

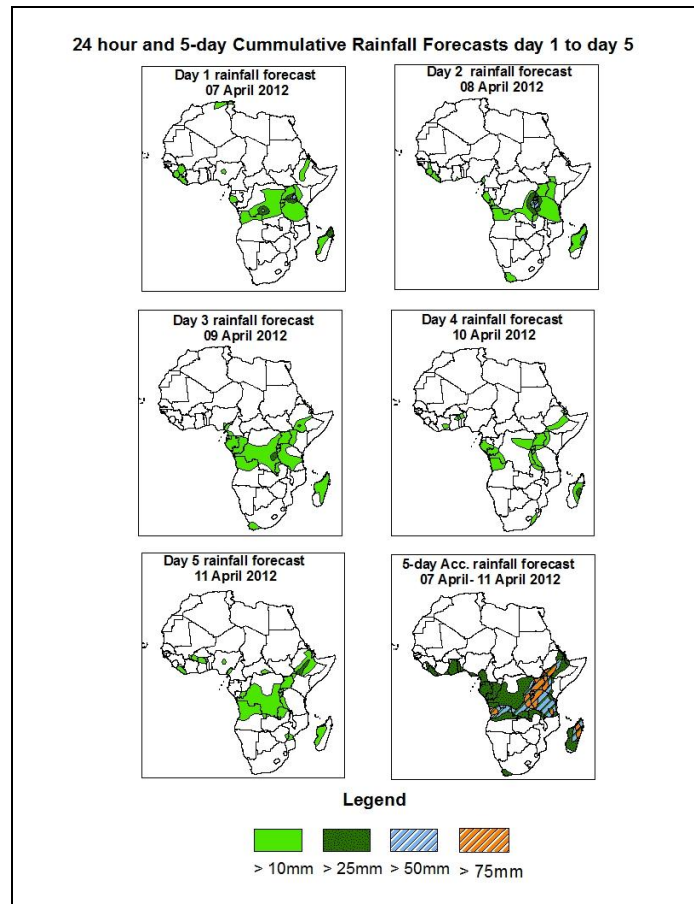


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 07 April – 06Z of 11 April 2012, (Issued at 15:00Z of 06 April 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, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.

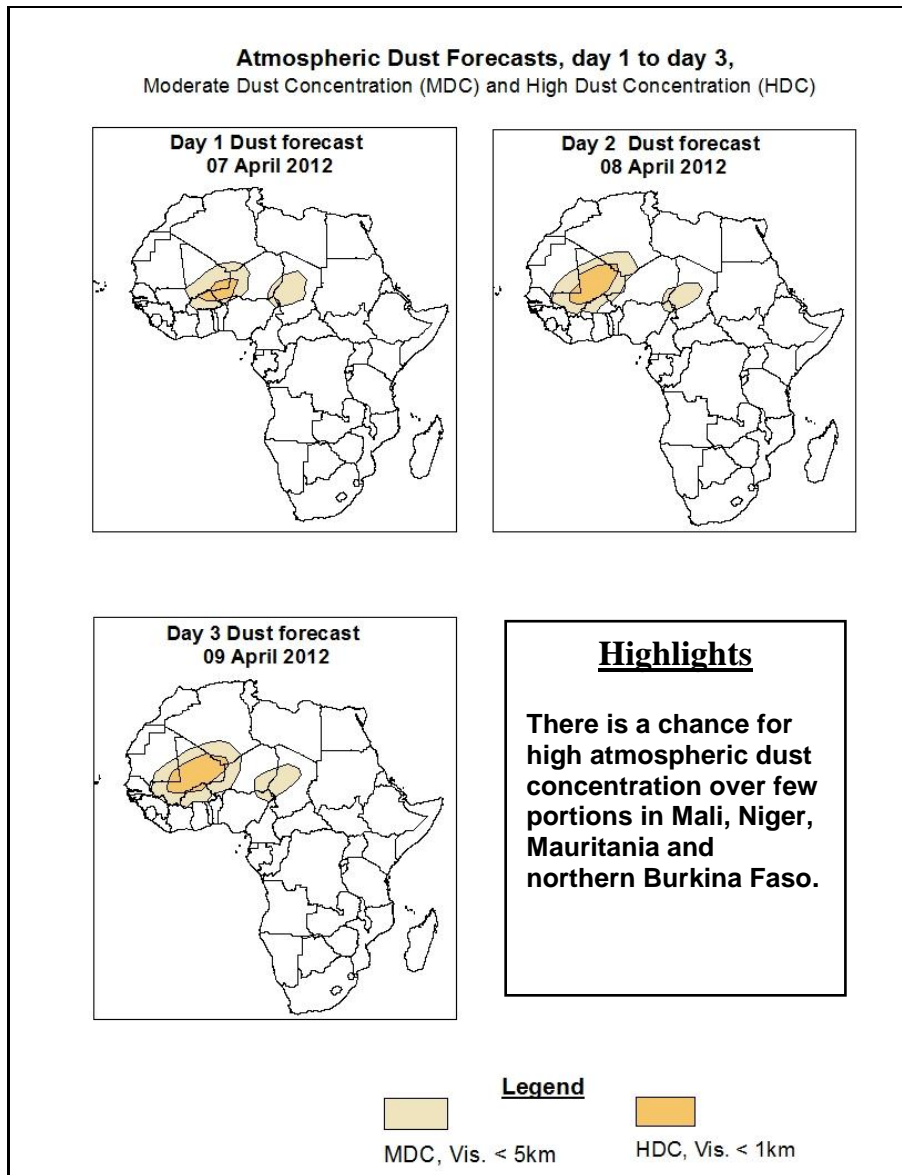


Summary

In the next five days, low level tropospheric wind convergences from northern Ghana to southern Sudan traversing Togo, Benin, central Nigeria, Cameroun, southern Chad and CAR, the low level weak convergence from northern Ethiopia to southern Ethiopia traversing central Ethiopia, lower tropospheric wind convergence from eastern DRC, western Uganda, Rwanda, Burundi and western Tanzania associated with the meridional arm of the ITCZ, a low level weak convergence zone associated with the zonal arm of ITCZ in the vicinity of central Tanzania and central DRC and the mid-latitude trough over eastern Egypt, central Eritrea and northern Ethiopia are expected to enhance rainfall in their respective regions. Hence, there is a chance of moderate to heavy rainfall over central Ethiopia, western Kenya, Uganda, Rwanda, Burundi, Tanzania, eastern and central DRC, northern Angola, southern Congo, Gabon, Equatorial Guinea and Madagascar Island.

1.2. Atmospheric Dust Forecasts

The NCEP/GFS, the UK Met Office, the ECMWF and the NCEP/WRF outputs are used to identify areas with high probability of dust concentration.



1.3. Model Discussion-Valid from 00Z of 06 April 2012

The GFS model indicates series of lows and their associated troughs across northern, central, eastern and western Africa countries.

A low will form in the vicinity of northern Cameroun, northeastern Nigeria, CAR and southern Chad with a central MSLP value of 1005mb at the beginning of the forecast period. It tends to maintain its central MSLP value throughout the end of the forecast period.

A low will form in the vicinity of the Republic of Southern Sudan and southwestern Sudan with a central MSLP value of 1005mb at the beginning of the forecast period. It tends to maintain its central MSLP value throughout the end of the forecast period.

A low will form in the vicinity of the northwestern Nigeria and northern Benin with a central MSLP value of 1005mb at the beginning of the forecast period. It tends to maintain its central MSLP value throughout the end of the forecast period.

The St. Helena High pressure system over southeast Atlantic Ocean with a central MSLP value of 1030mb at the beginning of the forecast period tends to weaken with its central MSLP value decreasing to 1025mb towards the end of the forecast period.

The model locates the Mascarene high pressure system over southwestern Indian Ocean with a central MSLP of 1030mb at the beginning of the forecast period. It tends to progressively steer eastwards while maintaining its central MSLP value throughout the forecast period.

At the 850hpa level, a lower tropospheric wind convergence is expected to be active from northern Ghana to southern Sudan traversing Togo, Benin, central Nigeria, Cameroun, southern Chad and CAR throughout the forecast period. A low level weak convergence zone is expected to form from northern Ethiopia to southern Ethiopia traversing central Ethiopia throughout the forecast period. Another lower tropospheric wind convergence is expected to be active in the vicinity of eastern DRC, western Uganda, Rwanda, Burundi and western Tanzania associated with the meridional arm of the ITCZ throughout the forecast period. A low level weak convergence zone

associated with the zonal arm of ITCZ is expected to form in the vicinity of central Tanzania and central DRC throughout the forecast period.

A northeast-southwest oriented, eastwards propagating mid-latitude trough with a geo-potential value of 5840gpm is expected to dominate the flow over eastern Egypt, central Eritrea and northern Ethiopia throughout the forecast period. **A** southwest-northeast oriented, eastwards propagating, mid-latitude trough with a geo-potential value of 5680gpm is expected to dominate the flow over western South Africa, central Namibia, western Botswana and southern Zambia at the beginning of the forecast period. It tends to propagate eastwards reaching Mozambique Channel with a geo-potential value of 5720gpm towards the end of the forecast period.

At 200mb, moderately strong winds associated with Sub-Tropical Westerly Jet are expected to dominate the flow from northern Atlantic Ocean across North Africa to eastern Egypt during the forecast period. The intensity of the jet is expected to exceed 80kts while moving to the east with its core values occasionally increasing to more than 120kts especially at the beginning of the forecast period.

In the next five days, low level tropospheric wind convergences from northern Ghana to southern Sudan traversing Togo, Benin, central Nigeria, Cameroun, southern Chad and CAR, the low level weak convergence from northern Ethiopia to southern Ethiopia traversing central Ethiopia, lower tropospheric wind convergence from eastern DRC, western Uganda, Rwanda, Burundi and western Tanzania associated with the meridional arm of the ITCZ, a low level weak convergence zone associated with the zonal arm of ITCZ in the vicinity of central Tanzania and central DRC and the mid-latitude trough over eastern Egypt, central Eritrea and northern Ethiopia are expected to enhance rainfall in their respective regions. Hence, there is a chance of moderate to heavy rainfall over central Ethiopia, western Kenya, Uganda, Rwanda, Burundi, Tanzania, eastern and central DRC, northern Angola, southern Congo, Gabon, Equatorial Guinea and Madagascar Island.

2.0. Previous and Current Day Weather Discussion over Africa

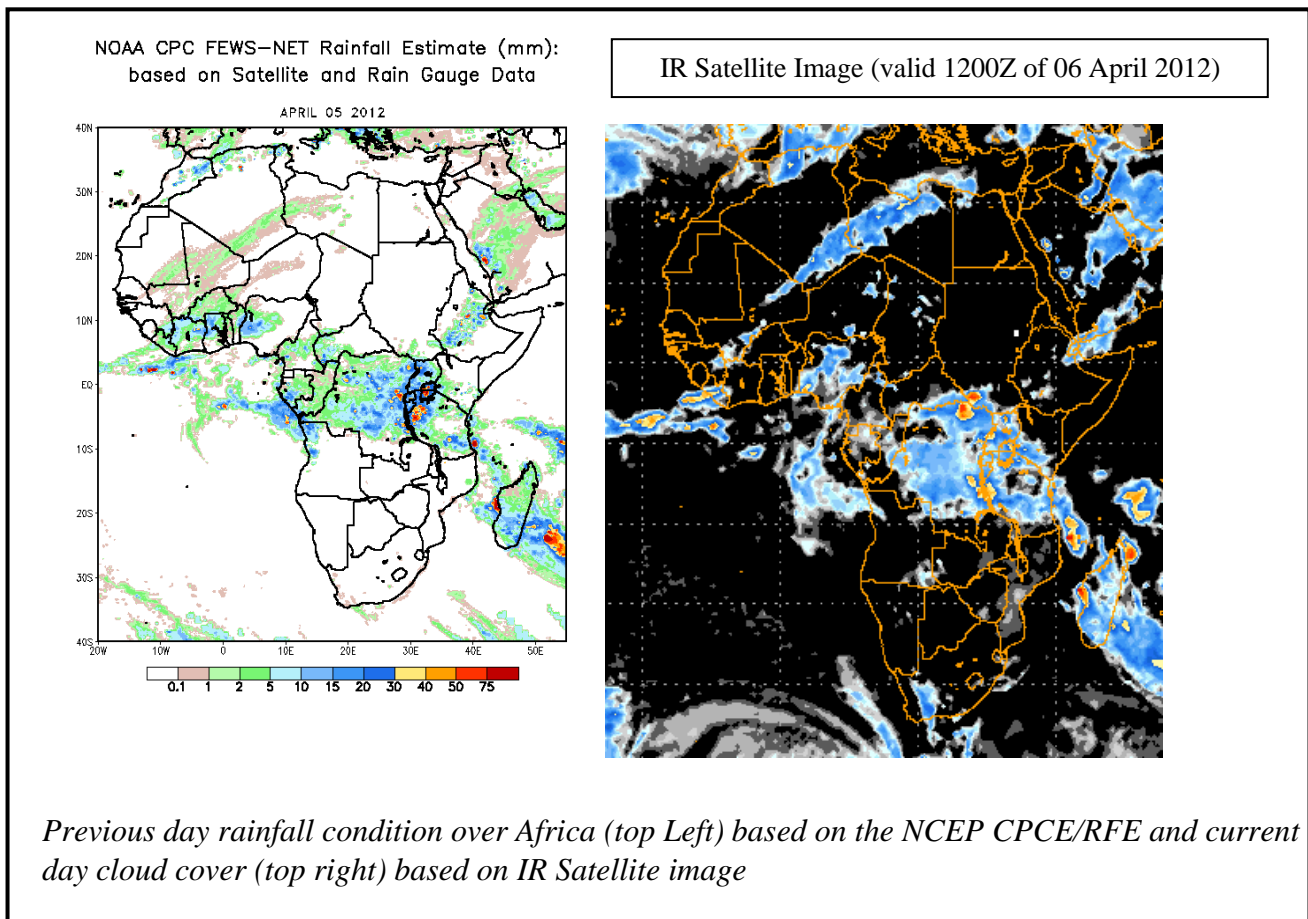
(05 April – 06 April 2012)

2.1. Weather assessment for the previous day (05 April 2012)

During the previous day, moderate to locally heavy rainfall was observed over Western Tanzania, Uganda, eastern DRC, Rwanda, Burundi and central Ethiopia.

2.2. Weather assessment for the current day (06 April 2012)

Intense clouds are observed over central Nigeria, DRC, Uganda, western Kenya, Tanzania and Madagascar.



Author: Ezekiel Njoroge, (Kenyan Meteorological Department / CPC-African Desk); ezekiel.njoroge@noaa.gov