

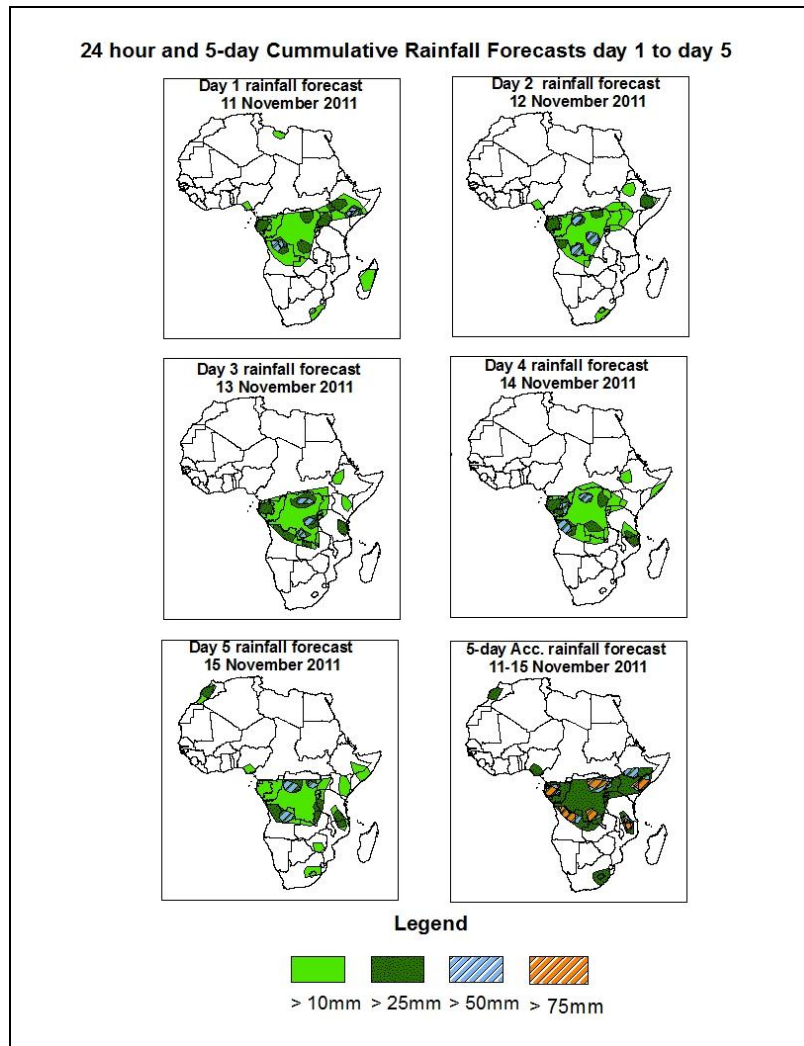


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 11 November – 06Z of 15 November 2011, (Issued at 17:45Z of 10 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 are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over southern Ethiopia, northern Angola, Gabon, Congo Brazzaville, DRC, parts of Kenya, portions of Tanzania, local areas of southern Nigeria, Uganda, and northern Mozambique, parts of Morocco, South Africa, northwestern Zambia and southern Somalia.

1.2. Models Comparison and Discussion-Valid from 00Z of 11 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 1007mb to 1008mb during the forecast period according to the GFS model. This same low tends to fill up, with its mean sea level pressure value increasing from 1007mb to 1009mb through 24 to 72hours according to UKMET model. A low over Tanzania is expected to deepen, with its MSLP value of decreasing from 1008mb to 1007mb through 72 to 96hours and then tends to fill up to 1008mb towards the end of the forecast period according to the GFS model. Another low is expected to form extending across Angola, Namibia, Zambia and Botswana and tends to deepen, with its MSLP value decreasing from 1005mb to 1002mb through 24 to 96hours and then tends to separate to one over Botswana and the other over Namibia with MSLP value of 1003mb and 1004mb respectively towards the end of the forecast period according to GFS model. This low is expected to prevail across Botswana with its central pressure value increasing from 1005mb to 1007mb through 24 to 48hours and tends to decrease to 1004mb by 96hours. according to ECMWF model. According to UKMET model, this low is expected to form in the vicinity of Botswana, Angola, Zambia and Namibia and tends to fill up, with its central pressure value increasing from 1004mb to 1007mb through 24 to 48hours and then tends to deepen to 1004mb by 72 hours. The high pressure over Arabian Peninsula is expected to weaken, with its central pressure value decreasing from 1019mb to 1016mb during the forecast period according to both the GFS and ECMWF models. According to the UKMET, its MSLP value tends to decrease from 1020mb to 1016mb during the forecast period.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to weaken, with its MSLP value increasing from 1036mb to 1028mb towards the end of the forecast period according to UKMET, ECMWF and the GFS models. The Mascarene high pressure system over southwest Indian Ocean is expected to weaken, with its central pressure value decrease from 1020mb to 1016mb towards the end of the forecast period according to ECMWF, UKMET and the GFS models.

At the 850hpa level, a lower tropospheric wind convergence is expected to dominate the flow over parts of 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, South Africa, Algeria, Tanzania, Botswana, Namibia, Congo, Kenya, Sudan, Libya, Gabon 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 5760gpm extending to the latitudes of Algeria, Libya and Tunisia by 24hours and expected to propagate over Libya, Egypt and Tunisia by 48 hours, while it tends to propagate over Egypt and Libya towards the end of the forecast period with the low geopotential value is expected to increase to 5820gpm. A mid latitude frontal system is also expected to propagate eastwards across the Southern African countries by 72hours.

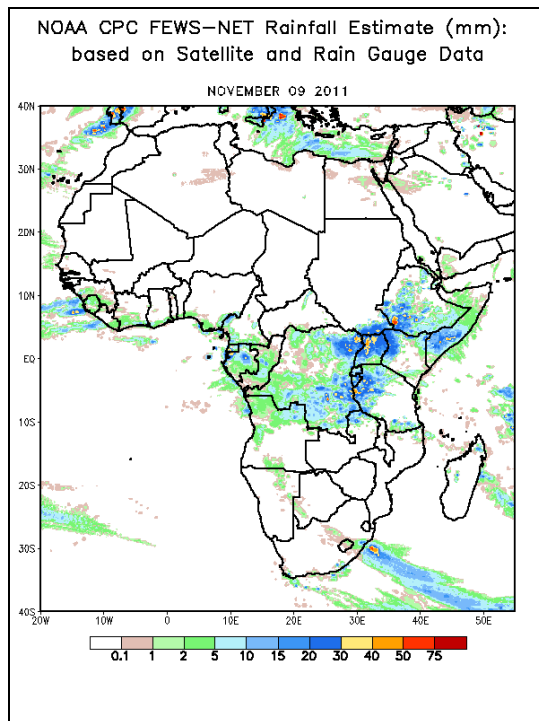
At 200mb, strong winds associated with Sub-Tropical Westerly Jet are expected to dominate the flow over northern Africa, during the forecast period. The intensity of the jet is expected to exceed 90kts near Egypt by 24hours and tends to exceed 110kts through 48 to 96hours and then extend to Libya, Morocco and Algeria through 120hours. Wind speed values associated with the southern Hemisphere sub-tropical westerly jet are expected to exceed 110kts, while weakening towards end of forecast period across South Africa.

In the next five days, seasonal and localized wind convergences are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over southern Ethiopia, northern Angola, Gabon, Congo Brazzaville, DRC, parts of Kenya, portions of Tanzania, local areas of southern Nigeria, Uganda, and northern Mozambique, parts of Morocco, South Africa, northwestern Zambia and southern Somalia.

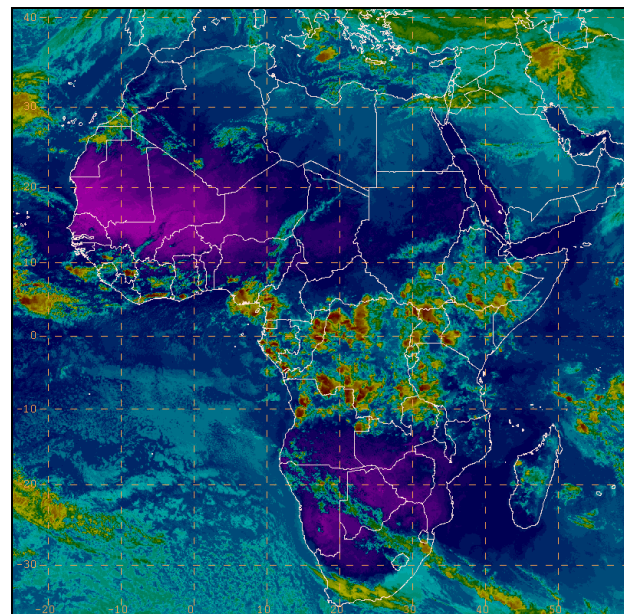
2.0. Previous and Current Day Weather Discussion over Africa (09November - 10November 2011)

2.1. Weather assessment for the previous day (09November 2011): During the previous day, moderate to locally heavy rainfall was observed parts of Gabon, many parts of DRC, parts of Uganda, southwestern Ethiopia, portions of Kenya, western Tanzania, Burundi and southern Somalia.

2.2. Weather assessment for the current day (10November 2011): Intense clouds are observed over much of DRC, parts of Angola, southern Nigeria, , parts of Ethiopia, southern Sudan, parts of Cameroon, parts of Gabon, parts of Congo, northwestern Zambia, much of coastal Gulf of Guinea, western Tanzania, northern Uganda and southern Kenya.



IR Satellite Image (valid 1722Z of 10November 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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