

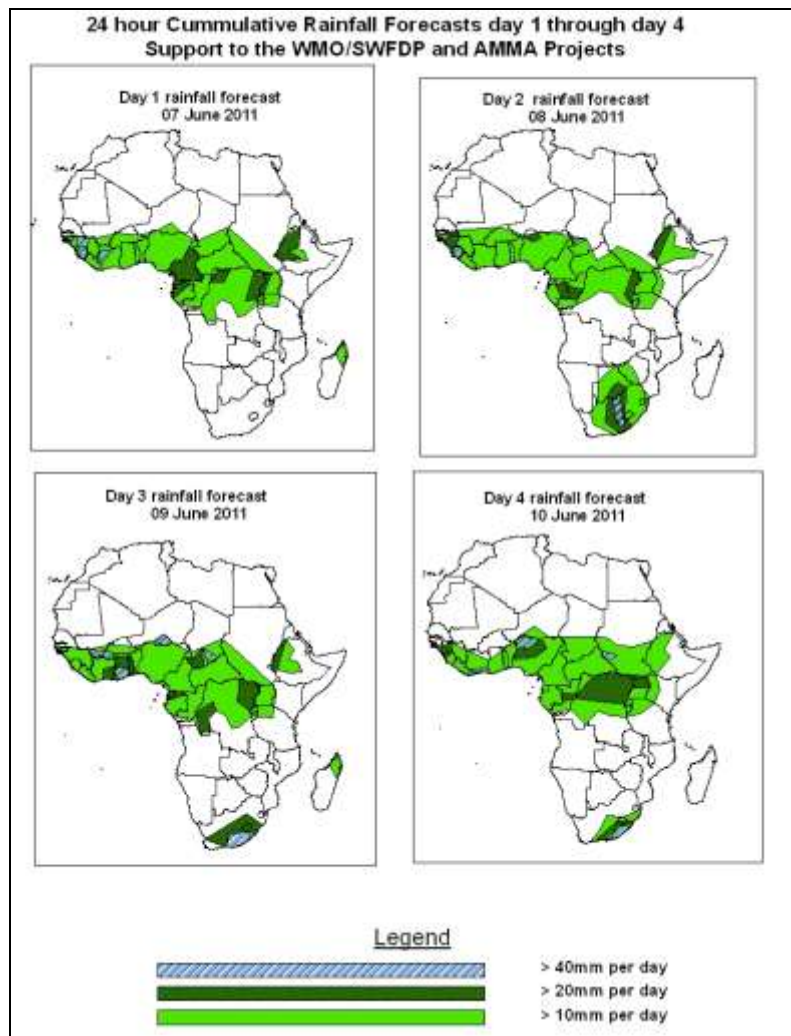


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 07 June– 06Z of 10 June 2011, (Issued at 10:15 Z of 06 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, moist cross equatorial flow across the Horn of Africa is expected to maintain moderate to heavy rainfall over western Ethiopia. Moreover, the strong lower tropospheric convergence in the CAB region is expected to enhance rainfall over northeast DRC and neighboring areas of the Lake Victoria region. The combination of westward propagating storms across central and West Africa and the West African Monsoon flow from the Atlantic Ocean is expected to produce moderate to heavy rainfall in parts of central and western Africa, with the heavier rainfall events expected over Liberia, Sierra Leone, parts of Nigeria, Cameroon and portions of Gabon.

1.2. Models Comparison and Discussion-Valid from 00Z of 03 June 2011

According to the GFS, ECMWF and UKMET models, the east-west oriented trough, associated with heat lows across the Sahel region, Sudan, DRC and Iberian Peninsula is expected to have pressure values varying from 1000 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 in 24 hours and tends to weaken to 1024hpa in 48 and 96 hours. The Mascarene high pressure system over the southwest Indian Ocean is expected to maintain central pressure value of 1028hpa in 24 hours and tends to weaken progressively to 1024hpa in 48 and 72 hours and 1020hpa by 96 hours.

At the 850hpa level, the GFS model maintains strong southeasterly moist winds from Indian Ocean across East Africa turning into southwesterly flow as it passes across the Horn of Africa, partly converging into Ethiopia. On the other hand, dry northeasterly winds are expected to continue dominating the flow over northern and 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. The north-south oriented convergence in the CAB region is expected to be more active over northeast DRC and the adjoining areas of the Lake Victoria region.

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

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 Chad, Niger, Burkina-Faso, Ghana, Togo, Cote D'Ivoire, Mali and Guinea during the forecast period.

A zone of strong wind (>1300Kts) at 200hpa level associated with the Sub Tropical westerly Jet is expected to propagate eastwards across Algeria, Tunisia, Libya and

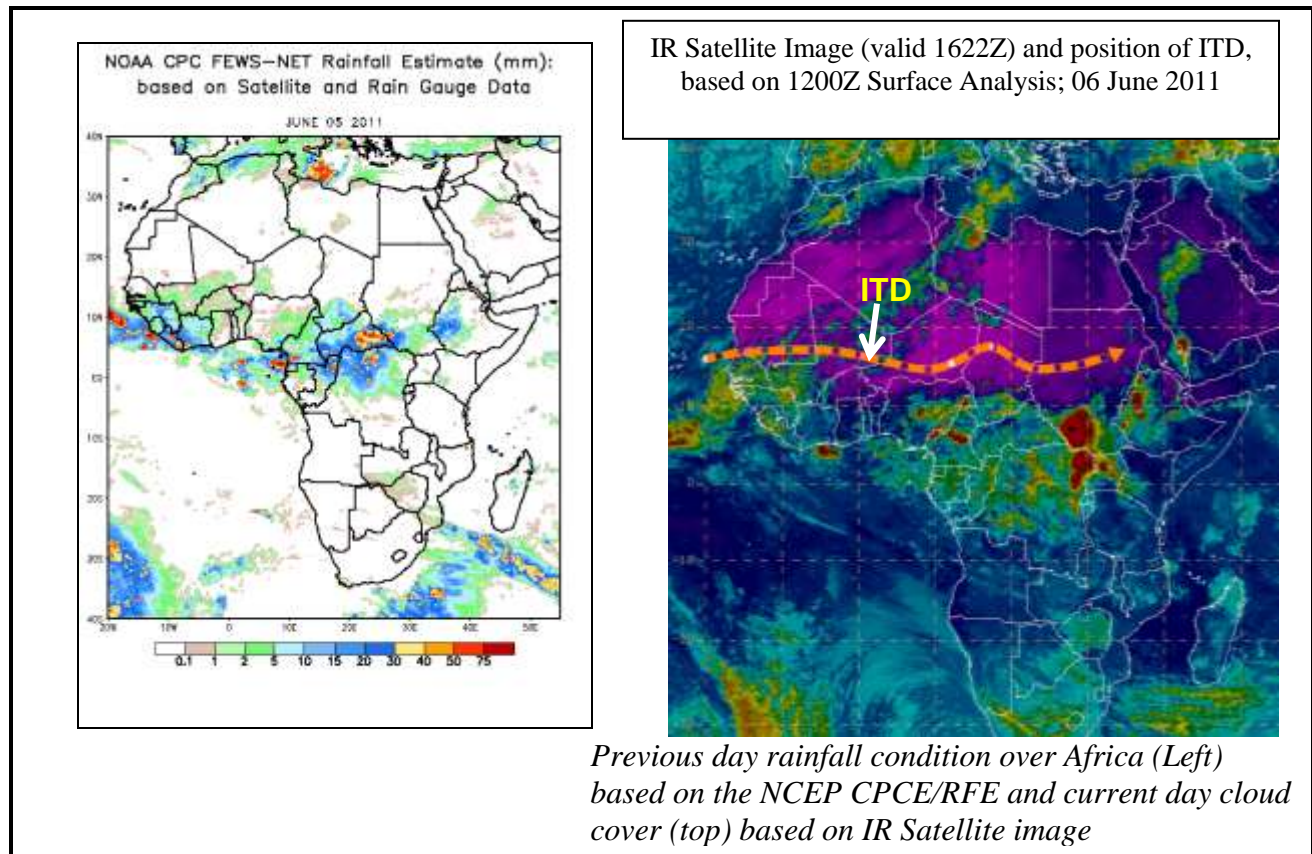
Egypt through 24 hours and tend to weaken progressively to (>90Kts) in 48 to 72 hours and (>70Kts) by 96 hours. On the other hand, strong winds (>130Kts) associated with the Sub-Tropical Westerly Jet is expected in the southern hemisphere across Atlantic and Indian Ocean, Southern Africa, Botswana and Namibia through 24 hours and tends to weaken to (>110Kts) in 48 to 72 hours and back to (>130Kts) by 96 hours.

In the next four days, moist cross equatorial flow across the Horn of Africa is expected to maintain moderate to heavy rainfall over western Ethiopia. Moreover, the strong lower tropospheric convergence in the CAB region is expected to enhance rainfall over northeast DRC and neighboring areas of the Lake Victoria region. The combination of westward propagating storms across central and West Africa and the West African Monsoon flow from the Atlantic Ocean is expected to produce moderate to heavy rainfall in parts of central and western Africa, with the heavier rainfall events expected over Liberia, Sierra Leone, parts of Nigeria, Cameroon and portions of Gabon.

2.0. Previous and Current Day Weather Discussion over Africa (05 – 06 June 2011)

2.1. Weather assessment for the previous day (05 June 2011): During the previous day, a combination of moderate and heavy rainfall was observed over, Guinea, Liberia, local areas of Cameroon, many places in CAR, northern DRC and western Ethiopia.

2.2. Weather assessment for the current day (06 June 2011): Intense clouds are observed over western central and eastern Nigeria, parts of Cameroon, southern Sudan, northeast DRC, Uganda and western Ethiopia.



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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