



Ten Days Climate Diagnostics Bulletin

N°12

Dekad 1, 01st – 10th May 2022

HIGHLIGHTS

- ✓ *During the first 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 Guinea, Liberia, Côte d'Ivoire, Ghana, southern Mali, CAR, eastern Cameroon, much of southern Congo, parts of DRC, most parts of South Sudan, parts of Ethiopia, eastern coastal areas of Kenya, south-eastern Uganda, much of Burundi, parts of Tanzania and southern Somalia. Below-average to well below-average rainfall was recorded over northern Côte d'Ivoire, southern Burkina Faso, most parts of Benin, southern half of Nigeria, Cameroon, Gabon, northern Angola, central DRC, eastern CAR, western Uganda, Ethiopia, western Kenya, and central-northern Tanzania*
- ✓ *The dekad was characterized by neutral to warm SSTs conditions in the Eastern parts of the Continent. These SST conditions contributed to above normal precipitation in the most parts of Central Africa areas. In addition, in the equatorial pacific region, neutral conditions have persisted for the past four weeks. Over the Atlantic, the SSTs were mostly dominated by neutral to warm conditions led to rainfall over western parts of West and Central African countries.*
- ✓ *The outlook for 16-29 May 2022, depict a general tendency of low to moderate precipitation over parts of North Africa, countries in the Gulf of Guinea, as well as parts of the central and Eastern African. During Week 1 to Week 2, moderate to heavy precipitation is expected over southern Liberia, Côte d'Ivoire, Ghana, Togo, Benin, Nigeria, Cameroon, CAR, Congo, DRC, Rwanda, Uganda, Tanzania, Kenya, Ethiopia and Madagascar. During the same period heavy precipitation is very likely over Cameroon, CAR, Congo and 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 1026hPa, Strengthened by 6hPa when compared to the previous dekad and by 5hPa compared to the climatological mean (1991-2020). The Azores high moved from eastern to the climatology over the North Atlantic Ocean and was located at 22°W and 39°N.
- **St. Helena High** observed a central pressure value of 1022hPa, a 4hPa weakening from the previous dekad and strengthened by 2hPa to the climatological mean (1991-2020). It was located at 0.3°E/29°S. It moved slightly eastward of its climatological position over the South Atlantic Ocean.
- **Mascarene High:** The central value for Mascarene High was 1024hPa. It Strengthened by 3hPa from the previous dekad and by 1hPa to the climatological mean (1991-2020). Positioned at 68°E and 32°S, it moved to the West over the south Indian Ocean.
- **Heat Low:** Thermal low was over the western parts of central Chad with the value of 1005hPa, located at 16°E and 15°N, Filled to 1hPa compared to last dekad and its climatological mean.

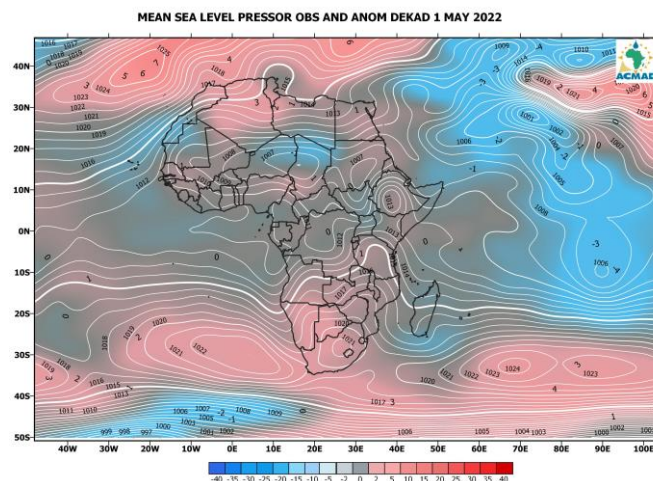


Figure 1. Observed Mean Sea Level Pressure (Contour) and anomaly (shaded) from 1st to 10th May 2022

1.2 TROPOSPHERE

1.2.1 African Monsoon

Figure 2a: This figure shows the dekadal average wind at 850hPa. Moderate to strong wind from south to north-western anomalies of about 6m/s - 8m/s average wind speed was observed over central DRC, coastal Kenya and Tanzania.

Figure 2b: At the 700hpa level, western wind anomalies of 8m/s-14m/s dominated much of the northern region, the western part 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.

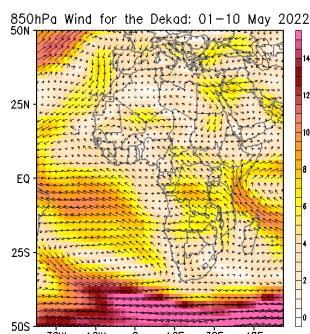


Figure 2a: Mean wind (m/s) at 850hPa from 1st to 10th April 2022
Source: NOAA/NCEP

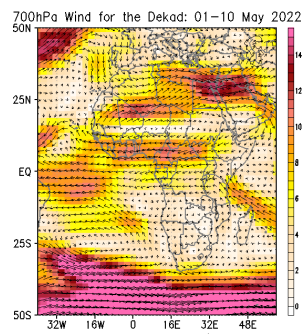


Figure 2b: Mean wind (m/s) at 700hPa from 1st to 10th May 2022
Source: NOAA/NCEP

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 and southern Africa that observed moderate wind speeds of about 6m/s-8m/s.

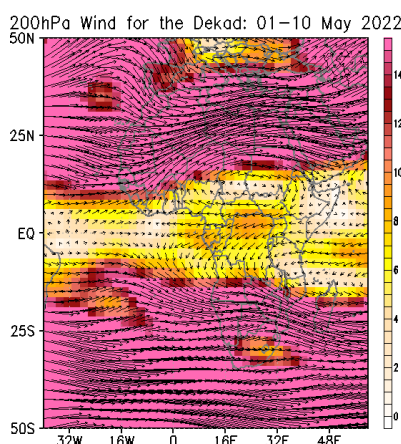


Figure 2c: Mean wind at 200 hPa (m/s) during the period 1st to 10th May 2022
(Source: NOAA/NCEP)

1.2.3 Relative Humidity (RH) at 850hPa

Figure 4 shows the dekadal observed relative humidity and anomalies at 850hPa pressure level for the first dekad of May 2022 for the reference period 1991-2020. Wet atmospheric conditions (relative humidity $\geq 60\%$) were observed over the northern edges of Morocco, Algeria, Tunisia, Uganda, western Kenya, Tanzania, north-western Angola, south-east of DRC, most of eastern SADC countries as well as most of the Gulf of Guinea countries. The rest of the continent observed RH values $\leq 60\%$.

Negative anomalies were observed during the second dekad of April 2022 over CAR, South-Sudan, Ethiopia, Kenya, Uganda, Rwanda, Burundi and DRC. Positive anomalies were recorded over the rest of the continent

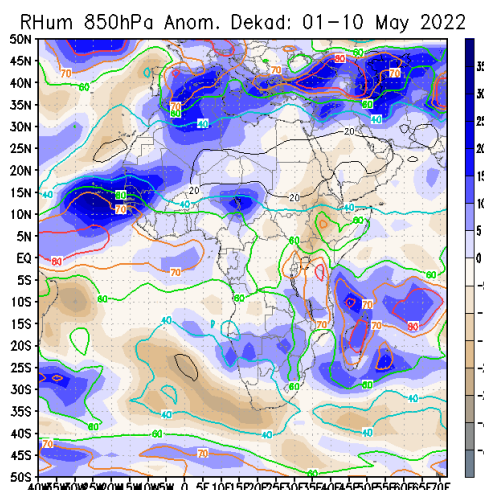


Figure 4. RH (%) at 850hPa (contour) and anomaly (shaded) during the period 1st to 10th May 2022

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.

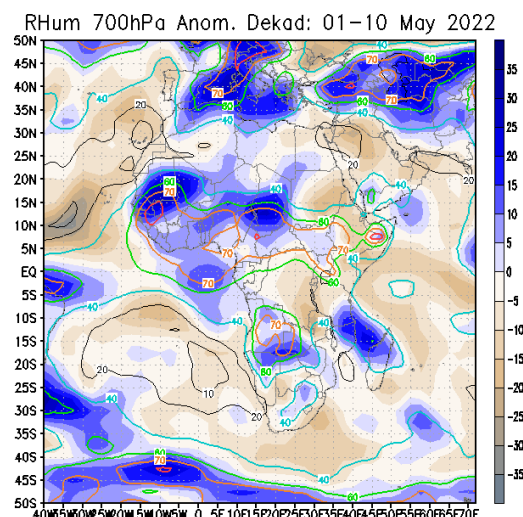


Figure 5. RH (%) at 700hPa (contour) and anomaly (shaded) during the period 1st to 10th May 2022
(SOURCE/. NOAA/. NCEP-CAR/. CDAS1)

2.0 PRECIPITATION

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

2.1 Precipitation

During the first dekad of May 2022, rainfall activities were observed over most central parts of the continent, west to east with above-average to well above-average rainfall conditions observed over Côte d'Ivoire, Ghana, southern Nigeria and CAR, central of Cameroon, much of Congo, western and eastern DRC, north-western Angola, most parts of South Sudan, northern Ethiopia, western Kenya, southern Uganda, much of Rwanda, Burundi, western Tanzania, and eastern Madagascar. Below-average to well below-average rainfall was recorded over northern Côte d'Ivoire, southern Burkina Faso, most parts of Benin, central western Nigeria, Cameroon, Gabon, CAR, DRC, Ethiopia, Somalia, Kenya, 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 parts of the region received near average rainfall, below-average to well below-average precipitation was observed over northern Côte d'Ivoire, northern Togo, north-eastern Benin, most of Nigeria, and above average to well above average rainfall conditions recorded over northern Ghana, north-western Côte d'Ivoire, Sierra Leone and eastern Guinea.
- **Central and West Africa countries:** most of Cameroon, north-western Congo, eastern CAR, central DRC, Gabon, Equatorial Guinea, most parts of Rwanda and north-western Angola, received below-average to well below-average precipitation. Above-average to well above-average precipitation

while was observed over south-eastern Cameroon, southern CAR, parts of DRC, southern Congo and Burundi.

- **East African countries:** parts of Ethiopia, much of South Sudan, south-eastern Uganda, eastern Kenya, parts of Tanzania and parts of Somalia observed above average to well above average rainfall conditions while western Kenya, central to southern parts of Ethiopia, northern central Tanzania, western Uganda and Rwanda observed below average to well below average rainfall conditions.
- **Southern Africa countries:** most parts of SADC region observed near average condition while over central Mozambique and Madagascar below average to well below-average rainfall conditions was observed.

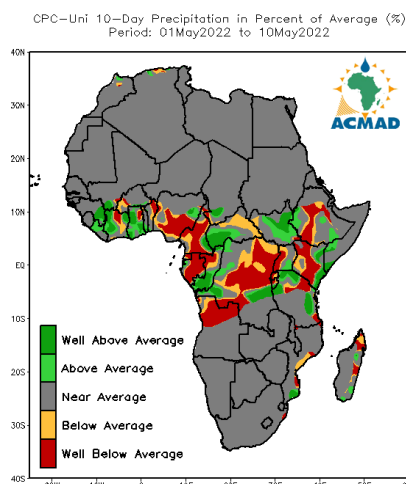


Figure 6: Precipitation in the percentage of the average for the first dekad 1th to 10th May 2022. The reference period used is 1991-2020. Source: NOAA/. NCEP/. CPC/. UNIFIED/. Africa/. DAILY/)

3.0 OUTLOOK RAINFALL VALID FOR 16 TO 29 MAY 2022

3.1 PRECIPITATION

The outlook for 16-29 May 2022, depict a general tendency of low to moderate precipitation over parts of North Africa, countries in the Gulf of Guinea, as well as parts of the central and Eastern African. During Week 1 to Week 2, moderate to heavy precipitation is expected over southern Liberia, Côte d'Ivoire, Ghana, Togo, Benin, Nigeria, Cameroon, CAR, Congo, DRC, Rwanda, Uganda, Tanzania, Kenya, Ethiopia and Madagascar. During the same period heavy precipitation is very likely over Cameroon, CAR, Congo and DRC.

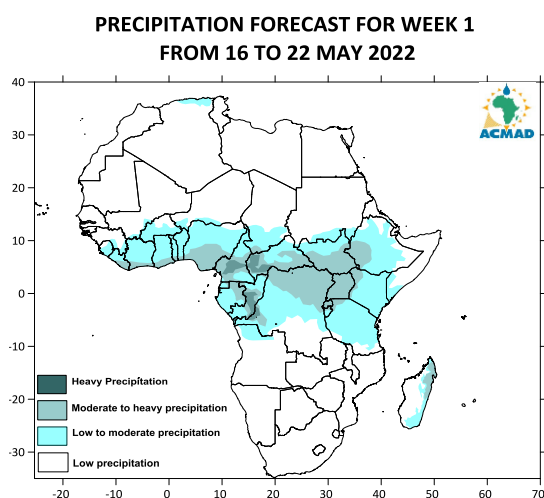


Figure 7a: Precipitation forecast for 16-22 May 2022

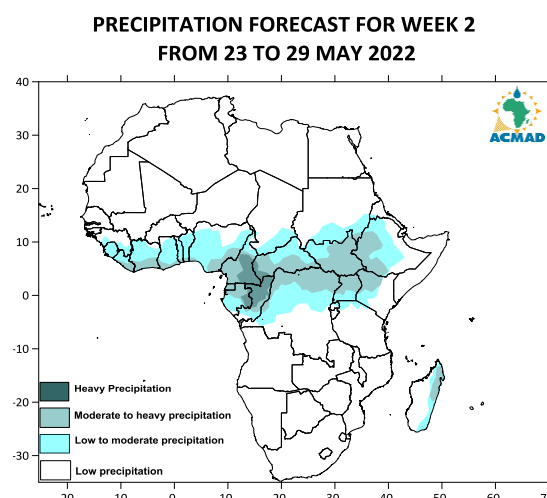


Figure 7b: Precipitation forecast for 23-29 May 2022