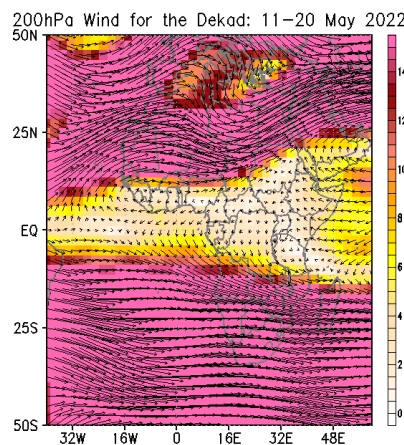


Figure 2c: Mean wind at 200 hPa (m/s) during the period 11th to 20th May 2022
(Source: NOAA/NCEP)

1.2.3 Relative Humidity (RH) at 850hPa

Figure 4 shows the dekadal observed relative humidity and anomalies at 850hPa pressure level for the second 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, Mauritania, Mali, Ethiopia, Kenya, Uganda, and Zambia. Positive anomalies were recorded over the rest of the continent

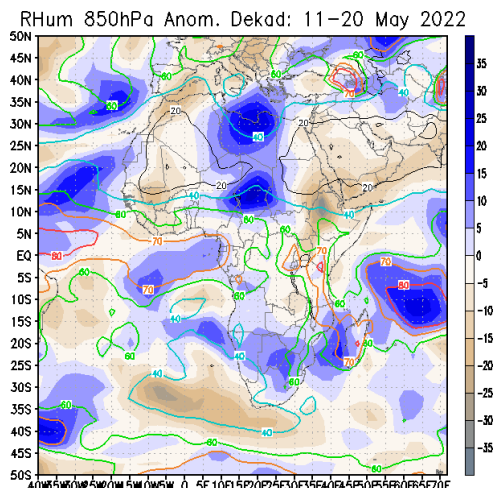


Figure 4. RH (%) at 850hPa (contour) and anomaly (shaded) during the period 11th to 20th May 2022
SOURCE/. NOAA/. NCEP-CAR/. CDAS1)

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 Morocco, as well as 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 April 2022 were negative over southern Morocco, Algeria, Libya, Egypt, DRC, Ethiopia, Somalia, Kenya, Tanzania, Botswana, Namibia, Zambia, Madagascar and South Africa. The rest of the continent observed positive anomalies.

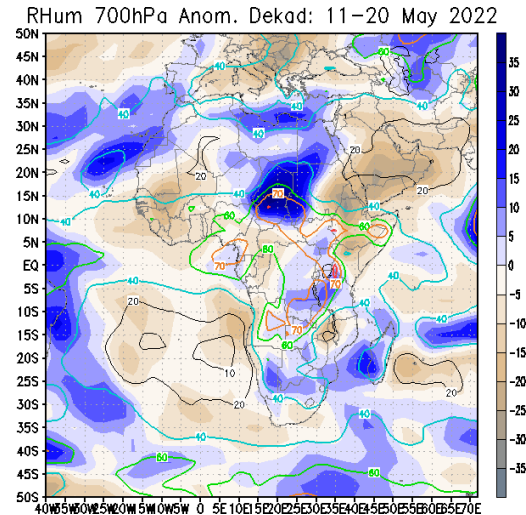


Figure 5. RH (%) at 700hPa (contour) and anomaly (shaded) during the period 11th to 20th May 2022 (SOURCE/. NOAA/. NCEP-CAR/. CDAS1)

2.0 PRECIPITATION

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

2.1 Precipitation

During the second dekad of May 2022, rainfall activities were observed over most central to western parts of the continent, with above-average to well above-average rainfall conditions observed over Ghana, Burkina Faso, Togo, Benin, central Nigeria, CAR, southern Chad, much of Congo, western and eastern DRC, north-western Angola and eastern Gabon. Below-average to well below-average rainfall was recorded over northern Côte d'Ivoire, western Liberia, Sierra Leone, Guinea, central Burkina Faso, southern Benin, southern Togo, south-western and eastern Nigeria, parts of Cameroon, Gabon, CAR, most of DRC, southern Congo, Equatorial Guinea, Uganda, South Sudan, Burundi, Ethiopia, Somalia, Kenya, Tanzania and Angola.

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 southern Burkina Faso.
- **Gulf of Guinea countries:** Most western parts of the sub-region received below-average to well below-average precipitation while above-average to well above-average rainfall were observed in south-eastern Liberia, southern Cote d'Ivoire, northern Ghana, northern Togo, north-western Benin, eastern Burkina Faso, as well as central and south-eastern Nigeria.
- **Central and West Africa countries:** most of southern CAR, southern Chad, Congo, south-eastern Cameroon, parts of DRC, eastern Gabon, most parts of Rwanda and north-western Angola, 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 parts of east African countries observed below average to well below average rainfall conditions.
- **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.

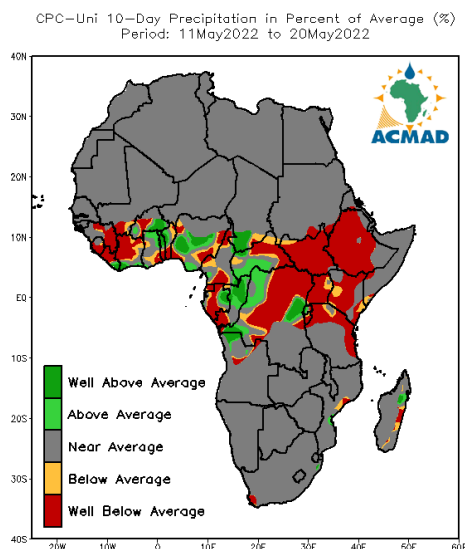


Figure 6: Precipitation in the percentage of the average for the first dekad 11th to 20th May 2022. The reference period used is 1991-2020. Source: NOAA/ NCEP/ CPC/ UNIFIED/ Africa/ DAILY/

3.0 OUTLOOK RAINFALL VALID FOR 27 MAY TO 09 JUNE 2022

3.1 PRECIPITATION

The outlook for 27 May to 09 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 Liberia, southern Côte d'Ivoire, south-easternmost of Cameroon, northern Congo and north-eastern DRC.

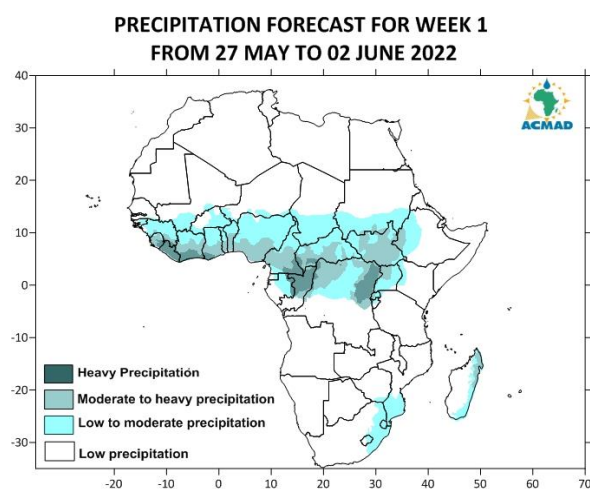


Figure 7a: Precipitation forecast for 27 May-02 June 2022

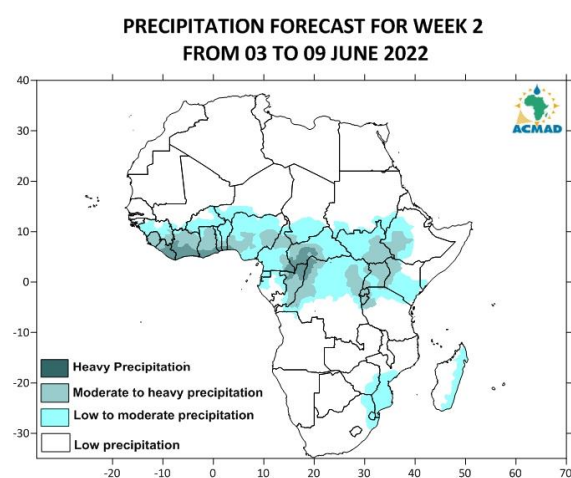


Figure 7b: Precipitation forecast for 03-09 June 2022