



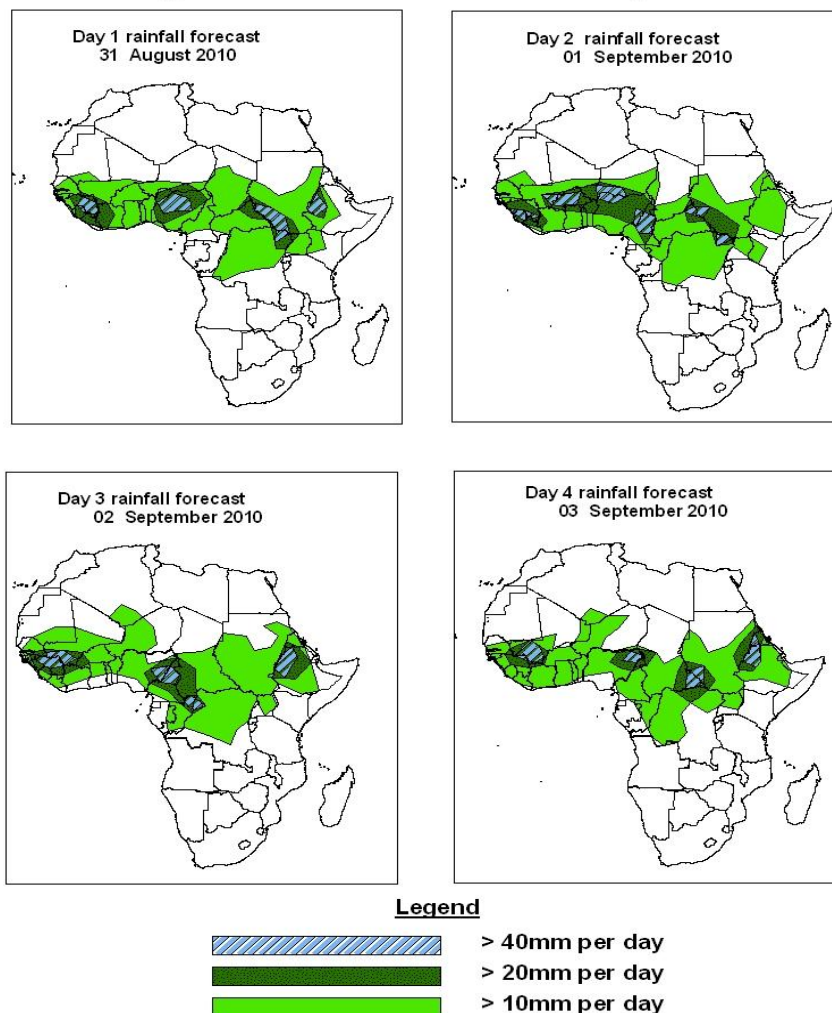
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 31 August – 06Z of 03 SEPTEMBER 2010, (Issued at 14:00EST of 30 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 Cumulative Rainfall Forecasts day 1 through day 4
Support to the WMO/SWFDP and AMMA Projects



Summary

In the coming four days, the westward propagating convection systems and the active West African Monsoon are expected to enhance rainfall across many places of West Africa. Especially, there is an increased chance for rainfall to exceed 20mm per day in Guinea Conakry, Mali, Burkina Faso, 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 due to active Congo Air Boundary (CAB) and abundant rainfall from the cross equatorial flow.

1.2. Models Comparison and Discussion - Valid from 00Z of 30 August 2010

A low pressure system situated over northern Mali is expected to shift southwestward while deepening. Its central pressure value is expected to change from 1005 to 1004hPa on the GFS model and 1005 to 1003hPa on the UKMET model, while the low is expected to fill up from central pressure value of 1005 to 1007hPa on the ECMWF model through 48 to 96 hours. Another low pressure system over eastern Niger is expected to move westward. Its central pressure value is expected to change between 1007 to 1006hPa through 24 to 48 hours on the GFS model. A third low pressure system situated over northern Chad is expected to move westward while slightly deepening. Its central pressure value is expected to change from 1007 to 1005hPa through 48 to 72hours on the GFS model, 1007 to 1004Hpa on the UKMET model. The central pressure value of a thermal low located over southern Sudan is expected to remain stationary while maintaining central pressure value of 1010hPa through 48 to 96hours. The seasonal low pressure system located over southern DRC is expected to change from central pressure value of 1010 to 1009hPa on the GFS and ECMWF models, 1009 to 1008hPa on the UKMET model through 24 to 72 hours. A northwest-southeast oriented trough is expected stretch between Low pressure systems located over northern Atlantic and Mali through 24 to 96hours on the all models.

The Azores high-pressure system is expected to weaken slightly from central pressure value of 1021hPa 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 relax from central pressure values of 1033 to 1030hPa through 24 to 48hours. The Mascarene high pressure system is also expected to relax through 24 to 48hours. Its central pressure values are expected to change from 1031 to 1029hPa through 24 to 48 hours.

At 850hpa, a cyclonic circulation situated over northern Mali is expected to move towards central Mauritania through 48 to 96 hours. Another cyclonic circulation over eastern Niger is expected to move towards central Benin and Burkina Faso through 24 to 72hours followed by other cyclonic circulations over central Chad and western Sudan. A cyclonic circulation situated over Central African Republic is expected to move towards western through 48 to 96hours. 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 and parts of Sudan through 24 to 96 hours.

At 700hPa, a trough associated with the easterly wave is expected to propagate westwards across longitudinal positions of Nigeria/Niger, Cote-d'Ivoire/Mali and Guinea Conakry/Mauritania through 24 to 96 hours.

At 500hPa, winds associated with the African Easterly Jet are expected to exceed 30Kts in the vicinity of southern Niger.

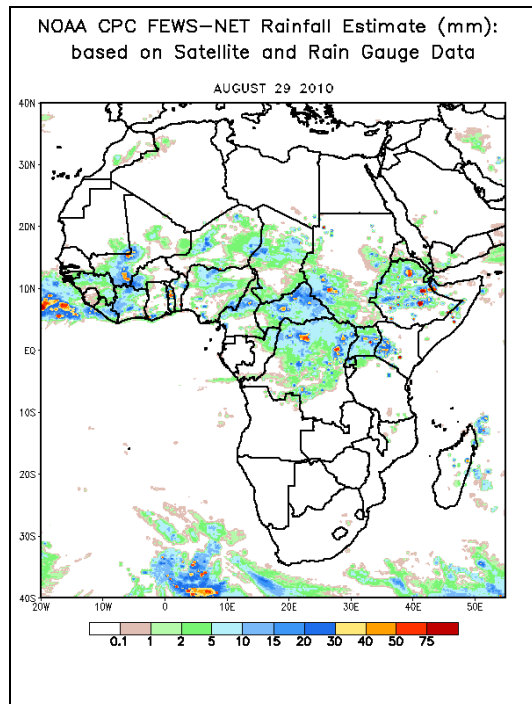
At 200hPa, zone of strong wind (>50Kts) is expected to dominate the flow in the vicinity of Tunisia and the adjoining areas of Mediterranean region, while strong upper tropospheric easterly wind (>35Kts) is expected to dominate the flow across Ethiopia, Sudan, Chad, Niger, Burkina Faso and Guinea Conakry.

In the coming four days, the westward propagating convection systems and the active West African Monsoon are expected to enhance rainfall across many places of West Africa. Especially, there is an increased chance for rainfall to exceed 20mm per day in Guinea Conakry, Mali, Burkina Faso, 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 due to active Congo Air Boundary (CAB) and abundant rainfall from the cross equatorial flow.

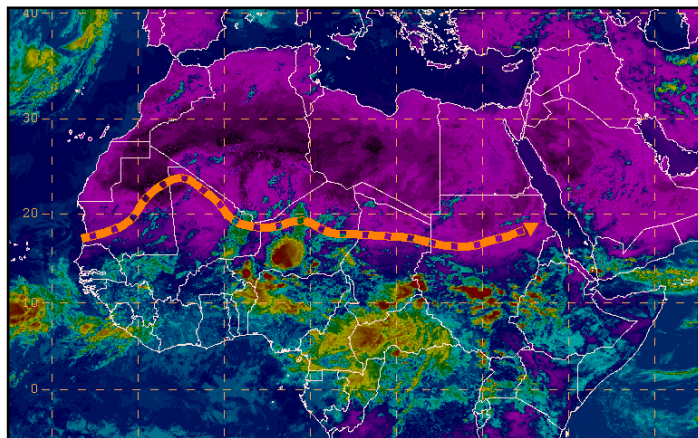
2.0. Previous and Current Day Weather Discussion over Africa (29 August 2010 – 29 August 2010)

2.1. Weather assessment for the previous day (29 August 2010): During the previous day, moderate to heavy rainfall was observed over parts of Mali, Burkina Faso, Sudan, Central Africa Republic, Cameroon, Uganda, northern DRC and Ethiopia.

2.2. Weather assessment for the current day (30 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 Niger, Nigeria, Central Africa Republic, Cameroun, Chad, DRC, Sudan and Ethiopia.



IR Satellite Image, Valid 1200Z, August 30, 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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Disclaimer: This bulletin is for training purposes only and should be used as guidance.
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