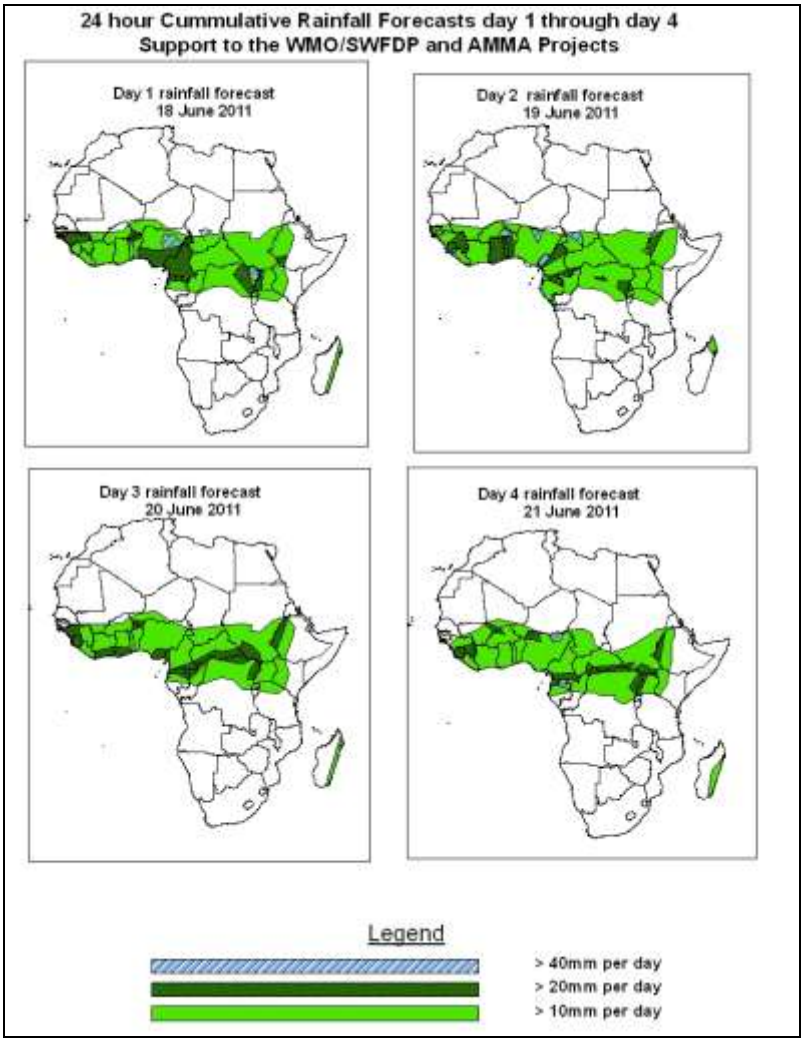
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 18 June– 06Z of 21 June 2011, (Issued at 12:50Z of 17 June 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 southern Senegal, Guinea Bissau, Sierra Leone, Liberia, Cote D'Ivoire, Ghana, Togo, Benin, Nigeria and Cameroon due to active easterly wave activity and its associated westward propagating storms. The seasonal cross-equatorial flow across East Africa is expected to continue enhancing rainfall over parts of Ethiopia. Moderate to heavy rainfall is also expected in the vicinity of Lake Victoria due to active CAB in the region.

1.2. Models Comparison and Discussion-Valid from 00Z of 17 June 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) is expected to decrease slightly from 1006mb in 24 hours to 1004mb in 96 hours. On the other hand the heat low over central African region and Sudan, the central pressure value tends to increase from 1004mb to 1009mb during the forecast period. On the other hand, the East African ridge across southeast and East Africa, with its northern extent reaching the latitudes of southern Ethiopia is expected to weaken through 24 to 72 hours and it tends to re-strengthen through 72 to 96 hours.

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

At the 850hpa level, the GFS model maintains the seasonal southeasterly moist flow from the Indian Ocean across East Africa turning into southwesterly flow as it passes across Sudan. Part of this flow is expected to continue converging into 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. The seasonal convergence between moist winds from the Atlantic Ocean and dry winds from northern Africa is expected to be more active over southern Sahel and the adjoining areas of the Gulf of Guinea region during the forecast period.

At the 700hPa level, the northwesterly winds are expected to dominate the flow over Sudan, while zone of strong easterly flow with its associated easterly wave is expected to propagate across southern Sahel and the Gulf of Guinea, between central Africa and the west coast of West Africa during the forecast period.

At 500hpa, easterly winds with moderate intensity (10 to 25knots) are expected to dominate the flow over 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 Chad, Nigeria, Niger, Burkina-Faso, Cote d'Ivoire, Ghana, Benin, Togo Guinea and Guinea-Bissau during the forecast period.

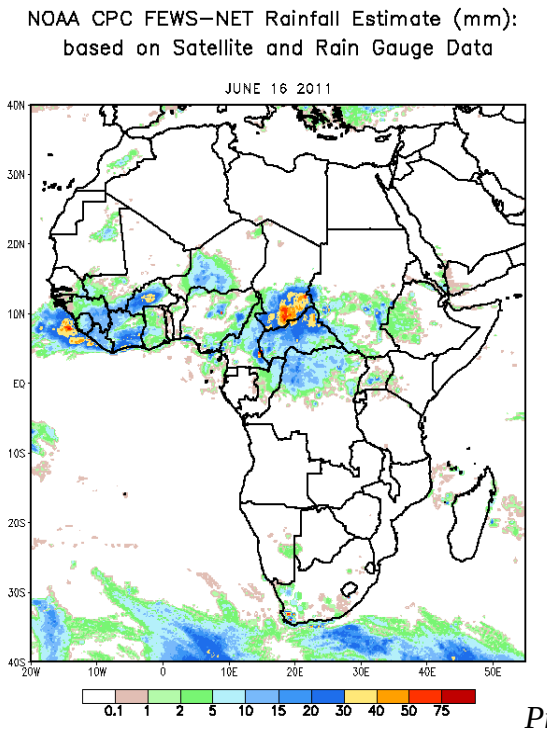
A zone of strong wind (>90Kts) at 200hpa level associated with the Sub Tropical westerly Jet is expected to propagate eastwards across Mediterranean Sea and mid-east through 24 to 48 hours and tend to weaken to (>70Kts) through 72 to 96hours. On the other hand, strong winds (>110Kts) associated with the Sub-Tropical Westerly Jet is expected in the southern hemisphere across Atlantic and Indian Ocean throughout 24 to 72hours and intensifying to (>110Kts) by 96 hours.

In the next four days, there is an increased chance for heavy rainfall over southern Senegal, Guinea Bissau, Sierra Leone, Liberia, Cote D'Ivoire, Ghana, Togo, Benin, Nigeria and Cameroon due to active easterly wave activity and its associated westward propagating storms. The seasonal cross-equatorial flow across East Africa is expected to continue enhancing rainfall over parts of Ethiopia. Moderate to heavy rainfall is also expected in the vicinity of Lake Victoria due to active CAB in the region.

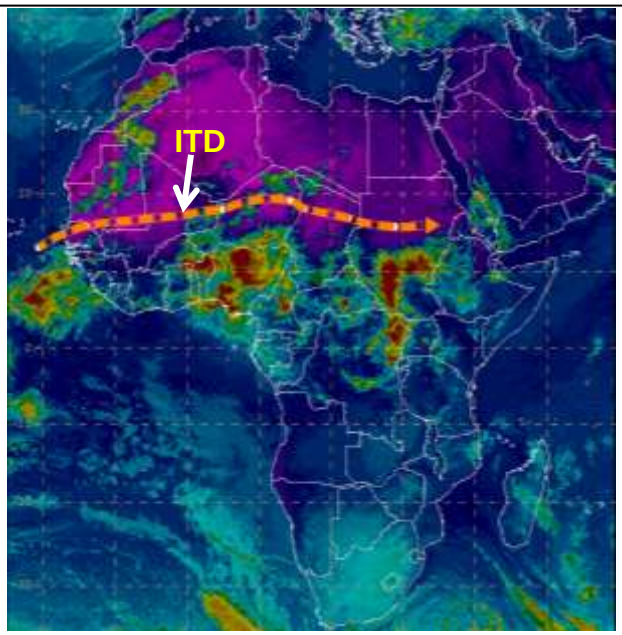
2.0. Previous and Current Day Weather Discussion over Africa (16 – 17June 2011)

2.1. Weather assessment for the previous day (16 June 2011): During the previous day, a combination of moderate and heavy rainfall was observed over Guinea, southern Sierra Leon, Liberia, part of Nigeria, Cote d'Ivoire, Chad, CAR, part of Sudan and DRC.

2.2. Weather assessment for the current day (17June 2011): Intense clouds are observed over southern Guinea-Bissau, Western Burkina-Faso, Togo, Nigeria, Sudan and part of DRC.



IR Satellite Image (valid 1652Z) and position of ITD, based on 1200Z Surface Analysis; 17 June 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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