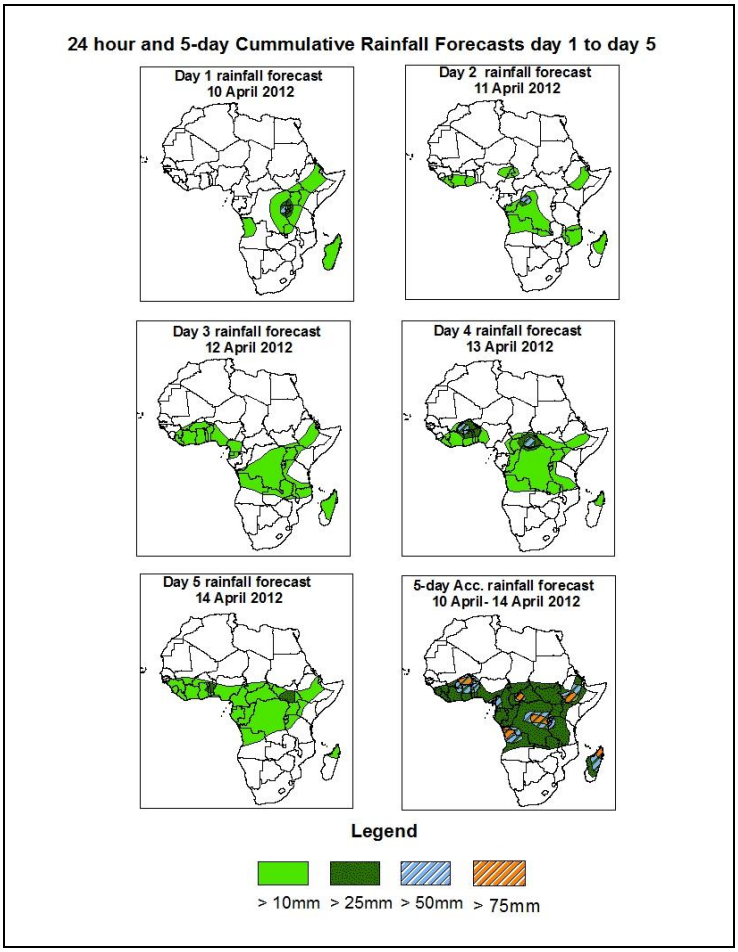
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 10 April – 06Z of 14 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.

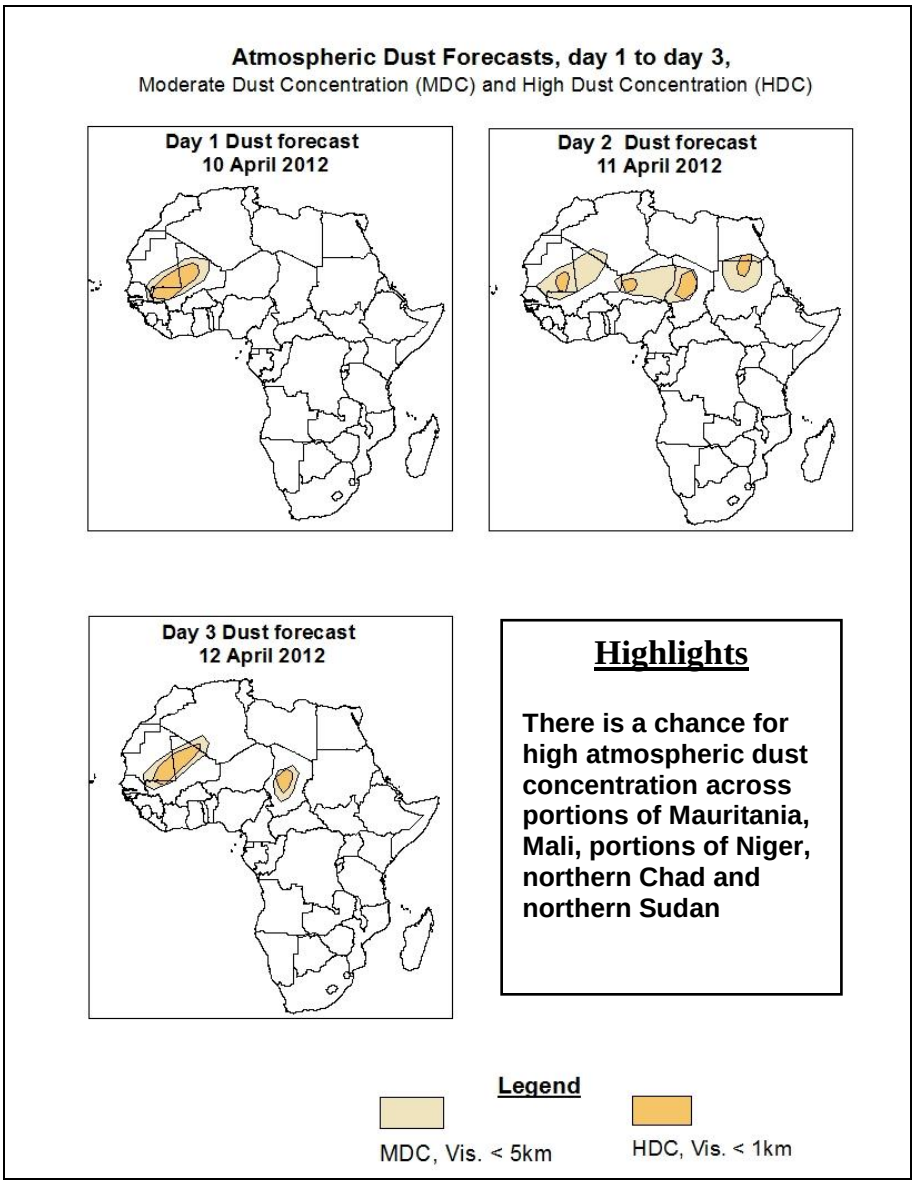


Summary

In the next five days, the West Africa monsoon flow with its convergence across the Gulf of Guinea, localized convergences across central Africa and the Lake Victoria region, wind convergences in Ethiopia and the interactions between mid-latitude and tropical systems across Madagascar are expected to enhance rainfall across their respective regions. In general, there is an increased chance for heavy rainfall over portions of Burkina Faso, Ghana, parts of CAR, northern Angola, the Lake Victoria region, Ethiopia and Madagascar.

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 09 April 2012

According to the GFS model an east-west oriented trough and its associated heat lows are expected to prevail in the region between Mali and Sudan.

A low with its associated near across Burkina Faso, southern Niger, northern Nigeria, northern Cameroon Chad and CAR is expected to maintain its central MSLP value of 1005mb through the end of the forecast period, slightly filling up along its western end.

Another low across Sudan and South Sudan Republic is also expected to maintain its means pressure value of 1005mb during 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 1025mb at the beginning of the forecast period tends to progressively steer eastwards while maintaining its central MSLP value throughout the forecast period.

The Mascarene high is expected to shift eastwards, giving a way to an interaction between a mid-latitude and tropical system across the Mozambique Channel during the first half of the forecast period.

At 925hpa level, strong dry wind (>35kts) is expected to prevail across portions of Mali and Mauritania through 24-hr. The wind tends to weaken through 48-hr and expected to re-strengthen through 72-hr. Portions of Niger, Chad and northern Sudan are also expected to have dry strong winds through 48-hr. The winds tend weaken across Niger and Sudan through 72-hr, while maintaining their intensity across Chad.

At the 850hpa level, a lower tropospheric wind convergence is expected to be active from northern Guinea to southern Sudan traversing southern Mali, Cote D'Ivoire, Ghana, 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. The convergence associated with the meridonial arm of the ITCZ is expected to remain west of its normal position through the forecast period.

At 500hpa level, eastwards propagating mid-latitude trough with geo-potential value of 5840gpm is expected to dominate the flow over eastern Egypt, central Eritrea and northern Ethiopia throughout the forecast period. Eastwards propagating, mid-latitude trough with a geo-potential value of 5684gpm is expected to dominate the flow over southern African countries as it propagates eastwards reaching the longitude of Madagascar towards end of the forecast period

At 200mb, winds with moderate wind speed, associated with Sub-Tropical Westerly Jet are expected to dominate the flow from northeastern 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.

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

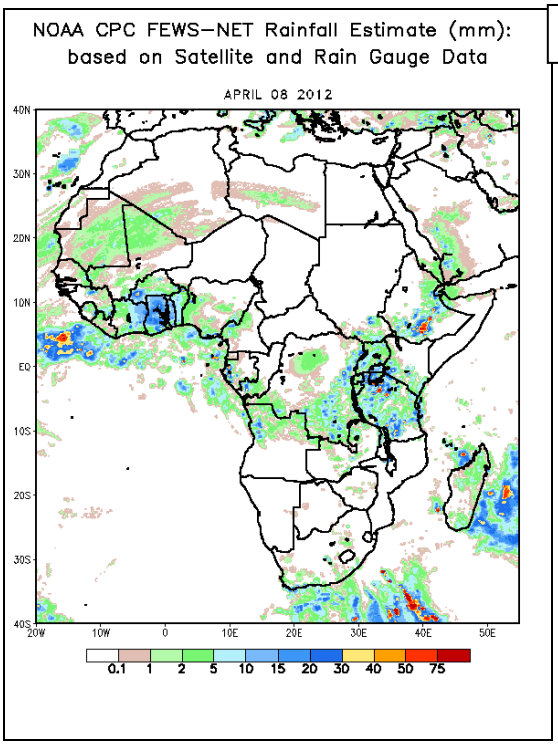
(08 April – 09April 2012)

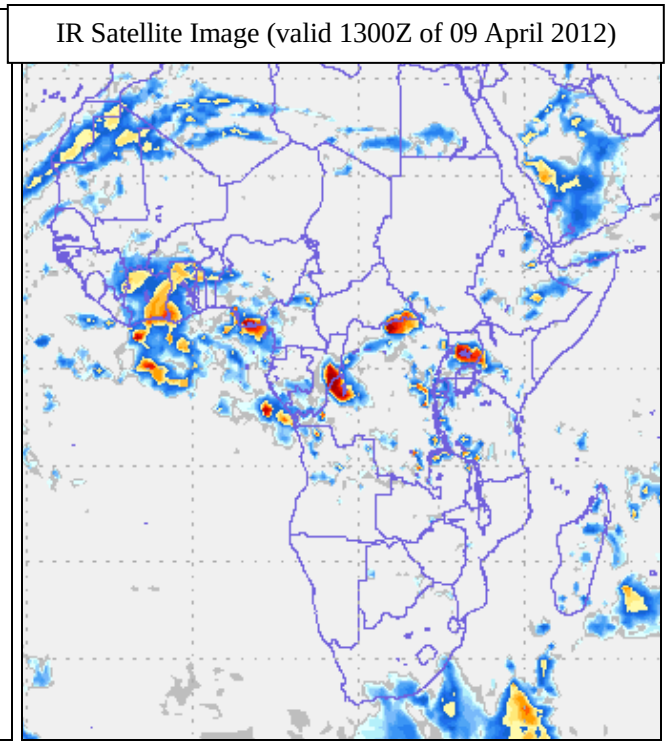
2.1. Weather assessment for the previous day (08 April 2012)

During the previous day, moderate to locally heavy rainfall was observed across portions of Cote D'Ivoire, western Burkina Faso, Ghana, eastern DRC, portions of Tanzania, Ethiopia and northwestern Angola.

2.2. Weather assessment for the current day (09 April 2012)

Intense clouds are observed across portions of the Gulf of Guinea and central African countries and over Uganda.





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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