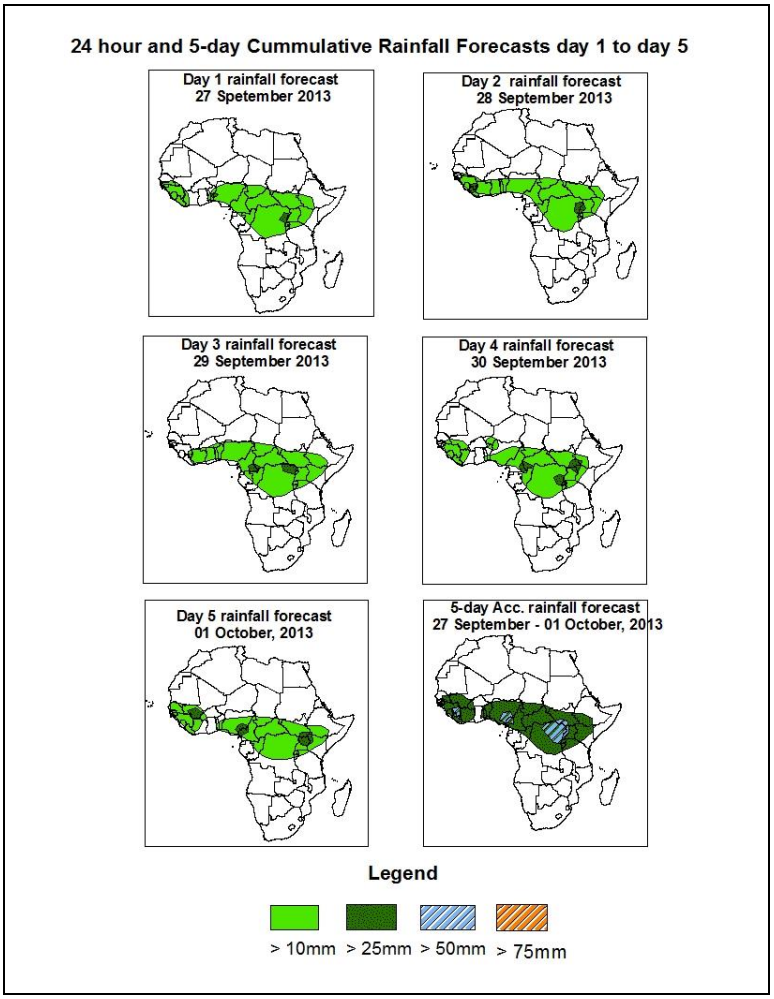
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 27 September – 06Z of 01 September, 2013. (Issued at 1530Z of 26 September 2013)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

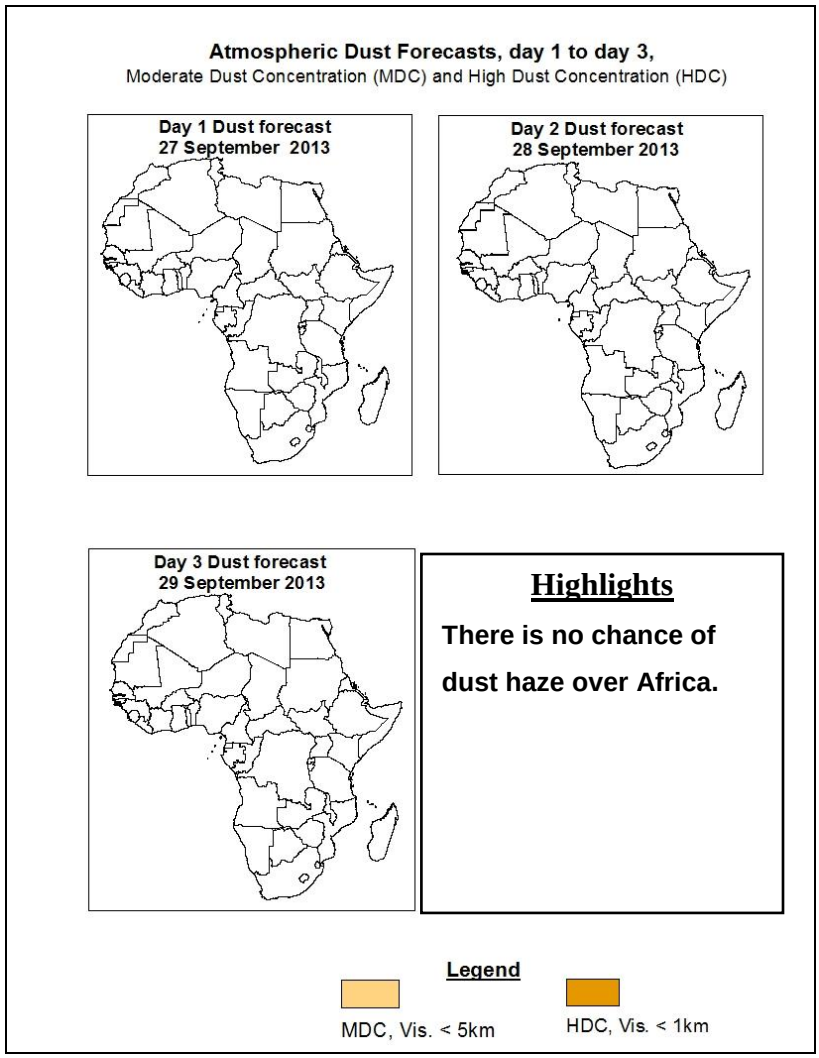
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



Summary

In the next five days, the *ITD is expected to fluctuate between 16 and 18 degree north.* The main rainfall activities are expected to be over North and central of Guinea Gulf Countries. Rainfall activities are also expected over East Africa while suppressed conditions along the Gulf of Guinea coast are expected to gradually improve due to the retreatment of monsoon to the South. Thus, there is an increased chance for moderate to heavy rainfall over Togo, Benin, Ghana, Nigeria, Cameroon, d Ivoire, Conakry Guinea, Biso Guinea, Liberia and Sierra Leone.

1.2. Atmospheric Dust Forecasts: Valid 27 - 29 September 2013



1.2. Model Discussion: Valid from 00Z of 26 September 2013

Model comparison (Valid from 00Z;26 September 2013) shows all the three models are in general agreement in terms of depicting positions of the northern and southern hemisphere sub-tropical highs, while they showed slight differences in depicting their intensity.

The Azores High Pressure System over Northeast Atlantic Ocean is expected to intensify slightly during 24 to 72 hours. Its central pressure value is expected to increase from about 1020hpa to 1021hpa according to both models

The St. Helena High Pressure System over southeast Atlantic Ocean is expected to weaken slightly from 24 to 72 hours, its central pressure value is expected to decrease from about 1032hpa to 1031hpa according to GFS, and from about 1032hpa to

1031hpa according to ECMWF model and from about 1035hpa to 1032hpa according to UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to intensify during 24 to 72 hours and then , Its central pressure value is expected to increase from about 1016hpa to 1024hpa according to GFS, and ECMWF models and from about 1020hpa to 1024hpa according to UKMET Models.

The heat lows over the central Sahel and neighboring areas are expected to fill up slightly during 24 hours before fluctuating alternatively between low and high within the range of 1005hpa to 1010hpa.

The seasonal lows across the red sea and its neighboring areas are expected to also fill up slightly according GFS and UKMET models; its central pressure value is expected to increase from about 1005hpa to 1006hpa according to GFS model and from about 1006hpa to 1007hpa according to ECMWF model.

At the 850hPa level, monsoon wind flow continues to move south of West Africa and it's expected to be over Guinea Gulf Countries and also over the Horn of Africa. The inter-tropical front is also expected to fluctuate between 16 and 18 degree north, while meridional wind convergence will dominate flow across East Africa. Suppressed rainfall along Guinea Gulf coast is expected to slightly improve as wind and surface pressure conditions gradually improve over the area during the forecast period. High to moderate rainfall is expected over north and central South of Guinea Gulf Countries and eastern Africa.

The Frequency of African Easterly Waves (AEW) is also expected to reduce but still propagate westwards waves to affect part of Guinea Gulf Countries, and portion of Central Africa within 24 to 120 hours.

At 700hpa level, wind flow maintains northeasterly to easterly flow pattern between few vortices and trough lines also are expected to occur from East to west with lest intensification compare to the last week and this is likely to facilitate westward propagation of systems across the regions of eastern Africa and Guinea gulf Countries during the period.

At 500hpa level, winds associated with mid-tropospheric easterly jet are expected to have common speeds of about 20 to 25kts over Sahel.

150mb, wind with a maximum core of 35 to 50 Knots is expected to affect part of Ethiopia and Central African Republic through 24 to 120 Hours period. Speeds exceeding 50kts will be observed over Ethiopia, eastern Sudan and Somalia during the forecast period.

In the next five days, the ITD is expected to fluctuate between 16 and 18 degree north. The main rainfall activities are expected to be over North and central of Guinea Gulf Countries. Rainfall activities are also expected over East Africa while suppressed conditions along the Gulf of Guinea coast are expected to gradually improve due to the retreatment of monsoon to the South. Thus, there is an increased chance for moderate to heavy rainfall over Togo, Benin, Ghana, Nigeria, Cameroon, d Ivoire, Conakry Guinea, Biso Guinea, Liberia and Sierra Leone.

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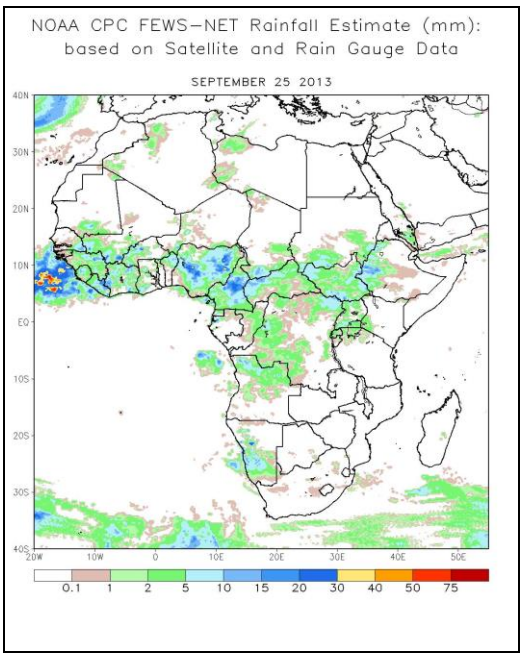
(25 September 2013 – 26 September 2013)

2.1. Weather assessment for the previous day (25 September 2013)

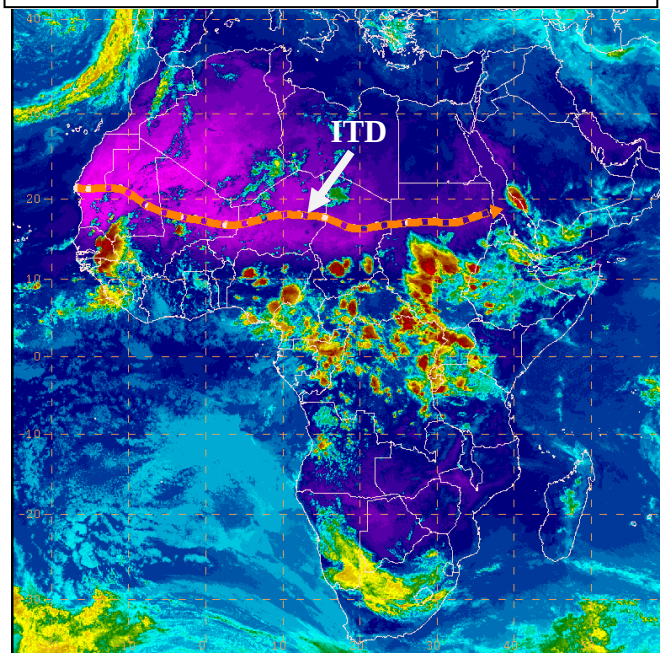
During the previous day, moderate to heavy rainfall was observed over West Ethiopia, south Chad, Cameroon, Central Nigeria, Liberia and North Burkina Faso.

2.2. Weather assessment for the current day (26 September 2013) over Soudan, DRC, Uganda, south Chad, Cameroon, Congo, Nigeria, Sierra Leone and Senegal.

. The ITD is located at an average position of latitude 16°N over Africa.



IR Satellite Image (valid 1630Z of 26 September 2013)



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

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