

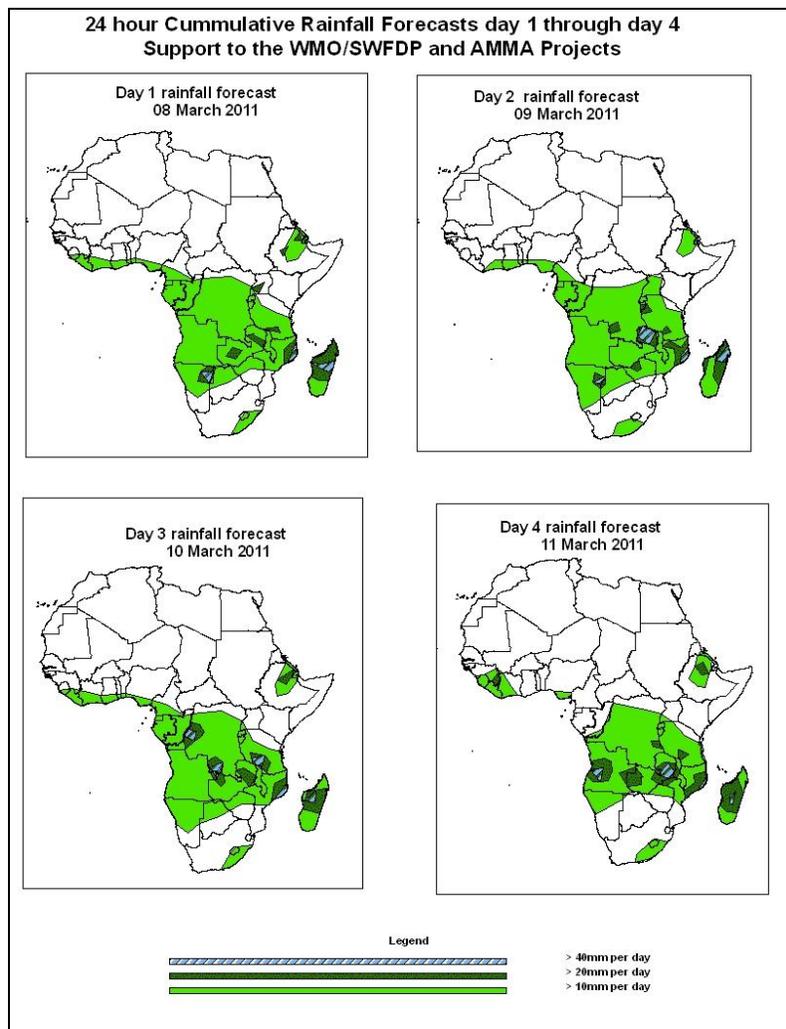


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 08 March – 06Z of 11 March 2011, (Issued at 12:00Z of 08 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

Moderate to heavy rainfall is expected to continue over southern Africa, the Congo Air Boundary (CAB) region and parts of the Greater Horn of Africa (GHA) with southeast Africa and the Mozambique Channel receiving the bulk of it. This will be aided by strong lower level convergence over southern Africa, persistence of the north-south arm of the ITCZ over the Congo Air Boundary (CAB) and interaction with extra tropical lows over the Greater Horn of Africa. Hence, there is an increased chance for rainfall to exceed 20mm per day over Ethiopia, Uganda, Tanzania, Zambia, Angola, Namibia, Malawi, Madagascar, Botswana, Mozambique, Burundi, DRC and Guinea.

1.2. Models Comparison and Discussion-Valid from 00Z of 08 March 2011

A series of cut off lows over the southern parts of the Gulf of Guinea, parts of central African region and southern Sudan, forming an east-west oriented trough is expected to persist through the next four days as shown by the GFS, ECMWF and UKMET models. Along its eastern end (mainly over Central African Republic / Sudan region), a central pressure value between 1003 – 1004hpa is expected and a central value between 1004 - 1005hpa 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 St. Helena High pressure system over southeast Atlantic as presented by the GFS, ECMWF and UKMET models maintains a central value of 1024hpa by 24 hours, weakening to 1020hpa by 48 through 72 hours and strengthening to 1024hpa by 96 hours. While the Mascarene high pressure system over southwest Indian Ocean has a central value of 1020hpa by 24 hours but absent from its climatological position thereafter.

An east-west oriented convergence line in the region between the coastal areas of the Gulf of Guinea and northeast DRC as shown by the GFS model at the 850hpa level is expected to persist and deepen. The north-south oriented convergence line is expected to persist equally. Convergence lines over Angola region and the Mozambique Channel are expected to persist.

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, Zambia, Malawi, Mozambique, southern DRC and the vicinity of the Greater Horn of Africa 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 northeast Africa and the Atlantic is expected to attain a wavy pattern through all through.

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 from 24 to 96 hours.

Moderate to heavy rainfall is expected to continue over southern Africa, the Congo Air Boundary (CAB) region and parts of the Greater Horn of Africa (GHA) with southeast Africa and the Mozambique Channel receiving the bulk of it. This will be aided by strong lower level convergence over southern Africa, persistence of the north-south arm of the ITCZ over the Congo Air Boundary (CAB) and interaction with extra tropical lows over the Greater Horn of Africa. Hence, there is an increased chance for rainfall to exceed 20mm per day over Ethiopia, Uganda, Tanzania, Zambia, Angola, Namibia, Malawi, Madagascar, Botswana, Mozambique, Burundi, DRC and Guinea.

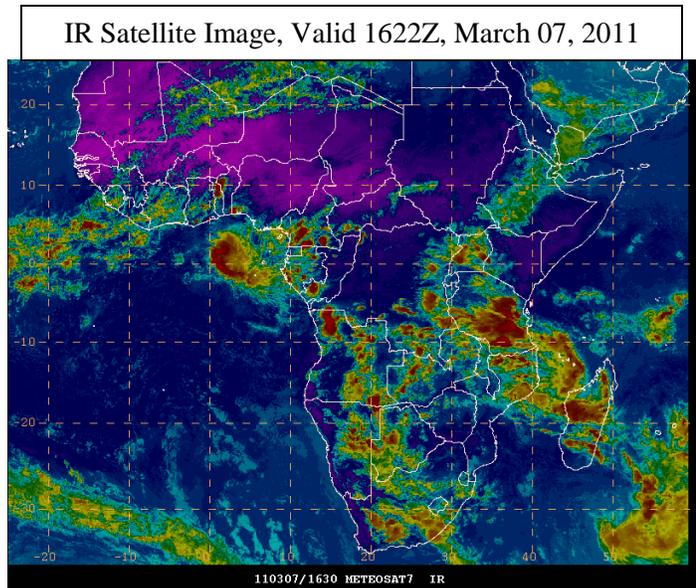
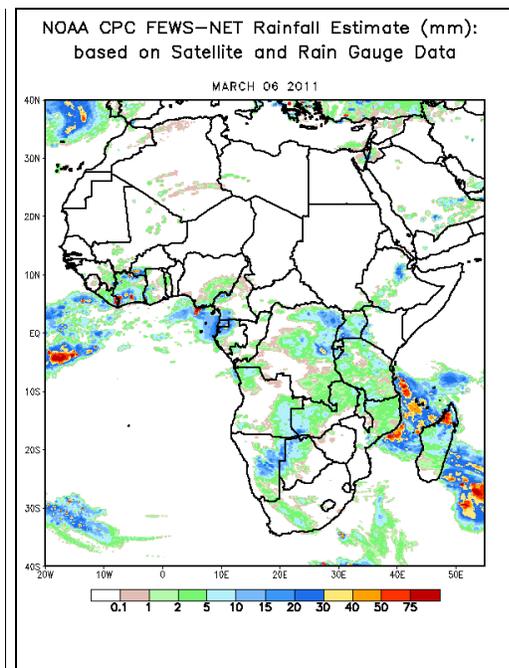
2.0. Previous and Current Day Weather Discussion over Africa (06 March – 07 March 2011)

2.1. Weather assessment for the previous day (06 March 2011):

During the previous day, a combination of moderate and heavy rainfall was observed over Gulf of Guinea coast, Ethiopia, Uganda, DRC, Mozambique, Zambia, Namibia, Botswana and South Africa.

2.2. Weather assessment for the current day (07 March 2011):

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



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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