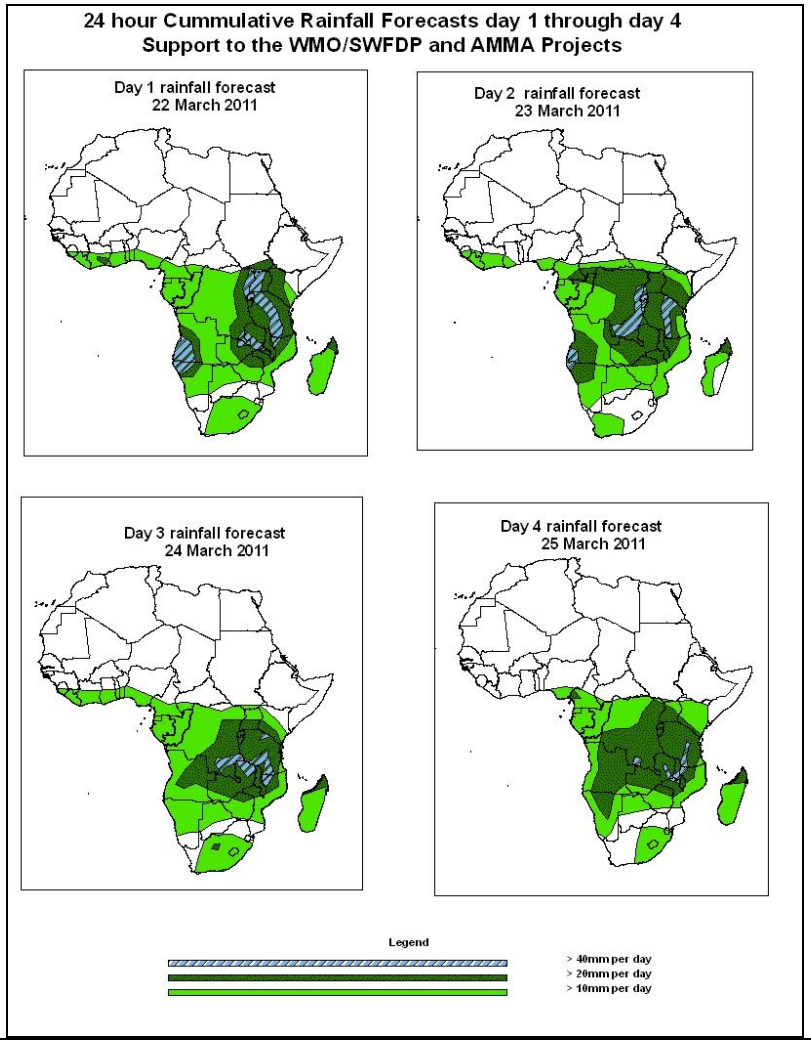
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 22 March – 06Z of 25 March 2011, (Issued at 12:35Z of 21 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 Congo Air boundary (CAB) and southern Africa due to strong lower level convergence over the CAB region and southern Africa. Strong cyclonic to the north east of Madagascar, over the Indian Ocean will enhance rainfall over Madagascar. Rainfall will reduce over the Greater Horn Region as extra-tropical activities weaken. Hence, there is an increased chance for rainfall to exceed 20mm per day over Cote D'Ivoire, Sudan, CAR, Uganda, Kenya, Tanzania, DRC, Burundi, Rwanda, Malawi, Tanzania, Mozambique, Zimbabwe, Angola, Namibia, South Africa, Madagascar and Cameroun.

1.2. Models Comparison and Discussion-Valid from 00Z of 22 March 2011

Within the next four days, the GFS, ECMWF and UKMET models show the persistence of 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. A central pressure value of 1003hpa is 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. There is a low pressure system over Angola region. There appears to be some level of similarity in pressure patterns as depicted by the GFS, ECMWF and UKMO models.

There is a continuous intensification of the St. Helena High pressure system over southeast Atlantic form a central pressure value of 1020hpa by 24 hours to 1028hpa by 96 hours. The Mascarene high pressure system over southwest Indian Ocean is however, absent from its climatological position.

The east-west oriented convergence line in the region between the coastal areas of the Gulf of Guinea and northeast DRC at 850hpa level, as depicted by the GFS model, is expected to persist. The north-south oriented convergence line persists all through, though filling up slightly. The convergence line over Angola region seems quite active as it not only persists but also deepens progressively.

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

A zone of strong wind (>110Kts) at 200hpa level associated with the Sub Tropical westerly Jet in the sub-tropical region of north Africa and the Mediterranean is expected to be wavy all through.

Similarly, strong winds (>70Kts) associated with the Sub-Tropical Westerly Jet in the Sub Tropical region of the southern Atlantic is expected to be zonal, increasing in strength (>130Kts) by 96 hours.

In the next four days, moderate to heavy rainfall will continue over the Congo Air boundary (CAB) and southern Africa due to strong lower level convergence over the CAB region and southern Africa. Strong cyclonic to the north east of Madagascar, over the Indian Ocean will enhance rainfall over Madagascar. Rainfall will reduce over the Greater Horn Region as extra-tropical activities weaken. Hence, there is an increased chance for rainfall to exceed 20mm per day over Cote D'Ivoire, Sudan, CAR, Uganda, Kenya, Tanzania, DRC, Burundi, Rwanda, Malawi, Tanzania, Mozambique, Zimbabwe, Angola, Namibia, South Africa, Madagascar and Cameroun.

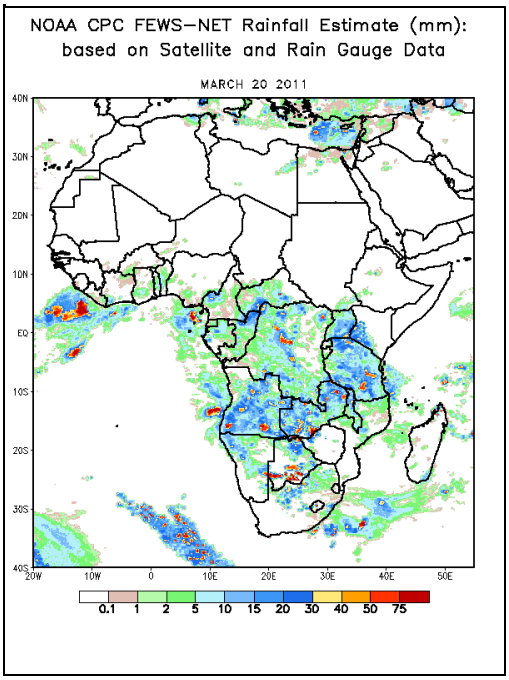
2.0. Previous and Current Day Weather Discussion over Africa (20 March – 21 March 2011)

2.1. Weather assessment for the previous day (20 March 2011):

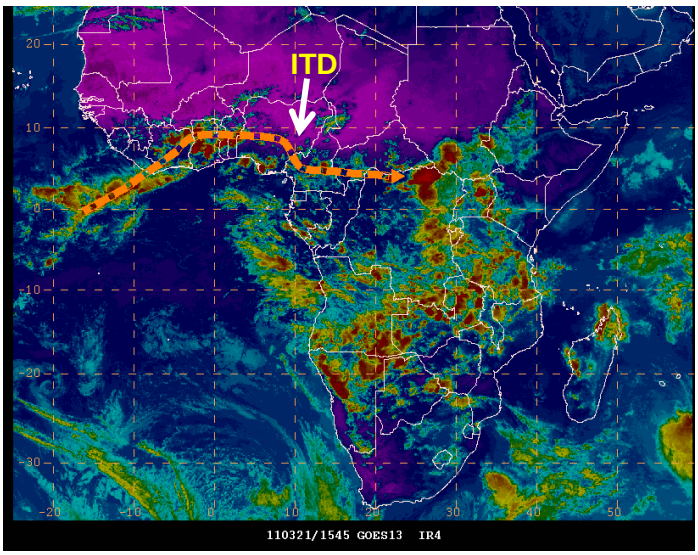
During the previous day, a combination of moderate and heavy rainfall was observed over Gulf of Guinea coast, CAR, DRC, Kenya, Uganda, Congo, Tanzania, Angola, Namibia, South Africa, Malawi, Zambia, Botswana, Zimbabwe and northern Madagascar.

2.2. Weather assessment for the current day (21 March 2011):

Intense clouds are observed over Gulf of Guinea coast, CAR, southern Sudan, Uganda, Kenya, Ethiopia, DRC, Rwanda, Tanzania, Mozambique, Zambia, Zimbabwe, Botswana, Angola, Namibia and Madagascar.



IR Satellite Image (valid 1545Z) and position of ITD, based on 12Z Surface Analysis; 21 Mar 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

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