

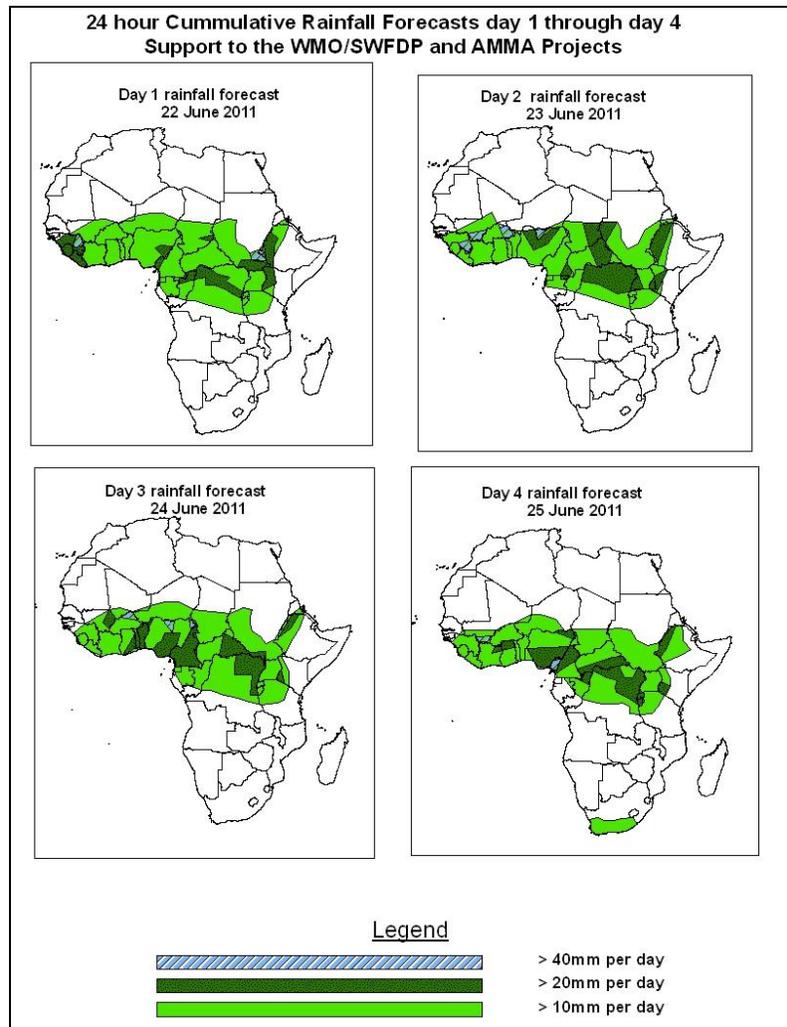


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 22 June– 06Z of 25 June 2011, (Issued at 11:00Z of 21 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 Bissau, Guinea, Sierra Leone, Liberia, Nigeria, parts of CAR and 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 eastern Sudan and western 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 21 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) varies from 1004mb to 1007mb during the forecast period. On the other hand, the heat low over the central African region and Sudan is expected to have a central pressure of 1008mb during the forecast period. On the other hand, the East African ridge across southeast and East Africa is expected to weaken slightly through 48 to 72 hours and tends to regain its intensity 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 1032hpa through 24 hours and tends to weaken to a central pressure value of 1028hpa in 48 to 72 hours and back to 1032hpa by 96 hours. The Mascarene high pressure system over the southwest Indian Ocean is expected to maintain a central pressure value of 1020hpa through 24 hours and tends to weaken to 1016 through 48 to 96 hours.

At the 850hpa level, the GFS model indicates abundant moisture flux into West Africa from the Atlantic Ocean and converging across the Gulf of Guinea and southern Sahel areas. Moreover, the seasonal southeasterly moist flow from the Indian Ocean across East Africa turns 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.

At the 700hPa level, a zone of strong easterly winds with its associated easterly wave is expected to propagate across the Gulf of Guinea region between Nigeria 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 Guinea-Bissau, Guinea, Mali and Sierra Leone through 24 hours and Burkina-Faso, by 96 hours.

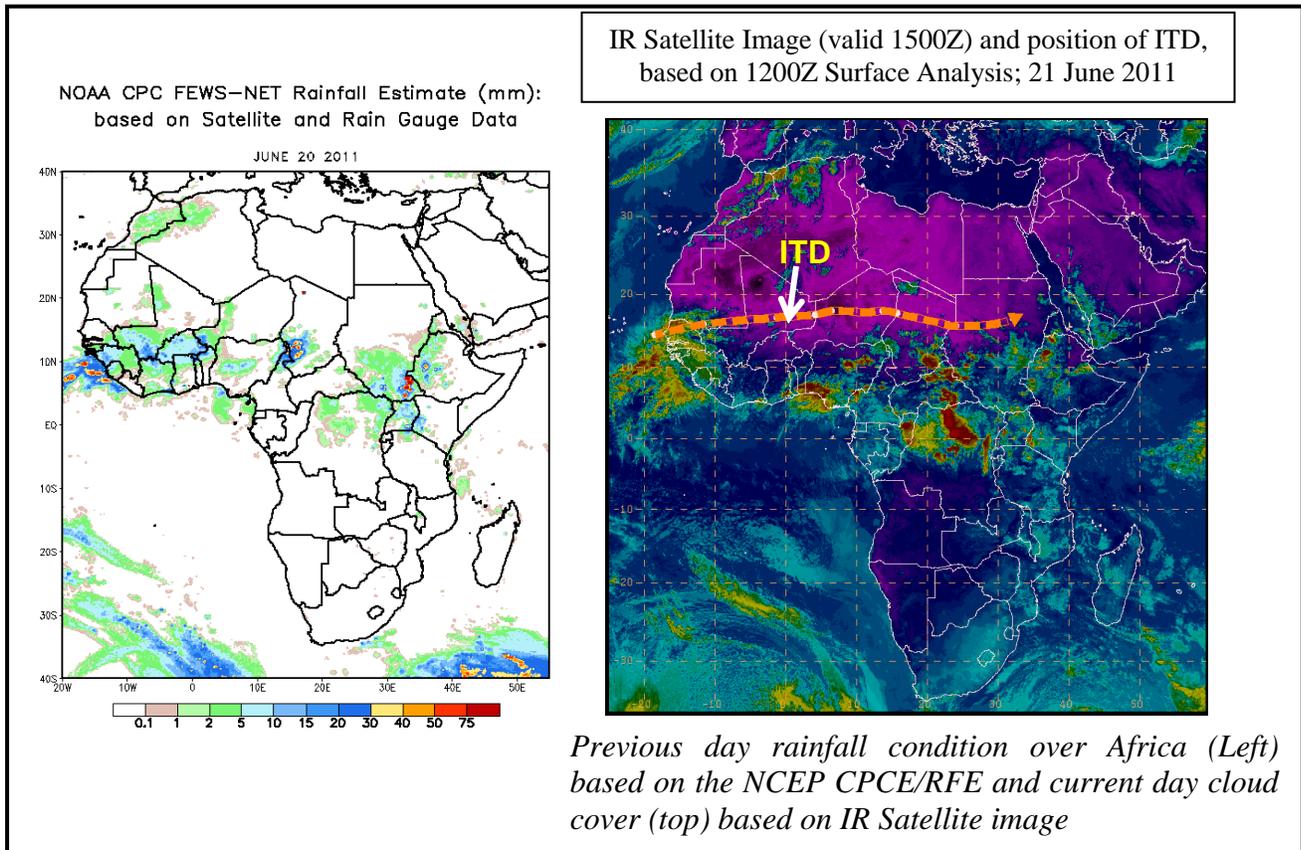
A zone of strong wind (>70Kts) at 200hpa level associated with the Sub Tropical westerly Jet is expected to propagate eastwards across Mediterranean Sea and mid-east through 24 to 96 hours. On the other hand, strong winds (>130Kts) associated with the Sub-Tropical Westerly Jet is expected in the southern hemisphere across Atlantic and Indian Ocean, Southern Africa , Botswana and Lesotho throughout 24 to 72hours and weaken to (>110Kts) by 96 hours.

In the next four days, there is an increased chance for heavy rainfall over Guinea Bissau, Guinea, Sierra Leone, Liberia, Nigeria, parts of CAR and 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 eastern Sudan and western 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 (20 – 21 June 2011)

2.1. Weather assessment for the previous day (20 June 2011): During the previous day, a combination of moderate and heavy rainfall was observed over Guinea, Southeastern Mali, parts of Burkina-Faso, parts of Chad and Southeastern Sudan.

2.2. Weather assessment for the current day (21 June 2011): Intense clouds are observed over Southern Senegal, Guinea-Bissau, parts of Nigeria, Central African Region and parts of Ethiopia.



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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