

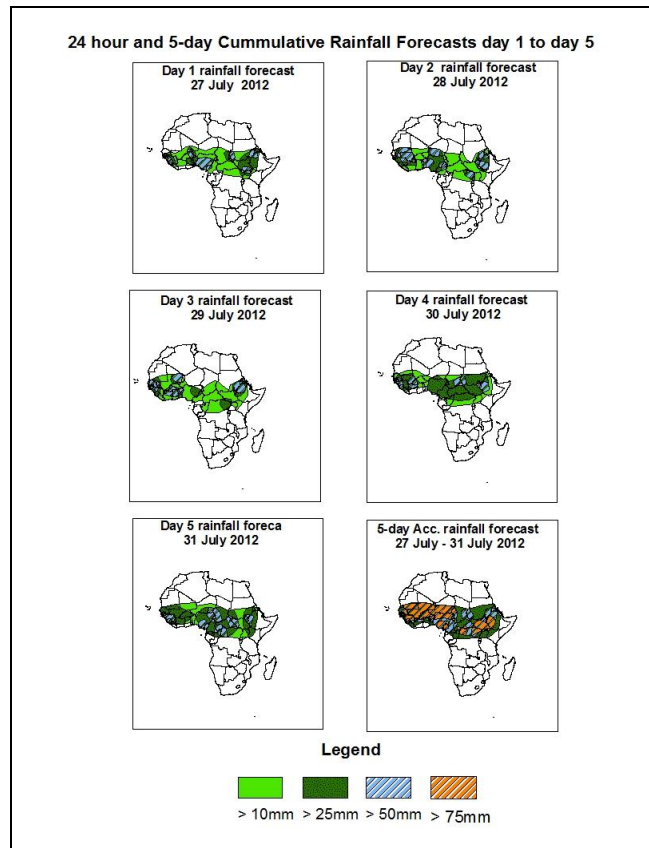


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of July, 27th – 06Z of July, 31st 2012. (Issued at 13:00Z of July, 26th 2012)

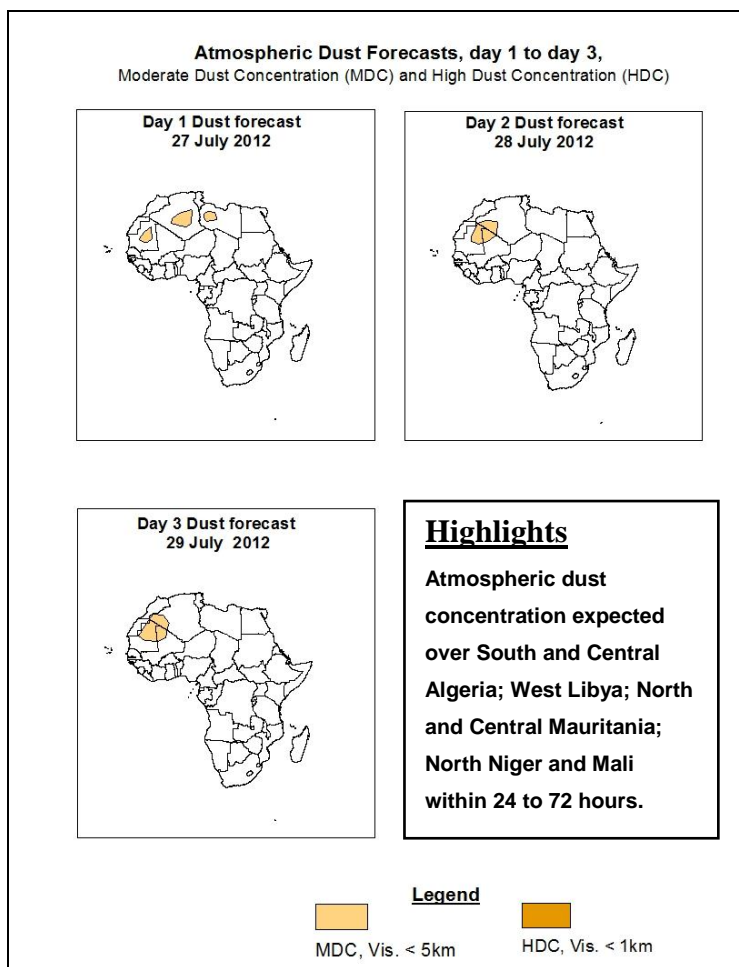
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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 16°E and 23°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 of South Sudan Republic; South Chad; part of Nigeria and Cameroon; South Sudan; portion of Sahel Region, Central African Republic and Guinea Gulf Countries; part of Sierra Leone and Guinea Conakry; West Ethiopia.



1.3. Model Discussion: Valid from 00Z of July, 26th 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 North, Central and West Mauritania (1010hpa) within 24 to 48 hours is expected to decrease its core value to 1006hpa through 72 to 120 hours. The second low over North Mali and South Algeria (1007hpa) in 24 hours is expected to decrease its core value to 1004hpa within 48 to 72 hours, and increase to 1006hpa in 96 to 120 hours. The third low over North Chad and Niger (1007hpa) in 24 hours is expected to gradually decrease its core value from 1006hpa to 1002hpa through 48 to 120 hours; while the low over North Sudan (1004hpa) in 24 hours is to maintain almost its core value within 48 to 120 hours.

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

The UKMET model shows a thermal low over North Mauritania (1010hpa) through 24 to 48 hours is expected to gradually decrease its core value from 1008hpa to 1006hpa within 72 to 120 hours. The second low over North Mali and South Algeria (1006hpa) in 24 hours is expected to decrease its core value from 1003hpa to 1001hpa through 48 to 72 hours, and then tends to increase to 1003hpa within 96 to 120 hours. The third low over North Chad and Niger (1007hpa) in 24 hours is expected is expected to decrease its core value from 1005hpa to 1004hpa through 48 to 72 hours, then increase to 1006hpa within 96 to 120 hours; while the low over North Sudan (1004hpa) in 24 hours is expected to maintain almost its core value 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 1034hpa in 24 hours locates at latitude 40°S is expected to slightly increase to 1035hpa by maintaining almost the same position around latitude 40°S in 48 hours, then decrease to 1028hpa in 72 hours by shifting northwards from latitude 40°S to 35°S and tends to increase its core value from 1033hpa to 1036hpa by moving to the south from latitude 35°S to 40°S within 96 to 120 hours.

According to the ECMWF model, the central pressure value of 1033hpa in 24 hours locates at latitude 40°S is expected to slightly increase to 1034hpa by maintaining almost the same position around latitude 40°S in 48 hours, then decrease to 1028hpa in 72 hours by shifting northwards from latitude 40°S to 35°S and tends to increase its core value to 1033hpa by maintaining almost the same position around latitude 35°S through 96 to 120 hours.

Lastly, according to the GFS model, the central pressure value of 1033hpa in 24 hours locates at latitude 40°S is expected to gradually decrease from 1030hpa to 1028hpa by shifting northwards from latitude 40°S to 30°S in 48 hours and southwards from latitude 30°S to 35°S in 72 hours and tends to increase its core value from 1034hpa to 1035hpa by moving to the south from latitude 35°S to 45°S within 96 to 120 hours.

According to the GFS model, the Azores high pressure system over North Atlantic Ocean with its central pressure value of 1031hpa in 24 hours and locates at longitude 30°W is expected to gradually decrease its core value from 1030hpa to 1027hpa by maintaining almost the same position around longitude 30°W through 48 to 72 hours and shifting eastwards from longitude 30°W to 25°W 72 within 96 to 120 hours.

According to the ECMWF model, the central pressure value of 1031hpa in 24 hours and locates at longitude 30°W is expected to gradually decrease its core value from 1030hpa to 1024hpa by maintaining almost the same position around longitude 30°W in 48 hours, then shift eastwards from longitude 25°W to 20°W through 72 to 96 hours, and finally move to the west in 120 hours from longitude 20°W to 40°W.

Lastly, according to the UKMET model, the central pressure value of 1031hpa in 24 hours and locates at longitude 30°W is expected to gradually decrease its core value from 1030hpa to 1025hpa by maintaining almost the same position around longitude 30°W within 48 to 72 hours, then shift eastwards from longitude 30°W to 25°W in 96 hours, and finally move to the west in 120 hours from longitude 25°W to 35°W.

At 925hpa level, zone of moderate dry northerly and northeasterly winds (20 to 50kts) are expected to prevail over South and Central Algeria; West Libya; North and Central Mauritania; North Niger and Mali within 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 12°N 21°N is expected to prevail over parts of Sudan, Cameroon, Chad, Central African Republic and Western Africa within 24 hours to 120 hours. Vortices are expected over West, Northwest and South Mali; East Mauritania; West Burkina Faso; North and South Niger; North Cote d'Ivoire; portion of Burkina Faso and Guinea Conakry, Coastal Gambia and

Guinea Bissau; South and Coastal Senegal. The convergence associated with the meridional arm of the ITCZ is expected to oscillate between part of South Sudan Republic; North, East and Central Democratic Republic of Congo; West Uganda through 24 hours to 120 hours.

At 700hpa level, the African Easterly Jet (AEJ) relatively strong (25 to 60 Knots) is expected to affect West Niger; South and West Mali; East, South and West Senegal; Chad; portion of Burkina Faso, Guinea Bissau and Gambia; West and South Mauritania. The African Easterly Waves (AEW) is also expected to propagate westwards waves to affect part of Guinea Gulf Countries and West Africa, portion of Central Africa within 24 to 120 hours.

At 500hpa level, a wave is expected to affect portion of Sahel Region, Chad and Guinea Gulf Countries; part of Central African Republic; North Cameroon; West Sudan; through 24 to 120 hours.

At 150mb, the Tropical Easterly Jet with a maximum core of 35 to 75 Knots will affect portion of South Sudan Republic; Part of Ethiopia and Central African Republic; South Guinea Gulf Countries through 24 to 120 Hours. Easterly winds flow will also continue to affect most part of West Africa, Chad and Sudan.

In the next five days, ITD is expected to fluctuate between 16°E and 23°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 of South Sudan Republic; South Chad; part of Nigeria and Cameroon; South Sudan; portion of Sahel Region, Central African Republic and Guinea Gulf Countries; part of Sierra Leone and Guinea Conakry; West Ethiopia.

Atmospheric dust concentration expected over South and Central Algeria; West Libya; North and Central Mauritania; North Niger and Mali within 24 to 72 hours.

2.0. Previous and Current Day Weather Discussion over Africa

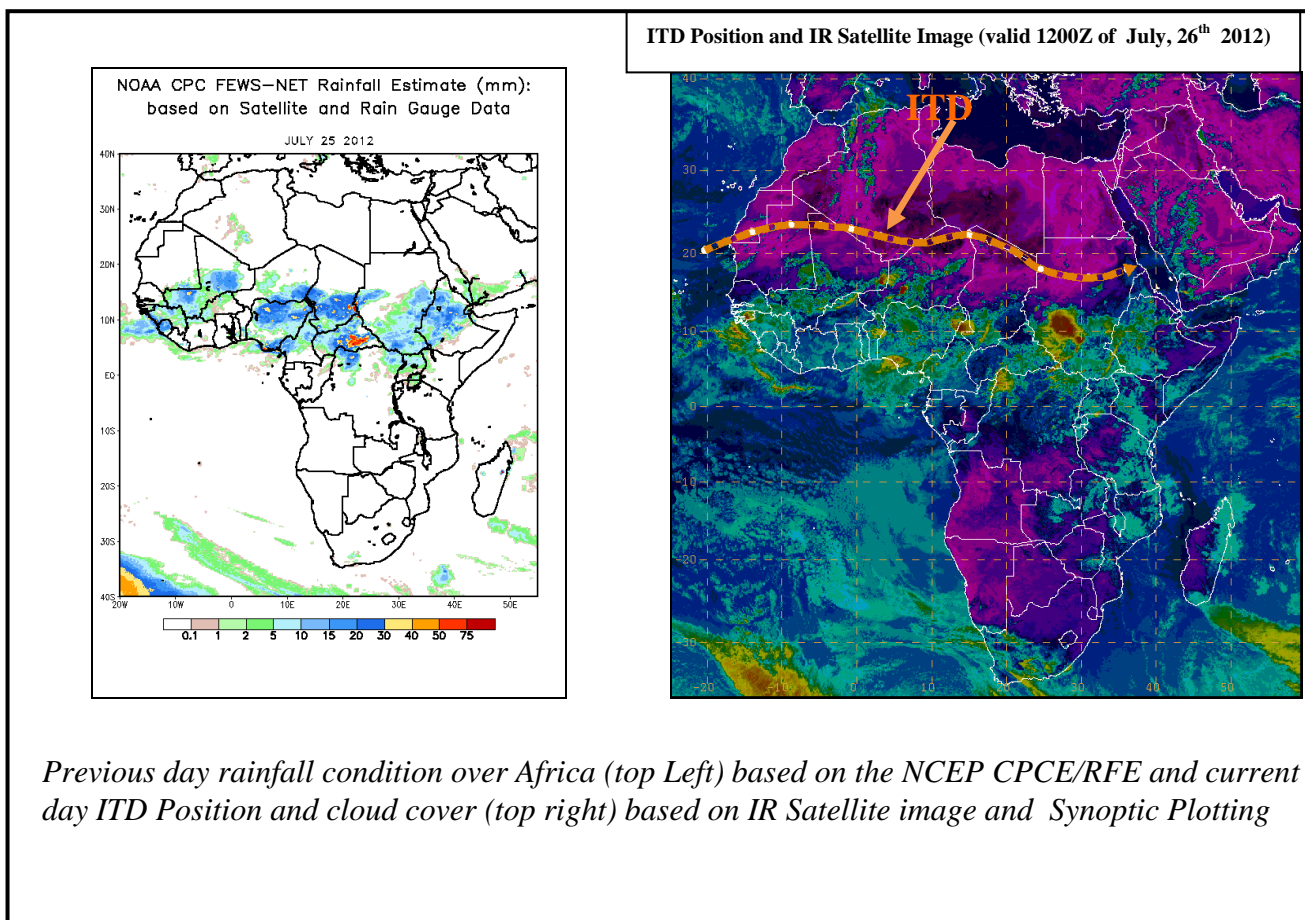
(July, 25th 2012– July, 26th 2012)

2.1. Weather assessment for the previous day (July, 25th 2012)

During the previous day, moderate to heavy rainfall was observed over Southeast Mauritania; West, Central and South Mali; North Guinea Conakry; South Niger; portion of Nigeria, South Sudan Republic and Central African Republic; South Chad; Southwest and North Cameroon; North Democratic Republic of Congo; East Sudan; portion of Ethiopia.

2.2. Weather assessment for the current day (July, 26th 2012)

Convective activities observed across Northwest Guinea Conakry; East Guinea Bissau; Northeast and South Nigeria; South Niger; Southeast Mali; North Cameroon; North and West South Sudan Republic; Northwest Democratic Republic of Congo; South Sudan.



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