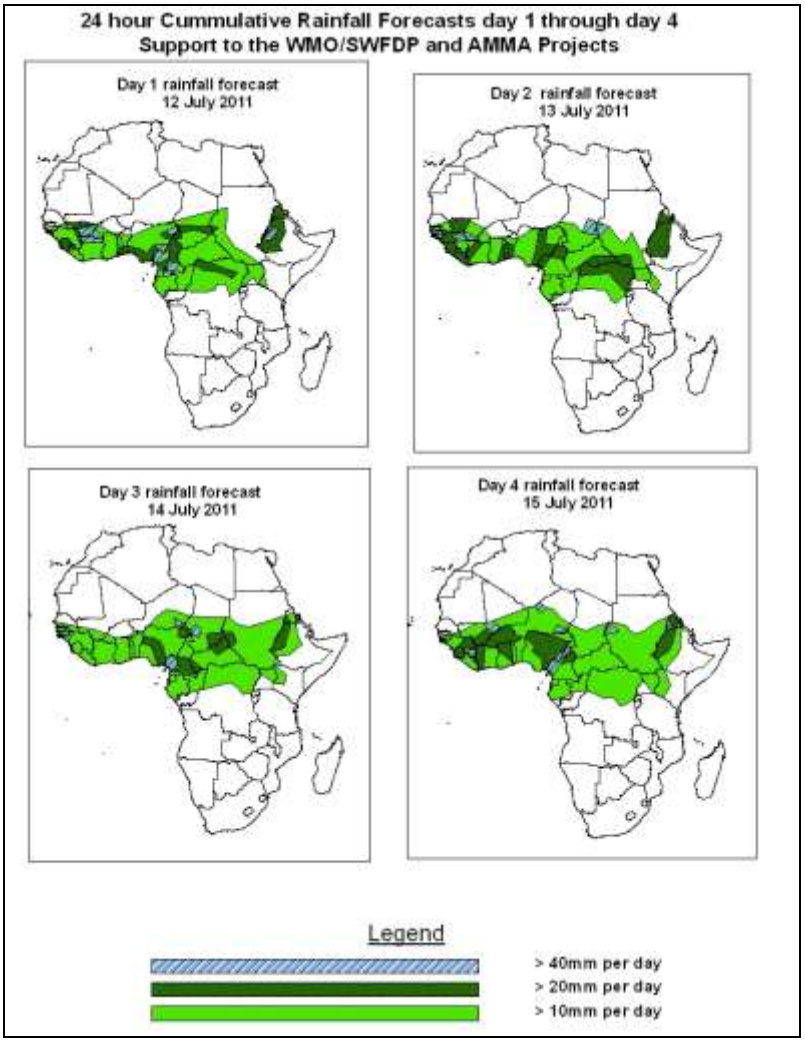
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 12 July– 06Z of 15 July 2011, (Issued at 10:45Z of 11 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 moderate to heavy rainfall over southern Senegal, Guinea Bissau, Guinea, Liberia, Sierra Leone, southern Mali, Burkina Faso, Cote D'Ivoire, Ghana, Togo, Benin, parts of Nigeria, Cameroon and CAR due to westward propagating waves and their 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 11 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 1003mb to 1007mb during the forecast period. On the other hand, the central pressure value of the heat low over central African region and Sudan is expected to remain1004mb during the forecast period. The Iberian Peninsula is expected to have pressure values varying from 993 to 995hpa during the forecast period. The East African ridge across southeast and East Africa is expected to show little or no change during the forecast period.

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The St. Helena High pressure system over southeast Atlantic Ocean is expected to have central pressure value of 1028hpa to 24 t0 72hours and tends to weaken to 1024hpa by 96hours. The Mascarene high pressure system over southwest Indian Ocean is expected to maintain central pressure value of 1032hpa during the forecast period.

At the 850hpa level, the GFS model tends to maintain westerly to southwesterly flow across central and eastern parts of the Gulf of Guinea countries throughout the forecast period. A lower tropospheric cyclonic circulation is expected to move between western Burkina Faso and the West Coast of West Africa through 24 to 72 hours, while the seasonal cyclonic circulation tends to deepen over western Sahel during the forecast period. 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, and another wave is expected to develop in the vicinity of Nigeria during the forecast period.

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, Niger, Chad, and Sudan, during the forecast period.

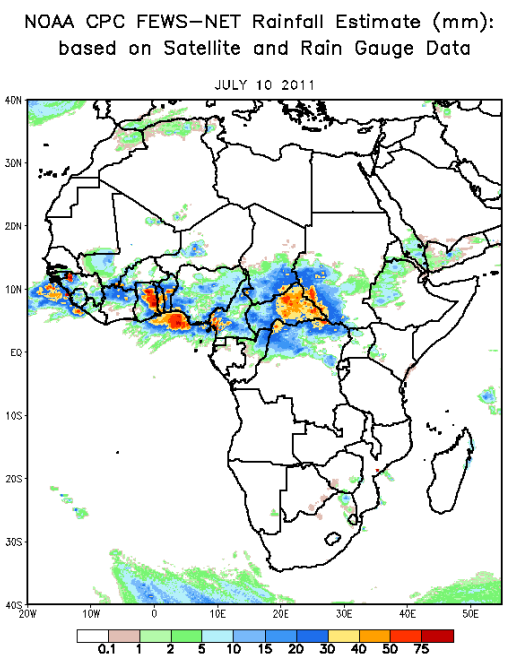
A zone of strong wind (>110Kts) at 200hpa level associated with the Sub Tropical westerly Jet is expected in the southern hemisphere across Atlantic and Indian Ocean through 24 to 72 hours and tend to intensify to (>130Kts) by 96hours.

In the next four days, there is an increased chance for moderate to heavy rainfall over southern Senegal, Guinea Bissau, Guinea, Liberia, Sierra Leone, southern Mali, Burkina Faso, Cote D'Ivoire, Ghana, Togo, Benin, parts of Nigeria, Cameroon and CAR due to westward propagating waves and their 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.

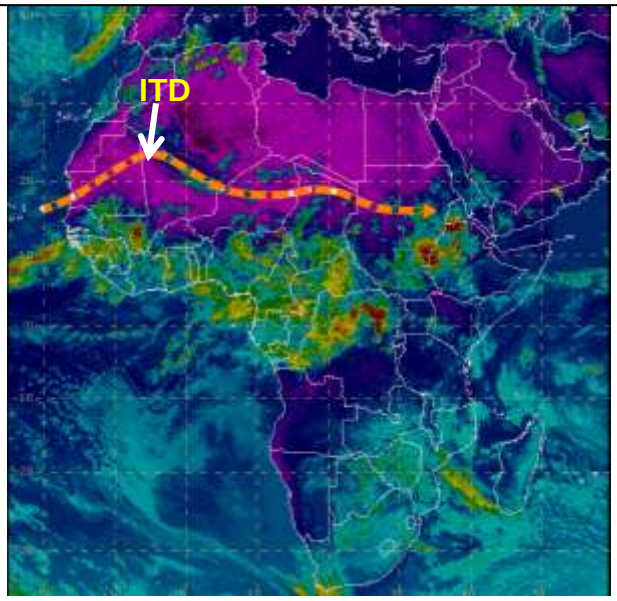
2.0. Previous and Current Day Weather Discussion over Africa (10July -11 July 2011)

2.1. Weather assessment for the previous day (10 July 2011): During the previous day, moderate to heavy rainfall was observed over Guinea-Bissau, Guinea, Cote D'Ivoire, Ghana, Togo, Benin, southeastern Nigeria, western Cameroon and CAR.

2.2. Weather assessment for the current day (11 July 2011): Intense clouds are observed over southern Mali, Guinea, parts of Nigeria, Cameroon, CAR, eastern Sudan, Ethiopia and DRC.



IR Satellite Image (valid 1500Z) and position of ITD, based on 1200Z Surface Analysis; 11July 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

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