

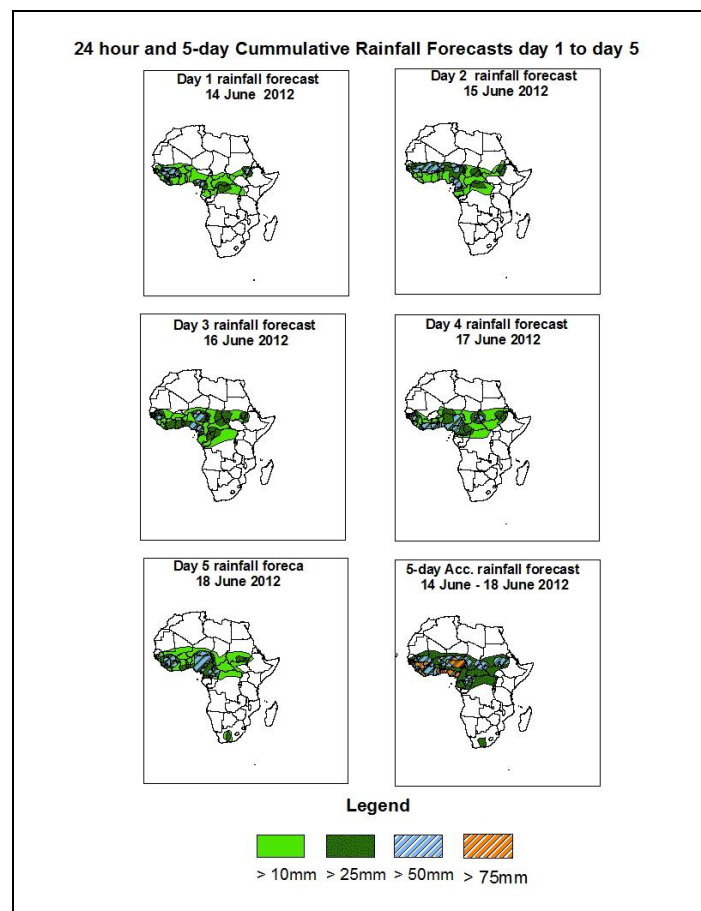


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 14 June – 06Z of 18 June 2012, (Issued at 13:00Z of 13 June 2012)

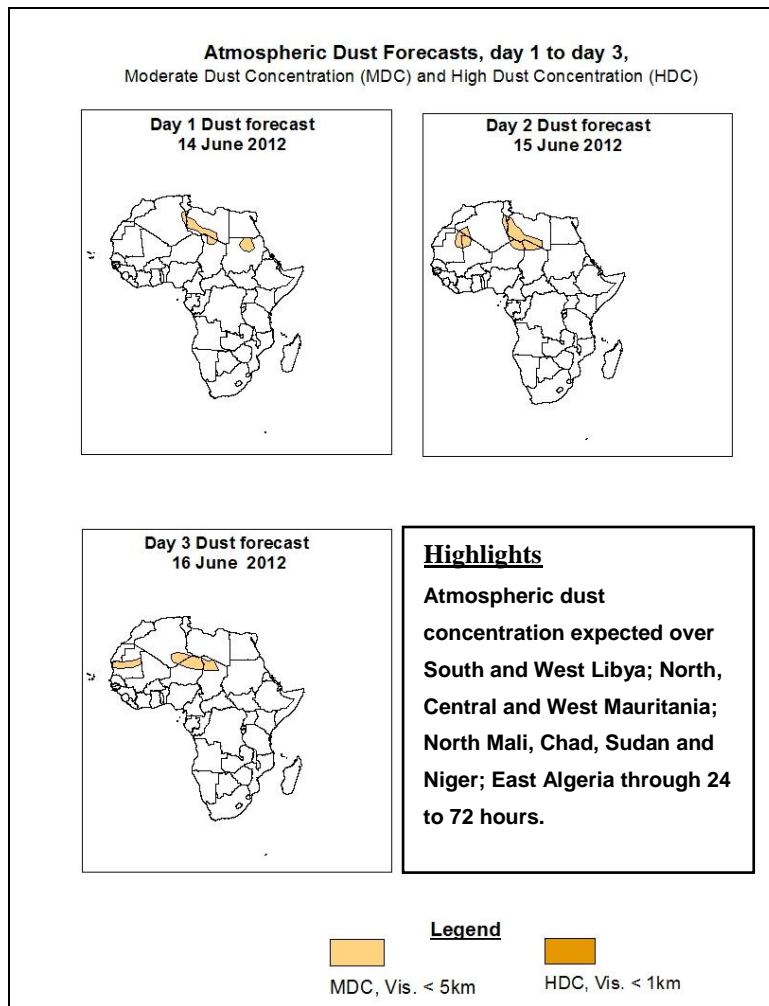
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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 will continue its fluctuation between latitude 15°N and 20°N; with significant monsoon inflow and depth within 24 to 120 hours; Also the TEJ, AEW, AEJ associated deep monsoon inflow will enhance rainfall activities over Southern Guinea Gulf Countries, Part of Sahel region and Central Africa.



1.3. Model Discussion: Valid from 00Z of June, 13th 2012.

According to the GFS, ECMWF and UKMET models the heat lows are expected to fill up within 24 to 72 hours over Mauritania, thereafter deepens through 96 to 120 hours; and also deepen over Algeria, Mali, Niger, Chad and Sudan within 24 to 120 hours.

According to GFS model, a thermal low over East and South Mauritania (1005hpa) in 24 hours is expected to increase its core value from 1006hpa to 1008hpa through 48 to 72 hours and decrease to 1003hpa in 96 hours, then tends to slightly increase to 1004hpa in 120 hours. The second low over North Mali with a core value of 1005hpa in 24 hours is expected to slightly increase to 1006hpa in 48 hours and decrease to 1003hpa through 72 to 96 hours, and then tends to slightly increase to 1004hpa in 120 hours. The third low over North Niger (1007hpa) is expected to decrease to 1004hpa through 48 to 96 hours and tends to increase to 1006hpa in 120 hours; while the low over North Sudan and with a core value of 1004hpa in 24 hours is expected to maintain its core within 48 to 120 hours.

The ECMWF model shows a thermal low over East Mauritania (1006hpa) in 24 is expected to increase to 1008hpa in 48 hours and decrease from 1005hpa to 1004hpa within 72 to 96 hours, then tends to slightly increase to 1005hpa in 120 hours. The second low over North Mali and South Algeria (1006hpa) through 24 to 48 hours is expected to decrease from 1005hpa to 1004hpa within 72 to 120 hours. The third low over North Niger, Chad and Sudan (1005hpa) within 24 to 72 hours is expected to maintain its core value through 96 to 120 hours.

The UKMET model shows a thermal low over East and North Mauritania (1008hpa) in 24 hours is expected to decrease from 1006hpa to 1003hpa through 48 to 120 hours. The second low over North Mali and South Algeria (1005hpa) in 24 hours is expected to decrease from 1006hpa to 1003hpa within 48 to 120 hours. The third low over North Niger, Chad and Sudan (1004hpa) is expected to maintain its core value through 24 to 120 hours.

According to the UKMET model, the St. Helena High pressure system over South Atlantic Ocean with a core value of 1032hpa in 24 hours is expected to increase to 1034hpa in 48 hours and decrease from 1033hpa to 1030hpa through in 72 to 120 hours. According to the ECMWF model, the central pressure value of 1030hpa in 24 hours is expected to increase its core value to 1032hpa through in 48 hours and tends to decrease from 1031hpa to 1030hpa within in 72 to 120 hours. According to the GFS model, the central pressure value of 1032hpa in 24 hours tends to increase to 1034hpa in 48hours and decreases from 1031hpa to 1029hpa through 72 to 120 hours.

According to the GFS model, the Mascarene high pressure system over South Indian Ocean with its central pressure value of 1034hpa in 24 hours locate at longitude 30°E is expected to slightly decrease from 1033hpa to 1032hpa through 48 to 96 hours by shifting Eastwards (from 40°E to 60°E) and increase to 1036hpa in 120 hours by shifting Eastwards (from 60°E to 65°E). According to the ECMWF model, the central pressure value of 1032hpa through 24 to 96 hours locates between longitudes 30°E to 60°E is expected to increase its core value to 1035hpa in 120 hours by shifting eastwards (from 60°E to 65°E). Lastly, according to the UKMET model of the Mascarene high pressure system over South Indian Ocean with its central pressure value of 1033hpa within 24 to 48 hours locates between longitudes 30°E to 40°E is expected to slightly decrease its core value to 1032hpa through 72 to 96 hours by shifting Eastwards (from 50°E to 60°E)

and tends to increase to 1034hpa in 120 hours by shifting Eastwards (from 60°E to 65°E).

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

At the 850hpa level, a lower tropospheric wind convergence associated with significant West African Monsoon inflow and depth is expected to prevail over most parts of Cameroon, Chad, Central African Republic and Western Africa up latitude 20°N through 24 hours to 120 hours. The convergence associated with the meridional arm of the ITCZ is located over Western part of South Sudan Republic; East and South Central African Republic and North Democratic Republic of Congo 24 hours to 120 hours.

At 700hpa level, the African Easterly Jet (AEJ) with a core of 30 to 50 knots is expected to strength and locates over Between Southern and Western Sahel, South Chad and Part of Guinea Gulf Countries within 24 to 120 hours with an African Easterly Waves propagating westwards and affecting part of Guinea Gulf Countries, South and West Sahel; West Central African Republic through 24 to 120 hours.

At 500hpa level, a wave is expected to affect part of Guinea Gulf Countries; Senegal, Guinea Conakry, The Gambia, Guinea Bissau; South and West Burkina Faso and Central African Republic; West Mali, South Chad within 24 to 120 hours.

At 150mb, the Sub-Tropical Westerly Jet is expected to weakens and shift northwards towards the Mediterranean Sea. However, the Tropical Easterly Jet with a maximum core of 30 to 50 Knots appears from 48 to 120 hours and will affect Southern Chad and Burkina Faso, West Mali, South Senegal, Part of Guinea Gulf Countries and Central African Republic.

In the next five days, ITD will continue its fluctuation between latitude 15°N and 20°N; with significant monsoon inflow and depth within 24 to 120 hours; Also the TEJ, AEW,

AEJ associated deep monsoon inflow will enhance rainfall activities over Southern Guinea Gulf Countries, Part of Sahel region and Central Africa.

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

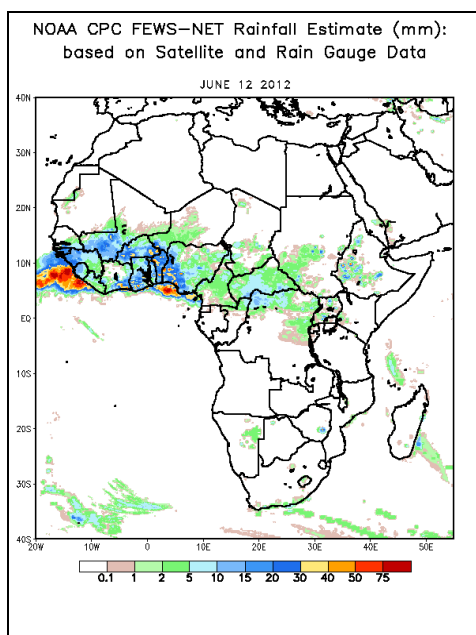
2.0. Previous and Current Day Weather Discussion over Africa (June, 12th 2012– June, 13th 2012)

2.1. Weather assessment for the previous day (June, 12th 2012)

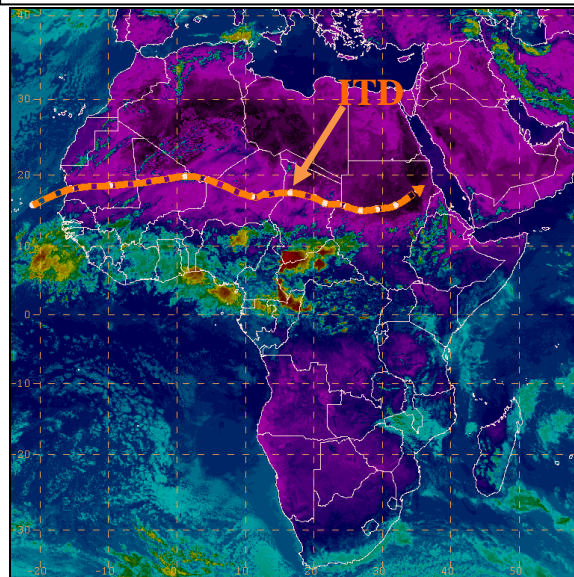
During the previous day, moderate to heavy rainfall was observed over Part of Guinea Bissau and Benin; West Mali and Guinea Conakry; Coastal Sierra Leone and Liberia; South and West Burkina Faso and Nigeria; South Ghana and Cote d'Ivoire; Coastal Sierra Leone; Western Mali and Niger; South Central African Republic; North Democratic Republic of Congo; West Ethiopia

2.2. Weather assessment for the current day (June, 13th 2012)

Convective activities observed across South Togo and Benin; North and South Nigeria; North Congo and Gabon; West and North Central African Republic; North Democratic Republic of Congo; South Chad.



ITD Position and IR Satellite Image (valid 1200Z of June, 13th 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