

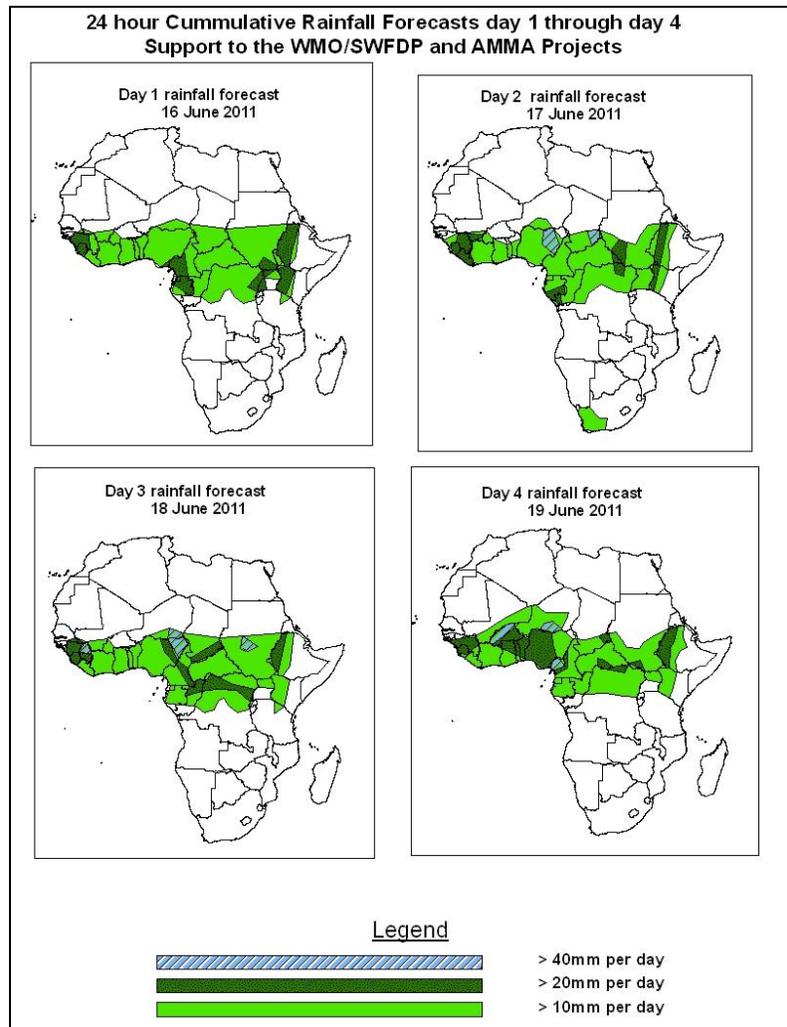


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 16 June– 06Z of 19 June 2011, (Issued at 10:45Z of 15 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 Guinea, Sierra Leone, Liberia parts of southern Mali, Burkina Faso, parts of Ghana, Nigeria and parts of southern Chad 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.

1.2. Models Comparison and Discussion-Valid from 00Z of 15 June 2011

According to 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 1007mb in 24 hours to 1006mb in 96 hours. On the other hand, the heat low over the central African region is expected to fill up gradually from 1004mb in 24 hours to 1009mb in 96 hours. The heat low in the vicinity of Sudan is expected to maintain a central pressure value of 1006mb during the forecast period. On the other hand, the East African ridge over East Africa, with its northern extent reaching the latitudes of southern Ethiopia, is expected to weaken through 24 to 72 hours and then tends to re-strengthen through 72 to 96 hours.

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

At the 850hpa level, the GFS model maintains the seasonal southeasterly moist flow from the Indian Ocean across East Africa, turning into a 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 the 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 a zone of strong easterly flow with its associated easterly wave is expected to propagate across the 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 Africa and the Gulf of Guinea and the southern Sahel region, with the stronger winds associated with the African easterly Jet.

expected over Chad, Niger, Nigeria, Burkina-Faso, Ghana and northern Togo during the forecast period.

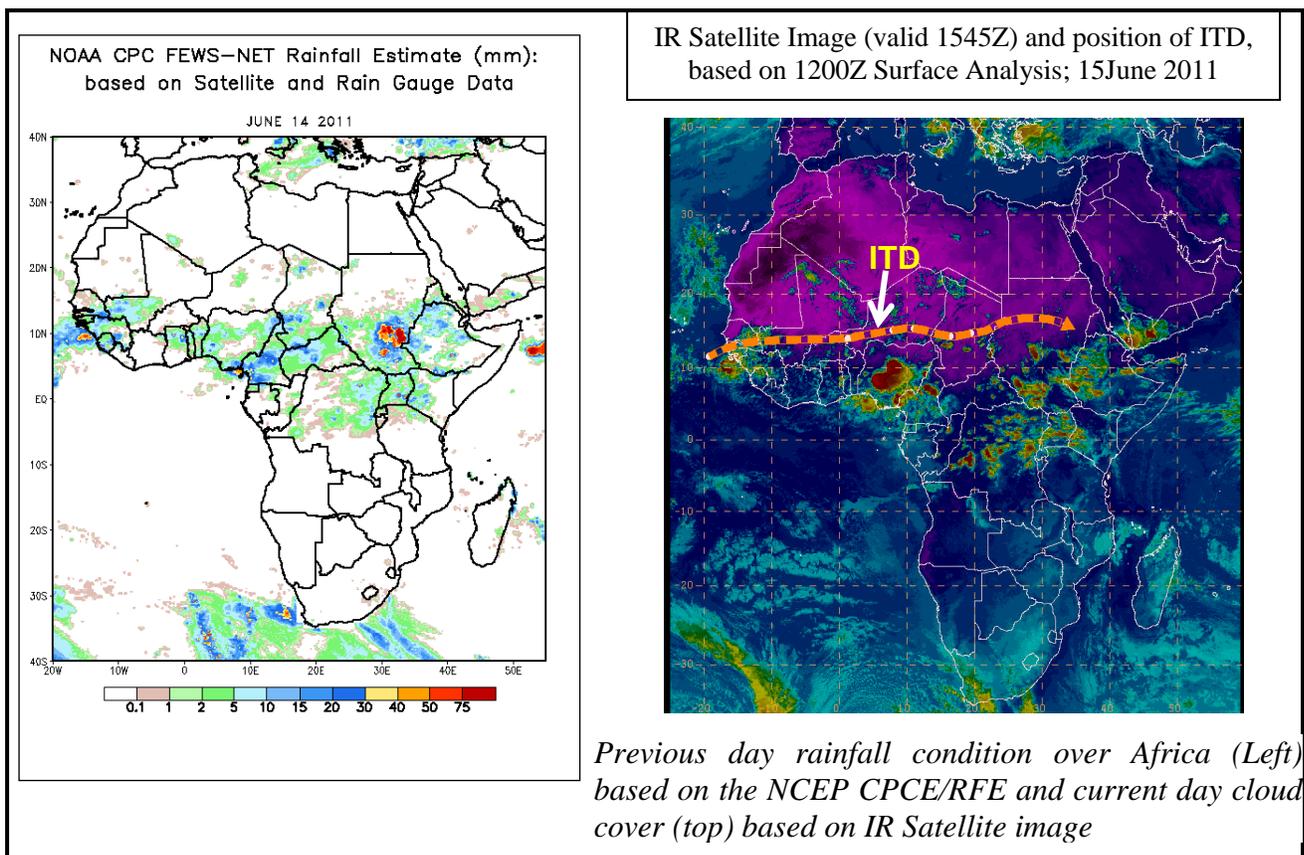
A zone of strong wind (>90Kts) at 200hpa level associated with the Sub Tropical westerly Jet is expected to propagate eastwards across Mediterranean Sea and mid-east during the forecast period. On the other hand, strong winds (>110Kts) associated with the Sub-Tropical Westerly Jet is expected in the southern hemisphere across Atlantic and Indian Ocean and Southern Africa during the forecast period.

In the next four days, there is an increased chance for heavy rainfall over Guinea, Sierra Leone, Liberia parts of southern Mali, Burkina Faso, parts of Ghana, Nigeria and parts of southern Chad 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.

2.0. Previous and Current Day Weather Discussion over Africa (14 – 15 June 2011)

2.1. Weather assessment for the previous day (14 June 2011): During the previous day, a combination of moderate and heavy rainfall was observed over southwestern parts of West Africa, portions of central Africa and the Horn of Africa, with heavier rainfall events reported over southern Sudan.

2.2. Weather assessment for the current day (15 June 2011): Intense clouds are observed over coastal West Africa, Nigeria, local areas of Cameroon, parts of DRC, southern Sudan, Ethiopia and western Kenya.



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