

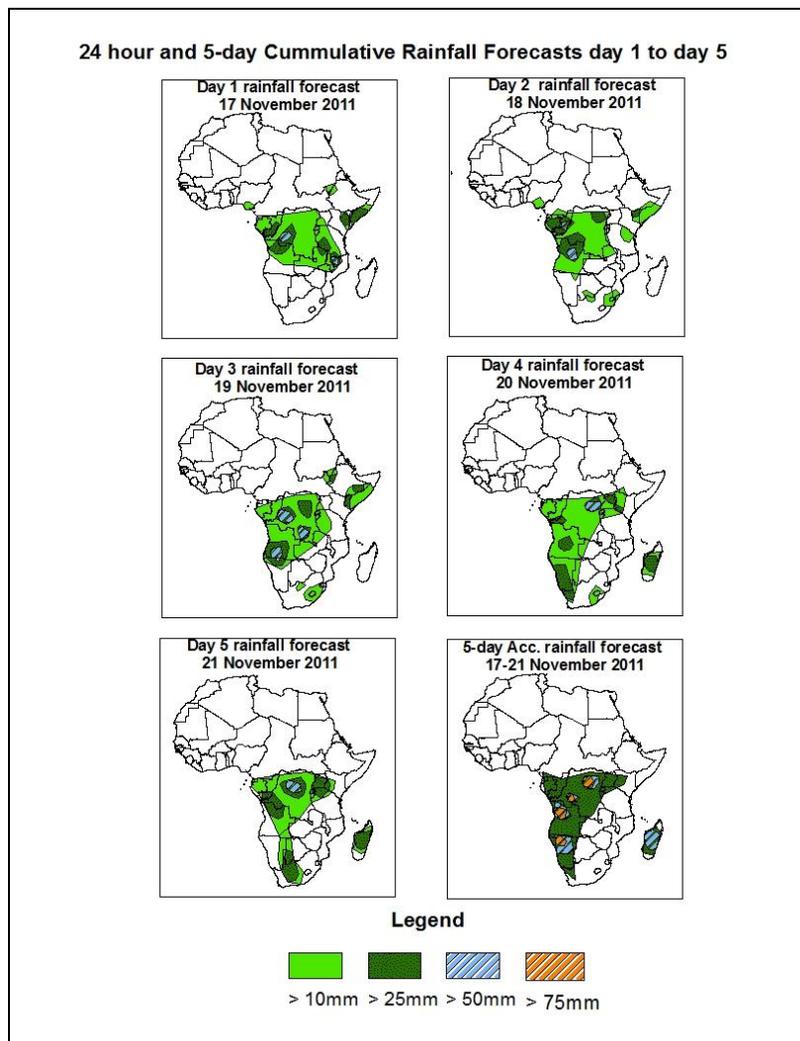


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 17November – 06Z of 21November 2011, (Issued at 17:30Z of 16November 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 Angola, Gabon, Congo Brazzaville, DRC, northern Tanzania, Namibia, parts of Zambia, parts of Kenya, parts of Madagascar, Uganda and southern Africa.

1.2. Models Comparison and Discussion-Valid from 00Z of 17November 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 1008mb to 1009mb through 24 to 48hours and tends to deepen to 1007mb by 72hours 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 1008mb to 1006mb during the forecast period according to GFS model. This low is expected to fill up, with its central pressure value increasing from 1007mb to 1008mb through 24 to 48hours and tends to deepen to 1007 towards the end of the forecast period according to UKMET model. According to ECMWF model, this low is expected to form in the vicinity of Botswana, Angola, Zambia and Namibia and tends to deepen, with its central pressure value decreasing from 1009mb to 1007mb during the forecast period. Another low is expected to form in the vicinity of Tanzania and tends to deepen, with its central pressure decreasing from 1009mb to 1008mb towards the end of the forecast period according to the GFS model.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to weaken, with its MSLP value decreasing from 1024mb to 1019mb through 24 to 72hours according to ECMWF, GFS and UKMET models and then tends to intensify to 1032mb towards the end of the forecast period according to ECMWF and the GFS models while according to UKMET model it tends to intensify to 1036mb. The Mascarene high pressure system over southwest Indian Ocean is expected to intensify, with its central pressure value of increasing from 1016mb to 1024mb towards the end of the forecast period according to UKMET and the GFS models. According to ECMWF model it is expected to intensify from 1017mb to 1024mb towards the end of the forecast period.

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, Zambia, South Africa, Algeria, Tanzania, Congo,

Cameron, Gabon, Namibia, Botswana, Libya, Mali 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 Egypt and Libya through 24 to 48hours and expected to propagate over Egypt towards the end of the forecast period .Another trough is expected to propagate over Algeria and Morocco through 72 to 120hours and. A mid latitude frontal system is expected to propagate eastwards across the Southern African countries through 96 to 120hours.

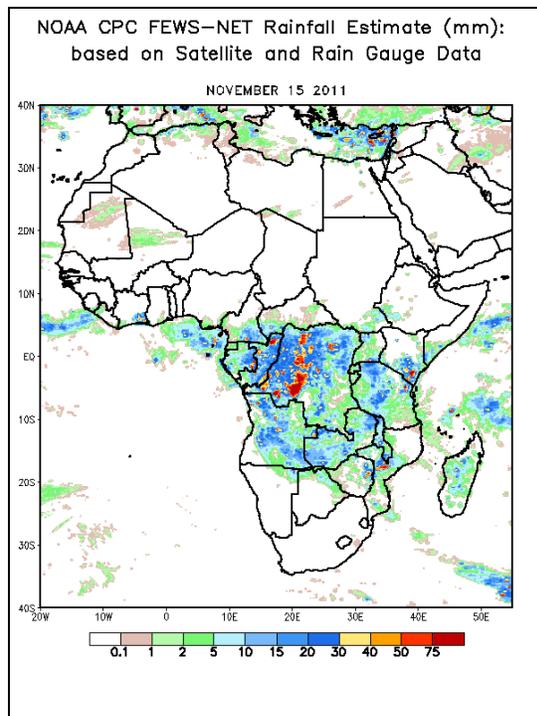
At 200mb, strong winds associated with Sub-Tropical Westerly Jet are expected to dominate the flow over northern Africa, during the forecast period. The intensity of the jet is expected to exceed 90kts over Algeria, Libya and Egypt by 24hours and is expected to propagate over north Africa by 48hours while by 72hours it is expected to propagate over Algeria, Libya and Egypt. By the end of the forecast period it is expected to propagate over Egypt with wind speed is expected to exceed 130kts. Wind speed values associated with the southern Hemisphere sub-tropical westerly jet are expected to exceed 90kts, while weakling 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 Angola, Gabon, Congo Brazzaville, DRC, northern Tanzania, Namibia, parts of Zambia, parts of Kenya, parts of Madagascar, Uganda and southern Africa.

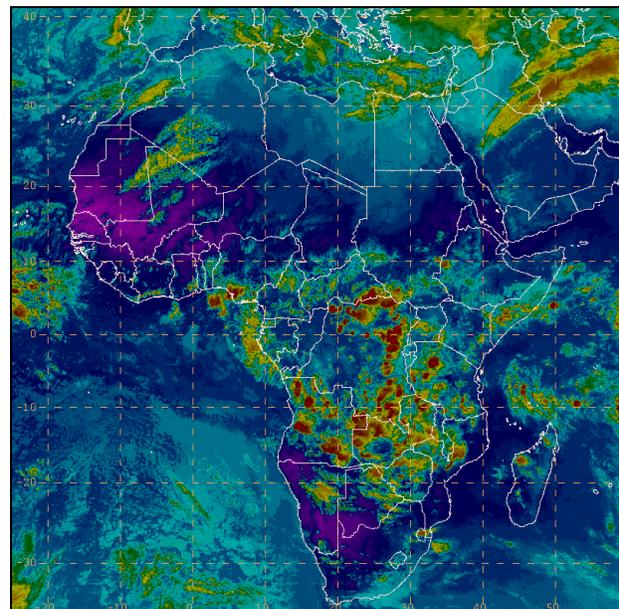
2.0. Previous and Current Day Weather Discussion over Africa (15November - 16November 2011)

2.1. Weather assessment for the previous day (15November 2011): During the previous day, moderate to locally heavy rainfall was observed over parts of DRC, southern Kenya, Congo, eastern Gabon, parts of Cameroon portions Tanzania, parts of Mozambique, parts of Zimbabwe, northern Botswana and parts of Angola.

2.2. Weather assessment for the current day (16November 2011): Intense clouds are observed over much of DRC, parts of Angola, southern Nigeria, parts of Zambia, parts of Tanzania, southern CAR parts of Somalia, northern Botswana and parts of Madagascar.



IR Satellite Image (valid 1652Z of 16November 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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