



### HIGHLIGHTS

*Above to well above average precipitation was observed over northern Morocco, Algeria and Tunisia, southern Cameroon, CAR, northern Gabon and Congo, much of DRC, western and southern Tanzania, north of Zambia, Malawi and Mozambique, central of Angola, Botswana and South Africa.*

*Below to well below average precipitation was observed over south-western Gabon, Congo, southern Uganda, northern and eastern Tanzania, north-western and south-eastern Angola, southern Zambia, and northern Namibia, much of Zimbabwe, north-eastern South Africa, southern Mozambique and most parts of Madagascar.*

*During the period from 13<sup>th</sup> to 19<sup>th</sup> February 2019, low to moderate precipitation is likely over northern Morocco, Algeria and Tunisia, southern parts of Gulf of Guinea, southern Cameroon, much of Guinea Equatorial, northern Gabon, Congo, much of DRC, central and southern Tanzania, most parts of Angola, Zambia and Malawi, northern Mozambique, western Botswana, South Africa and western and eastern Madagascar. Moderate to heavy precipitation is likely over central of DRC, much of Rwanda, western Tanzania, southern Mozambique, much of Zimbabwe, eastern Botswana, central parts of South Africa and Madagascar. Heavy precipitation is likely over eastern part of South Africa.*

*During the period from 20<sup>th</sup> to 26<sup>th</sup> February, low to moderate precipitation is very likely over northern Morocco, Algeria and Tunisia, southern Gulf of Guinea countries, southern Cameroon and CAR, much of Guinea equatorial and Gabon, north-western DRC, south-western South Sudan, southern part of Uganda, most of Tanzania, northern and eastern of Southern Africa region and northern and eastern part of Madagascar. Moderate to heavy precipitation is likely over Congo, DRC, Rwanda, Burundi, western Tanzania, northern Zambia, Malawi and southern Madagascar. Heavy precipitation is likely over south-western DRC and central western Tanzania.*

# 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

### 1.1.1 Pressure Systems

- **The Azores High** of 1026hPa weakened by 2hPa compared to the previous dekad and strengthened by 4hPa with respect to the climatological mean (1981-2010). It was located at 36°N and 21°W, in west of its climatological position over North Atlantic Ocean.
- **St. Helena High** of 1021hPa weakened by 2hPa compared to the previous dekad and strengthened by 7hPa with respect to the climatological mean (1981-2010). It was located at 31°S and 1°E, in east of its climatological position over South Atlantic Ocean.
- **Mascarene High** of 1027hPa strengthened by 2hPa compared to the previous dekad and by 7hPa with respect to the climatological mean (1981-2010). It was located at 37°S and 94°E, south of its climatological position over Indian Ocean.
- **Thermal Low** of 1007hPa stable compared to the previous dekad and climatological mean (1981-2010). It was located at 7°N and 30°E over southern Sudan, west of its climatological position.

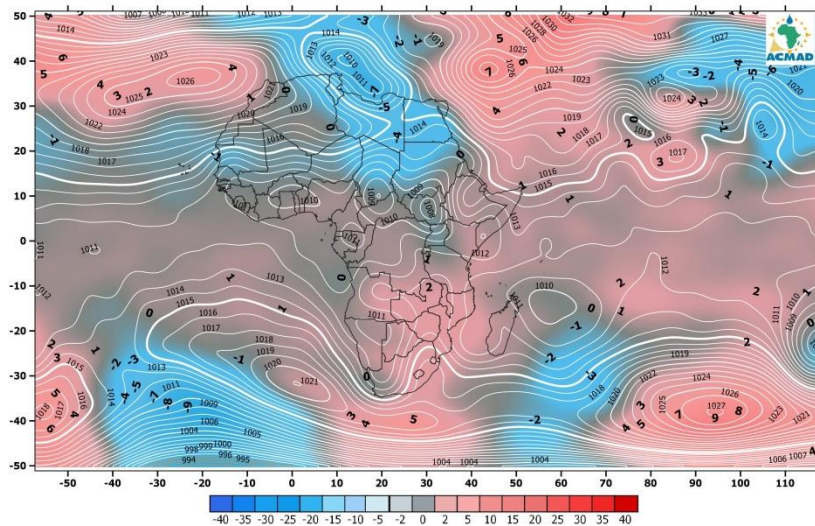


Figure 1. Observed Mean Sea Level Pressure (Contour) and anomaly (shaded) during the period from 1<sup>st</sup> to 10<sup>th</sup> February, 2019(Source NOAA/NCEP)

## 1.2 TROPOSPHERE

### 1.2.1 African Monsoon

At 850hPa level (Figure 3a), moderate winds from north-westerlies were observed over northern Algeria, Tunisia and Libya, the moderate wind from easterlies were observed over northern Mauritania, southern Morocco and western Algeria. Moderate winds easterlies prevailed over Somalia, south-eastern Ethiopia, much of Kenya.

At 700 hPa level, moderate to strong north westerly winds were observed over Northern Africa and Sahel regions. Moderate easterlies prevailed over Gulf of Guinea countries, CAR, DRC, Congo, Gabon, and Somalia. (Figure 3b).

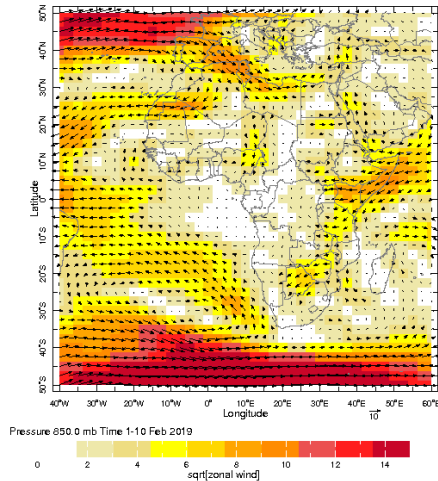


Figure 3a: Mean wind at 850 hPa (m/s) during the period from 1<sup>st</sup> to 10<sup>th</sup> February, 2019 (Source: NOAA/NCEP).

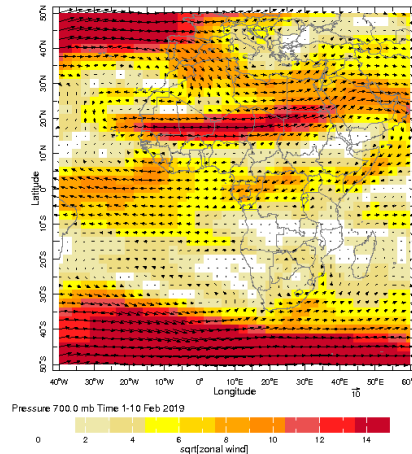


Figure 3b: Mean wind at 700 hPa (m/s) during the period from 1<sup>st</sup> to 10<sup>th</sup> February, 2019 (Source: NOAA/NCEP).

Fig. 4a: Dekadal Dust loading (g/m<sup>2</sup>) 1<sup>st</sup> to 10<sup>th</sup> February 2018 (Source: WMO SDS-WAS: BSC-DREAM8b)

Fig. 4b : Surface Dust Concentration (µg/m<sup>3</sup>) 1<sup>st</sup> to 10<sup>th</sup> February 2018 (Source: WMO SDS-WAS: BSC-DREAM8b)

### 1.2.2 Wind at 200 hPa.

During the first dekad of February 2019, strong westerly winds prevailed over North Africa countries, the Sahel, Gulf of Guinea, Central Africa, central parts of the Eastern countries, Namibia, Botswana, South Africa, Madagascar and southern Mozambique at 200hPa. Moderate to weak winds prevailed over the rest of the continent.

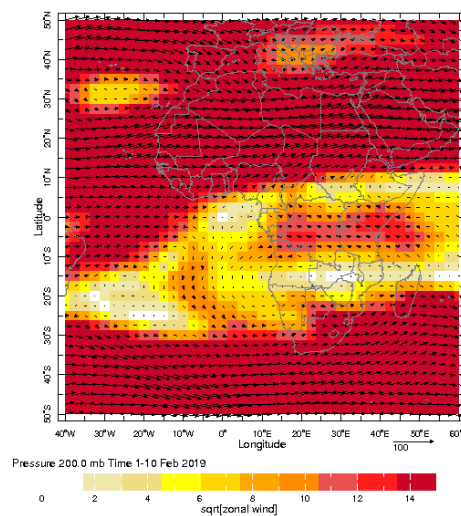


Figure 5: Mean wind at 200hPa (m/s) during the period from 1<sup>st</sup> to 10<sup>th</sup> February, 2019 (Source: NOAA/NCEP)

### 1.2.5 Relative Humidity (RH) at 850 hPa

At 850hPa level (Figure 6), higher RH values ( $\geq 60\%$ ) were observed over northern Algeria and Tunisia, southern Gulf of Guinea, southern Central Africa, Tanzania, Angola, Zambia, Mozambique, South Africa, Madagascar Comoros, Mauritius and Reunion Islands during the first dekad of February 2019. Low RH values ( $\leq 40\%$ ) were recorded over most parts of North Africa and the Sahel.

The RH anomalies for the first dekad of February 2019 (Figure 6) were positive over most parts of the continent, except over Morocco, western Algeria and Egypt, eastern Libya and Mali, northern Sudan, much of Uganda, western and southern Kenya, central and eastern Tanzania, southern Angola, Zambia, Malawi, central of Mozambique and most part of Namibia, where negative anomalies of RH were observed. The anomalies were determined based on the reference period 2002-2011.

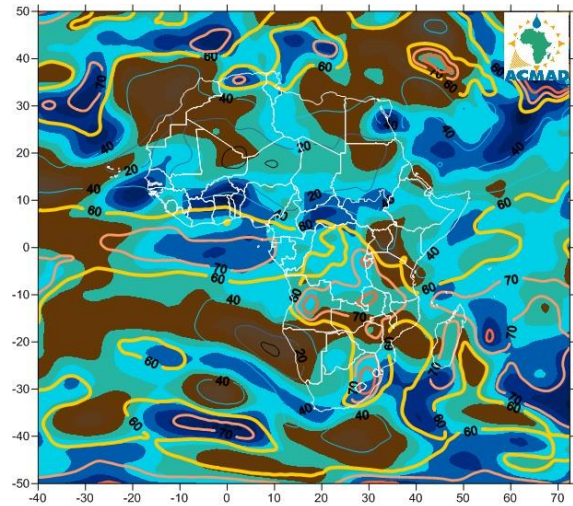


Figure 6. RH (%) at 850hPa (contour) and anomaly (shaded) during the period from 1<sup>st</sup> to 10<sup>th</sup> February, 2019.(SOURCE/.NOAA/.NCEP-CAR/.CDAS1)

### 1.2.6 Relative Humidity (RH) at 700hPa

High RH with values  $\geq 60\%$  at 700 hPa in Figure 7 were observed over central and southern parts of Central Africa, southern Eastern Africa and most of the south part of Southern Africa countries. Elsewhere over the continent, RH with values  $\leq 50\%$  were observed.

The RH anomalies for the third dekad of February 2019 (Figure 7) were positive over most parts of the continent, except over Morocco, Algeria, northern Mauritania, Mali, Niger, Senegal, Gambia, Guinea Bissau, Guinea, Sierra Leone, Uganda, Kenya, Angola, Zambia, Mozambique, Namibia and Madagascar where negative anomalies were recorded. The anomalies were determined based on the reference period: 2002-2011.

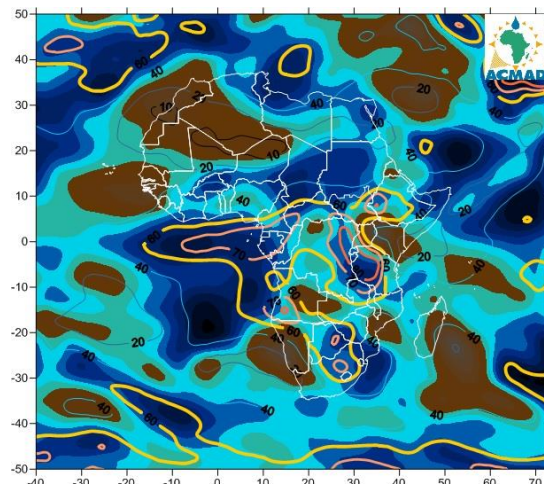


Figure 7. RH (%) at 700hPa (contour) and anomaly (shaded) during the period from 1<sup>st</sup> to 10<sup>th</sup> February, 2019.(SOURCE/.NOAA/.NCEP-CAR/.CDAS1)

## 2.0 PRECIPITATION

Figure 8 shows the observed precipitation estimate in percentage of average for the 1<sup>st</sup> dekad of February 2019.

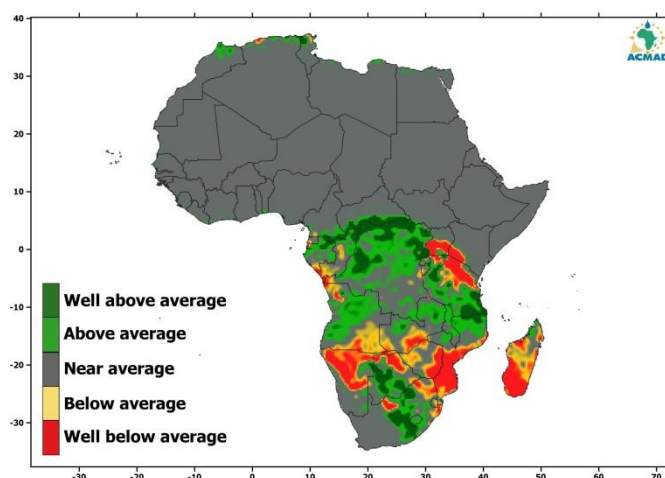
### 2.1 Precipitation

Above to well above average precipitation was observed over northern Morocco, Algeria and Tunisia, southern Cameroon, CAR, northern Gabon and Congo, much of DRC, western and southern Tanzania, north of Zambia, Malawi and Mozambique, central of Angola, Botswana and South Africa.

Below to well below average precipitation was observed over south-western Gabon, Congo, southern Uganda, northern and eastern Tanzania, north-western and south-eastern Angola, southern Zambia, and northern Namibia, much of Zimbabwe, north-eastern South Africa, southern Mozambique and most parts of Madagascar.

#### Details:

- **North Africa:** Observed near average precipitation, except over northern Morocco, Algeria and Tunisia where above average precipitation was observed.
- **The Sahel:** Observed near average precipitation.
- **Gulf of Guinea countries:** Received near average precipitation.
- **Central Africa countries:** Observed above to well above average precipitation over southern Cameroon, CAR, northern Gabon and Congo, much of DRC, except over south-western Gabon, Congo where below average precipitation was observed.
- **Eastern African countries:** Observed above average precipitation prevailed over western and southern Tanzania, north of Zambia, Malawi and Mozambique, except over southern Uganda, northern and eastern Tanzania where below average precipitation was observed.
- **Southern Africa countries:** Observed above to well above average precipitation over north of Zambia, Malawi and Mozambique, central of Angola, Botswana and South Africa, except over north-western and south-eastern Angola, southern Zambia, and northern Namibia, much of Zimbabwe, north-eastern South Africa, southern Mozambique and most parts of Madagascar where below average precipitation was recorded.



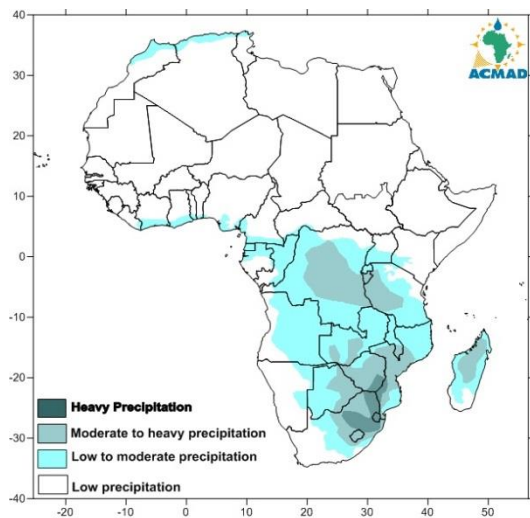
**Figure 8:** Precipitation in percent of average for dekad 1<sup>st</sup> to 10<sup>th</sup> February, 2019. The reference period used is 1981-2010. Source: NOAA/NCEP/CPC/FEWS/Africa/DAILY/

### 3. Outlook valid from 13<sup>th</sup> to 26<sup>th</sup> February, 2019

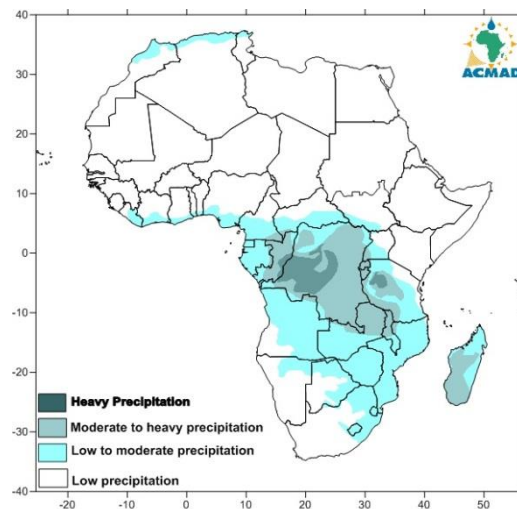
#### 3.1 PRECIPITATION

During the period from 13<sup>th</sup> to 19<sup>th</sup> February 2019, low to moderate precipitation is likely over northern Morocco, Algeria and Tunisia, southern parts of Gulf of Guinea, southern Cameroon, much of Guinea Equatorial, northern Gabon, Congo, much of DRC, central and southern Tanzania, most parts of Angola, Zambia and Malawi, northern Mozambique, western Botswana, South Africa and western and eastern Madagascar. Moderate to heavy precipitation is likely over central of DRC, much of Rwanda, western Tanzania, southern Mozambique, much of Zimbabwe, eastern Botswana, central parts of South Africa and Madagascar. Heavy precipitation is likely over eastern part of South Africa.

During the period from 20<sup>th</sup> to 26<sup>th</sup> February, low to moderate precipitation is very likely over northern Morocco, Algeria and Tunisia, southern Gulf of Guinea countries, southern Cameroon and CAR, much of Guinea equatorial and Gabon, north-western DRC, south-western South Sudan, southern part of Uganda, most of Tanzania, northern and eastern of Southern Africa region and northern and eastern part of Madagascar. Moderate to heavy precipitation is likely over Congo, DRC, Rwanda, Burundi, western Tanzania, northern Zambia, Malawi and southern Madagascar. Heavy precipitation is likely over south-western DRC and central western Tanzania..



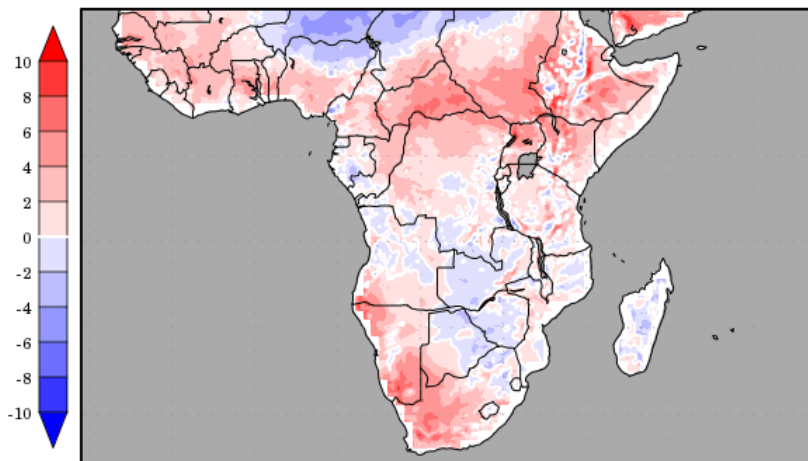
**Figure 9a:** Precipitation forecast from 13<sup>th</sup> to 26<sup>th</sup> February 2019  
(Source: ACMAD)



**Figure 9b:** Precipitation forecast from 20<sup>th</sup> to 26<sup>th</sup> February 2019  
(Source: ACMAD)

### 3.2 Temperature

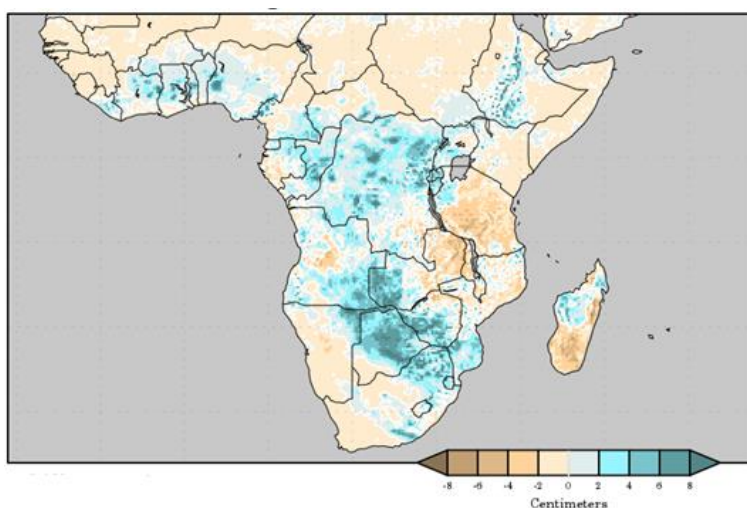
From 16<sup>th</sup> to 24<sup>th</sup> February 2018 (Figure 10), normal to positive temperature anomalies are expected over the western and southern Western Africa, central part of Central Africa, southern Eastern Africa, and southern Angola, much of Namibia, South Africa, and Mozambique. Normal to negative anomalies are expected over Niger, central Chad, northern Nigeria, southern Gabon, Congo, DRC, northern Angola, western Zambia, Zimbabwe, eastern Botswana and Madagascar.



**Figure 10:** Temperature Anomaly forecast from 13 to 21<sup>th</sup> February, 2019  
(Source: COLA)

### 3.3 Soil Moisture

The outlook of the variation in soil moisture (Figure 11) shows that an increase in soil moisture is expected over Côte d'Ivoire, much of DRC, Congo, Ethiopia, Angola, Mozambique, Zambia, Botswana, South Africa, Zimbabwe, Swaziland and Madagascar.



**Figure 11:** Soil moisture change for the period from 13 to 21<sup>th</sup> February, 2019  
(Source: COLA)