

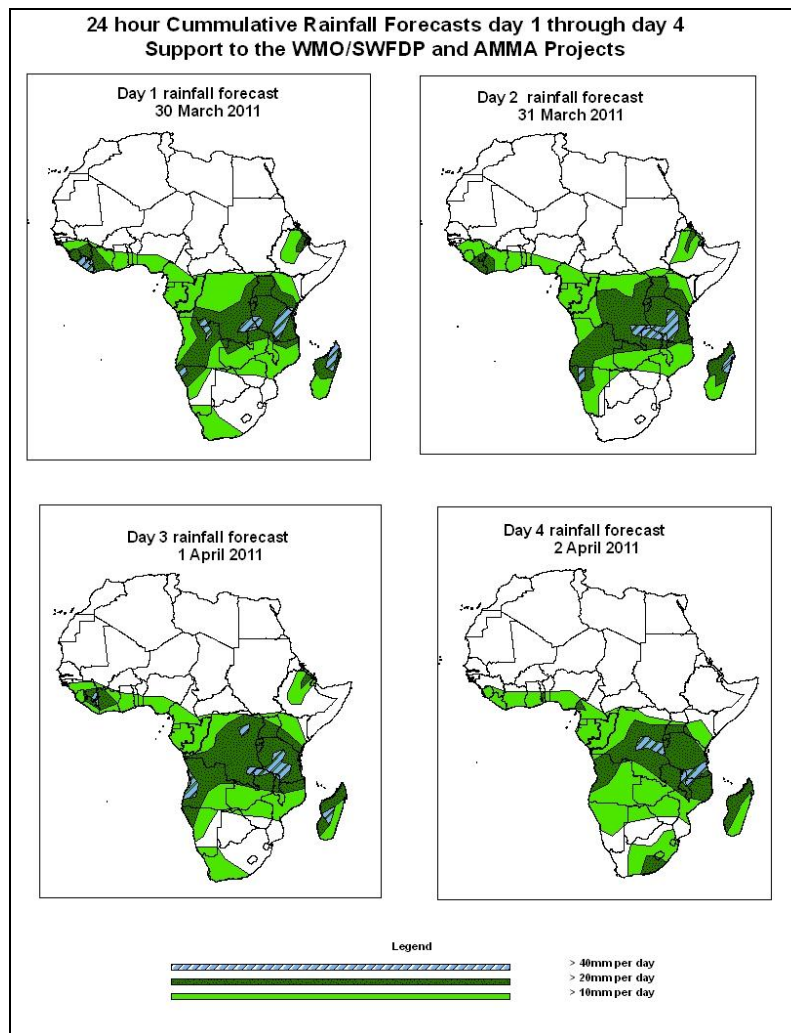


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 30 March – 06Z of 02 April 2011, (Issued at 12:00Z of 29 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, moderate to heavy rainfall will continue over the Gulf of Guinea coast, southern Africa with its concentration over the Mozambique, Zambia and Angola axis and the Congo Air Boundary. These will be aided by strong lower level convergence and moist easterlies from the Indian Ocean. There is also a chance of moderate rainfall over the Greater Horn of Africa region due to increased extra tropical activities. Hence, there is an increased chance for rainfall to exceed 20mm per day over Liberia, Sierra Leone, Cote D'Ivoire, Cameroun, Togo, Ethiopia, Uganda, Kenya, Tanzania, DRC, Burundi, Rwanda, Malawi, Mozambique, Angola, Namibia, Zambia, Madagascar and South Africa.

1.2. Models Comparison and Discussion-Valid from 00Z of 30 March 2011

A series of cut off lows over southern Sudan, parts of Central African region and the coast of the Gulf of Guinea forms an east-west oriented trough. This trough as presented by the GFS, ECMWF and UKMET models will persist through the next four days with a central pressure value of 1004hpa expected along its eastern end (mainly over Central African Republic / Sudan region), and a pressure value of 1008hpa along its western end. The lows associated with the meridional arm of the ITCZ are active. The low pressure system over Angola region deepens from 1010hpa to 1009hpa by 72 hours as shown by the GFS model. However, it is only evident by 72 hour period with a value of 1011hpa according to the UKMET model and virtually absent from the ECMWF model. The low over the Mozambique Channel re-establishes after a long period of absence. There appears to be some level of disparity in the presentation of pressure values by the ECMWF, GFS and UKMO models.

The St. Helena High pressure system over southeast Atlantic is absent from its climatological position by 24 hours but shows up with a central value of 1023hpa by 48 hours and intensifies to about 1028hpa by 96 hours. The Mascarene high pressure system over southwest Indian Ocean is more or less absent from its climatological position all through as there is no consensus between the 3 models as to the day it is present.

The east-west oriented convergence line in the region between the coastal areas of the Gulf of Guinea and northeast DRC at 850hpa level, and the north-south oriented convergence line as depicted by the GFS model, are expected to deepen progressively, filling slightly by 96 and 72 hours respectively. The convergence line over Angola region and that over the Mozambique Channel should both deepen then fill from 72 and 48 hours respectively.

Mostly northeasterly winds dominate across most of western and central African countries at the 700hpa level with strong lower tropospheric convergence dominating the flow over Angola, DRC, Mozambique, Tanzania, Malawi Zambia and Zimbabwe.

There is also the presence of the mid-latitude wave over much of the northern Sahel region.

At 500HPa, zones of strong wind in excess of 50Kts, which are associated with the African Easterly Jet, are expected in the vicinity of the Mid –East by 24 hours and over north Africa from 48 to 96 hours. Similar strong winds in excess of 70Kts are expected over the south Atlantic, off the coast of South Africa.

A zone of strong wind (>90Kts) at 200hpa level associated with the Sub Tropical westerly Jet in the sub-tropical region of North Africa and the mid-east is expected to be more or less wavy all through.

Similarly, strong winds (>130Kts) associated with the Sub-Tropical Westerly Jet in the Sub Tropical region of the southern Atlantic is expected to wavy all through, decreasing in strength (>90Kts) from 72 hour period.

In the next four days, moderate to heavy rainfall will continue over the Gulf of Guinea coast, southern Africa with its concentration over the Mozambique, Zambia and Angola axis and the Congo Air Boundary. These will be aided by strong lower level convergence and moist easterlies from the Indian Ocean. There is also a chance of moderate rainfall over the Greater Horn of Africa region due to increased extra tropical activities. Hence, there is an increased chance for rainfall to exceed 20mm per day over Liberia, Sierra Leone, Cote D'Ivoire, Cameroun, Togo, Ethiopia, Uganda, Kenya, Tanzania, DRC, Burundi, Rwanda, Malawi, Mozambique, Angola, Namibia, Zambia, Madagascar and South Africa.

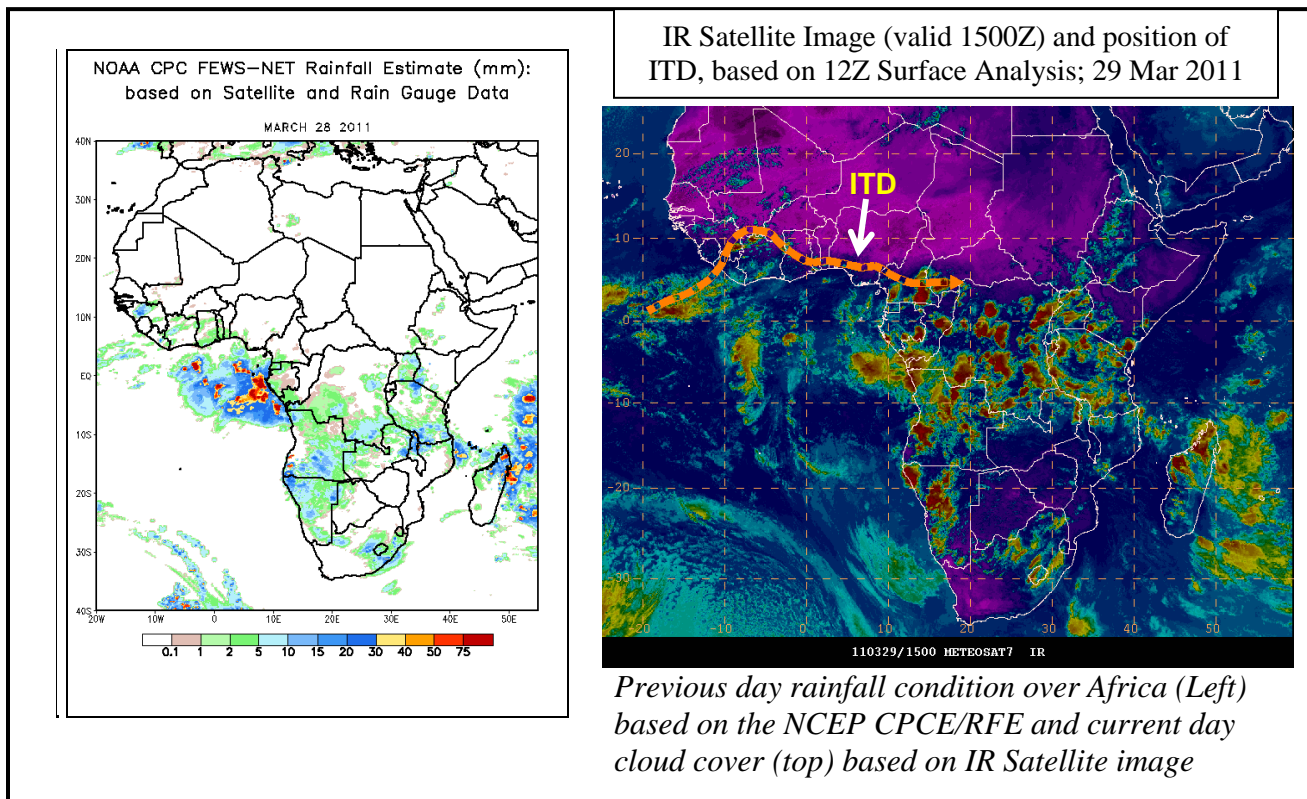
2.0. Previous and Current Day Weather Discussion over Africa (28 March – 29 March 2011)

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

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

2.2. Weather assessment for the current day (29 March 2011):

Intense clouds are observed over Guinea, Cote D'Ivoire, Cameroun, Gabon, Congo, DRC, CAR, Uganda, Kenya, Tanzania, northern Zambia, Angola, Namibia, Madagascar, South Africa and Burundi.



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