

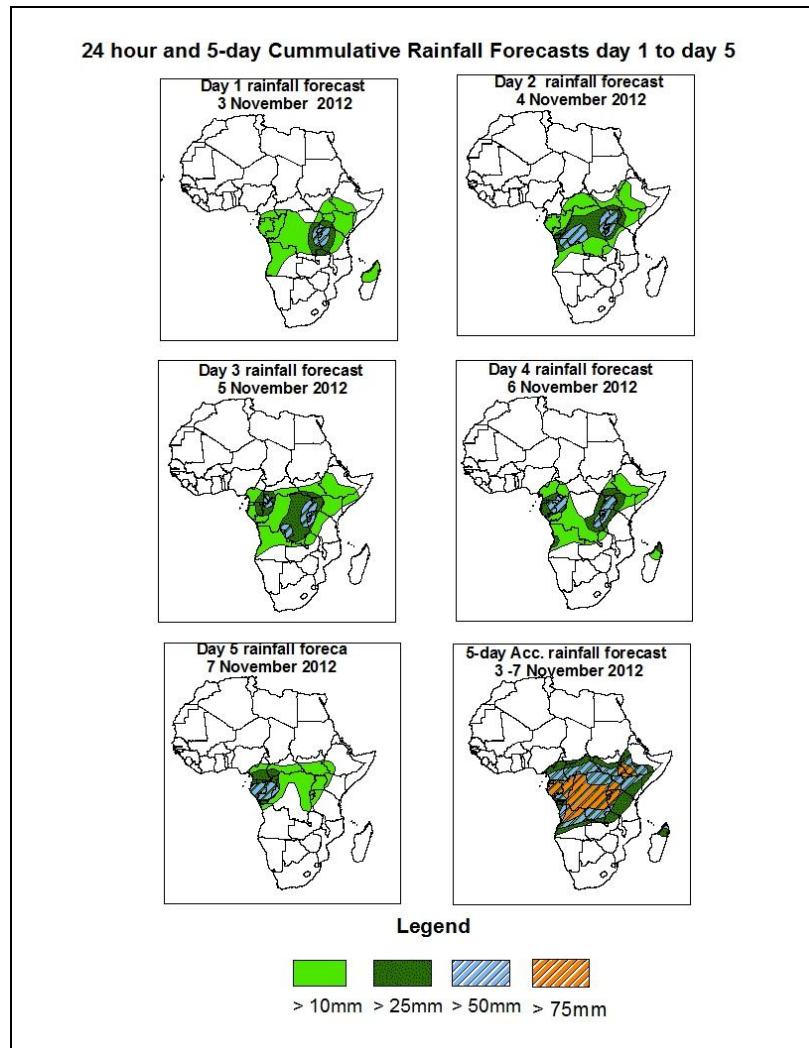


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of 03 November – 06Z of 07 November 2012. (Issued at 13:00Z of 02 November 2012)

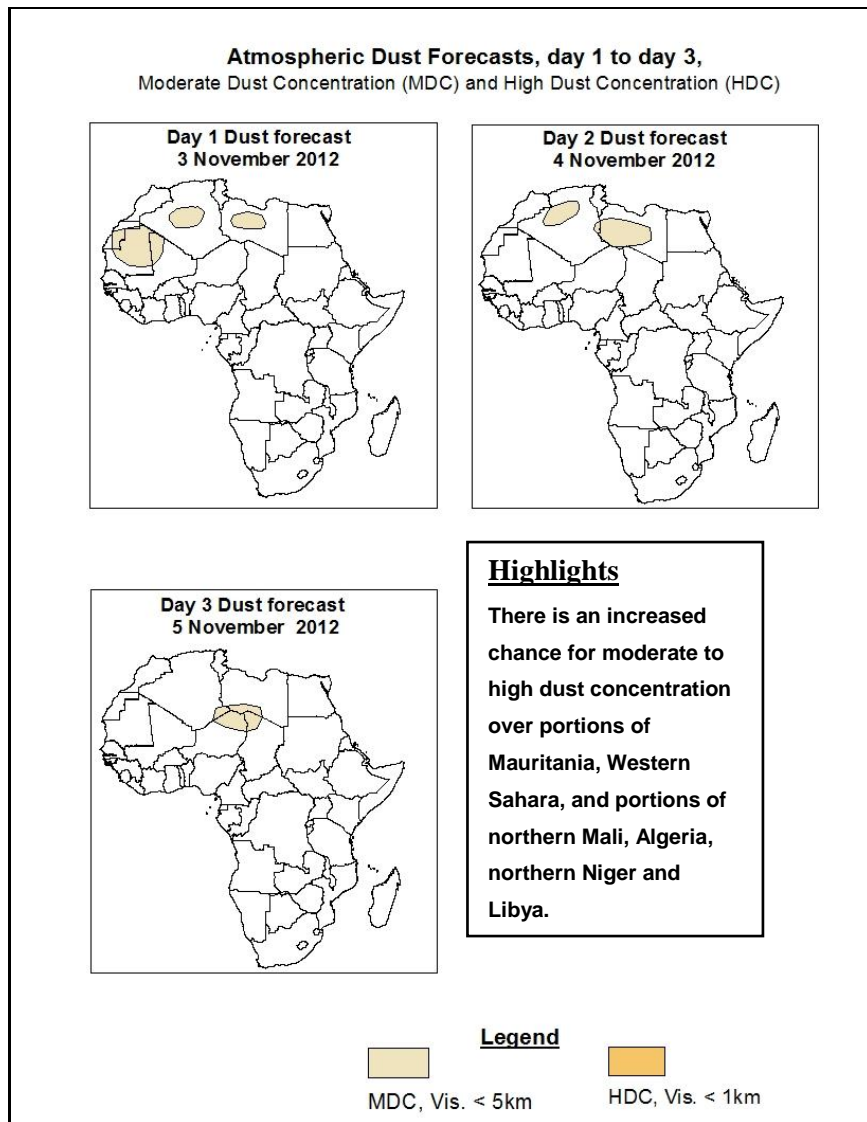
### 1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, seasonal low level wind convergences in the Congo Air Boundary (CAB) region, localized wind convergences over western Equatorial Africa and Angola, and interaction between mid-latitude and tropical systems across Southeast Africa are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for heavy rainfall over Gabon, Angola, DRC, Uganda, western and northern Kenya, western Tanzania, Rwanda, Burundi, portions of Ethiopia, northern Zambia, and local areas in Madagascar.



## 1.2. Model Discussion: Valid from 00Z of 02 November 2012

*Model comparison (Valid from 00Z; 02 November 2012) shows all the three models are in general agreement in terms of depicting the gradual strengthening of sub-tropical high pressure systems of the southern hemisphere (St. Helena and Mascarene). However, the models show differences in terms of central pressure values.*

The St. Helena High pressure system over southeast Atlantic Ocean is expected to remain weak with its central pressure value decreasing from about 1018hpa to 1016hpa through 24 to 72 hours, and it tends to strengthen to a central pressure value of 1028hpa towards end of the forecast period according to the ECMWF model, it tends to maintain central pressure value of 1019hpa through 24 to 72 hours, and its central pressure value tends to increase to 1029hpa according to the UKMET model and tends

to increase to central pressure value of 1027hpa according to the GFS model towards end of the forecast period.

The Mascarene high pressure system over southwestern Indian Ocean is expected to weaken gradually with its central pressure value decreasing from 1024hpa to 1021hpa through 24 to 72 hours and it tends to re-strengthen with its central pressure value increasing from to 1029hpa towards the end of the forecast period according to the ECMWF model. Similarly, the central pressure values tend to increase from 1022hpa in 72 hours to 1030hpa in 120 hours according to the UKMET model and from 1022hpa in 72 hours to 1029hpa in 120hours according to the GFS model.

The seasonal lows across the southern African countries are expected to deepen gradually with their central pressure value decreasing from about 1010hpa to about 1006hpa according through 24 to 120 hours according to all the three models.

At the 850hpa level, the seasonal lower level wind convergence is expected to remain active in the region between Southwest Ethiopia and western Tanzania, across Uganda and western Kenya as well as eastern DRC through 24 to 48 hours. The convergence tends to weaken gradually, while shifting westward through 72 to 120 hours. Localized wind convergences are also expected to dominate the flow over western parts of Equatorial Africa, Angola and Namibia during the forecast period.

At 500hpa, a trough in the mid-latitude westerlies is expected to deepen gradually across Libya and Egypt, while slightly moving eastwards through 24 to 120hours. A trough associated with mid-latitude frontal system is also expected to propagate across the Mozambique Channel and Madagascar during the forecast period.

At 200hpa, the northern hemisphere sub-tropical westerly jet is expected to remain weak within the extent of the African domain, while a core of strong wind, associated with the southern hemisphere sub-tropical westerly jet is expected to propagate across the southern tip of South Africa during the forecast period.

In the next five days, seasonal low level wind convergences in the Congo Air Boundary (CAB) region, localized wind convergences over western Equatorial Africa and Angola, and interaction between mid-latitude and tropical systems across Southeast Africa are

expected to enhance rainfall in their respective regions. Thus, there is an increased chance for heavy rainfall over Gabon, Angola, DRC, Uganda, Rwanda, Burundi, western and northern Kenya, western Tanzania, portions of Ethiopia, northern Zambia, and local areas in Madagascar.

## 2.0. Previous and Current Day Weather Discussion over Africa

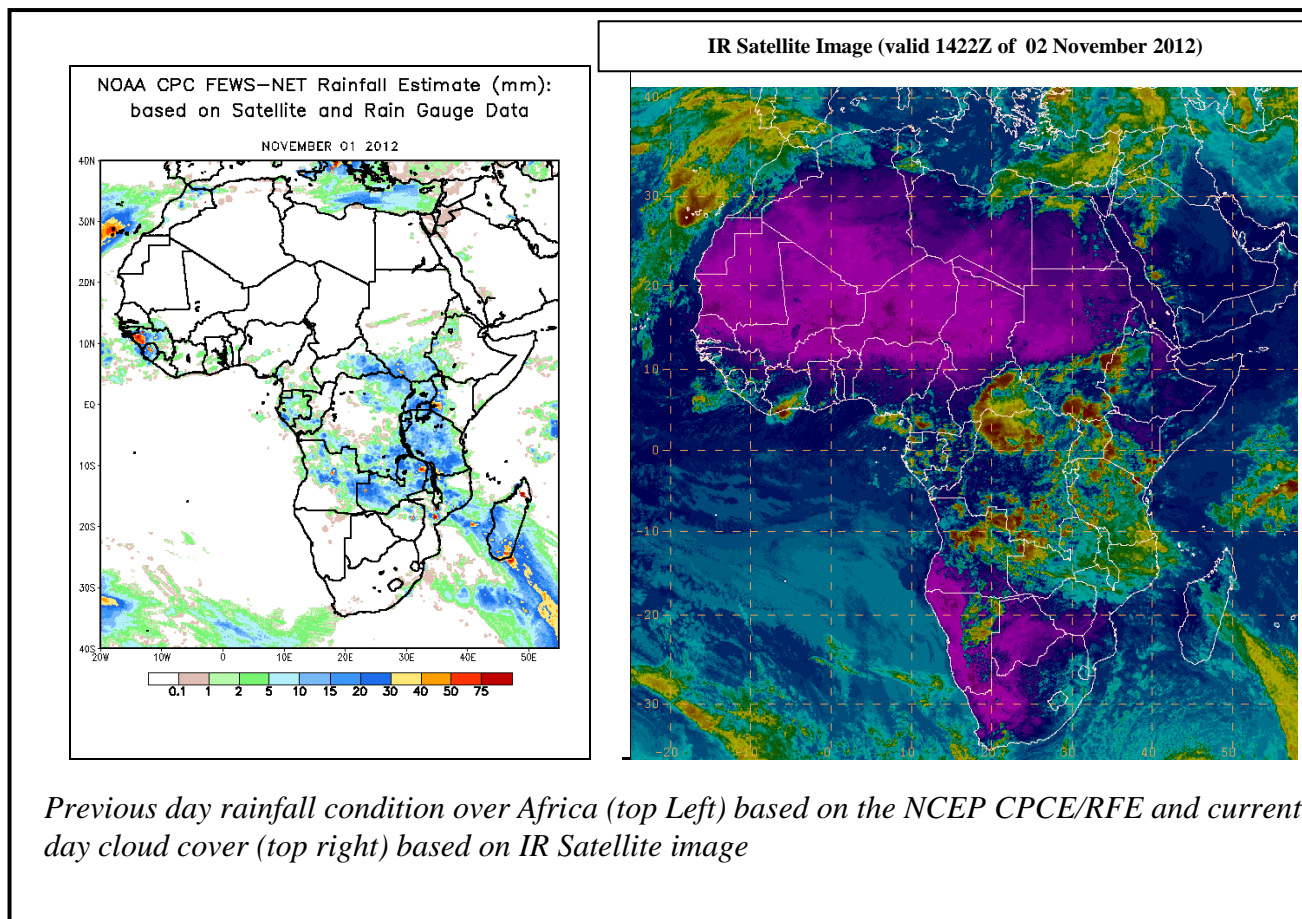
(01 November 2012 – 02 November 2012)

### 2.1. Weather assessment for the previous day (01 November 2012)

During the previous day, moderate to locally heavy rainfall was observed over Guinea-Conakry, Sierra Leone, portions of Angola, CAR, South Sudan, parts of DRC, southern Uganda, western Kenya, Tanzania, Zambia, central and northern Mozambique, and portions of Madagascar.

### 2.2. Weather assessment for the current day (02 November 2012)

Intense clouds are observed over southern Cote d'Ivoire, southern Cameroon, local areas in Gabon, CAR, many parts of DRC, northern Angola, portions of Namibia, South Sudan, western Ethiopia, Uganda, portions of Kenya, Tanzania, northern Zambia and northern Mozambique.



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