

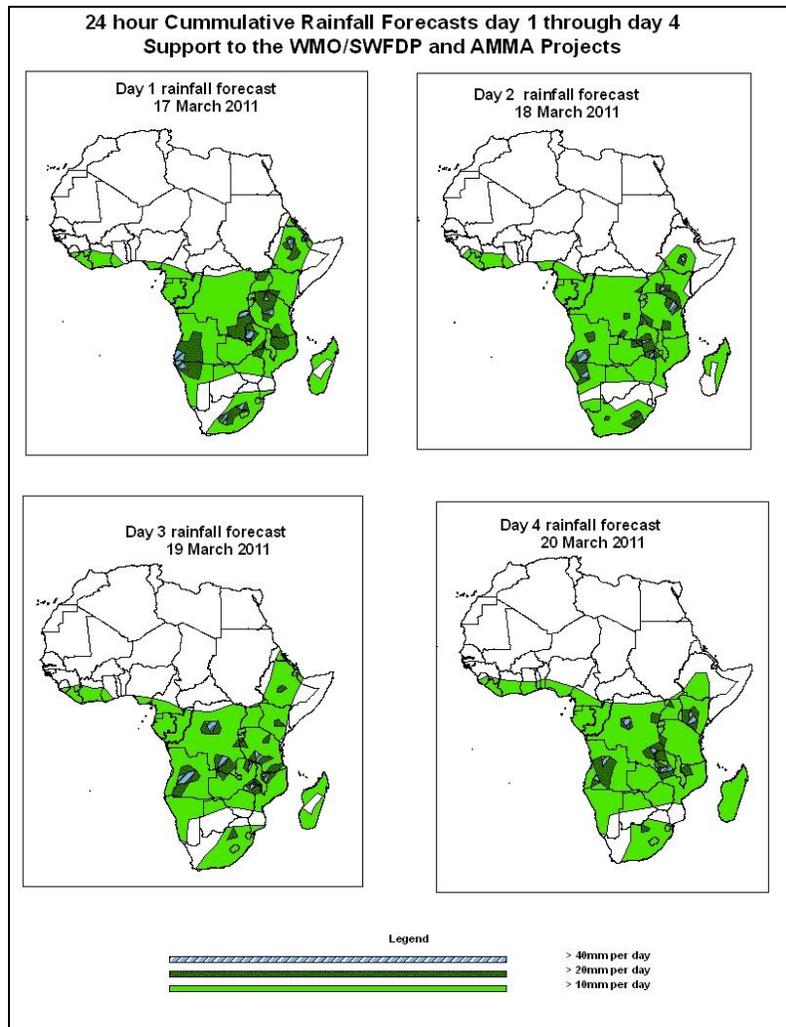


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 17 March – 06Z of 20 March 2011, (Issued at 12:00Z of 16 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

Within the next 96 hours period, we expect increased rainfall activities over the Congo Air Boundary, South Africa and the vicinity of the Greater Horn of Africa as a result of persistent strong lower level convergence. As such moderate to heavy rainfall should continue over these areas as well as southern Africa. Hence, there is an increased chance for rainfall to exceed 20mm per day over Ethiopia, Uganda, Kenya, Burundi, Rwanda, DRC, Tanzania, Malawi, Mozambique, Zambia, Angola, Namibia and South Africa.

1.2. Models Comparison and Discussion-Valid from 00Z of 17 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 through the next four days. A central pressure value of 1003hpa - 1004hpa is expected along its eastern end (mainly over Central African Republic / Sudan region), and a pressure value of 1006hpa 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. In general, 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 expected to maintain a central pressure value of 1020hpa all through the period. Similarly, the Mascarene high pressure system over southwest Indian Ocean remains quasi-stationary with 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 are expected to persist as well, with localized cyclonic over South Africa. A weak trough appears over the Mozambique Channel by 72 and 96 hours.

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

At 200hPa level, a zone of strong wind (>130Kts) associated with the Sub Tropical westerly Jet in the sub-tropical region of north Africa and the middle east is expected to attain a wavy pattern all through, reducing in intensity (> 110Kts) from 48 hour period.

Similarly, strong winds (>130Kts) associated with the Sub-Tropical Westerly Jet in the Sub Tropical region of the southern Atlantic is expected to be wavy and decrease in strength (>90Kts) by 48 hour period.

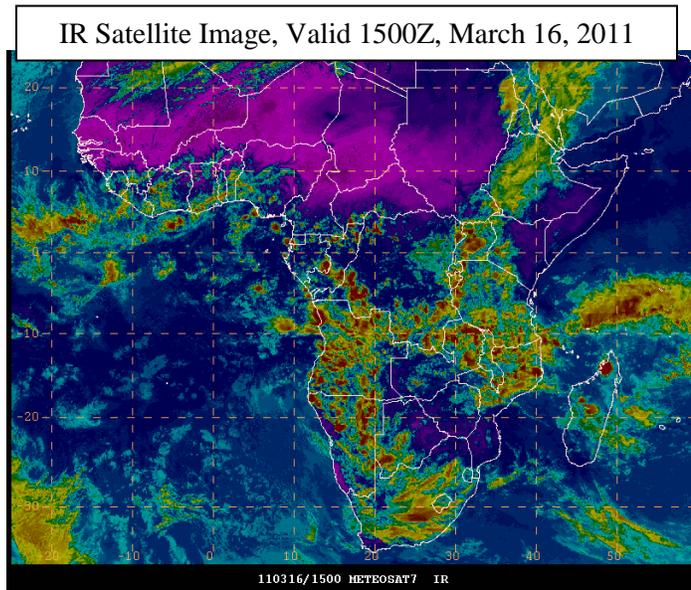
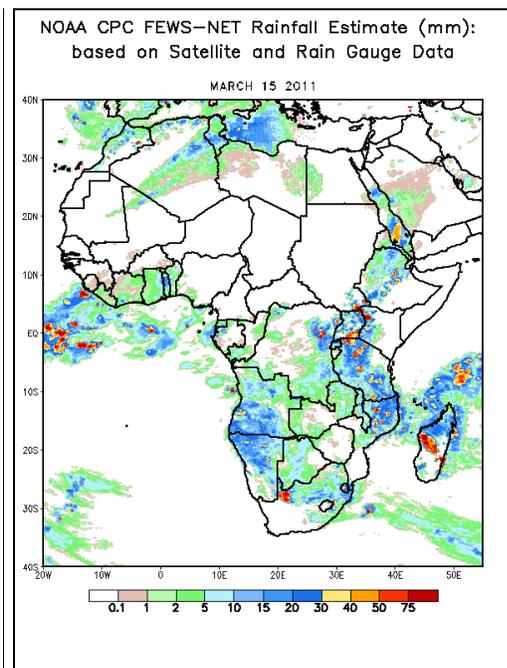
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2.0. Previous and Current Day Weather Discussion over Africa (15 March – 16 March 2011)

2.1. Weather assessment for the previous day (15 March 2011):

During the previous day, a combination of moderate and heavy rainfall was observed over Togo, Gabon, DRC, Namibia, Tanzania, Mozambique, Madagascar, Ethiopia, southern Sudan, Uganda, Kenya, Rwanda, Angola and South Africa.

2.2. Weather assessment for the current day (16 March 2011): Intense clouds are observed over Cote D'Ivoire, CAR, Congo, Gabon, DRC, Uganda, Burundi, Rwanda, Kenya, Tanzania, Angola, Namibia, Zambia, Mozambique, Madagascar, Malawi, Botswana and South Africa.



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

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