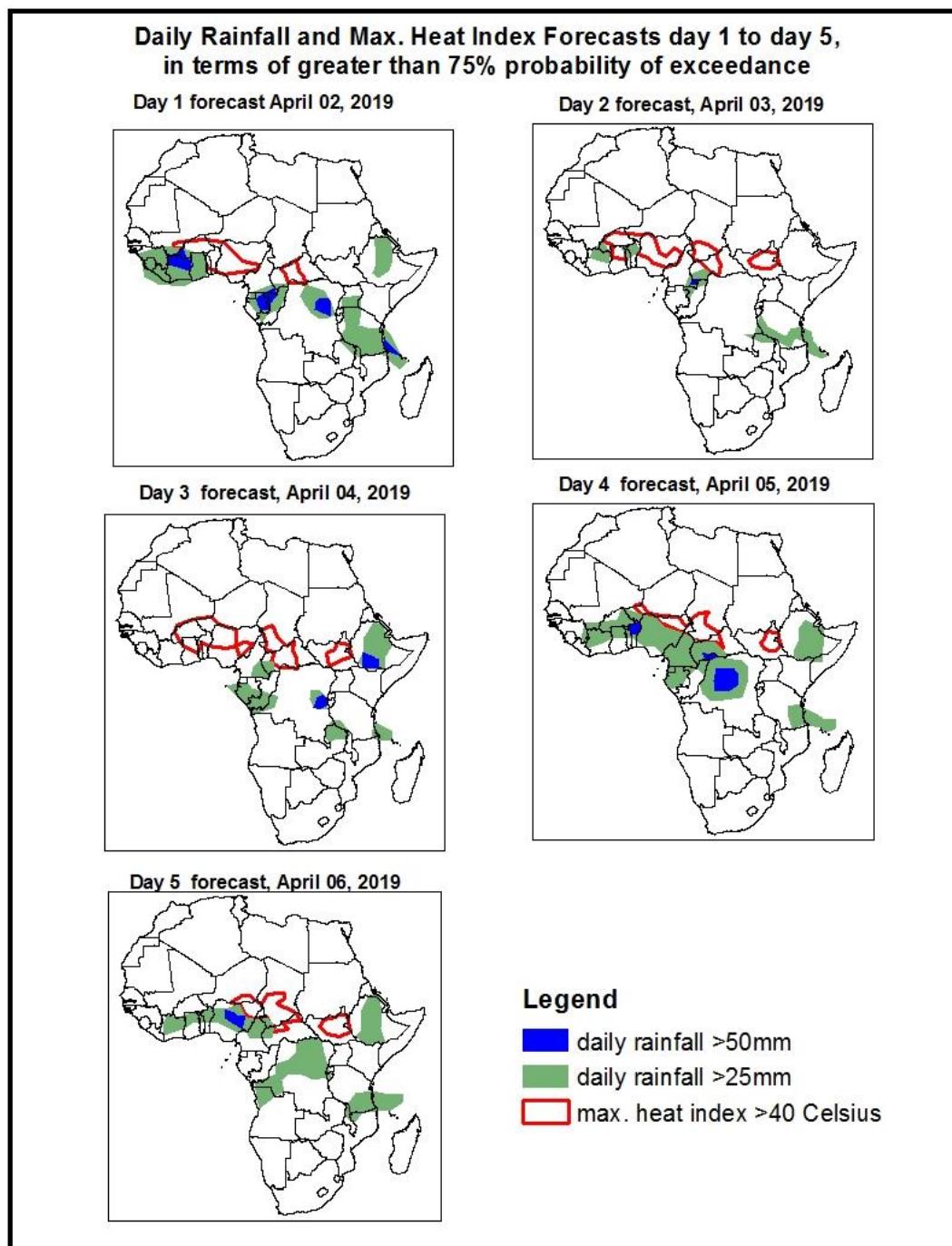


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

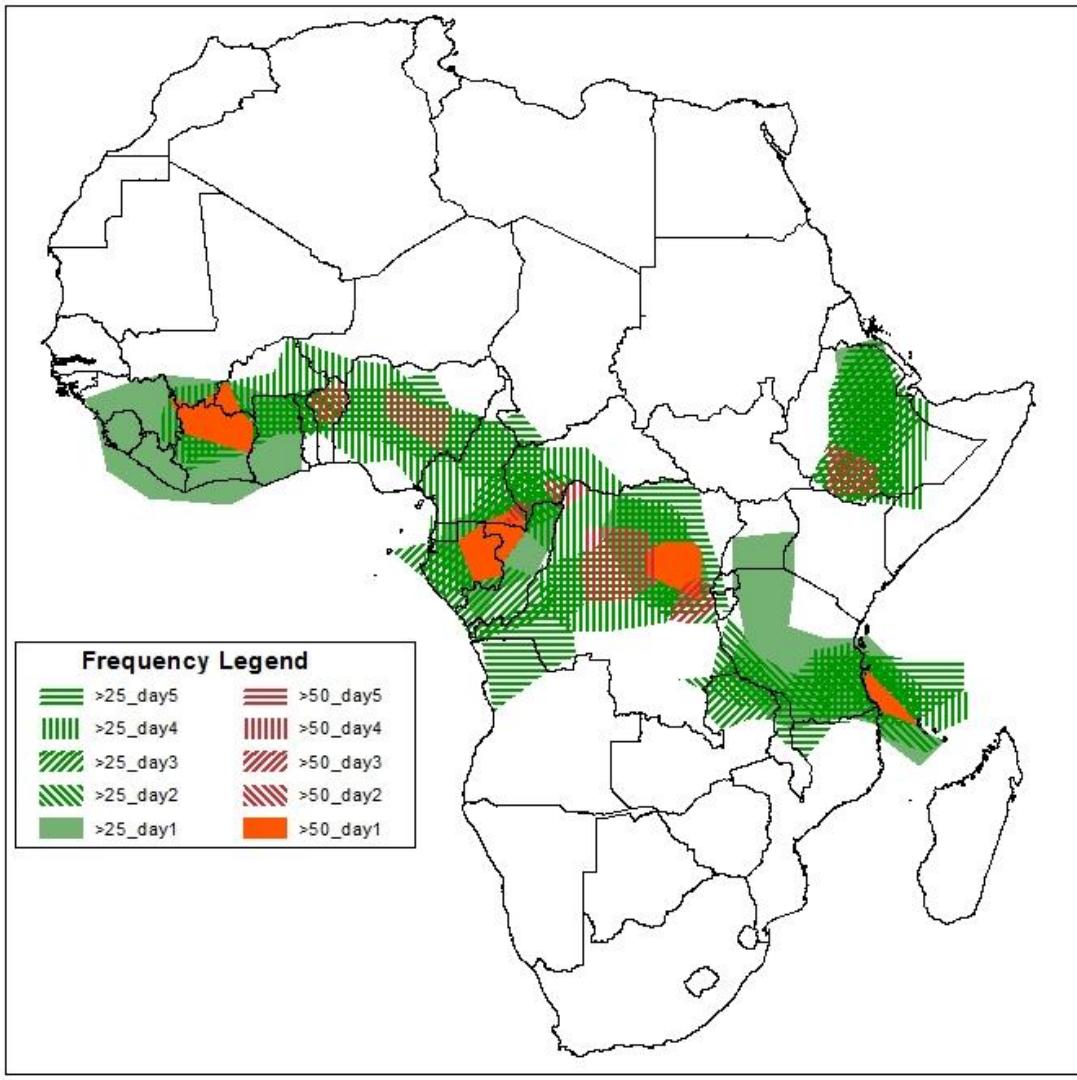
1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on April 01, 2019)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (*valid: 02 – 06 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°C), based on the NCEP/GFS and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



Five Days Rainfall Forecast Summary 02 - 06 April, 2019.

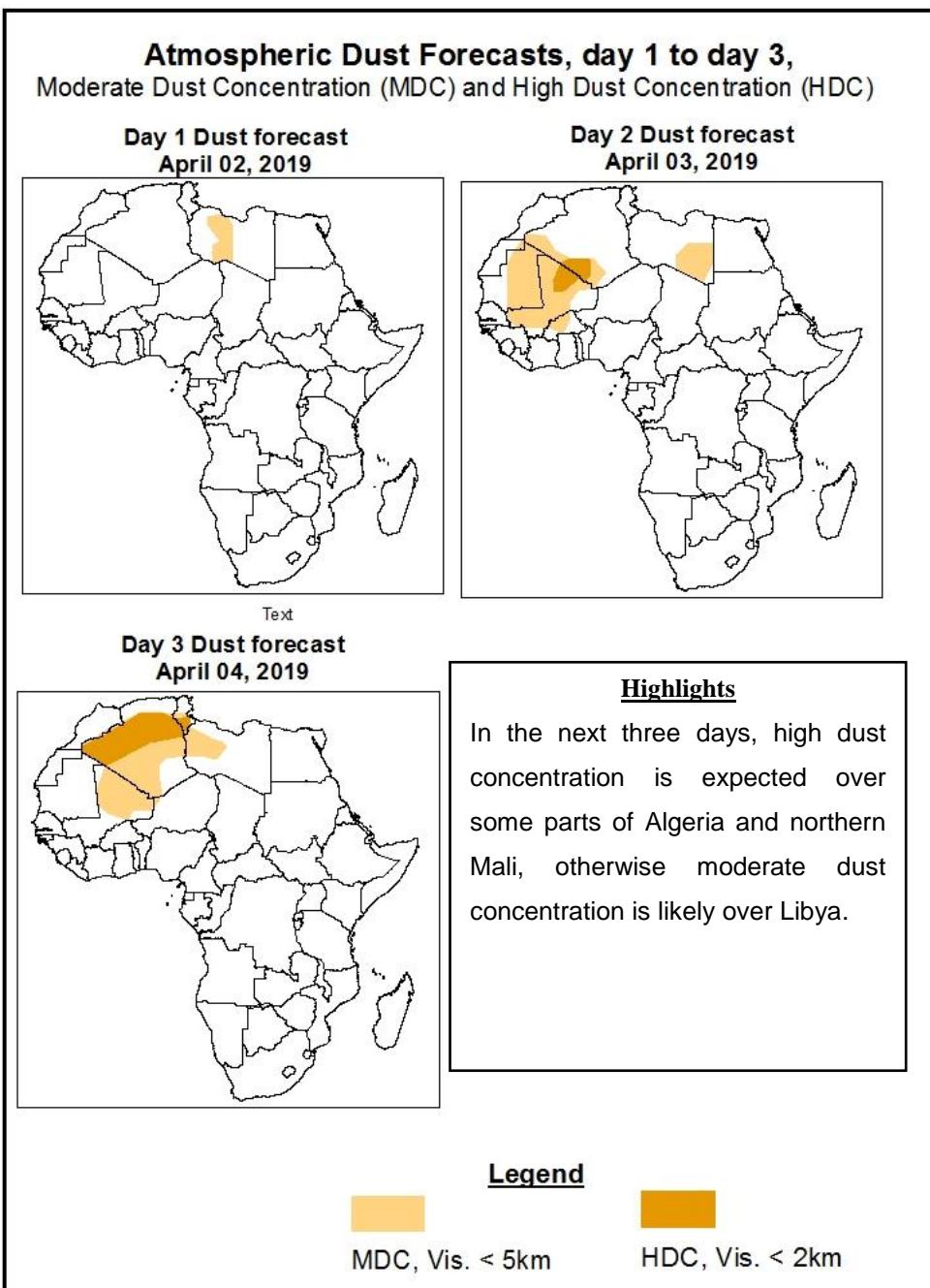


Highlights

- In the next five days, the generally weak Azores and intensifying St. Helena Highs are likely to shift the Monsoon wind convergence zone further North, enhancing precipitation over much of the Gulf of Guinea, southern parts of the Sahel region.
- Meanwhile the persistent lower-level wind convergences are likely to maintain significant precipitation over some areas across the Equatorial Africa as well as those in East and few in the Great Horn of Africa.
- At least 25mm for two or more days is likely in isolated areas over much of the Gulf of Guinea, southern Sahel region, central Africa, central parts of Ethiopia and southern parts of East Africa.
- Increased chance for daily rainfall amount to exceed 50mm for two or more days over northern Côte d'Ivoire, parts of Gabon, Congo and Cameroon and DRC as well as few areas along the coast of Tanzania.

1.2. Atmospheric Dust Concentration Forecasts (valid: 02 – 04 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: 02 – 06 April 2019

During the forecast period, the Azores High Pressure system over the North of Atlantic Ocean, currently at 1036hPa, is expected to slightly weaken and be confined further West due to the presence of frontal as well as occasional non-frontal low pressure systems in Northern Africa. This is likely to maintain moderate precipitation over the Sahel and parts of Great Horn of Africa.

The St. Helena High Pressure system over Southeast Atlantic Ocean is expected to intensifying from 1023 to as high as 1029 towards the second half of the forecast period. This is likely to push the Zonal component of the ITCZ further North, increasing precipitation activities along the Gulf of Guinea. However, this intensification is not expected to cause significant migration of the Meridional component of the ITCZ towards East and thus its influence on Southern Africa weather is minimal.

The Mascarene High Pressure system over Southwest Indian Ocean is expected to slightly intensify during the first half of the period but relax during the second half due to erosion from the incoming frontal low.

At 925hPa, strong and dry, mainly northeasterly, winds are expected to continue blowing over the Sahel and Sahara regions during the period. Marked Monsoon winds convergence along the Gulf of Guinea and parts of the Sahel are expected to enhance precipitation especially towards the second half of the forecast period. Otherwise, low level convergences are expected to influence enhanced to heavy precipitation over some areas in the central, East and Great Horn of Africa.

At 850hPa, mainly westerly convergent wind flow is expected over the Gulf of Guinea with the potential of enhanced precipitation. Separate convergent winds are also likely over parts of central Africa, particularly over the northern DRC and neighboring countries, Great Horn of Africa, especially western Ethiopia towards South Sudan as well as East Africa in most of Tanzania. Isolated to scattered, moderate to enhanced precipitation is likely over these areas.

At 700hPa, generally easterly to northeasterly winds over the Gulf of Guinea expected. Due to this, expected convective activities are likely to be advected towards southwest. At times convergent winds at this level are expected over the Great Horn of Africa over Ethiopia, East Africa in Tanzania as well as parts of central Africa, particularly in the DRC.

At 500hPa, a general easterly wind flow over the Equatorial Africa is expected to be maintained during the entire period. Further North, general northerly winds are expected.

At 200hPa, increasingly strong wind (>90kts), associated with the subtropical westerly jet, is expected to prevail across northern Africa, with the strongest wind (>130kts) and significant bending over the northern parts of Africa likely during the second half of the period.

In the next five days, the generally weak Azores and intensifying St. Helena Highs are likely to shift the Monsoon wind convergence zone further North, enhancing precipitation over much of the Gulf of Guinea, southern parts of the Sahel region. Meanwhile the persistent lower-level wind convergences are likely to maintain significant precipitation over some areas across the Equatorial Africa as well as those in East and few in the Great Horn of Africa. At least 25mm for two or more days is likely in isolated areas over much of the Gulf of Guinea, southern Sahel region, central Africa, central parts of Ethiopia and southern parts of East Africa. Increased chance for daily rainfall amount to exceed 50mm for two or more days over northern Cote d'Ivoire, parts of Gabon, Congo, Cameroon, DRC as well as few areas along the coast of Tanzania.

2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (March 31, 2019)

Daily rainfall totals exceeded 25mm over parts of Cote d'Ivoire and Liberia.

2.2. Weather assessment for the current day (April 01, 2019)

Enhanced convective clouds are observed over some areas of eastern DRC, central and southeastern Tanzania. Also, significant convection is evident over parts of Cote d'Ivoire, Liberia and Guinea.

