

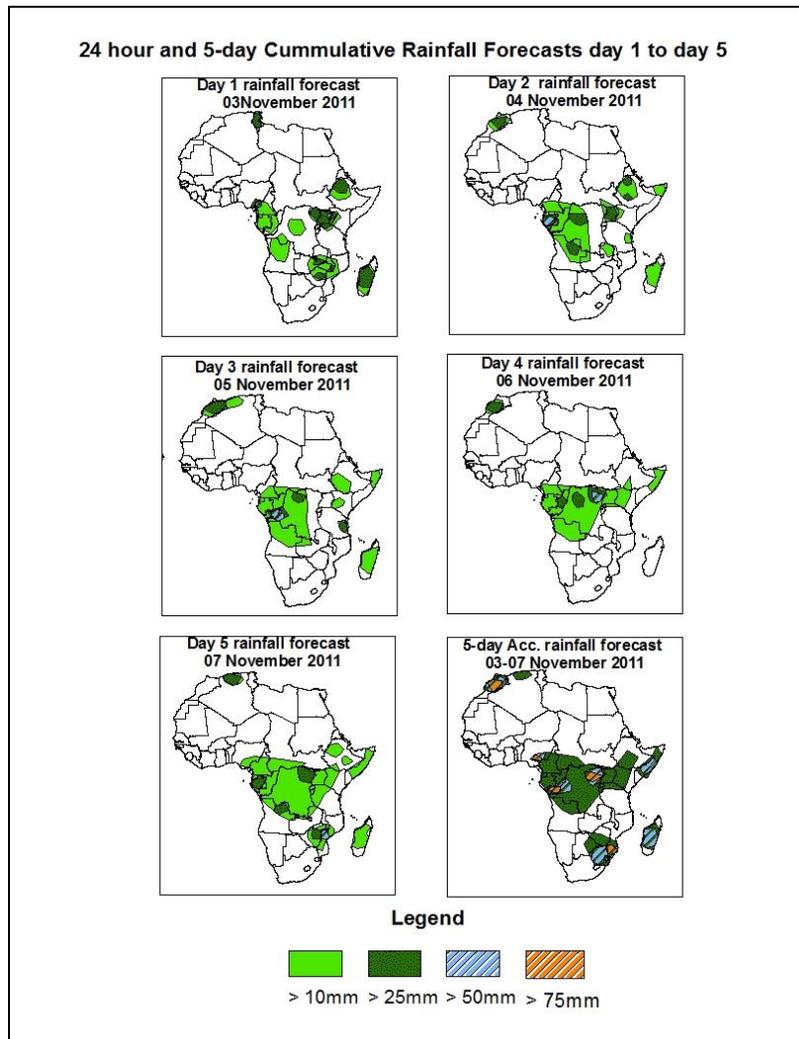


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 03 November – 06Z of 07 November 2011, (Issued at 16:00Z of 02 November 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 Cameroon, southern Ethiopia, southeastern Nigeria, Northern Angola, Gabon, Congo Brazzaville, DRC, parts of Kenya, Madagascar, parts of Algeria, parts of Morocco, northern Tanzania, Uganda and northeastern South Africa.

1.2. Models Comparison and Discussion-Valid from 00Z of 03 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 1010mb through 24 to 96hours and tends to deepen to 1009mb towards the end of the forecast period, according to the GFS model. This same low tends to maintain, its central pressure value of 1010mb through 24 to 48hours according to ECMWF model. A low over Tanzania is expected to deepen from MSLP value of 1010mb to 1009mb through 24 to 48 hours and then tends to fill up to MSLP value of 1010mb by 96hours according to the GFS model. Another low is expected to form extending across Zambia, Namibia and Botswana and tends to deepen, with its MSLP value decreasing from 1009mb to 1007mb during the forecast period according to the GFS model. According to ECMWF model, this low tends to fill up, with its MSLP value increasing from 1010mb to 1012mb through 24 to 96hours and tends to deepen to 1011mb towards the end of forecast period. According to UKMET model this low is expected to maintain its central pressure value of 1008mb through 24 to 48hours. A low is expected to form in the vicinity of Madagascar through 24 to 48hours with a central pressure value of 1010mb according to UKMET model and tends to deepen to 1009mb according to GFS 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 48hours. Another low is expected to form in the vicinity of Mozambique according to UKMET model with its central pressure value increasing from 1003mb to 1006mb through 72 to 120 hours.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to weaken, with its MSLP value decreasing from 1029mb to 1020mb during the forecast period according to both of the GFS model and ECMWF models while tends to decrease to 1019mb according to UKMET model. The Mascarene high pressure system over southwest Indian Ocean is expected to weaken, with its MSLP value decreasing from 1020mb to 1016mb according to and UKMET model through during the forecast period. According to GFS model, the same high pressure system tends to weaken, with its MSLP value decreasing from 1020mb to 1016mb through 24 to 96hours and tend to intensify to 1019 towards end of the forecast period. According to the ECMWF model

this same high pressure tends to weaken, with its MSLP value decreasing from 1019mb to 1016mb through 24 to 96 hours and then tends to intensify to 1021mb by 120 hours.

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, Tanzania, Botswana, Kenya, Mauritania, Zambia, Namibia, Algeria, Gabon, Cameroon 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 through by 24 hours and expected to propagate over Egypt through 48 to 96 hours. Another trough is expected to propagate over Algeria, Morocco and Tunisia during 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 Libya through 24 to 48 hours and tends to intensify over Egypt and Libya by 48 hours to wind speed value of 110kts. Another zone of maximum wind speed is expected to prevail over Morocco, Tunisia and Algeria through 72 to 96 hours with maximum wind speed exceeding 110kts and tends to weaken towards the end of the forecast period. Wind speed values associated with the southern Hemisphere sub-tropical westerly jet are expected to exceed 70kts and tends to intensify by 72 hours to 110kts and then tends to weaken by 96 hours and then tends to intensify 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 Cameroon, southern Ethiopia, southeastern Nigeria, Northern Angola, Gabon, Congo

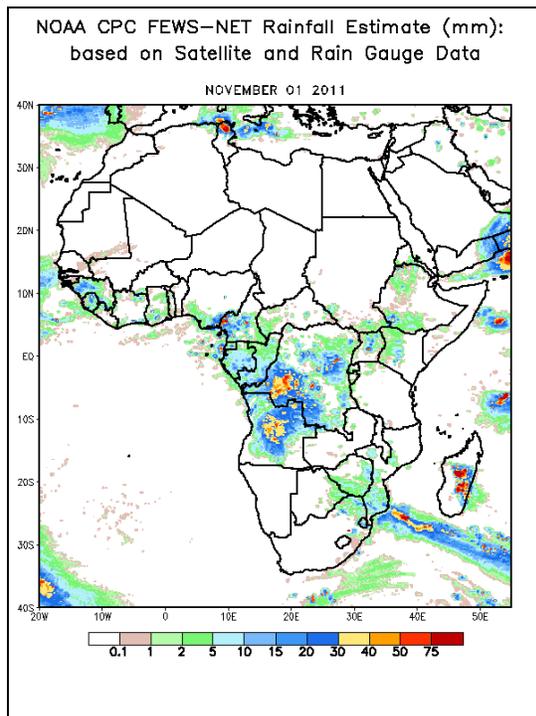
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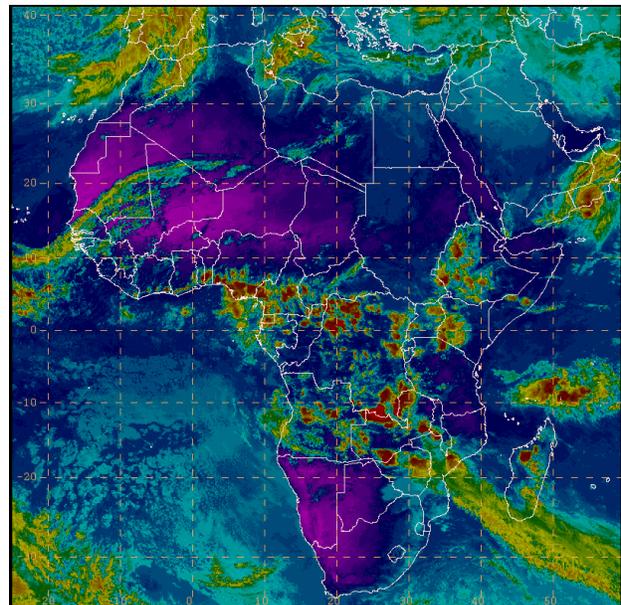
2.0. Previous and Current Day Weather Discussion over Africa (01 November - 02 November 2011)

2.1. Weather assessment for the previous day (01 November 2011): During the previous day, moderate to locally heavy rainfall was observed over portions of DRC, parts of Uganda, many parts of Angola, parts of Madagascar, parts of Cameroon, coastal Gulf of Guinea and parts of Tunisia

2.2. Weather assessment for the current day (02 November 2011): Intense clouds are observed over much of central African region, parts of the GHA countries, southern Nigeria, Benin, portions of southeastern Africa countries and Madagascar.



IR Satellite Image (valid 1545Z of 02 November 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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