



Ten Days Climate Diagnostics Bulletin
N°5

Dekad 2, 11st to 20th february 2020

HIGHLIGHTS

During the second dekad of February, below average to well below average rainfall was observed over northernmost of Morocco, south-easternmost of Cameroon, northern and western parts of Gabon, northern Congo, DRC, much of Rwanda, southern Zambia, western Botswana, and most of eastern parts of South Africa.

As the same period above average to well above average rainfall was observed over southern Congo, central and southern DRC, southern Burundi, Uganda, much of Tanzania, Southern Africa region and Madagascar.

During the period from the 25th February to 2nd March 2020, low to moderate precipitation will be likely over southern Congo, central and southern DRC, western Uganda, much of Rwanda, western and central Tanzania, most parts of Angola, southern Zambia, northern Mozambique and Zimbabwe, much of Botswana, central and southern parts of Madagascar. Moderate to heavy precipitation is very likely over, southernmost of Congo, south-western and southern-eastern DRC, westernmost of Tanzania, south-eastern Zambia, southern Malawi, northern Angola, Mozambique and Madagascar. Heavy precipitation is very likely over south-western and southern-easternmost of DRC, southernmost of Tanzania, northern Zambia, Malawi, northernmost of Mozambique.

During the period from the 3rd to 9th of March, 2020 low to moderate precipitation will be very likely over most parts of Congo, central and southernmost of DRC, much of Burundi, Rwanda, southern Kenya, most part of Tanzania, Zambia, central of Malawi, Madagascar, northern Mozambique and Angola, western Zimbabwe and north-eastern Botswana. Moderate to heavy precipitation is very likely over southern DRC, Tanzania, northern Malawi, Madagascar and northernmost of Mozambique. Heavy Precipitation will be likely over, south-western and southern-eastern DRC, southernmost of Tanzania and northernmost of Zambia.

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

Figure 1 shows the map of decadal mean (isolines) and anomalies (colour) MSLP observed from NCEP reanalyses during the third dekad of November 2019.

- **The Azores High** of 1028hPa strengthened by 4hPa compared to the previous dekad and 4hPa with respect to the climatological means (1981-2010). It was located at 30°W and 34°S; it was in the north to the climatology position over the North Atlantic Ocean.
- **St. Helena High** of 1022hPa strengthened by 1hPa compares to the previous dekad and 4hPa with respect to the climatological means (1981-2010). It was located at 14°W and 33°S of its in the west to the climatological position over South Atlantic Ocean.
- **Mascarene High** of 1022hPa weakened by 2hPa compares to the previous dekad and strengthened by 1hPa to the climatological mean (1981-2010). It was located at 96°S and 34°E, in the east of its climatological position over the Indian Ocean.
- **Heat Low** with 1008hPa, deepened to 1hPa compared to the previous dekad, and the climatological mean (1981-2010). It located at 30°N and 6°E over center south sudan over west to the climatological position.

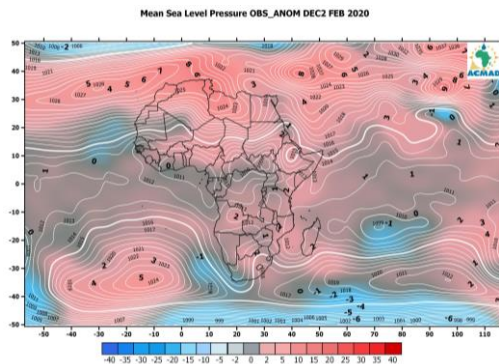


Figure 1. Observed Mean Sea Level Pressure (Contour) and anomaly (shaded) during the period from 11st to 20th february 2020. Source: NOAA/NCEP

1.2 TROPOSPHERE

1.2.1 African Monsoon

Figure 2a shows the average wind dekadal at 850 hPa, from a easterly wind with the moderate intensity was observed over southern Morocco, Libya, central Algeria, northern Mauritania, Mali, Niger, and Chad. The rest of Continent, a weak winds was observed.

Figure 3b shows the observed dekadal mean wind at 700 hPa. The figure indicates a moderate to strong westerly wind over southern Mauritania, central Mali, Niger, Chad, northern Sudan.

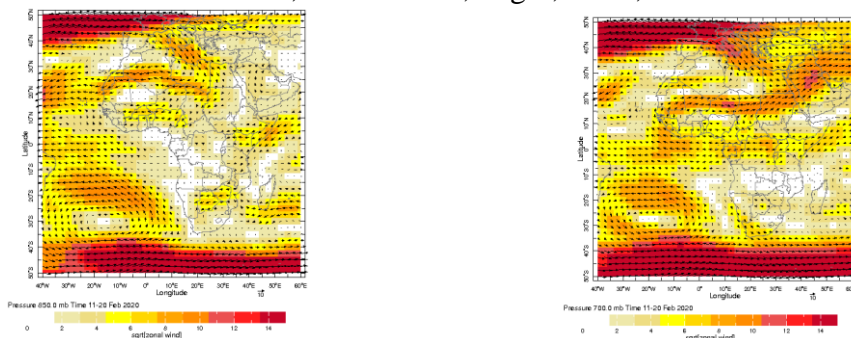


Figure 2a: Mean wind at 850 hPa (m/s) during the period from 11st to 20th february 2020. (Source: NOAA/NCEP).

Figure 2b: Mean wind at 700 hPa (m/s) during the period from 11st to 20th february 2020. (Source: NOAA/NCEP).

1.2.2 Wind at 200 hPa.

Figure 3 shows the wind speed and direction at 200 hPa. During the second of February 2020, strong westerly winds prevailed over northern Africa, Sahel Regions northern Guinea Gulf and South Africa. Moderate to weak winds were observed over the rest of the continent.

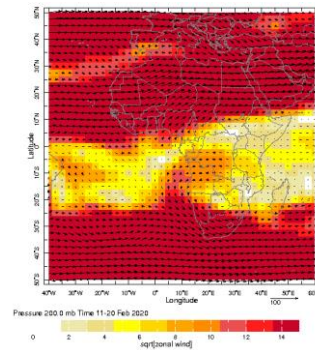


Figure 3: Mean wind at 200 hPa (m/s) during the period from 1st to 10th february 2020. (Source: NOAA/NCEP)

1.2.5 Relative Humidity (RH) at 850 hPa

Figure 4 presents the dekadal mean and anomalies of relative humidity at 850 hPa. Wet atmospheric conditions (humidity relative $\geq 60\%$) were observed over north-eastern Libya, northern Egypt, southern of Central Africa and Eastern Africa region, most parts of Southern Africa, Comoros, Mauritius and Reunion Island. Dry air (humidity relative between 20 and 40%) was observed over the rest of Continent.

The RH anomalies for the second of february 2020 were positive over the Continent, and negative anomalies of RH were observed over Sahel, Guinea Gulf and northern parts of Central Africa and Eastern Africa region . The anomalies were determined based on the reference period 2002-2011.

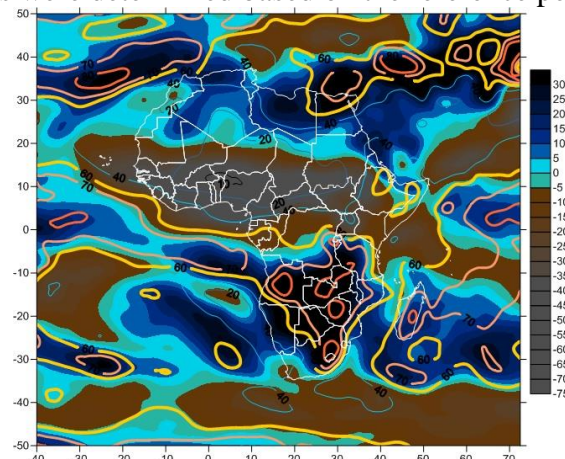


Figure 4. RH (%) at 850hPa (contour) and anomaly (shaded) during the period from 11st to 20th february 2020.SOURCE/. NOAA/. NCEP-CAR/. CDAS1)

1.2.6 Relative Humidity at 700hPa

Figure 5 presents the dekadal mean and anomalies of relative humidity at 700 hPa. The figure shows that the High RH with values $\geq 60\%$ at 700hPa were observed over, southern parts of the Central Africa, East Africa, much of Southern Africa region. Elsewhere over the continent, RH with values $\leq 40\%$ were observed.

The RH anomalies for the second dekad of february 2020 were positive over most of southern parts Africa. The negative relative humidity were observe over Northern Africa, Western Africa, northern and southern parts of Central Africa and eastern parts of the Corn of Africa . The anomalies were determined based on the reference period: 2002-2011

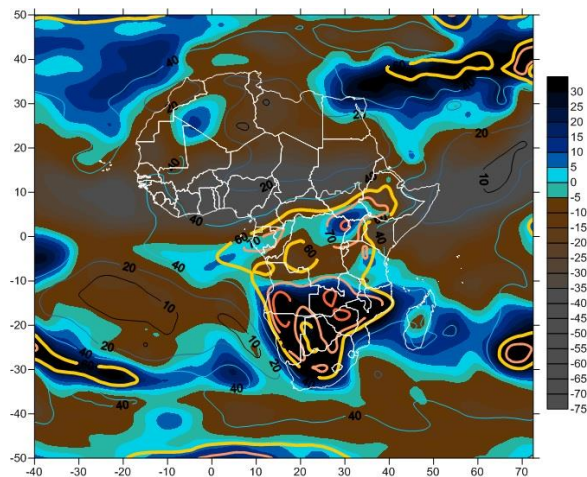


Figure 5. RH (%) at 700hPa (contour) and anomaly (shaded) during the period from 11st to 20th february 2020. (SOURCE/. NOAA/. NCEP-CAR/. CDAS1)

2.0 PRECIPITATION

Figure 6 shows the observed precipitation estimate in percentage of average for the second dekad of February 2020.

2.1 Precipitation

During the second dekad of February, below average to well below average rainfall was observed over northernmost of Morocco, south-easternmost of Cameroon, northern and western parts of Gabon, northern Congo, DRC, much of Rwanda, southern Zambia, western Botswana, and most of eastern parts of South Africa.

As the same period, above average to well above average rainfall was observed over southern Congo, central and southern DRC, southern Burundi, Uganda, much of Tanzania, Southern Africa region and Madagascar.

Details:

- **North Africa:** Observed generally to well below average precipitations over northernmost Morocco.
- **The Sahel** Observed near average precipitations.
- **Gulf of Guinea countries** observed near average precipitations.
- **Central Africa countries** Observed Above average to well above average precipitations were southern Congo, central and southern DRC, and below average were observed over south-easternmost of Cameroon, northern and western parts of Gabon, northern Congo, DRC
- **East Africa countries** Observed above to well above average precipitations over south-western Uganda most part of Tanzania, Rwanda, and Burundi.
- **Southern Africa countries** observed above to well above average precipitations Southern Africa region and Madagascar , and below to well below average southern Zambia, western Botswana, and most of eastern parts of South Africa. .

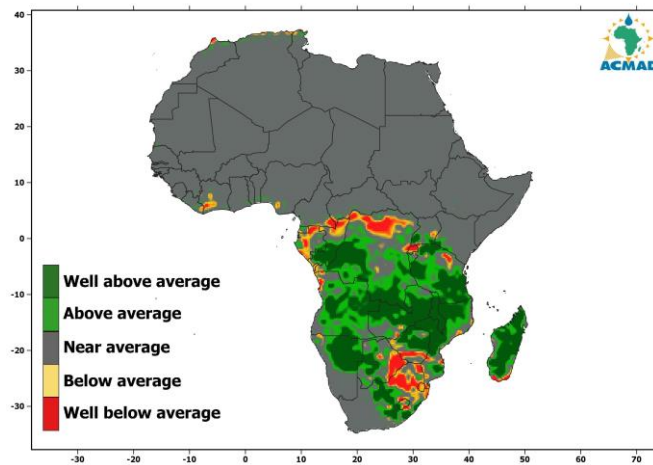


Figure 6: Precipitation in percent of average for first decade 11st to 20st february 2020. The reference period used is 1981-2010. Source: NOAA/. NCEP/. CPC/. FEWS/. Africa/. DAILY/)

3. Outlook valid from

3.1 PRECIPITATION

During the period from the 25th February to 2nd March 2020, low to moderate precipitation is expected very likely over southern Congo, central and southern DRC, western Uganda, much of Rwanda, western and central Tanzania, most parts of Angola, southern Zambia, northern Mozambique and Zimbabwe, much of Botswana, central and southern parts of Madagascar. Moderate to heavy precipitation is very likely over, southernmost of Congo, south-western and souther-eastern DRC, westernmost of Tanzania, south-eastern Zambia, southern Malawi, northern Angola, Mozambique and Madagascar. Heavy precipitation is very likely over south-western and south-easternmost of DRC, southernmost of Tanzania, northern Zambia, Malawi, northernmost of Mozambique.

During the period from the 3rd to 9th of March, 2020 low to moderate precipitation will be observed over most parts of Congo, central and southernmost of DRC, much of Burundi, Rwanda, southern Kenya, most part of Tanzania, Zambia, central of Malawi, Madagascar, northern Mozambique and Angola, western Zimbabwe and north-eastern Botswana. Moderate to heavy precipitation is very likely over southern DRC, Tanzania, northern Malawi, Madagascar and northernmost of Mozambique. Heavy Precipitation will be likely over, south-western and south-eastern DRC, southernmost of Tanzania and northernmost of Zambia.

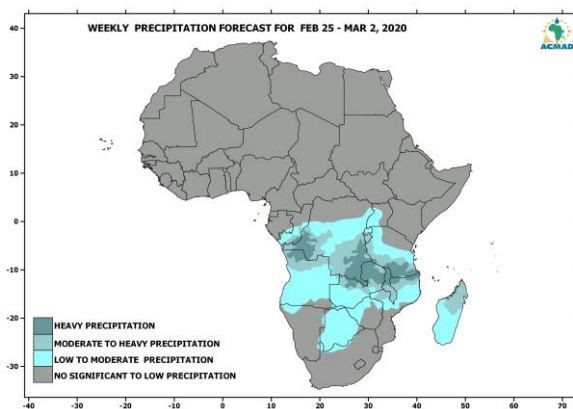


Figure 7a: Precipitation forecast from 25th to February to 2nd March 2020. (Source: ACMAD)

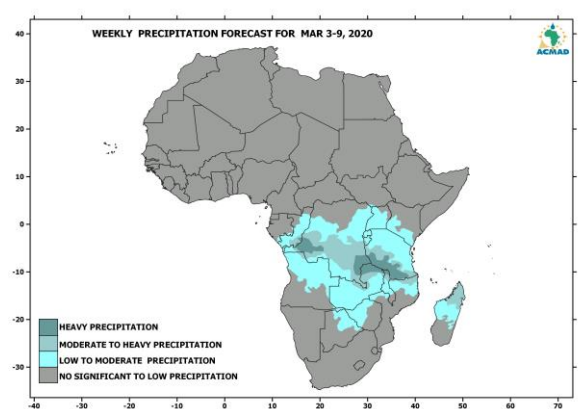


Figure 7b: Precipitation forecast from 3rd to 9th March 2020. (Source: ACMAD)

3.2 Temperature

Figure 8 presents the temperature anomalies prospected for the week from the 25th February to 4th March 2020. The figure shows that positive anomaly temperature is expected over western of Sahel region, much of Guinea Gulf, southern Chad, much of Cameroon, Congo, CAR, northern DRC, central parts of East Africa, south-western Angola, western and southern Namibia, western South Africa. The negative temperature anomaly is very likely over southern Sahel region, Central Africa Countries, much of Tanzania Burundi and Rwanda as well as South Africa and Madagascar.

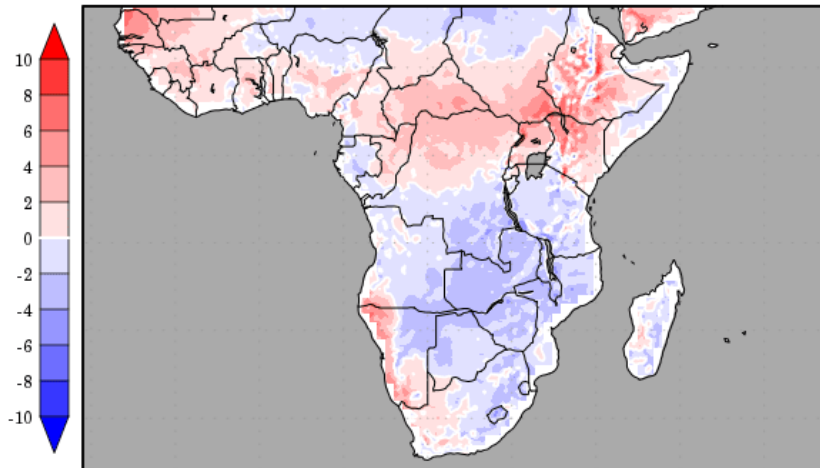


Figure 8: Temperature anomalies prospected from 25th February to 4th March 2020
(Source: COLA)

3.3 Soil Moisture

Figure 9 shows soil moisture anomalies prospect for the week from 25th February to 4th March 2020. The figure indicates that during this periode an increase in soil moisture is expected over southern Guinea Gulf Countries, western and southern Cameroon, much of Guinea Equatorial, Gabon, Congo, western DRC, most parts of Rwanda, Burundi, Tanzania, Zambia, southern Angola, Botswana, Namibia and South Africa . The rest of the area represented in this map could indicate dry soil moisture.

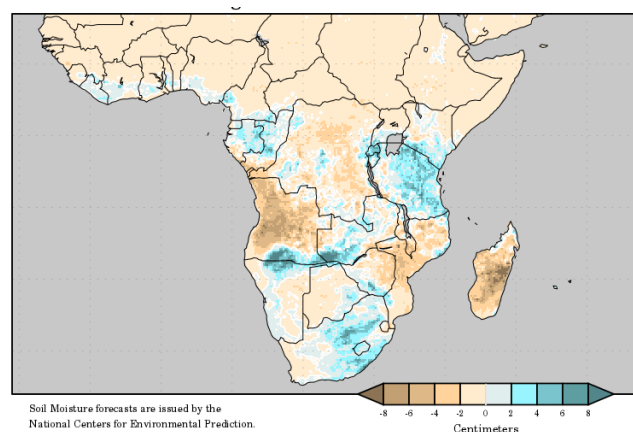


Figure 9: Soil moisture change prospected for the period from 25th February to 4th March 2020
(Source: COLA)