

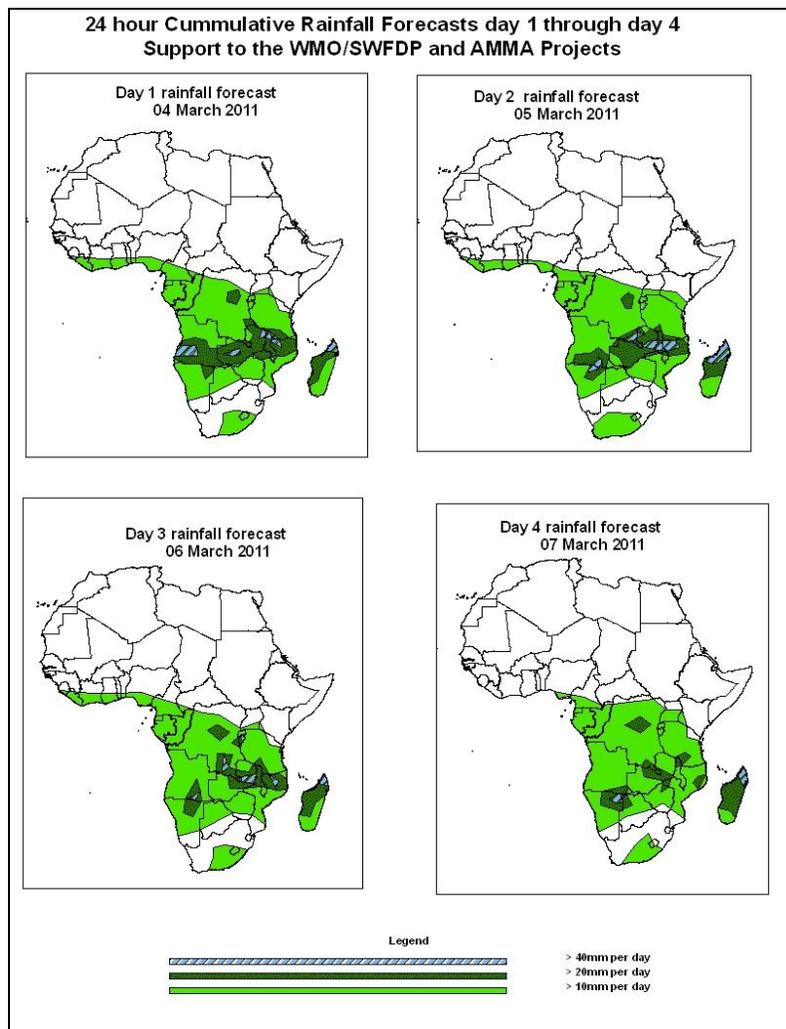


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 04 March – 06Z of 07 March 2011, (Issued at 12:00Z of 03 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, rainfall will be concentrated over southern Africa as strong lower level convergence over southern Africa and persistence of the North-south arm of the ITCZ over the Congo Air Boundary (CAB) region will favor moderate to heavy rainfall over their respective areas. Rainfall thins over the Gulf of Guinea with the intensification of subtropical high pressure systems over North Africa. Hence, there is an increased chance for rainfall to exceed 20mm per day over DRC, southern Tanzania, Angola, Namibia, Zambia, Malawi, Mozambique, Madagascar and Burundi.

1.2. Models Comparison and Discussion-Valid from 00Z of 04 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 four days as shown by the GFS, ECMWF and UKMET models. A central value of 1002 - 1003hpa is expected along its eastern end (mainly over Central African Republic / Sudan region) and 1005 - 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 appearing by 48 and 72 hours, after being absent from their climatological positions, with a central value of 1020hpa and 1024hpa respectively.

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 is expected to persist; weakening by 96 hours. The north-south oriented convergence line is expected to persist equally. Another convergence line is expected to extend zonally from Angola region to the Mozambique Channel.

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 Angola, Namibia, Zambia, Malawi, Mozambique, Botswana and southern DRC 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 (>90Kts) 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 24 and 48 hours and weaken (> 70Kts) from 72 to 96 hours.

In the next four days, rainfall will be concentrated over southern Africa as strong lower level convergence over southern Africa and persistence of the North-south arm of the ITCZ over the Congo Air Boundary (CAB) region will favor moderate to heavy rainfall over their respective areas. Rainfall thins over the Gulf of Guinea with the intensification of subtropical high pressure systems over North Africa. Hence, there is an increased chance for rainfall to exceed 20mm per day over DRC, southern Tanzania, Angola, Namibia, Zambia, Malawi, Mozambique, Madagascar and Burundi.

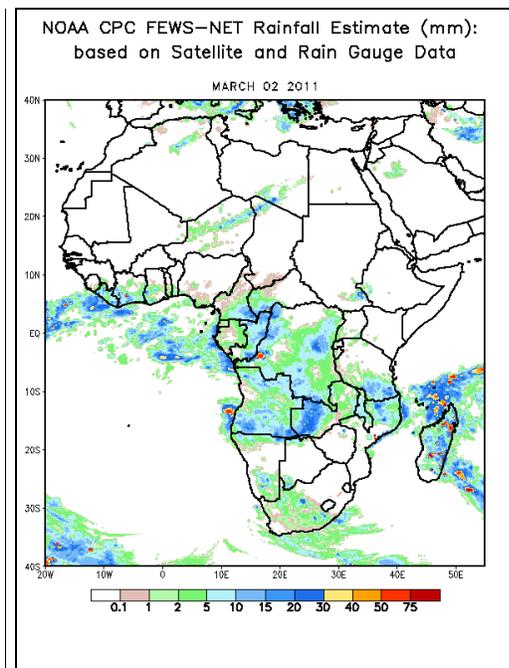
2.0. Previous and Current Day Weather Discussion over Africa (02 March – 03 March 2011)

2.1. Weather assessment for the previous day (02 March 2011):

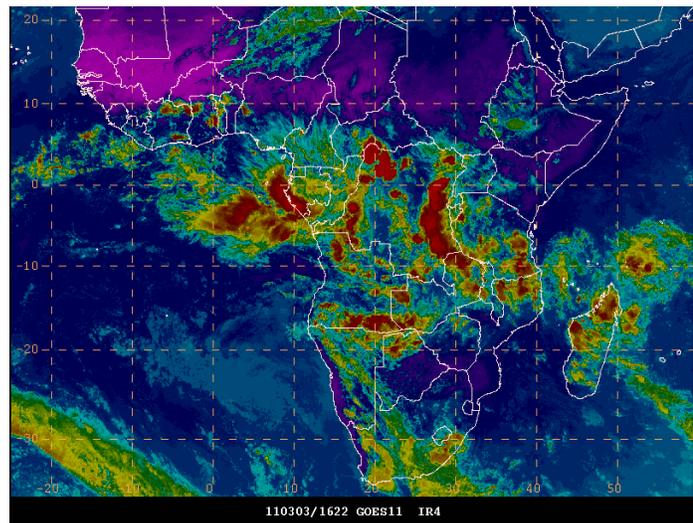
During the previous day, a combination of moderate and heavy rainfall was observed over Gulf of Guinea coast, DRC, CAR, southern Sudan, Tanzania, Zambia, Madagascar, Mozambique, Malawi, Angola, Namibia and South Africa.

2.2. Weather assessment for the current day (03 March 2011):

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



IR Satellite Image, Valid 1622Z, March 03, 2011



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

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