

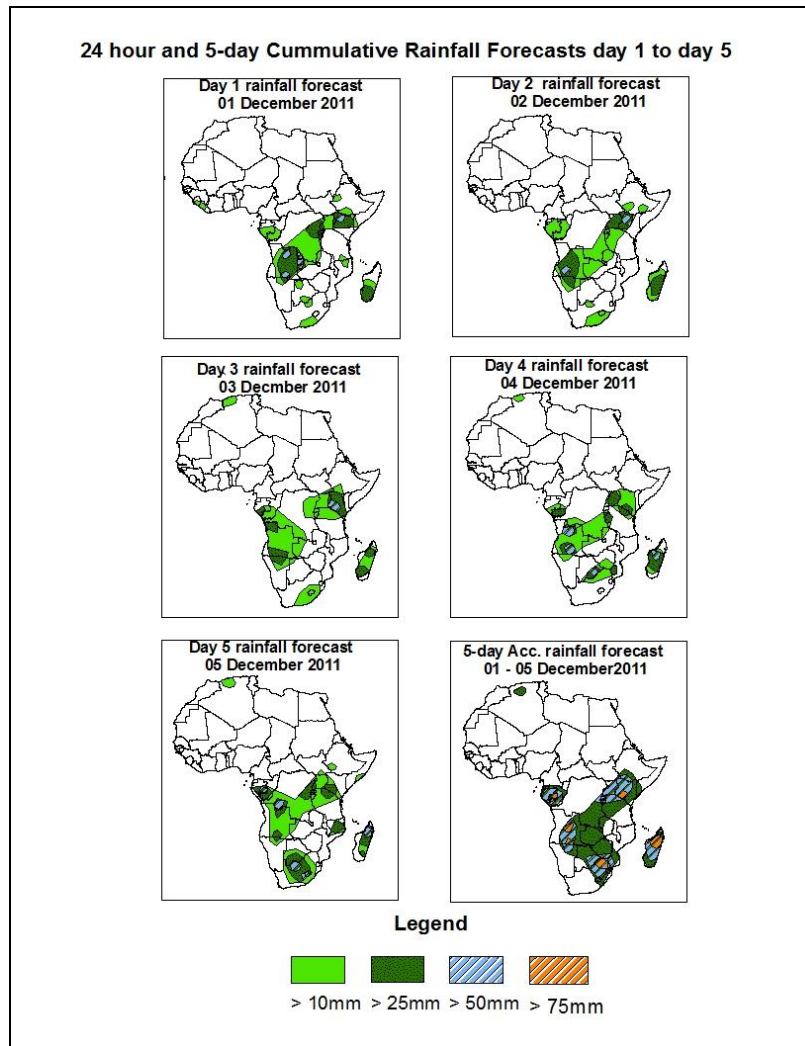


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 01 December – 06Z of 05 December 2011, (Issued at 16:45Z of 30 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 parts of Angola, Gabon, Congo Brazzaville, parts of DRC, north western Tanzania, north eastern Namibia, Zambia, Madagascar, Burundi, Rwanda, Kenya, Zimbabwe, parts of Mozambique, parts of Ethiopia, parts of Botswana, part of north Algeria, Uganda and parts of southern Africa.

1.2. Models Comparison and Discussion-Valid from 00Z of 01 December 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 deepen, with its mean sea level pressure value decreasing from 1010mb to 1006mb through 24 to 96hours and tends to fill up, with its central pressure value increase to 1007mb towards the end of the forecast period according to the GFS model. While according to ECMWF model it is expected to deepen to 1008mb through 24 to 96hours and then fill up to 1009mb towards the end of the forecast period. Another low is expected to form in the vicinity of Namibia and tends to deepen, with its MSLP value decreasing from 1010mb to 1009mb through 24 to 48 hours and tends to extend over Botswana and Mozambique with its central pressure value decreasing to 1003mb towards the end of the forecast period according to GFS model. Another low is expected to form in the vicinity of Tanzania and it tends to deepen, with its central pressure value decreasing from 1011mb to 1007mb through 24 to 96 hours according to GFS model and tends to fill up to 1008mb towards the end of the forecast period. A high pressure is expected to form over Arabian Peninsula and tends to weaken from 1021mb to 1020mb towards the end of the forecast period according to GFS model.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to weaken, with its MSLP value decreasing from 1028mb to 1021mb towards the end of the forecast period according to GFS model. According to UKMET model it is expected to weaken, with its MSLP value decreasing from 1028mb to 1020mb towards the end of the forecast period. While according to UKMET model it is expected to decrease to 1024mb. The Mascarene high pressure system over southwest Indian Ocean is expected to weaken, with its central pressure value decreasing from 1020mb to 1016mb through 24 to 72hours and tends to intensify to 1020mb towards the end of the forecast period according to ECMWF, UKMET and 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, Zambia, South Africa, Tanzania, Algeria, Namibia, Zimbabwe 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 Egypt, Tunisia and Libya by 24 and expected to extend over Tunisia, Algeria, Libya and Morocco by 120hours . A mid latitude frontal system is expected to propagate eastwards across the Southern African countries during the forecast period.

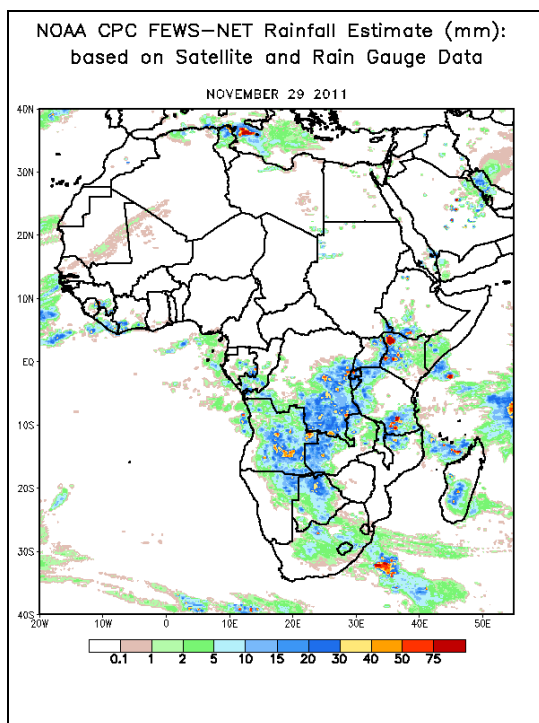
At 200mb, strong winds associated with Sub-Tropical Westerly Jet are expected to dominate the flow over northern Africa, during the forecast period. The intensity of the jet is expected to exceed 130kts over Libya and Egypt by 24hours. While by 48 it is expected to extend over north Africa. By the end of the forecast period it is expected to propagate over Libya and Egypt with wind speed exceeded 110kts. Wind speed values associated with the southern Hemisphere sub-tropical westerly jet are expected to exceed 90kts during the forecast period.

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 parts of Angola, Gabon, Congo Brazzaville, parts of DRC, north western Tanzania, north eastern Namibia, Zambia, Madagascar, Burundi, Rwanda, Kenya, Zimbabwe, parts of Mozambique, parts of Ethiopia, parts of Botswana, part of north Algeria, Uganda and parts of southern Africa.

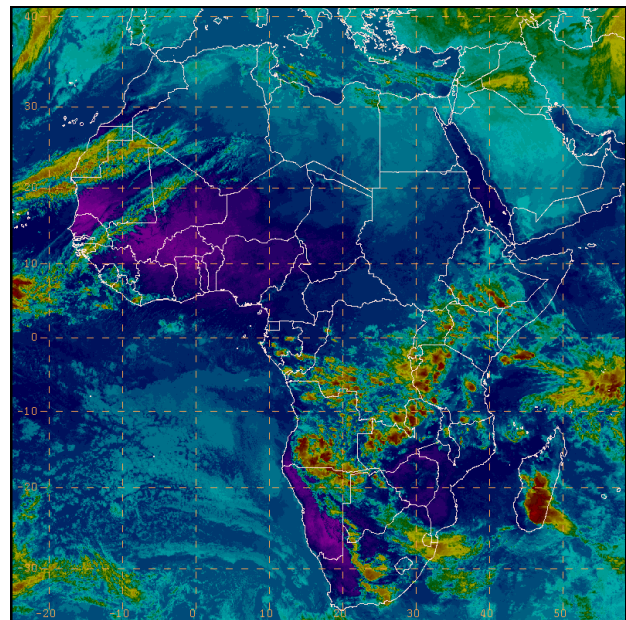
2.0. Previous and Current Day Weather Discussion over Africa (29November - 30November 2011)

2.1. Weather assessment for the previous day (29 November 2011): During the previous day, moderate to locally heavy rainfall was observed over much of DRC, northern Tunisia, southern Ethiopia, parts of Madagascar, Angola, parts of Zambia, parts of Congo, northern Mozambique, parts of Tanzania, northern Botswana, parts of Namibia, parts of Kenya and parts of Uganda.

2.2. Weather assessment for the current day (30 November 2011): Intense clouds are observed over Angola, parts of Zambia, parts of Tanzania, parts of DRC, portion of Madagascar, parts of Kenya, southern Ethiopia, northern Namibia, northern Botswana, Rwanda, Burundi and parts of Southern Africa.



IR Satellite Image (valid 1622Z of 30November 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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