

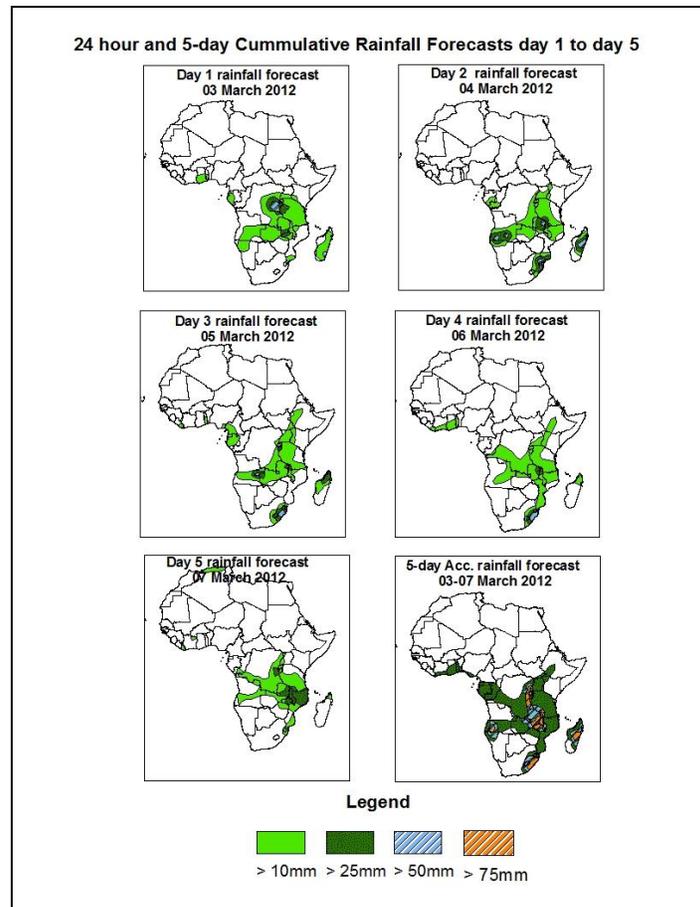


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 03 March – 06Z of 07 March 2012, (Issued at 18:00Z of 02 March 2012)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



Summary

In the next five days, low level tropospheric wind convergences from eastern Nigeria to northwestern Uganda passing through Cameroun, Central Africa Republic and northern DRC, the low level convergence in the vicinity of eastern DRC, western Uganda, Rwanda and Burundi associated with the meridional arm of the ITCZ, the zonal arm of the ITCZ over eastern Angola running across southern Zambia up to western Malawi, cyclonic circulations associated with tropical cyclone Irina over Mozambique Channel and later over western Mozambique / eastern Zimbabwe and Localized winds convergences associated with a mid-latitude trough running along central Angola and Namibia are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over Angola, northern Namibia, Zambia, DRC, Mozambique, Malawi, Rwanda, Burundi, Tanzania, eastern South Africa Republic and Madagascar Island.

1.2. Model Discussion-Valid from 00Z of 02 March, 2012

The GFS model indicates series of lows and their associated trough across central and the South African countries. A low will form in the vicinity of northern DRC and CAR with a central MSLP of 1008mb at the beginning of the forecast period. It tends to fill with its central MSLP value increasing to 1010mb towards the end of the forecast period. Another low will form in the vicinity of the Republic of Southern Sudan with a central MSLP value of 1008mb at the beginning of the forecast period. It tends to deepen with its central MSLP value decreasing to 1005mb towards the end of the forecast period. A low will form in the vicinity of northern Ghana with a central MSLP value of 1008mb at the beginning of the forecast period. It tends to fill with its central MSLP value increasing to 1010mb towards the end of the forecast period.

The tropical cyclone '**Irina**' will be located in Mozambique Channel, off the coast of southern Mozambique Island with a central MSLP value of 988mb at the beginning of the forecast period. It tends to fill progressively and propagate southwestwards to reach the coast of southern Mozambique with a central MSLP value of 992mb through 24 to 48 hours.

The St. Helena High pressure system over southeast Atlantic Ocean with a central MSLP value of 1020mb at the beginning of the forecast period tends to strengthen with its central MSLP value increasing to 1024mb through 24 to 72 hours. It thereafter tends to weaken with its central MSLP value decreasing to 1020mb towards the end of the forecast period. The model locates the Mascarene high pressure system over southwestern Indian Ocean with a central MSLP of 1024mb at the beginning of the forecast period. It tends propagates southeastwards and weakens progressively to a central MSLP value of 1020mb towards the end of the forecast period.

At the 850hpa level, a lower tropospheric wind convergence is expected to be active from eastern Nigeria to northwestern Uganda passing through Cameroun, Central Africa Republic and northern DRC throughout the forecast period. A weak low level convergence zone is expected to form in the vicinity of eastern DRC, western Uganda, Rwanda and Burundi associated with the meridional arm of the ITCZ. It tends to remain stationary throughout the forecast period. Another convergence zone associated with the zonal arm of the ITCZ will be located over eastern Angola running across southern

Zambia up to western Malawi throughout the forecast period. Localized winds convergences associated with a mid-latitude trough are also expected to dominate the flow over central Angola and Namibia throughout the forecast period. Cyclonic circulations associated with tropical cyclone **Irina** are expected to dominate the flow over Mozambique Channel at the beginning the forecast period and western Mozambique / eastern Zimbabwe towards the end of the forecast period.

At 500hpa, an eastward propagating mid latitude trough is expected to dominate the flow over western Morocco with the low geo-potential value of 5800gpm at the beginning of forecast period. The northeast-southwest oriented trough is expected to propagate eastwards to reach central Algeria with a geo-potential value of 5720gpm towards the end of the forecast period.

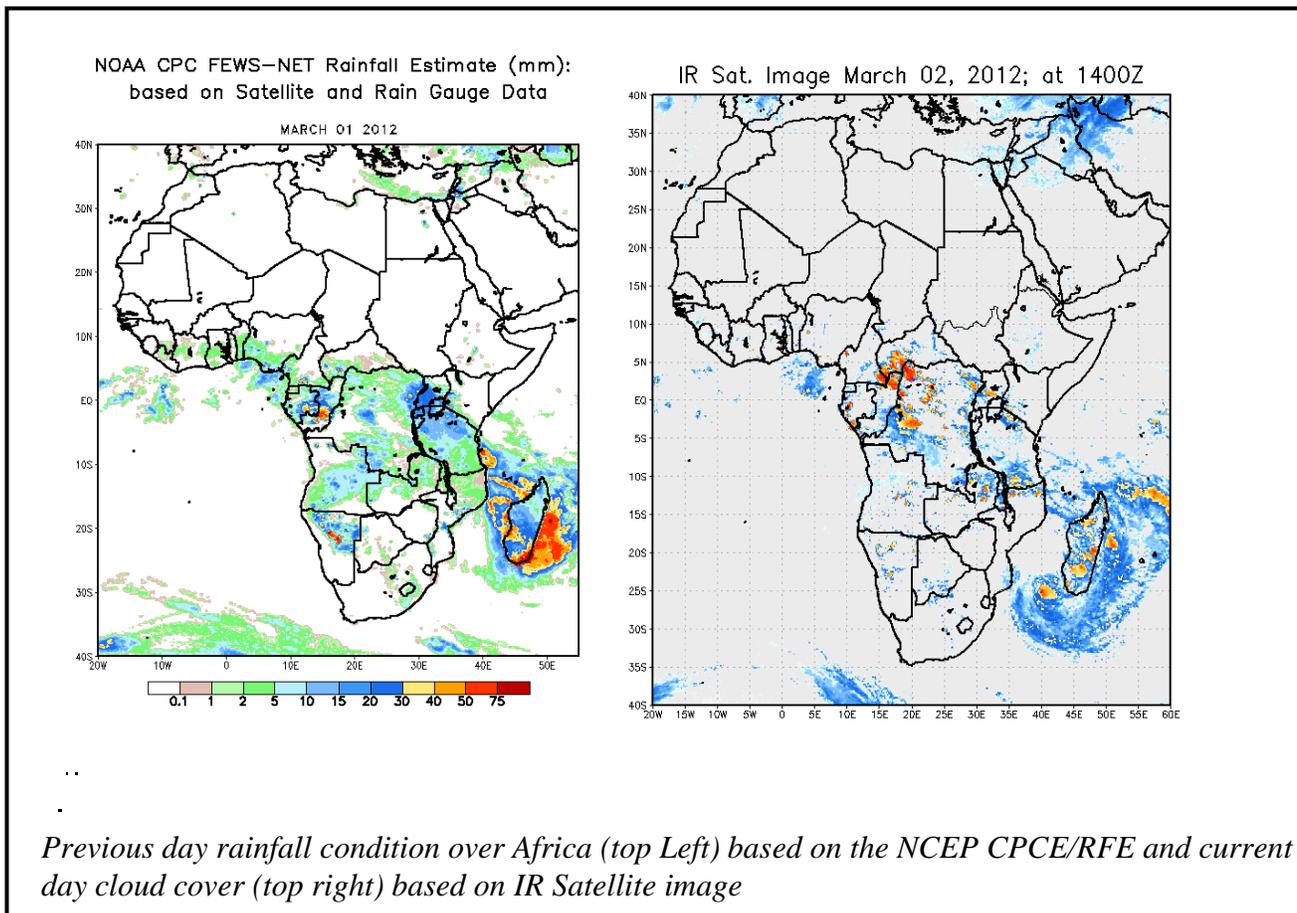
At 200mb, strong winds associated with Sub-Tropical Westerly Jet are expected to dominate the flow from northeastern Atlantic Ocean across northern Africa to Persian Gulf during the forecast period. The intensity of the jet is expected to exceed 130kts while moving to the east with its core values occasionally increasing to more than 150kts throughout the forecast period.

In the next five days, low level tropospheric wind convergences from eastern Nigeria to northwestern Uganda passing through Cameroun, Central Africa Republic and northern DRC, the low level convergence in the vicinity of eastern DRC, western Uganda, Rwanda and Burundi associated with the meridional arm of the ITCZ, the zonal arm of the ITCZ over eastern Angola running across southern Zambia up to western Malawi, cyclonic circulations associated with tropical cyclone Irina over Mozambique Channel and later over western Mozambique / eastern Zimbabwe and Localized winds convergences associated with a mid-latitude trough running along central Angola and Namibia are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over Angola, northern Namibia, Zambia, DRC, Mozambique, Malawi, Rwanda, Burundi, Tanzania, eastern South Africa Republic and Madagascar Island.

2.0. Previous and Current Day Weather Discussion over Africa (01 March – 02 March 2011)

2.1. Weather assessment for the previous day (01 March 2011): During the previous day, moderate to locally heavy rainfall was observed over Madagascar, Tanzania, Burundi, Rwanda, Uganda, western Kenya, northeastern Namibia, central Angola, northern Mozambique, southern CAR, southern Cameroun, Equatorial Guinea, Gabon, Congo and southeastern Nigeria.

2.2. Weather assessment for the current day (02 March 2011): Intense clouds are observed over western DRC, southwestern CAR, eastern Congo, western Uganda, northern Zambia, northern Malawi, southern Tanzania, northern Mozambique and Madagascar Island.



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