

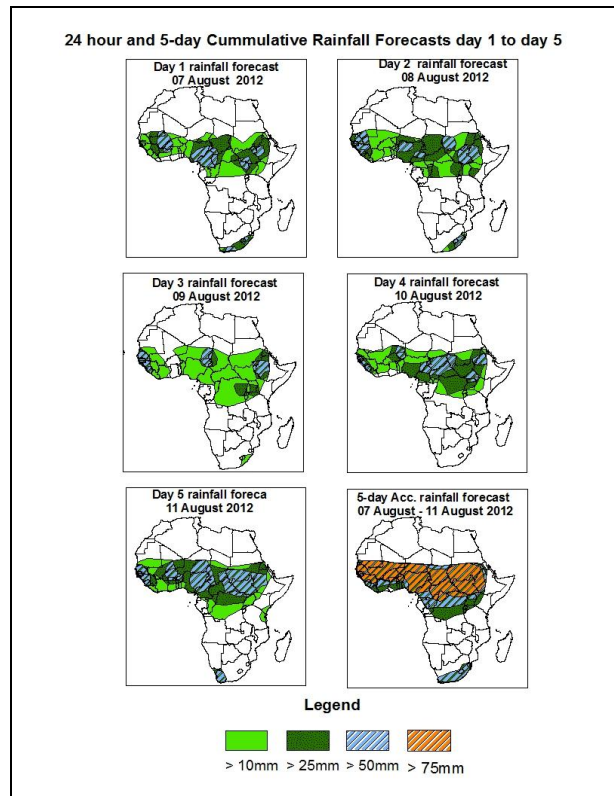


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of August 07th – 06Z of August, 11th 2012. (Issued at 13:00Z of August, 06th 2012)

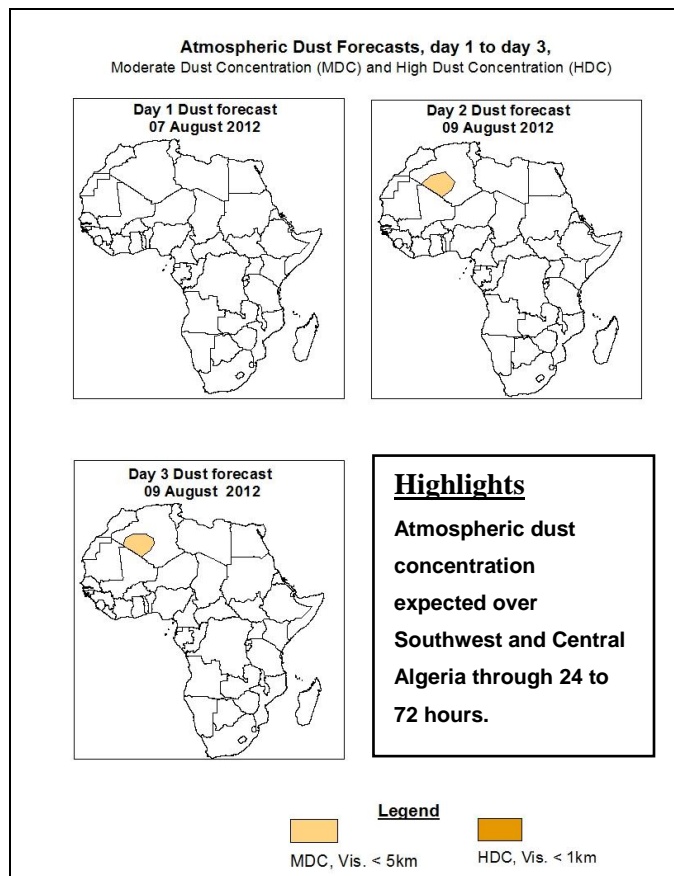
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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 South Sudan Republic, Chad, Cameroon and Nigeria; 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, 06th 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 (1006hpa) within 24 to 48 hours is expected to gradually decrease its core value from 1005hpa to 1004hpa through 72 to 96 hours, and then increase to 1009hpa in 120 hours. The second low over North Mali and South Algeria (1006hpa) in 24 hours is expected to slightly increase its core value to 1007hpa in 48 hours, and tends to decrease to 1005hpa in 72 hours, thereafter gradually increase from 1006hpa to 1008hpa within 96 to 120 hours. The third low over North Chad and Niger (1005hpa) in 24 hours is expected to slightly decrease its core value to 1004hpa in 48 hours, then increase to 1006hpa through 72 to 96 hours, and tends to decrease to 1003hpa in 120 hours; while the low over North Sudan (1004hpa) in 24 hours is expected slightly

decrease to 1003hpa in 48 hours, then gradually increase from 1005hpa to 1006hpa within 72 to 96 hours, and finally decrease to 1004hpa in 120 hours.

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

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

According to the UKMET model, the St. Helena High pressure system over South Atlantic Ocean with a core value of 1037hpa in 24 hours locates at latitude 40°S is expected to decrease its core value to 1032hpa by shifting northwards from latitude 40°S to 35°S in 48 hours, and tends to slightly increase its cores value to 1033hpa in 72 hours by maintaining almost the same position around latitude 35°S, thereafter decrease from 1032hpa to 1030hpa through 96 to 120 hours by moving northwards from latitude 35°S to 30°S.

According to the ECMWF model, the central pressure value of 1036hpa in 24 hours locates at latitude 40°S is expected to decrease its core value to 1031hpa by

maintaining almost the same position around latitude 40°S in 48 hours, and then increase its cores value to 1034hpa in 72 hours by shifting northwards from latitude 40°S to 35°S , finally decrease from 1032hpa to 1030hpa within 96 to 120 hours by moving to the north from latitude 35°S to 30°S .

Lastly, according to the GFS model, the central pressure value of 1037hpa in 24 hours locates at latitude 40°S is expected to decrease its core value to 1031hpa by shifting northwards from latitude 40°S to 35°S in 48 hours, and tends to increase its cores value to 1033hpa in 72 hours by maintaining almost the same position around latitude 35°S , thereafter decrease from 1032hpa to 1031hpa through 96 to 120 hours by maintaining almost the same position around latitude 35°S .

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 40°W is expected to slightly increase its core value to 1026hpa by shifting westwards from longitude 40°W to 50°W within 48 to 72 hours, tends to decrease to 1024hpa by maintaining almost the same position at longitude 50°W in 96 hours, and finally increase to 1026hpa by moving to the east from longitude 50°W to 35°W in 120 hours.

According to the ECMWF model, the central pressure value of 1024hpa in 24 hours and locates at longitude 40°W is expected to slightly increase its core value to 1025hpa by shifting westwards from longitude 45°W to 50°W through 48 to 72 hours, thereafter decrease to 1024hpa by maintaining almost the same position at longitude 50°W in 96 hours, and tends to increase to 1026hpa by moving eastwards from longitude 50°W to 35°W in 120 hours.

Lastly, according to the UKMET model, the central pressure value of 1025hpa in 24 hours and locates at longitude 45°W is expected to slightly increase its core value to 1026hpa by shifting eastwards from longitude 45°W to 40°W in 48 hours, tends to gradually decrease from 1025hpa to 1022hpa by moving to the west from longitude 45°W to 50°W within 72 to 96 hours, and thereafter increase to 1025hpa by shifting to the eastwards from longitude 50°W to 35°W in 120 hours.

At 925hpa level, zone of moderate dry northerly and northeasterly winds (20 to 50kts) are expected to prevail over Southwest and Central Algeria 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 13°N 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 Coastal, South and West Mauritania; portion of Mali, Senegal, Niger and Gambia; East, North Burkina Faso; South Chad; North Cameroon and Central African Republic. The convergence associated with the meridional arm of the ITCZ is expected to oscillate between portion of South Sudan Republic; North and East 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 25 and 60 knots is expected to affect South and West Mali; portion of Senegal and Gambia; West, South and Coastal Mauritania. The African Easterly Waves (AEW) is also expected to propagate westwards waves to affect North Nigeria; portion of Niger, Burkina Faso, Mali, Mauritania, Senegal, Gambia; North Guinea Gulf Countries within 24 to 120 hours.

At 500hpa level, a wave is expected to affect North Nigeria; portion of Niger, Burkina Faso, Mali, Mauritania, Senegal, Burkina Faso, Gambia; North Guinea Gulf Countries; South and West Chad and 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 and Guinea Gulf Countries; Part of Ethiopia and Central African Republic; Easterly winds 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 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 South Sudan Republic, Chad, Cameroon and Nigeria; 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 expected over Southwest and Central Algeria through 24 to 72 hours.

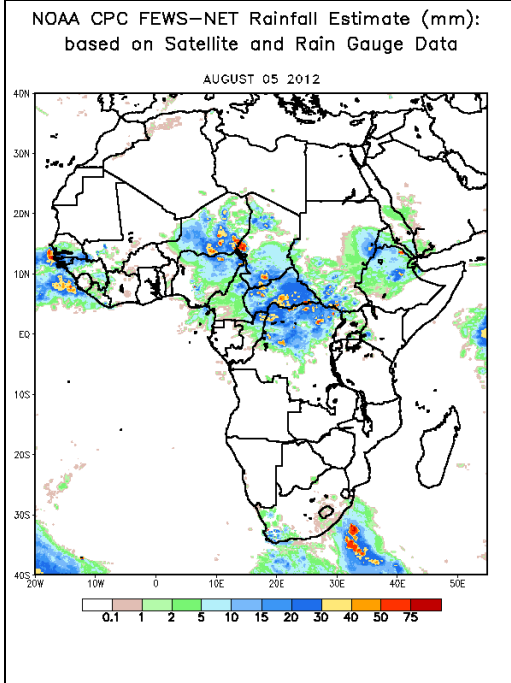
2.0. Previous and Current Day Weather Discussion over Africa (August, 05th 2012– August, 06th 2012)

2.1. Weather assessment for the previous day (August, 05th 2012)

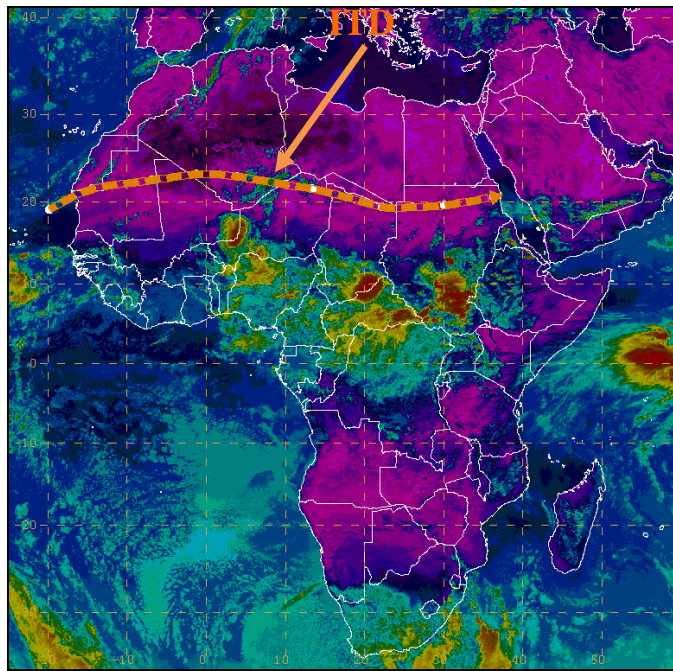
During the previous day, moderate to heavy rainfall was observed over South Senegal; West Mali; North Coastal Guinea Conakry; portion Niger; South, West and North Chad; North Nigeria; West, Central and North Cameroon; North Democratic Republic of Congo; portion Central African Republic; West South Sudan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

2.2. Weather assessment for the current day (August, 06th 2012)

Convective activities observed across East Mali; South and West Niger; North Nigeria; South Sudan and Chad; North Democratic Republic of Congo; portion of Central African Republic and South Sudan Republic.



ITD Position and IR Satellite Image (valid 1200Z of August, 06th 2012)



Previous day rainfall condition over Africa (top Left) based on the NCEP CPCE/RFE and current day ITD Position and cloud cover (top right) based on IR Satellite image and Synoptic Plotting

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