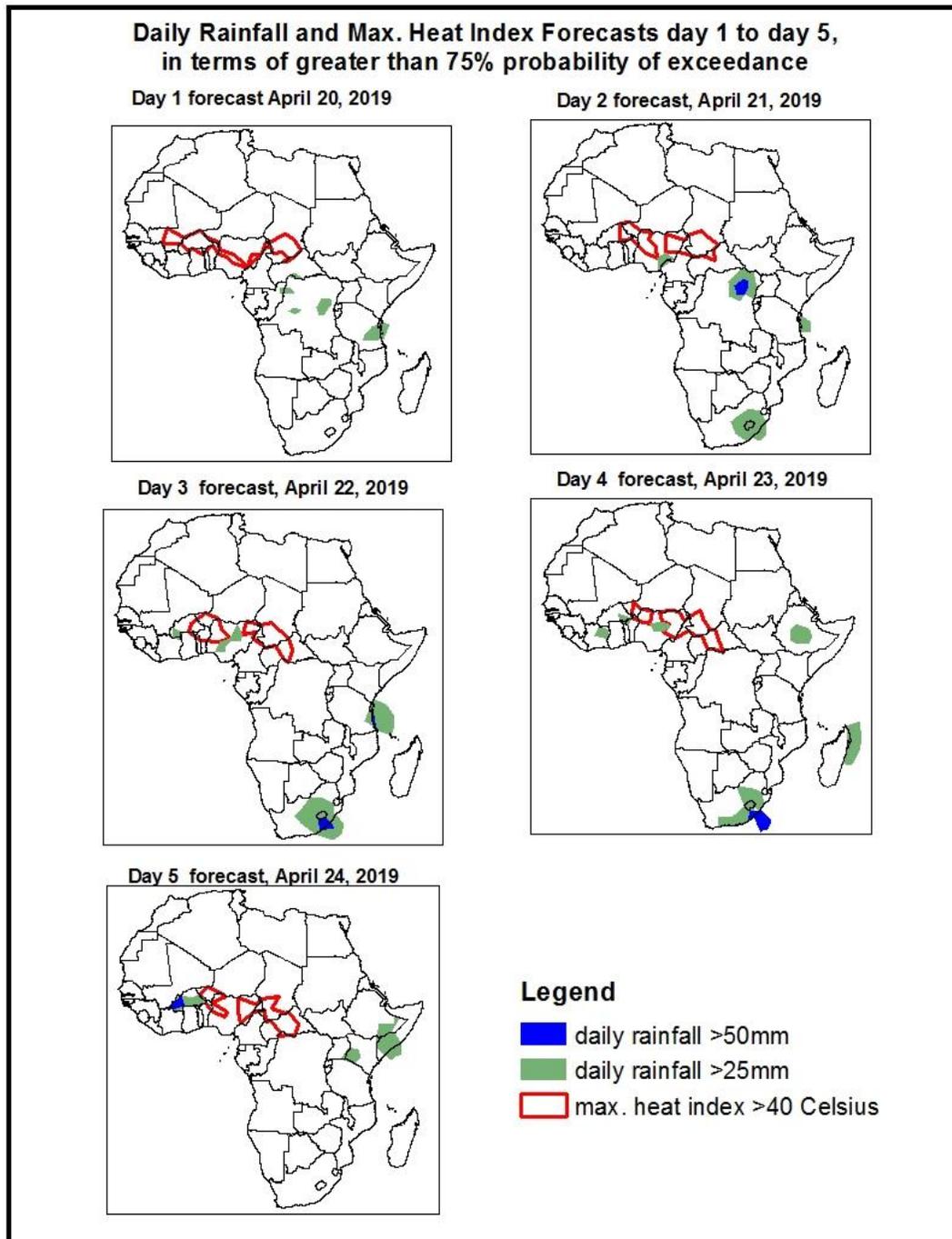


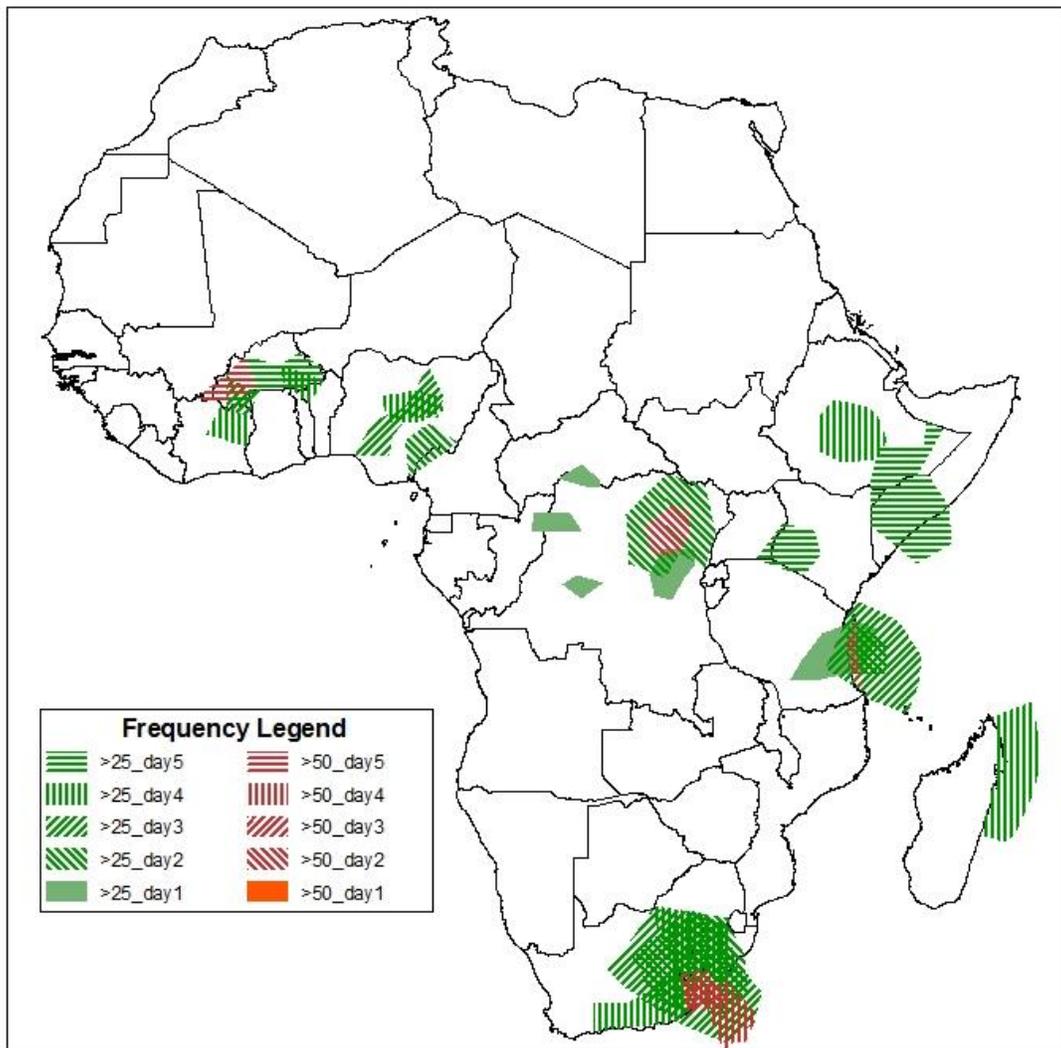
## 1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on April 19, 2019)

### 1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: 20 – 24 April, 2019)

The forecasts are expressed in terms of high probability of precipitation (POP), valid 06Z to 06Z, and exceedance probability of maximum heat index ( $>40^{\circ}\text{C}$ ), based on the NCEP/GFS and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



## Five Days Rainfall Forecast Summary Apr 20 - Apr 24, 2019

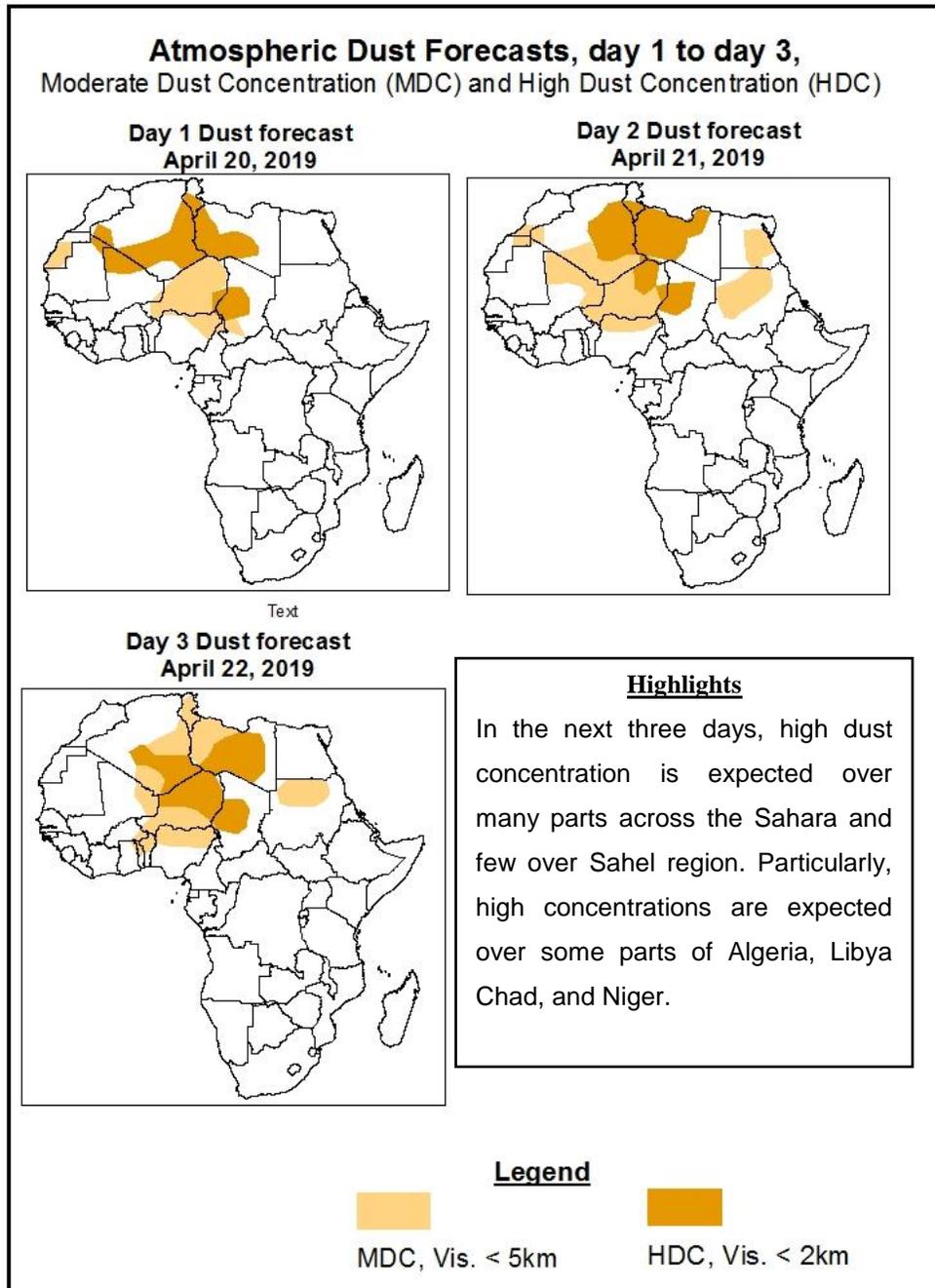


### Highlights

- Very isolated moderate to enhanced precipitation is expected to be maintained over the Gulf of Guinea.
- Persistent lower-level wind convergences are likely to maintain enhanced to heavy precipitation over some areas in central Africa (Cameroon, Republic of Congo and DRC). Otherwise, the convergences are likely to cause moderate to enhanced precipitation over few areas in northeast (Ethiopia) and east (Tanzania) Africa. A frontal system is expected to keep moderate to enhanced precipitation over South Africa.
- At least 25mm for two or more days is likely over few areas of the Gulf of Guinea (Liberia, Burkina Faso, Ivory Coast, Togo and Benin), central Africa (Republic of Congo and DRC) and few areas in southern Africa (South Africa).
- There is an increased chance for daily maximum heat index to exceed 40°C across portions of the Sahel region and CAR.

## 1.2. Atmospheric Dust Concentration Forecasts (valid: 20 – 22 April 2019)

The forecasts are expressed in terms of high probability of dust concentration, based on the Navy Aerosol Analysis and Prediction System, NCEP/GFS lower-level wind forecasts and expert assessment.



### **1.3. Model Discussion, Valid: 20 – 24 April 2019**

During the first half of the forecast period, the Azores High Pressure system over the North of Atlantic is expected to continue intensifying, reaching as high as 1038hPa towards and then relaxing down to 1025hPa during the second half of the forecast period. Throughout the forecast period, however, the heat lows dominating over northern Africa are expected to keep it further west and therefore its influence on African weather is minimal.

Throughout the forecast period, the St. Helena High Pressure system over Southeast Atlantic Ocean is expected to intensify from 1029hPa to as high as 1034hPa as it migrates towards east. This is likely to influence slight to moderate precipitation over western parts of east and southwest Africa.

The Mascarene High Pressure system over Southwest Indian Ocean, during the first half of the forecast period, is expected to relax from 1029hPa to as low as 1020hPa. However, during the second half of the period it is expected to regain strength to as high as 1034hPa. The system is likely to influence precipitation along the east African coast.

At 925hPa, a zones with dry northerly to northeasterly winds speeds (>35) are expected to over Chad, Niger and particularly Libya, enhancing atmospheric dust concentration over the area. Further South over the Sahel and the Gulf of Guinea, Monsoon winds are likely to influence mainly moderate precipitation but with chances for enhanced to heavy over isolated areas. Over the central Africa and along the east African cost, the low level convergence is likely to continuing triggering enhanced to heavy precipitation over there. On the other hand, a trough associated with frontal low is likely to enhance precipitation over South Africa, especially during the first half of the period.

850hPa wind pattern indicates deep convergent wind patterns over central Africa (DRC and CAR). These are likely to keep moderate precipitation over these areas with good chances of scattered enhanced precipitation.

At 700hPa, easterly to northeasterly wind pattern is expected to continue dominate over the areas expected to receive significant convective activities. Convective activities are likely to

be propagated generally towards southwest. Quite significant convergence over central and Great Horn of Africa underscores the depth of the convergent wind system over there.

Being mainly easterly, 500hPa wind pattern is expected to help propagating activities towards west over most of the areas expected to feature significant convection, particularly in central and East Africa.

The Subtropical Westerly Jet at 200hPa associated with strong winds (>130kts) is expected to be maintained across extreme northern Africa throughout the forecast period. Moderate bending (trough) is expected and is likely to influence slight increase precipitation over northeast Africa.

Very isolated moderate to enhanced precipitation is expected to be maintained over the Gulf of Guinea. Persistent lower-level wind convergences are likely to maintain enhanced to heavy precipitation over some areas in central Africa (Cameroon, Republic of Congo and DRC). Otherwise, the convergences are likely to cause moderate to enhanced precipitation over few areas in northeast (Ethiopia) and east (Tanzania) Africa. A frontal system is expected to keep moderate to enhanced precipitation over South Africa. At least 25mm for two or more days is likely over few areas of the Gulf of Guinea (Liberia, Burkina Faso, Ivory Coast, Togo and Benin), central Africa (Republic of Congo and DRC) and few areas in southern Africa (South Africa). There is an increased chance for daily maximum heat index to exceed 40oC across portions of the Sahel region and CAR.

## 2.0. Previous and Current Day Weather over Africa

### 2.1. *Weather assessment for the previous day* (April 18, 2019)

Daily rainfall totals exceeding 25mm is observed over few areas along the coast of Tanzania.

### 2.2. *Weather assessment for the current day* (April 19, 2019)

Significant convective clouds are observed over the Republic of Congo, DRC, CAR and Cameroon.

