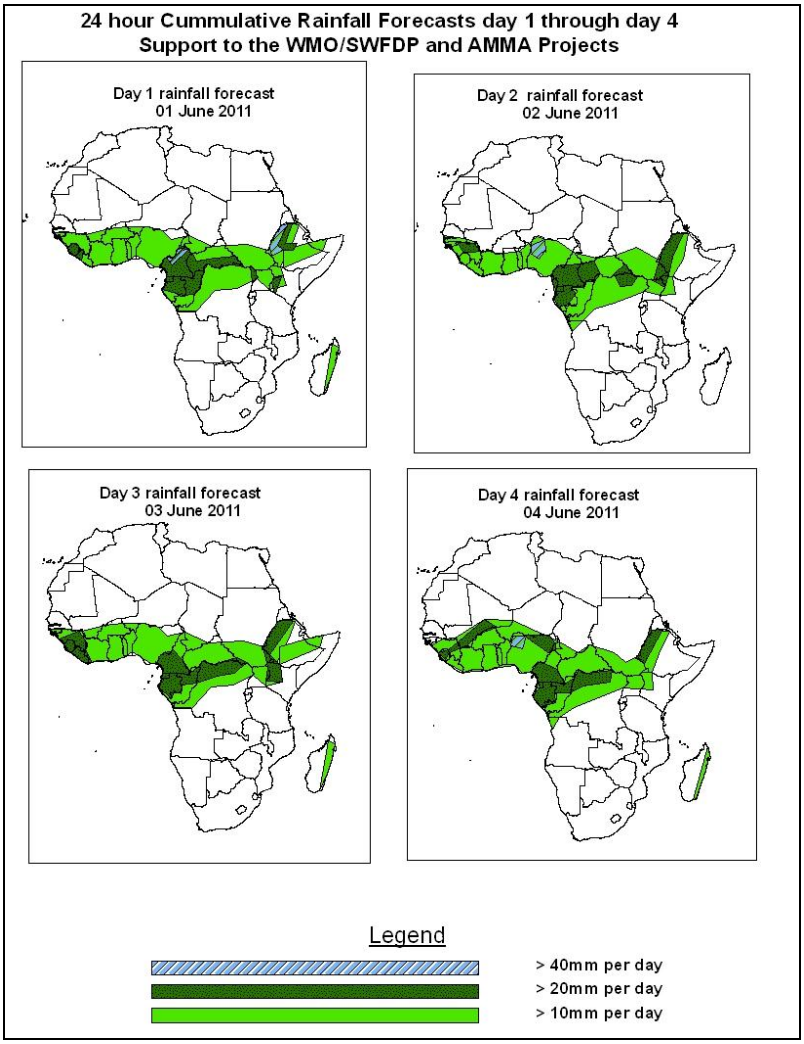
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 01 June May – 06Z of 04 June 2011, (Issued at 10:00 Z of 31 May 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, the strong cross equatorial flow across East Africa, converging into western equatorial Africa, is expected to enhance rainfall over Cameroon, Gabon, Congo and northwest DRC. Moreover, the moisture convergence across parts of the GHA region is expected to maintain heavy rainfall over western Ethiopia during the forecast period. Moderate to heavy rainfall is also expected over local areas of West Africa and Lake Victoria region.

1.2. Models Comparison and Discussion-Valid from 00Z of 31 May 2011

According the GFS, ECMWF and UKMET models, the east-west oriented trough, associated with heat lows across the Sahel region and Sudan is expected to have pressure values varying from 1004 and 1006hpa 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 hours and tends to weaken progressively to 1024hpa in 48 and to 1020hpa in 72 and 96 hours. The Mascarene high pressure system over the southwest Indian Ocean is expected to maintain central pressure value of 1020hpa in 24 to 48 hours and tends to intensify to 1024hpa through 72 to 96 hours.

At the 850hpa level, the GFS model shows moist cross-equatorial flow across East Africa is expected converge over central and western parts of equatorial Africa. Part of the moist equatorial flow is also expected to converge across western Ethiopia. On the other hand, dry northeasterly winds are expected to dominate the flow over Sudan. The seasonal convergence between moist winds from the Atlantic Ocean dry winds from northern Africa is expected to be more active over central and eastern parts of the Gulf of Guinea. The north-south oriented convergence in the CAB region is expected to remain active in the vicinity of Lake Victoria during the forecast period.

At the 700hPa level, Strong northeasterly to easterly winds are expected to dominate the flow between Sudan and coastal Wes Africa across the Gulf of Guinea region during the forecast period.

At 500hpa, easterly winds with moderate intensity (10 to 20knots) 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 localized areas of northern Cote D'Ivoire, Southern Guinea and Mali through 48 to 72 hours.

A zone of strong wind (>70Kts) at 200hpa level associated with the Sub Tropical westerly Jet is expected to propagate eastwards across Morocco, Algeria, northern Niger and mid-east during the forecast period. On the other hand, strong winds (>150Kts) associated with the Sub-Tropical Westerly Jet is expected in the southern

hemisphere across Atlantic and Indian Ocean through 24 to 48 hours and tends to weakens to (>110Kts) in 72 to 96 hours.

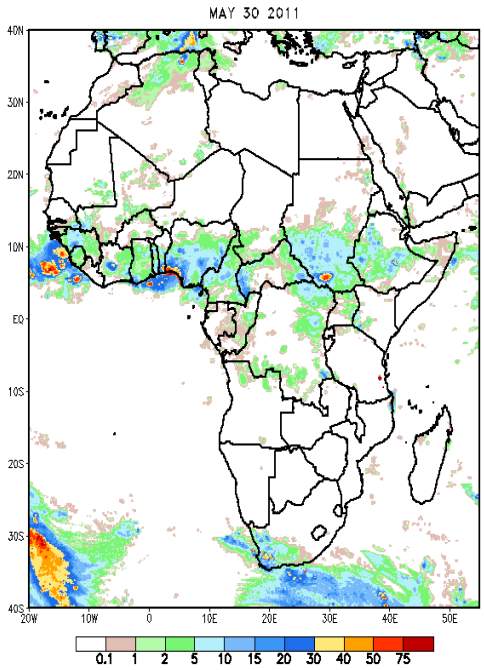
In the next four days, the strong cross equatorial flow across East Africa into western equatorial Africa is expected to enhance rainfall over Cameroon, Gabon, Congo and northwest DRC. Moreover, the moisture convergence across parts of the GHA region is expected to maintain heavy rainfall over western Ethiopia during the forecast period. Moderate to heavy rainfall is also expected over local areas of West Africa and Lake Victoria region.

2.0. Previous and Current Day Weather Discussion over Africa (30 May –31 May 2011)

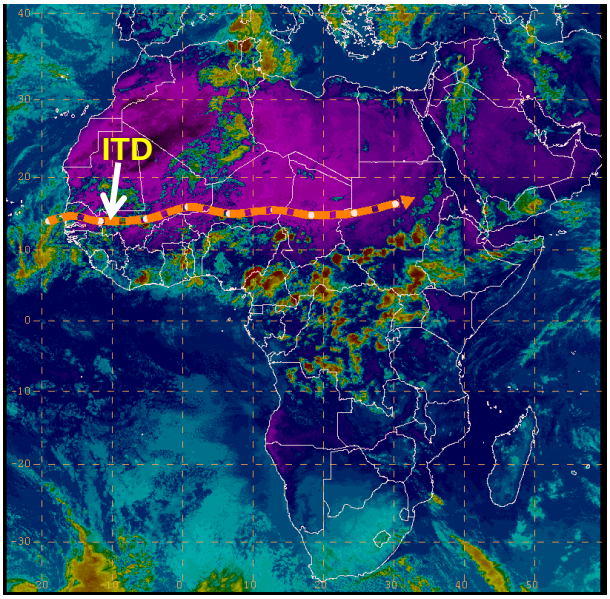
2.1. Weather assessment for the previous day (30 May 2011): During the previous day, a combination of moderate and heavy rainfall was observed over western Guinea, southern Togo and Benin, Western Nigeria, southern Sudan and parts of South Africa.

2.2. Weather assessment for the current day (31 May 2011): Intense clouds are observed over parts of the Gulf of Guinea, central African countries and parts of Ethiopia.

NOAA CPC FEWS–NET Rainfall Estimate (mm): based on Satellite and Rain Gauge Data



IR Satellite Image (valid 1530Z) and position of ITD, based on 1200Z Surface Analysis; 27 May 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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