

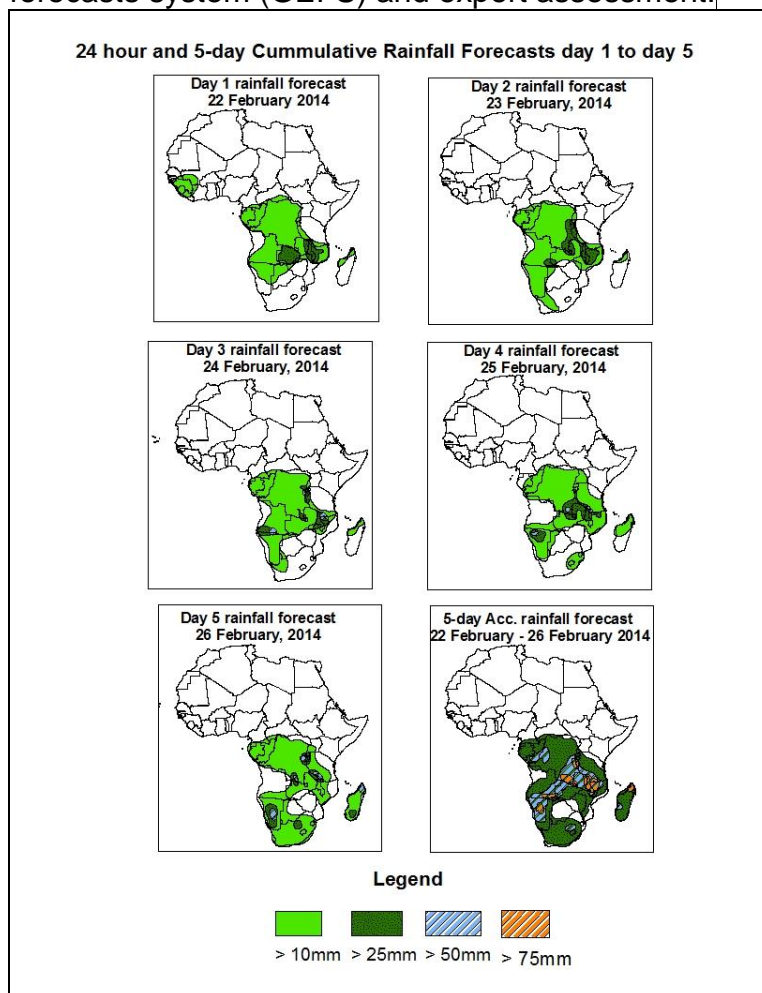


## NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

### 1.0. Rainfall Forecast: Valid 06Z of 22 February – 06Z of 26 February, 2014. (Issued at 1600Z of 21 February 2014)

#### 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/GFS and UK Met Office NWP outputs, and the NCEP global ensemble forecasts system (GEFS) and expert assessment.



#### Summary

In the coming five days, lower-tropospheric wind convergences across Central and southern Africa countries are expected to persist and hence continued heavy to moderate rains over Angola, Gabon, Central Africa Republic, Congo Brazzaville, Uganda Tanzania, Namibia, Zambia, Malawi, South African and DRC with continued dry spell over South Mozambique, Zimbabwe and Botswana .

## 1.2. Atmospheric Dust Forecasts: Valid 22 February - 24 February 2014

**Atmospheric Dust Forecasts, day 1 to day 3,**  
Moderate Dust Concentration (MDC) and High Dust Concentration (HDC)

**Day 1 Dust forecast**  
22 February 2014



**Day 2 Dust forecast**  
23 February 2014



**Day 3 Dust forecast**  
24 February 2014



### Highlights

There is an increased chance for moderate to high dust concentration over eastern Niger and Chad.

### Legend



MDC, Vis. < 5km



HDC, Vis. < 1km

### **1.3. Model Discussion: Valid from 00Z of 21 February 2014**

*Model comparison (GFS and UKMET Valid from 00Z: 21 February 2014) shows general agreement in terms of depicting positions of the northern and southern hemisphere sub-tropical highs, while they showed slight differences in depicting their intensity.*

The St. Helena High Pressure System is expected to slightly intensify in the initial forecast period and also relax towards the end of the period. Its central pressure value is expected to vary between from the initial 1023 hpa to 1029 hpa and then to about 1018. This is according to both the UKMET and GFS model. This will result in some occasional rains over Angola, Namibia and Parts of South Africa.

According to both the GFS model and the UKMET model, the Mascarene high pressure is expected to relax mainly due to the southward movement of the tropical with its central pressure value changing from 1021 Hpa to 1016Hpa. The cyclone is expected to divert much of the rains away from Zimbabwe, South Mozambique, Tanzania and Kenya during much of the forecast period.

At 850hpa level, Moderate to strong convergence is expected over Democratic Republic of Congo (DRC), Cameroon, Congo Brazzaville, Central Africa Republic (CAR), Namibia, Uganda, Zambia, Angola, Tanzania, Malawi, Mozambique, South Africa and Madagascar.

At 500hpa level, troughs associated with mid-latitude frontal system starting over Algeria and propagating eastward is minimal in the initial period of the forecast. These interactions are expected to result to light rains over Mauritania and Mali during the initial period of forecast.

At 200hpa level, the sub-tropical Westerly Jet mainly (with wind speed >70 knots and <150 knots), extending between Senegal, Mauritania, Algeria, and Egypt, and across, Mali, Niger, Tunisia, North Sudan and Libya persist during the forecast period. In the south, the sub-tropical westerly Jet (with 90-110 kts wind speed) is expected over South Africa and Indian Ocean.

In the coming five days, lower-tropospheric wind convergences across Central and southern Africa countries are expected to persist and hence continued heavy to moderate rains over Angola, Gabon, Central Africa Republic, Congo Brazzaville, Uganda Tanzania, Namibia, Zambia, Malawi, South African and DRC with continued dry spell over South Mozambique, Zimbabwe and Botswana .

## **2.0. Previous and Current Day Weather Discussion over Africa (20 February 2014 – 21 February 2014)**

### **2.1. Weather assessment for the previous day (20 February 2014)**

During the previous day, moderate to heavy rainfall was observed over local areas in Congo, Angola, Uganda, Tanzania, DRC, and portions of Zambia, many parts of Tanzania, the Mozambique Channel, and northern Madagascar.

### **2.2. Weather assessment for the current day (21 February 2014)**

Intense clouds were observed over parts of Gulf of Guinea, Central and East Africa countries as well as Madagascar.

