

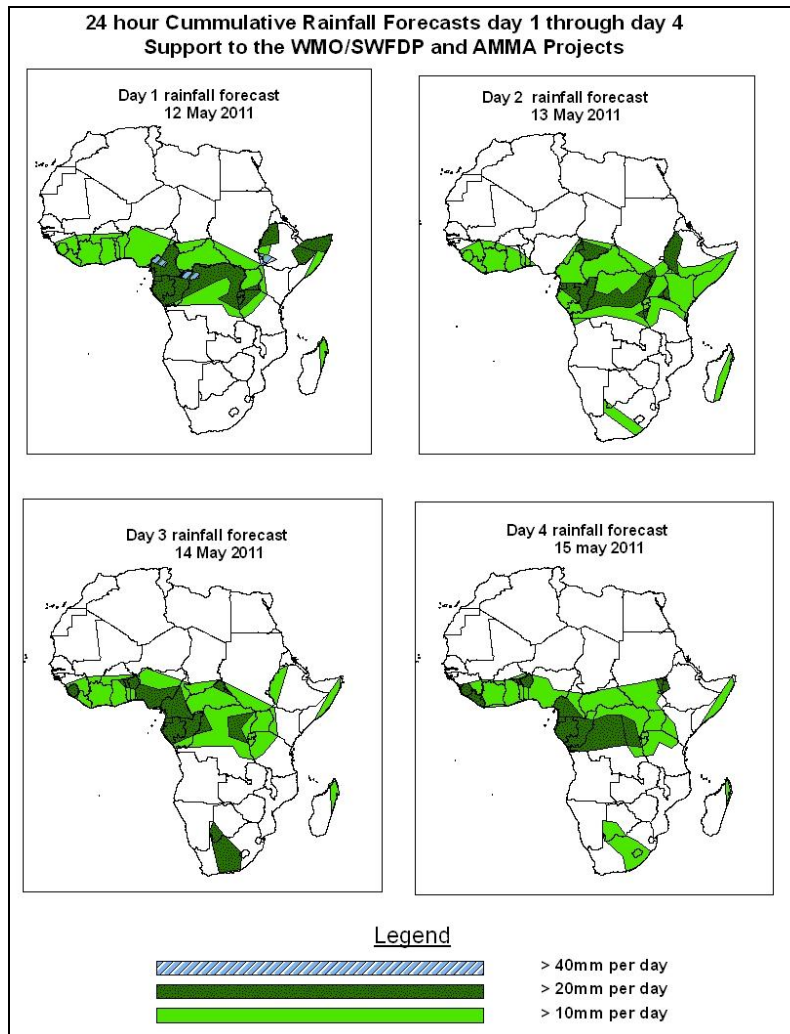


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 12 May – 06Z of 15 May 2011, (Issued at 10:10Z of 11 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 lower and mid-tropospheric easterly winds that dominate the flow between western GHA and the Gulf of Guinea across central African region are expected to enhance westward propagation of thunderstorms into the western equatorial Africa, parts of central Africa and the Gulf of Guinea countries. Moreover, the seasonal lower tropospheric convergence in the Congo Air Boundary Region and the southeasterly to easterly winds from the western Indian Ocean, converging into eastern GHA are expected to enhance rainfall in their respective regions. In general, there is an increased chance for rainfall to exceed 20mm per day over portions of the Gulf of Guinea, Central African Republic, parts of DRC, Uganda, Burundi, Rwanda, and portions of Ethiopia

1.2. Models Comparison and Discussion-Valid from 00Z of 09 May 2011

According to the GFS, ECMWF and UKMET models, the Saharan High and its associated ridge is expected to dominate over northern Africa, in the region between Algeria and Egypt through 24 to 96 hours. East-west oriented troughs associated with heat lows are expected to dominate the flow south of this ridge across the Sahel region. On the other hand, the East African ridge, associated with the Mascarene high pressure system is expected to remain strong across southeast and East Africa during the forecast period.

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

At the 850hpa level, the GFS model maintains the east-west oriented convergence line in the region between West Africa and Sudan across the central African region. This convergence is expected to remain active during the forecast period. The north-south oriented convergence in the CAB region is expected to be more active west of its climatological position. Easterly to southeasterly winds from the western Indian Ocean are expected to continue forming a strong convergence over the eastern parts of the GHA region during the forecast period.

At the 700hPa level, a trough in the westerlies is expected to propagate across eastern Libya, Egypt, Chad, and the Red Sea through 24 to 96 hours. The persistent northeasterly to easterly winds in the central African region and the Gulf of Guinea are expected to attain a wavy pattern that propagates across the region through 24 to 96 hours.

At 500hpa, easterly winds with moderate intensity (15 to 20knots) are expected to dominate the flow over Sudan, central Africa and the Gulf of Guinea region, with the core of the maximum wind tending to propagate across the Gulf of Guinea countries through 24 to 96 hours.

A zone of strong wind (>110Kts) at 200hpa level associated with the Sub-Tropical westerly Jet is expected to propagate eastwards across to Libya, Egypt and the mid-east through 24 hours and tends to intensify to (>130Kts) in 48 hours and back to (>110Kts) at 72 and 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 Swaziland through 24 and 48 hours and tend to weakens to (>110Kts) at 72 and 96 hours.

In the next four days, the lower and mid-tropospheric easterly winds that the dominate the flow between western GHA and the Gulf of Guinea across central African region are expected to enhance westward propagation of thunderstorms into the western equatorial Africa, parts of central Africa and the Gulf of Guinea countries. Moreover, the seasonal lower tropospheric convergence in the Congo Air Boundary Region and the southeasterly to easterly winds from the western Indian Ocean, converging into eastern GHA are expected to enhance rainfall in their respective regions. In general, there is an increased chance for rainfall to exceed 20mm per day over portions of the Gulf of Guinea, Central African Republic, parts of DRC, Uganda, Burundi, Rwanda, and portions of Ethiopia and Somalia.

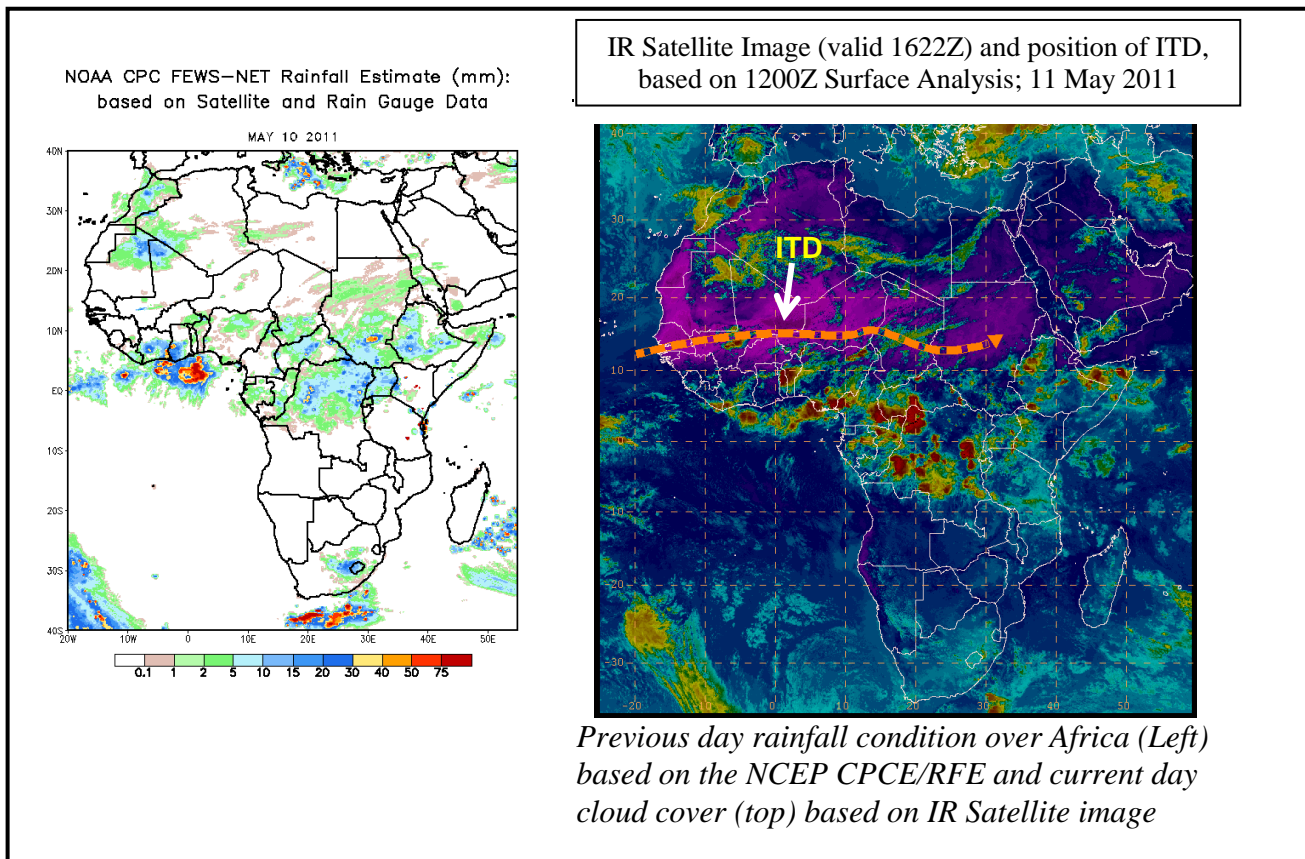
2.0. Previous and Current Day Weather Discussion over Africa (10 May – 11 May 2011)

2.1. Weather assessment for the previous day (10 May 2011):

During the previous day, a combination of moderate and heavy rainfall was observed over Cote D'Ivoire, Southern Ghana, Togo and Benin, Parts of DRC, southern Sudan and Southern Africa.

2.2. Weather assessment for the current day (11 May 2011):

Intense clouds are observed over Cote D'Ivoire, Togo, Benin, Nigeria, Cameroon, Congo, Gabon, DRC, western Ethiopia and parts of Somalia.



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