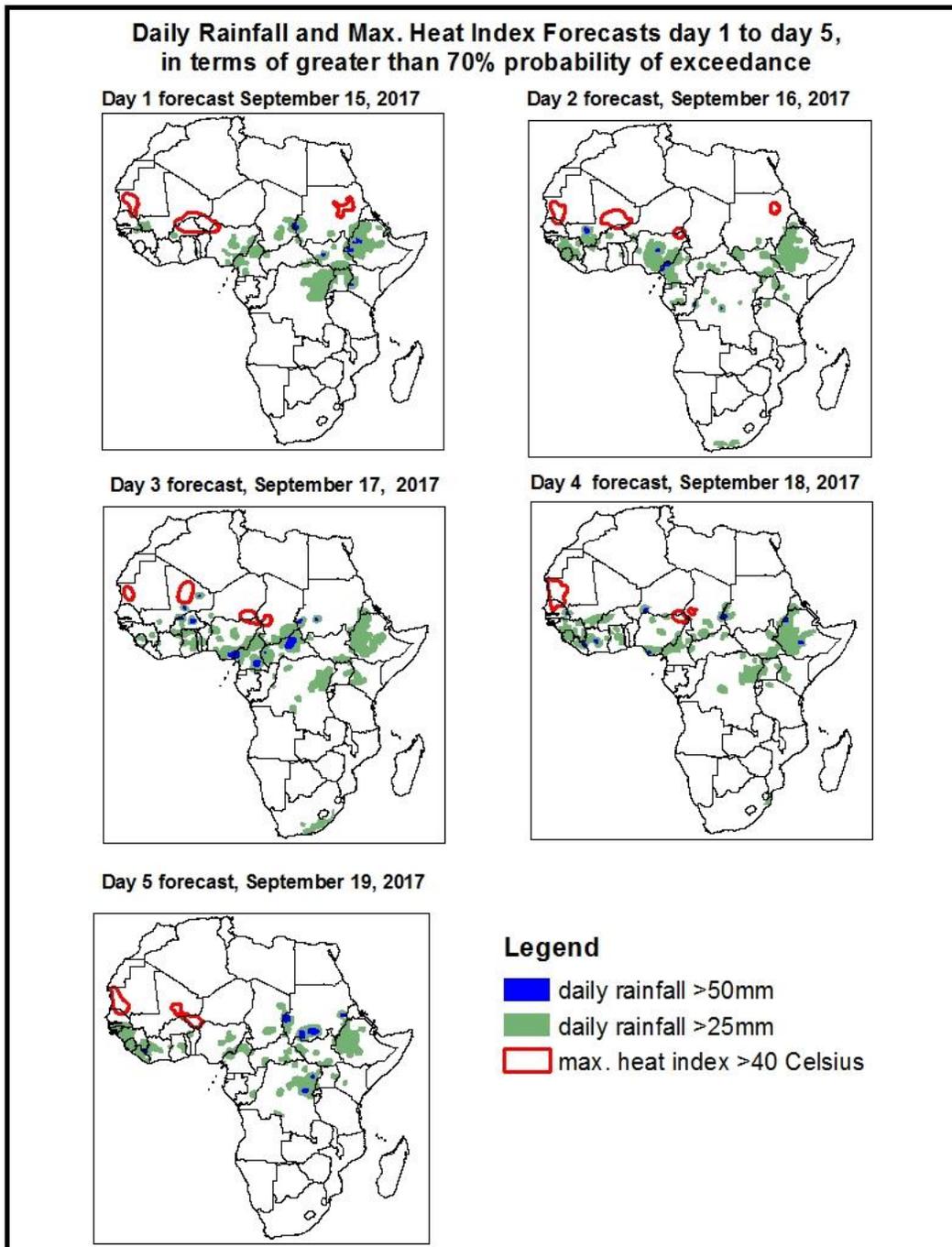


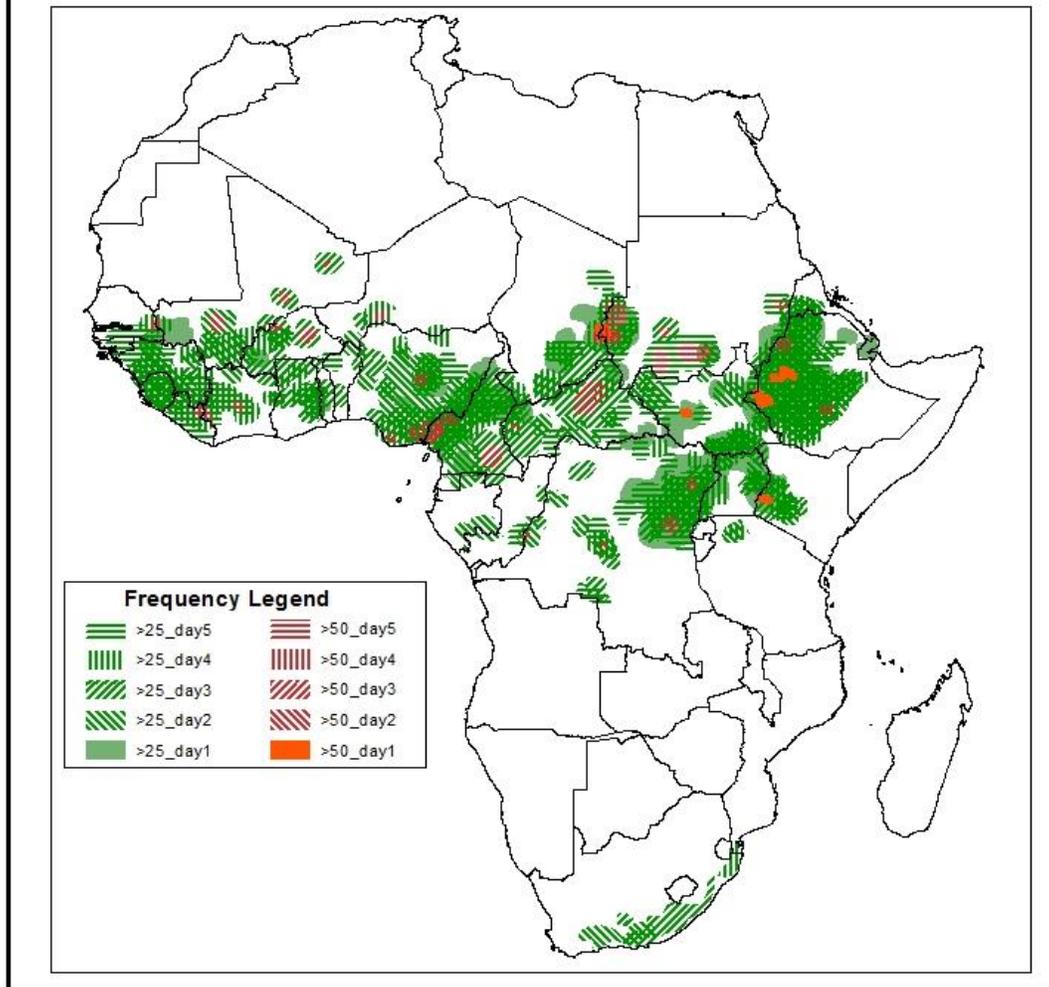
## 1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on September 14, 2017)

### 1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: September, 15-19 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.



## Five Days Rainfall Forecast Summary September 15-19 2017.

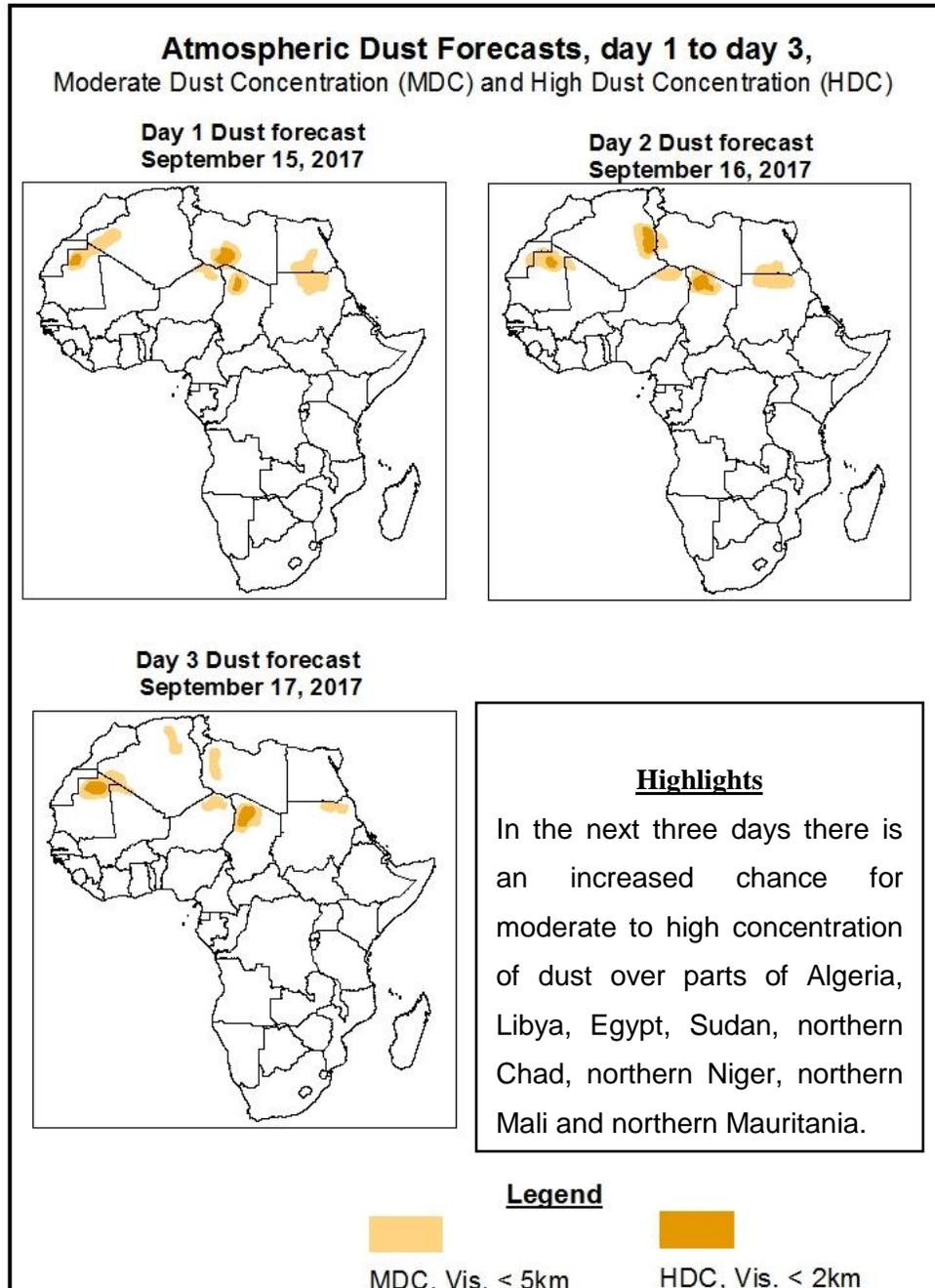


### **Highlights**

In the next five days, a 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 upper level divergence is expected to enhance rainfall over many places in West and Central African countries. Active lower-level convergence over southern Angola to south eastern DRC and traversing through Burundi, Rwanda, northern Tanzania and then Uganda with a slight movement eastward towards the end of the forecast period is also expected to enhance rainfall in the region. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over many places southern Senegal, Guinea Bissau, Guinea, Sierra Leone, Liberia, southern Mali, western Cote D'Ivoire, southern Mali, western Burkina Faso, northern Ghana, Nigeria, Cameroon, south western Chad, CAR, north eastern DRC, Uganda, south western Kenya, southern Sudan, South Sudan and Ethiopia.

## 1.2. Atmospheric Dust Concentration Forecasts (valid: September 15-17 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: September 15-19 2017**

The Azores High Pressure system over the North Atlantic Ocean is expected to drastically weaken from its central pressure value of 1031hpa to 1023hpa in the next 48hours and thereafter intensify to 1029hpa towards the end of the forecast period.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to maintain its central pressure value of 1032hpa in the next 48hours then intensify to 1038hpa towards the end of the forecast period.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to intensify from its central pressure value of 1021hpa to 1026hpa in the next 48 hours then weaken to 1024hpa towards the end of the forecast period.

The heat low over western Sahel is expected to gradually fill up from its value of 1006hpa in the next 72hours to 1009hpa and then later deepen to 1007hpa towards the end of the forecast period.

Over the central Sahel, the heat low is expected to maintain its value of 1008hpa in the next 48hours then slightly fill up to 1009hpa towards the end of the forecast period.

Over the Sudan area, the heat low is expected to fill up from its value of 1005hpa in the next 48hours to 1009hpa and then maintain this value towards the end of the forecast period.

At 925hPa, there is a convergence which is dominated by the continental winds over the Sudan area and a low pressure system develops in the next 48hours moving westwards. Over the central Sahel and the west Sahel regions a series of vortices are developing and sustained with a slight movement westward throughout the forecast period. The maritime winds will dominate the west Sahel region and retard the continental winds towards the end of the forecast period.

Another convergence is established over the southern Angola to south eastern DRC and traversing through Burundi, Rwanda, northern Tanzania and then Uganda with a slight movement eastward towards the end of the forecast period.

The dry north easterlies to easterly winds propagating from the subtropical high pressure system over North Africa are spreading and transporting the Saharan dust over Algeria,

Libya, Egypt, Sudan, northern Chad, northern Niger, northern Mali, northern Mauritania and the Western Sahara.

At 850hPa, there is a cyclonic circulation over West Africa with pockets of vortices spreading over the region and the Sudan area which are dominated by the continental winds with a westward propagation all through the forecast period.

There is a convergence zone over the southern DRC which traverse and extends northeastwards to Uganda with a slight movement in the eastward direction to the end of the forecast period.

At 700hPa, there is the divergence of a northeasterly to easterly flow from the subtropical high pressure system over the north and West Africa to its coasts towards the end of the forecast period.

Divergence over central, eastern and the southern part of Africa predominate and persist over regions towards the end of the forecast period.

In the next five days, a 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 upper level divergence is expected to enhance rainfall over many places in West and Central African countries. Active lower-level convergence over southern Angola to south eastern DRC and traversing through Burundi, Rwanda, northern Tanzania and then Uganda with a slight movement eastward towards the end of the forecast period is also expected to enhance rainfall in the region. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over many places southern Senegal, Guinea Bissau, Guinea, Sierra Leone, Liberia, southern Mali, western Cote D`Ivoire, southern Mali, western Burkina Faso, northern Ghana, Nigeria, Cameroon, south western Chad, CAR, north eastern DRC, Uganda, south western Kenya, southern Sudan, South Sudan and Ethiopia.

## 2.0. Previous and Current Day Weather over Africa

### 2.1. Weather assessment for the previous day (September 13, 2017)

Moderate to locally heavy rainfall was observed over Guinea Bissau, western Guinea, and Sierra Leone, some parts of north western Nigeria, southern Chad, CAR, western DRC, southern Sudan, South Sudan and western Ethiopia.

### 2.2. Weather assessment for the current day (September 14, 2017)

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

