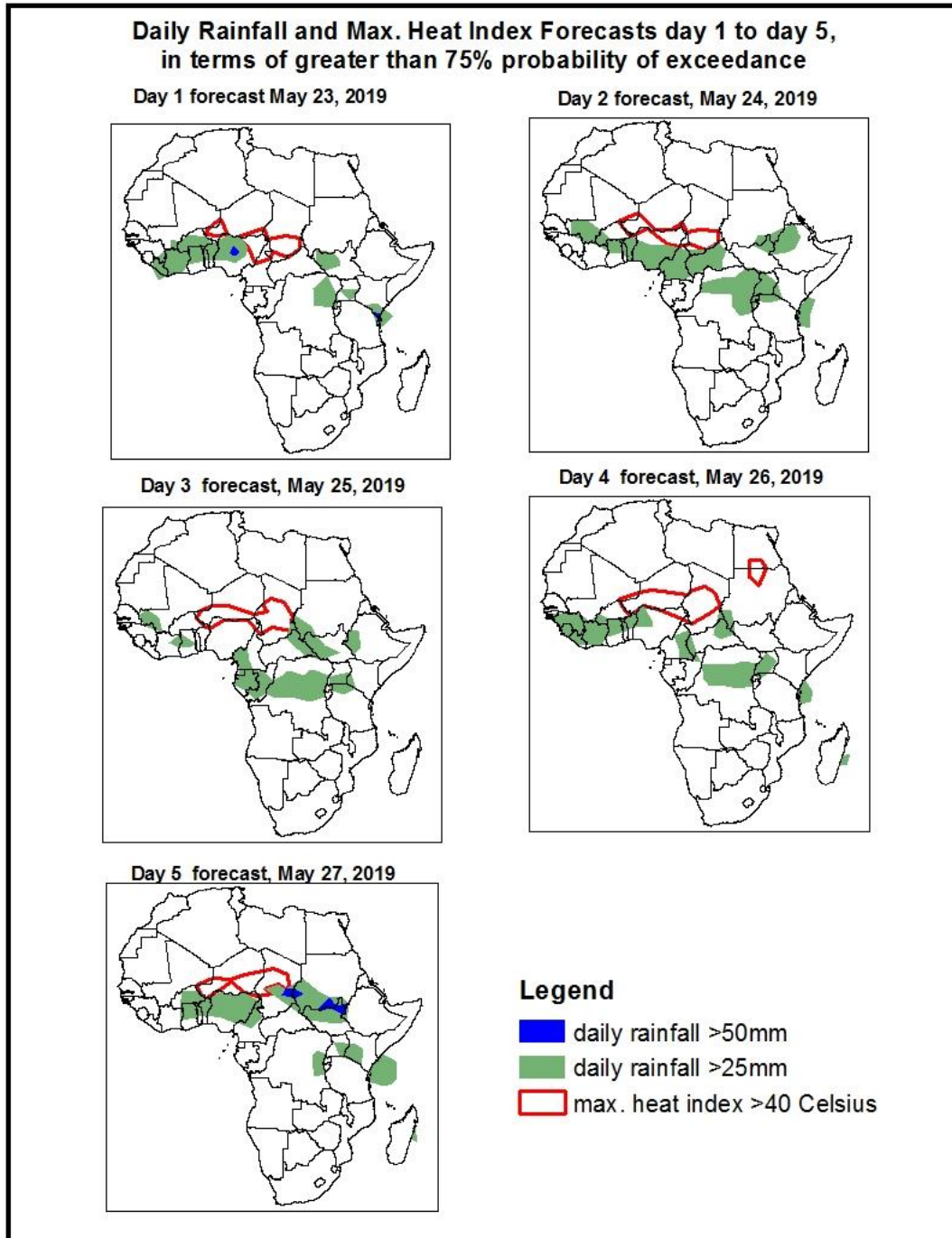


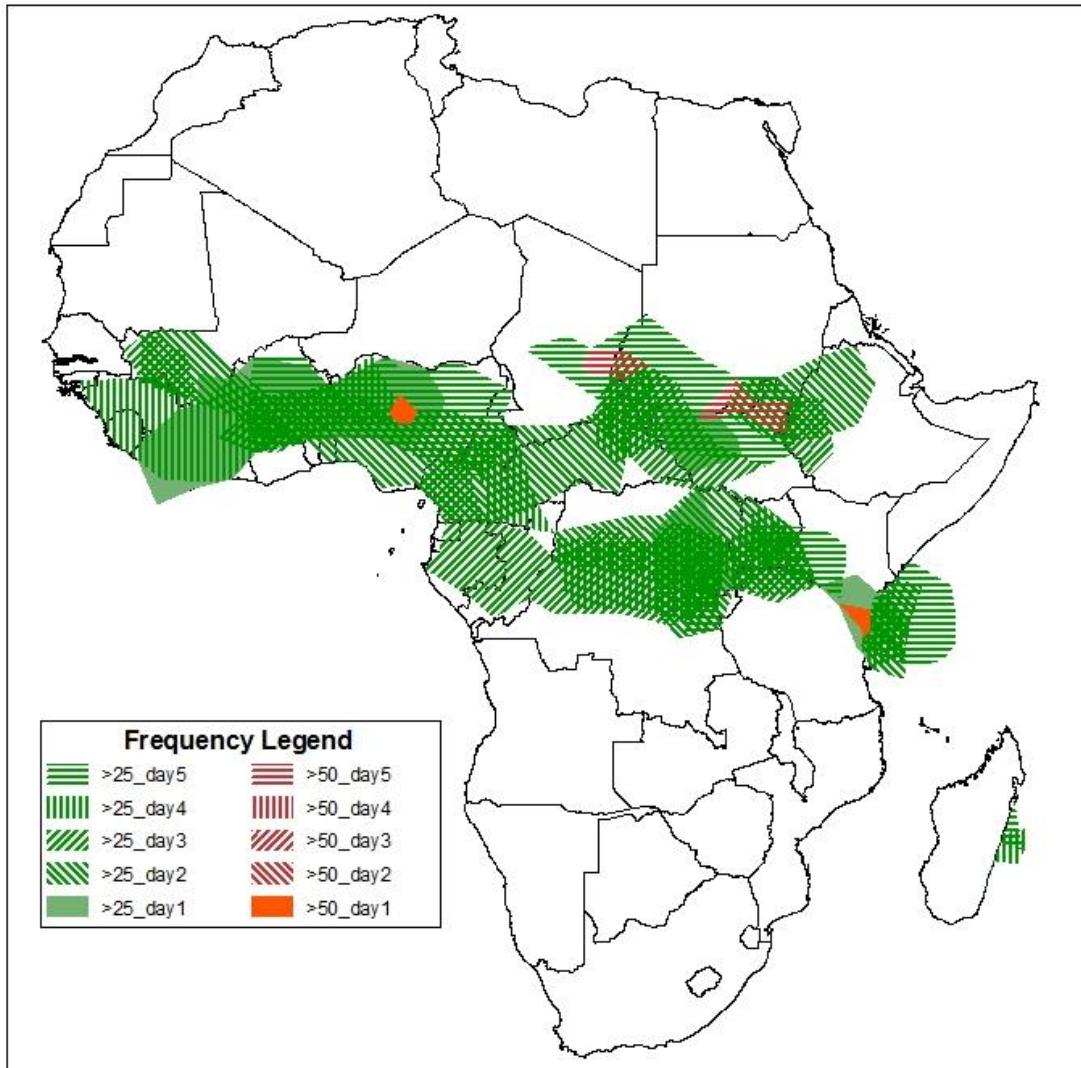
**1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on May 22, 2019)**

**1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: May 23 – 27, 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°C), based on the NCEP/GFS and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



## Five Days Rainfall Forecast Summary May 23 - 27, 2019

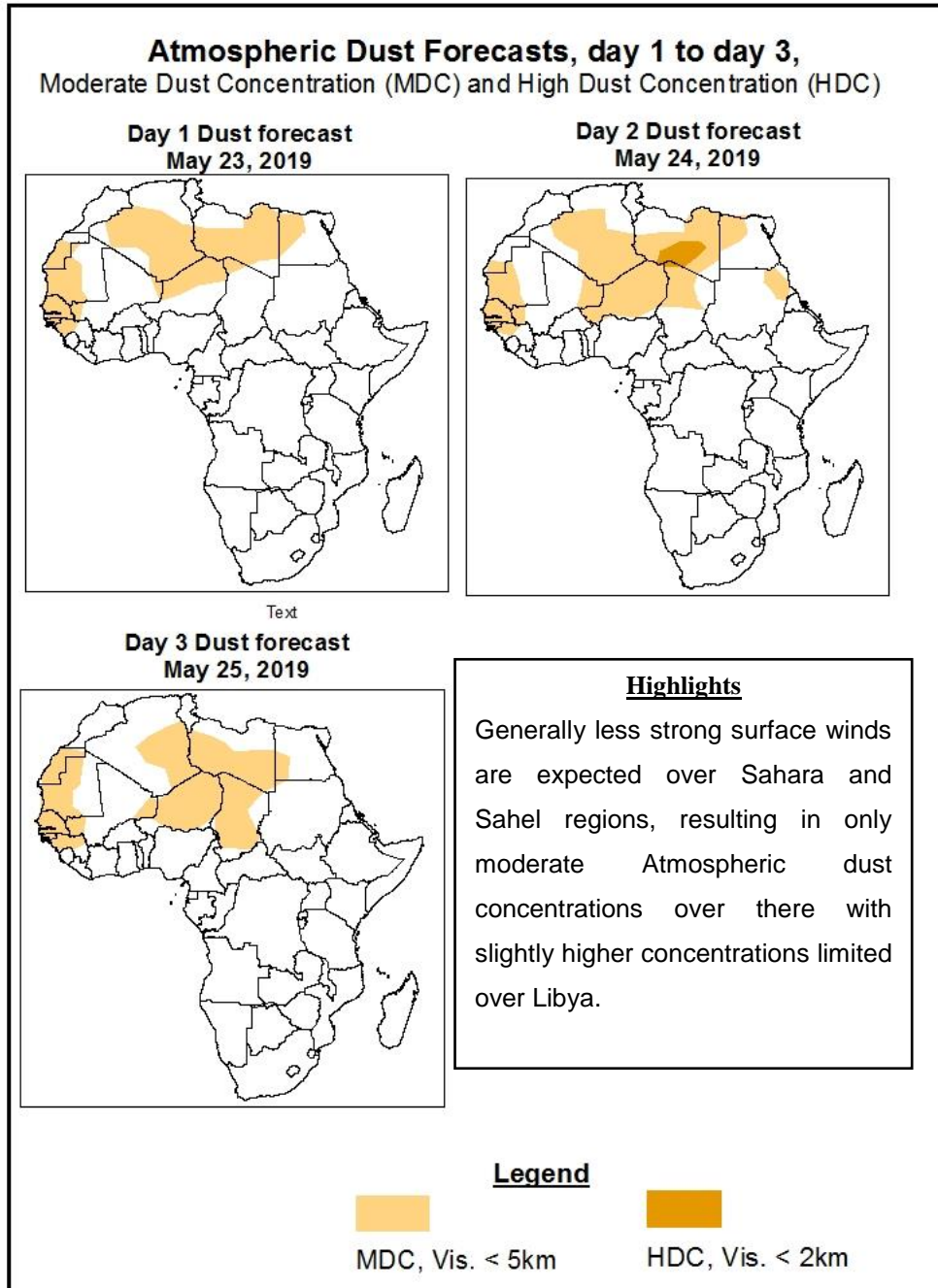


### Highlights

- The Monsoon wind pattern over the Gulf of Guinea is expected to cause moderate to enhanced precipitation over there.
- Low level converging winds at both 850 and 700hPa levels over the Gulf of Guinea, central Africa, southern parts of the Sahel, GHA (Ethiopia, Sudan, South Sudan) and East Africa (coastal areas of Tanzania and Kenya) are likely to cause scattered enhanced precipitation with isolated heavy ones.
- At least 25mm for two or more days is likely over many areas in the Gulf of Guinea, central Africa, GHA (South Sudan, Sudan and Ethiopia) and few areas along the east African coast (Tanzania and Kenya).
- Few northern areas in the southern areas in Sahel and Sudan are likely to feature increased chance for daily maximum heat index to exceed 40°C.

**1.2. Atmospheric Dust Concentration Forecasts** (valid: May 23 – 25 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: May 23 – 27 2019**

During the forecast period, the Azores High Pressure system over the North of Atlantic is expected to intensify significantly from 1024hPa to as high as 1030hPa at the end of the period. This is likely to temporarily hinder or even reverse the migration of the ITCZ towards north, during the period, and thus keeping precipitation over the Gulf of Guinea and southern extremes of the Sahel region.

During the first half of the forecast period, the St. Helena High Pressure system over Southeast Atlantic Ocean is expected to migrate towards east while relaxing from 1027hPa down to 1024hPa. In the second period, however it is expected to intensify, reaching 1032hPa at the end of the period. This is likely to maintain the Meridional component of the ITCZ over southwest of Africa and keep precipitation over central Africa (DRC) before allowing it migrate further east over eastern DRC, Rwanda, Burundi and western Tanzania.

During much of the forecast period, the Mascarene High Pressure system over Southwest Indian Ocean is expected to be highly eroded by frontal lows, decreasing its influence on precipitation along the east African coastal areas.

At 925hPa level, generally weak winds are expected over much of the Sahara and Sahel during the forecast period. Occasionally strong winds, however, are likely over Libya resulting into enhanced Atmospheric dust concentrations over there. On the other hand, the converging Monsoon winds associated are expected to lie and influence precipitation of the Gulf of Guinea towards southern extremities of the Sahel region. Frequent moderate to occasional enhanced, precipitation is likely over there. Converging, moist southeasterly winds towards East Africa are likely to maintain occasionally enhanced to heavy precipitation over there, particularly along the coastal areas of Tanzania and Kenya.

At 850hPa, converging winds over coastal areas of East Africa (Tanzania and Kenya) are likely to maintain moderate to occasionally enhanced precipitation over these areas. Also, converging winds are expected over southern Sahel region, northern parts of the Gulf of Guinea, some areas of central Africa (northern DRC, CAR), GHA (Sudan, South Sudan),

Uganda and LVB. These areas are likely to feature significant to enhanced precipitation with chances of heavy precipitation over some areas.

At 700hPa, mainly easterly wind pattern is expected to be maintained, converging over much of central Africa (northern DRC, CAR), Gulf of Guinea and parts of east Africa (Kenya, Uganda and northern Tanzania) and Great Horn of Africa (Ethiopia, South Sudan, Sudan and southern Chad). This is likely to favor deep convection over some of these areas which are also expected to feature low level (850hPa) convergence i.e. northern DRC, Sudan, South Sudan and CAR and much of the Gulf of Guinea.

Flow at 500hPa is expected to be mainly easterly during the period over many parts which are expected to feature convective activities. This is likely to favor advection of convective activities towards west.

During the period, a Subtropical Westerly Jet at 200hPa is expected to feature occasional strong winds (>130kts) with a sharp bending (trough) during the start of period, influencing increased precipitation over the GHA.

The Monsoon wind pattern over the Gulf of Guinea is expected to cause moderate to enhanced precipitation over there. Low level converging winds at both 850 and 700hPa levels over the Gulf of Guinea, central Africa, southern parts of the Sahel, GHA (Ethiopia, Sudan, South Sudan) and East Africa (coastal areas of Tanzania and Kenya) are likely to cause scattered enhanced precipitation with isolated heavy ones. At least 25mm for two or more days is likely over many areas in the Gulf of Guinea, central Africa, GHA (South Sudan, Sudan and Ethiopia) and few areas along the east African coast (Tanzania and Kenya). Few northern areas in the southern areas in Sahel and Sudan are likely to feature increased chance for daily maximum heat index to exceed 40°C.



## 2.0. Previous and Current Day Weather over Africa

### 2.1. Weather assessment for the previous day (May 21, 2019)

Daily rainfall totals exceeding 25mm have been observed over some areas over the Gulf of Guinea (Nigeria and Cameroon).

### 2.2. Weather assessment for the current day (May 22, 2019)

Deep widespread convection clouds are observed over DRC.

