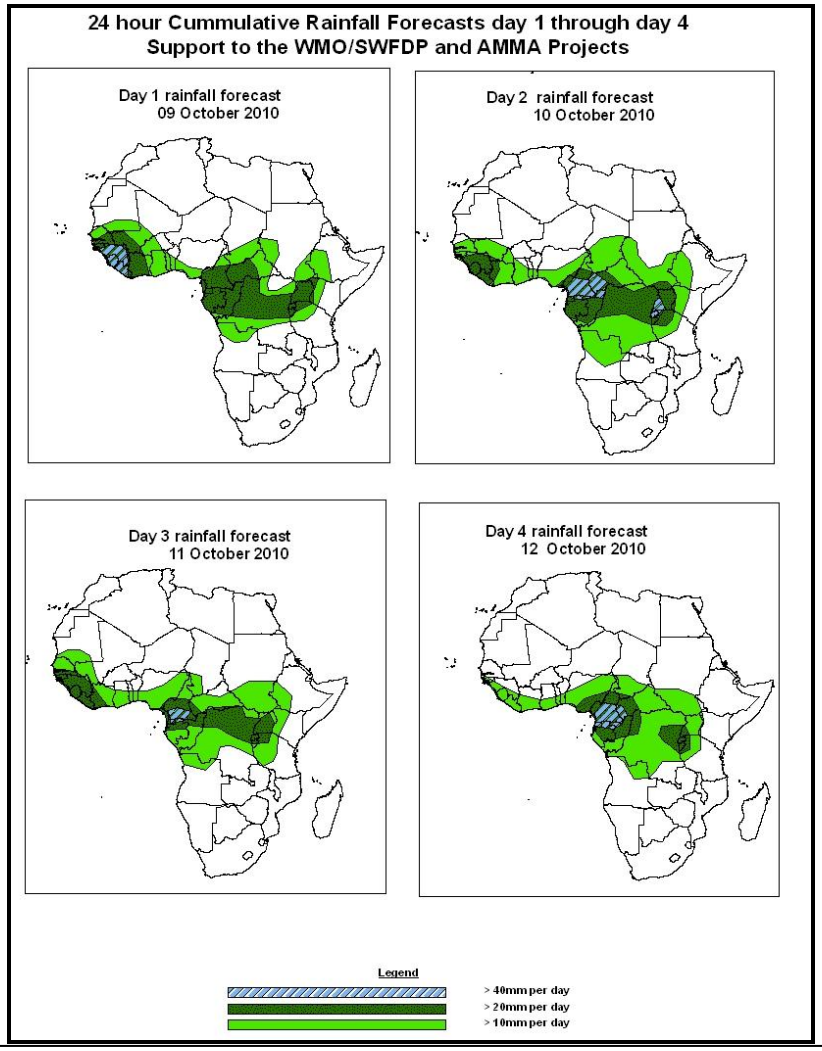
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 09 OCTOBER – 06Z of 12 OCTOBER 2010, (Issued at 14:00Z of 08 OCTOBER 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.



Summary

In the coming four days, there is an increased chance for rainfall to exceed 20mm per day over parts of Central and West Africa countries with chances of locally heavy rainfall over Cote D'Ivoire, Sierra Leone, Liberia, Cameroon, Equatorial Guinea and Central African Republic due to persistent localized convergences and westward propagating meso-scale convection systems. Moderate to heavy rainfall is expected over western Uganda, Rwanda, parts of Lake Victoria and Eastern DRC in 48hours.

1.2. Models Comparison and Discussion-Valid from 00Z of 06 OCTOBER 2010

A trough develops over Mauritania and is expected to move slightly southwest over the region in 48hours. Trough system over southwest Chad is expected to become a cut off low with a central pressure of about 1007hPa and extends to Niger and Mali in the next 48hours according to GFS, ECMWF and UKMET models. Another tough over eastern Sudan remains unchanged during 24 to 48hours before it moves slightly towards south Sudan in 72hours. The pressure associated with this trough system is between 1005 to 1007hPa in the next 96hours. The seasonal low pressure system (Meridianal component of the ITCZ) over DRC has become a cut off low extending a trough over western Tanzania including northern and western parts of the Lake Victoria Region. The system does not show significant change beyond 72hours.

Generally the southern hemisphere High pressure systems (St Helena and Mascarene Highs) are weakening. However, the strength of St Helen high remains moderate at least for the next 24 to 48hours. The weaker Mascarene will allow the East African Ridge to relax significantly during the next 24 to 96 hours where its north extent will be limited to northern parts of Mozambique and occasionally up to northern parts of Tanzania as predicted by GFS, ECMWF and UKMET modes. The continental highs are still dominating the east African region including parts of Sudan and Ethiopia.

At 850hpa, weak line of convergence is situated over central Sudan and is expected to move across slightly northeast in 72hours. Another trough associated with weak line of convergence over Chad is expected to move towards Niger and Burkina Faso in the next 48hours. Another cyclonic circulation system over Ghana is expected to move towards Cote D'Ivoire and Liberia during the next 48hours. The convergence line oriented northeast over northeast DRC to northern Namibia is expected to remain inclined towards the Lake Victoria region and western Tanzania extending as far as Southern Angola from 24 to 72hours.

At 700Hpa, a trough system associated with convergence over Cameroon and Central African Republic is expected to move over Gabon in 48hurs and thereafter shift slightly towards the coast of Nigeria. A cyclonic circulation over Cote D'Ivoire and the coast of Guinea is likely to remain relatively strong during next 24 to 48hours. The Near Equatorial Trough (NET) over the East African coast remains consistently weak.

However in the next 48 to 96hours this system is likely to start moving closer to the East African coast allowing slightly increasing cloudiness towards east coast.

At 500hpa, the African Easterly Jet is expected to remain weak with its associated wind speeds remaining below 25Kts in many areas of western and central African regions.

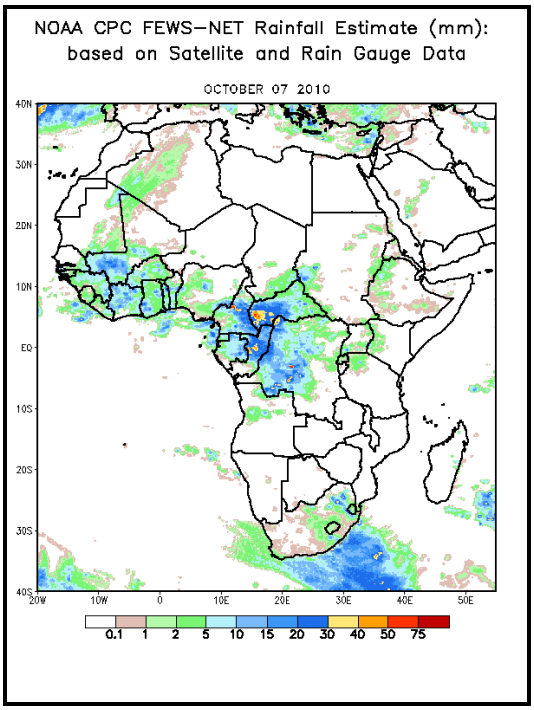
At 200hPa, zone of strong wind (>50Kts) moved slightly to the Persian Gulf in the past 24hours. The strength of the Sub Tropical Jet is expected to be 70 to 90Kts during this period. On the other hand, the TEJ related strong winds are expected to remain patch and weak (25 to 30Kts) across much of the tropical African region during the forecast period.

In the coming four days, there is an increased chance for rainfall to exceed 20mm per day over parts of Central and West Africa countries with chances of locally heavy rainfall over Cote D'Ivoire, Sierra Leone, Liberia, Cameroon, Equatorial Guinea and Central African Republic due to persistent localized convergences and westward propagating meso-scale convection systems. Moderate to heavy rainfall is expected over western Uganda, Rwanda, parts of Lake Victoria and Eastern DRC in 48hours.

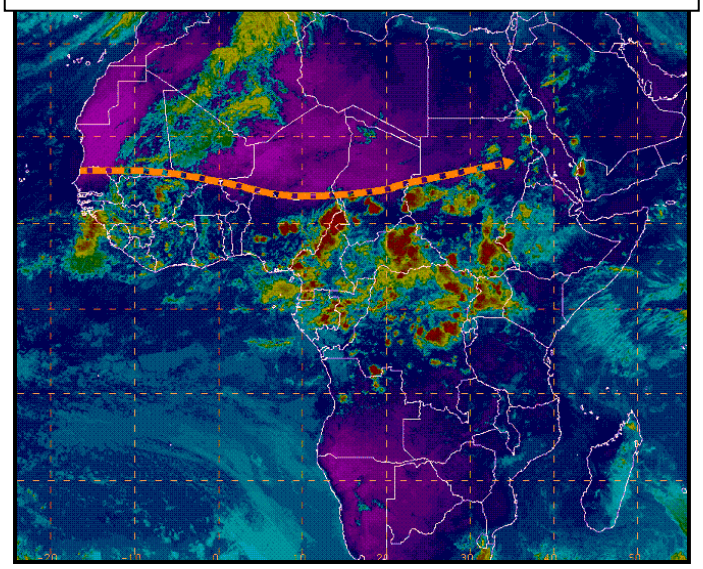
2.0. Previous and Current Day Weather Discussion over Africa (07 October – 08 October 2010)

2.1. Weather assessment for the previous day (07 October 2010): During the previous day, moderate to locally heavy rainfall was observed over many places of the Central Africa countries and western parts of Guinea Countries, and western parts DRC.

2.2. Weather assessment for the current day (08 October 2010): Intense clouds are observed over the western parts of the Gulf of Guinea countries, western Sahel, central African countries and parts of the Horn of African countries.



IR Satellite Image, Valid 1800Z, October 08, 2010 and position of ITD (based on 1200Z Surface Analysis)



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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