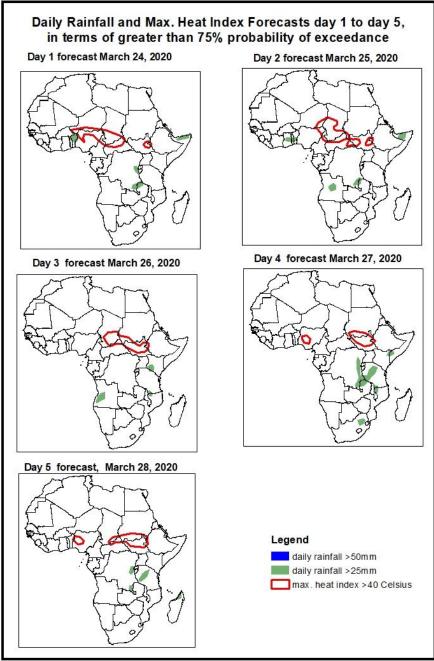
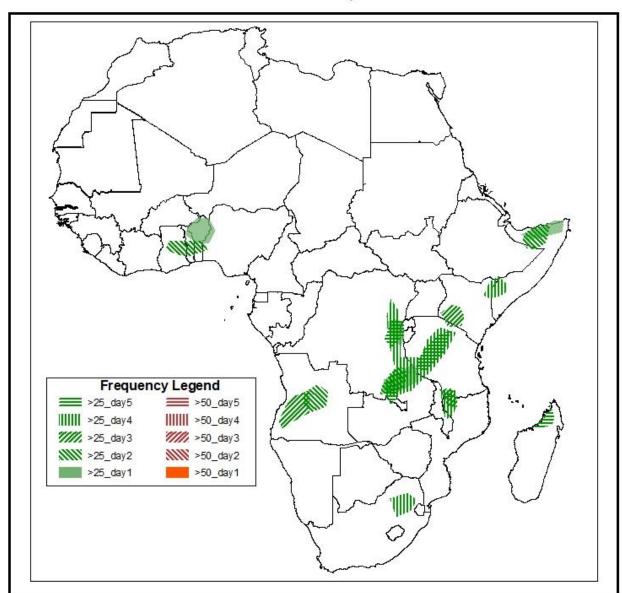
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

### 1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on March 23, 2020)

#### 1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: 24 – 28 March, 2020)

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.



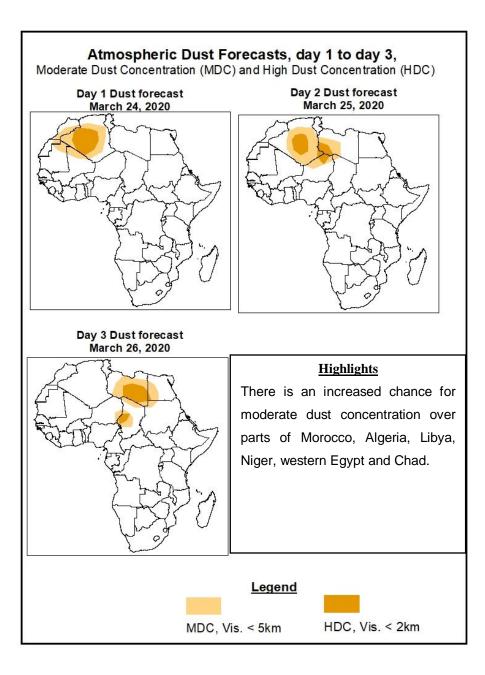


# Five Days Rainfall Forecast Summary 24 - 28 March, 2020

# <u>Highlights</u>

- Localized lower-level wind convergences are expected to enhance rainfall over portions of Central and East Africa.
- At least 25mm for two or more days is likely over parts of DRC, Tanzania, and Somalia.
- There is an increased chance for daily maximum heat index to exceed 40°C over portions of the Sahel region, and local areas in South Sudan and southwestern Ethiopia.

**1.2.** Atmospheric Dust Concentration Forecasts (valid: 24 – 26 March, 2020) 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 March 2020

The Azores High Pressure system over Northeast Atlantic and neighboring areas is expected to intensify with its central pressure value increasing from 1039hPa to 1042hPa during the forecast period.

The St. Helena High Pressure system over the South Atlantic Ocean is expected to intensify slightly with its central pressure value increasing from 1026hPa to 1028hPa during the forecast period.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to intensify with his central pressure value increasing from 1025hPa to 1034hPa during the forecast period.

At 925-hPa level, an area of strong dry northerly to northeasterly flow is expected to enhance atmospheric dust concentration over many places in the Sahel and North Africa. Zonal wind convergences are expected to remain active near 10°N in West and Central Africa.

At 850-hPa level, zonal wind convergences are expected to remain active near 5°N. Local wind convergences are also expected to remain active in parts of East and Southeast Africa.

At 700-hPa level, a broad area of anti-cyclonic ridge is expected to prevail across much of West Africa. In contrast, a trough associated with a mid-latitude frontal system is expected to deepen while shifting eastwards across eastern Mediterranean Sea and the neighboring areas on Northeast Africa.

Localized lower-level wind convergences are expected to enhance rainfall over portions of Central and East Africa. At least 25mm for two or more days is likely over parts of DRC, Tanzania, and Somalia. There is an increased chance for daily maximum heat index to exceed 40°C over portions of the Sahel region, and local areas in South Sudan and southwestern Ethiopia.

## 2.0. Previous and Current Day Weather over Africa

### 2.1. Weather assessment for the previous day (March 23, 2020)

Daily rainfall amount exceeded 25 mm over parts of eastern Guinea, Cote d'Ivoire, southern Congo, and southern Tanzania.

#### 2.2. Weather assessment for the current day (March 24, 2020)

Convective clouds are observed over local areas in the Gulf of Guinea, portions of the Greater Horn of Africa and Southern Africa.

