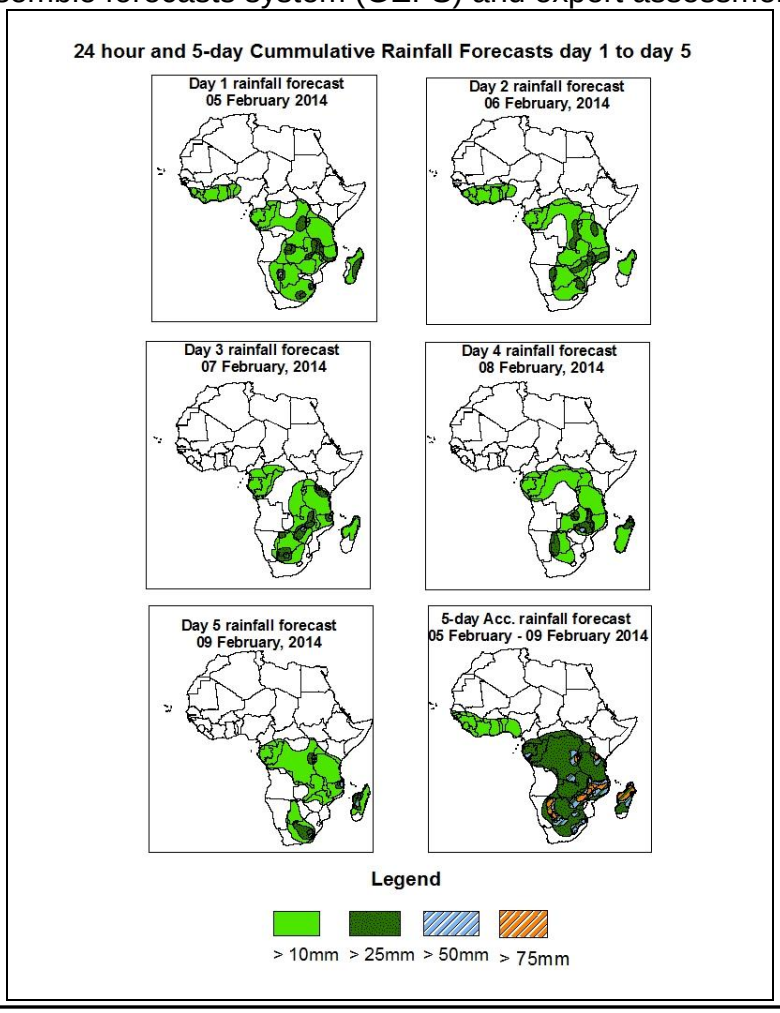
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 05 February – 06Z of 09 February, 2014. (Issued at 1800Z of 04 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, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.

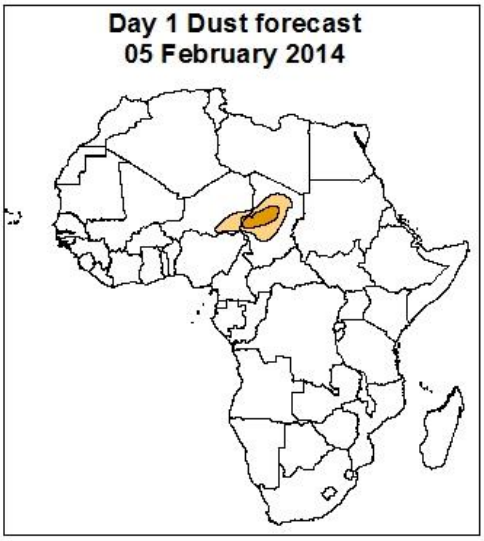


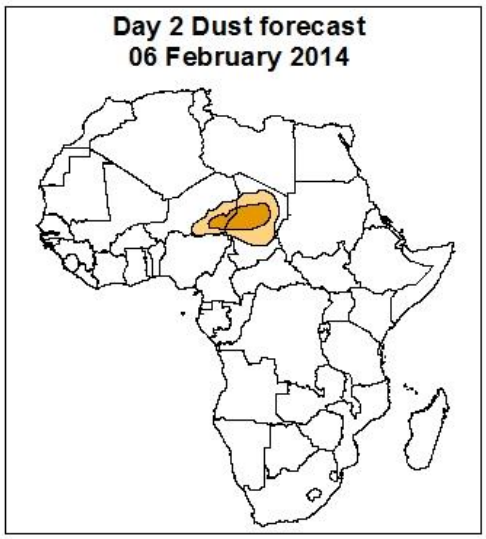
Summary

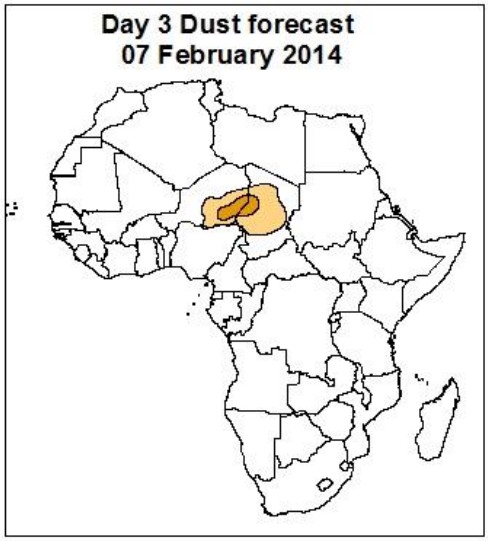
Mascarene high pressure is expected to remain relatively weak during the first half of the forecast period but expected to intensify in the second half resulting in rains reductions over Botswana, Mozambique and Zimbabwe but an increase over Tanzania, Uganda and southwestern parts of Kenya. St. Helena High Pressure System is expected to maintain its central pressure value between 1019hpa and 1022 hpa. This will result into continued reduction of rains over the most parts of Angola, Namibia and Western South Africa during the forecast period. Parts of Liberia, Sierra Leone, Benin, Togo, Ghana, Ivory Coast, Burkina Faso and Niger are expected to receive some rainfall during the forecast period as a result of expected extra-tropical- Tropical interactions.

1.2. Atmospheric Dust Forecasts: Valid 05 February 07 February 2014

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







Highlights

There is an increased chance for moderate dust over Niger and Chad

Legend

MDC, Vis. < 5km

HDC, Vis. < 1km

1.2. Model Discussion: Valid from 00Z of 04 February 2014

Model comparison (GFS and UKMET Valid from 00Z: 04 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.

According to both the GFS model and the UKMET model, St. Helena High Pressure System is expected to maintain its central pressure value between 1019hpa and 1022 hpa. This will result into continued reduction of rains over the most parts of Angola, Namibia and Western South Africa during the forecast period.

According to both the GFS model and the UKMET model, the Mascarene high pressure is expected to remain relatively weak during the first half of the forecast period but expected to intensify in the second half resulting in rains reductions over Botswana, Mozambique and Zimbabwe but an increase over Tanzania, Uganda and southwestern parts of Kenya.

At 850hpa level, Moderate to strong convergence is still expected over Democratic Republic of Congo (DRC), Gabon, Congo Brazzaville, Central African Republic (CAR) , Cameroon, Namibia, Botswana, Uganda, Zambia, Angola, Tanzania, Malawi, Mozambique, and Madagascar. During the forecast period, moderate to severe weather is expected over these areas as shown by the rainfall map above.

At 500hpa level, troughs associated with mid-latitude frontal systems persist during the first part of the forecast period. The systems are expected to influence some isolated rains over Liberia, Sierra Leone, Benin, Togo, Ghana, Ivory Coast, Burkina Faso and Niger.

At 200hpa level, the sub-tropical Westerly Jet mainly (with wind speed >70 knots and <150 knots), extending between West Sahara, Mauritania, Algeria, and Egypt, and across, Mali, Algeria, Tunisia, Niger, Chad, Libya and Northern Sudan persist during the forecast period. Winds of over 150 Knots are also expected over Egypt. In the south, the sub-tropical westerly Jet (with 70 to 90kts wind speed) is occasionally expected over South Africa and the Indian Ocean.

Therefore, the Mascarene high pressure is expected to remain relatively weak during the first half of the forecast period but expected to intensify in the second half resulting in rains reductions over Botswana, Mozambique and Zimbabwe but an increase over Tanzania, Uganda and southwestern parts of Kenya. St. Helena High Pressure System is expected to maintain its central pressure value between 1019hpa and 1022 hpa. This will result into continued reduction of rains over the most parts of Angola, Namibia and Western South Africa during the forecast period. Parts of Liberia, Sierra Leone, Benin, Togo, Ghana, Ivory Coast, Burkina Faso and Niger are expected to receive some rainfall during the forecast period as a result of expected extra-tropical- Tropical interactions.

2.0. Previous and Current Day Weather Discussion over Africa

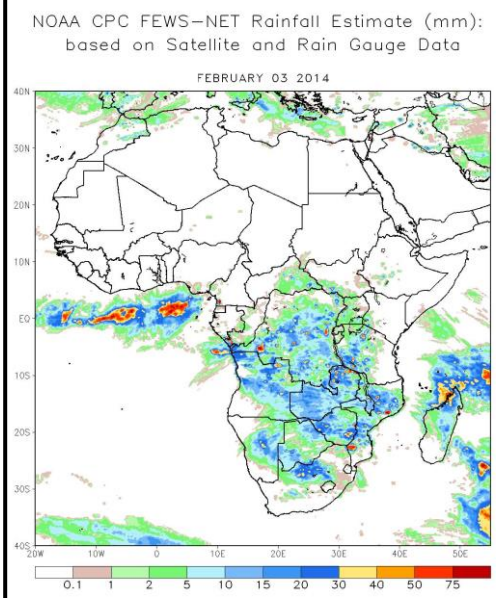
(03 February 2014 – 04 February 2014)

2.1. Weather assessment for the previous day (03 February 2014)

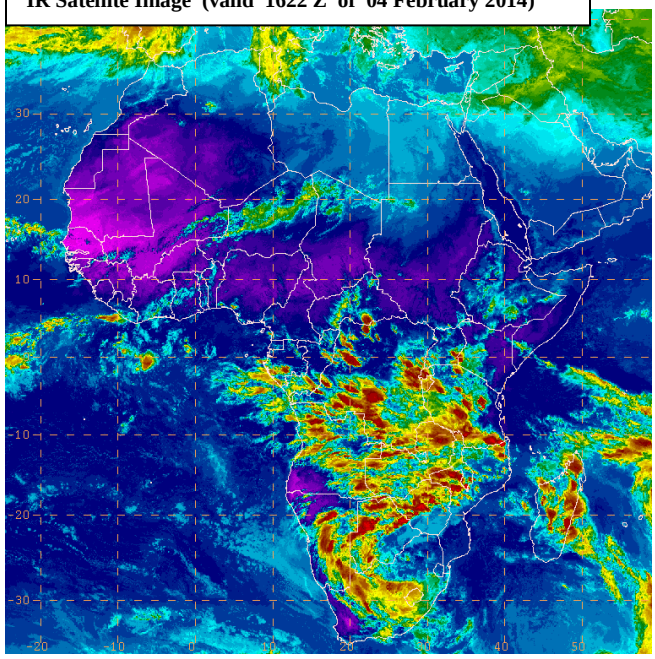
During the previous day, moderate to heavy rainfall was observed over DRC, Angola, Tanzania, Zimbabwe, Mozambique, Madagascar, Namibia, South Africa and Botswana.

2.2. Weather assessment for the current day (04 February 2014)

Intense clouds were observed over, Gabon, Congo Brazzaville, Central African Republic, DRC, Angola, Zambia, Malawi, Tanzania, Uganda, Zimbabwe, Mozambique, Madagascar, South Africa, Namibia and Botswana.



IR Satellite Image (valid 1622 Z of 04 February 2014)



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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