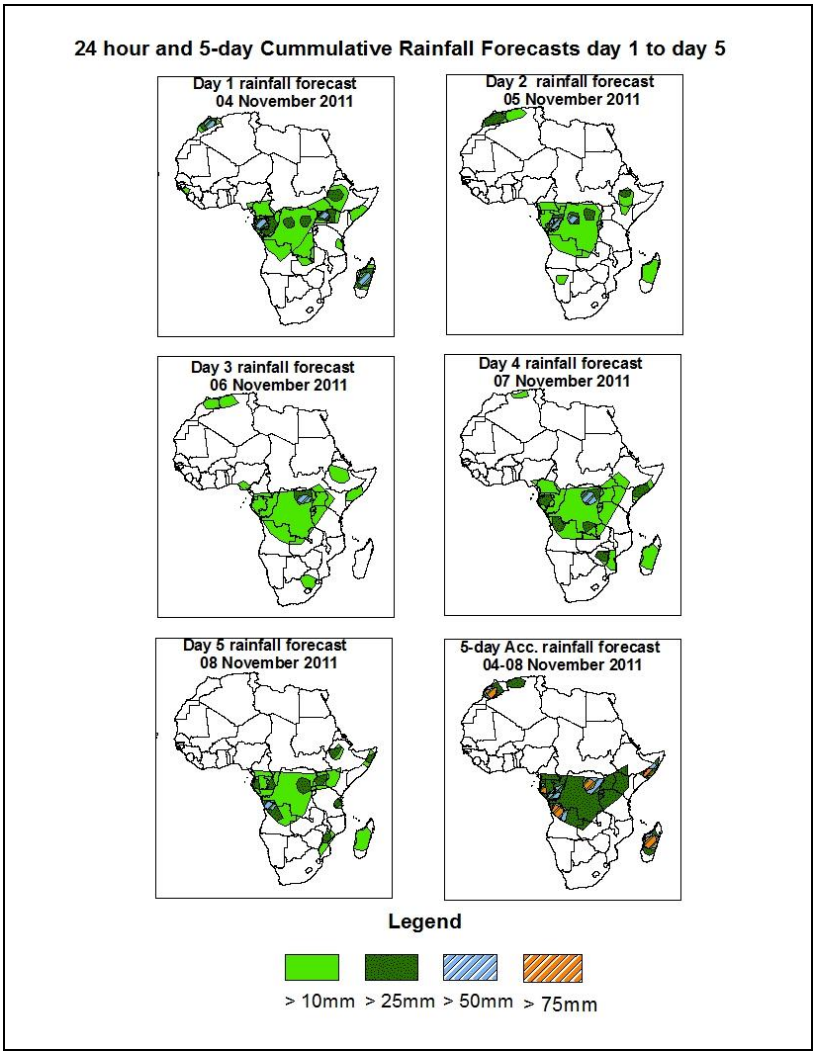
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 04November – 06Z of 08 November 2011, (Issued at 15:30Z of 03November 2011)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of high 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 five days, seasonal and localized wind convergences and eastward propagating mid-latitude frontal systems are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over southern Cameroon, southern Ethiopia, northern Angola, Gabon, Congo Brazzaville, DRC, parts of Kenya, Madagascar, parts of Algeria, parts of Morocco, northern Tanzania, Uganda and northern Zambia.

1.2. Models Comparison and Discussion-Valid from 00Z of 04 November 2011

The GFS, ECMWF and UKMET models indicate series of lows and their associated troughs across central and the South African countries. The low over DRC is expected to fill up, with its mean sea level pressure value increasing from 1009mb to 1011mb through 24 to 72hours and tends to deepen to 1007mb towards the end of the forecast period, according to the GFS model. A low over Tanzania is expected to deepen from MSLP value of 1010mb to 1008mb through 48 to 120 hours according to the GFS model. This same low tends to fill up, with its mean sea level pressure value increasing from 1009mb to 1010mb through 24 to 48 hours according to UKMET model. Another low is expected to form extending across Zambia, Namibia and Botswana and tends to deepen, with its MSLP value decreasing from 1008mb to 1007mb during the forecast period according to the GFS model. According to ECMWF model, this low tends to maintain its central pressure value of 1011mb through 72 to 96hours and tends to fill up, with its central pressure value increasing from 1008mb to 1009mb towards the end of forecast period according to UKMET model. A low is expected to form in the vicinity of Madagascar through 24 to 48hours with a central pressure value of 1009mb according to UKMET model. Another low is expected to form in the vicinity of South Africa according to UKMET model with its central pressure value of 999mb by 24hours. Another low is expected to form in the vicinity of Mozambique according to UKMET model with its central pressure value increasing from 1004mb to 1009mb through 48 to 96 hours and then tends to deepen, to 1008mb towards end of the forecast period.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to weaken, with its MSLP value decreasing from 1028mb to 1024mb during the forecast period according to both of the GFS model and ECMWF models while tends to decrease from 10024mb to 1020mb according to UKMET model. The Mascarene high pressure system over southwest Indian Ocean is expected to intensify, with its MSLP value increasing from 1016mb to 1021mb according GFS model during the forecast period. According to ECMWF model, the same high pressure system tends to intensify, with its MSLP value increasing from 1016mb to 1019mb through 24 to 120hours. According to the UKMET model this same high pressure tends to maintain, its central pressure value of 1016mb during the forecast period.

At the 850hpa level, a lower tropospheric wind convergence is expected to dominate the flow over parts of Chad and Angola during the forecast period. The seasonal wind convergence across central African countries is expected to remain active during the forecast period extending across DRC.Localized wind convergences are also expected to dominate the flow over portions of Ethiopia, Nigeria, Somalia, South Africa, Madagascar, Tunisia, Tanzania, Botswana, Kenya, Zambia, Namibia, Algeria, Congo, Cameron and Uganda, during the forecast period.

At 500hpa, eastward propagating trough in the westerly is expected to dominate the flow over Mediterranean Sea during the forecast period; with the low geopotential value of 5820gpm extending to the latitudes of Libya and Egypt through by 24hours and expected to propagate over Egypt through 48 to 72hours. Another trough is expected to propagate over Algeria and Morocco by 24 hours then is expected to prevail over Tunisia towards the end of the forecast period. A mid latitude frontal system is also expected to propagate eastwards across the Southern African countries during the forecast period.

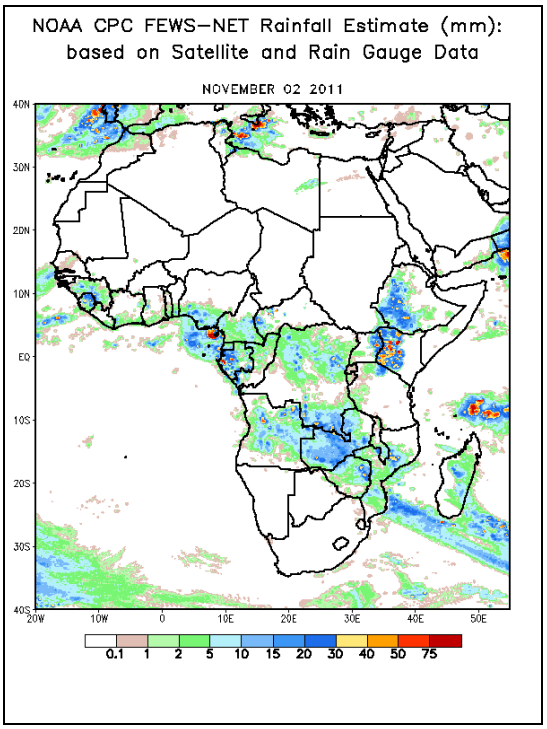
At 200mb, strong winds associated with Sub-Tropical Westerly Jet are expected to dominate the flow over northern Africa, during the forecast period. The intensity of the jet is expected to exceed 110kts near Egypt and tends to weaken gradually towards the end of the forecast period. Another zone of maximum wind speed is expected to prevail over Morocco by 24hours with maximum wind speed exceeding 110kts and tends to weaken towards the end of the forecast period to prevail over Algeria and Tunisia. Wind speed values associated with the southern Hemisphere sub-tropical westerly jet are expected to exceed 110kts and then tends to weaken towards end of forecast period across South Africa.

In the next five days, seasonal and localized wind convergences and eastward propagating mid-latitude frontal systems are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over southern Cameroon, southern Ethiopia, northern Angola, Gabon, Congo Brazzaville, DRC, parts of Kenya, Madagascar, parts of Algeria, parts of Morocco, northern Tanzania, Uganda and northern Zambia.

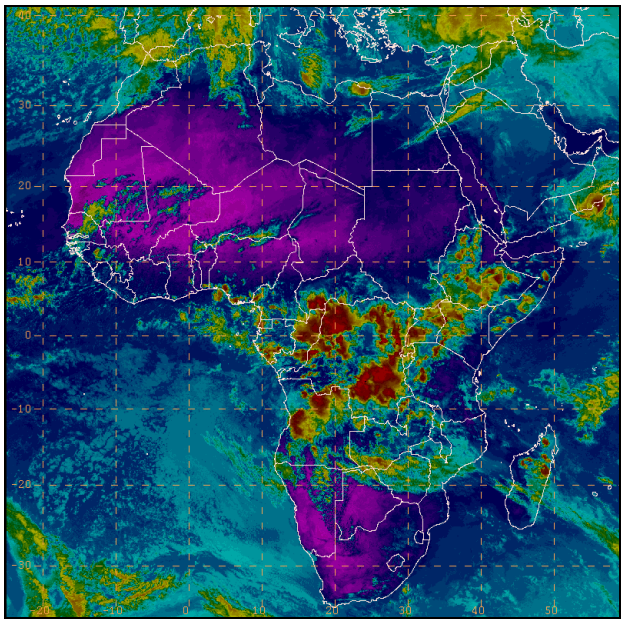
2.0. Previous and Current Day Weather Discussion over Africa (02November - 03 November 2011)

2.1. Weather assessment for the previous day (02 November 2011): During the previous day, moderate to locally heavy rainfall was observed over local areas of DRC, eastern Uganda, western Kenya, parts of Angola, local areas of Madagascar, parts of Gabon, Parts of Ethiopia, parts of eastern Zimbabwe, parts of Mozambique, coastal Gulf of Guinea and portions of Zambia.

2.2. Weather assessment for the current day (03 November 2011): Intense clouds are observed over much of central African region, parts of the GHA countries, southern Zambia, southern Nigeria and Madagascar.



IR Satellite Image (valid 1500Z of 03November 2011)



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

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