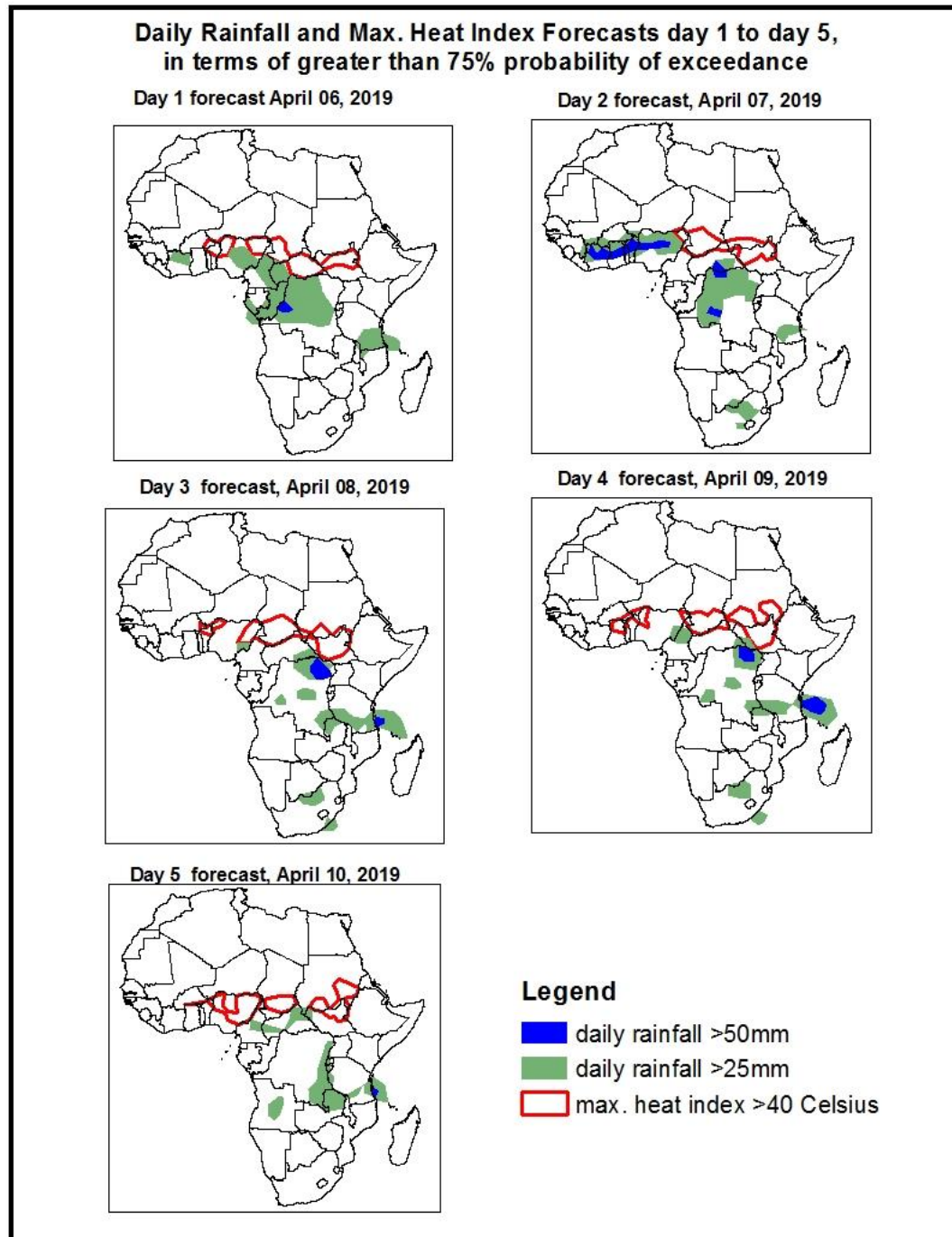


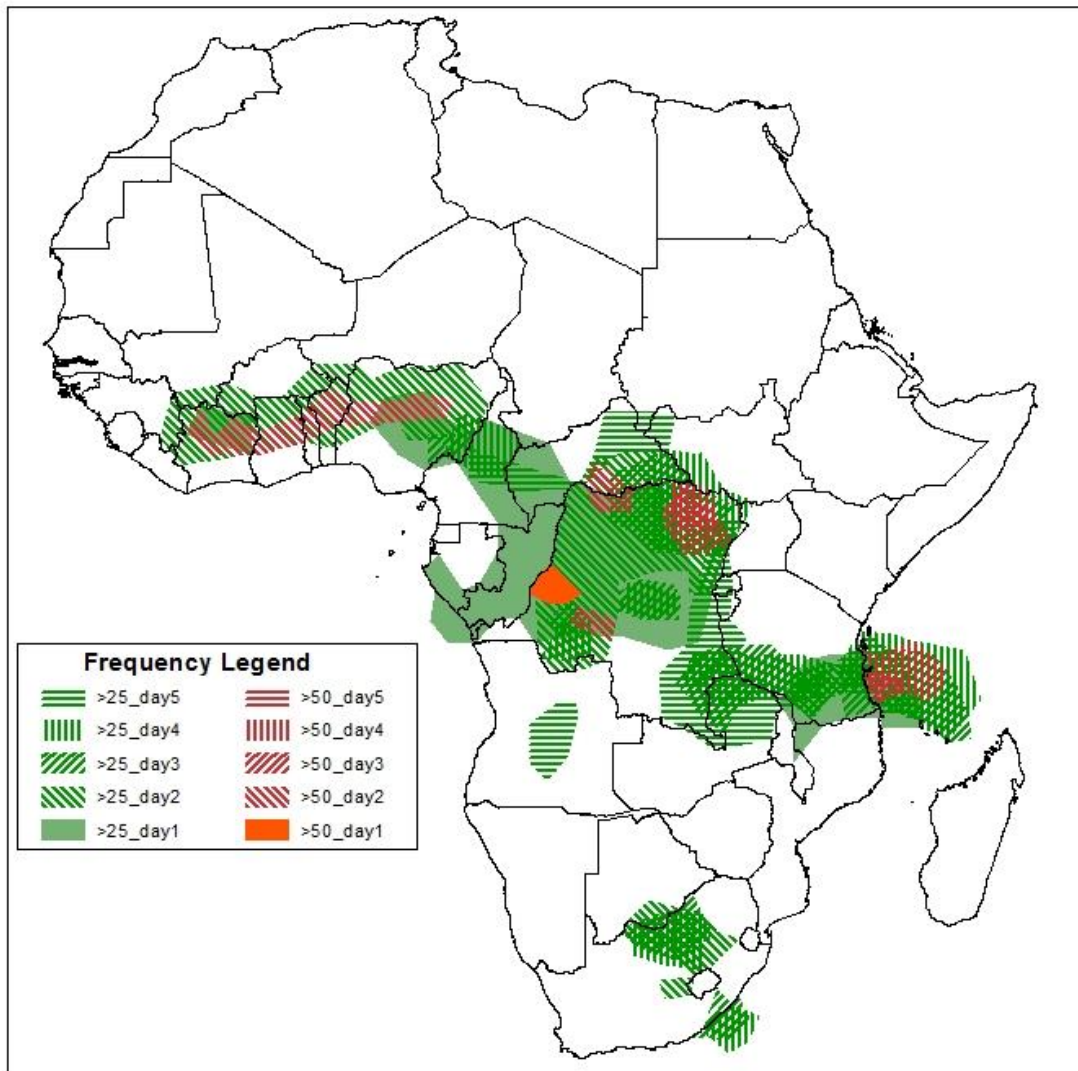
1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on April 05, 2019)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: 06 – 10 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 06 - 10 April, 2019.

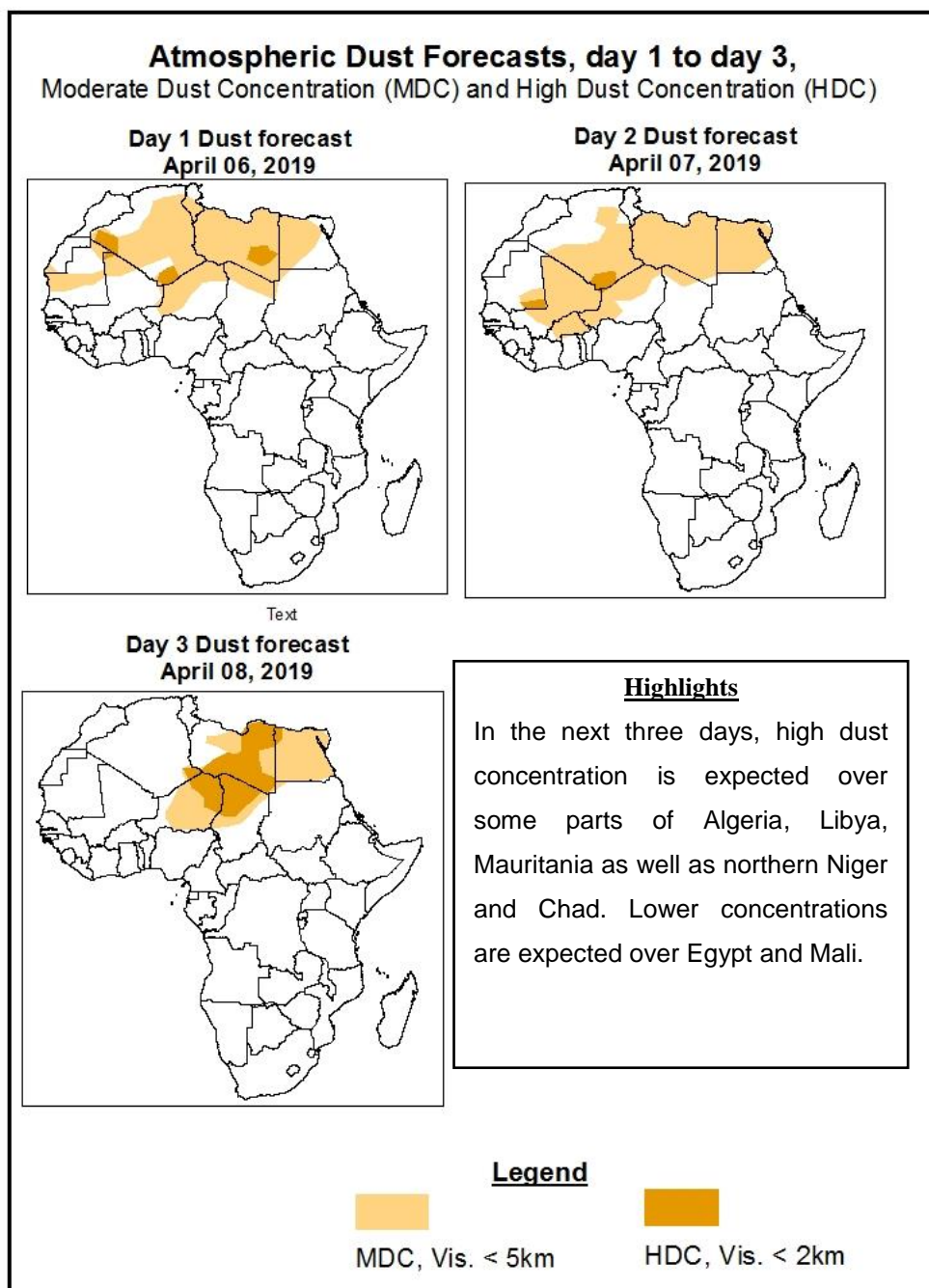


Highlights

- West African Monsoon flow from the Atlantic Ocean with its associated convergence is expected to be positioned further north of the Gulf of Guinea region and hence reducing rainfall in the region especially during the second half of the period.
- Persistent lower-level wind convergences are likely to maintain significant precipitation over some areas across the Equatorial Africa as well as those in East Africa.
- The forcing from cold front is likely to maintain moderate precipitation over southern Africa, particularly over South Africa and southernmost Botswana.
- At least 25mm for two or more days is likely in isolated areas over portions of the Gulf of Guinea, central Africa, southern parts of East Africa and southern Africa.
- There is an increased chance for daily maximum heat index to exceed 40°C across portions of the Sahel region as well as South Sudan and southern Sudan.

1.2. Atmospheric Dust Concentration Forecasts (valid: 06 – 08 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: 06 – 10 April 2019

During the forecast period, the Azores High Pressure system over the North of Atlantic Ocean is expected to migrate towards East, filling the heat lows over northern Africa. However, the system is expected to remain rather weak, even showing signs of weakening towards the end of the period as the heat lows start eroding it once again.

During the forecast period, the St. Helena High Pressure system over Southeast Atlantic Ocean is expected to relax from 1025hPa to as low as 1019hPa. This is expected to cause the zonal component of the ITCZ to remain weak and persist along the coastal areas of Gulf of Guinea. On the other hand, the Meridional component of the ITCZ is likely to maintain its location further West.

The Mascarene High Pressure system over Southwest Indian Ocean is expected to generally maintain the central pressure of around 1029hPa during most of the forecast period.

At 925hPa, dry northerly to northeasterly winds speeds (>35) are likely to cause highest dust concentration over few areas in the Sahel region. Meanwhile, the Monsoon flow is likely to be maintained further north of the Gulf of Guinea. Convergence over central and East Africa is expected to be maintained throughout the forecast period.

At 850hPa, convergent wind flow is expected along the Gulf of Guinea and central Africa, maintaining moderate to enhanced precipitation over there, as well as East Africa where, at times, the troughs and even closed cyclonic circulations are expected to cause enhanced to heavy precipitation.

At 700hPa, mainly easterly winds are expected over the Gulf of Guinea, central and East Africa.

At 500hPa, a quite organized easterly wind flow is likely to be maintained over the Gulf of Guinea, central and East Africa.

At 200hPa, strong wind (>130kts), associated with the Subtropical Westerly Jet, is expected to be maintained across northern Africa throughout the forecast period. However, the short lived bending (trough) over northeast Africa is not expected to influence enhancement of precipitation over there.

West African Monsoon flow from the Atlantic Ocean with its associated convergence is expected to be positioned further north of the Gulf of Guinea region and hence reducing rainfall in the region especially during the second half of the period. Persistent lower-level wind convergences are likely to maintain significant precipitation over some areas across the Equatorial Africa as well as those in East Africa. The forcing from cold front is likely to maintain moderate precipitation over southern Africa, particularly over South Africa and southernmost Botswana. At least 25mm for two or more days is likely in isolated areas over portions of the Gulf of Guinea, central Africa, southern parts of East Africa and southern Africa. There is an increased chance for daily maximum heat index to exceed 40°C across portions of the Sahel region as well as South Sudan and southern Sudan.

2.0. Previous and Current Day Weather over Africa

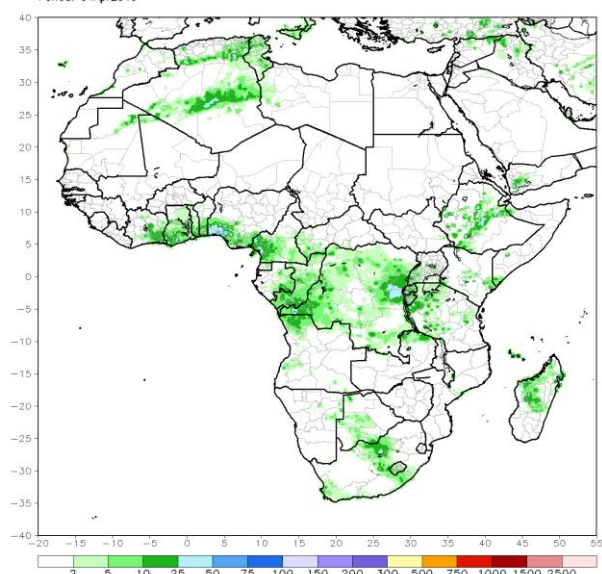
2.1. *Weather assessment for the previous day* (April 4, 2019)

Daily rainfall totals exceeded 25mm over coastal areas of Nigeria, eastern DRC as well as very isolated high ground areas of Ethiopia.

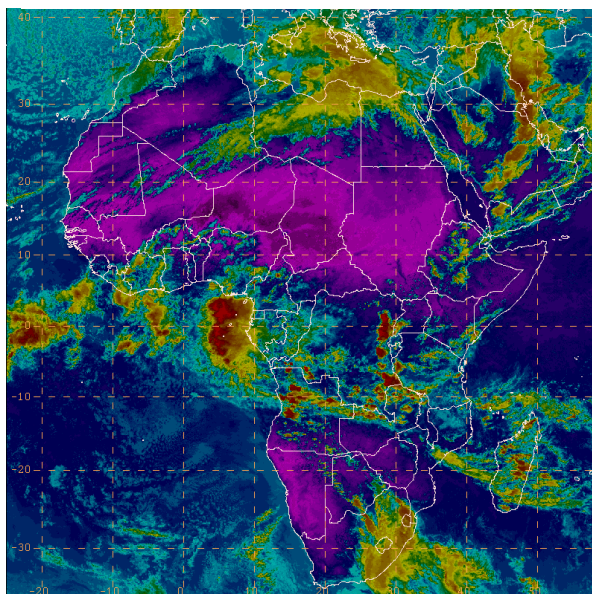
2.2. *Weather assessment for the current day* (April 5, 2019)

Severe convection is observed over the Gulf of Guinea off the coasts of Cameroon, Equatorial Guinea and Gabon. Significant to enhanced convective clouds are also observed over eastern DRC.

RFE2 Daily Total Rainfall (mm)
Period: 04Apr2019



IR Satellite Image (valid 1452 April 05, 2019)



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