

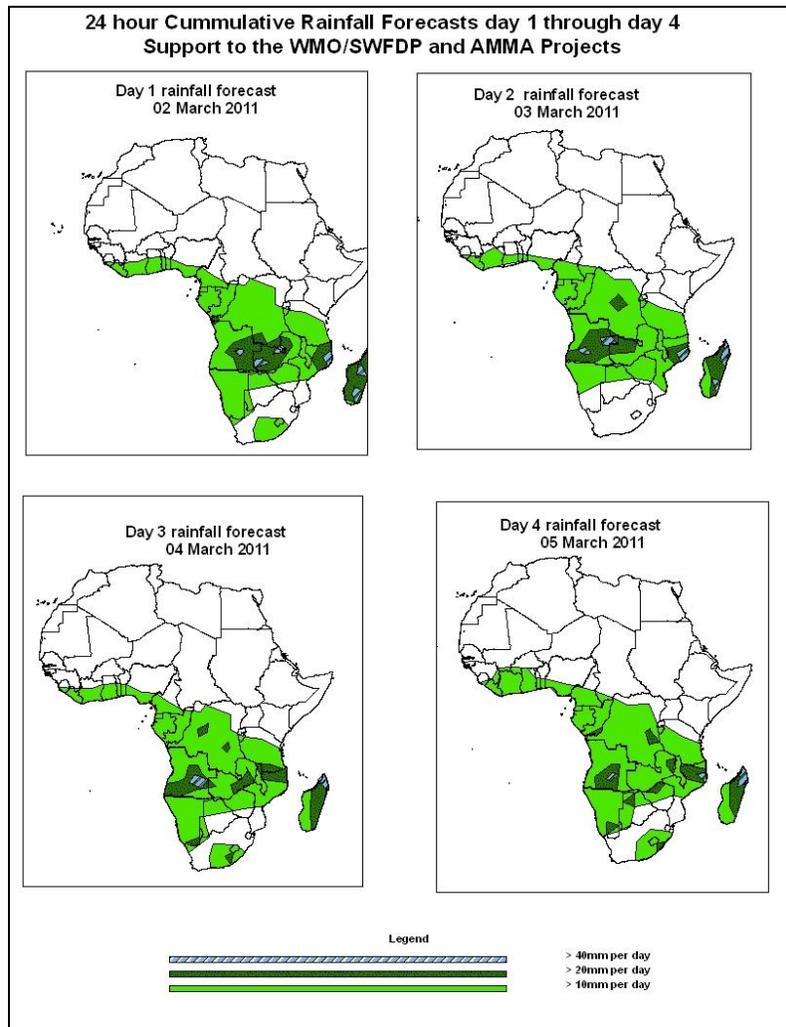


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 02 March – 06Z of 05 March 2011, (Issued at 12:00Z of 01 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

Interaction between active mid-latitude systems and lower MSL pressures over North Africa should enhance rainfall along the Gulf of Guinea coast in the next four day period. Similarly, strong lower level convergence over southern Africa and persistence of North-south arm of the ITCZ over the Congo Air Boundary (CAB) region will favor moderate to heavy rainfall over their respective areas. Hence, there is an increased chance for rainfall to exceed 20mm per day over Congo, Angola, Zambia, DRC, northern Botswana, Mozambique, Madagascar, Malawi, Namibia, Zimbabwe and southern South Africa.

1.2. Models Comparison and Discussion-Valid from 00Z of 02 March 2011

An east-west oriented trough formed by a series of cut off lows over the southern parts of the Gulf of Guinea, parts of central African region and southern Sudan is expected to persist through the next 96 hours as shown by the GFS, ECMWF and UKMET models. A central value of 1002hpa is expected along its eastern end (mainly over Central African Republic / Sudan region) and 1006hpa along its western end. The lows associated with the meridional arm of the ITCZ are active. A low pressure system in the vicinity of Mozambique Channel and Madagascar is expected to persist all through. In general, there appears to be some level of similarity in pressure patterns as depicted by the GFS, ECMWF and UKMO models.

The GFS, ECMWF and UKMET models show the St. Helena High pressure system over southeast Atlantic and the Mascarene high pressure system over southwest Indian Ocean to have push further southwards over the ocean and absent from their climatological positions.

At 850hPa level, the GFS model indicates east-west oriented convergence line in the region between the coastal areas of the Gulf of Guinea and northeast DRC. This convergence line not only deepens but moves slightly northwards. This can be linked to its interaction with active systems over the mid-latitude. The north-south oriented convergence line is expected to persist. Another convergence line is expected to extend zonally from Angola region to the Mozambique Channel. While localized cyclonic is expected over South Africa.

Mostly northeasterly to easterly winds dominate across western and central African countries at 700hPa level. A strong lower tropospheric convergence is expected to dominate the flow over Namibia, Botswana, Angola, Zambia, Malawi and Mozambique within 24 to 96 hours. The cyclonic circulation in the Mozambique Channel is expected to persist all through.

A zone of strong wind (>130Kts) at 200hPa associated with the Sub Tropical westerly Jet in the sub-tropical region of northern Africa and the Mediterranean is expected to attain a wavy pattern through 24 to 96 hours.

Similarly, strong winds (>110Kts) associated with the Sub-Tropical Westerly Jet in the Sub Tropical region of southern Africa is expected to be wavy and over the Atlantic ocean by 24to 48hours and weaken (>90Kts) by 72 to 96 hours.

Interaction between active mid-latitude systems and lower MSL pressures over North Africa should enhance rainfall along the Gulf of Guinea coast in the next four day period. Similarly, strong lower level convergence over southern Africa and persistence of North-south arm of the ITCZ over the Congo Air Boundary (CAB) region will favor moderate to heavy rainfall over their respective areas. Hence, there is an increased chance for rainfall to exceed 20mm per day over Congo, Angola, Zambia, DRC, northern Botswana, Mozambique, Madagascar, Malawi, Namibia, Zimbabwe and southern South Africa.

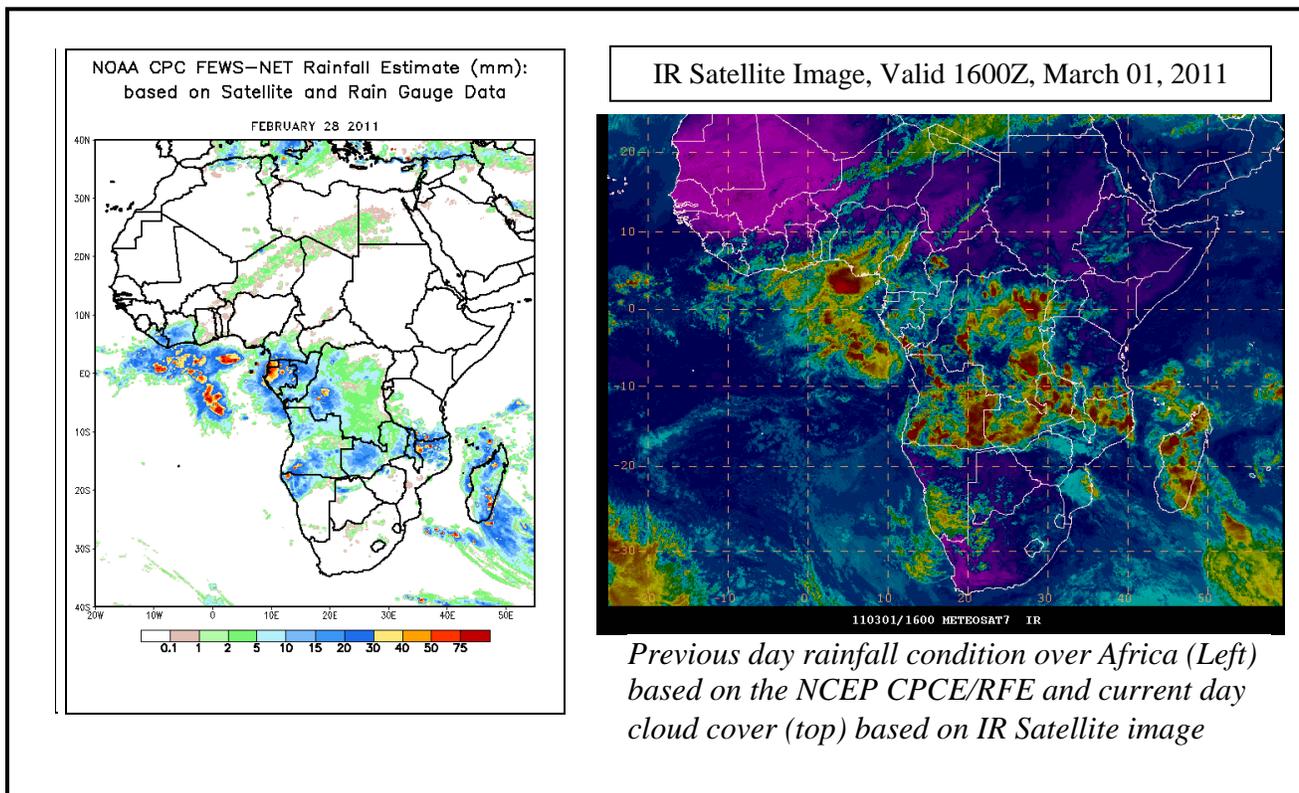
2.0. Previous and Current Day Weather Discussion over Africa (28 February – 01 March 2011)

2.1. Weather assessment for the previous day (28 February 2011):

During the previous day, a combination of moderate and heavy rainfall was observed over the parts of Gulf of Guinea, DRC, southern Tanzania, northern Zimbabwe, Zambia, Botswana, Madagascar and Congo, Mozambique and Malawi.

2.2. Weather assessment for the current day (01 March 2011):

Intense clouds are observed over the coast of Gulf of Guinea, Madagascar, CAR, DRC, Tanzania, Zambia, Angola, Mozambique, Malawi, Congo and Kenya.



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

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