

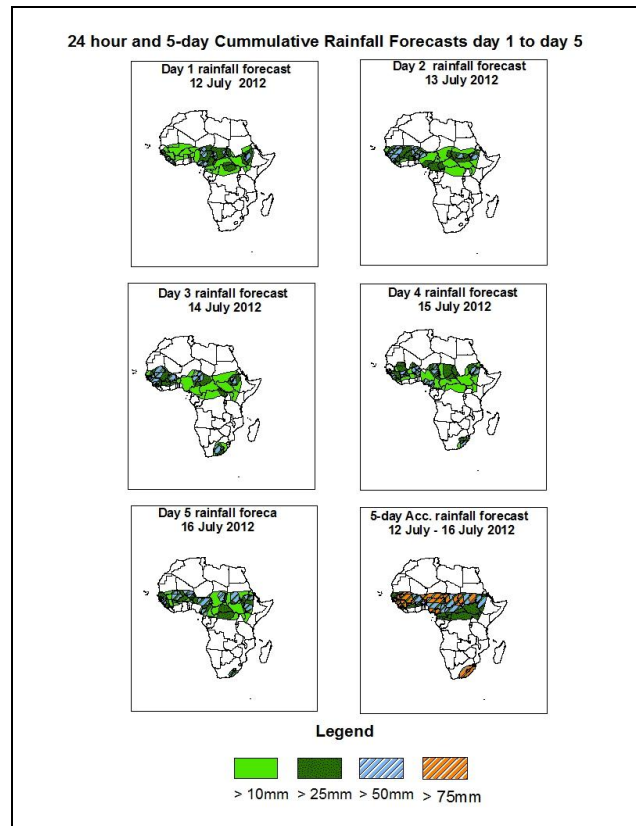


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of July, 12th – 06Z of July, 16th 2012. (Issued at 13:00Z of July, 11th 2012)

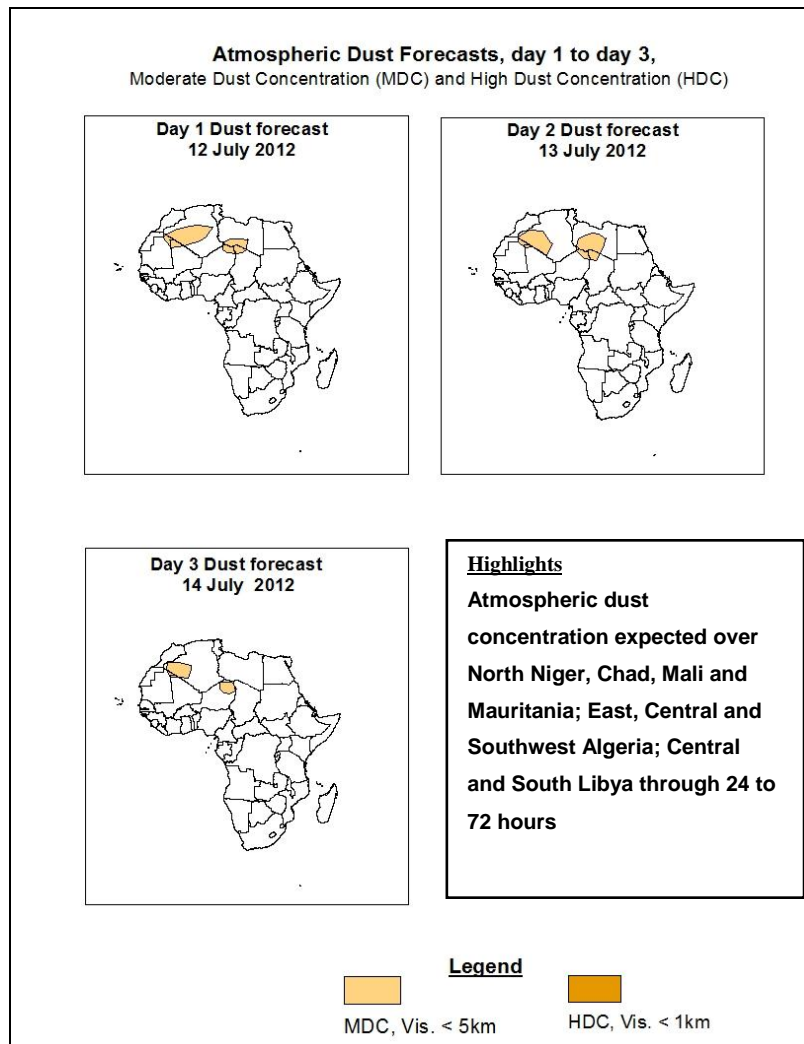
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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 15°E and 22°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 South Sudan; East and South Chad; North and Southwest Cameroon; North and Southeast Nigeria; Portion Central and South Sahel; North Guinea Gulf Countries; Part of Western Sahel, Sierra Leone and Guinea Conakry.



1.3. Model Discussion: Valid from 00Z of July, 11th 2012.

According to the GFS, ECMWF and UKMET models the heat lows are expected to deepen through 24 to 120 hours over Mauritania, Mali, Algeria, Niger and Chad; while they remains quasi-stationary over and Sudan.

According to GFS model, a thermal low over West, Central and North Mauritania (1007hpa) in 24 hours is expected to gradually decrease its core value from 1005hpa to 1004hpa within 48 to 72 hours, and tends to increase to 1006hpa in 96 hours, then slightly decreases to 1005hpa in 120 hours. The second low over North Mali and South Algeria (1007hpa) in 24 hours is expected to decrease its core value to 1005hpa through 48 to 120 hours. The third low over North Chad and Niger (1006hpa) in 24 hours is expected to decrease its core value to 1004hpa within 48 to 96 hours, and

tends to increase to 1006hpa in 120 hours; while the low over North Sudan (1004hpa) in 24 hours is also expected to maintain almost its core value through 48 to 120 hours.

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

The UKMET model shows a thermal low over West, Central and North Mauritania (1006hpa) in 24 hours is expected to gradually decrease its core value from 1005hpa to 1003hpa within 48 hours to 120 hours. The second low over North Mali and South Algeria (1006hpa) in 24 hours is also expected to gradually decrease its core value from 1005hpa to 1003hpa within 48 hours to 120 hours. The third low over North Chad and Niger (1006hpa) in 24 hours is expected to gradually decrease its core value from 1005hpa to 1004hpa through 48 hours to 120 hours; while the low over North Sudan (1004hpa) in 24 hours is expected to maintain almost its core value within 48 to 120 hours.

According to the UKMET model, the St. Helena High pressure system over South Atlantic Ocean with a core value of 1041hpa in 24 hours locates at latitude 40°S is expected to gradually increase to 1045hpa within 48 to 72 hours by maintaining almost the same position and tends to decrease its core value from 1042hpa to 1038hpa by shifting northwards from latitude 40°S to 35°S within 96 to 120 hours.

According to the ECMWF model, the central pressure value of 1039hpa in 24 hours locates at latitude 40°S is expected to gradually increase from 1043hpa to 1044hpa through 48 to 72 hours by maintaining almost the same position; then decreases its

value from 1042hpa to 1038hpa by shifting northwards from latitude 40°S to 35°S within 96 to 120 hours.

Lastly, according to the GFS model, the central pressure value of 1040hpa in 24 hours locates at latitude 40°S is expected to increase to 1044hpa through 48 hours by maintaining almost the same position and tends to gradually decrease its core value from 1043hpa to 1038hpa by shifting northwards from latitude 40°S to 35°S within 72 to 120 hours.

According to the GFS model, the Azores high pressure system over North Atlantic Ocean with its central pressure value of 1033hpa through 24 to 48 hours and locates between longitude 35°W and 40°W is expected to gradually decrease its core value from 1032hpa to 1024hpa within 72 to 120 hours by maintaining almost the same position around longitude 40°W.

According to the ECMWF model, the central pressure value of 1032hpa through 24 to 48 hours and locates between longitude 30°W and 40°W is expected to gradually decrease its core value from 1031hpa to 1028hpa within 72 to 120 hours by shifting eastwards from longitude 40°W to 15°W.

Lastly, according to the UKMET model, the central pressure value of 1033hpa through 24 to 48 hours and locates at longitude 35°W is expected to decrease from 1032hpa to 1029hpa by moving westwards from longitude 35°W to 40°W in 72 hours and shifting eastwards from longitude 25°W to 20°W through 96 to 120 hours.

At 925hpa level, zone of moderate dry Northerly and Northeasterly winds (20 to 50kts) are expected to prevail over North Niger, Chad, Mali and Mauritania; East, Central and Southwest Algeria; Central and South Libya through 24 to 120 hours.

At the 850hpa level, a lower tropospheric wind convergence associated with significant West African Monsoon inflow and depth between latitude 12°N 20°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 Mauritania; North Central African Republic and Cameroon; South, Central and Northwest Niger; East Mali;

West Burkina Faso; East and South Senegal; North and Nigeria; South Chad; North Cote d'Ivoire. The convergence associated with the meridional arm of the ITCZ is located over part of South Sudan Republic; North Democratic Republic of Congo; West Uganda; East and South Central African Republic through 24 hours to 120 hours.

At 700hpa level, the African Easterly Jet (AEJ) is expected to affect North Cameroon, Benin, Togo and Nigeria; south Burkina Faso; West Mali. The African Easterly Waves (AEW) is also expected to propagate westwards waves to affect part of Central Africa; Portion of Sahel Region and Guinea Gulf Countries within 24 to 120 hours.

At 500hpa level, a wave is expected to affect East and South Mauritania; Central and North Benin and Togo Guinea Gulf Countries; Part of Central African Republic, Senegal, Cameroon, Nigeria, Burkina Faso, Guinea Conakry, Gambia, Guinea Bissau, Nigeria, Sierra Leone; West Mali; Central, South and West Niger; Portion of Chad, Sudan, Gambia, Guinea Bissau through 24 to 120 hours.

At 150mb, the Tropical Easterly Jet with a maximum core of 30 to 70 Knots will affect Southern Chad and Sudan; Part of Ethiopia, Guinea Gulf Countries and Central African Republic through 24 to 120 Hours. Easterly winds flow will also continue to affect most part of West Africa.

In the next five days, ITD is expected to fluctuate between 15°E and 22°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 South Sudan; East and South Chad; North and Southwest Cameroon; North and Southeast Nigeria; Portion Central and South Sahel; North Guinea Gulf Countries; Part of Western Sahel, Sierra Leone and Guinea Conakry.

Atmospheric dust concentration expected over North Niger, Chad, Mali and Mauritania; East, Central and Southwest Algeria; Central and South Libya through 24 to 72 hours.

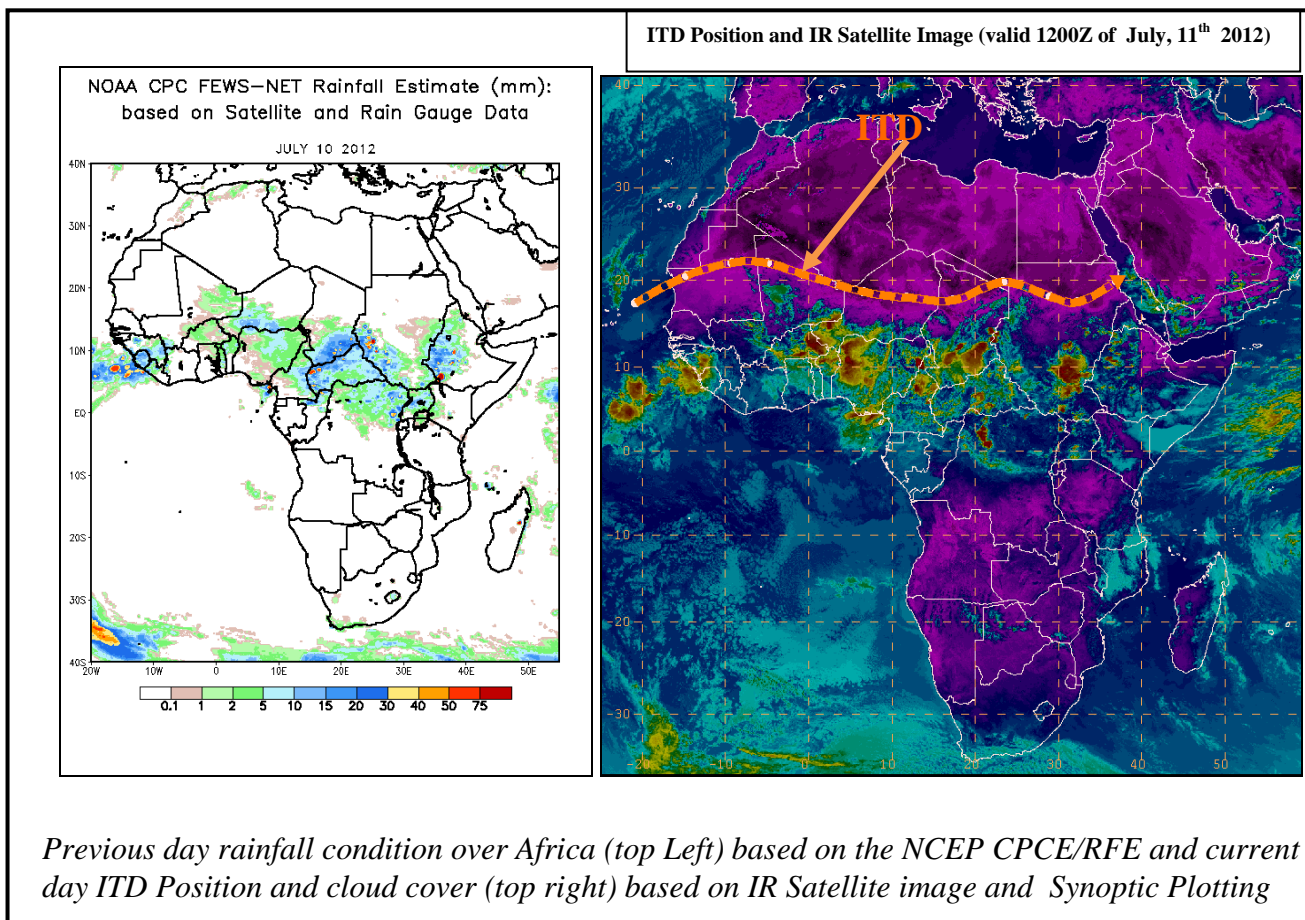
2.0. Previous and Current Day Weather Discussion over Africa (July, 10th 2012– July, 11th 2012)

2.1. Weather assessment for the previous day (July, 10th 2012)

During the previous day, moderate to heavy rainfall was observed over east and North Guinea Conakry; Part of Sierra Leone and Central African Republic; South Niger and Chad; Southeast Nigeria and Southwest Cameroon; South and West South Sudan republic; North democratic Republic of Congo; North, West Sudan and Ethiopia.

2.2. Weather assessment for the current day (July, 11th 2012)

Convective activities observed across Central and West Guinea Conakry; North Sierra Leone; South and West Niger; East and South Burkina Faso; North and Central Cameroon; Central, South and North Central African Republic; Part of South Sudan Republic and Nigeria; North Benin; West Ethiopia; South Sudan and Chad; North Democratic Republic of Congo; West Ethiopia.



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