

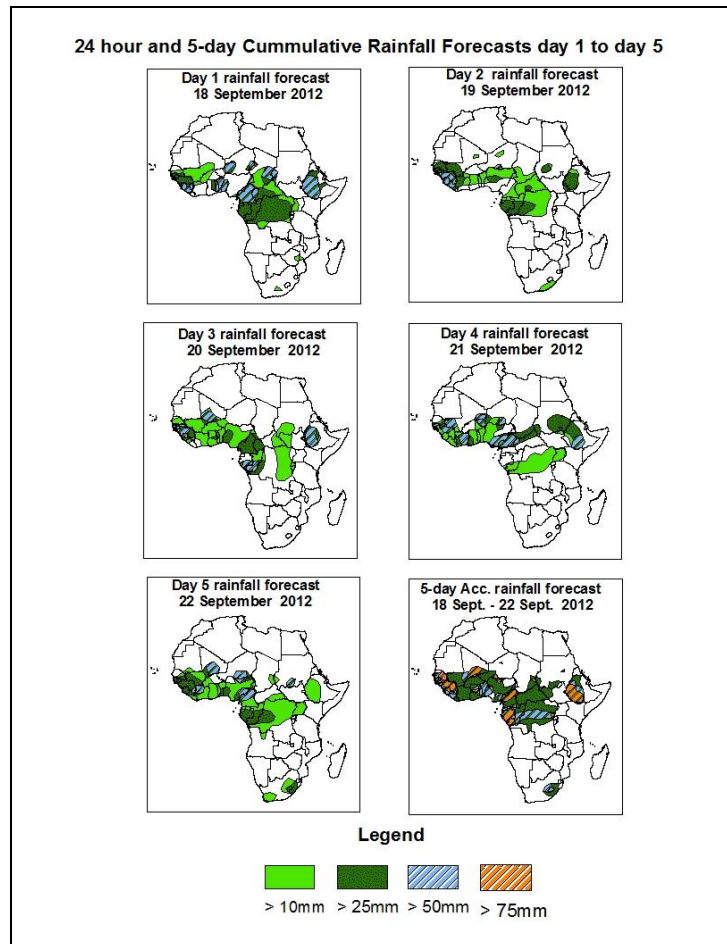


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of September 18th – 06Z of September, 22nd 2012. (Issued at 13:00Z of September, 17th 2012)

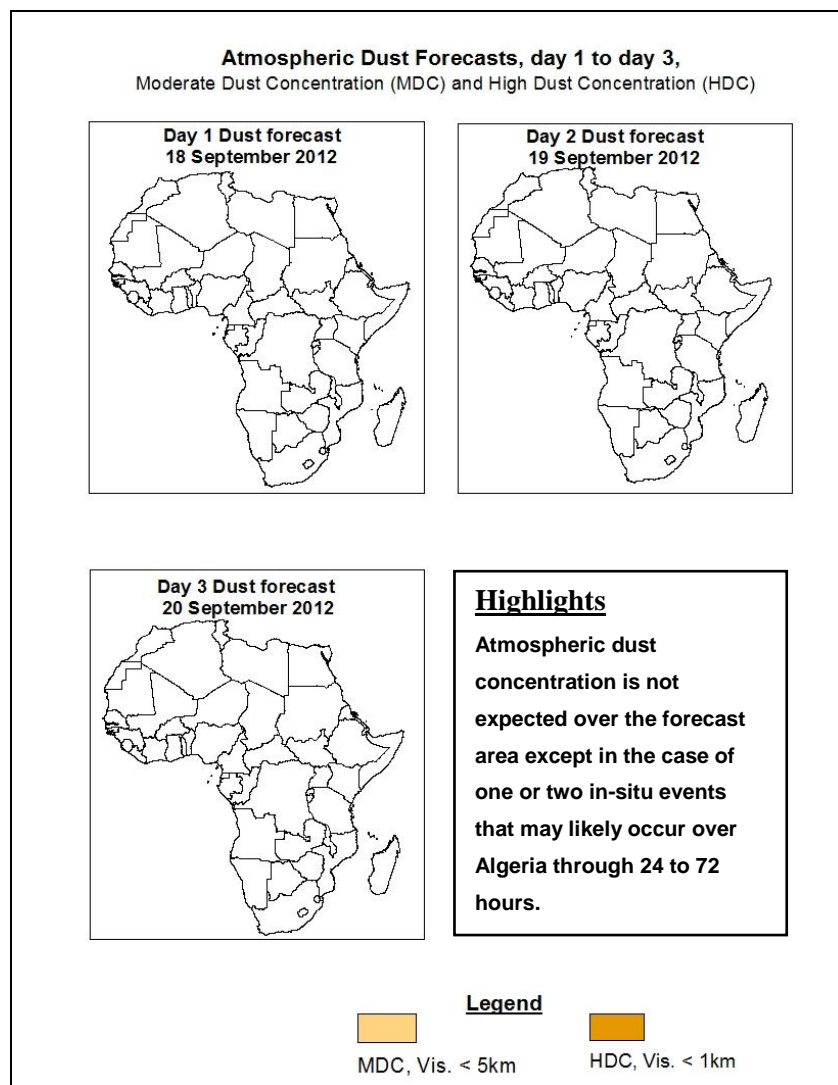
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



Summary

In the next five days, ITD is expected to fluctuate between 10°N and 21°N with moderate to strong monsoon depth within 24 to 120 hours; also the TEJ, AEJ and the AEW propagation with vortices within the 850 to 700hpa pressure level fields are expected to enhance rainfall activities over parts of South Sudan Republic, Cameroon and Nigeria; South Chad; portions of the Sahel Region, Sierra Leone and Guinea Conakry; Northern Guinea Gulf Countries; part of Central African Republic; West and North Ethiopia.



1.3. Model Discussion: Valid from 00Z of September, 17th 2012.

The heat lows over Mauritania, Mali, Algeria, Niger, Chad and Sudan are expected to fluctuate in their positions while deepening and filling up and vice versa, through 24 to 120 hours, according to the GFS, ECMWF and UKMET models.

According to the GFS model, a thermal low over south-west and coastal Mauritania (1008hpa) in 24 hours is expected to increase its core value to 1010hpa in 48 hours and tends to decrease to 1009hpa through 72 to 20 hours especially over the south and coastal Mauritania. The second low over south Algeria and Mali (1009hpa) in 24 hours is expected to steadily decrease its core value to 1007hpa in 72 hours and tends to increase to 1010hpa in 120 hours. The third low over North Chad and Niger (1007hpa)

in 24 hours is expected to fluctuate between 1006hpa and 1008hpa through 48 to 120 hours; while the low over North Sudan (1006hpa) in 24 hours is expected to decrease to 1005hpa in 48 hours and tends to maintain this core value through 48 to 96 hours and increases to 1006hpa in 120 hours.

The ECMWF model shows a thermal low over central and eastern Mauritania (1010hpa) in 24 hours and is expected to maintain this core value at 1010hpa through 48 to 120 hours over Mauritania. The second low over South Algeria and North Mali (1011hpa) in 24 hours is expected to steadily decrease its core value to 1009hpa through 48 to 72 hours and tends to increase to 1010hpa through 96 to 120 hours. The third low over North Chad and Niger (1011hpa) in 24 hours is expected to decrease in its core value to 1008hpa in 72 hours and increase to 1009hpa through 96 to 120 hours; while the low over North Sudan (1006hpa) in 24 hours is expected to maintain almost the same core value through 48 to 120 hours.

The UKMET model shows a thermal low over north and central Mauritania (1009hpa) in 24 hours is expected to decrease its core value to 1008hpa in 96 hours, and tends to increase to 1010hpa in 120 hours. The second low over south Algeria and north Mali (1008hpa) in 24 hours is expected to decrease its core value to 1007hpa in 72 hours and to significantly increase to 1010hpa through 96 to 120 hours. The third low over North Chad and Niger (1009hpa) in 24 hours is expected to decrease to 1007hpa in 72 hours and tends to increase to 1008hpa through 96 to 120hours; while the low over North Sudan (1006hpa) in 24 hours is expected to maintain its core value at 1006hpa through 48 to 120 hours.

According to the UKMET model, the St. Helena High pressure system over South Atlantic Ocean with a core value of 1030hpa in 24 hours locates at latitude 30°S is expected to decrease its core value to 1024hpa in 72 hours while moving northwards from latitude 30°S to 25°S and tends to maintain this core value while remaining quasi-stationary at the same latitudinal position through 96 to 120 hours.

According to the ECMWF model, the central pressure value of 1030hpa in 24 hours locates at latitude 30°S is expected to decrease to 1024hpa in 72 hours and tends to

steadily increase to 1027hpa through 96 to 120 hours while remaining quasi-stationary at the same latitudinal position of 30°S.

Lastly, according to the GFS model, the central pressure value of 1030hpa in 24 hours locates at latitude 30°S is expected to gradually decrease to 1024hpa in 72 hours and tends to steadily increase to 1026hpa through 96 to 120 hours while remaining quasi-stationary at the same latitudinal position of 30°S.

According to the GFS model, the Azores high pressure system over North Atlantic Ocean with its central pressure value of 1026hpa in 24 hours and locates at longitude 30°W is expected to gradually increase its core value to 1033hpa while fluctuating between longitudes 20°W and 48°W through 48 to 120 hours.

According to the ECMWF model, the central pressure value of 1026hpa in 24 hours and locates at longitude 30°W is expected to gradually increase its core value to 1032hpa while fluctuating between longitudes 20°W and 50°W through 48 to 120 hours.

Lastly, according to the UKMET model, the central pressure value of 1026hpa in 24 hours and locates at longitude 30°W is expected to gradually increase its core value to 1032hpa while fluctuating between longitudes 20°W and 45°W through 48 to 120 hours.

At 925hpa level, a zone of moderate dry northerly and northeasterly winds (25kts) is expected to prevail over central Algeria and north Mauritania through 24 to 72 hours.

At the 850hpa level, a lower tropospheric wind convergence associated with strong and significant West African Monsoon inflow and depth between latitude 10°N and 21°N is expected to prevail over parts of Mauritania, Mali, Niger, Sudan, Chad and Western Africa through 24 hours to 120 hours. Vortices are expected over south Algeria; east Central African Republic; west Nigeria; north Sudan; Ghana; south Mali and Guinea-Conakry. The convergence associated with the meridional arm of the ITCZ is expected to oscillate between portions of South Sudan Republic; North and Central Democratic Republic of Congo; West and North Uganda; South and East Central African Republic and the Great Lake Countries through 24 hours to 120 hours.

At 700hpa level, the AEJs seem to be disappearing as no significant jets were observed on the weather charts except over south Mauritania and south Mali. The African Easterly Waves (AEW) is also expected to propagate westwards affecting parts of Guinea-Conakry, Cote d'Ivoire, Ghana, Sierra Leone, Central African Republic, Togo, Benin Republic, South Sudan Republic, Democratic Republic of Congo, Mali, Chad, Nigeria and Mauritania within 24 to 120 hours.

At 500hpa level, a wave is expected to affect parts of Mali, Mauritania, Nigeria, Chad, Niger, Cameroon, Guinea-Conakry, Ghana, Cote D'Ivoire, Burkina Faso and Sudan, through 24 to 120 hours with no noticeable vortices over the forecast area in 120 hours.

At 150mb, the Tropical Easterly Jet with a maximum core of 10 to 40 Knots will affect portions of South Sudan Republic and the South Guinea Gulf Countries; parts of Ethiopia, Cameroon, Kenya and Central African Republic, with a slight north-easterly orientation to the wind flow, will also continue to affect most parts of West Africa, Chad, Cameroon and Sudan through 24 to 120 Hours.

In the next five days, ITD is expected to fluctuate between 10°N and 21°N with moderate to strong monsoon depth within 24 to 120 hours; also the TEJ, AEJ and the AEW propagation with vortices within the 850 to 700hpa pressure level fields are expected to enhance rainfall activities over parts of South Sudan Republic, Cameroon and Nigeria; South Chad; portions of the Sahel Region, Sierra Leone and Guinea Conakry; Northern Guinea Gulf Countries; part of Central African Republic; West and North Ethiopia.

Atmospheric dust concentration is not expected over the forecast area except in the case of one or two in-situ events that may likely occur over Algeria through 24 to 72 hours.

2.0. Previous and Current Day Weather Discussion over Africa

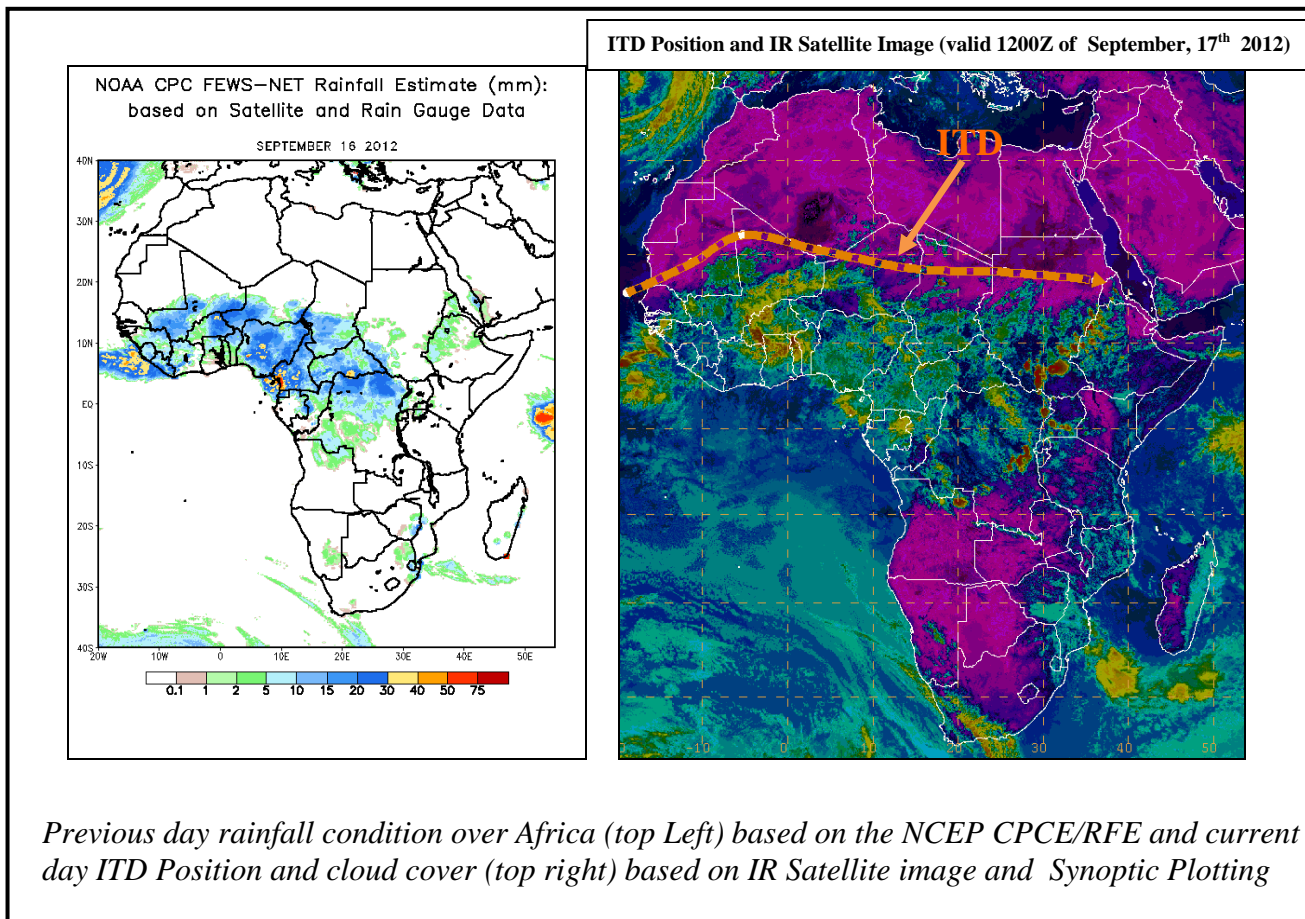
(September, 16th 2012 – September, 17th 2012)

2.1. Weather assessment for the previous day (September, 16th 2012)

During the previous day, moderate to heavy rainfall was observed over parts of Guinea Conakry; Cote d'Ivoire; Eritrea; Congo; Gabon; Sierra Leone; Mali; Niger; Nigeria; Chad; Cameroon; Democratic Republic of Congo; Central African Republic; South Sudan Republic; Ethiopia; Zimbabwe; Namibia; South Africa; Ghana and Benin.

2.2. Weather assessment for the current day (September, 17th 2012)

Convective activities observed across parts of Mali; Niger; Burkina Faso; Nigeria; Chad; Democratic Republic of Congo; Cameroon; Congo; South Sudan Republic; Ethiopia; Uganda; Somalia; Mauritania; Senegal; Guinea-Conakry; Sierra Leone; Ghana; Togo; Kenya; Zimbabwe; Malawi; South Africa; Gabon and Central African Republic.



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