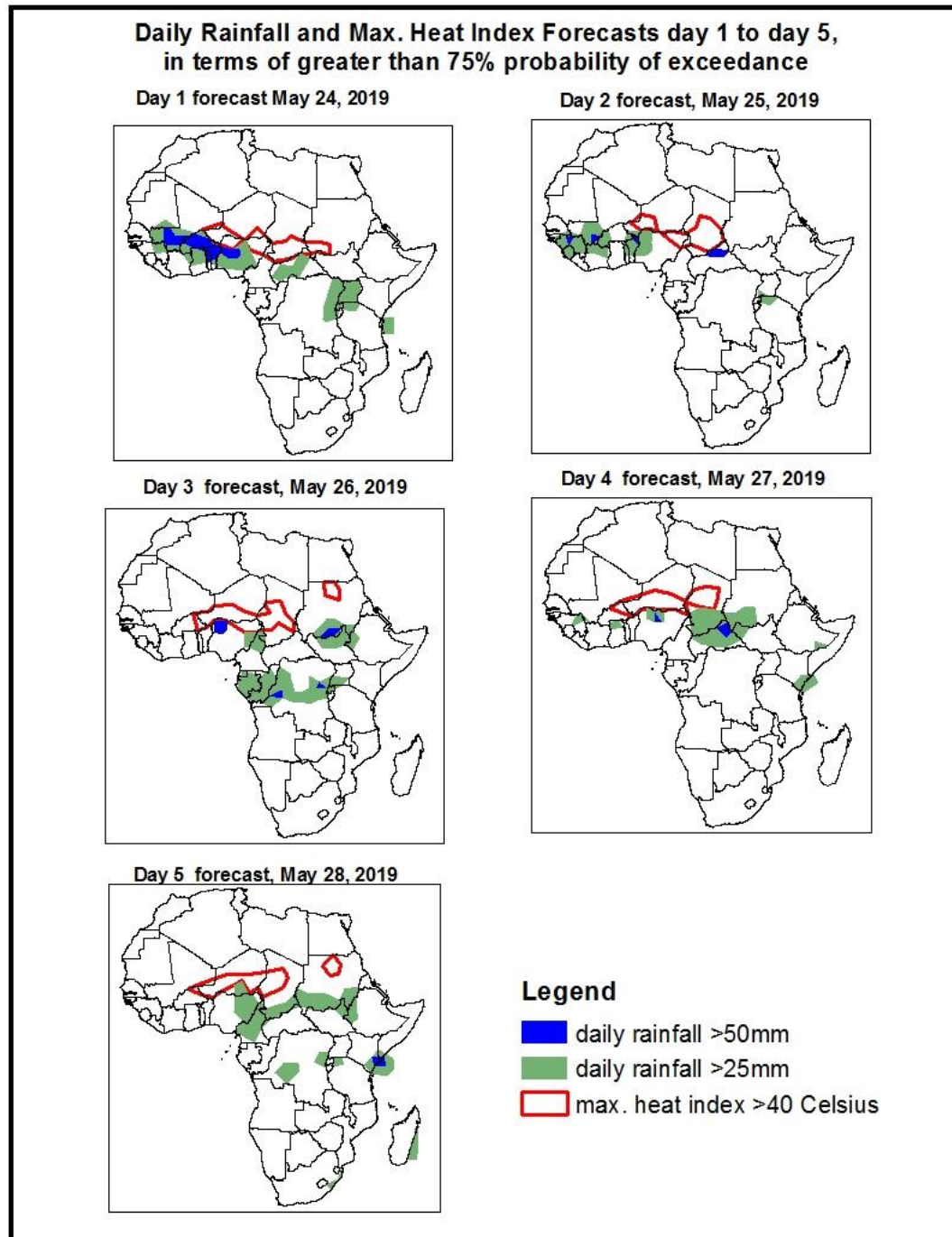


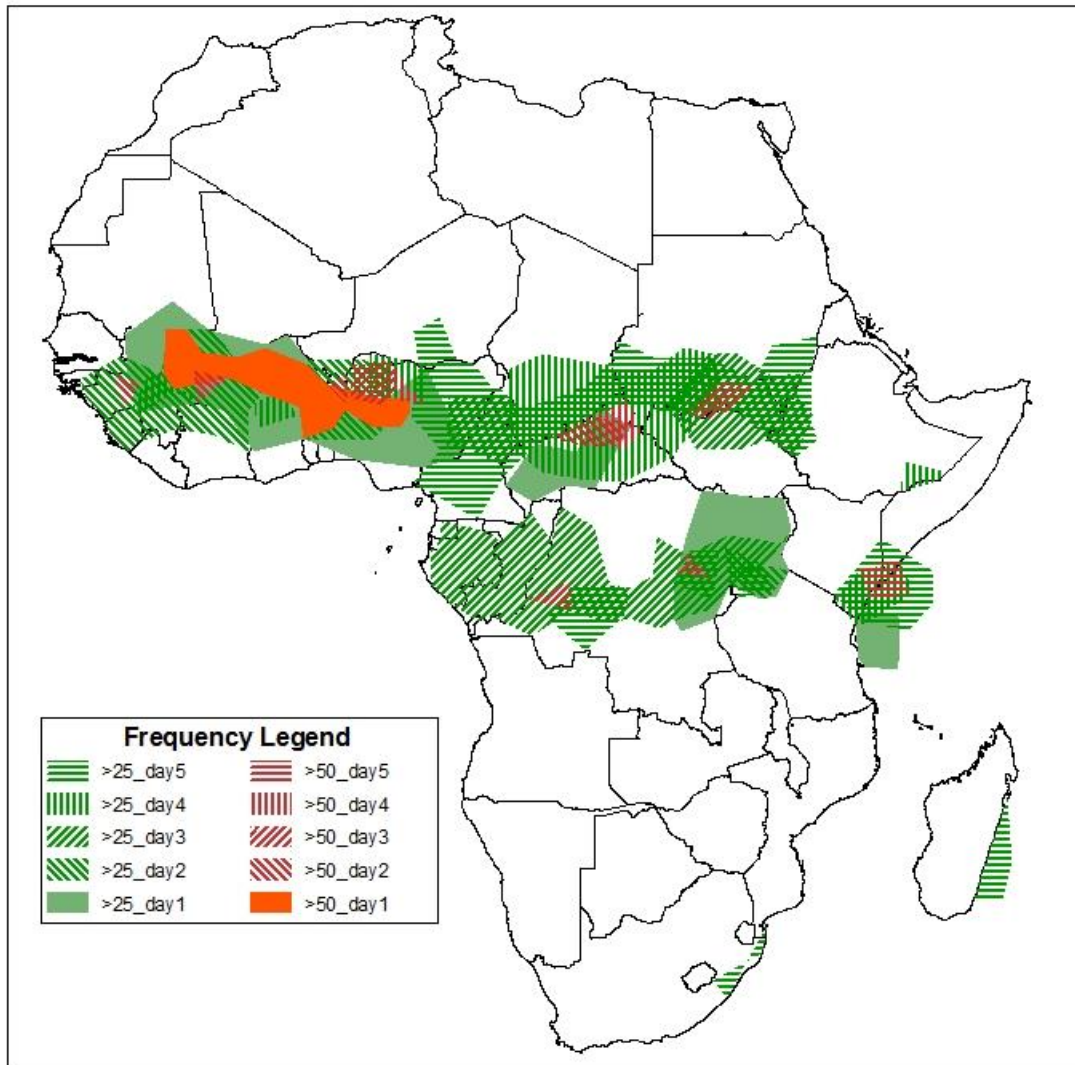
1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on May 23, 2019)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: May 24 – 28, 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 May 24 - 28, 2019

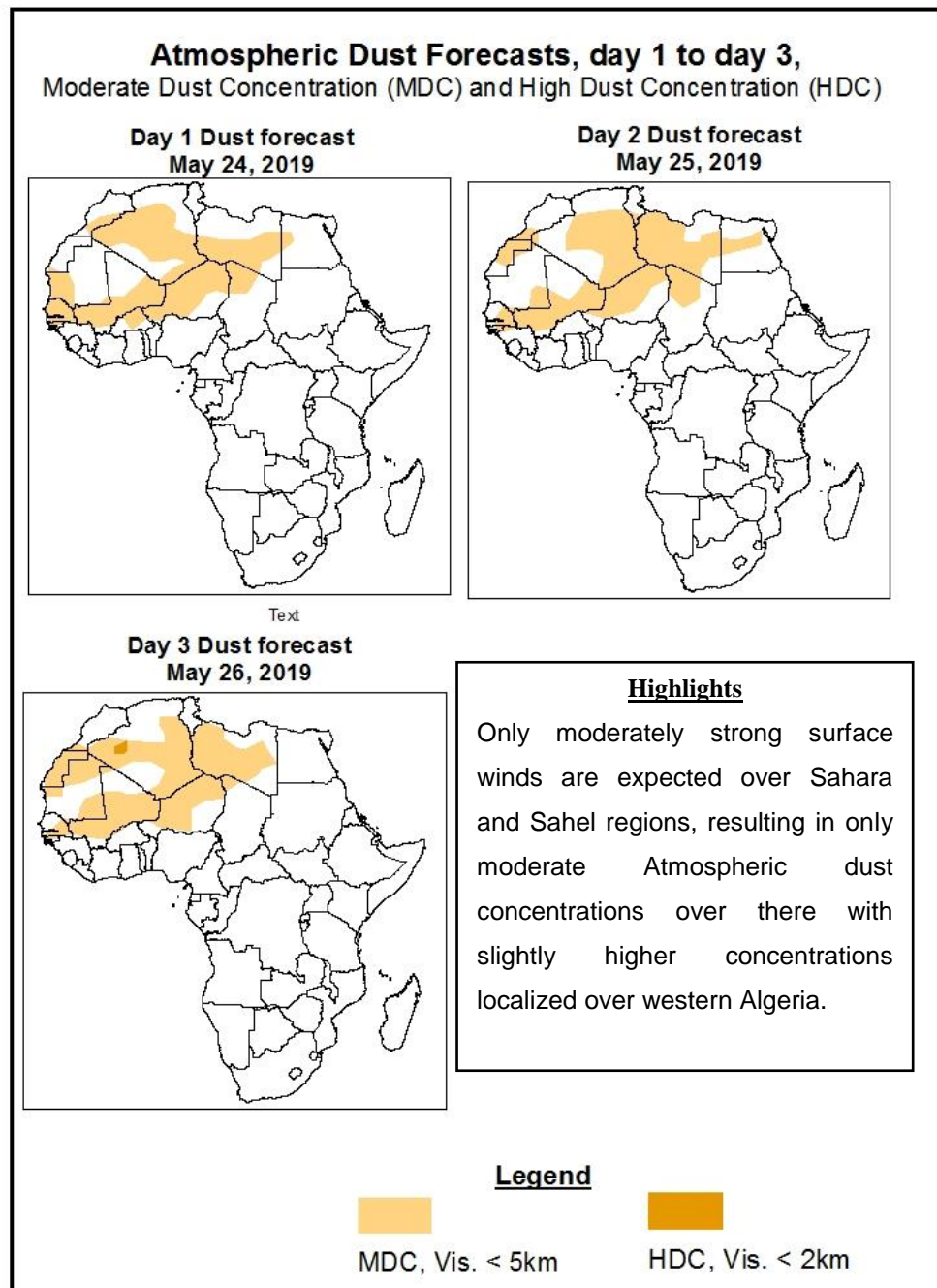


Highlights

- 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 Kenya and Somalia) are likely to cause scattered enhanced precipitation with isolated heavy ones at times.
- At least 25mm for two or more days is likely over many areas in the Gulf of Guinea, central Africa and some in the GHA (South Sudan, Sudan and Ethiopia). Few areas along the east African coast (Tanzania and Kenya) are also going to experience at least 25mm in two or more days.
- As the rain band is advancing further north, fewer areas of Sahel are likely to feature increased chance for daily maximum heat index to exceed 40°C.

1.2. Atmospheric Dust Concentration Forecasts (valid: May 24 – 26 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 24 – 28 2019

After relaxing during past couple of days, during the forecast period, the Azores High Pressure system over the North of Atlantic is expected to mainly maintain a central pressure 1024hPa. This is likely to allow the ITCZ to slightly advance further north spreading convective precipitation from the Gulf of Guinea towards southern parts 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 1026hPa down to 1018hPa. In mid period it is likely to intensify to 1027hPa before relaxing again down to 1018hPa during the last part of the period. This is likely to maintain the Meridional component of the ITCZ over southwest of Africa and thus allow the spreading of precipitation over central Africa (DRC).

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, weak winds are expected over much of the Sahara and Sahel during the forecast period. Only moderate 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 areas of the Sahel region. Frequent moderate to enhanced, with occasional heavy, precipitation is likely over there. Converging, moist southeasterly winds towards East Africa are likely to maintain occasionally enhanced precipitation over there, particularly along the coastal areas of 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, Gulf of Guinea and parts of east Africa as well as Great Horn of Africa. This is likely to favor deep convection over some of these areas which are also expected to feature low level (850hPa) convergence.

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 be rather weak winds not reaching 130kts. Also, during the period, no bending (trough) is expected and thus decreased precipitation is likely 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 Kenya and Somalia) are likely to cause scattered enhanced precipitation with isolated heavy ones at times. At least 25mm for two or more days is likely over many areas in the Gulf of Guinea, central Africa and some in the GHA (South Sudan, Sudan and Ethiopia). Few areas along the east African coast (Tanzania and Kenya) are also going to experience at least 25mm in two or more days. As the rain band is advancing further north, fewer areas of Sahel are likely to feature increased chance for daily maximum heat index to exceed 40°C.

2.0. Previous and Current Day Weather over Africa

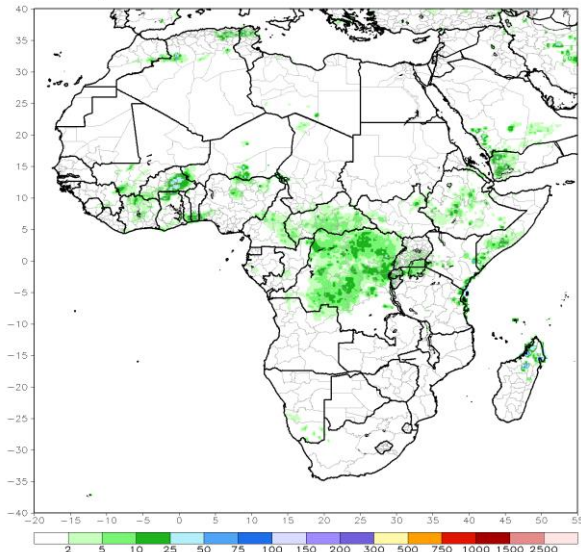
2.1. *Weather assessment for the previous day* (May 22, 2019)

Daily rainfall totals exceeding 25mm have been observed over few areas over the Gulf of Guinea (Burkina Faso) and very isolated in southern Somalia.

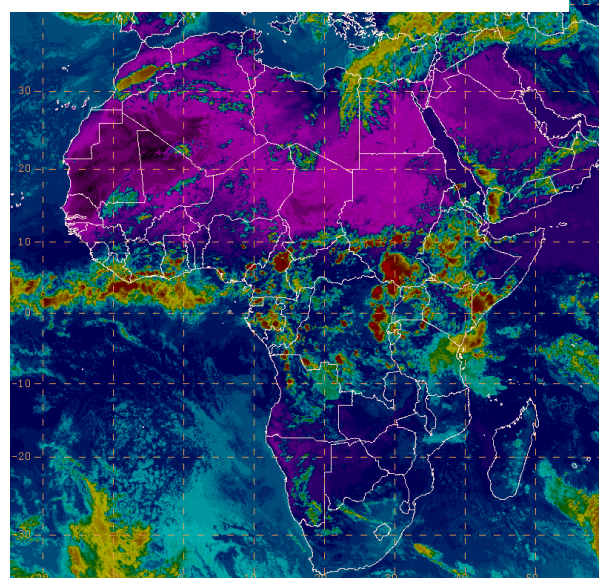
2.2. *Weather assessment for the current day* (May 23, 2019)

Deep convection clouds are observed over some areas of northeast DRC and South Sudan. Also, Cameroon is experiencing significant isolated convective clouds.

RFE2 Daily Total Rainfall (mm)
Period: 22May2019



IR Satellite Image (valid 1452 May 23, 2019)



Author: *Elias Lipiki (CPC-African Desk / Tanzania Meteorological Agency —TMA); elias.lipiki@noaa.gov*