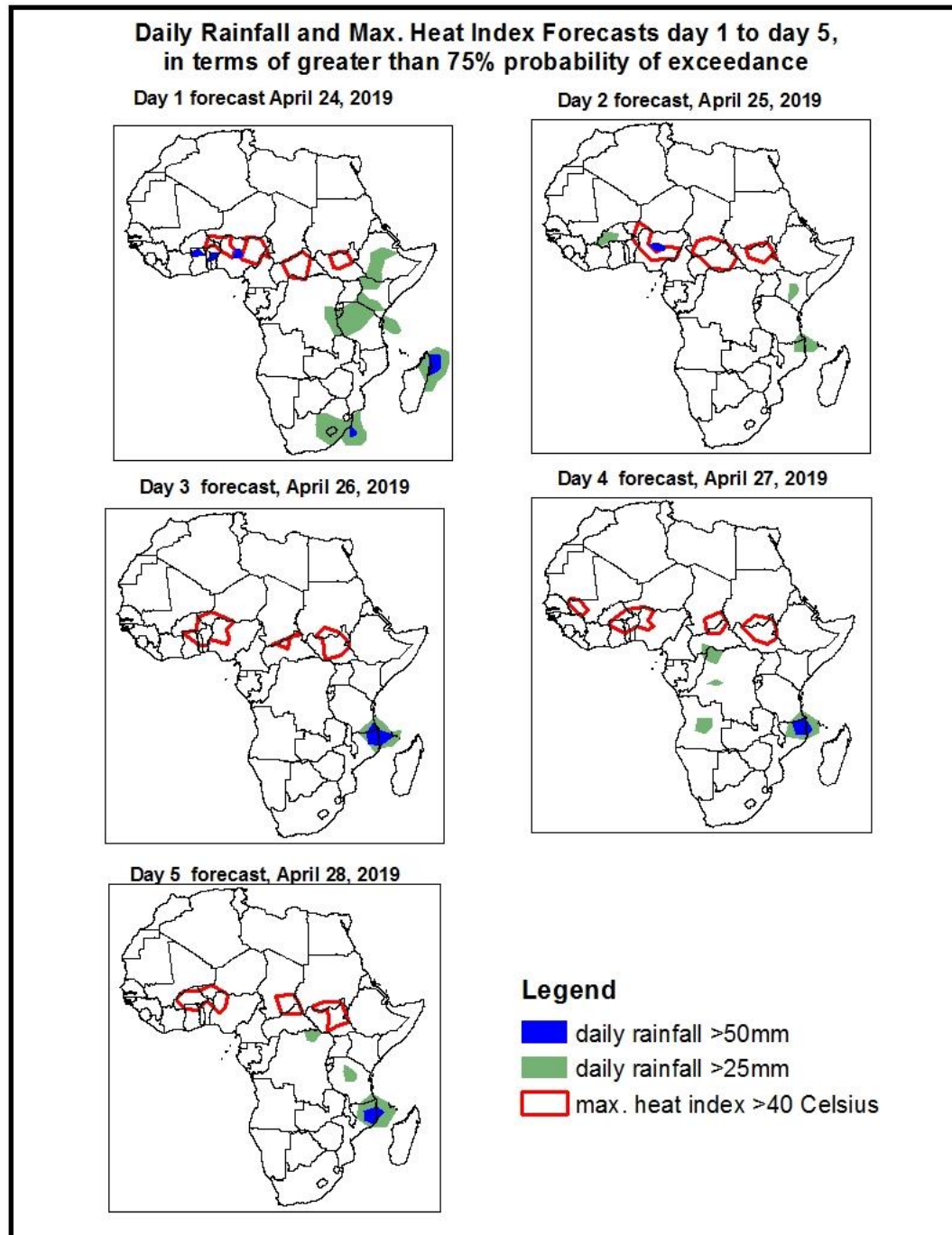


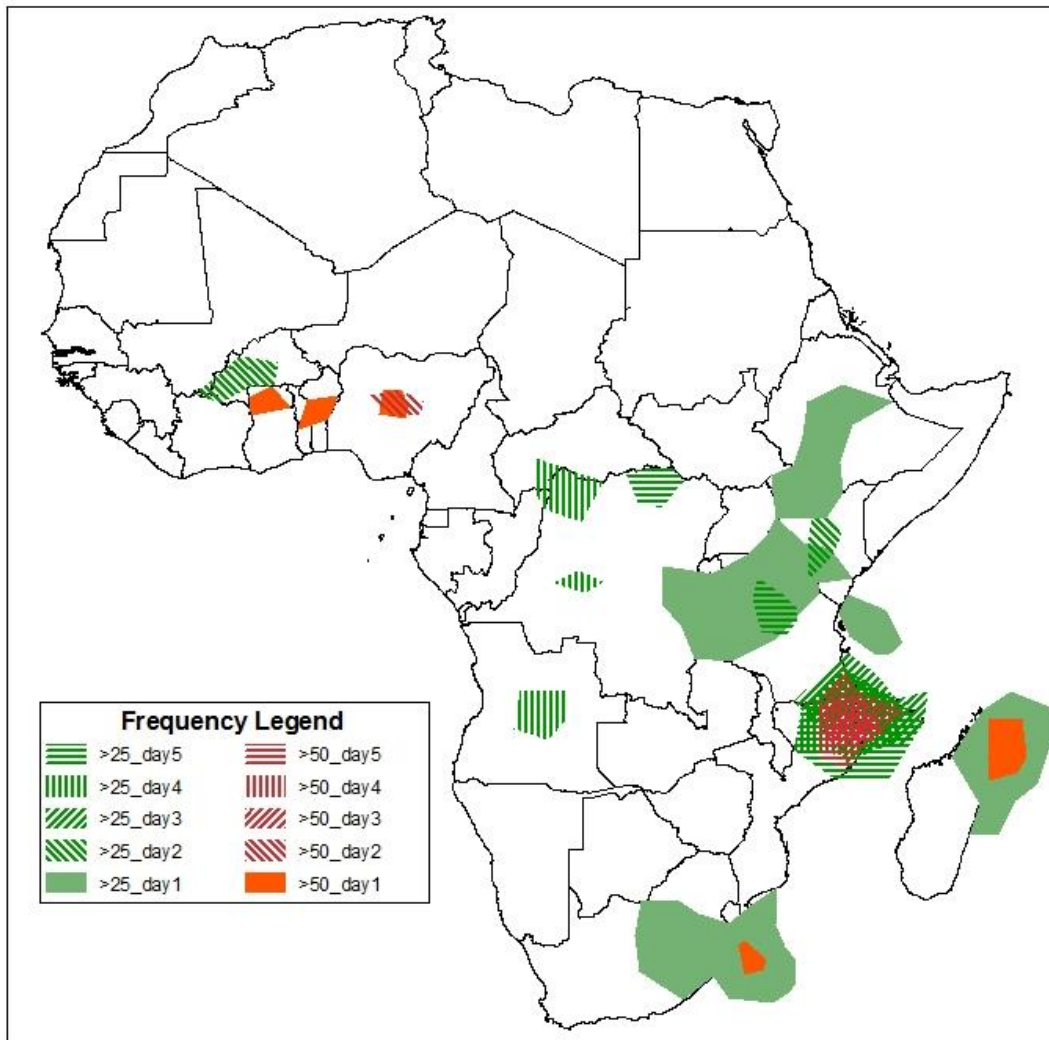
1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on April 23, 2019)

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

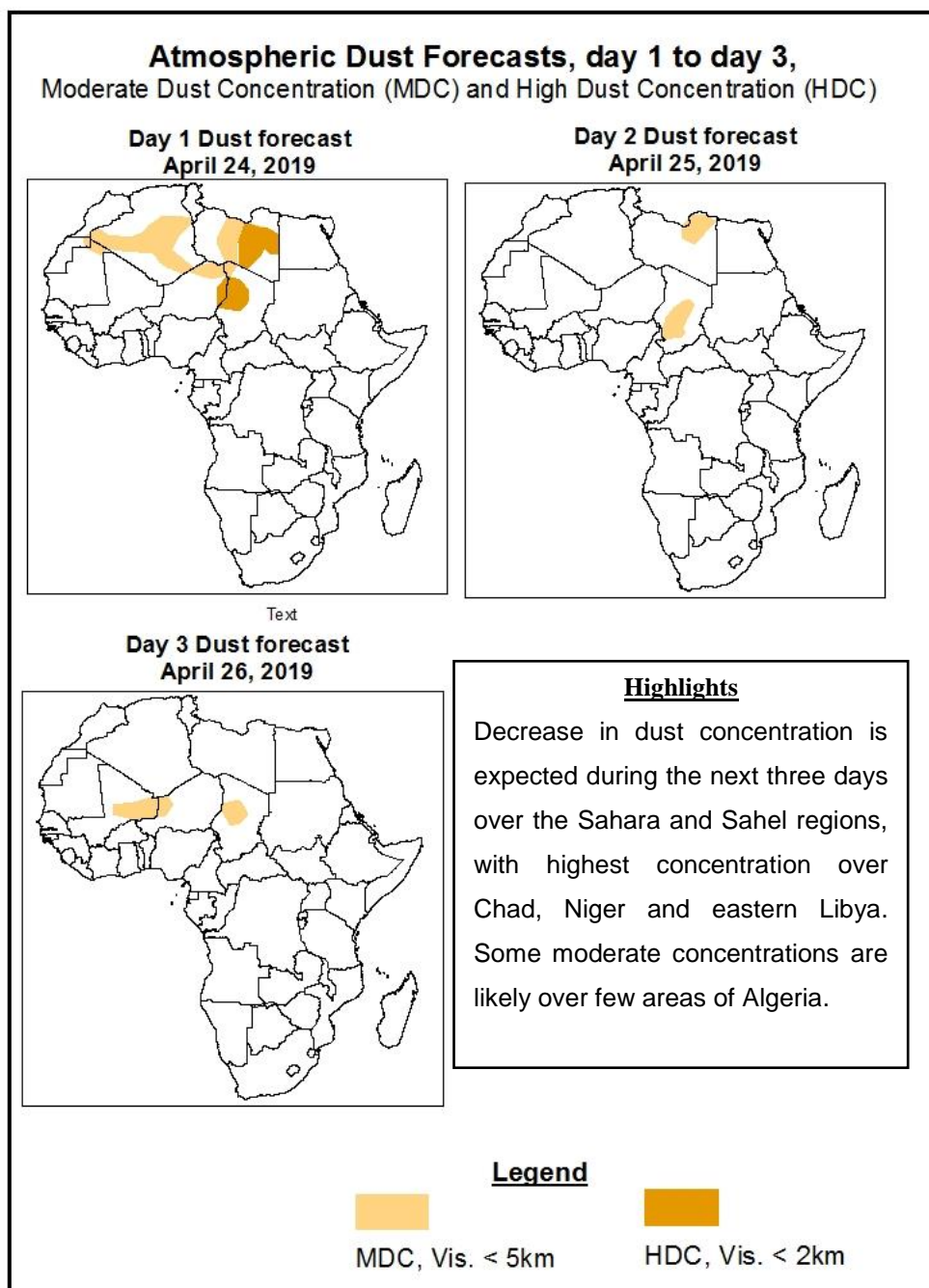


Highlights

- Isolated moderate to enhanced precipitation is expected over few areas of the Gulf of Guinea.
- Less pronounced lower-level wind convergences are likely to reduce precipitation significantly over many parts of central Africa. Activities are also expected to slightly decrease over central Tanzania towards Lake Victoria Basin (LVB). Otherwise, the tropical depression over the southwest Indian Ocean is expected to cause heavy precipitation along parts of Mozambique and Tanzania coastal areas. A frontal system is expected to cause enhanced precipitation over South Africa, only during the start of the period.
- At least 25mm for two or more days is likely over few areas of the Gulf of Guinea, some parts of central Africa. Also, over some areas over central Tanzania towards the LVB, along the south coast of Tanzania and northern coast of Mozambique as well as eastern 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: 24 – 26 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: 24 – 28 April 2019

Throughout the forecast period, the Azores High Pressure system over the North of Atlantic is expected to continue intensifying, reaching as high as 1033hPa during the second half of the period. Meanwhile it is expected to be steadily migrating towards East and located over extreme northwest of Africa, and hence its influence on African weather is minimal, rather.

During the forecast period, the St. Helena High Pressure system over Southeast Atlantic Ocean, currently at around 1027hPa, is expected to migrate steadily towards east while relaxing significantly due to the incoming frontal low from the west. During the end of the period, the system will turn into the ridging high influencing light stratiform precipitation along the southern Africa coastal areas.

The Mascarene High Pressure system over Southwest Indian Ocean is currently far to the east but expected to rebuild from mid towards the end of the forecast period. Even more significant, in the Southwest Indian Ocean, is the development of the tropical depression just north of Madagascar which is likely to propagate southwestwards affecting southern Tanzania and northern Mozambique particularly during the mid-period.

At 925hPa, strong wind speeds (>35) over Libya are likely to trigger high dust concentrations over there. Meanwhile, strong winds are also likely to develop over Chad towards the end of the forecast period. Over the Sahel and the Gulf of Guinea, Monsoon winds are likely to maintain their influence over the area, characterized by highly isolated but moderate to enhanced convective precipitation. Over the central Africa the low level convergence is expected to be less pronounced, occasionally triggering some moderate precipitation over there. On the other hand, a cyclonic flow with tight gradient, associated with a tropical depression is expected to travel southwestwards before hitting northern Mozambique and somehow southern Tanzania.

Again, at 850hPa level, no pronounced convergent wind patterns are expected over the central Africa and hence the likelihood of decreased convective activities over there. This is also the case for central Tanzania towards the Lake Victoria Basin (LVB). However, coastal areas of Tanzania are expected to feature quite pronounced convergence due to the due to

the influence of the tropical depression over northern Madagascar (also evident at this level). These areas are likely to receive enhanced to heavy precipitation during the period.

At 700hPa, mainly northeasterly wind pattern is expected to continue dominate over the Gulf of Guinea. Convective activities over these areas are likely to be propagated generally towards southwest. Quite significant cyclonic flow travelling from northern Madagascar to northern Mozambique and southern Tanzania is also evident at this level.

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 the Gulf of Guinea, central and east Africa regions.

During the period, a Subtropical Westerly Jet at 200hPa is expected to be weak, with most of the times having winds less than 130kts. Also, no significant bending (trough) is expected and therefore its influence on precipitation over north and northeast Africa is virtually non-existent.

Isolated moderate to enhanced precipitation is expected over few areas of the Gulf of Guinea. Less pronounced lower-level wind convergences are likely to reduce precipitation significantly over many parts of central Africa. Activities are also expected to slightly decrease over central Tanzania towards Lake Victoria Basin (LVB). Otherwise, the tropical depression over the southwest Indian Ocean is expected to cause heavy precipitation along parts of Mozambique and Tanzania coastal areas. A frontal system is expected to cause enhanced precipitation over South Africa, only during the start of the period. At least 25mm for two or more days is likely over few areas of the Gulf of Guinea, some parts of central Africa. Also, over some areas over central Tanzania towards the LVB, along the south coast of Tanzania and northern coast of Mozambique as well as eastern 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

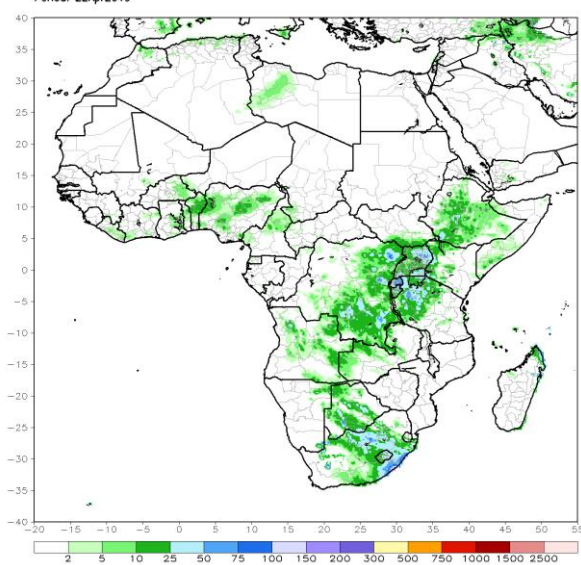
2.1. *Weather assessment for the previous day* (April 22, 2019)

Daily rainfall totals exceeding 25mm is observed over east DRC, northeast Uganda and northwest Tanzania (mostly around the Lake Victoria Basin (LVB) as well as east South Africa.

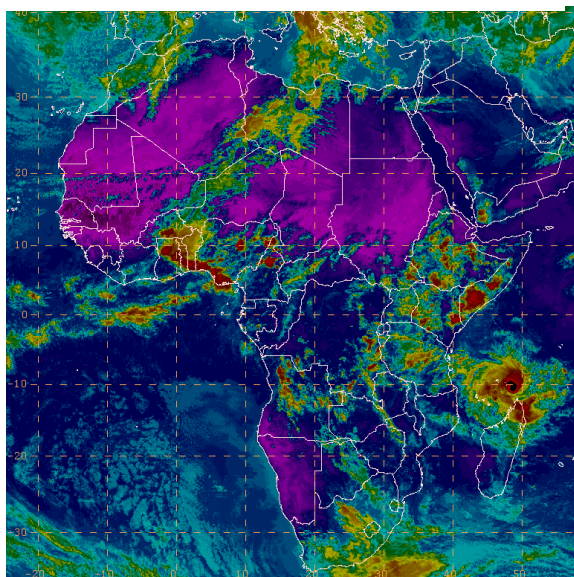
2.2. *Weather assessment for the current day* (April 23, 2019)

Deep convective clouds are observed over the western DRC. Otherwise significant isolated convective clouds are seen over Cameroon.

RFE2 Daily Total Rainfall (mm)
Period: 22Apr2019



IR Satellite Image (valid 1452 April 23, 2019)



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