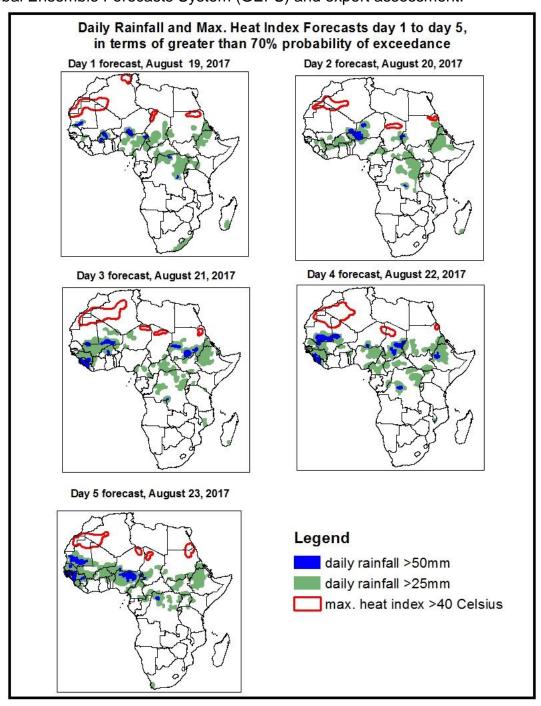
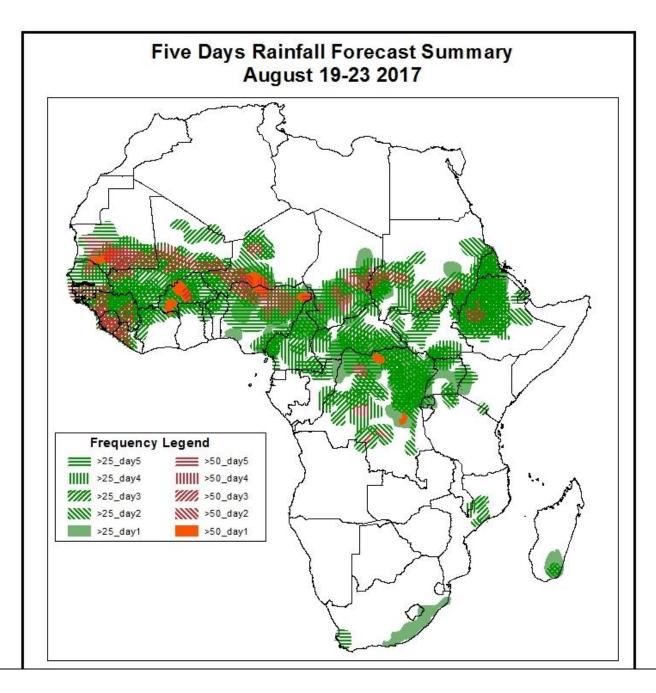
## 1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on August 18, 2017)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: August 19–23 August, 2017)

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



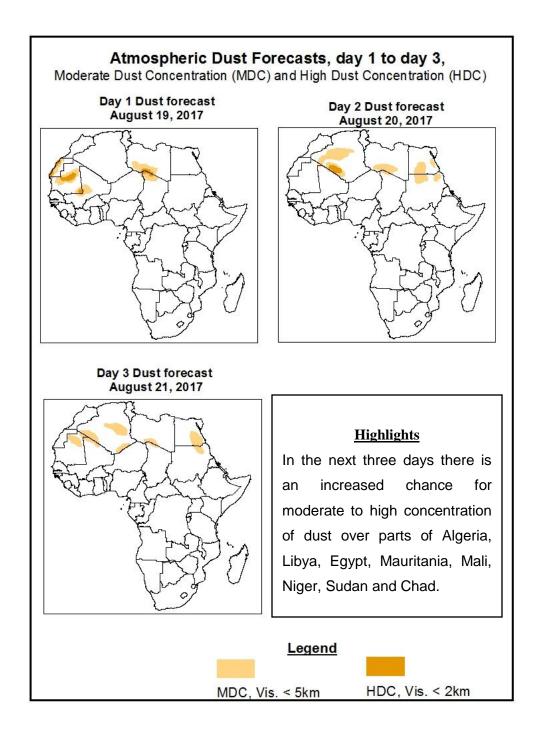


# <u>Highlights</u>

In the next five days, a strong monsoon flow from the Atlantic Ocean across West and Central Africa combined with a lower-level cyclonic circulation propagating across the Sahel countries coupled with a convergence zone over southeastern Africa which produce a shear line moving eastward and with upper level divergence is expected to enhance rainfall over many places in West, Central, and East African countries. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over many places in Senegal, Gambia, Guinea Bissau, Guinea, Sierra Leone, Liberia, Northern Cote D'Ivoire, Burkina Faso, southern Mauritania, southern Mali, southern Niger, Nigeria, southern Chad, Cameroon, CAR, DRC, southern Sudan, South Sudan, Ethiopia and northern Eritrea.

## 1.2. Atmospheric Dust Concentration Forecasts (valid: August 19-21, 2017)

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: August 19-23 2017

The Azores High Pressure system over the North Atlantic Ocean is expected to weaken from its central pressure value of 1024hPa in the next 48hours to 1018hpa and thereafter towards the end of the forecast period it starts to intensify to 1021hpa.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to gradually intensify from its central pressure value of 1024hpa to 1034hpa after 48hours and then maintains this value to the end of the forecast period.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to drastically weaken from its central pressure value of 1036hpa to 1021hpa towards the end of the forecast period.

The heat low over western Sahel is expected to fill up from its value of 1004hpa in the next 48hours to 1008hpa and then deepens again to 1005hpa towards the end of the forecast period. Over the central Sahel, the heat low is expected to slightly deepen from its value of 1008hpa to 1007hpa in the next 48hours and then fills up 1009hpa towards the end of the forecast period. Over the Sudan area, the heat low is expected to maintain its value of 1008hpa all through the end of the forecast period.

At 925hPa, there is an influx of moist south westerlies into West Africa with a vortex located over Senegal and Mauritania moving westward. Another convergence over north east Sudan with the trough line extending through Chad, Niger, Mali and then Mauritania is expected to propagate westward towards the end of the forecast period. The dry north easterlies propagating from the subtropical high pressure over North Africa results to the spreading and transport of the dust over Mauritania, Algeria, Libya, Egypt and the northern parts of Mali, Niger, Chad and Sudan. They will gradually retard towards the end of the forecast period as a result of the influx more inland of the south westerlies.

At 850hPa, a cyclonic circulation over West Africa with a big vortex which is of predominantly a continental flow is located over Chad and Niger with its trough extending up to the Gulf of Guinea is expected to propagate westwards toward the end of the forecast period. Also there

is a convergence over Angola with the shear line extending to DRC, Tanzania, Burundi, and Kenya moving in a south east direction toward the end of the forecast period.

At 700hPa, the subtropical high pressure system weakens and moves westward due to the intrusion of the mid latitude trough into the African continent thereby creating a cut off highs with an easterly flow across West Africa. Over the Central and South East Africa the divergent flow still persists towards the end of the forecast period.

In the next five days, a strong monsoon flow from the Atlantic Ocean across West and Central Africa combined with a lower-level cyclonic circulation propagating across the Sahel countries coupled with a convergence zone over southeastern Africa which produce a shear line moving eastward and with upper level divergence is expected to enhance rainfall over many places in West, Central, and East African countries. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over many places in Senegal, Gambia, Guinea Bissau, Guinea, Sierra Leone, Liberia, Northern Cote D'Ivoire, Burkina Faso, southern Mauritania, southern Mali, southern Niger, Nigeria, southern Chad, Cameroon, CAR, DRC, southern Sudan, South Sudan, Ethiopia and northern Eritrea.

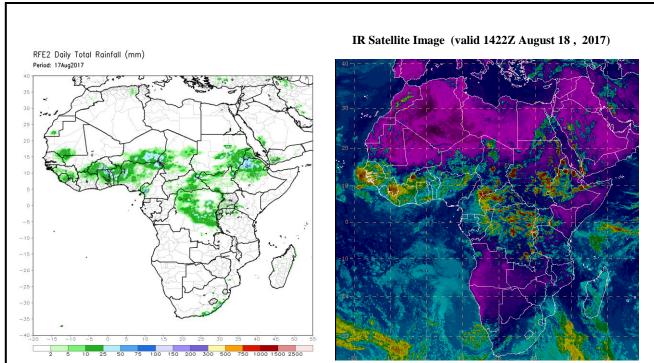
## 2.0. Previous and Current Day Weather over Africa

#### **2.1. Weather assessment for the previous day** (August 17, 2017)

Moderate to locally heavy rainfall was observed over parts of Senegal, Gambia, Guinea, Guinea Bissau, Sierra Leone, Burkina Faso, Cote D'Ivoire, Ghana, Togo, Benin, Nigeria, Cameroon, CAR, Sudan, south Sudan, DRC, southern Mali, western Chad, southern Mauritania, Ethiopia and Eritrea.

### **2.2. Weather assessment for the current day** (August 18, 2017)

Intense convective clouds are observed over portions of West, Central and East Africa.



Previous day rainfall condition over Africa (Left) based on the NCEP CPCE/RFE and current day cloud cover (right) based on IR Satellite image.

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