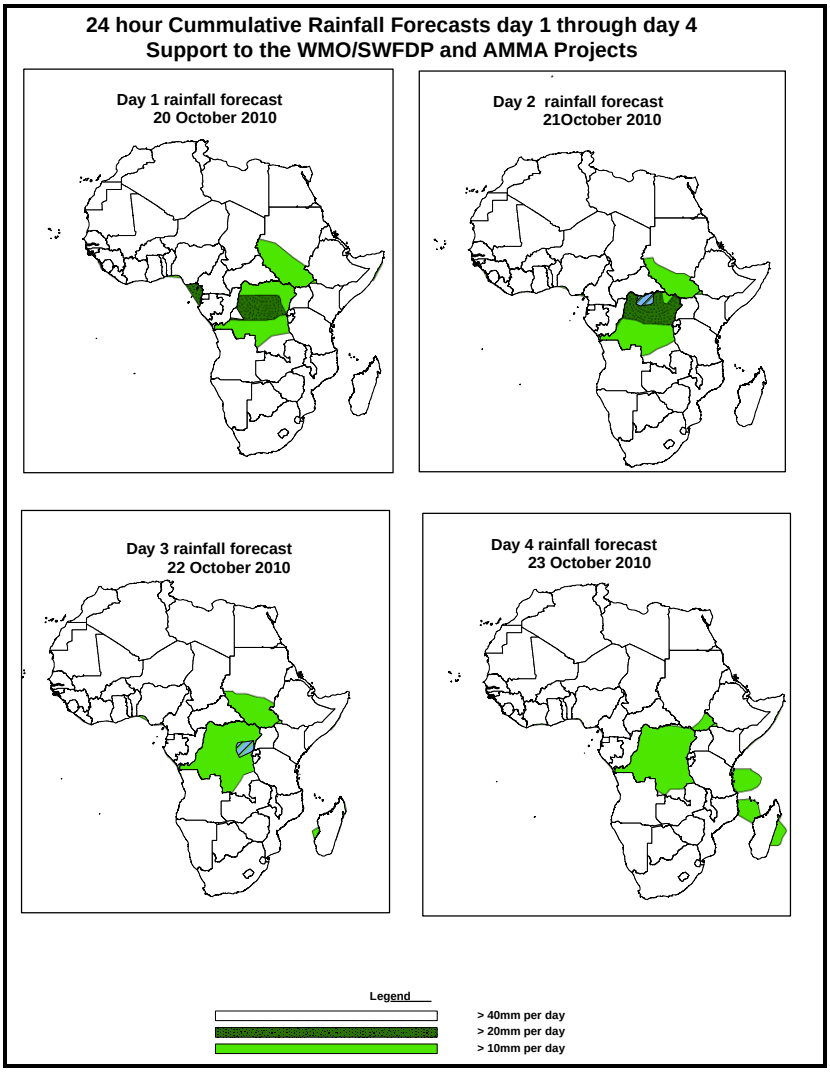
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 20 OCTOBER – 06Z of 23 OCTOBER 2010, (Issued at 14:00Z of 19 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 few areas of Central Africa, eastern parts of the Gulf of Guinea Countries and CAB region with chances of locally heavy rainfall over northeastern DRC, Rwanda, Burundi and southwestern Uganda. Also pockets of moderate to heavy rainfall are likely over Liberia, northern Gabon and along the border of Cameroon and Central African Republic.

1.2. Models Comparison and Discussion-Valid from 00Z of 19 OCTOBER 2010

A trough over Senegal indicated only by GFS model is likely to persist during the next 24 to 48hours. A cut off low pressure system over Chad and Niger extending a trough to northern Sudan is expected to fill-up slightly in the next 72hours according to GFS and ECMWF models, while UKMET model indicates no significant change to the system.

A cording to GFS, UKMET and ECMWF models the seasonal low pressure system (Meridional component of the ITCZ) over DRC is indicated as a moderate trough system at 1008hPa with a cut off low expected to develop over southeast DRC extending to Botswana across Zambia and Angola from 72 to 96hours.

The southern hemisphere High pressure system (St Helena) is weak at a central pressure of 1021hPa and situated southwest of South Africa. The Mascarene high pressure is very weak and remains displaced eastwards. The East African ridge remains weak along the east African coast with its north extent limited to eastern Tanzania and Kenya. Further weakening of the East African ridge is expected during the forecast period.

At 850hPa level, a trough over Guinea and Sierra Leone is expected to disappear in the next 48hours while a new convergence line develops over northeastern Mali. Another convergence line is situated over the East Coast Gulf of Guinea countries. This convergence line becomes weak in the next 24hours and move over Cameroon in 72hours where it is expected to regain strength creating area of cyclonic convergence from 72 to 96hours.

At 700hPa level, cyclonic circulation system is active along the coast of Liberia and Sierra Leone during the next 24hours. The cyclonic convergence over northern DRC is expected to weaken during the next 72hours. Another weak convergence line over Uganda extending to the north east of Tanzania is expected to become stronger in the next 24 to 48 hours before it starts to weaken. A weak convergence over Botswana is expected to move over Zimbabwe and then extends to South Africa in the next 24 to 72hours. The Near Equatorial Trough (NET) over the East African coast is still weak and displaced.

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) is inclined further north. The strength of the Sub Tropical westerly Jet is expected to be 70 to 90Kts during this period over southern Algeria. The TEJ related strong winds are expected to remain weak (<25Kts) 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 few areas of Central Africa, eastern parts of the Gulf of Guinea Countries and CAB region with chances of locally heavy rainfall over northeastern DRC, Rwanda, Burundi and southwestern Uganda. Also pockets of moderate to heavy rainfall are likely over Liberia, northern Gabon and along the border of Cameroon and Central African Republic.

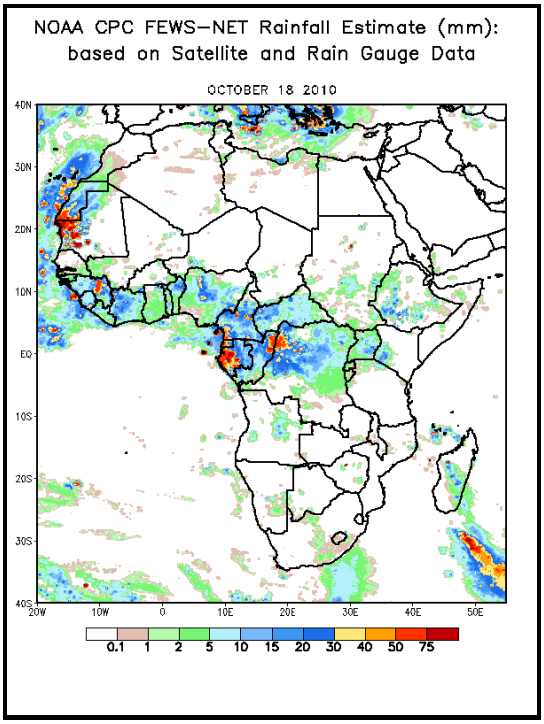
2.0. Previous and Current Day Weather Discussion over Africa (18 – 19 October 2010)

2.1. Weather assessment for the previous day (18 October 2010):

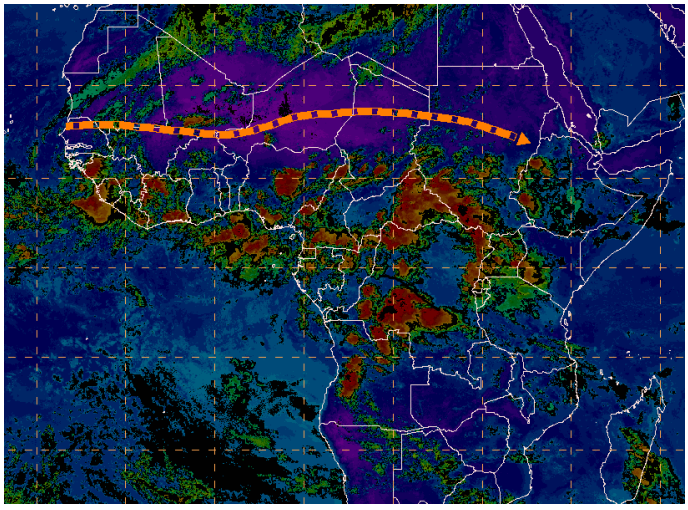
During the previous day, locally heavy rainfall was observed over the east and west coasts of the Gulf of Guinea countries, Mauritania and Senegal. Also heavy rainfall is indicated over western DRC.

2.2. Weather assessment for the current day (19 October 2010):

Intense clouds are observed over the CAB region, Central African Republic, western coast of Gulf of Guinea countries.



IR Satellite Image, Valid 1652Z, October 19, 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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