

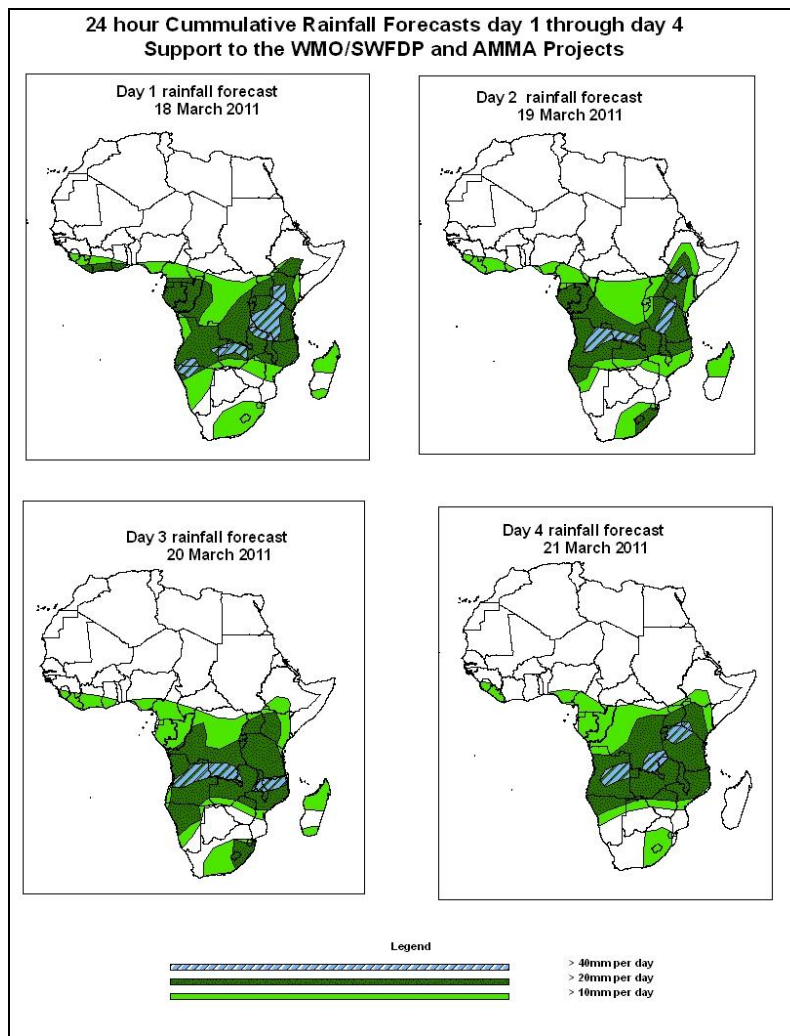


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid, 06Z of 19 March – 06Z of 22 March 2011, (Issued at 12:00Z of 18 March 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, prospects of moderate to heavy rainfall are quite high over the Congo Air boundary (CAB), East Africa, the Greater Horn of Africa and southern Africa. This is supported by the persistent strong lower level convergence over the CAB and southern Africa, the influence of extra-tropical activities over the Greater Horn of Africa and localized cyclonic over South Africa. Hence, there is an increased chance for rainfall to exceed 20mm per day over Congo, DRC, Burundi, Rwanda, Ethiopia, Uganda, Kenya, Tanzania, Malawi, Mozambique, Zambia, Angola, Namibia and South Africa.

## **1.2. Models Comparison and Discussion-Valid from 00Z of 19 March 2011**

An east-west oriented trough formed by a series of cut off lows over southern Sudan, parts of Central African region and the coast of the Gulf of Guinea as presented by the GFS, ECMWF and UKMET models, is expected to persist within the next four days. A central pressure value of 1003hpa is expected along its eastern end (mainly over Central African Republic / Sudan region), and a pressure value of 1004hpa along its western end. The lows associated with the meridional arm of the ITCZ are active. There is another low pressure system over Angola region. Even though the ECMWF presents slightly higher pressure values, there appears to be some level of similarity in pressure patterns as depicted by the GFS, ECMWF and UKMO models.

These models show the St. Helena High pressure system over southeast Atlantic is absent from its climatological position by 24 through 48 hours, reappearing by 72 hours with a central pressure value of 1020hpa. The Mascarene high pressure system, over southwest Indian Ocean, maintains a central pressure value of 1020hpa.

The GFS model shows an east-west oriented convergence line in the region between the coastal areas of the Gulf of Guinea and northeast DRC at 850hpa level, which is expected to persist. The north-south oriented convergence line and the convergence lines over Angola region seem quite active as they not only persist but also deepen progressively. Localized cyclonic is expected over South Africa.

A combination of northeasterly to northerly winds dominate across western and central African countries at 700hPa level with strong lower tropospheric convergence dominating the flow over Angola, DRC, Tanzania, Namibia, Zambia, Congo, the vicinity of the Greater Horn of Africa and parts of South Africa.

At 200hPa level, a zone of strong wind (>110Kts) associated with the Sub Tropical westerly Jet in the sub-tropical region of north Africa and the Atlantic is expected to be zonal all through.

Similarly, strong winds (>90Kts) associated with the Sub-Tropical Westerly Jet in the Sub Tropical region of the southern Atlantic is expected to appear as pockets becoming wavy by 96 hours.

In the next four days, prospects of moderate to heavy rainfall are quite high over the Congo Air boundary (CAB), East Africa, the Greater Horn of Africa and southern Africa. This is supported by the persistent strong lower level convergence over the CAB and southern Africa, the influence of extra-tropical activities over the Greater Horn of Africa and localized cyclonic over South Africa. Hence, there is an increased chance for rainfall to exceed 20mm per day over Congo, DRC, Burundi, Rwanda, Ethiopia, Uganda, Kenya, Tanzania, Malawi, Mozambique, Zambia, Angola, Namibia and South Africa.

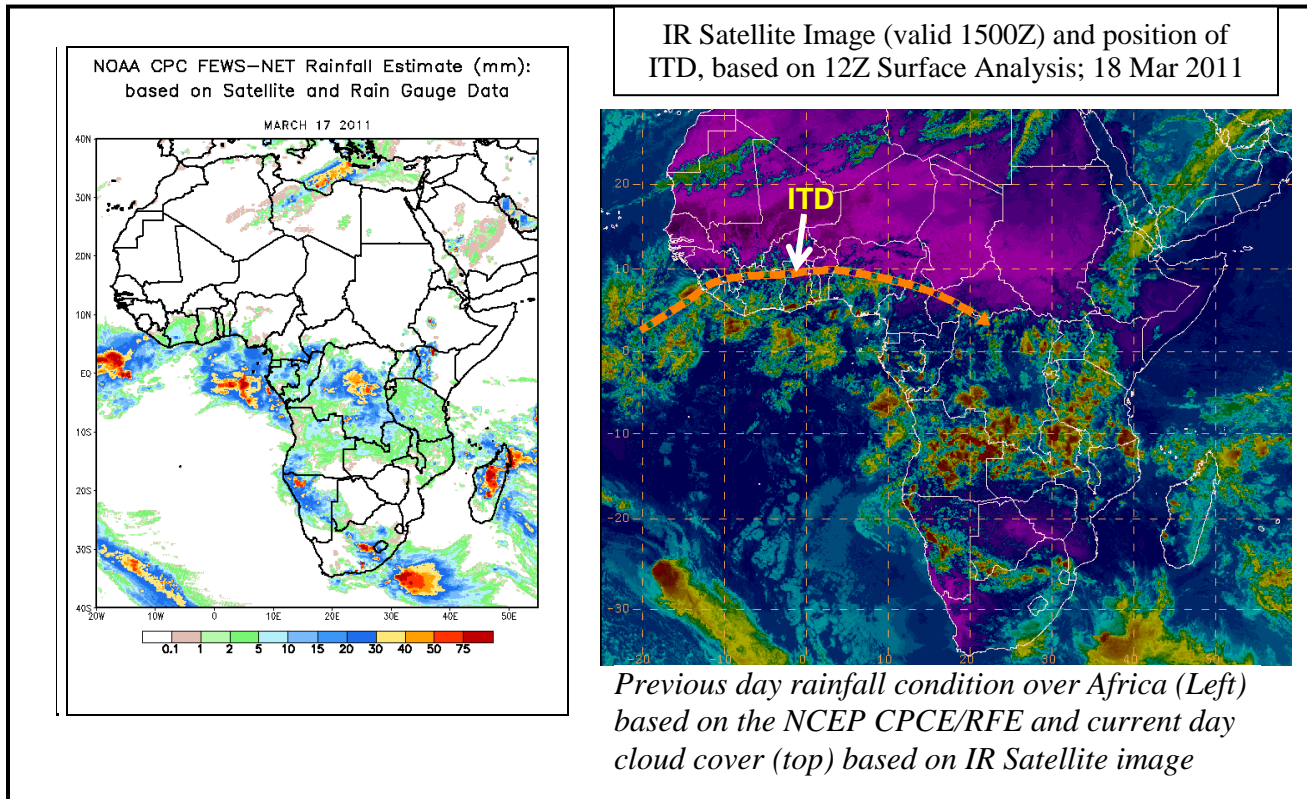
## 2.0. Previous and Current Day Weather Discussion over Africa (17 March – 18 March 2011)

### 2.1. Weather assessment for the previous day (17 March 2011):

During the previous day, a combination of moderate and heavy rainfall was observed over Gulf of Guinea coast, CAR, DRC, Ethiopia, Kenya, Uganda, Congo, Tanzania, Angola, Namibia, South Africa and Madagascar.

### 2.2. Weather assessment for the current day (18 March 2011):

Intense clouds are observed over Gulf of Guinea coast, Congo, DRC, Tanzania, Angola, Namibia, Zambia, Mozambique, Madagascar and South Africa.



Author(s): Onyilo Desmond Onyilo (Nigerian Meteorological Agency) / CPC-African Desk), [Desmond.Onyilo@noaa.gov](mailto:Desmond.Onyilo@noaa.gov)

-----  
Disclaimer: This bulletin is for training purposes only and should be used as guidance. NOAA does not make forecasts for areas outside of the United States.