

Ten Days Climate Diagnostics Bulletin
N°05

Dekad 2, 11th to 20th February 2021

HIGHLIGHTS

During the second dekad of February 2021, above average and well above average rainfall were observed over most of the SADC region countries and some of the eastern Africa regions, guinea gulf countries, equatorial Guinea, and pocket areas of Morocco. Below average rainfall was observed over tip of northern Algeria and Tunisia, southern Cameroun, eastern Tanzania, west of Angola and Namibie, Swaziland and north-eastern South Africa. As the same period, near average rainfall was observed over the rest parts of the continent.

During the period from the 1st to 8th of March 2021, low to moderate precipitation is expected very likely over northern Morocco, Algeria and Tunisia, south of Gulf of Guinea countries, central part of Cameroun, CAR, north of DRC, most of Angola, eastern Namibie, South of Botswana, Ouganda, Kenya, southern Ethiopia and eastern half of Madagascar. Moderate to heavy precipitation is very likely over southern tip of Gulf of Guinea countries, central and southern DRC, central Tanzania, western zamibie, northern Botswana and southern Madagascar. Heavy precipitation is very likely across north-estern Zamibie, Malawi, Mozambique, Swaziland and northern Madagascar.

As the same period, the positive anomaly temperature is expected across the north-western Africa region, Central Africa, Eastern Africa region and southern and south-western parts of the continent. The negative temperature anomaly is very likely over Niger, TChad, Sudan, most of Angola, southern DRC, Botswana, Malawi, Zimbabwe, Mozambique, northern part of South Africa and Swaziland.

During the period from the 9th to 16th March 2021, low to moderate precipitation is expected across central DRC, Ouganda, Angola, Namibia, Botswana, and eastern half of Madagascar. Moderate to heavy precipitation is very likely over south top of Ivory, Togo, Nigeria, Cameroun and most of Equatorial Guinea, northern Gabon, northern and southern DRC, southern CAR, Tanzania, Mozambique, northern Botswana, Swaziland and north and eastern Madagascar. Heavy precipitation is very likely over across most south west of Tanzania, Zamibie, Malawi, northern Zimbabwe and eastern Madagascar.

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 on the troposphere and gives a brief on monsoon and relative humidity thresholds.

1.1 SURFACE

Pressure Systems

- **The Azores High** of 1026 hPa weakend to 1hPa compared to the previous dekad and strengthened to 3hPa compared to the climatological means (1981-2010). It was located at 2°E and 36°N. It moved eastward compared to the climatology position over the North Atlantic Ocean.
- **St. Helena High** of 1026 hPa strengthened to 4hPa compared to the previous dekad and strengthened to 6 hPa compared to the climatological mean (1981-2010). It was located at 34°W and 46°S; it was at the north western to the climatological position over South Atlantic Ocean.
- **Mascarene High** of 1025hPa which shows no significant change from previous dekad, but strengthened to 4hPa compared to the climatological means (1981-2010). It was located at 69°E and 36°S, it moved westward form the climatological position over the Indian Ocean.
- **Libyan High of 1019 hPa** weakend to 5hPa compared to the the previous dekad and strengthened to 1hpa form climatical means (1981-2010). It was located over Libya at 2°E and 36°N. It moved eastward form its climatological position.
- **Heat Low** with 1005 hPa weakend to 2 hpa compared to the previous dekad and to the climatological means (1981-2010). It was located over South Sudan at 31°E and 7°N. It situated close to its climatological position.

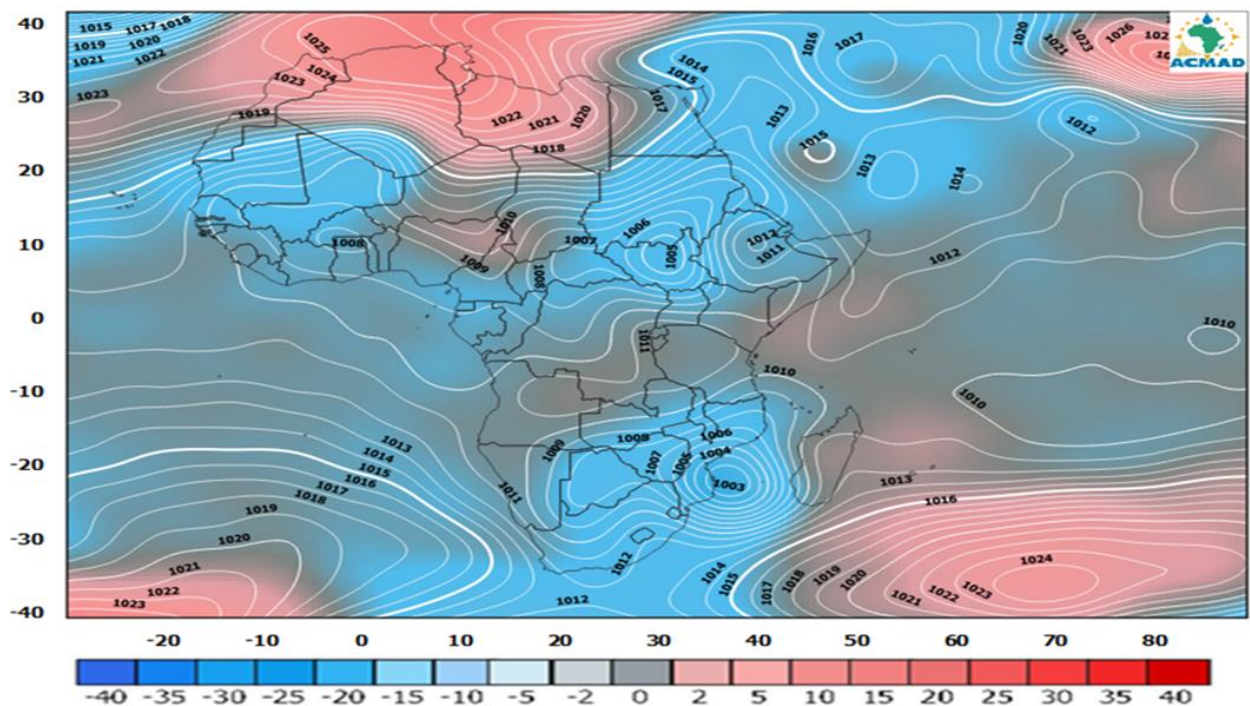


Figure 1. Observed Mean Sea Level Pressure (Contour) and anomaly (shaded) during the period from 10th to 20th February 2021

1.2 TROPOSPHERE

1.2.1 African Monsoon

In figure 2, the left pannel shows the average wind velocity during the second dekad of February at 850 hPa atmospheric level. As depicted in the map, strong easterlies and north-easterlies were observed over over Morocco, Mauritania, mali, Algeria, Niger Tchad, Libya and sudan. While strong westerlies dominated over Zamibie, Mozambique, Swaziland and Madagascar. The weak wind from western and north western were observed over Egypt and Mali while the north eastern wind was observed over Nageria, Cameroun, CAR, Zamibie, and Zembabwe.

The right pannel of figure 2 shows the observed mean dekadal wind velocity at 700 hPa. The figure indicates a moderate to strong westerly wind over Mauritania, Mali, Niger, Morocco, Algeria, Tunisia,

Libya, Egypt and Sudan. While north easterlies were observed over DRC, Zamibie, and Mozambique. The weak wind from north-eastern and eastern was observed over the rest of the continent.

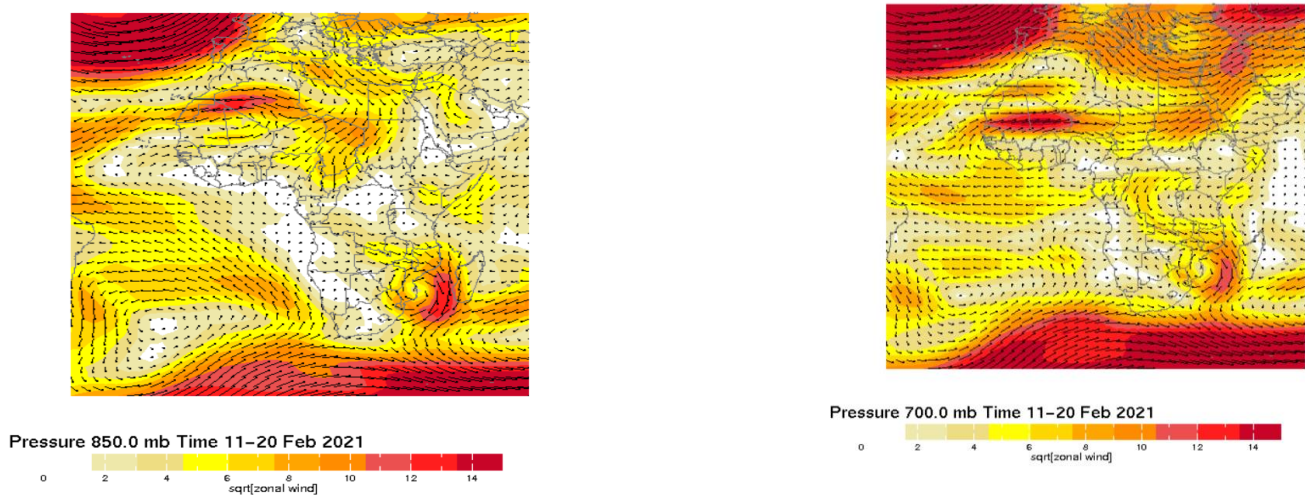


Figure 2: Mean wind at 850 hpa (m/s) during the period from 10th to 20th Feb 2021.
Source: NOAA/NCEP

Figure 2: Mean wind at 700 hpa (m/s) during the period from 10th to 20th Feb 20212021.
Source: NOAA/NCEP

1.2.3 Relative Humidity (RH) at 850 hPa

Figures 4 presents the dekadal mean of relative humidity at 850 hPa for second dekad of February 2021 and anomalies compared to the reference period 2002-2011. Wet atmospheric conditions ($RH \geq 60\%$) were observed over SADC region and some parts os the eastern Africa regions while the dry air (humidity relative between 20 and 50%) was observed over the rest of the continent.

The relative humidity anomalies for the second dekad of February 2021 were negative over Morocco, Burkina Faso, Benin, Nigeria, CAR, south Sudan, Eritrea, west Ethiopia and northern DRC. The anomalies were determined based on the reference period: 2002-2011.

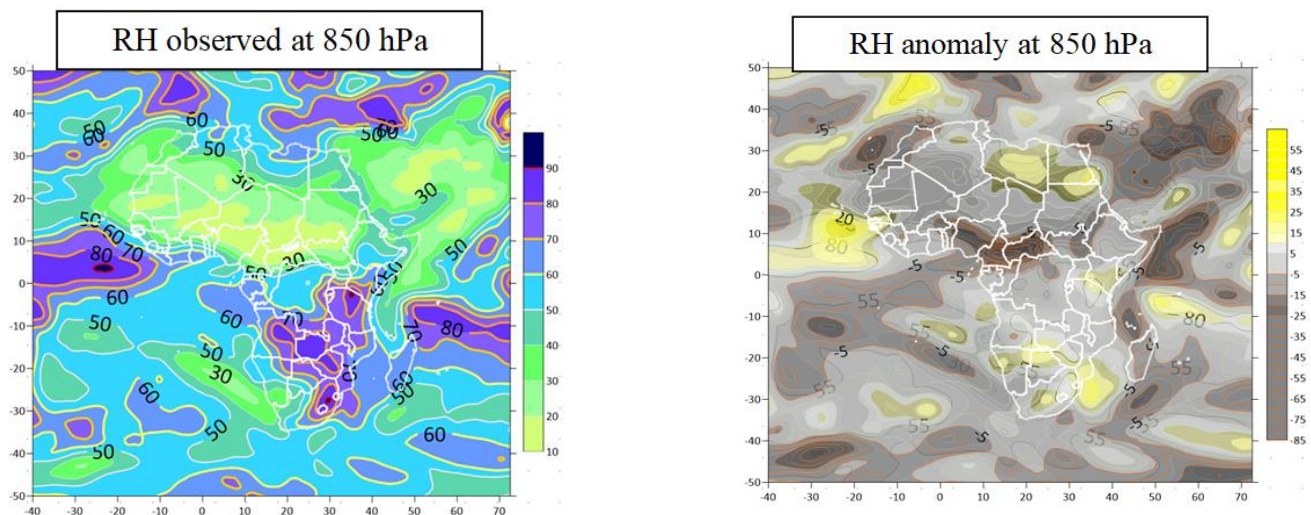


Figure 4. RH (%) at 850hPa (contour) and anomaly (shaded) during the period from 10th to 20th February 2021.SOURCE/. NOAA/. NCEP-CAR/. CDAS1

1.2.4 Relative Humidity at 700hPa

Figure 5 presents the dekadal mean and anomalies of relative humidity at 700 hPa. The figure shows that the wet relative humidity with values $\geq 60\%$ at 700hPa were observed over southwestern Ethiopia and Kenya, Rwanda, Brundi, Tanzania, Zamibie, south Angola, north Namibie, Botswana and Madagascar. Dry air (humidity relative between 20 and 50%) was observed over the rest of continent.

The relative humidity anomalies for the second dekad of February 2021 were negative over Morocco, Mauritania, Algeria, Tunisia, Egypt, CAR, south Sudan, Angola and western Namibie. The anomalies were determined based on the reference period: 2002-2011

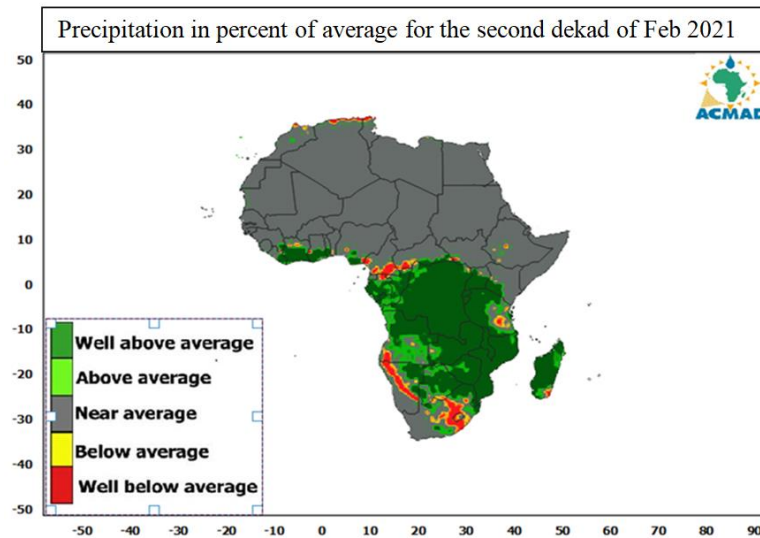


Figure 6: Precipitation in percent of average for second dekade of February 2021. The reference period used is 1981-2010. Source: NOAA/. NCEP/. CPC/. FEWS/. Africa/. DAILY/)

3. OUTLOOK FOR PRECIPITATION, AIR TEMPERATURE AND SOIL MOISTURE

3.1 PRECIPITATION

During the period from the 1st to 8th of March 2021, low to moderate precipitation is expected very likely over northern Morocco, Algeria and Tunisia, south of Gulf of Guinea countries, central part of Cameroun, CAR, north of DRC, most of Angola, eastern Namibie, South of Botswana, Ouganda, Kenya, southern Ethiopia and eastern half of Madagascar. Moderate to heavy precipitation is very likely over southern tip of Gulf of Guinea countries, central and southern DRC, central Tanzania, western zamibie, northern Botswana and southern Madagascar. Heavy precipitation is very likely across north-estern Zamibie, Malawi, Mozambique, Swaziland and northern Madagascar.

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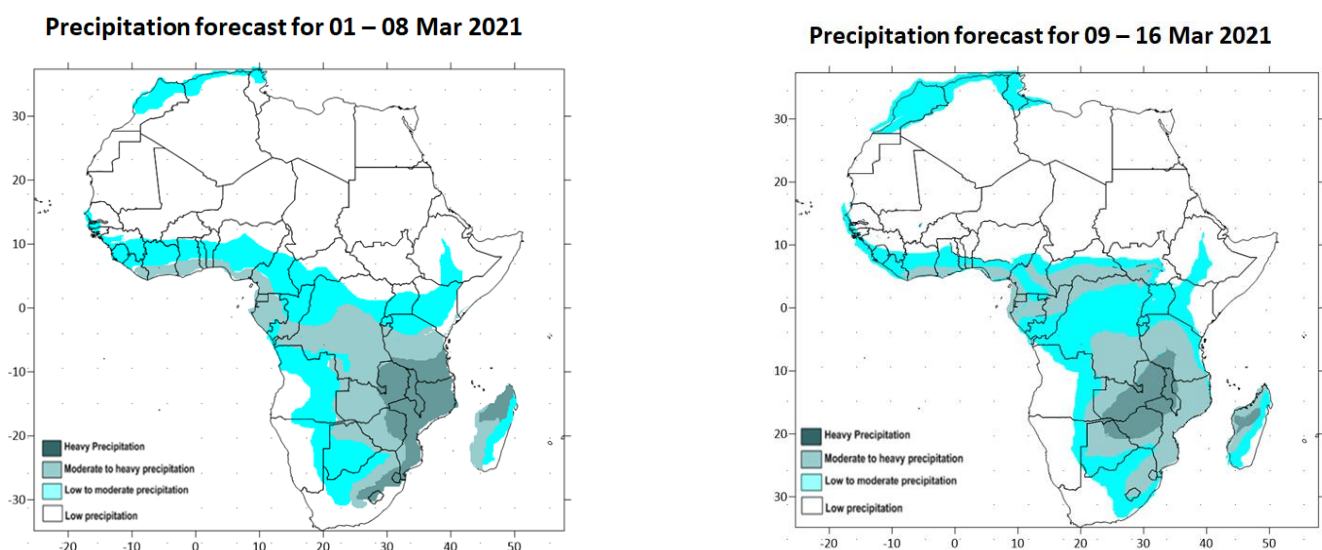


Figure 7: Precipitation forecast for week one (left pannel) and week two (right pannel) (Source: ACMAD)

3.2 Temperature

Figure 8 presents the temperature anomalies prospected for the week from the 24 February to 04 March 2021. This figure shows that positive anomaly temperature is expected across the north-western Africa region, Central Africa, Eastern Africa region and southern and south-western parts of the continent. The negative temperature anomaly is very likely over Niger, TChad, Sudan, most of Angola, southern DRC, Botswana, Malawi, Zimbabwe, Mozambique, northern part of South Africa and Swaziland.

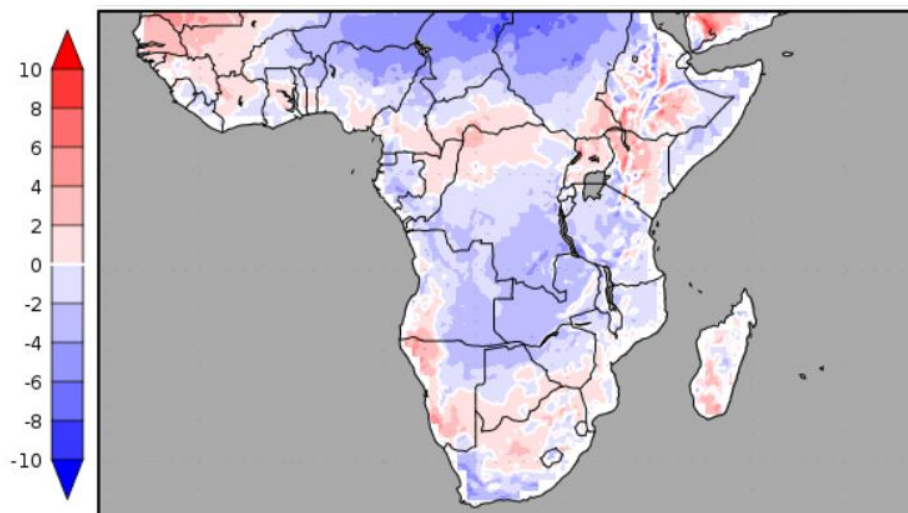


Figure 8: Temperature anomalies prospected from 24 February to 04 March 2021
(Source: COLA)

3.3 Soil Moisture

Figure 9 shows soil moisture anomalies prospect for the week from 24 February to 04 March 2021. The map indicate that during this period an increase in soil moisture is expected over south-western Mali, Sierra Leone, Equatorial Guinea, Liberia, Gabon, southern DRC, eastern half of Angola, north-eastern Namibie, northern part of south Africa, Rwanda, north-eastern Tanzania, Kenya and the Rift Valley of Ethiopia. The rest of the area represented in this figure could indicate dry soil moisture.

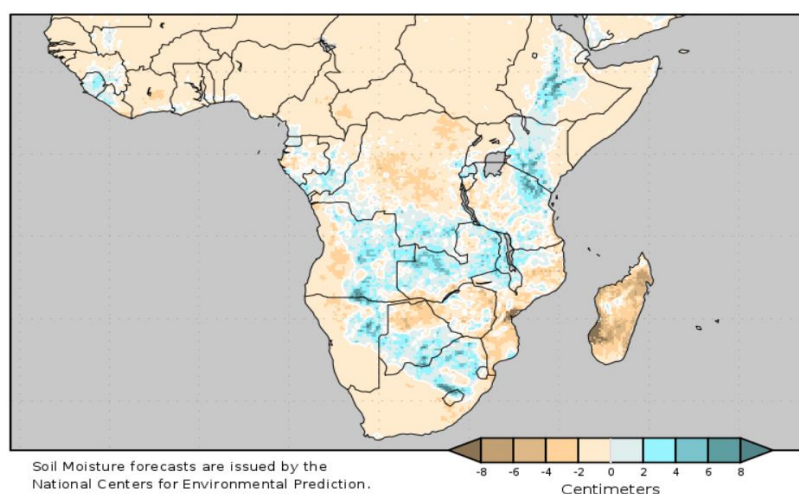


Figure 9: Soil moisture change prospected for the period 24 February to 04 March 2021
(Source: COLA)