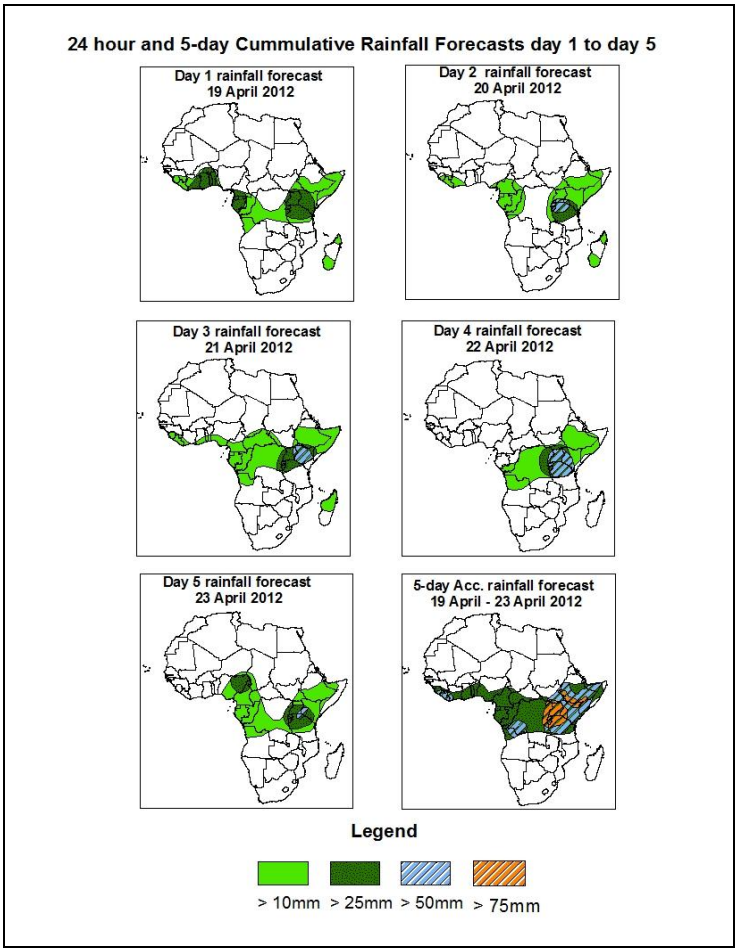
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 19 April – 06Z of 23 April 2012, (Issued at 15:00Z of 18 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.

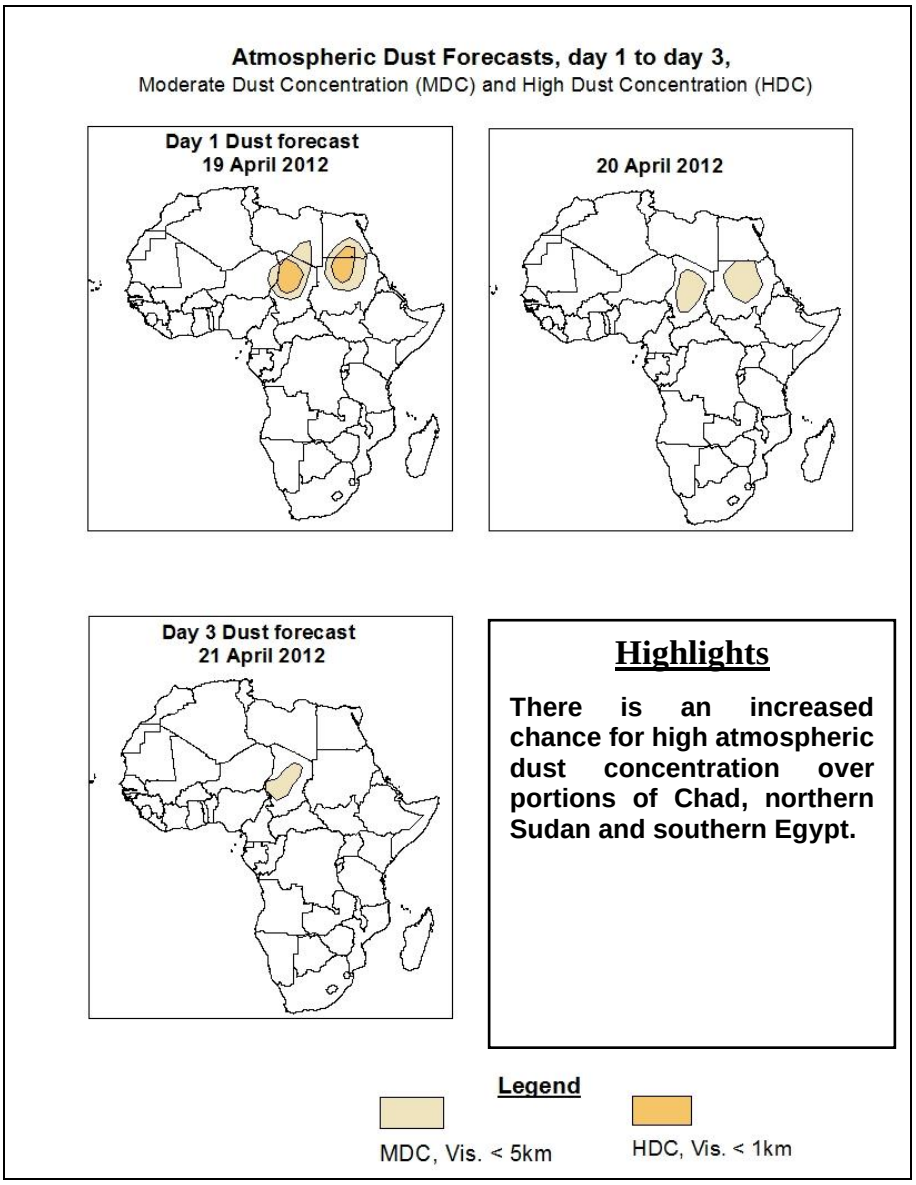


Summary

In the next five days, localized lower level convergences in the Gulf of Guinea region, convergences associated with Congo Air Mass, and seasonal wind convergences in southern Ethiopia are expected to enhance rainfall across their respective regions. In general, there is an increased chance for heavy rainfall over portions of southern Ethiopia, eastern DRC, Uganda, Kenya portions of Tanzania, Rwanda and Burundi.

1.2. Atmospheric Dust Forecasts: Valid 19 – 21 April 2012

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 18 April 2012

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

A low near northwestern Nigeria is expected to deepen slightly, with its central pressure value changing from 1007mb in 24 hours to 1005mb in 120 hours. Another low over southern Chad is expected to maintain it central pressure value of 1003mb, with slight deepening tendency towards end of the forecast period. The low across Sudan and South Sudan Republic is expected to have central pressure value of 1002mb throughout the forecast period.

The St. Helena High pressure system over southeast Atlantic Ocean with a central MSLP value of 1025 at the beginning of the forecast period is expected to intensify to 1035mb towards the end of the forecast period.

The Mascarene high pressure system over southwestern Indian Ocean is expected to shift east of its normal position, while giving way to the interactions between mid-latitude and tropical systems across the Mozambique Channel during the forecast period.

At 925hpa level, zone of strong and dry northerly wind across central Chad and the Egypt/Sudan border is expected to weaken gradually through 24 to 72 hours with wind speed values decreasing below 35kts.

Strong and moist southerly winds are expected to prevail across coastal Mozambique and Tanzania during the forecast period.

At the 850hpa level, a lower tropospheric wind convergence associated with the West African Monsoon is expected to remain weak across the Gulf of Guinea region during the forecast period. A zone of lower level convergence is expected to prevail over southern Sudan and portions of Ethiopia throughout the forecast period. The convergence associated with the meridonial arm of the ITCZ is expected remain active across eastern DRC and the Lake Victoria region during the forecast period.

At 500hpa level, the wavy pattern in the mid-tropospheric flow across northern Africa and the neighboring areas tends to become zonal during the forecast period. A mid-latitude trough is expected dominate the flow across southeastern Africa and the Mozambique Channel through 24 to 72 hours. The trough is expected to retrograde and merge with another mid-latitude trough across southern Africa through 96 to 120 hours.

At 200mb, the Sub-Tropical Westerly Jet northeastern Atlantic Ocean, North Africa and eastern Egypt is expected to weaken gradually, with wind speed values dropping below 100kts towards end of the forecast period.

In the next five days, localized lower level convergences in the Gulf of Guinea region, convergences associated with Congo Air Mass, and seasonal wind convergences in southern Ethiopia are expected to enhance rainfall across their respective regions. In general, there is an increased chance for heavy rainfall over portions of southern Ethiopia, eastern DRC, Uganda, Kenya portions of Tanzania, Rwanda and Burundi.

There is an increased chance for high atmospheric dust concentration over portions of Chad, northern Sudan and southern Egypt.

2.0. Previous and Current Day Weather Discussion over Africa

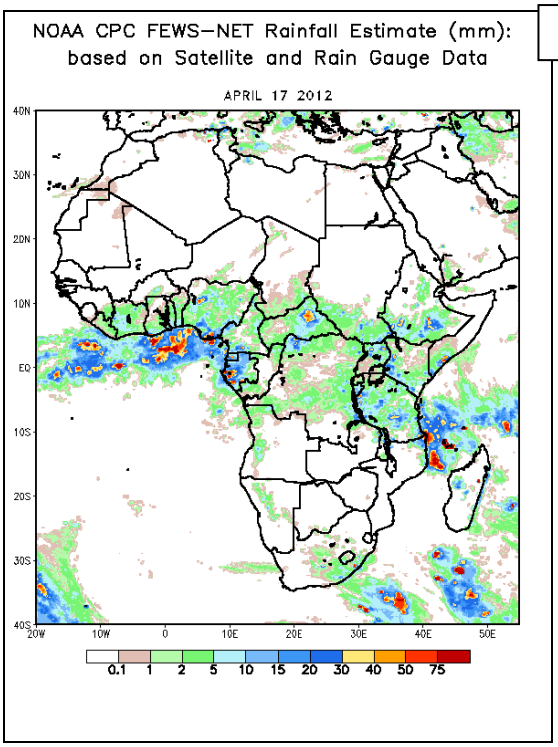
(17 April – 18 April 2012)

2.1. Weather assessment for the previous day (17 April 2012)

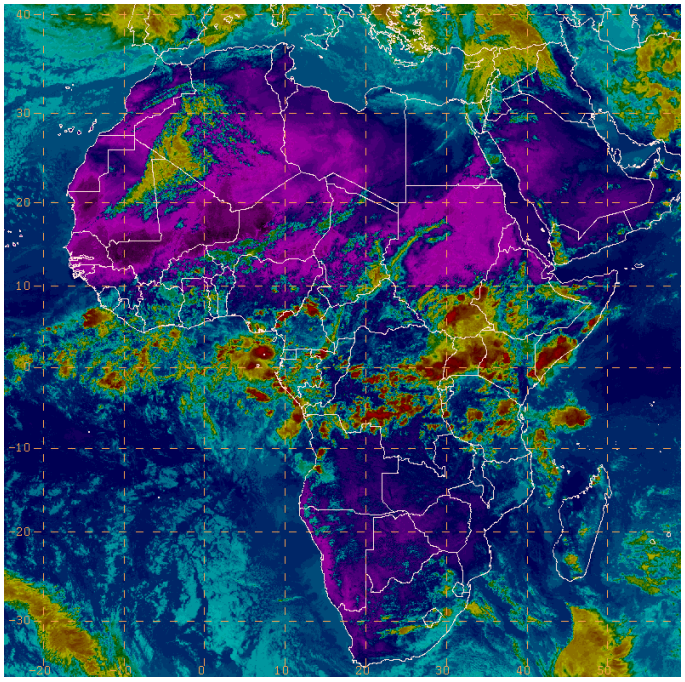
During the previous day, moderate to locally heavy rainfall was observed across portions of Nigeria, southern Cameroon, CAR, Gabon, Uganda, local areas in DRC, portions of Ethiopia and Kenya, and Tanzania.

2.2. Weather assessment for the current day (18 April 2012)

Intense clouds are observed across southern Ethiopia, South Sudan Republic, Uganda, Kenya, southern Somalia, Kenya, portions of Tanzania, DRC, Gabon, Equatorial Guinea, and portions of southern Nigeria.



IR Satellite Image (valid 1422Z of 18 April 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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