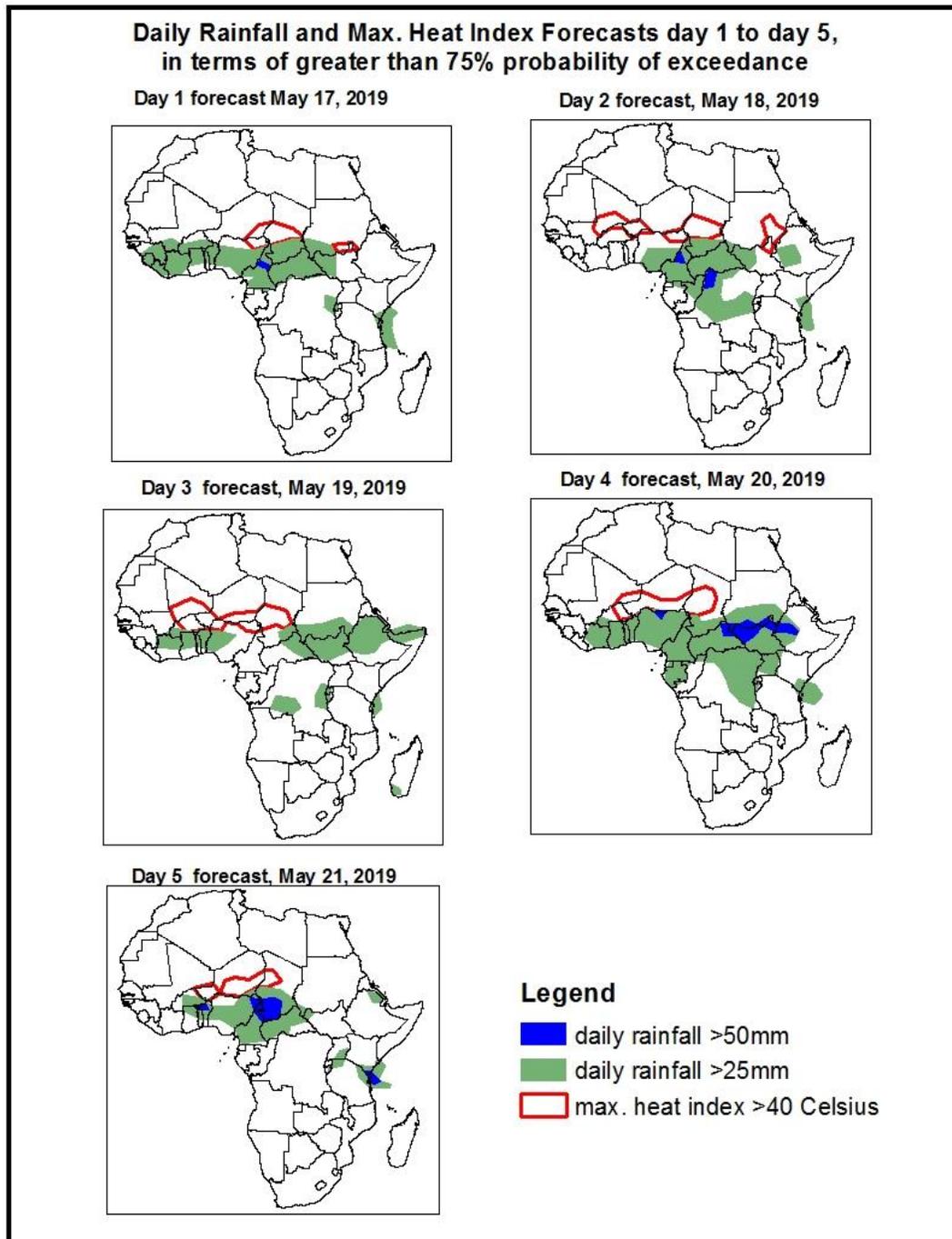


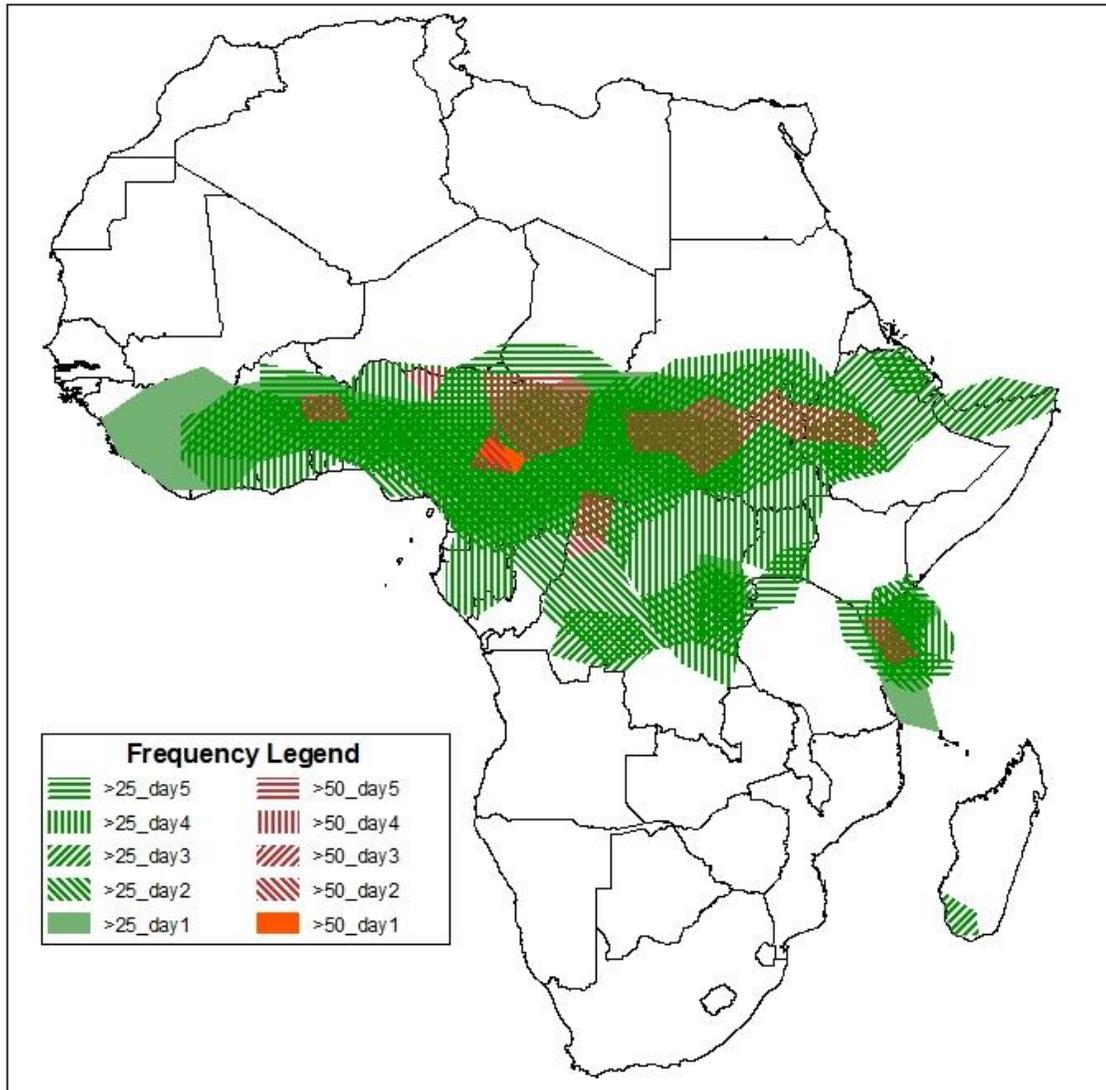
1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on May 16, 2019)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: May 17 – 21, 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 17 - 21, 2019

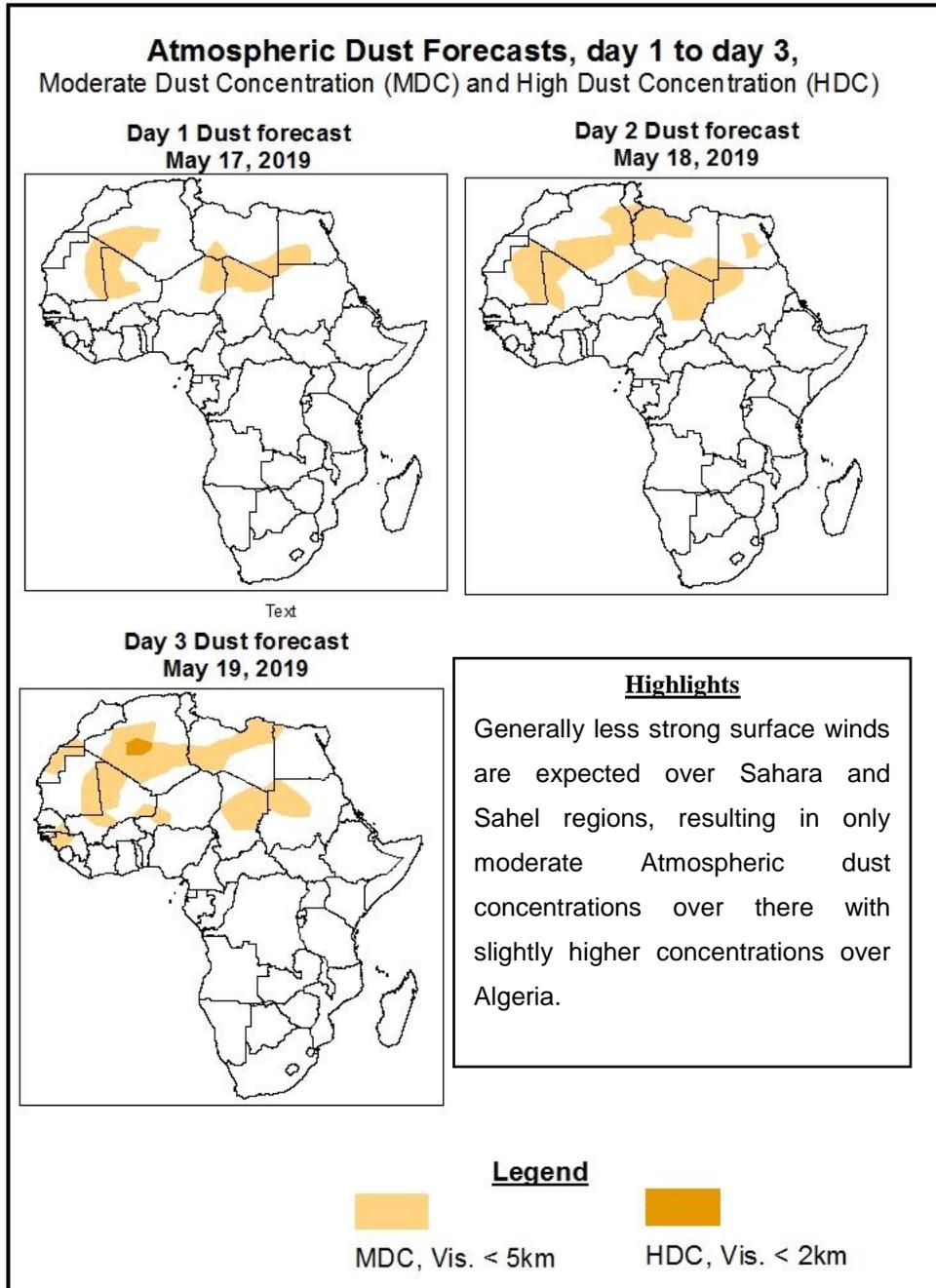


Highlights

- The Monsoon wind pattern over the Gulf of Guinea is expected to cause localized moderate to enhanced precipitation over there, spreading north to southern parts of Sahel (Mali and Niger).
- Low level converging winds at both 850 and 700hPa levels over the Gulf of Guinea, central Africa, parts of the Sahel, GHA (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 and South Sudan as well as few areas in GHA (Ethiopia, Sudan) and along the east African coast (Tanzania and Kenya).
- Few areas in the 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 17 – 19 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 17 – 21 2019

During the forecast period, the Azores High Pressure system over the North of Atlantic is expected to relax from 1029hPa down to 1022hPa at the end of the period. Throughout the period the system is expected to maintain its position further west of northern Africa, leaving the later dominated by heat lows and allowing the ITCZ to advance towards Sahel region causing convective precipitation over there.

During the forecast period, the St. Helena High Pressure system over Southeast Atlantic Ocean is expected to migrate towards east while maintaining at around 1032hPa before relaxing slightly to 1029hPa at the end of the period. This is likely to result into migration of the Meridional component of the ITCZ towards east keeping precipitation further east in eastern DRC and western Tanzania, particularly during the second half of the forecast period.

During the first half of the forecast period, the Mascarene High Pressure system over Southwest Indian Ocean is expected to intensify reaching 1030hPa but then relaxing down to 1024hPa towards the end of the. Its orientation, however, is likely to maintain moist southeasterly winds towards the east African coast and keep moderate to enhanced precipitation along the east African coast, occasionally becoming heavy.

At 925hPa level, strong winds are expected during the second half of the forecast period over Algeria and then Libya, influencing Atmospheric dust concentrations over there. On the other hand, Monsoon winds in the Gulf of Guinea are expected to be maintained and likely to keep occasional, moderate to enhanced, localized precipitation over there as well as over parts of the Sahel region during the forecast period. Meanwhile, converging, moist southeasterly winds towards East Africa are likely to maintain moderate to enhanced, occasionally 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 enhanced to heavy precipitation over these areas. Also, converging winds are expected over Chad, Sudan, South Sudan, CAR, Uganda as well as LVB. These areas are likely to feature enhanced to heavy rainfall especially over southern Chad and South Sudan.

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 (northern Kenya and Uganda) and Great Horn of Africa (Ethiopia) as well as South Sudan. This is likely to favor deep convection over some of these areas which are also expected to feature low level (850hPa) convergence i.e. 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 strong winds at times, occasionally (>130kts) but with bending (trough). This is likely to have slight to no influence to precipitation over the GHA.

The Monsoon wind pattern over the Gulf of Guinea is expected to cause localized moderate to enhanced precipitation over there, spreading north to southern parts of Sahel (Mali and Niger). Low level converging winds at both 850 and 700hPa levels over the Gulf of Guinea, central Africa, parts of the Sahel, GHA (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 and South Sudan as well as few areas in GHA (Ethiopia, Sudan) and along the east African coast (Tanzania and Kenya). Few areas in the Sahel and Sudan are likely to feature increased chance for daily maximum heat index to exceed 40⁰C.

2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (May 15, 2019)

Daily rainfall totals exceeding 25mm have been observed over some areas along the Gulf of Guinea (Ghana, Togo, Benin and Nigeria) and few over South Sudan and CAR.

2.2. Weather assessment for the current day (May 16, 2019)

Deep convection is observed over the Gulf of Guinea.

