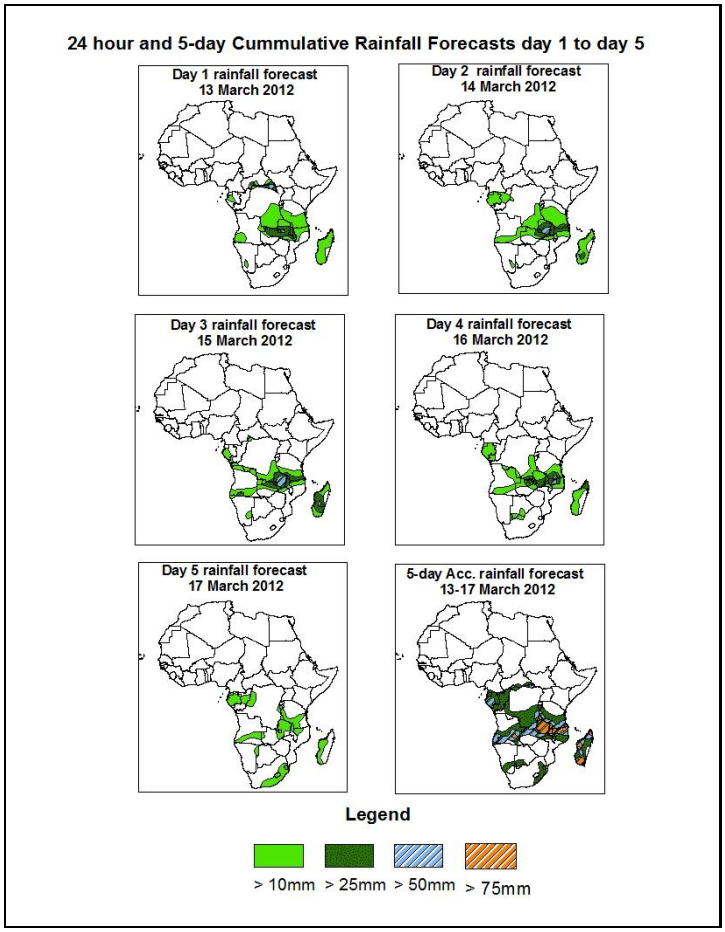
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 13 March – 06Z of 17 March 2012, (Issued at 16:00Z of 12 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 Gulf of Guinea to western Uganda passing through Equatorial Guinea, northern Gabon, northern Congo, southern Cameroun and northern DRC, the low level convergence in the vicinity of central Uganda, central Tanzania, eastern Zambia and Malawi associated with the meridional arm of the ITCZ, the zonal arm of the ITCZ over central Angola running across southern DRC, Zambia and Malawi up to northern Mozambique / southern Tanzania and cyclonic circulations over Mozambique Channel are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over Equatorial Guinea, Gabon, Congo, central southern Angola, northern Zambia, southern DRC, northern Mozambique, Malawi, Tanzania and Madagascar.

1.2. Model Discussion-Valid from 00Z of 12 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 the Republic of Southern Sudan and southern part of Republic of Sudan with a central MSLP value of 1005mb at the beginning of the forecast period. It tends to shift southwards to sit over southern part of Republic of Southern Sudan towards the end of the forecast period. **A** low will form in the vicinity of northern Botswana with a central MSLP of 1010mb towards the end of the forecast period. **A**nother low will form in the vicinity of southern Botswana with a central MSLP of 1010mb towards the end of the forecast period. **A** low will form in the vicinity of western Gabon with a central MSLP of 1005mb towards the end of the forecast period.

The St. Helena High pressure system is located over southeast Atlantic Ocean, near the southwest coast of South Africa with a central MSLP value of 1020mb at the beginning of the forecast period. It tends to strengthen with its central MSLP value increasing to 1025mb towards the end of the forecast period. **T**he model locates the Mascarene high pressure system over southwestern Indian Ocean with a central MSLP of 1020mb at the beginning of the forecast period. It tends to strengthen progressively with its central MSLP value increasing to 1030mb towards the end of the forecast period.

At the 850hpa level, a lower tropospheric wind convergence is expected to be active from Gulf of Guinea to western Uganda passing through Equatorial Guinea, northern Gabon, northern Congo, southern Cameroun and northern DRC. A low level convergence zone is expected to form in the vicinity of central Uganda, central Tanzania, eastern Zambia and Malawi associated with the meridional arm of the ITCZ. It tends to be stationary throughout the forecast period. Another convergence zone associated with the zonal arm of the ITCZ will be located over central Angola running across southern DRC, Zambia and Malawi up to northern Mozambique / southern Tanzania throughout the forecast period. Cyclonic circulations tend to dominate the flow over Mozambique Channel off the coast of northern Mozambique throughout the forecast period.

At 500hpa, an eastward propagating mid latitude trough is expected to dominate the flow over southern Africa with the low geo-potential value of 5760gpm throughout the forecast period.

At 200mb, strong winds associated with Sub-Tropical Westerly Jet are expected to dominate the flow from southern Algeria across central Libya and northern Egypt to Persian Gulf during the forecast period. The intensity of the jet is expected to exceed 100kts while moving to the east with its core values occasionally increasing to more than 160kts throughout the forecast period.

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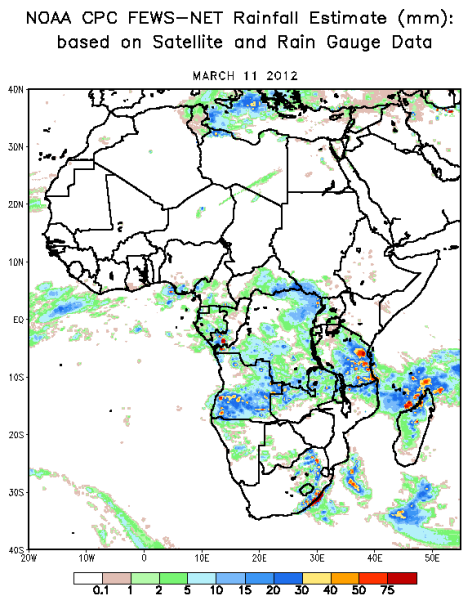
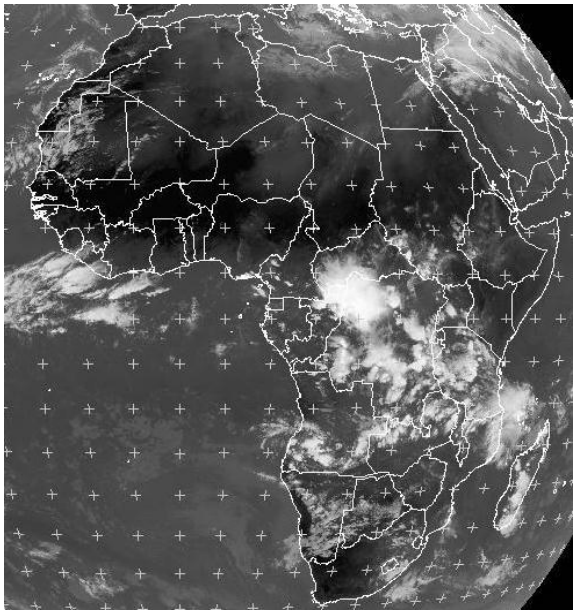
2.0. Previous and Current Day Weather Discussion over Africa (11 March – 12 March 2011)

2.1. Weather assessment for the previous day (*11 March* 2012): During the previous day, moderate to locally heavy rainfall was observed over eastern Tanzania, northern Mozambique, northern Zambia, southern Angola, northeastern DRC, southern Congo and northern Madagascar.

2.2. Weather assessment for the current day (*12 March 2011*): Intense clouds are observed over Tanzania, northeastern Mozambique, northern Zambia, southern Angola, northeastern Congo, southwestern CAR and southeastern Madagascar.



IR Satellite Image (valid 1500Z of 12 March 2012)



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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