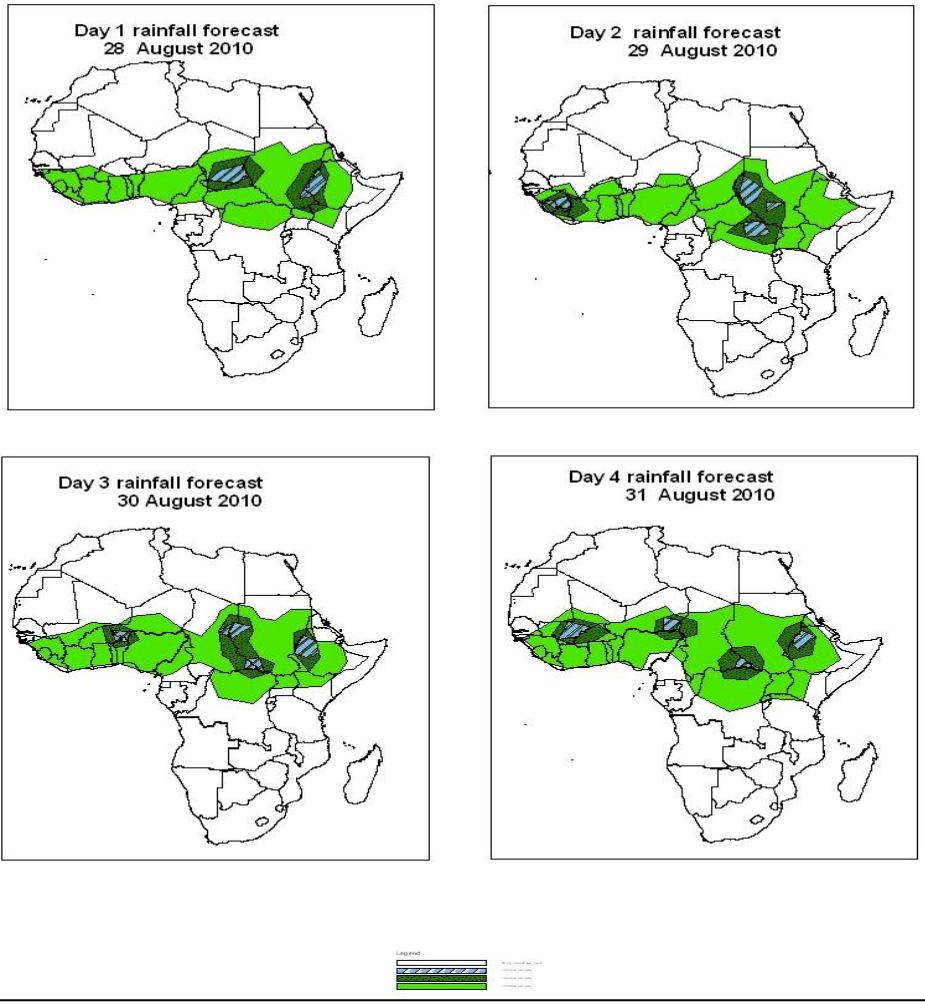
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 28 August – 06Z of 31 August 2010, (Issued at 14:00EST of 27 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.

24 hour Cummulative Rainfall Forecasts day 1 through day 4
Support to the WMO/SWFDP and AMMA Projects



Summary

In the coming four days, rainfall is expected to remain moderate to heavy across many parts of the western and central African countries, due to westward propagating convective systems and availability of abundant moisture from the Atlantic Ocean. Especially, there is an increased chance for rainfall to exceed 20mm per day in Cote-d'Ivoire, Mali, southern Niger, Nigeria and southern Chad. The moderate to heavy rainfall activity is also expected to continue across Ethiopia and parts of Sudan, Central African Republic and DRC.

1.2. Models Comparison and Discussion - Valid from 00Z of 27 August 2010

A low pressure system situated over central Mali is expected to shift southwestward while deepening. Its central pressure value is expected to change from 1004 to 1002hPa on the GFS model, 1004 to 1003hPa on the ECMWF model and 1003 to 1002hPa on the UKMET model through 24 to 72 hours. Another low pressure system over eastern Niger is expected to move westward. Its central pressure value is expected to change between 1005 to 1006hPa through 24 to 48 hours on the GFS model, 1005 to 1003hPa on the UKMET model. A third low pressure system situated over northern Sudan is expected to move westward while slightly deepening. Its central pressure value is expected to change from 1006 to 1005hPa through 24 to 48hours on the GFS model. The central pressure value of a thermal low located over southern Sudan is expected to change from 1010 to 1009hPa through 48 to 72hours. The seasonal low pressure system located over southern DRC is expected to change from central pressure value of 1008 to 1009hPa on the GFS and ECMWF models, 1007 to 1009hPa on the UKMET model through 24 to 72 hours.

The Azores high-pressure system is expected to weaken slightly from central pressure value of 1020hPa in 24 hours to a value of 1019hPa in 72 hours, while its ridge expanding across the northern African countries. The St. Helena high, situated over southern Atlantic Ocean is expected to intensify from central pressure values of 1024 to 1037hPa through 48 to 96hours. The Mascarene high pressure system is also expected to intensify through 24 to 48hours, and relax through 48 to 96hours. Its central pressure values are expected to change from 1034 to 1035hPa through 24 to 48 hours, and 1035 to 1025hPa through 48 to 96hours.

At 850hpa**,** a cyclonic circulation situated over northern Mali is expected to move towards western Mali through 48 to 96 hours. Another cyclonic circulation over eastern Niger is expected to move towards western Niger through 24 to 72hours followed by another cyclonic circulation over Chad and Sudan. The lower level convergence associated with the Congo Air Boundary (CAB) is expected to remain active across southern Sudan and southwest Ethiopia through 24 to 72 hours. Localized zones of lower level wind convergence are expected over Cameroon, Angola, Namibia, Kenya, Somalia parts of Sudan through 24 to 96 hours.

AT 700Hpa, a stationary associated with the easterly wave are expected to propagate westwards across Sudan, Chad, Central African, and parts of Nigeria, Niger and Mali through 24 to 96 hours.

At 500hpa, the winds associated with the African Easterly Jet are expected to exceed 30Kts in the vicinity of southern Chad, Nigeria and Mali.

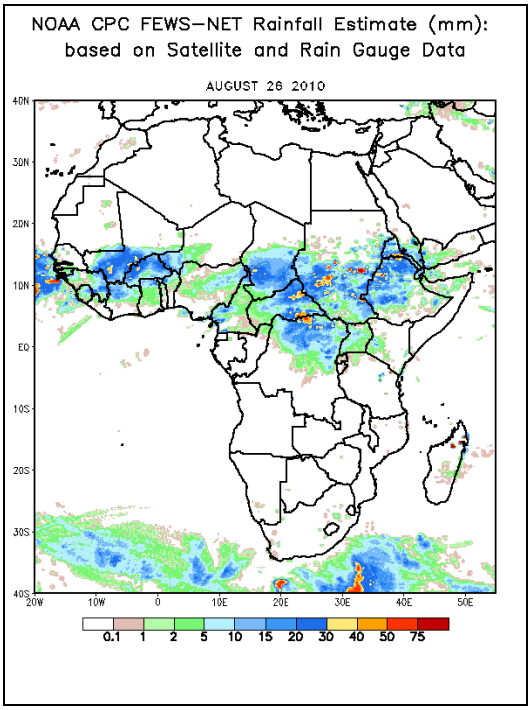
At 200hPa**,** zone of strong wind (>50Kts) is expected to dominate the flow in the vicinity of Libya and the adjoining areas of Mediterranean region, while strong upper tropospheric easterly winds (>35Kts) expected to dominate the flow across Ethiopia, Sudan, Chad, Nigeria, Burkina Faso and Mali.

In the coming four days, rainfall is expected to remain moderate to heavy across many parts of West and central African countries, due to westward propagating convective systems. Especially, there is an increased chance for rainfall to exceed 20mm per day in Cote-d'Ivoire, Mali, southern Niger, Nigeria and southern Chad. The moderate to heavy rainfall activity is also expected to continue across Ethiopia and parts of Sudan, Central African Republic and DRC.

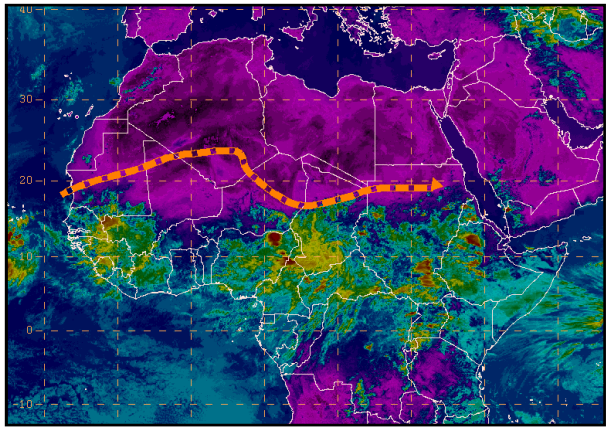
2.0. Previous and Current Day Weather Discussion over Africa (26 August 2010 – 26 August 2010)

2.1. Weather assessment for the previous day (26 August 2010): During the previous day, moderate to heavy rainfall was observed over parts of Mali, Burkina Faso, Chad, Sudan, Central Africa Republic, Cameroun, northern DRC and Ethiopia.

2.2. Weather assessment for the current day (27 August 2010): Convective clouds are observed over much of western Africa, central Africa and the Horn of Africa countries, with the intense clouds observed over Mauritania, Mali, Guinea Conakry, Ghana, Nigeria, Central Africa Republic, Cameroun, Chad, DRC, Sudan and Ethiopia.



IR Satellite Image, Valid 1200Z, August 27, 2010 and position of ITD (based on 1200Z observation)



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

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