

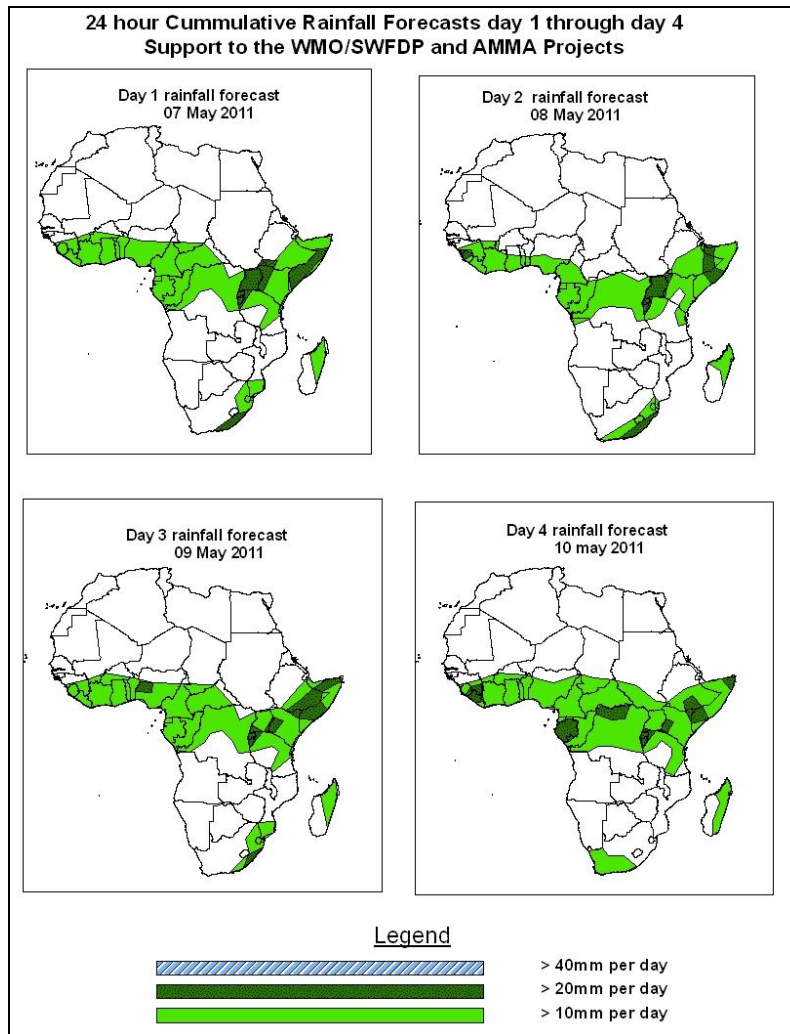


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 07 May – 06Z of 10 May 2011, (Issued at 10:45Z of 06 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, strong southeasterly winds from the Indian Ocean converging with dry northwesterly winds from northeast Africa are expected to enhance rainfall in the GHA region. Moreover, the seasonal lower tropospheric convergence in the Congo Air Boundary Region, localized convergences across western equatorial region and the westward propagating storms between central African region and the Gulf of Guinea coast are expected to enhance rainfall in their respective areas. In general, there is an increased chance for rainfall to exceed 20mm per day over eastern Guinea, Liberia, parts of DRC, Uganda, Rwanda, Burundi, western Kenya, easterly Ethiopia, Somalia and parts of South Africa.

1.2. Models Comparison and Discussion-Valid from 00Z of 06 May 2011

According to the GFS, ECMWF and UKMET models, the seasonal east-west oriented trough and its associated heat lows are expected to remain active across the Sahel region through 24 to 96 hours. 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 ridge associated with the Saharan high is expected to extend across Algeria, Libya and Egypt through 24 to 96 hours, while a ridge associated with the Azores high is expected to extend eastwards across Mauritania and Morocco.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to maintain a central pressure value of 1028hpa in 24 and 48 hours and tends to weaken progressively to 1024hpa in 72 hours and 1020hpa by 96 hours. The Mascarene high pressure system over southwest Indian Ocean is expected to maintain central pressure value of 1020hpa in 24 hours and tends to intensify progressively to 1024hpa at 48 and 1028hpa in 72 hours and back to 1024hpa by 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 central African region. A north-south oriented convergence in the CAB region is expected to remain active in its climatological position throughout the forecast period.

At the 700hPa level, a trough in the westerlies is expected to propagate across coastal Morocco, Egypt and Red Sea through 48 and 96 hours. Persistent northeasterly to easterly winds are expected to dominate the flow in the Horn of Africa, Sudan, central African region and the Gulf of Guinea countries through 24 to 96 hours.

At 500hpa, easterly winds with moderate intensity (10 to 15 knots) are expected to dominate the flow over Sudan, central African and the Gulf of Guinea region through 24 to 96 hours. The wind associated with the African Easterly Jet is expected to exceed 30 knots in the vicinity of Nigeria and West Ghana through 72 hours. A mid-latitude trough is expected to propagate across southeast Atlantic Ocean, approaching the west coast of South Africa 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 the Atlantic Ocean, Morocco, Algeria, Libya, Egypt and Red Sea during the forecast period. On the other hand, strong

winds (>90Kts) associated with the Sub-Tropical Westerly Jet is expected in the southern hemisphere across southern Africa, Madagascar, Atlantic and Indian Ocean through 24 and tend to weaken to (>70Kts) in 48hours and back to (>90Kts) at 72 and 96hours.

In the next four days, strong southeasterly winds from the Indian Ocean converging with dry northwesterly winds from northeast Africa are expected to enhance rainfall in the GHA region. Moreover, the seasonal lower tropospheric convergence in the Congo Air Boundary Region, localized convergences across western equatorial region and the westward propagating storms between central African region and the Gulf of Guinea coast are expected to enhance rainfall in their respective areas. In general, there is an increased chance for rainfall to exceed 20mm per day over eastern Guinea, Liberia, parts of DRC, Uganda, Rwanda, Burundi, western Kenya, easterly Ethiopia, Somalia and parts of South Africa.

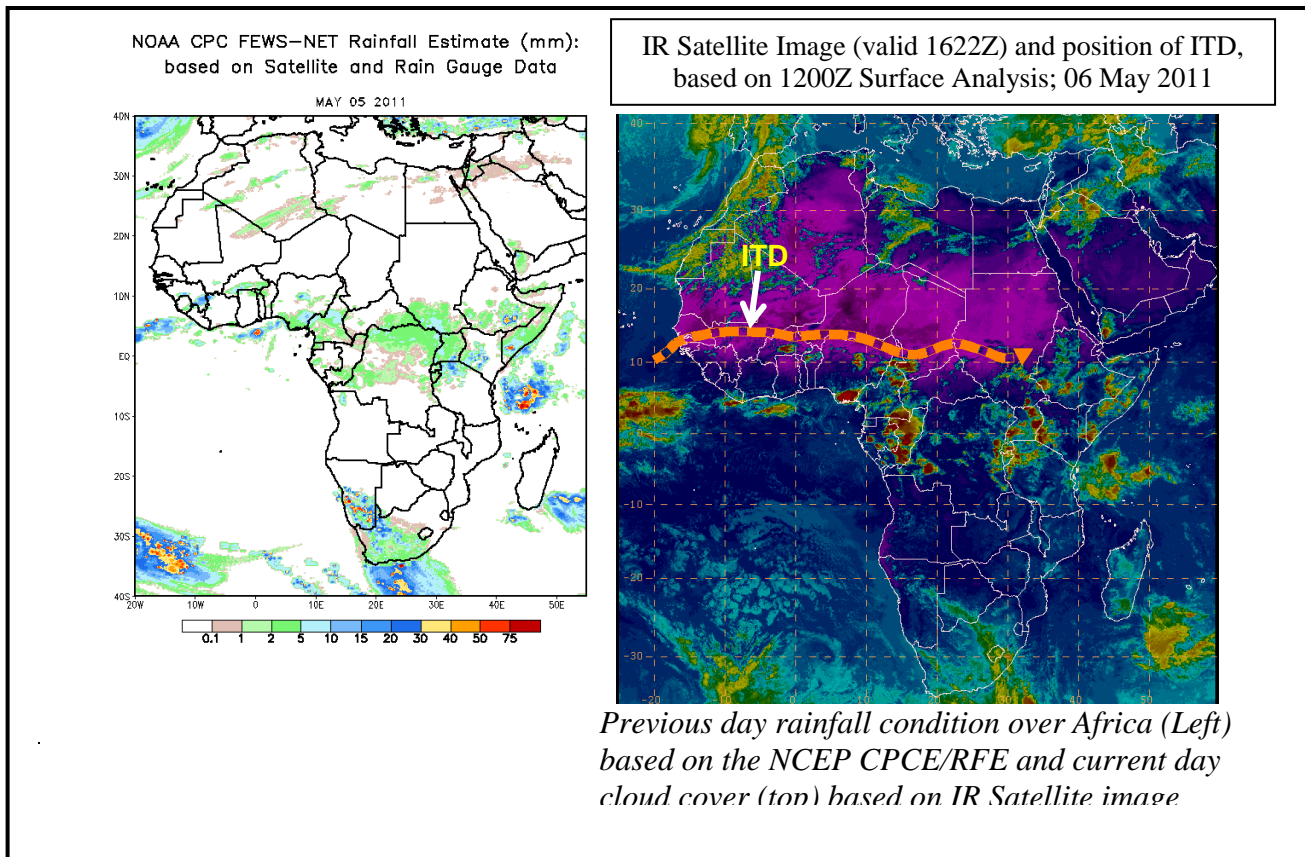
2.0. Previous and Current Day Weather Discussion over Africa (05 May –06 May 2011)

2.1. Weather assessment for the previous day (05 May 2011):

During the previous day, a combination of moderate and heavy rainfall was observed over Southern Sierra Leone, Southern Angola, Westerly Tanzania and Kenya and, Southern Africa.

2.2. Weather assessment for the current day (06 May 2011):

Intense clouds are observed southern Nigeria, Gabon, Cameroon, Congo, Uganda, Rwanda, parts of Somalia and parts of Ethiopia.



Previous day rainfall condition over Africa (Left) based on the NCEP CPCE/RFE and current day cloud cover (ton) based on IR Satellite image

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