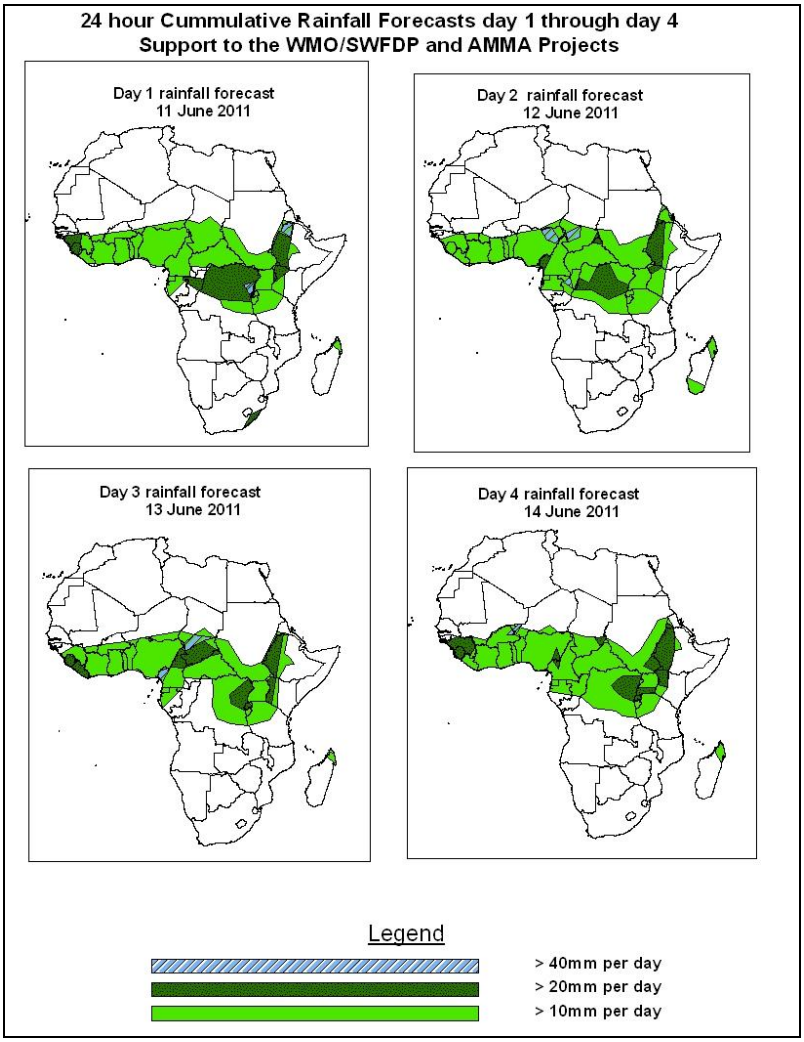
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 11 June– 06Z of 14 June 2011, (Issued at 11:10 Z of 10 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 northeastern DRC and the neighboring areas of Uganda Rwanda and Burundi, due to active lower tropospheric convergence in the CAB region. Moreover, moist cross equatorial flow across the Horn of Africa is expected to maintain moderate to heavy rainfall over western Ethiopia. Localized heavy rains are also expected over parts of central Africa and across the southwest coast of West Africa.

1.2. Models Comparison and Discussion-Valid from 00Z of 10 June 2011

According the GFS, ECMWF and UKMET models, the monsoon trough, associated with heat lows across the Sahel region, Sudan and Iberian Peninsula is expected to have pressure values varying from 996 and 1008hpa during the forecast period. On the other hand, the East African ridge is expected to remain active across East Africa with its northern extent reaching the latitudes of Ethiopia during the forecast period.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to maintain a central pressure value of 1028hpa through 24 to 28 hours and tends to weaken to values of 1024hpa in 72 to 96 hours. The Mascarene high pressure system over the southwest Indian Ocean is expected to maintain central pressure value of 1032hpa in 24 and tends weaken progressively to 1028hpa in 48 and to 1020hpa in 72 and 96 hours.

At the 850hpa level, the GFS model maintains strong convergence in the northern parts of CAB region, between westerly winds from the Atlantic Ocean and easterly winds from the Indian Ocean through 24 to 48 hours. Moreover, the seasonal southeasterly moist wind from Indian Ocean across East Africa turning into southwesterly flow as it passes across the Horn of Africa is expected to converge partly into Ethiopia. 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 central and eastern parts of the Gulf of Guinea and along the southwest coast of West Africa., .

At the 700hPa level, zone of strong easterly flow is expected to propagate across the Gulf of Guinea between Nigeria and the west coast of West Africa through during the forecast pERiod. Southeasterly winds from the Indian Ocean across southern DRC are also expected to reach the western equatorial regions through 24 to 72 hours.

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, Sudan, Niger, Nigeria, Burkina-Faso, Guinea and Mali during the forecast period.

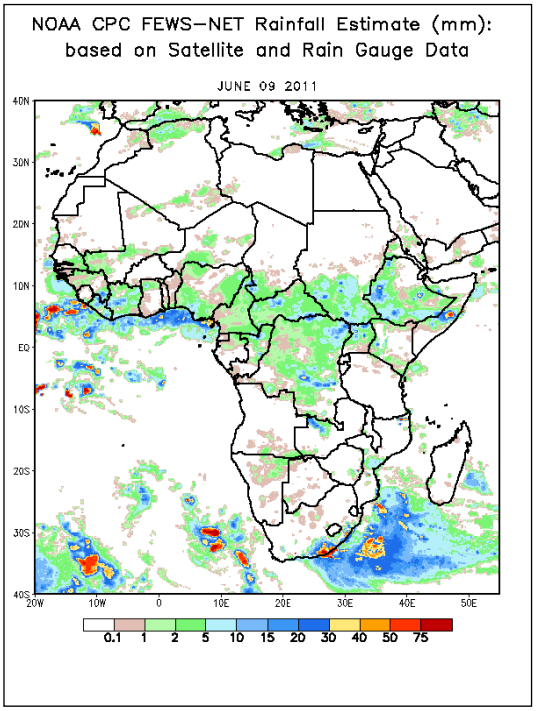
A zone of strong wind (>90Kts) at 200hpa level associated with the Sub Tropical westerly Jet is expected to propagate eastwards across Algeria, Tunisia, Libya and Mediterranean through 24 hours and tend to intensifying to (>110Kts) by 48 to 96 hours. On the other hand, strong winds (>130Kts) associated with the Sub-Tropical Westerly Jet is expected in the southern hemisphere across Atlantic and Indian Ocean, Southern Africa and Lesotho through 24 to 48 hours and tends to weaken to (>110Kts) in 72 to 96 hours.

In the next four days, there is an increased chance for heavy rainfall over northeastern DRC and the neighboring areas of Uganda Rwanda and Burundi, due to active lower tropospheric convergence in the CAB region. Moreover, moist cross equatorial flow across the Horn of Africa is expected to maintain moderate to heavy rainfall over western Ethiopia. Localized heavy rains are also expected over parts of central Africa and across the southwest coast of West Africa.

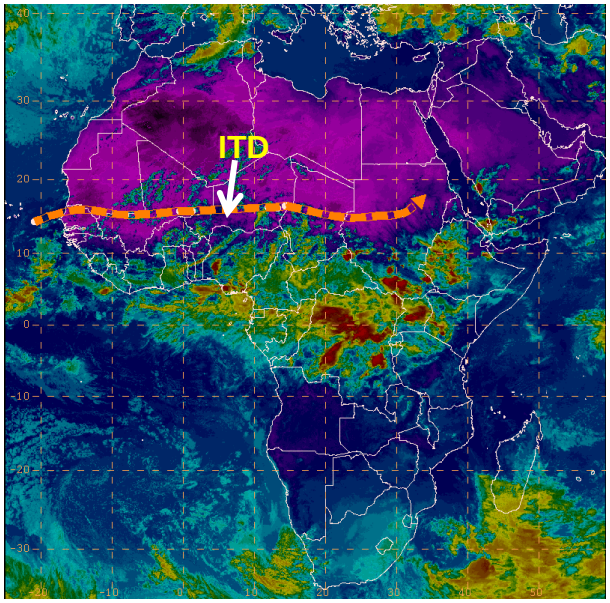
2.0. Previous and Current Day Weather Discussion over Africa (09 – 10June 2011)

2.1. Weather assessment for the previous day (09 June 2011): During the previous day, a combination of light and moderate rainfall was observed over much of the seasonal rain-getting areas.

2.2. Weather assessment for the current day (10 June 2011): Intense clouds are observed over southern Ghana, Nigeria, Central Africa Region, parts of Kenya and Ethiopia.



IR Satellite Image (valid 1500Z) and position of ITD, based on 1200Z Surface Analysis; 10June 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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