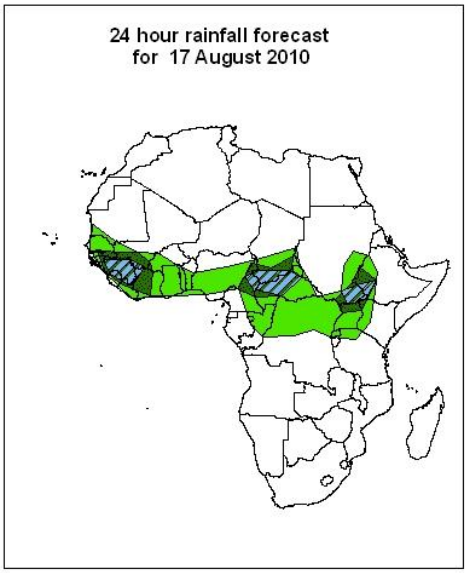
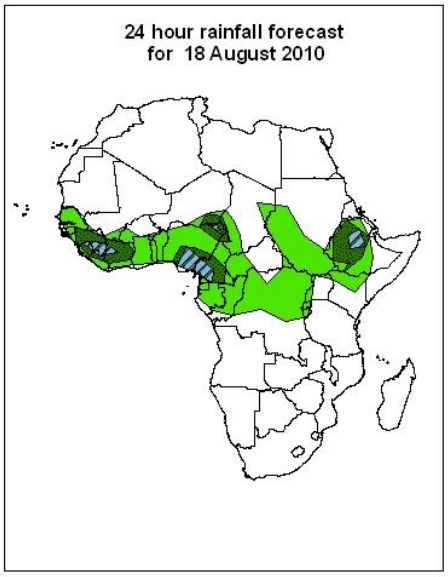
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

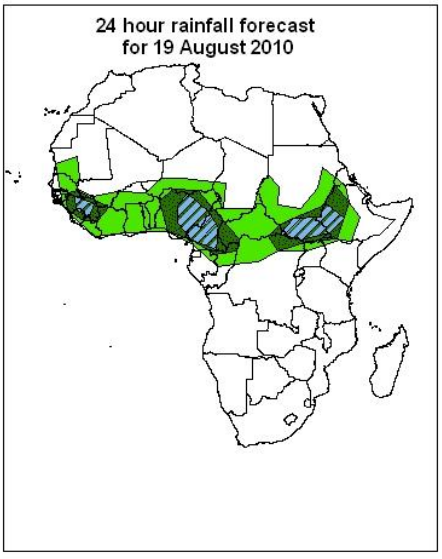
1.0. Rainfall Forecast: Valid, 06Z of 14 August – 06Z of 16 August 2010, (Issued at 14:00EST of 13 August 2010)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of 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.







Legend

> 40mm per day

> 20mm per day

> 10mm per day

Summary

In the coming three days, the westward propagating low pressure systems and their associated cyclonic circulations across the Sahel countries, together with moisture from the Atlantic Ocean are expected to enhance rainfall over many places of Southern Niger, Nigeria, Southern Burkina Faso, Mali, Guinea Conakry and parts of Cameroon and Central African Republic. The lower level wind convergence together with the persistent moist equatorial flow from the Indian Ocean and CAB region is expected to maintain the heavy rainfall over parts of DRC, Sudan and Ethiopia.

1.2. Models Comparison and Discussion - Valid from 00Z of 16 August 2010

A low pressure system is expected to move between Eastern Niger and central Mali, while deepening from central pressure value of 1008mb to 1001mb through 24 to 72 hours on the GFS model. On the ECMWF model, this low pressure system is expected to move between western Niger and northern Mali, while deepening from central pressure value of 1007 to 1004mb through 24 to 72 hours. Another low pressure system is expected to move between western and eastern Niger, while maintaining it central pressure value of 1006mb on the GFS. A low pressure system located over central Chad is expected to deepen, from central pressure value of 1005 to 1003 on the UKMET model, through 24 to 72 hours. Another weak low pressure located over southern DRC is expected to deepen from central pressure values of 1011 to 1009mb on the ECMWF model and from 1009mb to 1007mb on the UKMET model through 24 to 72 hours. The Azores high pressure system is expected to weaken from central pressure value of 1024mb in 24 hours to value of 1022mb in 72 hours. The St. Helena high is expected to intensify from central pressure value of 1025mb to 1028mb through 24 to 72 hours. The Mascarene high pressure system is expected to weaken from central values of 1028mb to 1022mb through 24 to 72 hours.

At 850mb, a cyclonic circulation over western Chad is expected to move towards the west into the central Mali. Another cyclonic circulation over central Niger is expected to shift towards northern Nigeria through 24 to 72 hours. A cyclonic circulation located over western Sudan is expected to move towards eastern Chad.

At 700hPa, a trough associated with the African Easterly Wave is expected to extend in the region between Cameroun and Sudan across Central African Republic, remaining more or less stationary through 24 to 72 hours.

At 500HPa, strong winds in excess of 30Kts, which are associated with the African Easterly Jet, are expected in the vicinity of western Mali and Senegal through 24 to 72 hours.

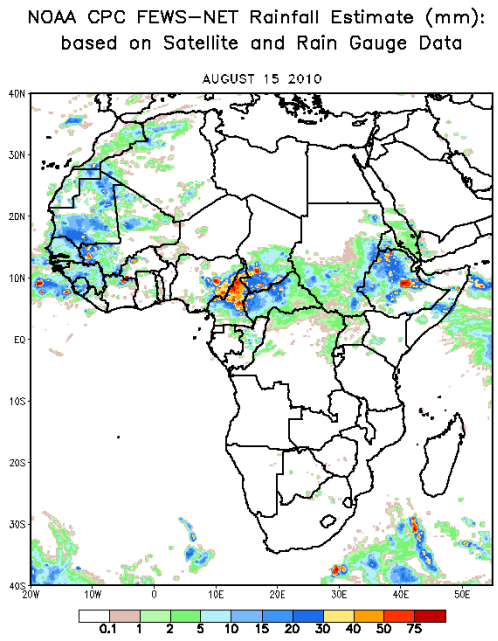
At 200hPa, a strong wind in excess of 50kts, which is associated with the subtropical westerly jet, is expected to dominate the flow over parts of western Morocco, Tunisia and the adjoining areas of Mediterranean Sea.

In the coming three days, the westward propagating low pressure systems and their associated cyclonic circulations across the Sahel countries, together with moisture from the Atlantic Ocean are expected to enhance rainfall over many places of Southern Niger, Nigeria, Southern Burkina Faso, Mali, Guinea Conakry and parts of Cameroon and Central African Republic. The lower level wind convergence together with the persistent moist equatorial flow from the Indian Ocean and CAB region is expected to maintain the heavy rainfall over parts of DRC, Sudan and Ethiopia.

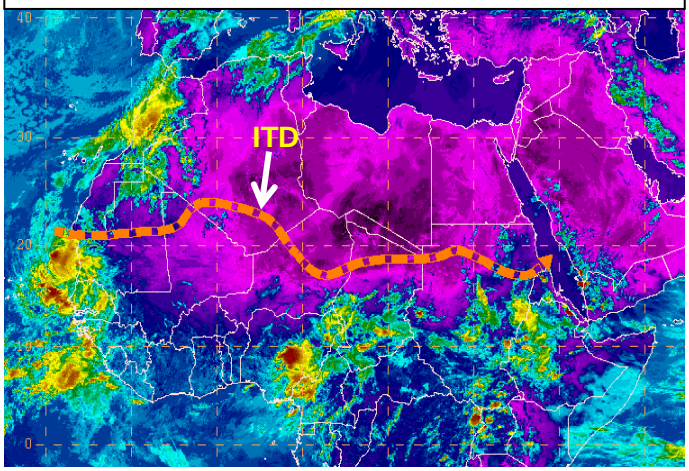
2.0. Previous and Current Day Weather Discussion over Africa (15 August 2010 – 16 August 2010)

2.1. Weather assessment for the previous day (15 August 2010): During the previous day, moderate to heavy rainfall was observed over parts of southern Mali, eastern Nigeria, northern Cameroon, southern Chad and Ethiopia.

2.2. Weather assessment for the current day (16 August 2010): Isolated intense clouds are observed over Mauritania, Senegal, Nigeria, southern Chad, southern Sudan and Ethiopia.



IR Satellite Image, Valid 1200Z, August 16, 2010



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

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