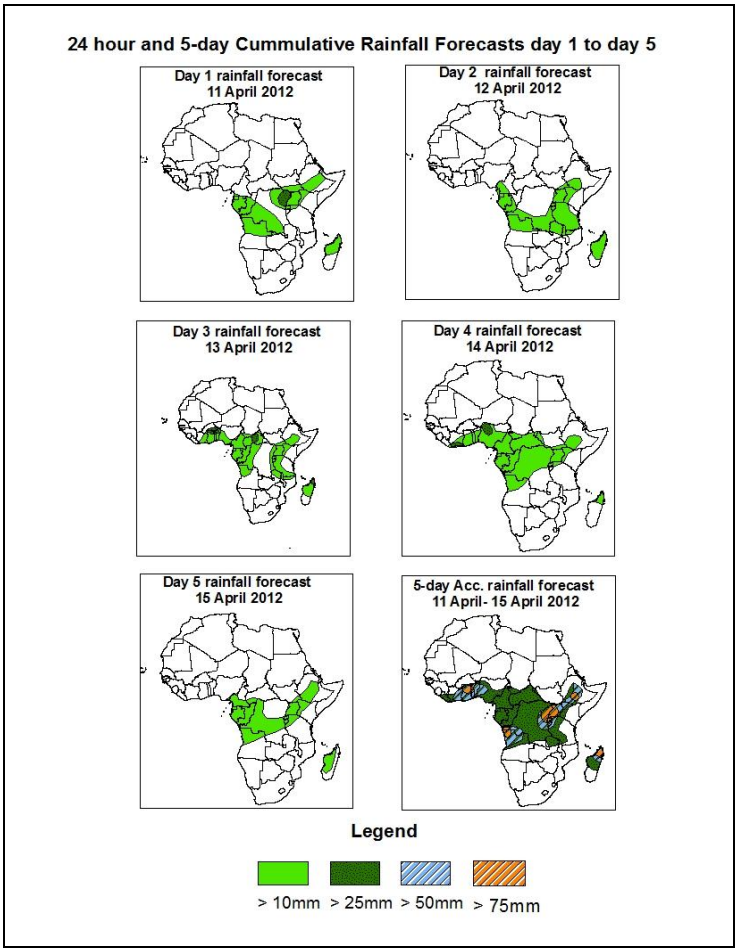
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 11 April – 06Z of 15 April 2012, (Issued at 11:00Z of 10 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.

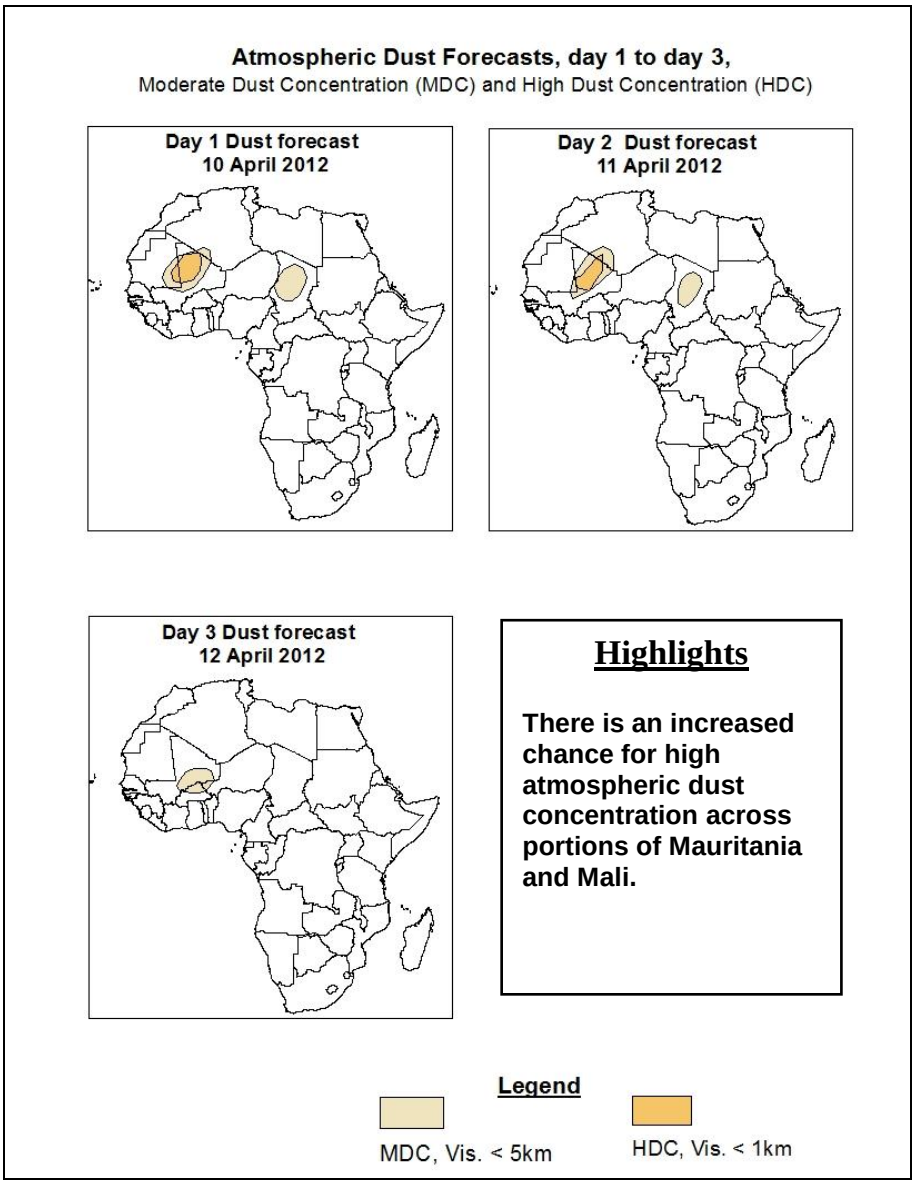


Summary

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 the Gulf of Guinea region, 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 10 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 eastern Mali Faso and Sudan.

A low with its associated trough across eastern Mali, Burkina Faso, southern Niger and northwestern Nigeria is expected to maintain its central MSLP value of 1005mb during the forecast period. Another trough across northeastern Nigeria Sudan is also expected to maintain its mean 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 is expected to move towards South Africa while intensifying through 24 to 72 hours. Another high pressure system with central pressure value of 1030 is expected to take the place of the previous high pressure system through 96 to 120 hours.

The Mascarene high pressure system over southwestern Indian Ocean 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. During 96 to 120 hours, the high from the southern Atlantic Ocean is expected to move towards southwestern Indian Ocean and take the position of the Mascarene high pressure system. This high is expected to intensify through 96 to 120 hours while extending its ridge across southeastern Africa.

At 925hpa level, zone of strong and dry wind (>35kts) across portions of northern Mali and Mauritania is expected to shift eastwards into the Mali – Burkina Faso border through 24 to 72 hours. Another zone of strong and dry wind is expected to prevail over north central Chad through 24 to 48 hours and tends to weaken by 72 hours.

At the 850hpa level, a lower tropospheric wind convergence associated with the West African Monsoon is expected to remain active in the region between Cote d'Ivoire and northern Cameroon traversing, Cote D'Ivoire, Ghana, Togo, Benin and Nigeria during the forecast period. Another zone of lower level convergence is expected to prevail over southern Chad, southern Sudan and portions of 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 along its southern extent is expected to dominate the flow over northeastern Africa throughout the forecast period. Eastwards propagating, mid-latitude trough with a geo-potential value of 5684gpm along its northern extent 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 strong 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 120kts while moving to the east with its core values increasing to more than 140kts towards end of the forecast period.

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 the Gulf of Guinea region, northern Angola, the Lake Victoria region, Ethiopia and Madagascar.

There is also an increased chance for high atmospheric dust concentration across portions of Mauritania and northern Mali.

2.0. Previous and Current Day Weather Discussion over Africa

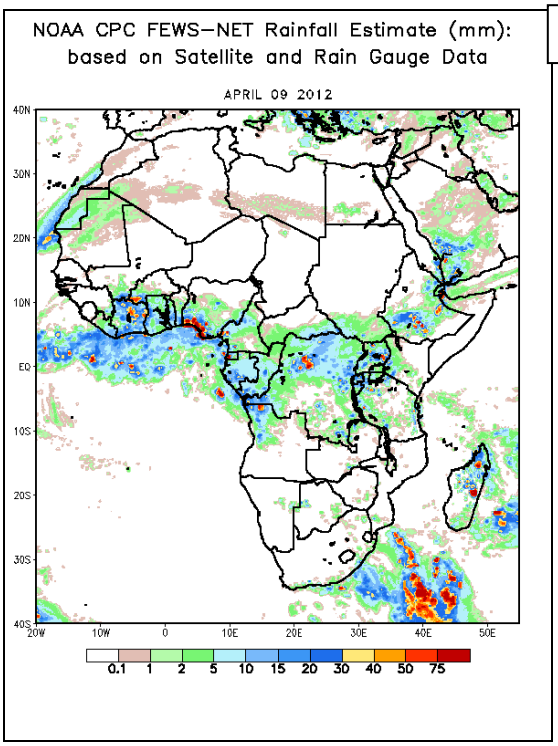
(09 April – 10 April 2012)

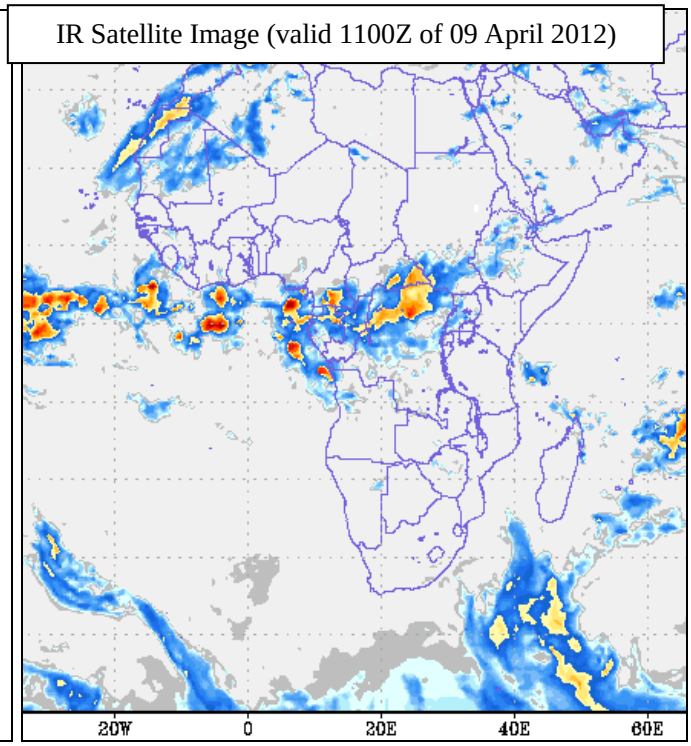
2.1. Weather assessment for the previous day (09 April 2012)

During the previous day, moderate to locally heavy rainfall was observed across portions of Cote D'Ivoire, western Burkina Faso, southern Nigeria, western Cameroon, Gabon, DRC, Uganda, northern Angola, Ethiopia and Madagascar.

2.2. Weather assessment for the current day (10 April 2012)

Intense clouds are observed across portions of central African countries.





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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