

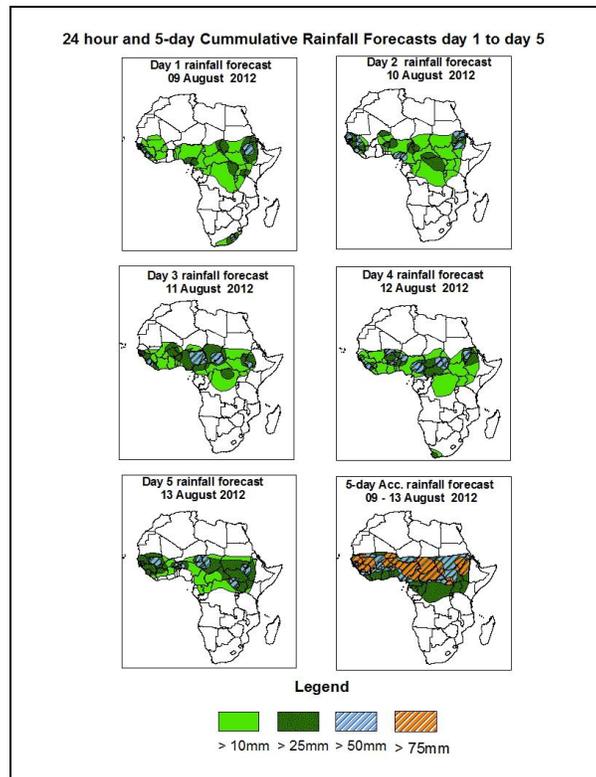


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of August 09th – 06Z of August, 13th 2012. (Issued at 13:00Z of August, 08th 2012)

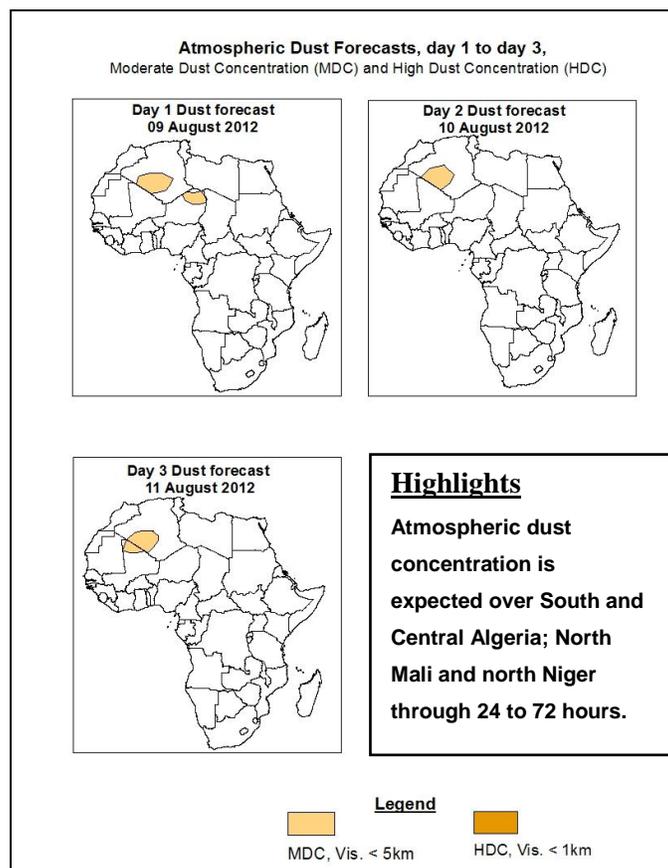
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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 18°E and 21°N with moderate to strong monsoon depth within 24 to 120 hours; Also the TEJ, AEJ and the AEW propagation with 850 to 700hpa vortices are expected to enhance rainfall activities over portion South Sudan Republic, Cameroon and Nigeria; South Chad and South Sudan; portion of 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, 08th 2012.

According to the GFS, ECMWF and UKMET models the heat lows are expected to deepen, remain quasi-stationary, and then fill up and vice versa through 24 to 120 hours over Mauritania, Mali, Algeria, Niger, Chad and Sudan.

According to GFS model, a thermal low over South, North, East and Central Mauritania (1005hpa) in 24 hours is expected to increase its core value to 1006hpa in 48 hours, and tends to increase from 1006hpa to 1010hpa within 72 to 96 hours, thereafter decrease to 1007hpa in 120 hours. The second low over South Algeria; North Mali (1006hpa) in 24 hours is expected to maintain its core value at 1006hpa through 48 to 72 hours, then slightly decrease to 1005hpa in 96 hours, and finally increase to 1006hpa in 120 hours. The third low over North Chad and Niger (1007hpa) within 24 to 96 hours is expected to decrease its core value to 1005hpa and then increase slightly 1006hpa in 120 hours; while the low over North Sudan (1005hpa) in 24 hours is expected to increase to 1006hpa through 48 to 72 hours, thereafter decrease to 1003hpa within 96 to 120 hours.

The ECMWF model shows a thermal low over Central and South Mauritania (1006hpa) in 24 hours is expected to significantly increase its core value to 1010hpa in 48 hours, and maintain the 1010hpa through 72 to 96 hours, thereafter decrease to 1008hpa in 120 hours. The second low over South Algeria; North and Central Mali (1010hpa) in 24 hours is expected to decrease its core value to 1009hpa in 48 hours, and to continue to gradually decrease from 1009hpa to 1008hpa within 72 to 120 hours. The third low over North Chad and Niger (1008hpa) through 24 to 48 hours is expected to maintain its core value and increase to 1010hpa within 72 to 96 hours with a decrease to 1008hpa 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 East, North, Central and West Mauritania (1003hpa) in 24 hours is expected to slightly increase its core value to 1005hpa in 48 hours, and tends to increase from 1005hpa to 1006hpa within 48 to 120 hours. The second low over South Algeria; North and Central Mali (1005hpa) in 24 hours is expected to increase its core value to 1006hpa through 48 to 72 hours, thereafter is expected to maintain almost the same core value through 72 to 120 hours. The third low over North Chad and Niger (1005hpa) in 24 hours is expected to increase its core value to 1006hpa in 48 hours, and tends to increase from 1006hpa to 1007hpa through 48 to 96 hours and slightly decrease to 1006hpa in 120hours; while the low over North Sudan (1006hpa) in 24 hours is expected to gradually decrease from 1006hpa to 1004hpa within 48 to 72 hours, thereafter decrease to 1003hpa through 96 to 120 hours.

According to the UKMET model, the St. Helena High pressure system over South Atlantic Ocean with a core value of 1034hpa in 24 hours locates at latitude 35°S is expected to decrease its core value to 1033hpa by maintaining almost the same position around latitude 33°S in 48 hours, and tends to gradually decrease its cores value to 1031hpa by moving northwards from latitude 33°S to 30°S within 72 to 96 hours and southwards from latitude 30°S to 43°S in 120 hours with a core value of 1041hpa.

According to the ECMWF model, the central pressure value of 1033hpa in 24 hours locates at latitude 35°S is expected to decrease its core value to 1032hpa by maintaining almost the same position around latitude 33°S in 48 hours, and tends to

gradually decrease its cores value from 1032 to 1031hpa by moving northwards from latitude 33°S to 30°S within 72 to 96 hours and southwards from latitude 30°S to 43°S in 120 hours with a core value of 1041hpa.

Lastly, according to the GFS model, the central pressure value of 1035hpa in 24 hours locates at latitude 35°S is expected to gradually decrease its core value from 1032hpa to 1029hpa by shifting northwards from latitude 35°S to 30°S through 48 to 96 hours before moving southwards to latitude 45°S with a core value of 1040hpa.

According to the GFS model, the Azores high pressure system over North Atlantic Ocean with its central pressure value of 1025hpa in 24 hours and locates at longitude 50°W is expected to gradually decrease its core value from 1025hpa to 1024hpa by shifting eastwards from longitude 50°W to 35°W within 48 to 72 hours, tends to fluctuate between 1025 and 1026hpa while maintaining its position at longitude 30°W through 96 to 120 hours.

According to the ECMWF model, the central pressure value of 1025hpa in 24 hours and locates at longitude 48°W is expected to gradually decrease its core value to 1024hpa while shifting westwards from longitude 48°W to 30°W within 48 to 72 hours, thereafter increase from 1024hpa maintain its core value at 1024hpa by moving to the west from longitude 30°W to 40°W through 96 to 120 hours.

Lastly, according to the UKMET model, the central pressure value of 1025hpa within 24 to 48 hours and locates at longitude 40°W to 50°W is expected to decrease its core value to 1023hpa by shifting east to longitude 30°W in 96 hours, and tends to increase from 1023hpa to 1027hpa. Its core value will then decrease to 1025hpa in 120 hours while its position will move to the west from longitude 30°W to 40°W within 96 to 120 hours.

At 925hpa level, zone of moderate dry northerly and northeasterly winds (20 to 65kts) are expected to prevail over South and Central Algeria; North and West Niger, Central Chad, 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 15°N and 21°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 South Mali; coastal Senegal; west and central Niger; North Chad; West Sudan; Southwest Burkina Faso and Central Mauritania. The convergence associated with the meridional arm of the ITCZ is expected to oscillate between portion of South Sudan Republic; North and East, 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 20 and 60 knots is expected to affect South and West Mali and Mauritania and Niger. The African Easterly Waves (AEW) is also expected to propagate westwards waves to affect parts of Niger, Mali, Mauritania, the coastal areas of Senegal, East and west Chad; West and South Sudan within 24 to 120 hours.

At 500hpa level, a wave is expected to affect parts of Niger, Mali, and the coastal areas of Mauritania, Senegal and Chad, through 24 to 120 hours with vortices over Sierra Leone and south-west Chad.

At 150mb, the Tropical Easterly Jet with a maximum core of 35 to 60 Knots will affect portion of South Sudan Republic and South Guinea Gulf Countries; parts of Ethiopia 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 18°E and 21°N with moderate to strong monsoon depth within 24 to 120 hours; Also the TEJ, AEJ and the AEW propagation with 850 to 700hpa vortices are expected to enhance rainfall activities over portion South Sudan Republic, Cameroon and Nigeria; South Chad and South Sudan; portion of Sahel Region, Sierra Leone and Guinea Conakry; Northern Guinea Gulf Countries; part of Central African Republic; West and North Ethiopia.

Atmospheric dust concentration is expected over South and Central Algeria; North Mali and north Niger through 24 to 72 hours.

2.0. Previous and Current Day Weather Discussion over Africa

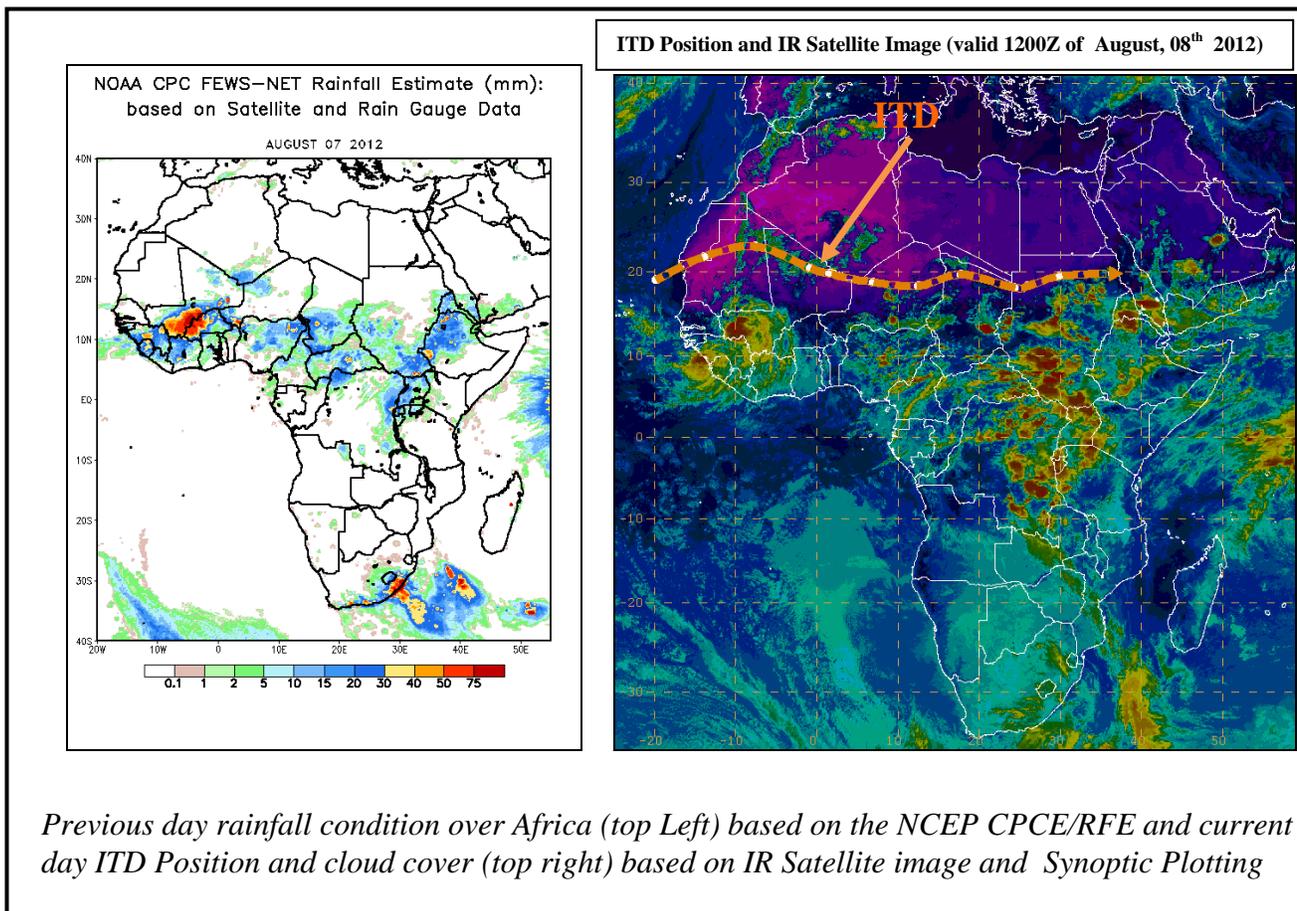
(August, 07th 2012– August, 08th 2012)

2.1. Weather assessment for the previous day (August, 07th 2012)

During the previous day, moderate to heavy rainfall was observed over North West and South Guinea Conakry; parts of Burkina Faso and Niger; South and Central Chad; North East and Central Nigeria; North Cameroon; North and South Democratic Republic of Congo; portion Central African Republic and South Sudan Republic; West Ethiopia; Uganda; South and East Coast of South Africa.

2.2. Weather assessment for the current day (August, 08th 2012)

Convective activities observed across South-West Mali; South Niger; Burkina Faso; east and central Nigeria; west Chad; eastern Democratic Republic of Congo; parts of Cameroon; central and southern Sudan Republic; northern Ethiopia; Uganda; Northwest Tanzania; Kenya; Eastern South Africa; some parts of Lesotho.



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