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 June 08, 2018)

#### **1.1. Daily Rainfall and Maximum Heat Index Forecasts** (valid: June 09, – June 13, 2018)

The forecasts are expressed in terms of high probability of precipitation (POP) and high probability of maximum heat index, based on the NCEP/GFS and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.





# <u>Highlights</u>

In the next five days, areas of anomalous lower-level convergence in East Africa and Western part of Gulf of Guinea are expected to enhance rainfall in the western part of Gulf of Guinea and East Africa. While areas of anomalous lower-level divergence over the Gulf of Guinea and Central African region are expected to suppress rainfall. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Guinea, Sierra Leone, Mali, Burkina Faso, Niger, Benin, Nigeria, Cameroon, CAR, Sudan, South Sudan, Kenya and Ethiopia.

**1.2.** Atmospheric Dust Concentration Forecasts (valid: June 09 – June 11, 2018) 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: June 09– June 13, 2018

The Azores High Pressure system over the North Atlantic Ocean is expected to weaken in the first three days and then intensify in the last two days of the forecast period. The central pressure values decreases from about 1026hPa to 1025 hPa and increases to 1027 hPa during the forecast period.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to weaken during the forecast period. The central pressure values ranges from about 1026hPa to 1023 hPa during the forecast period.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to be quasi stationary in the first two days and then intensify in the last three days of the forecast period. The central pressure value for the first two days is about 1025hPa and increases to 1033 hPa during the forecast period.

At 925hPa, dry strong northeasterly to easterly wind is expected to prevail across northern Africa and portions of the Sahel region.

At 850hPa, in West Africa, it is expected the oscillation of the Inter Tropical Convergence Zone above the Gulf of Guinea countries while the area of wind convergence remain active in Uganda and South Sudan during the forecast period.

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### 2.0. Previous and Current Day Weather over Africa

### 2.1. Weather assessment for the previous day (June 07, 2018)

Moderate to locally heavy rainfall was observed over parts of Guinea, Mali, Sierra Leone, Liberia, Togo, Benin, Nigeria, Cameroon, CAR, DRC, South Sudan, Kenya, and Ethiopia.

## 2.2. Weather assessment for the current day (June 08, 2018)

Intense convective clouds are observed over parts of the Gulf of Guinea, Central Africa and South Sudan.

