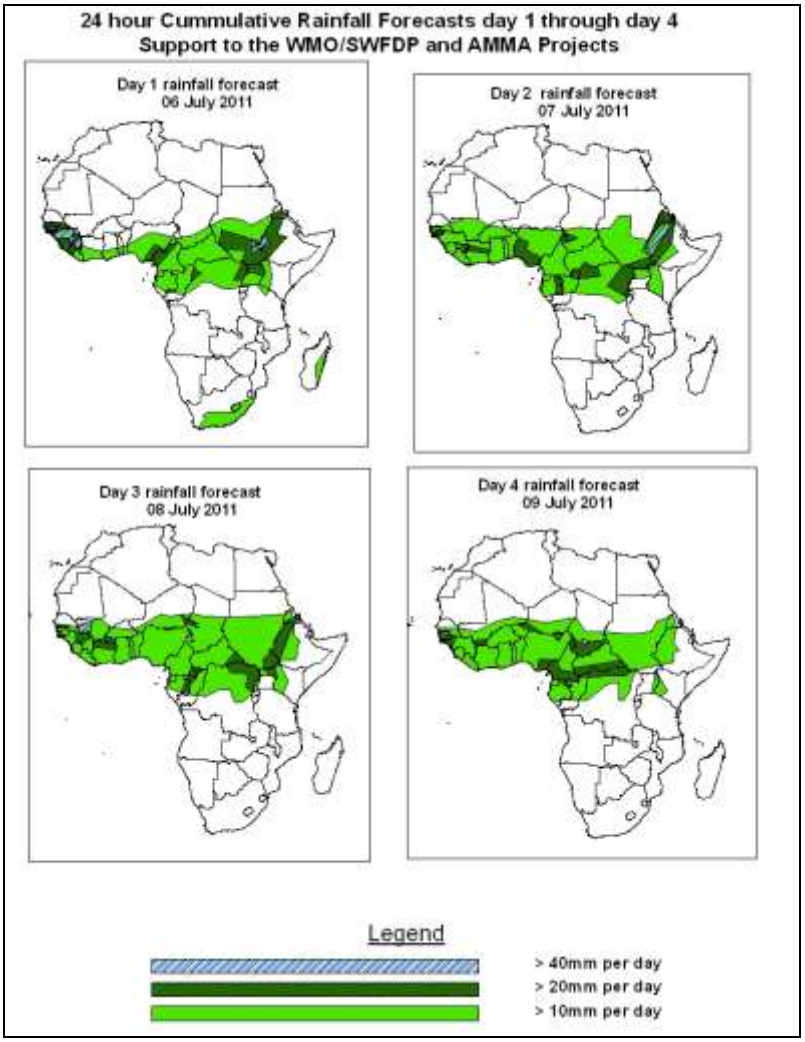
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 06 July– 06Z of 09 July 2011, (Issued at 10:15Z of 05 July 2011)

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 next four days, there is an increased chance for heavy rainfall over western and central parts of the Gulf of guinea due to westward propagating wave and its associated thunderstorm activity. Western Eritrea, western Ethiopia, southern Sudan and northern DRC are also expected to receive moderate to heavy rainfall due to strong cross equatorial flow and its associated convergence in the Horn of Africa.

1.2. Models Comparison and Discussion-Valid from 00Z of 05 July 2011

According the GFS, ECMWF and UKMET models, the monsoon trough with its associated heat lows across the Sahel region is expected to maintain its east-west orientation during the forecast period. The central pressure value along its western end (near Mauritania and Mali) varies from 1002mb to 1007mb during the forecast period. On the other hand, the heat low over central African region and Sudan is expected to remain1005mb during the forecast period. The Iberian Peninsula is expected to have pressure values varying from 995 to 998hpa during the forecast period. The East African ridge across southeast and East Africa is expected to remain strong during the forecast period.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to have central pressure value of 1040hpa during 24-hr and tends to weaken progressively to 1036hpa in 48hours and 1028hpa through 72 to 96hours. The Mascarene high pressure system over southwest Indian Ocean is expected to maintain central pressure value of 1024hpa through 24 to 72 hours and tends to intensify to 1028hpa by 96hours.

At the 850hpa level, the GFS model tends to maintain abundant moisture influx into West Africa from the Atlantic Ocean. This moist air is expected to converge across the Gulf of Guinea and southern Sahel areas. Moreover, the seasonal southeasterly moist flow from the Indian Ocean across East Africa, turning into southwesterly flow as it passes northern DRC and Sudan, is expected to converge over parts of Sudan and western Ethiopia during the forecast period. On the other hand, dry northeasterly winds are expected to continue dominating the flow over northern and portions of central Sudan.

At 700mb level, an easterly wave with its associated convective activity is expected to propagate between western Nigeria and the west coast of West Africa through 24 to 96 hours.

At 500hpa, easterly winds with moderate intensity (10 to 20knots) are expected to dominate the flow over western Sudan, central African and the Gulf of Guinea and southern Sahel region, with the stronger winds associated with the African easterly Jet are expected over Mali, Senegal, Guinea-Bissau, Guinea, through 48 to 96hours.

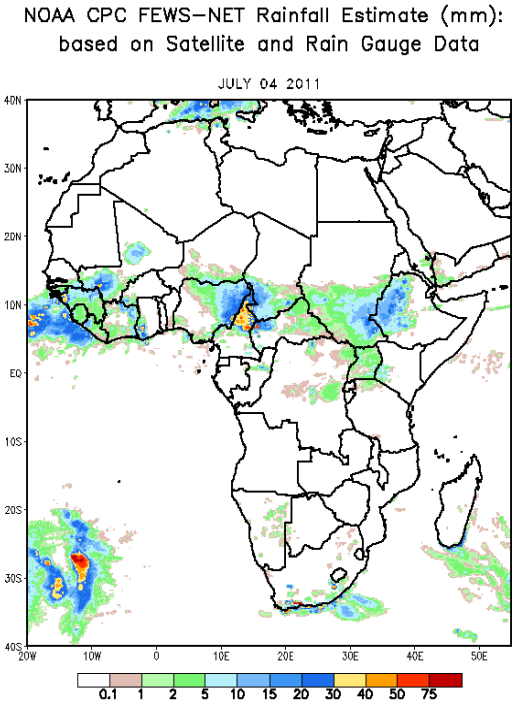
A zone of strong wind (>130Kts) at 200hpa level associated with the Sub Tropical westerly Jet is expected in the southern hemisphere across Atlantic and Indian Ocean Swaziland and south Africa through 24 to 72 hours ant tend to weaken to (>110Kts) by 96 hours.

In the next four days, there is an increased chance for heavy rainfall over western and central parts of the Gulf of guinea due to westward propagating wave and its associated thunderstorm activity. Western Eritrea, western Ethiopia, southern Sudan and northern DRC are also expected to receive moderate to heavy rainfall due to strong cross equatorial flow and its associated convergence in the Horn of Africa.

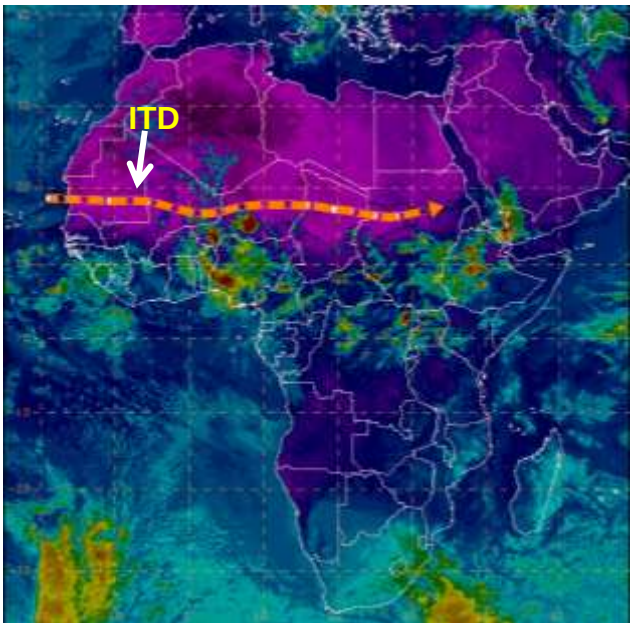
2.0. Previous and Current Day Weather Discussion over Africa (04July -05 July 2011)

2.1. Weather assessment for the previous day (04 July 2011): During the previous day, a combination of moderate and heavy rainfall was observed over southern Mali, Guinea-Bissau, southern Sierra Leon, eastern Nigeria, north of Gabon part of Sudan and eastern Ethiopia.

2.2. Weather assessment for the current day (05 July 2011): Intense clouds are observed over southern Niger, Togo, and Nigeria, parts of DRC, part of Uganda, Sudan and western Ethiopia.



IR Satellite Image (valid 1626Z) and position of ITD, based on 1200Z Surface Analysis; 05 July 2011



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): Orlando Mendes (Direcção Geral da Meteorologia Nacional da Guiné-Bissau) / CPC-African Desk), orlando.mendes@noaa.gov and

Albert M. Sherman (Liberian Meteorological Agency) / CPC-African Desk), albert.sherman@noaa.gov

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