

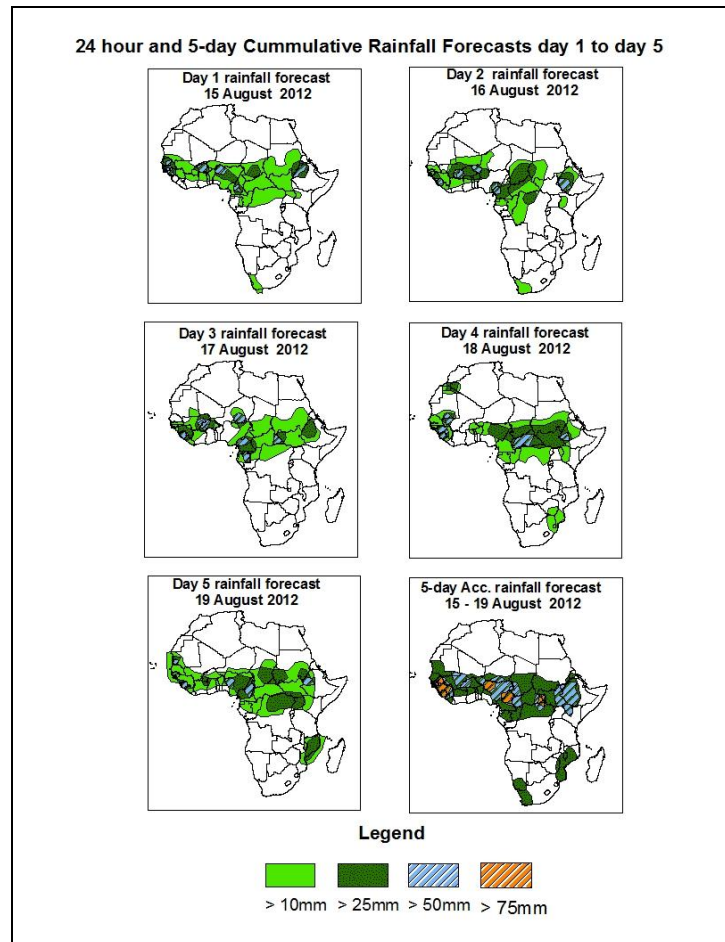


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of August 15th – 06Z of August, 19th 2012. (Issued at 13:00Z of August, 14th 2012)

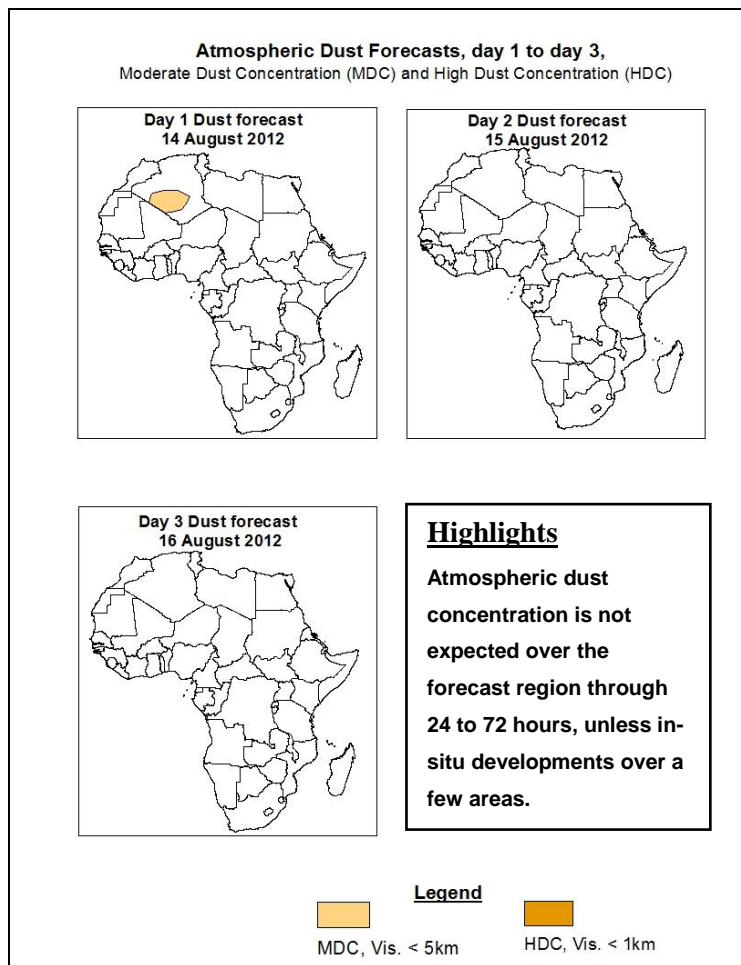
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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°E and 23°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 August, 14th 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 north, central and coastal Mauritania (1006hpa) in 24 hours is expected to decrease to 1004hpa in 48 hours and maintain the same core value up to 96 hours, and tends to significantly increase its core value to 1010hpa in 120 hours. The second low over South Algeria and Mali (1005hpa) in 24 hours is expected to significantly increase its core value to 1010hpa through 48 to 72 hours, then significantly decrease to 1005hpa in 96 hours, and decrease further to a core value of 1003hpa in 120 hours. The third low over North Chad and Niger (1010hpa) within 24 to 96 hours is expected to steadily decrease to 1004hpa and

increase slightly to 1006hpa in 120 hours; while the low over North Sudan (1006hpa) in 24 hours is expected to maintain its core value at 1006hpa within 48 hours and thereafter decrease to 1004hpa within 72 to 96 hours and tends to increase its core value to 1006hpa in 120 hours.

The ECMWF model shows a thermal low over North and Central Mauritania (1010hpa) in 24 hours is expected to decrease to 1008hpa pressure value from 48 to 72 hours, thereafter slightly increase to 1010hpa within 96 to 120 hours. The second low over South Algeria and North Mali (1007hpa) in 24 hours is expected to increase its core value to 1010hpa in 72 hours, and then decrease to 1006hpa in 120 hours. The third low over North Chad and Niger (1010hpa) in 24 hours is expected to decrease in its core value to 1006hpa in 96 hours before increasing to 1010hpa in 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 (1005hpa) in 24 hours is expected to slightly increase its core value to 1006hpa in 72 hours, and is expected to significantly increase to 1010hpa through 96 to 120 hours. The second low over South Algeria and North Mali (1005hpa) in 24 hours is expected to increase its core value to 1006hpa in 96 hours and down to 1003hpa in 120 hours. The third low over North Chad and Niger (1010hpa) in 24 hours is expected to steadily decrease to 1004hpa through 48 to 96 hours before a slight increase to 1006hpa in 120hours; while the low over North Sudan (1003hpa) in 24 hours is expected to maintain its core value at 1003hpa 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 1039hpa in 24 hours locates at latitude 40°S is expected to increase its core value to 1045hpa by moving northward to around latitude 32°S in 96 hours, and tends to decrease its cores value to 1041hpa by moving slightly southwards from latitude 32°S to 35°S in 120 hours.

According to the ECMWF model, the central pressure value of 1038hpa in 24 hours locates at latitude 35°S is expected to steadily increase its core value to 1046hpa by moving southwards to around latitude 40°S in 96 hours, and tends to significantly

decrease its core value to 1041hpa while moving northwards to latitude 35°S in 120 hours.

Lastly, according to the GFS model, the central pressure value of 1039hpa in 24 hours locates at latitude 35°S is expected to gradually decrease its core value to 1035hpa by shifting northwards to latitude 30°S through 48 to 72 hours before moving southwards to latitude 40°S with a core value of 1044hpa in 120 hours.

According to the GFS model, the Azores high pressure system over North Atlantic Ocean with its central pressure value of 1024hpa in 24 hours and locates at longitude 45°W is expected to gradually decrease its core value to 1022hpa while still maintaining its position at longitude 45°W in 72 hours, and continues to steadily decrease to 1020hpa while moving west to longitude 55°W through 96 to 120 hours.

According to the ECMWF model, the central pressure value of 1024hpa in 24 hours and locates at longitude 45°W is expected to gradually decrease its core value to 1022hpa while maintaining the same longitudinal position at 45°W in 72 hours, thereafter continue to decrease its core value to 1020hpa by moving to the west from longitude 45°W to 50°W through 96 to 120 hours.

Lastly, according to the UKMET model, the central pressure value of 1024hpa within 24 and locates at longitude 45°W is expected to decrease to 1021hpa while maintaining its position within 96 hours. Its core value will then decrease from 1021hpa to 1020hpa within 96 to 120 hours while its position will slightly move to longitude 50°W.

At 925hpa level, a zone of moderate dry northerly and northeasterly winds (25 to 50kts) is expected to prevail over south Algeria, south Libya, north Niger and Chad and central 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 23°N is expected to prevail over parts of Sudan, Cameroon, Chad, Central African Republic and Western Africa through 24 hours to 120 hours. Vortices are expected over north-west and south-central Niger; east Mali; north Burkina Faso; south and coastal Mauritania;

south Chad especially the Lake Chad basin area and along the Chad/Sudan border. 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; Great Lake Countries through 24 hours to 120 hours.

At 700hpa level, the AEJ with a core value between 30 and 50 knots is expected to affect Burkina Faso, Mali, Nigeria, Chad, Niger and Mauritania. The African Easterly Waves (AEW) is also expected to propagate westwards affecting parts of Niger, Mali, Chad, Sudan, Central African Republic, Ethiopia, Senegal, Cameroon and Mauritania within 24 to 120 hours.

At 500hpa level, a wave is expected to affect parts of Mali, Mauritania, Sudan, Togo, Niger, Benin, Cameroon, Algeria, Cote D'Ivoire, Burkina Faso and Chad, through 24 to 120 hours with no noticeable vortices over its area of influence within the forecast period.

At 150mb, the Tropical Easterly Jet with a maximum core of 25 to 65 Knots will affect portions of South Sudan Republic and South Guinea Gulf Countries; parts of Ethiopia, Cameroon and Central African Republic; Easterly wind flow will also continue to affect most part of West Africa, Chad, Cameroon and Sudan through 24 to 120 Hours.

In the next five days, ITD is expected to fluctuate between 10°E and 23°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 region through 24 to 72 hours, unless in-situ developments over a few areas.

2.0. Previous and Current Day Weather Discussion over Africa

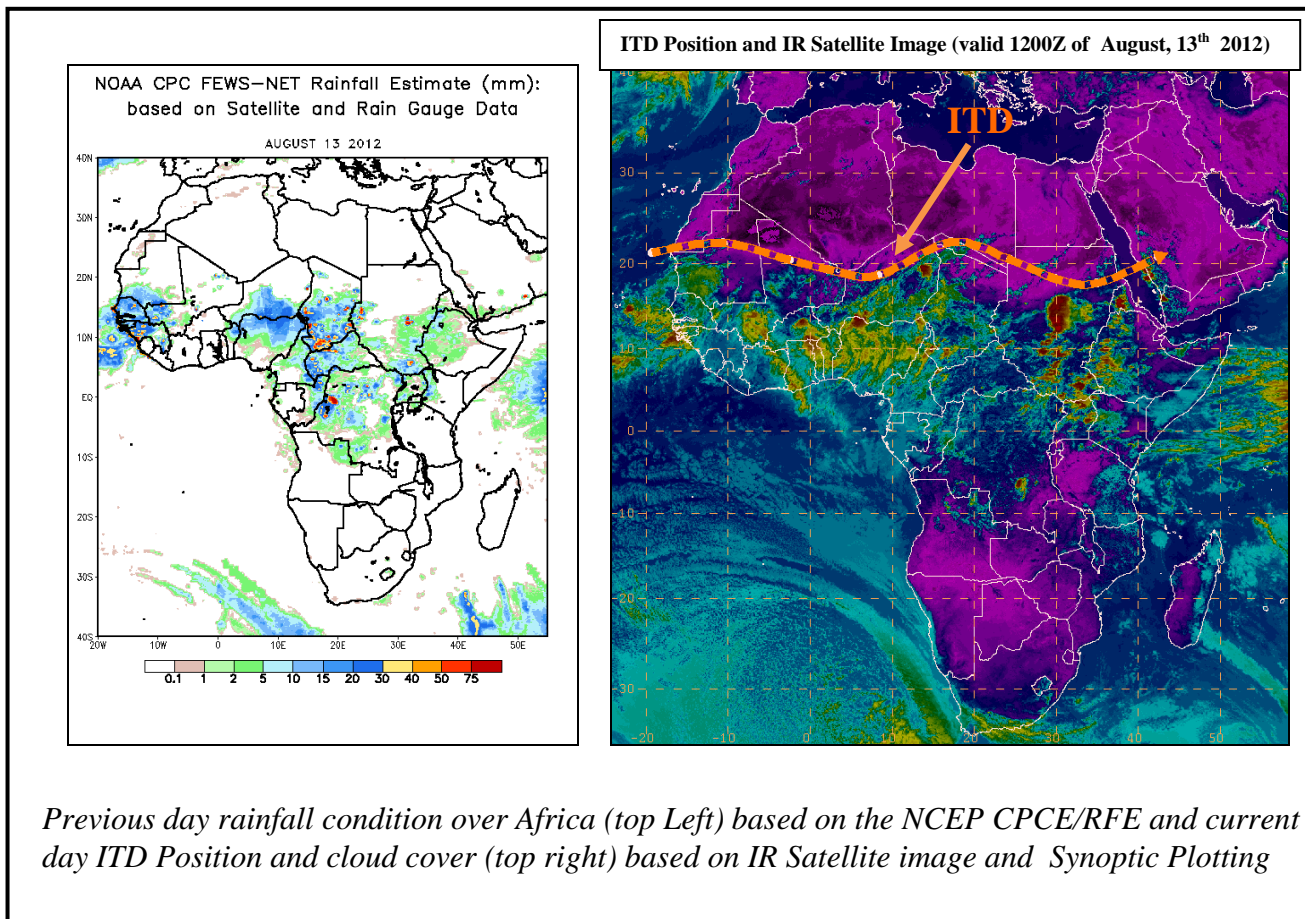
(August, 13th 2012– August, 14th 2012)

2.1. Weather assessment for the previous day (August, 13th 2012)

During the previous day, moderate to heavy rainfall was observed over Guinea Conakry; Senegal; south Mauritania; south Mali; south Niger; north and central Nigeria; south and central Chad; North Cameroon; Democratic Republic of Congo; Central African Republic and South Sudan Republic; West Ethiopia; Uganda; north Congo and west Kenya.

2.2. Weather assessment for the current day (August, 14th 2012)

Convective activities observed across south Mauritania, south and east Niger; Burkina Faso; Nigeria; south Chad; Democratic Republic of Congo; Cameroon; Congo; South Sudan Republic; western and central Ethiopia; Uganda; Somalia; south east Mauritania; Senegal; Guinea-Conakry; Sierra Leone; Kenya; Somalia and Central African Republic.



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