

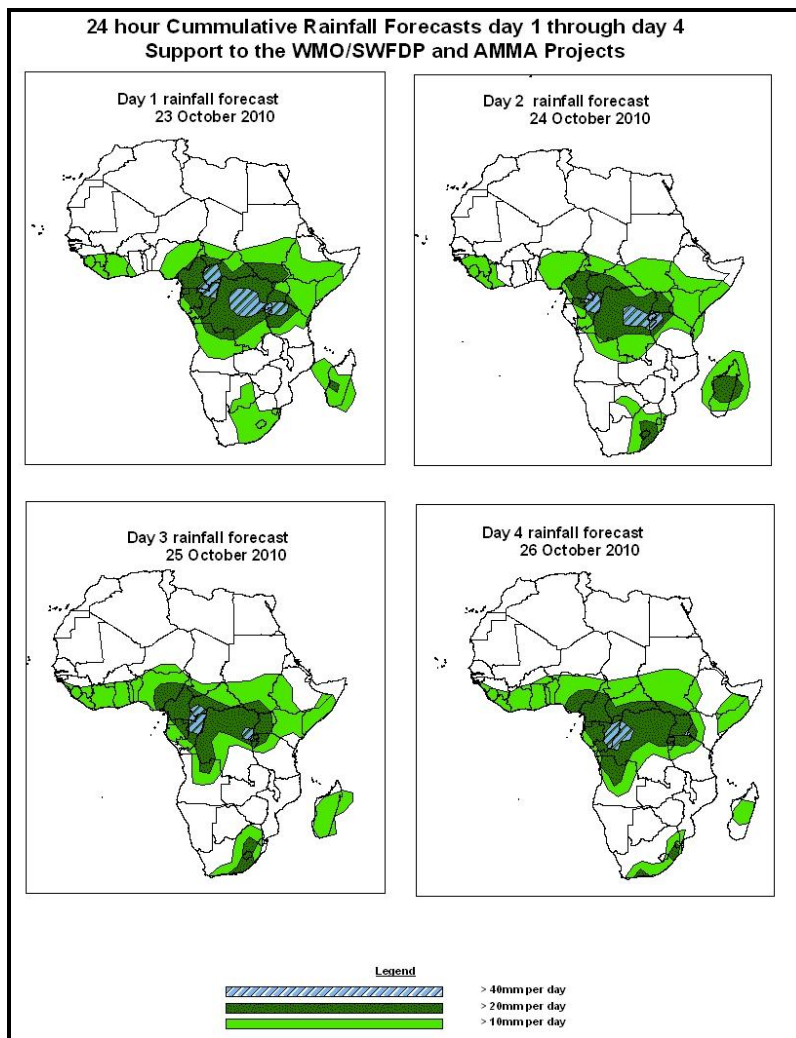


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 23 OCTOBER – 06Z of 26 OCTOBER 2010, (Issued at 14:00Z of 22 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 the CAB region, central African region, and eastern parts of the Gulf of Guinea countries with chances of locally heavy rainfall over DRC, Central Africa Republic, Cameroon, Congo, Rwanda, Uganda, Tanzania and south west of Kenya. Also pockets of moderate rainfall are likely to continue over southeastern parts of South Africa and central Madagascar.

1.2. Models Comparison and Discussion-Valid from 00Z of 22 OCTOBER 2010

The GFS, ECMWF and UKMET models are indicating a cut off low over Niger and Chad that is expected to extend a trough towards east Mali in the next 48hours. Another Cut off low over Sudan has a pressure of 1006hPa and is expected to persist during the forecast period. A cut off low pressure system over Zambia, Angola and Botswana has a pressure of 1005hPa and remains localized over the region in the next 24 to 72 hours.

According to GFS, UKMET and ECMWF models, the seasonal low pressure system (Meridional component of the ITCZ) a cut off low over western DRC and Congo is expected to weaken and become a trough in the next 72 to 96 hours. Over South Africa the influence of mid-latitude frontal system is expected to exit off the east coast in the next 24 hours and a deep low pressure system is expected to develop over the area during the next 72hours.

The southern hemisphere High pressure system (St Helena) is at central pressure of 1028hPa and the models are indicating relatively a weak ridge from St Helena towards southwest of South Africa in the next 24 to 48 hours. The Mascarene high pressure is generally weak (Central pressure between 1020 and 1024hPa) and remains displaced eastwards. The East African ridge has weakened considerably along the East African coast.

At 850hPa level, a convergence line from the Gulf of Aden across Eritrea to northeast Sudan is expected to persist during the next 24 to 72 hours. A convergence line over northern Nigeria is expected to become stronger and move to the border of Niger and Mali during the next 48 hours. Another convergence line situated over Sudan and Chad is expected to become strong along the Sudan–Ethiopia border during the next 72 to 96hours. Over Central Africa a strong cyclonic convergence is expected to persist and move slightly to Southern Congo during 72 to 96 hours. A relatively strong convergence line extending from Lake Victoria basin to northern parts of Botswana is expected to weaken slightly during 48Hours and then become strong again during 72hours.

At 700hPa level, convergence line over Central Africa Republic is expected to become cyclonic and extend to Cameroon and Southern Chad in 24 to 48 hours. The cyclonic convergence is expected to move over Nigeria in 72hours. A convergence line over Congo and western DRC is expected to move over Gabon while another convergence

develops southeast of DRC in the next 96 hours. A trough over east coast of South Africa is expected to extend to southern parts of Botswana and it is likely to weaken beyond 72hours according to the GFS Model. The Near Equatorial Trough (NET) over the East African coast is occasionally expected to be active in the vicinity of the East Africa coast line.

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 TEJ related strong winds are expected to remain weak (<30Kts) across much of the tropical African region during the forecast period. The Sub Tropical westerly Jet over the southern Hemisphere is across South Africa from the west coast to east. The wind speed associated with the Jet is expected to reach 110Kts in the next 24 to 96 hours.

In the coming four days, there is an increased chance for rainfall to exceed 20mm per day over the CAB region, central African region, and eastern parts of the Gulf of Guinea countries, with chances of locally heavy rainfall over DRC, Central Africa Republic, Cameroon, Congo, Rwanda, Uganda, Tanzania and south west of Kenya. Also pockets of moderate rainfall are likely to continue over southeastern parts of South Africa and central Madagascar.

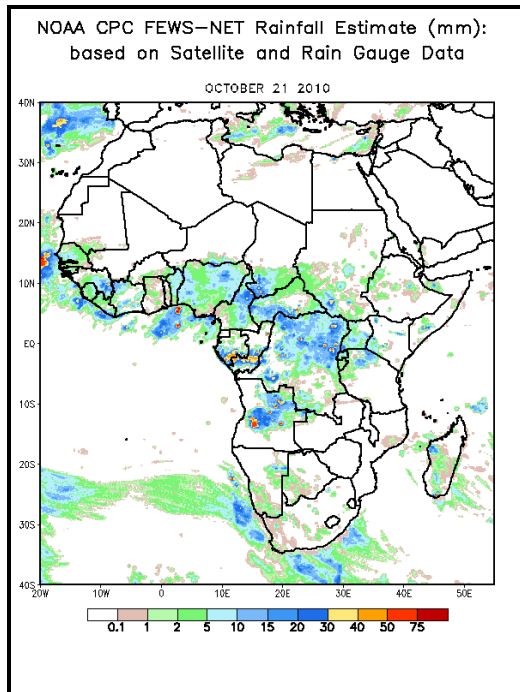
2.0. Previous and Current Day Weather Discussion over Africa (21 – 22 October 2010)

2.1. Weather assessment for the previous day (21 October 2010):

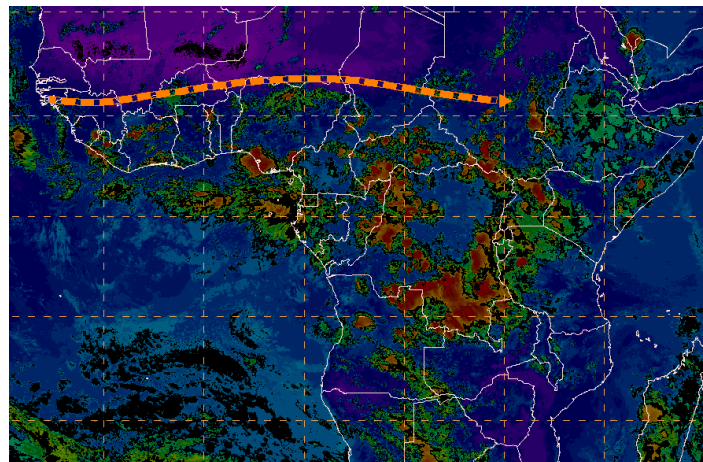
During the previous day, locally heavy rainfall was observed over CAB region, Angola and Gulf of Guinea countries.

2.2. Weather assessment for the current day (22 October 2010):

Intense clouds are observed over the Lake Victoria basin (Tanzania, Kenya Uganda countries), DRC, Central Africa Republic, and locally over the coast of Nigeria.



IR Satellite Image, Valid 1652Z, October 22, 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

Author(s): Samwel Mbuya (Tanzania Meteorological Agency) / CPC-African Desk
Omar Gouled Allaleh (Djibouti Meteorological Office)

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